

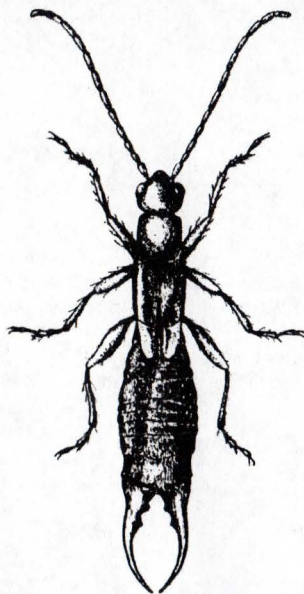
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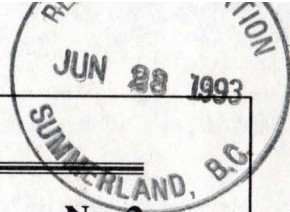


BULLETIN



ENTOMOLOGICAL SOCIETY OF CANADA

LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA



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

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Contributions and correspondence regarding the *Bulletin* should be sent to the *Bulletin* Editor. Inquiries about subscriptions and back issues should be sent to the E.S.C. at:
Faites parvenir vos contributions au *Bulletin* ou votre correspondance à l'Editeur du *Bulletin*. 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

EDITORIAL

...but where's the glamour in entomological research?

Here I sit in Algonquin Park trying desperately to get the *Bulletin* finished for publication. The streams are teeming with black fly larvae and pupae. Any day now my research will be in full swing. I sit and wonder whether this type of research might be considered "glamorous" or not. I've never given the question much thought until recently.

The producer of the show "Wildside" has asked several of the researchers at the Wildlife Research Station to allow a film crew to join them on a day's field work in Algonquin Park. As I understand it, there will be two teenage hosts who will come out and "discover the wonders of nature" as we go about our daily routines. The show is not meant to be educational; it is supposed to "turn kids on" to science and nature.

The director and crew were here just yesterday to get ideas for the script and when I started to explain what my students and I actually do, I could see that they were not overly impressed! By the end of the afternoon I realized that searching for larvae in streams isn't very "glamorous", filming pharate pupae spinning their cocoons is pretty "cool" (but it isn't field research!), collecting saliva from adult black flies by letting them feed through a latex membrane was "fine" (until they discovered that the membrane was a piece of condom), and testing whether black flies are capable of pollinating blueberries is "dull" (because a field full of enclosures is, I suppose, inherently boring).

We'd like some "action footage" I was told. When they discovered that I drive around Algonquin Park with a huge insect net attached to the roof of my car, they were ecstatic! Now the only problem is how to fit a driver (me), the two teenage stars of the show, the director and two members of the film crew into the car. ("It would be better," they said, "if you drove a four-by-four". Guess that's that glamour thing again, eh?)

I know that we should each do our part to "turn kids on" to science and nature, and especially to the wonderful world of insects. Some part of me, though, is terribly disappointed about how this is being done. It appears that what scientists actually do and what the general public believes are two different things. It is a pity that we are forced to participate in this charade ... by showing only those aspects of research that are "flashy" and "exciting"! It simply feels dishonest.

I'll have to do some serious thinking between now and the "shoot". The young stars will ask me a multitude of questions and I'd better have some snappy answers ready for them. I just wonder what I'll end up saying in response to ... "*Are some black flies more glamorous than others?*"

Fiona F. Hunter
Bulletin Editor

The deadline for submissions to be included in the next issue (Vol. 25(3)) is **August 1, 1993**

La date limite pour recevoir vos contributions pour le prochain numéro (Vol. 25(3)) est le **1 août 1993**

SOCIETY BUSINESS / AFFAIRES DE LA SOCIÉTÉ

43rd Annual General Meeting

The Annual General Meeting of the Entomological Society of Canada will be held at the Watertown Inn in Sault Ste. Marie, Ontario on September 28, 1993. Matters for consideration at this meeting should be sent to the Secretary, Dr. R.J. West.

Governing Board Meeting

The Annual Meeting of the Governing Board will be held at the Watertown Inn in Sault Ste. Marie, Ontario on September 25, 1993. If necessary, the meeting will continue on September 26. Matters for consideration at this meeting should be sent to the Secretary, Dr. R.J. West.

43 Réunion Générale Annuelle

La Réunion Générale Annuelle de la Société d'Entomologie de Canada aura lieu 28 septembre 1993 à la Watertown Inn, à Sault Ste Marie. Tous sujets pour être considérés doivent être soumis au secrétaire, Dr. R.J. West.

La conseil de direction

La conseil de direction se réunira le 25 et 26 septembre 1993 à la Watertown Inn, à Sault Ste Marie. Tous sujets pour être considérés doivent être soumis au secrétaire, Dr. R.J. West.

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Forestry Canada, Newfoundland and Labrador Region
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concerning Book Reviews for the *Bulletin* to:

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Chair, ESC Publications Committee
Alberta Environment Centre
Bag 4000, Vegreville
Alberta
T0B 4L0

Tel. (403) 632-8211
Fax. (403) 632-8379

President's Update

The President of an organization always reminds me of the letter "X". It's the 24th letter in our alphabet and in my dictionary there are only 24 words beginning with "X". This letter always looks grand and also demands attention even though it stands at the head of the fewest number of words. All the other letters comprise many more words and thus play a much more important role in the functional fabric of a language. Perhaps that is the way it should be with a President; be seen and head a minimum number of working components but permit the members to order and direct their own well-being.

So, what type of fabric have we woven in 1993? Our "treasury" is still extant even though we have forecast a deficit in our financial undertakings this year. Sound familiar? Publication costs are the principal reason for increased expenditures and your Executive, together with the Board of Directors, has taken steps to improve this situation. There will be no increase in dues. They have authorized an approximate ten per cent increase in page charges for papers published in either *The Canadian Entomologist* or the *Memoirs*. Costs of reprints will also go up by 10 per cent. Your approval for this action will be sought this fall.

Our commitment to CFBS, and the direct payment of dues from Society funds, has also been a drain on our resources. Since this is the last of a three-year agreement, your Executive has decided that hereafter the members will have to pay their own dues if the Society remains a member of CFBS. You will have a chance to express your views on this matter; a ballot is included in this issue of the *Bulletin*. Use it to vote whether we continue our membership in the umbrella organization or not. Several expressions of opinion have appeared in the *Bulletin* and may be of guidance to you.

Because the costs of publishing entomological information is mounting, it has been our priority to seek the best and most economical route to bring scientific information to light. The Publications Committee, expertly and judiciously chaired by Lloyd Dosdall, has suggested several ways in which economies can be achieved. First of all we want to put a new "face" on our publications. The Committee has suggested changes: in printing format, in the color and design of the cover, in weight and texture of paper, design of single or multi-columned pages, the size of type, and the physical dimensions of the publications. These have all been considered and we now await further details from a consultant (haven't contracted with him nor spent any money yet!) as to what he would recommend in an updated, progressive publication. A change in printers has been considered because it was felt that others can perform printing operations as economically and as good as Runge Press in Ottawa. However, our Executive Editor is in Ottawa and within a stone's throw of Runge Press. Can she perform her duties as efficiently and economically as she could with a printer in Vancouver, or Regina, or Halifax? All aspects of printing are being examined and considered. We should have a comprehensive plan worked out by September.

Personally, on further contemplation, I am convinced that the membership can be of considerable help in this instance. I am certain that we have some very capable artists who can re-design a book cover, improve the lines of our logo, and generally improve the looks and efficiency of our publications without merely changing the colour of the cover. Give it some thought and send your ideas to Lloyd Dosdall. We may not have to rely on a "consultant"; perhaps we can do it ourselves and thus save a couple of thousand dollars in fees. I think it is possible, and desirable.

And what progress have we made with the publication of the book: *Diseases and Pests of Vegetable Crops in Canada*? There have been many hitches along the way not the least being the accession of suitable slides or photos, reliable and comprehensive descriptions, and consensus on contents. The paper

has been bought by the printing company, the final(?) galleys, etc, are being processed, and the book should make an appearance some time this summer. Pray a little, will you?

The arrangements for the Joint Annual Meeting of the ESC (its 43rd) and the ESO (its 130th) in Sault Ste. Marie on 26-30 September 1993, is in very capable hands. Jean Turgeon and his co-workers have put together a program that appears to be both interesting and informative. I am looking forward to a good turn-out of members on this occasion. Next year's meeting will be held at the Delta Hotel in Winnipeg on 15-19 October 1994. The general theme will be "Insect Movement". Plan now to attend.

Then we come to the bottom line - are we still a healthy Society? The answer is an unequivocal "YES". We are most fortunate in having a large number of dedicated members, especially the Chairs of Committees, who, metaphorically speaking, are not only keeping our house tidy but also improving the premises. This has made my job as your President a relatively easy one. I think we are making steady progress and with the continued support of all members, be they retired, student, emeritus, honorary, or regular, we can be assured of favourable recognition of entomology in and by the scientific community and the general public.

Paul W. Riegert
President

Graduate research-travel grant

A research travel grant of \$2000 has been awarded to Mr. R. A. Cannings of the Department of Environmental Biology of the University of Guelph. Mr. Cannings is currently in a Ph.D. programme on the revision of the robber fly genus *Lasiopogon* of the family Asilidae. Mr Cannings will use his award to visit several European museums to examine type specimens of this genus

Bourses de voyages associées à la recherche

Une bourse de voyage de \$2000 a été octroyée à M. R. A. Cannings du Département de Biologie Environnementale de l'Université de Guelph. M. Cannings est inscrit à un programme de Doctorat portant sur la revision du genre *Lasiopogon* de la famille Asilidae. Il compte utiliser cette bourse pour visiter plusieurs musées européens pour examiner des spécimens types de ce genre.

Guy Boivin, Chair
Graduate Research Travel Grants Committee

Workshop on Grant Writing

The Student Affairs Committee is sponsoring a Workshop on Grant Writing at the 1993 ESC Annual Meeting in Sault Ste. Marie. Our objective is to provide a forum for discussion of all aspects of grantsmanship, with the assistance of four successful individuals, Terry Wheeler (Carleton), Linda Gilkeson (B.C. Ministry of Environment), Jeremy McNeil (Laval) and John Borden (Simon Fraser). The workshop should be useful to everyone from novice to well-seasoned grant writers. Audience participation will be encouraged - so bring your questions and advice. It is set for Sunday September 26th from 1:00 to 4:00. See you there!

Kenna MacKenzie
Chair, Student Affairs Committee

The Entomological Society of Canada and The Canadian Federation of Biological Societies, Part 2

Let's get one thing straight. The Entomological Society of Canada (ESC) cannot afford to pay the annual fee for our members to The Canadian Federation of Biological Societies (CFBS). Gary Gibson (Chair, Finance Committee) reported that if our net losses continued beyond 1992 at the rate of 1991 and 1992, the society will "spiral down into bankruptcy". If I remember correctly, the budgeted 1993 deficit was about \$17,000.00 (it likely will be larger because page charge and reprint charge increases did not take effect until 1 March); that amount is very close to what the Society pays to CFBS on behalf of our members. The Society can no longer absorb these costs. If the ESC remains a member society of the CFBS, the costs must be picked up by individual members directly.

Will our membership accept this increase in annual dues? I don't know, of course, but I have my doubts. We have lowered our dues for student members recently, in an effort to attract more. Would they be willing to pay another \$25 per year to be members of the ESC? Would our emeritus members be willing to pay dues to the CFBS in order to maintain their emeritus status in the ESC? And this is what it boils down to -- in order to be a member of the ESC you must be a member of the CFBS.

Maybe our membership in the CFBS is worth the cost. Jeremy McNeil tells us that there were two reasons why we joined the CFBS: (1) to be part of a co-ordinated lobby for Canadian Science; and (2) to increase public awareness of science in Canada (*ESC Bulletin*, March 1993). Has the CFBS done the job? I don't think so, and especially as regards Entomology.

Mind you, I'm not sure that any amount of lobbying by any scientific organizations would have an effect on our present government. Perhaps the CFBS should not be blamed for the absence of positive change. But the materials I have received from the CFBS have not dealt with topics that are of close interest to entomologists and zoologists. It seems to me that the CFBS is interested primarily in medical and quasi-medical concerns. I have no quarrel with that, if that is their stated objective. But I am not convinced that we, as entomologists, should be contributing toward medical lobbies. As an example, the CFBS, as one of the two member organizations of the Coalition for Medical and Health Research, lobbied strongly for passage of Bill C-91 to increase the term of patent protection of pharmaceuticals. It is not important that I, as an individual, oppose those lobbying efforts. It is important, though, that my views as a member of CFBS were not sought before the organization took its stand.

The CFBS may indeed be an effective and creditable organization, as Dr. McNeil says, but over the last 3 years at least, I don't see evidence that it is either effective or creditable for entomology. I'm afraid that I will have to agree with our zoological and botanical colleagues and when the call for a vote on our continued affiliation with the CFBS comes, I will vote "no".

Al B. Ewen
Box 509
Dalmeny, Saskatchewan
S0K 1E0

Update of Committee Chairs for 1993

Standing Committees/Comités permanents

Nominations/Nominations

R.A. Ring, Victoria
(Tel. 604-721-7104; Fax 604-721-7120)

CFBS Representative/Représentant au CFBS

T.B.A.

Elections/Elections

T.D. Galloway, Winnipeg
(Tel. 204-474-6024; Fax 204-275-0402)

Fellowships/Compagnons

J.A. Shemanchuk, Lethbridge
(Tel. 403-327-4561; Fax 403-382-3156)

Continuing Committees/Comités en cour

Achievement Awards/Pris d'excellence

L. Safranyik, Victoria
(Tel. 604-388-0600)

Annual Meeting/Réunion annuelle

1993 - Sault Ste. Marie - J. Turgeon
1994 - Winnipeg - D.P. Dixon
1995 - British Columbia - R.A. Ring

Bilingualism/Bilinguisme

J. Delisle, Saint-Foy
(Tel. 418-648-2526)

Bylaws, Rules & Regulations/Règlements

D. Quiring, Fredericton
(Tel. 506-453-4501; Fax 506-453-3538)

Endangered Species/Espèces menacées

T. Pike, Calgary
(Tel. 403-220-6791)

Finance/Finance

G. Gibson, Ottawa
(Tel. 613-996-1665; Fax 613-995-1823)

Heritage/Héritage

P.W. Riegert, Regina
(Tel. 306-584-4224; Fax 306-585-4894)

Insect Common Names/Noms communs

d'Insectes et Élevages

E.M. Belton, Co-Chair, Burnaby
(Tel. 604-420-3181; Fax 604-291-4581)
D.C. Eidt, Co-Chair, Fredericton
(Tel. 506-452-3551; Fax 506-452-3525)
J.S. Kelleher, Cultures List, Ottawa
(Tel. 613-996-1665)

Membership/Adhésion

A.S. McClay, Vegreville
(Tel. 403-632-8207; Fax 403-632-8379)

Public Education/Éducation publique

I.S. Otvos, Victoria
(Tel. 604-363-0600; Fax 604-363-0775)

Publications/Publications

L.M. Dosdall (1993), Vegreville
(Tel. 403-632-8225; Fax 403-632-8379)

Scholarships/Bourses d'étude

P. Fields, Winnipeg
(Tel. 204-983-1468; Fax 204-983-4604)

Research-Travel Grants/Octrois pour la

Recherche et les Déplacements

G. Boivin, St.-Jean-sur-Richelieu
(Tel. 514-346-4494; Fax 514-346-7740)

Science Policy/Politique scientifique

G.H. Gerber, Winnipeg
(Tel. 204-983-1460; Fax 204-983-4604)

Student Affairs/Affaires étudiantes

K. MacKenzie
(Email: k_mackenzie@nsrske.agr.ca)

Ad Hoc Committees/Comités Ad Hoc

Diseases & Insects of Vegetables/Maladies et

Insectes des Légumes

J.A. Garland, Ottawa
(Tel. 613-995-7900)

Headquarters/Siege social

J. Cumming, Ottawa
(Tel. 613-996-1665; Fax 613-995-1823)

Marketing Committee/Comité du marketing

J.D. Shorthouse, Sudbury
(Tel. 705-675-1151)

Systematics Enhancement Committee/Comité pour accroître l'utilisation de la systématique

S.A. Marshall, Guelph
(Tel. 519-824-4120; Fax 519-837-0442)

Insect Rights/Droits des Insectes

T.B.A.

(Note: The year given after a committee member's name indicates the year in which s/he steps down from the committee.)



JOINT ANNUAL MEETING
of THE ENTOMOLOGICAL SOCIETY of CANADA
and THE ENTOMOLOGICAL SOCIETY of ONTARIO

Sault Ste. Marie, 26-29 September 1993
Water Tower Inn

Saturday, 25 September 1993

09:00 - 17:00 Entomological Society of Canada, Governing Board Meeting
15:00 - 20:00 Registration

Sunday, 26 September 1993

10:00 - 15:00 Registration
10:30 - 12:00 Workshop: *"Improved pesticide applications"* • A. Sundaram
13:00 - 17:00 Workshop: *"Writing grant applications"* • K. McKenzie, E. Tomlin
Workshop: *"Insect invasions and reductions"* • D. Larson, S. Marshall
Workshop: *"Improved pesticide applications"* • A. Sundaram
18:00 - 20:00 Entomological Society of Ontario, Governing Board Meeting
19:00 - 20:00 Students meet the Board
20:00 - 23:00 Wine and cheese

Monday, 27 September 1993

08:00 - 10:00 Registration
08:30 - 09:00 Welcome
09:00 - 09:15 ESC Awards
09:15 - 09:45 Gold Medal Address
10:00 - 12:00 Symposium: *"Graduate training in entomology"* • M. Isman
13:15 - 17:00 Graduate student papers (President's Prize)
Scientific communications
17:00 - 18:00 Entomological Society of Ontario, Annual General Meeting
19:00 - 21:00 Workshop: *"Gypsy moth"* • J. Witter
21:00 - 24:00 President's reception for the Board (by invitation)

Tuesday, 28 September 1993

08:30 - 12:00 Symposium: *"Trends and strategies in insecticide discovery"* • R. Downer
Symposium: *"Ecology of natural populations"* • V. Nealis
13:00 - 15:00 Scientific communications
Workshop: *"Natural products for insect pest management strategies"* • B. Helson
15:30 - 16:00 Heritage lecture
16:00 - 17:30 Entomological Society of Canada, Annual General Meeting
18:30 - 19:30 Cocktails (cash bar)
19:30 - 23:00 Banquet

Wednesday, 29 September 1993

08:00 - 12:00 Scientific communications
Symposium: *"Application of recombinant DNA technology for insect control"* • A. Retnakaran, S.R. Palli
Workshop: *"Insect pest management in seed orchards"* • J. Turgeon, P. de Groot
12:00 - 15:00 Entomological Society of Canada, Governing Board Luncheon Meeting

For additional information please contact:

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1219 Queen St. East, P.O. Box 490
Sault Ste Marie, Ontario, Canada P6A 5M7
Tel: (705) 949-9461 /Fax: (705) 759-5700

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(Workshop: "*Improved Pesticide applications*")
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(Workshop: "*Insect invasions and reductions*")
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• **Blair Helson**

(Workshop: "*Natural products for insect pest management strategies*")
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Tel: (705) 949-9461/Fax (705) 759-5700

• **Kenna McKenzie and Elizabeth Tomlin**

(Workshop: "*Writing grant applications*")
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Agriculture Canada Research Station
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• **John Witter**

(Workshop: "*Gypsy moth*")
School of Natural Resources
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Tel: (313) 764-2249/Fax: (313) 763-0415

• **Jean J. Turgeon and Peter de Groot**

(Workshop: "*Insect pest management in seed orchards*")
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REUNION CONJOINTE
de LA SOCIÉTÉ D'ENTOMOLOGIE du CANADA
et de LA SOCIÉTÉ D'ENTOMOLOGIE de l'ONTARIO

Sault Ste-Marie, 26-29 septembre 1993
Water Tower Inn

Samedi, 25 septembre 1993

- 09:00 - 17:00 Société d'entomologie du Canada, réunion d'affaires du conseil d'administration
15:00 - 20:00 Inscription

Dimanche, 26 septembre 1993

- 10:00 - 15:00 Inscription
10:30 - 12:00 Atelier: *"Amélioration des méthodes d'application de pesticides"*
• A. Sundaram
13:00 - 17:00 Atelier: *"Comment écrire des demandes de subventions"*
• K. McKenzie, E. Tomlin
Atelier: *"Invasions et réductions d'insectes"* • D. Larson, S. Marshall
Atelier: *"Amélioration des méthodes d'application de pesticides"*
• A. Sundaram
18:00 - 20:00 Société d'entomologie de l'Ontario, réunion d'affaires du conseil d'administration
19:00 - 20:00 Rencontre des étudiants avec le conseil d'administration
20:00 - 23:00 Vin et fromage

Lundi, 27 septembre 1993

- 08:00 - 10:00 Inscription
08:30 - 09:00 Mots de bienvenue
09:00 - 09:15 Décorations de la S.E.C.
09:15 - 09:45 Allocution, Médaille d'Or
10:00 - 12:00 Symposium: *"Les études gradués en entomologie"* • M. Isman
13:15 - 17:00 Communications scientifiques des étudiants gradués (Prix du Président)
Communications scientifiques
17:00 - 18:00 Société d'entomologie de l'Ontario, Assemblée générale annuelle
19:00 - 21:00 Atelier: *"La spongieuse"* • J. Witter
21:00 - 24:00 Réception du conseil d'administration par le Président
(invitation seulement)

Mardi, 28 septembre 1993

- 08:00 - 12:00 Symposium: *"Directions et stratégies de découverte d'insecticides"*
• R. Downer
Symposium: *"L'écologie des populations naturelles"* • V. Nealis
13:00 - 15:00 Communications scientifiques
Atelier: *"Produits naturels pour la lutte contre les insectes nuisibles"*
• B. Helson
15:30 - 16:00 Allocution, Héritage
16:00 - 17:30 Société d'entomologie du Canada, assemblée générale annuelle
18:30 - 19:30 Cocktail (Bar payant)
19:30 - 23:00 Banquet

Mercredi, 29 septembre 1993

- 08:00 - 12:00 Communications scientifiques
Symposium: *"Utilisation de la technologie sur les recombinants de l'ADN pour le contrôle des insectes"* • A. Retnakaran, S. Palli
Atelier: *"Protection des vergers à graines contre les insectes"*
• J. Turgeon, P. de Groot
- 12:00 - 15:00 Société d'entomologie du Canada, réunion-dîner du conseil d'administration

Pour de plus amples informations veuillez entrer en contact avec:

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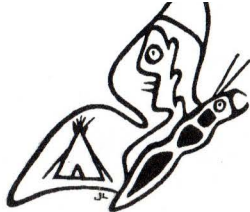
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• **Jean J. Turgeon et Peter de Groot**
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JOINT ANNUAL MEETING
of THE ENTOMOLOGICAL SOCIETY of CANADA
and THE ENTOMOLOGICAL SOCIETY of ONTARIO

Sault Ste. Marie, 26-29 September 1993
Water Tower Inn

REGISTRATION FORM

Check one: Regular ☐ or Student ☐

Name: _____

Last

First

Initial

Title: _____

Address: _____

City: _____

Province/State: _____

Postal code: _____ Tel: _____ Fax: _____

Registration fees are in \$ Cdn (including banquet ticket and GST).

Late registration (after 15 August 1993) add \$15.00 to each fee.

Please make cheque payable to "Entomological Society of Canada 1993".

Registration, *regular*

☐ \$100

Registration, *student*

☐ \$50

Registration, *accompanying*

☐ \$50

Name of accompanying person

TOTAL

Accommodations:

A limited number of rooms have been set aside at the Water Tower Inn for this meeting.

Rates for those making reservation prior to 25 August 1993 are as follows:

single occupancy \$75, double \$90.

Please make your own reservations through:

Water Tower Inn, 360 Great Northern Road, P.O. Box 787,

Sault Ste. Marie, Ontario, Canada P6A 5N3.

Telephone (705) 949-8111 Fax: (705) 949-1912

Reservations: 1-800-461-0800 (toll free within Canada)

Note: Persons wishing to share a room, fill out and mail the "*Share -A- Room Form*"

Please return this form and registration fees to:

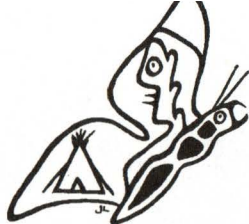
Dr. J. C. Cunningham

Joint Meeting 1993, E.S.C. - E.S.O.

1219 Queen St. East., P.O. Box 490

Sault Ste. Marie, Ontario

Canada P6A 5M7



REUNION CONJOINTE
de LA SOCIÉTÉ D'ENTOMOLOGIE du CANADA
et de LA SOCIÉTÉ D'ENTOMOLOGIE de l'ONTARIO

Sault Ste-Marie, 26-29 septembre 1993
Water Tower Inn

FORMULAIRE D'INSCRIPTION

Indiquez: Régulier ☐ ou Etudiant(e) ☐

Nom: _____

Nom de famille

prénom

initiales

Titre: _____

Adresse: _____

Ville: _____

Province/Etat: _____

Code Postal: _____ Téléphone: _____ Fax: _____

Frais d'inscription en \$ Can (incluant les frais de banquet et de la TPS).

Inscription tardive (après le 15 août 1993) ajoutez \$15.00.

Chèque ou mandat payable à "Entomological Society of Canada 1993".

Frais d'inscription, *régulier* ☐ \$100

Frais d'inscription, *étudiant* ☐ \$50

Frais d'inscription, *conjoint* ☐ \$50

Nom du conjoint

TOTAL

Hébergement:

Un nombre limité de chambres ont été réservées à l'Auberge Water Tower pour la réunion.

Les taux pour ceux réservant avant le 25 août 1993 sont les suivants:

occupation simple \$75, double \$90.

Prière d'effectuer vos réservations directement auprès de:

Water Tower Inn, 360 Great Northern Road, C.P. 787,

Sault Ste. Marie, Ontario, Canada P6A 5N3.

Téléphone (705) 949-8111 Fax: (705) 949-1912

Réservations: 1-800- 461-0800 (sans frais au Canada).

Note: Les personnes désirant partager une chambre sont priées de compléter
et de retourner le formulaire "Partager -une-chambre"

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

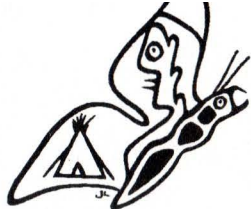
Dr. J. C. Cunningham

Réunion conjointe 1993, SEC-SEO

1219 Queen St. East., P.O. Box 490

Sault Ste. Marie, Ontario

Canada P6A 5M7



JOINT ANNUAL MEETING
of THE ENTOMOLOGICAL SOCIETY OF CANADA
and THE ENTOMOLOGICAL SOCIETY OF ONTARIO

Sault Ste. Marie, 26-29 September 1993
Water Tower Inn

**SUBMITTED PAPER, STUDENT PAPER
AND POSTER PRESENTATION FORM**

Please return to:

Dr. V. Nealis
Joint Meeting 1993, ESC-ESO
1219 Queen St. East., P.O. Box 490
Sault Ste. Marie, Ontario
Canada P6A 5M7

Deadline: Postmarked on June 30, 1993

Title (not to exceed 15 words): _____
Author's Name: _____
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: 12 min + 3 min 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 additional 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.



REUNION CONJOINTE
de LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA
et de LA SOCIÉTÉ D'ENTOMOLOGIE DE L'ONTARIO

Sault Ste-Marie, 26-29 septembre 1993
Water Tower Inn

**FORMULAIRE D'INSCRIPTION: COMMUNICATIONS ORALES
RÉGULIÈRES ET D'ÉTUDIANT(E)S, ET COMMUNICATIONS POSTERS**

Veillez retourner à:

Dr. V. Nealis

Réunion conjointe 1993, SEC-SEO

1219 Queen St. East., P.O. Box 490

Sault Ste. Marie, Ontario

Canada P6A 5M7

Date limite: 30 Juin 1993

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: 12 min + 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'études post-graduée ou avoir gradué d'un tel programme dans les six (6) mois précédant la Réunion conjointe;
- 2) ils doivent être inscrits à la Réunion conjointe; et,
- 3) ils doivent être le chercheur principal et le seul auteur de la communication.



JOINT ANNUAL MEETING
of THE ENTOMOLOGICAL SOCIETY of CANADA
and THE ENTOMOLOGICAL SOCIETY of ONTARIO

Sault Ste. Marie, 26-29 September 1993
Water Tower Inn

SHARE-A-ROOM FORM

If you wish to share a room with a colleague at the ESC/ESO Joint Annual Meeting in Sault Ste. Marie please supply the following information and we'll do our best to find you a roommate to share the cost.

Male ☐ Female ☐ Smoking ☐ Non-smoking ☐

Date of Arrival _____ Departure _____
Share with one person _____ or more _____

Name: _____

Address: _____

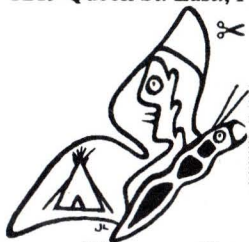
Telephone (Daytime): _____ Fax: _____

Please send this card to:

Dr. J. C. Cunningham

Joint Meeting 1993, E.S.C. - E.S.O.

1219 Queen St. East., P.O. Box 490 Sault Ste. Marie, Ontario Canada P6A 5M7



REUNION CONJOINTE
de LA SOCIÉTÉ D'ENTOMOLOGIE du CANADA
et de LA SOCIÉTÉ D'ENTOMOLOGIE de l'ONTARIO

Sault Ste-Marie, 26-29 septembre 1993
Water Tower Inn

FORMULAIRE : "PARTAGER -UNE-CHAMBRE"

Si vous désirez partager une chambre avec un collègue lors de la Réunion conjointe de la SEC/SEO à Sault Ste-Marie, prière de nous faire parvenir l'information suivante. Nous nous efforcerons de vous trouver un(e) collègue pour partager les frais d'hébergement.

M. ☐ F. ☐ Fumeur ☐ Non Fumeur ☐

Arrivée _____ Départ _____

Partager avec 1 personne _____ ou plus _____

Nom: _____

Adresse: _____

Téléphone: _____ Fax: _____

Retournez ce formulaire à:

Dr. J. C. Cunningham

Réunion conjointe 1993, SEC-SEO

1219 Queen St. East., P.O. Box 490 Sault Ste. Marie, Ontario Canada P6A 5M7



JOINT ANNUAL MEETING
of THE ENTOMOLOGICAL SOCIETY of CANADA
and THE ENTOMOLOGICAL SOCIETY of ONTARIO

Sault Ste. Marie, 26-29 September 1993
Water Tower Inn

ACCOMMODATION

The meeting occurs during the Fall Colour season. At that time, almost all motel rooms are booked by tour groups and tourists. Thus, if you plan to attend, it is **ABSOLUTELY ESSENTIAL** that you make your own reservation as early as possible.

The meeting takes place at The Water Tower Inn, where a block of 85 rooms is being held until 25th August. PST (5%) and GST (7%) will be added to the rates quoted on the registration form. If you wish to share a room with a colleague, please fill the "Share-a-room" form in the Bulletin, and mail it soon. We shall make the reservations at the Water Tower unless instructed otherwise.

There are other hotels and motels only a short walk away from the Water Tower Inn. The rates at the end of September are listed. Tax will be added to all quoted rates at 5% PST and 7% GST.

Journey's End

333 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z8
Telephone (705)-758-8000
Fax (705)-759-8538
Reservations: 1-800-668-4200 (toll free)
Rates: Singles \$53.88 and \$56.88,
doubles \$61.88 and \$64.88.
A 10% discount is offered for seniors over 50.

Catalina Motel

Hwy 17 at Northern Ave.
Sault Ste. Marie, Ontario P6B 4Z2
Telephone (705)-945-9260
Rates: Single or double \$58,
Seniors or AAA \$54, extra person \$5

Skyline Motel

232 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z5
Telephone: (705)-942-1240
Rates: Single \$55 to \$60, double \$60 to \$70

Satellite Motel

248 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z6
Telephone (705) 759 2897
Rates: Single \$40, double \$48

Crown Motel

184 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z3
Telephone: (705) 254 6441
Rates: Single \$44, double \$46

Ramada

229 Great Northern Road
Sault Ste Marie, Ontario P6B 4Z2
Telephone (705)-942-2500
Fax (705)-942-2570
Reservations: 1-800-268-2828 (toll free)
Rates: Single \$72, double \$82

TRANSPORTATION FROM AND TO AIRPORT

The Water Tower Inn runs a van to and from the airport and have quoted a special rate of \$8.00 plus 7% GST each way for persons staying at the hotel. When you know your flight number and arrival time and date, call the Inn and book the van. Also, there are two limo services that make airport runs at \$16.00 (including GST) each way per person. For reservations: Skyline Limousines (705)-942-0500 or Elite Limousines (705)-759-5757. Taxis run about \$30 and do not routinely come to the airport. For reservations:

Checker Cab (705)-942-3600
Marsch Taxi (705)-759-0159

Union Cab (705)-946-1300 *and*
Seventy Five Hundred Taxi (705)-945-7500

In all cases we recommend you make reservations before you arrive at the Sault Ste. Marie airport. Car rental agencies are also available at the airport.

ALTERNATIVE PROGRAM

Bring your spouse, a friend, anyone you would like to historic Sault Ste. Marie. With the brilliant autumn colours of the Algoma Region, it should be a beautiful time of the year. We have a number of activities planned for the meeting period. We would like to know as soon as possible which of the activities you will attend. We also encourage those taking part in the scientific program to participate in the alternative program. Contact Dr D.R. Wallace (P.O. Box 490, Sault Ste. Marie, Ontario P6A 5M7) for additional details or with suggestions on any additional activities you would like us to arrange. A sitting room, which will serve as a rendez - vous point for accompanying persons who are registered, will be provided from Sunday noon through Wednesday evening at the Water Tower Inn. Accompanying Person Registration entitles you to the the full Alternative Program as well as the Wine and Cheese (Sunday), the Opening Ceremonies (Monday), and the Banquet (Tuesday).

TOURS

DISCOVER GROS CAP

Gros Cap, located 26 km west of Sault Ste. Marie, is a rugged granite headland 120 - 180 m above Whitefish Bay, at the origin of the St. Mary's River. The Cap affords spectacular views of Lake Superior and the upper part of the St. Mary's River with its lake shipping. The ancient granite at Gros Cap contains many minerals of interest. The top of the headland can be reached by following a portion of the Saulteaux Section of the Voyageur Hiking Trail. A participation walk to the headland is scheduled for Sunday afternoon, September 26. You will see a variety of terrain, the fall colours, and near the end, the spectacular view from Gros Cap headland. Hikers will be accompanied by naturalists from the local Trail Club. Transportation to 3 access points will be provided, giving walking distances of 2.1,

5.0, and 11.5 km. All participants will gather at the end of the trail at the Blue Water Inn for refreshments and the return to the Hotel. Suitable clothing and footwear is suggested.

The cost for transportation will be minimal. Refreshments at your cost.

THE AGAWA CANYON

People come from all over the world to experience this all-day train excursion into the Agawa Canyon. We suggest you let us make advance reservations to ensure a place on this popular tour. The train leaves Sault Ste. Marie, at 8:00 a.m. daily, arrives at the park in the Canyon at 11:30, remains there for 2 hours, and is back in Sault Ste. Marie at 5:00 p.m. Dining car service is available on the train from 7:00 a.m. to 3:45 p.m. The cost for the Agawa Canyon excursion is \$44.00 (taxes included) per person. Food at your expense. We suggest taking the tour on either Saturday 25 September, Sunday, 26 September 26 or Wednesday 29 September. If we have a group of 26 people, we can have a car of our own on the train. SO PLEASE RESERVE AS SOON AS POSSIBLE.

A DAY ON THE ST. MARY'S WATERFRONT & LOCK TOUR

Its location between the Great Lakes has made Sault Ste. Marie a major trading centre, originally among first nations and later between natives, traders and Voyageurs. Evidence of this historic past can be found around the city. On Monday 27 September, we will tour the downtown waterfront, the Canadian lock system, and visit some historical locations. Then, we will board the Chief Shinwauk for a lunch cruise on the river and trough the American locks. After lunch we will visit the Sault Museum and/or Art Gallery of Algoma, depending on the selection of exhibits. The cost for this tour is \$21.00 per person. PLEASE RESERVE AS SOON AS POSSIBLE.

The plans for the tour scheduled for Tuesday, 28 September, are not finalized yet. You will be informed as soon as they become available.



JOINT ANNUAL MEETING
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Sault Ste. Marie, 26-29 September 1993
Water Tower Inn

HEBERGEMENT A SAULT STE-MARIE

La réunion aura lieu durant les "Couleurs d'Automne", une période très populaire auprès des touristes. Très souvent, il est impossible de trouver une chambre d'hôtel durant cette période. Donc, si vous avez l'intention de participer à la réunion, **NOUS VOUS RECOMMANDONS d'effectuer vos réservations personnellement et dans les plus brefs délais.** La réunion se tiendra à l'Auberge Water Tower où nous avons réservé un bloc de 85 chambres jusqu'au 25 août. La taxe de vente au détail de l'Ontario (5%) et la TPS (7%) seront ajoutées aux prix indiqués sur le formulaire d'inscription.

Pour ceux désirant partager une chambre avec un(e) collègue, n'oubliez pas de compléter le formulaire "Partager-une-chambre", et de le poster dans les plus brefs délais. Nous nous chargerons de faire les réservations pour vous à l'Auberge, à moins d'avis contraire.

Nous vous fournissons également une liste d'Hôtels qui sont situés à quelques minutes de marche de l'Auberge Water Tower. Les prix en vigueur à la fin septembre sont indiqués. La taxe de vente au détail (5%) et la TPS (7%) sont en sus.

Journey's End

333 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z8
Téléphone (705)-758-8000
Fax (705)-759-8538
Réservations: 1-800-668-4200 (sans frais)
Prix: Simple (entre \$53.88 et \$56.88),
double (entre \$61.88 et \$64.88).
Un rabais de 10% est offert aux plus de 50 ans.

Catalina Motel

Hwy 17 at Northern Ave.
Sault Ste. Marie, Ontario P6B 4Z2
Téléphone (705)-945-9260
Prix: Simple ou double \$58,
Age d'Or ou AAA \$54, personne additionnelle \$5

Skyline Motel

232 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z5
Téléphone: (705)-942-1240
Prix: Simple (entre \$55 et \$60), double (entre \$60 et \$70)

Satellite Motel

248 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z6
Téléphone (705) 759 2897
Prix: Simple \$40, double \$48

Crown Motel

184 Great Northern Road
Sault Ste. Marie, Ontario P6B 4Z3
Téléphone: (705) 254 6441
Prix: Simple \$44, double \$46

Ramada

229 Great Northern Road
Sault Ste Marie, Ontario P6B 4Z2
Téléphone (705)-942-2500
Fax (705)-942-2570
Réservations: 1-800-268-2828 (sans frais)
Prix: Simple \$72, double \$82

TRANSPORT EN PROVENANCE DE, OU VERS, L'AÉROPORT

Un minibus, opéré par le Water Tower, fera la navette entre l'aéroport et l'Auberge pour un prix spécial de \$8.00 (7% TPS en sus), aller simple, pour ceux ayant une chambre à l'Auberge. Pour réserver le minibus, veuillez contacter l'Auberge et leur fournir votre numéro de vol, la date et l'heure d'arrivée à l'aéroport de Sault Ste-Marie. Il y a également 2 services de limousines qui font la navette entre l'aéroport et la destination de votre choix. Le coût d'un aller simple, peut-importe votre destination, est de \$16.00 (TPS incluse) par personne. Prière d'effectuer vos réservations: Skyline Limousines (705)-942-0500, ou Elite Limousines (705)-759-5757. Le prix d'un taxi est d'environ \$30, et leur présence à l'aéroport n'est pas assurée. Pour, réserver:

Checker Cab (705)-942-3600
March Taxi (705)-759-0159

Union Cab (705)-946-1300, et
Seventy Five Hundred Taxi (705)-945-7500

Dans tous les cas, nous vous suggérons d'effectuer vos réservations avant d'arriver à l'aéroport de Sault Ste - Marie. Des agences de locations de voitures sont également disponible à l'aéroport.

LE PROGRAMME ALTERNATIF

Votre conjoint, conjointes, et vos amis sont tous invités à visiter Sault Ste-Marie. Le changement de couleur des feuillus rend cette période de l'année très spectaculaire, particulièrement dans la région de l'Algoma. Nous avons planifié plusieurs activités alternatives pour la durée de la réunion. Nous aimerions connaître dans les plus brefs délais les activités aux quelles vous prévoyez participer. Nous encourageons également ceux inscrits au programme scientifique à participer à ce programme. Si vous désirez obtenir de plus amples informations, ou suggérer d'autres activités pour le programme, veuillez entrer en contact avec le Dr. D.R. Wallace (C.P. 490, S.S. Marie, Ontario P6A 5M7). Une salle de réunion, qui servira de point de rendez-vous pour les accompagnateurs (trices) inscrites au programme, sera disponible de dimanche midi à mercredi soir à l'Auberge Water Tower. L'inscription à titre de conjoint vous permet de participer au Programme Alternatif et d'assister au vin et fromage (dimanche), aux cérémonies d'ouvertures (lundi) et au banquet (mardi).

TOURS

DECOUVREZ GROS CAP

Gros Cap, un sillon de grait anfractueux situé à approximativement 26 km à l'ouest de Sault Ste-Marie, est un promontoire de 120 et 180 m qui s'avance au dessus de la Baie "Whitefish", laquelle est située en amont de la rivière Ste-Marie. Ce promontoire offre un panorama spectaculaire du Lac Supérieur et de la rivière Ste-Marie qui servent au transport maritime. Le granite du Cap contient plusieurs minéraux intéressants. On peut accéder au promontoire en suivant une portion de la section Saulteaux du Sentier de Randonnée des Voyageurs. Une randonnée pédestre de ce promontoire est prévue pour dimanche après

midi, le 26 septembre. Vous serez émerveillé par la variété de paysages, les feuilles colorées de l'automne, et à la toute fin par la vue spectaculaire de la baie et de la rivière. Les excursionnistes seront accompagnés par des naturalistes du club local de randonnée. Vous serez transportés, selon votre choix, à un des 3 point d'accès, soit à des distances de 2.1, 5.0, et 11.5 km de l'auberge Blue Water, où tout les participants se réuniront pour des rafraichissements et se prépareront pour le retour à l'Auberge. Nous vous conseillons de vous habiller et de vous chausser de façon appropriée.

Le coût de transport sera minimal. Le prix des consommations n'est pas inclus.

LE CANYON AGAWA

Les touristes abondent de toute les régions du monde pour participer à cette excursion ferroviaire d'une journée dans le Canyon Agawa. Pour cette raison, nous préférons réserver, à l'avance et en votre nom, les billets pour ce voyage très populaire. Le train quitte la gare de Sault Ste-Marie à 08:00 tous les jours, arrive au parc du canyon vers 11:30, y demeure pour environ 2 heures et entre en gare à Sault Ste-Marie vers 17:00. Un service de restaurant est offert sur le train entre 07:00 et 15:45. Le coût de cette excursion est de \$44.00 (taxes incluses) par personne. La nourriture est à vos frais. Nous vous suggérons de réserver soit samedi le 25 septembre, dimanche le 26 ou mercredi le 29. Un groupe de 26 personnes nous permettrait d'obtenir notre propre wagon. PRIERE DE RESERVER DANS LES PLUS BREFS DELAIS.

LES RIVES DE LA RIVIERE STE MARIE ET VISITE DES ECLUSES

En raison de sa position stratégique à la jonction des Grand Lacs, Sault Ste-Marie est devenu un centre de commerce, d'abord entre les premières nations, et plus tard entre les amérindiens, les négociants, et les voyageurs. Certaines marques de ce passé historique existent toujours. Nous débiterons la journée de lundi le 27 septembre par un tour des rives de la rivière Ste-Marie, des écluses de Sault Ste-Marie Canada, et une visite de quelques sites historiques. Par la suite nous embarquerons à bord du "Chief Shinwauk" pour une croisière sur la rivière en passant par les écluses de Sault Ste-Marie Etats Unis. Après le diner qui aura lieu à bord du bateau, nous visiterons le Musée de Sault Ste-Marie et/ou la Galerie d'Art d'Algoma. Le coût de ce tour est de \$21.00 par personne. PRIERE DE RESERVER DANS LES PLUS BREFS DELAIS.

Nos plans pour mardi le 28 septembre ne sont pas encore complétés. On vous fera parvenir les détails aussitôt qu'ils seront disponibles.

McCAY, DUFF & COMPANY

CHARTERED ACCOUNTANTS

JOHN W. FRANKLIN, C.A.
THOMAS W. HOWARTH, C.A.
BRYAN E. SULLIVAN, C.A.
ALBERT G. MONSOUR, B.ADM., C.A.
BLAIR E. DAVIDSON, B.COMM., C.A.
G. WARREN TRICKEY, B.COMM., C.A.
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, 1992 and the statements of revenue and expenditure, 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, 1992 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 26, 1993.

ENTOMOLOGICAL SOCIETY OF CANADA

BALANCE SHEET

AS AT DECEMBER 31, 1992

	ASSETS	<u>1992</u>	<u>1991</u>
GENERAL FUND			
CURRENT			
Cash		\$ 35,418	\$ 56,568
Accounts receivable		21,460	50,653
Accrued interest receivable		7,661	7,364
Prepaid expenses		<u>11,845</u>	<u>10,547</u>
		76,384	125,132
INVESTMENTS (note 2)		<u>245,300</u>	<u>244,775</u>
		321,684	369,907
ENDOWMENT FUND			
Cash		6,053	11,855
Accrued interest receivable		975	975
Due from General Fund		7,636	-
Investments (note 2)		<u>38,900</u>	<u>38,900</u>
		53,564	51,730
BUILDING FUND			
FIXED ASSET (note 3)		<u>242,800</u>	<u>242,800</u>
		<u>\$618,048</u>	<u>\$664,437</u>
	LIABILITIES		
GENERAL FUND			
CURRENT			
Accounts payable		\$ 10,042	\$ 25,804
Deferred revenue		115,560	125,884
Due to Endowment Fund		<u>7,636</u>	<u>-</u>
		133,238	151,688
	EQUITY		
GENERAL FUND		188,446	218,219
ENDOWMENT FUND		53,564	51,730
BUILDING FUND		<u>242,800</u>	<u>242,800</u>
		<u>484,810</u>	<u>512,749</u>
		<u>\$618,048</u>	<u>\$664,437</u>

ENTOMOLOGICAL SOCIETY OF CANADA - STATEMENT OF REVENUE AND

	Budget	Actual	Budget
	Canadian	Canadian	Memoirs
	Entomologist	Entomologist	and Other
			Publications
REVENUE			
Regular memberships	\$ 21,000	\$ 19,642	\$ 3,300
Student memberships	1,800	1,280	-
Subscriptions	94,200	89,216	47,100
Reprints	15,000	13,935	-
Page charges	30,000	28,838	12,500
Back issues	4,800	7,541	-
Sales of Memoirs	-	-	4,800
Sales of Arctic Arthropods and Bibliography	-	-	-
Gain on currency exchange	-	-	-
Miscellaneous	-	-	-
	166,800	160,452	67,700
EXPENDITURE			
Publishing and mailing costs	81,000	81,357	33,500
Reprint costs	7,200	7,747	-
Bulletin publishing and mailing	-	-	-
Salaries and benefits	56,737	55,952	20,849
Editor's expenses	5,000	6,993	2,500
Office	2,000	5,087	1,000
Professional fees	1,750	1,550	-
Prizes, awards, brochure, etc.	-	-	-
Graduate research/travel scholarship	-	-	-
Honoraria	1,209	1,209	400
Committees:			
Heritage Publications	-	-	-
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	-	-	-
	154,896	159,895	58,249
REVENUE (EXPENDITURE) FOR			
THE YEAR FROM OPERATIONS	11,904	557	9,451
Interest on investments	-	-	-
Gain (loss) on sale of investments	-	-	-
	-	-	-
NET REVENUE (EXPENDITURE) FOR THE YEAR	\$ 11,904	\$ 557	\$ 9,451

EXPENDITURE FOR THE YEAR ENDED DECEMBER 31, 1992

Actual Memoirs and Other Publications	Budget Society	Actual Society	1992		1991
			Budget	Actual	Actual
\$ 1,960	\$21,000	\$19,642	\$ 45,300	\$ 41,244	\$ 43,000
-	1,800	1,280	3,600	2,560	3,560
45,959	-	-	141,300	135,175	137,360
-	-	-	15,000	13,935	16,732
12,359	-	-	42,500	41,197	65,760
-	-	-	4,800	7,541	5,081
4,406	-	-	4,800	4,406	13,696
-	250	520	250	520	265
-	-	3,104	-	3,104	1,194
-	3,000	5,219	3,000	5,219	3,320
64,684	26,050	29,765	260,550	254,901	289,968
39,048	-	-	114,500	120,405	199,667
-	-	-	7,200	7,747	11,195
-	21,800	19,104	21,800	19,104	13,935
20,427	11,624	12,434	89,210	88,813	87,551
-	-	-	7,500	6,993	5,821
2,544	2,000	5,087	5,000	12,718	10,620
-	1,750	1,550	3,500	3,100	3,300
-	1,400	1,302	1,400	1,302	1,156
-	4,000	(255)	4,000	(255)	3,806
400	2,416	2,416	4,025	4,025	4,025
-	2,300	4,277	2,300	4,277	-
-	1,000	-	1,000	-	1,044
-	2,000	-	2,000	-	-
-	1,600	1,646	1,600	1,646	-
-	20,350	16,797	20,350	16,797	13,434
-	4,000	4,000	4,000	4,000	4,000
-	2,500	832	2,500	832	1,585
-	3,500	3,396	3,500	3,396	3,573
-	14,000	8,267	14,000	8,267	7,284
-	1,500	-	1,500	-	730
-	2,500	2,576	2,500	2,576	889
-	3,500	2,256	3,500	2,256	1,247
62,419	103,740	85,685	316,885	307,999	374,862
2,265	(77,690)	(55,920)	(56,335)	(53,098)	(84,894)
-	30,000	25,985	30,000	25,985	32,269
-	-	675	-	675	-
-	30,000	26,660	30,000	26,660	32,269
\$ 2,265	(\$ 47,690)	(\$29,260)	(\$ 26,335)	(\$ 26,438)	(\$ 52,625)

ENTOMOLOGICAL SOCIETY OF CANADA

STATEMENT OF EQUITY

FOR THE YEAR ENDED DECEMBER 31, 1992

	<u>1992</u>	<u>1991</u>
GENERAL FUND		
BALANCE - BEGINNING OF YEAR	\$218,219	\$272,356
Net revenue (expenditure) for the year	(<u>26,438</u>)	(<u>52,625</u>)
	191,781	219,731
Appropriation to Building Fund	(<u>3,335</u>)	(<u>1,512</u>)
BALANCE - END OF YEAR	<u>\$188,446</u>	<u>\$218,219</u>
ENDOWMENT FUND (note 4)		
BALANCE - BEGINNING OF YEAR	\$ 51,730	\$ 47,901
Interest income for the year	4,877	4,685
Page charges and reprints	(<u>3,043</u>)	(<u>856</u>)
	<u>1,834</u>	<u>3,829</u>
BALANCE - END OF YEAR	<u>\$ 53,564</u>	<u>\$ 51,730</u>
BUILDING FUND (note 5)		
BALANCE - BEGINNING OF YEAR	\$242,800	\$242,800
Net rental revenue (expenditure) for the year (schedule)	(<u>3,335</u>)	(<u>1,512</u>)
Appropriation from General Fund	<u>3,335</u>	<u>1,512</u>
BALANCE - END OF YEAR	<u>\$242,800</u>	<u>\$242,800</u>

ENTOMOLOGICAL SOCIETY OF CANADA
 STATEMENT OF CHANGES IN FINANCIAL POSITION
 FOR THE YEAR ENDED DECEMBER 31, 1992

	<u>1992</u>	<u>1991</u>
CASH PROVIDED BY (USED FOR)		
OPERATING ACTIVITIES		
Cash from operations		
Net revenue (expenditure) for the year		
- General Fund	(\$ 26,438)	(\$ 52,625)
Net revenue for the year - Endowment Fund	1,834	3,829
Net revenue (expenditure) for the year		
- Building Fund	(3,335)	(1,512)
	(27,939)	(50,308)
Items not involving cash		
- (gain) loss on sale of investments		
- General Fund	(675)	-
Net change in non-cash working capital		
balances related to operations - General Fund		
- (increase) decrease in accounts receivable	29,193	(26,416)
- (increase) decrease in accrued interest		
receivable	(297)	251
- (increase) decrease in prepaid expenses	(1,298)	(4,683)
- increase (decrease) in accounts payable	(15,762)	(2,341)
- increase (decrease) in deferred revenue	(10,324)	(2,036)
	837	(35,225)
INVESTING ACTIVITIES		
Purchase of investments - General Fund	(19,850)	-
Proceeds on disposal of investments		
- General Fund	<u>20,000</u>	<u>30,300</u>
	<u>150</u>	<u>30,300</u>
INCREASE (DECREASE) IN CASH POSITION		
DURING THE YEAR	(26,952)	(55,233)
Cash position - beginning of year	<u>68,423</u>	<u>123,656</u>
CASH POSITION - END OF YEAR	<u>\$ 41,471</u>	<u>\$ 68,423</u>
CASH POSITION		
Cash - General Fund	\$ 35,418	\$ 56,568
Cash - Endowment Fund	<u>6,053</u>	<u>11,855</u>
	<u>\$ 41,471</u>	<u>\$ 68,423</u>

ENTOMOLOGICAL SOCIETY OF CANADA

NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 1992

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

	<u>1992</u>	<u>1991</u>
GENERAL FUND		
Bonds, at cost (market value 1992 - \$260,258, 1991 - \$262,850)	<u>\$245,300</u>	<u>\$244,775</u>
ENDOWMENT FUND		
Bonds, at cost (market value 1992 - \$38,900, 1991 - \$44,208)	<u>\$ 38,900</u>	<u>\$ 38,900</u>

3. FIXED ASSET

Land and building, at cost	<u>\$242,800</u>	<u>\$242,800</u>
----------------------------	------------------	------------------

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.

ENTOMOLOGICAL SOCIETY OF CANADA
 SCHEDULE OF RENTAL REVENUE (EXPENDITURE)
 FOR THE YEAR ENDED DECEMBER 31, 1992

	<u>1992</u>		<u>1991</u>
	<u>Budget</u>	<u>Actual</u>	<u>Actual</u>
REVENUE			
Rental income	\$7,200	\$3,820	\$6,700
EXPENDITURE			
Insurance	350	374	352
Property taxes	4,000	4,353	4,066
Repairs and maintenance	1,500	445	2,457
Utilities	<u>1,300</u>	<u>1,983</u>	<u>1,337</u>
	<u>7,150</u>	<u>7,155</u>	<u>8,212</u>
NET RENTAL REVENUE (EXPENDITURE)			
FOR THE YEAR	\$ <u>50</u>	(<u>\$3,335</u>)	(<u>\$1,512</u>)

McCAY, DUFF & COMPANY

CHARTERED ACCOUNTANTS

JOHN W. FRANKLIN, C.A.
THOMAS W. HOWARTH, C.A.
BRYAN E. SULLIVAN, C.A.
ALBERT G. MONSOUR, B.ADMIN., C.A.
BLAIR E. DAVIDSON, B.COMM., C.A.
G. WARREN TRICKEY, B.COMM., C.A.
ROBERT D. SHANTZ, B.MATH., C.A.

CONSULTANT - ELDREN E. McCONNELL, C.A.

330 McLEOD ST.
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AUDITORS' REPORT

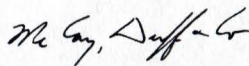
To the Members of
Entomological Society of Canada -
Scholarship Fund.

We have audited the balance sheet of the Entomological Society of Canada - Scholarship Fund as at December 31, 1992. 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, 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, 1992 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.



Chartered Accountants.

Ottawa, Ontario,
February 22, 1993.

ENTOMOLOGICAL SOCIETY OF CANADA - SCHOLARSHIP FUND

BALANCE SHEET

AS AT DECEMBER 31, 1992

	ASSETS	1992	1991
CURRENT			
Cash		\$26,465	\$29,591
Accrued interest receivable		<u>1,548</u>	<u>1,209</u>
		28,013	30,800
INVESTMENTS (note 2)		<u>63,850</u>	<u>59,000</u>
		<u>\$91,863</u>	<u>\$89,800</u>
	SURPLUS		
INCOME FUND			
Balance - beginning of year		\$22,508	\$18,842
Gain on sale of investment		-	75
Interest income		<u>7,365</u>	<u>7,591</u>
		29,873	26,508
Scholarship awards		<u>8,000</u>	<u>4,000</u>
Balance - end of year		21,873	22,508
CAPITAL FUND			
Balance - beginning of year		67,292	55,126
Donations received		<u>2,698</u>	<u>12,166</u>
Balance - end of year		<u>69,990</u>	<u>67,292</u>
		<u>\$91,863</u>	<u>\$89,800</u>

ENTOMOLOGICAL SOCIETY OF CANADA - SCHOLARSHIP FUND

NOTES TO FINANCIAL STATEMENT

DECEMBER 31, 1992

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.

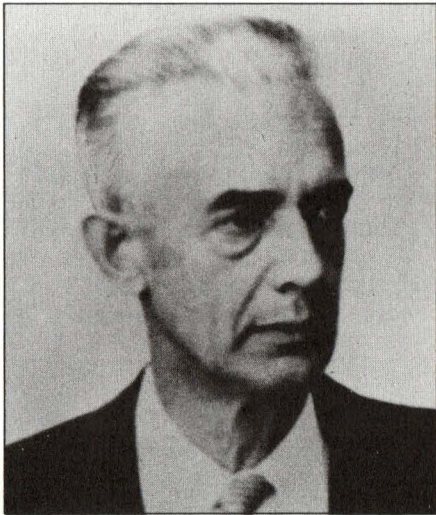
2. INVESTMENTS

	<u>1992</u>	<u>1991</u>
Bonds, at cost (market value		
1992 - \$66,736, 1991 - \$63,123)	<u>\$63,850</u>	<u>\$59,000</u>

3. STATEMENT OF CHANGES IN FINANCIAL POSITION

This statement has not been prepared as it is the opinion of management that it would not provide additional useful information.

IN MEMORY



**William Lloyd Putman
(1903 - 1992)**

William Lloyd Putman, better known to his many friends as Bill, passed away at the Albright Manor, Beamsville, Ontario, November 17, 1992, in his 89th year. He was born, raised, and lived most of his adult life, in Grimsby, Ontario, very close to the Niagara Peninsula orchards where he carried out his extensive and highly-regarded entomological research as a member of the staff of the Agriculture Canada Research Station at Vineland Station, Ontario. In addition to his fame as an entomologist and acarologist, Bill was renowned locally as a naturalist, particularly in Ornithology and Botany.

Bill was a graduate of the Ontario Agricultural College and obtained his M.Sc. at the University of Toronto. In 1931, he joined the staff of the Dominion

Fruit Insect Laboratory, predecessor of the current research station at Vineland Station. He first worked mainly at a field station at St. Davids, Ontario, with a group, including G.G. "Dusty" Dustan, that had been put together to study a severe outbreak of the Oriental fruit moth.

Although Bill was best known in the latest stages of his career for his work on ecology and biological control of orchard mites, he also had done considerable research on orchard insects in the early years. He developed an interest in biological control that continued throughout his career.

He studied parasitism in the Oriental fruit moth and other lepidopterous larvae. He also studied predation in Ontario orchards by Chrysopidae and such species as *Stethorus punctillum* Weise and *Haplothrips faurei* Hood. He carried out some of the earliest studies on DDT and other organochlorine insecticides, and was one of the first to recognize the potential hazards of unlimited use of these chemicals. With others at the Vineland establishment he began long-term studies on the overall effects of pesticides on orchard fauna, particularly in peach orchards, which earned him wide recognition.

In the depression years, "high-tech" scientific equipment was rare or unaffordable, and entomologists frequently had to improvise. Bill was second to none in his inventiveness and his creations are legendary in the annals of the Fruit Insect Laboratory. His cages and other entomological apparatus were meticulously designed and built. The Putman semi-automatic spraying frame (*The Canadian Entomologist* 81: 85-93), fashioned out of a phonograph motor, a camera tripod leg, and sundry bits of wood and metal, was a classic example.

Bill published 56 scientific papers during his career, and his reprints were in demand world-wide. He also contributed to the scientific status of the Vineland Research Station in other ways. Despite his speech impediment, he was always willing to share his vast knowledge of science, and entomology in

particular, with younger staff members. At the height of his career, he edited a *Fruit Insect Newsletter* which was a compilation of research reports from Agriculture Canada stations across Canada. Most scientific papers issuing from the Vineland laboratory in Bill's time were first reviewed by him, and his comments and recommendations were highly valued by his colleagues. His advice on orchard pests was frequently sought by Ontario extension specialists.

He was a member of the Entomological Societies of America, Canada, and Ontario.

Away from the research bench, Bill was widely recognized in the Niagara region as one of the foremost naturalists. He was frequently consulted, and rarely stumped, on the identification of plants, and was an outstanding ornithologist. He was, in 1919, the first to observe the European starling breeding in the Niagara peninsula, although he did not publish this information until 1947. Bill was a founding and life member of the Peninsula Field Naturalists. He ensured that some of his vast knowledge of nature could be shared by others by donating his treasured book collection, estimated to be worth about \$50,000, to Brock University in St. Catharines.

Bill was sorely missed when he retired from Agriculture Canada in 1968 and continued to pursue his interests in nature and gardening throughout most of his retirement. He is survived by his brother Orland with whom he lived for many years in the family home in Grimsby, and later in the Albright Manor. Bill was one of the last of a vanishing breed. In this day and age of specialization, it is doubtful that many entomologists have the broad knowledge of different species of insects that Bill and some of his contemporaries had. Bill and his contributions will not be soon forgotten by the senior citizens of Canadian entomology.

D.C. Herne
A.B. Stevenson

Jacques Lucien Auclair (1923-1992)

Dr. Jacques Lucien Auclair, retired Professor, Department of Biological Sciences, University of Montreal, Montreal, Canada, passed away on December 4, 1992.

Lucien Auclair was born in Montreal on April 2, 1923. He graduated from the University of Montreal with a B.Sc. degree in Agriculture in 1942 and from McGill University with a M.Sc. degree in Entomology in 1945. In 1946 Lucien Auclair received a scholarship from the Agriculture Institute of Canada and during 1948-49 he was a research fellow of the Lalor Foundation, Wilmington (Del. U.S.A.). These fellowships enabled him to finish his doctorate and receive the Ph.D. degree in 1949 from the University of Cornell, N.Y., U.S.A. with specialization in Physiology and Biochemistry of Insects. During 1949-53, Dr. Auclair served as Assistant Professor at the Institute of Biology, University of Montreal, and in 1953 he joined the Services of the Canada Department of Agriculture, and was Head of a Section of Entomology at the Research Station of Agriculture Canada, St. Jean, Quebec. In 1964,

Dr. Auclair joined as Professor the Institute of Botany and Entomology, University of New Mexico, Las Cruces, U.S.A. In 1967 he returned to Montreal as Professor and Director of the Department of Biological Sciences, University of Montreal, from where he retired as Professor in 1991.

Dr. Auclair was a member of many scientific societies such as, Scientific Research Society of America, the New York Academy of Sciences, the American Institute of Biological Sciences, the American Institute of Biological Sciences, Entomological Society of America, Entomological Society of Canada, the Entomological Society of Quebec and la Société de protection des plantes du Québec. He served as President and Vice-president of some of these societies, and was fellow of the Entomological Society of Canada. He acted as a referee for reviewing papers for many entomological and plant protection journals and was on the Editorial Board for the journal *Insect Science and its Application*. He also served on the Research Grants Committees of U.S.D.A., N.S.E.R.C. and F.C.A.C.

Dr. Auclair's research was involved mainly with the nutrition and metabolism of the plant sucking insects, and he gained international recognition for his work on the artificial feeding of the pea aphid, *Acyrtosiphon pisum* (Harris), on the demonstration of D-amino acids in *Oncopeltus fasciatus* Dallas, on amino acids as a factor in host-plant resistance, and on amino acid requirements of different biotypes of *A. pisum*. He kept contact and collaborated with researchers during his sabbatical years at: International Rice Research Institute, Los Banos, Philippines; Station sur l'amélioration des plantes fourragères de l'INRA, Lusignan & Station de Zoologie et de lutte biologique de l'INRA d'Antibes, France; Centro Internacional de la Papa, Lima, Peru, University of California, Berkeley; University of Hawaii, USA; University of Chile, Santiago, Chiles; and Centro Internacional de la Papa, Lima, Peru. He published more than 80 scientific papers and over 40 scientific communications, apart from a chapter on Host Plants Resistance in the book entitled, *Aphids, their Biology, Natural Enemies and Control* Vol. 2C, and was an invited speaker at many International and National Congresses. His review paper, "Aphid feeding and nutrition", published in *Annual Review of Entomology* in 1963 was declared as "This Week's Classic" by the publishers of *Current Contents* (March 26, 1984), as it was cited more than 125 times. A few weeks before his death, Dr. Auclair finished writing a book on Medical Entomology in French. The manuscript is with the publishers now, and the book will soon be published.

Professor Auclair taught courses in Insect Physiology, Ecophysiology, Economic Entomology and Medical Entomology. During the years 1979-1990 he supervised eight M.Sc., and two Ph.D. students. His students and colleagues held him in very high esteem.

Dr. Auclair loved travelling, appreciated international cuisine and was an expert wine maker. Fellow scientists will remember him as a great Entomologist, and those who knew him intimately will always treasure the time they shared together.

P.N. Srivastava
Department of Biological Sciences
University of Montreal
P.O. Box 6128, succ. A
Montreal, Quebec
H3C 3J7

NEWS OF ORGANIZATIONS

International Commission on Zoological Nomenclature

Applications published in the *Bulletin of Zoological Nomenclature*

The following applications were published on 25 March 1993 in Vol. 50, 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 2846. *Cryptophagus advena* Waltl, 1834 (currently *Ahasverus advena*; Insecta, Coleoptera): proposed conservation of the specific name.

Robert D. Pope
c/o Department of Entomology, The Natural History Museum, Cromwell Road, London,
SW7 5BD, U.K.

Abstract. The purpose of this application is to conserve the specific name of the foreign grain beetle, *Ahasverus advena* (Waltl, 1834) (family SILVANIDAE), a pest of stored grain and other foodstuffs. The name is threatened by the identification of the only known syntype of *Lyctus brunneus* Fabricius, 1792 as a specimen of *Ahasverus advena*. The Fabricius name is a senior secondary homonym of *Lyctus brunneus* (Stephens, 1830), a cosmopolitan timber pest; since the species are not now thought to be congeneric and the Stephens name has never been replaced it remains valid, but the homonymy strengthens the argument for suppressing *L. brunneus* Fabricius.

Case 2758. *Buprestis* Linnaeus, 1758 and *Chrysobothris* Eschscholtz, 1829 (Insecta, Coleoptera): proposed conservation by the designation of *Buprestis octoguttata* Linnaeus, 1758 as the type species of *Buprestis*

G.H. Nelson
College of Osteopathic Medicine of the Pacific, College Plaza, Pomona, California
91766-1889, U.S.A.

W.H. Barr
University of Idaho, Moscow, Idaho 83843, U.S.A.

Abstract. The purpose of this application is to conserve the universal understanding and usage of the names *Buprestis* Linnaeus, 1758 and *Chrysobothris* Eschscholtz, 1829 (family BUPRESTIDAE Leach, 1815, the jewel beetles) by designating *B. octoguttata* Linnaeus, 1758 as the type species of *Buprestis*. At present *B. chrysostigma* Linnaeus, 1758 is the valid type species of both *Buprestis* and *Chrysobothris*. Both genera, which have worldwide distribution, include species which are serious economic pests.

Case 2837/1. *Poecilonota* Eschscholtz, 1829, *Palmar* Schaefer, 1949 and *Scintillatrix* Obenberger, 1956 (Insecta, Coleoptera): proposed conservation by the designation of *Buprestis variolosa* Paykull, [1799] as the type species of *Poecilonota* and *B. rutilans* Fabricius, [1777] as the type species of *Scintillatrix*

Hans Mühle

Pfarrstrasse 10, D-8063 Pfaffenhofen/Glonn, Germany

Abstract. The purpose of this application is to conserve the current understanding and usage of the names *Poecilonota* Eschscholtz, 1829, *Palmar* Schaefer, 1949 and *Scintillatrix* Obenberger, 1956 (family BUPRESTIDAE Leach, 1815, jewel beetles) by designating *Buprestis variolosa* Paykull, [1799] as the type species of *Poecilonota* and *B. rutilans* Fabricius, [1777] as the type species of *Scintillatrix*. At present *B. rutilans* is the valid type species of *Poecilonota* and *B. festiva* Linnaeus, 1767 is the type of both *Palmar* and *Scintillatrix*. Both *Poecilonota* and *Scintillatrix* have worldwide distribution, whilst *Palmar* is Palaearctic in distribution. All three genera include species which are pests of plants; *Scintillatrix rutilans* in particular causes serious damage to old trees of the lime *Tilia cordata*.

Case 2837/2. *Melanophila* Eschscholtz, 1829, and *Phaenops* Dejean, 1833 (Insecta, Coleoptera): proposed conservation of usage by the designation of *Buprestis acuminata* De Geer, 1774 as the type species of *Melanophila*

Hans Mühle

Pfarrstrasse 10, D-8063 Pfaffenhofen/Glonn, Germany

Abstract. The purpose of this application is to conserve the current understanding and usage of the names *Melanophila* Eschscholtz, 1829, and *Phaenops* Dejean, 1833 (family BUPRESTIDAE Leach, 1815, jewel beetles) by designating *Buprestis acuminata* De Geer, 1774 as the type species of *Melanophila*. At present *Melanophila* and *Phaenops* are both typified by *B. cyanea* Fabricius, 1774. Both genera have a worldwide distribution. Most species of *Melanophila* are Nearctic and Neotropical and most of *Phaenops* are Palaearctic. *M. acuminata*, the larvae of which feed on conifers and broadleaved trees, has the widest distribution of buprestid species.

Case 2851. *Nacaduba* Moore, [1881] (Insecta, Lepidoptera): proposed precedence over *Pepliphorus* Hübner, [1819]

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Abstract. The purpose of this application is to conserve the name of the Oriental and Australian lycaenid butterfly genus *Nacaduba* Moore, [1881]. It is proposed that it be given precedence over the senior subjective synonym *Pepliphorus* Hübner, [1819], rarely used in this sense.

Case 2852. *Banksinella luteolateralis* var. *albothorax* Theobald, 1907 (currently *Aedes* (*Neomelaniconion*) *albothorax*), *B. luteolateralis* var. *circumluteola* Theobald, 1908 (currently *A. (N.) circumluteolus*) and *A. (N.) mcintoshi* Huang, 1985 (Insecta, Diptera): proposed conservation of the specific names and designation of a neotype for *A. (N.) albothorax*

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Abstract. The purpose of this application is to conserve the specific names of *Aedes* (*Neomelaniconion*) *albothorax* (Theobald, 1907), *A. (N.) circumluteolus* (Theobald, 1908) and *A. (N.) mcintoshi* Huang, 1985 in their accustomed usages. All of these species are common mosquitoes in sub-Saharan Africa; *Aedes circumluteolus* and *A. mcintoshi* are particularly widespread and both have been found infected with several arboviruses.

Case 2836. *Oecothea* Haliday in Curtis, 1837 (Insecta, Diptera): proposed conservation and designation of *Helomyza fenestralis* Fallén, 1820 as the type species

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Abstract. The purpose of this application is to conserve the generic name of the heleomyzid fly *Oecothea* Haliday in Curtis, 1837 with *Helomyza fenestralis* Fallén, 1820 as its type species. There is lack of agreement on the availability of the name as published in Curtis (1837) and the genus is sometimes spelled *Aecothea* after Haliday (1838).

The following **Opinions** were published on 25 March 1993 in Vol. 50, Part 1, of the *Bulletin of Zoological Nomenclature*:

Opinion 1703. *Goniosoma conspersum* Perty, 1833 (currently *Mitobates conspersus*; Arachnida, Opiliones): specific name not conserved.

Opinion 1705. *Paolia vetusta* Smith, 1871 (Insecta, Protorthoptera): neotype replaced by rediscovered holotype.

Opinion 1706. *Eurymeloides* Ashmead, 1889 (Insecta, Homoptera): *Eurymela bicincta* Erichson, 1842 confirmed as the type species, and a neotype designated for *E. bicincta*.

Opinion 1707. *Scoparipes* Signoret, 1880 (Insecta, Heteroptera): *Cydnus latipes* Westwood, 1837 confirmed as the type species.

Opinion 1708. *Proagoderus* Lansberge, 1883 (Insecta, Coleoptera): conserved.

Opinion 1709. *Diabrotica undecimpunctata* Mannerheim, 1843 and *D. undecimpunctata howardi* Barber, 1947 (Insecta, Coleoptera): specific and subspecific names conserved.

Opinion 1710. J.C. Megerle's (1801-1805) auction catalogues of insects: suppressed for nomenclatural purposes, with the specific names of *Saperda alboguttata* Megerle, 1803 (currently *Apomecyna alboguttata*; Coleoptera) and *Hippobosca variegata* Megerle, 1803 (Diptera) conserved.

Opinion 1711. *Chrysops atlanticus* Pechuman, 1949 (Insecta, Diptera): specific name conserved.

Opinion 1712. *Drosophila hydei* Sturtevant, 1921 (Insecta, Diptera): specific name conserved.

Opinion 1713. Some bee family-group names (Insecta, Hymenoptera): names based on *Colletes* Latreille, 1802, on *Paracolletes* Smith, 1853, on *Halictus* Latreille, 1804, on *Anthidium* Fabricius, 1804 and on *Anthophora* Latreille, 1803 given precedence over some senior names.

PUBLICATIONS

BOOK NOTICES

Evans, G.O. 1992. *Principles of Acarology*. C·A·B International, Wallingford, Oxon, U.K. 576 pp. Hardcover \$(U.S.)123.50.

This book provides a detailed introduction to the Acari, concentrating on their functional morphology, but also covering their classification and economic importance. The topics covered include: Integument and moulting; segmentation, musculature and legs; circulation, nervous systems and sense organs; respiratory system; mouthparts; feeding and adaptations of the mouthparts; alimentary canal, prosomatic glands, and digestion; excretion and osmoregulation; reproductive systems; sperm transfer, mating behaviour, and oviposition; development and dispersal; classification of the Acari. The publisher suggests that the book can serve as a text and reference for advanced-level students taking courses in general entomology, invertebrate zoology, and agricultural, medical, and veterinary entomology.

Kennedy, J.S. 1992. *The New Anthropomorphism*. Cambridge University Press, New York, NY, U.S.A. 194 pp. Hardcover \$(U.S.)54.95; softcover \$(U.S.)17.95.

Modern animal behaviourists consider that anthropomorphism is mostly dead, and are therefore confident that their own use of anthropomorphic language is purely metaphorical. John Kennedy's point is that explicit anthropomorphism was indeed nearly killed for most students by fierce criticism from radical behaviourists, but that we have to acknowledge that today there is a new anthropomorphism which is much harder to avoid because it is unintended and largely unconscious. It exists because of a fact only hinted at in the literature: that an anthropomorphic 'fellow-feeling' towards animals, especially higher ones, is built into us by nature and nurture. For that reason, even those who, if they were asked, would firmly reject anthropomorphism, nevertheless unwittingly slip into it from time to time. The book provides documentary evidence of mistakes traceable to anthropomorphic bias. The final chapter outlines things we can do to minimize the damage done by anthropomorphism to the causal analysis of animal behaviour.

Smith, I.M., D.G. McNamara, P.R. Scott, and K.M. Harris (Eds.). 1992. *Quarantine Pests for Europe*. C·A·B International, Wallingford, Oxon, U.K. 1152 pp. Hardcover \$(U.S.)161.50.

This book is the result of collaboration between the European and Mediterranean Plant Protection Organization and C·A·B International to prepare data sheets on pests of plant quarantine significance for Europe and the Mediterranean region. Coverage extends to insects, fungi, bacteria, viruses, nematodes, and parasitic plants. It includes organisms that are found outside Europe and the Mediterranean and that present a risk to this region, as well as those that are present but have a restricted distribution and are subject to phytosanitary controls. A total of 188 data sheets are included, some covering groups of similar organisms. The data sheets use standard headings: Identity, hosts, geographical distribution, biology, detection and identification, means of movement and dispersal, pest significance (including economic impact, control, and phytosanitary risk), phytosanitary measures, and bibliography.

Anonymous. 1992. *Laboratory Training Manual on the Use of Nuclear Techniques in Insect Research and Control*. 3rd Edition. International Atomic Energy Agency, Vienna, Austria. 183 pp. Softcover 560 Austrian Schillings.

This manual replaces the Laboratory Training Manual on the Use of Isotopes and Radiation in Entomology, Technical Reports Series No. 61, published in 1977. An extensive revision of the isotopes part of the Manual has been made and a new section on the sterile insect technique (SIT) has been added (including an introduction to the history and development of SIT, the theory and mathematical concepts, the general and specific requirements, case studies and laboratory exercises). The Manual is intended to help entomologists and others responsible for entomological research and control of insects in developing countries to become familiar with the potential use of isotopes and radiation. In addition to a glossary of basic terms and concepts, the manual contains five parts: I. Radiation safety; II. Radiation and isotopes; III. Radiation detection and assay of radioactivity; IV. Application to entomological problems; and V. Sterile insect technique.

BOOK REVIEWS

Dethier, V.G. 1992. *Crickets and Katyids, Concerts and Solos*. Harvard University Press, Cambridge, MA, U.S.A. xi + 149 pp. Hardcover \$(U.S.)18.95.

This book relates the memories of Dr. Dethier when, in 1938, he was employed by Dr. George Pierce to collect the 'singing' insects in New Hampshire and adjacent states. The specimens collected formed the basis for the major contribution on the mechanics and methods of sound production of orthopteroid insects published by Pierce in 1949.

The preamble is a general discussion of the songs of animals including the insects. There is an invitation to readers to listen to and to build up an inventory of species and their repertoires as he has outlined in the book.

The places where Dethier encountered the various species and his experiences in making the captures are given in considerable detail. This is remarkable, considering that the book post-dates the events by 54 years. His memory is phenomenal. Even if he relied upon notes, these could not have contained the great detail given in the book. There are some interesting asides, like the time the sheriff and a deputy arrested him as a suspicious character when he was collecting specimens by sound at night.

There are chapters covering the entire season, and the species that are found, with excellent descriptions of the habitats and habits of the insects: Field crickets, the "Spring Sulphur-Winged Locust", ground crickets, sphagnum cricket, the "Black-Winged Locust" (= Carolina Grasshopper), meadow grasshoppers, trip to Mount Washington, trip to salt marshes, katyids, coneheads and shield bearers, to the end of the season. There are five appendices that enhance the usefulness of the book: 1) common and scientific names, 2) graphic representation of the time of appearance and duration of each species, 3) key for identification based upon external characteristics, 4) phonetic key to the song of each species, and 5) description of the songs of katyids and shield bearers. The author consulted 18 references.

The few faults in this book are, I suppose, excusable. All of the true grasshoppers are called "locusts". They are not locusts but have been so-called by many early American authors. Locusts occur in two phases, one solitary and the other gregarious, and these phases differ in appearance and habits. Often, but not always, locusts migrate for long distances. None of the grasshoppers fit these criteria. Some of the common names given to the species are not the approved common names.

The book is beautifully written and easy to read. The descriptions of places and events are very vivid. If people of all ages read and use the book as the author suggests, they will have learned something that, too often, is overlooked in this age of technology. The marvels of nature are a counterbalance to the pressure of modern living and can allow each observer a moment of peace. It is apparent that this is the aim of the author and in this aim he has provided the vehicle for all who read and follow.

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Poinar, G.O., Jr. 1992. *Life in Amber*. Stanford University Press, Stanford, CA, U.S.A. xiii + 350 pp. Hardcover \$(U.S.)55.00.

Amber truly is a window into the past. Millions of years ago, insects and a number of other organisms were trapped in these sticky resins, and preserved in exquisite detail. Some are so well-preserved that they can be studied like modern insects mounted on slides, and such details as setation and wing venation are seen easily. Unfortunately, besides being scientifically interesting, amber is also beautiful, and in demand for jewelry-making; furthermore, fossil collectors highly prize well-preserved insect specimens, driving the prices for amber to extraordinarily high levels. One collector recently told me that he had been offered \$2,000.00 for a phorid fly in Canadian late Cretaceous amber, a premium price because the specimen is a unique representative of an extinct genus.

Poinar's book on biological inclusions in amber is a much needed and extremely useful treatment of the subject. Beginning with definitions of amber and copal, he proceeds to describe the major deposits of the world, including the history, age, source trees, and physical characteristics of their ambers. The most information is available for Baltic and Dominican ambers, the most productive sources of fossils so far (Baltic amber was treated previously by Larsson 1978), but other ambers, such as the well-known Canadian late Cretaceous amber, also are included.

The bulk of the book (pp. 68-242) contains accounts of the biological inclusions found in amber, from bacteria to mammals. Naturally, because of their small size and abundance, insects are among the most frequent amber inclusions, and take up most of this section. The author provides a one-paragraph characterization for each insect order, and for the larger orders, similar treatments for each family. All genera of insects known to occur in amber are listed, sometimes with brief notes on their significance.

The final chapters deal with biological associations in amber, such as parasitism and phoresy, and the various implications that the study of amber has for biological science.

In general, the treatments in this book are of high quality, but it is unfortunate that experts on each insect group were not contacted. There are a number of annoying inaccuracies in the family treatments, some of which cause confusion. As an example, Poinar followed our treatment of *Prioriphora* as a phorid (Brown and Pike 1990), but apparently was unaware that Hennig (1973) showed *Sciadophora* should be similarly treated, and not placed in the Sciadoceridae (he seems equally unaware of Disney's [1985] contention that both genera belong in the Sciadoceridae). Another problem with the phorid treatment is the uncritical use of the generic name *Aphiochaeta* Brues, a synonym of *Megaselia* Rondani since 1927, but still used widely in works on fossils. Still worse is the inclusion of the name *Stephanostoriscus* Loew, a *nomen nudum* flagged by Spahr (1985) but inexplicably retained by Poinar. Other comments about Diptera that invite disagreement include Poinar's statement (p. 184) that it is curious that there are no Diopsidae in Neotropical amber; this is hardly a surprise to modern dipterists who know that the "stalk-eyed flies" of the neotopics are actually richardiids or platystomatids. Poinar characterizes the family Acroceridae as having reduced mouthparts, but the incredibly long proboscis of certain species (see Figs. 2, 6, 7 in Schlinger 1981) strongly contradicts this generalization. Further, as pointed out to me by Chris Thompson, Poinar perpetuates the myth of Larsson (1978) that syrphids are common in amber because they are attracted to their aphid prey on the trunks of amber trees. In fact, larvae of many if not most of these syrphid genera are scavengers and not aphid predators, and often are found under bark in sap runs or in rotting wood (Speight 1989; Rotheray 1991).

All of the above inaccuracies could have been avoided by checking with some dipterists acquainted with these groups. Hopefully, sections on other insect orders in the book are free of such erroneous interpretations, but I am not as qualified to judge. As long as this book is used as a reference for insects found in amber and not as a textbook in entomology, it should serve its purpose admirably.

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Clements, A.N. 1992. *The Biology of Mosquitoes, Volume 1: Development, Nutrition and Reproduction*. Routledge, Chapman and Hall, New York, NY, U.S.A. xxii + 509 pp. Hardcover \$(Can.)112.50; \$(U.S.)99.50.

This is the first volume of a two-part series on the physiology, behaviour, and ecology of mosquitoes worldwide. It is the first half of the long awaited update of Clements' earlier book, *The Physiology of Mosquitoes*, published in 1963. Over the nearly 30 year span, the subject matter has grown exponentially. As indicated by the author, this is the result of two important biological facts: the medical importance of the Culicidae, and the recognition by researchers in varied disciplines of the suitability of mosquitoes as experimental animals. Both the author and the publisher made a wise choice in splitting the subject into two volumes. The bibliography, which is very extensive but not exhaustive, puts the volume of literature available on this subject in perspective; in Volume 1, Clements has included approximately 2.4 times as many references as he included in the entire 1963 book. I would not be surprised to see the references in both volumes increase by a factor of five over the 1963 publication.

The approach to the literature addressed in the book is from a physiologist's viewpoint, as stated in the Preface to the book. The book is an essential reference for beginning and senior students in medical and veterinary entomology, medical and public health personnel dealing with mosquito-borne disease pathogens, field and laboratory personnel involved in mosquito control, and researchers in various entomological disciplines, both within and outside of the field of medical entomology.

The book begins with a general introduction to the biology and medical importance of mosquitoes, and readers with little knowledge of mosquitoes will quickly proceed to other chapters without breaking stride. The author presents the material in a logical, and well-organized manner. The writing style is commendable, the explanations are clearly presented and the important elements of the research results are generally well-highlighted. The findings are well-documented with tables of data from the primary literature. In many cases, the author has re-calculated the data from the original paper, and demonstrated the point he was making much better than would have been possible otherwise. This explains, in part, why it took the author longer than expected to update his earlier book.

The author is generally very conservative in his comments about the importance of mosquitoes, and of mosquito research. It was delightful to read a statement made by the author where a hint of pride emerges. "Some observations that were made first on mosquitoes introduced concepts that were later shown to apply to all insects, or even to all animals. A notable example is receptor-mediated endocytosis, the universal mechanism for uptake of key macromolecules by animal cells". A comprehensive explanation of receptor-mediated endocytosis is given in Chapter 20, which deals with vitellogenesis in the mosquito oocyte. According to the author, this universal phenomenon in animal cells, for internalizing macromolecules, was first reported in 1964, by Roth and Porter, in an ultrastructural study of vitellogenin uptake by mosquito oocytes.

The book is divided into 23 chapters, and covers the first nine chapters (out of 16) of the 1963 publication. Chapter 1 deals with various aspects of genetics, including sex determination and cytoplasmic incompatibility. The author has given considerable coverage to intersexes, and the thermal effects on the male genome in spring *Aedes* mosquitoes. This is commendable, as the original work by Anderson and Horsfall (1963) on the thermal suppression of dimorphism in *Aedes stimulans*, and the subsequent research papers by Horsfall and his students, has never been reviewed in the mosquito literature. Sexual differentiation in *Aedes* mosquitoes is again dealt with extensively in Chapter 8. The author also highlights the role of the rickettsia, *Wolbachia pipiensis* Hertig, in causing cytoplasmic incompatibility in the *Culex pipiens* complex worldwide. The coverage of Yen and Barr (1974), Yen

(1975), and subsequent papers by Barr and his students, who clarify the earlier confusion in the literature on cytoplasmic incompatibility, was also long overdue.

Separate book chapters each deal with embryology; the egg; larval feeding; larval nutrition, excretion and respiration; osmotic regulation; growth and development; metamorphosis; circulatory system; endocrine system; adult feeding; adult salivary gland secretions; adult alimentary canal; adult digestion; adult energy metabolism; excretion and defecation; structure of the gonads; spermatogenesis; oogenesis; vitellogenesis; hormonal regulation of ovarian development; adult nutrition and fertility; and, genetics and hormonal regulation of autogenous ovarian development.

The final chapter was of particular interest to me, because it is an area that has received little attention in the general literature on mosquito biology. The coverage is the first extensive one I have seen in any book, and the review was generally well done. In spite of this, I must point out one error that has been repeated in the literature numerous times and Professor Clements has inadvertently, perhaps, also repeated the same error. On p. 427, the author cites a short note by Hocking (1954) as an important finding. However, Hocking's observation on flight muscle autolysis in autogenous *Aedes communis* has long been shown, by two publications the author has missed or omitted from his references, to be an erroneous report. The author compounds the error on p. 430, by projecting it to Ellis and Brust (1973). Contrary to what Clements says, Ellis and Brust (1973) state in their publication that flight muscle autolysis in *Aedes churchillensis* does **not** occur. They also reference Brust (1971) and Beckel (1954), who clearly showed that females of autogenous *Ae. communis* (= *Ae. churchillensis* Ellis and Brust 1973) have fully functional flight muscles. Hocking (1954), who examined only alcohol specimens of autogenous *Ae. communis*, was possibly influenced by Johnson (1953), whom he cites, who reported flight muscle autolysis in the aphid *Aphis fabae* Scop. Flight muscle autolysis in this aphid, and in ants, does occur, but flight muscle autolysis in autogenous *Ae. communis* clearly does not.

In spite of this small error, the book is an excellent one. I highly recommend it for all serious mosquito biologists and I look forward to reading the second volume when it is published.

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Polgár, L., R.J. Chambers, A.F.G. Dixon, and I. Hodek (Eds.). 1991. *Behaviour and Impact of Aphidophaga*. SPB Academic Publishing bv, The Hague, The Netherlands. 350 pp. Hardcover \$(U.S.)92.00; Dutch Guilders 170.00.

This book is the fourth in the series of proceedings of the meetings of the International Organization of Biological Control (OILB) Working Group on the Ecology of Aphidophagous Insects. The meetings are attended by researchers engaged in aphid control, especially the ecology of aphid parasitoids and predators and their use in biological control. Meetings tend to be informal and emphasize information exchange, a fact that is reflected in the broad range of topics covered in these proceedings.

This latest volume contains some 50 reports presented at the Group's meeting in Gödöllő, Hungary, in September 1990. The book is organized in three sections: aphid parasites (13 articles), aphid predators (30 articles), and effect of chemicals on aphidophagous insects (7 articles). The majority of the articles are short, and many concern issues of mainly local significance, such as faunal lists and notes on the seasonal distribution of aphids and their natural enemies. Several of the more interesting articles including two reviews (on prey specificity in aphidophaga by I. Hodek, and on the fecundity of aphidiid wasps by T. Hofsvang), have been published elsewhere in greater detail.

Nevertheless, a number of the articles will be of interest to general readers in that they contain first reports on new research directions or address general issues. R.J. Chambers reports on the effect that aphid density and distribution in a wheat field have on the oviposition pattern of syrphid flies. He found that the first syrphid eggs were laid when aphids were still scarce and, contrary to expectations, often on uninfested wheat shoots. Flowering plants in field boundaries apparently did not affect syrphid density. By contrast, V. Ruppert and J. Molthan report that the number and diversity of syrphids in winter-wheat fields increased with the number and diversity of flowering plants in boundary habitats.

A.F.G. Dixon and L.A. Stewart compare the size of different species of aphidophagous coccinellids in relation to their foraging behaviour and prey size. Although large beetles are better at capturing aphids, body size is not obviously related to foraging efficiency under favourable conditions. In a related article, J.-L. Hemptinne and A.F.G. Dixon propose that coccinellids may be of limited use in the biological control of aphids, although several species have been important in coccid control. A possible reason for this ineffectiveness is that egg-laying females tend to disperse when encountering coccinellid larvae, a behaviour that constrains the beetles' aggregative response to an increase in aphid density.

C. Höller uses field data to evaluate the impact of primary and secondary parasitoids on cereal aphid populations in Germany. The percentage of parasitism by the primary parasitoids declines when hyperparasitoids become more frequent, at a time when aphids are still abundant. He suggests that the primary parasitoids disperse to reduce immature mortality due to hyperparasitism. Especially in species with an extended pupal period, avoidance of hyperparasitism, rather than 'host suicide', may explain the altered behaviour of parasitized aphids. However, Höller does not consider alternative explanations of parasitoid dispersal, such as interference between foraging females.

L. Polgár and B. Darvas applied an ecdysteroid agonist, RH5849, to second and third nymphal instars of *Myzus persicae* parasitized by *Aphidius matricariae*. Under long-day conditions, parasitoid larvae in RH5849-treated aphids entered a diapause-like state of development, a result suggesting direct

host control over parasitoid development. The authors caution against the use of RH5849 as an insect growth regulator for aphid control.

Other topics discussed include host selection in *Ephedrus cerasicola* (E.B. Hagvar); parasitoid host-instar preference and aphid defensive behaviour (W. Völkl); influence of semiochemicals on parasitoid behaviour (W. Powell, U.M. Decker, and W.J. Budenberg); biological control in glasshouses (S. Herpai); copulation behaviour in coccinellids (S. Obata and Y. Johki); seasonality (several articles); and pesticide effects on natural enemies (several articles). Pathogens and their role in aphid population regulation are completely ignored.

Each article is accompanied by a few, well-chosen references. The writing is clear and to the point, no doubt reflecting the careful attention of the editors. Although the topics are mainly drawn from the field of biological control of aphids, the book contains sufficient information to make it of value to researchers interested in predator-prey and parasitoid-host interactions.

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UPCOMING MEETINGS / RÉUNIONS À VENIR

53rd Annual Meeting of the Acadian Entomological Society

June 21-23, 1993

Charlottetown, P.E.I.

The 53rd Annual Meeting of the Acadian Entomological Society will be held at the MacLaughlan's Best Western Hotel in Charlottetown, P.E.I. The theme is "Insect Behaviour". In addition to the scientific session, an interesting social program is planned.

CONTACT: Dr. Jeff Stewart, Agriculture Canada, Research Station, P.O. Box 1210, Charlottetown, P.E.I., C1A 7M8. Tel. (902) 566-6844; Fax. (902) 566-6821; email: jeff1@persch.agr.ca or Dr. Larry Hale, Department of Biology, University of P.E.I., 550 University Ave., Charlottetown, P.E.I., C1A 4P3. Tel. (902) 566-0301; Fax. (902) 566-0740.

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July 3-8, 1993

Cairns, Australia

The closing date for registration and abstracts of papers is **31st March 1993**. The conference will deal with a range of selected topics. A session on "Biological Control versus Conservation" will be introduced by Professor Michael Samways, University of Natal, Pietermaritzburg.

CONTACT: Ross Storey or Harry Fay Tel. (070) 921555; Fax. (070) 923593

Joint Meeting of the Lepidopterists' Society (44th Annual), the Pacific Slope Section (40th Annual) and the High Country Lepidopterists (4th Annual)

July 8-11, 1993

Fort Collins, Colorado

There will be a meeting of 200 or more lepidopterists at Colorado State University in Fort Collins, Colorado. In addition to the Lepidopterists' Society, their Pacific Slope Section and the High Country Lepidopterists, the Idalia Society will sponsor the meeting. The Xerces Society's Annual Meeting will be held concurrently. The C.S.U. Entomology Department will host the meeting.

CONTACT: Dr. Paul Opler or Dr. Boris Kondratieff, Department of Entomology, Colorado State University, Fort Collins, CO 80523.

International Symposium on Pollination in the Tropics

August 8-13, 1993

Bangalore, India

The **Nectar Working Group** of the International Commission for Plant-Bee Relationships will meet during the International Symposium on Pollination in the Tropics. The purpose of the meeting is to provide a forum for the presentation of scientific data relating to all aspects of nectaries and nectar

secretion, such as nectar production in plant breeding programmes; techniques for nectar collection and analysis; physiology, anatomy and ultrastructure of nectaries; nectaries and plant taxonomy; chemical constituents of nectar.

CONTACT: Nectar Working Group: Dr. Arthur Davis, Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0. Tel. (306) 966-4404; Fax (306) 966-4461

CONTACT: International Symposium on Pollination in the Tropics: Dr. K.N. Ganeshaiah, Dept. of Genetics and Plant Breeding, University of Agricultural Sciences, G.K.V.K. Campus, Bangalore, 560 065, India.

The 10th Association of African Insect Scientists (A.A.I.S.) Biannual Meeting and Conference. Beneficial African Insects - A Renewable Natural Resource.

September 5-9, 1993
Mombasa, Kenya

The Entomological Society of Kenya, on behalf of the A.A.I.S., is organizing a conference. We need to invite specialists to speak on the following topics: Social insects and pollinators; Insect products; Biological control; Pests and diseases of beneficial insects; Insect diversity, conservation and the environment; Insect taxonomy, biology and their control.

CONTACT: M.N. Mungai, Secretary of the Entomological Society of Kenya, c/o National Museum of Kenya, P.O. Box 40658, Nairobi, Kenya

Thirteenth International Congress of Biometeorology - Interdisciplinary Assessments of Impacts and Potential Adaptations Strategies to Climate Variability/Change

September 12-18, 1993
Calgary, Alberta, Canada

The cooperation of scientists from a variety of disciplines is required to assess the potential impacts that forecast climate shifts may bring. Global and regional societies require adaptation strategies that will minimize the consequences of atmospheric change on natural and artificial ecologies. These strategies may only be developed by concerted efforts to integrate the many diverse and conflicting issues confronting us. Coordination of studies involving scientists from disciplines as diverse as health sciences, agriculture, forestry, wildlife, ecology, architecture and others is one of the major challenges facing the research community. This session of the international biometeorology congress will address management methods and techniques for meeting this challenge.

Papers are invited from scientists and research managers with experience in the planning, execution and management of interdisciplinary studies of climate designed to identify potential impacts and/or adaptation strategies. Accepted papers will be given special consideration for inclusion in a special edition of the *International Journal of Biometeorology*.

A number of participants from the following interdisciplinary studies have been invited: Canadian Green Plan Study of Climate Change Impacts on the MacKenzie River Basin; Canadian Green Plan Studies of the Great Lakes Basin and Prairies; The Nat Christie Climate and Agriculture Research Program.

CONTACT: Jim Byrne, Water Resources Institute, University of Lethbridge, Lethbridge, Alberta, CANADA T1K 3M4 (Tel. 403-329-2002; email "Byrne@hg.uleth.ca") or Dan Johnson, Agriculture Canada Reserach Station, PO Box 3000, Lethbridge, Alberta, CANADA T1J 4B1 (Tel. 403-327-4561; email "Johnson@abrsle.agr.ca").

1993 International Conference on Thysanoptera

September 28-30, 1993
Burlington, Vermont

The goal of the meeting is to assemble scientists, pest managers, and growers to discuss current information relevant to the integrated management of Thysanopteran pests of food and fiber. The program will highlight the biology, distribution, population dynamics, ecology and management of thrips. Keynote speakers of international standing will commence and lead sessions.

CONTACT: Dr. Bruce L. Parker, Entomology Research Lab, 655B Spear St., So. Burlington, 05403 Vermont, U.S.A. Tel. (802) 658-4453; Fax. (802) 656-0285.

1993 Joint Meeting of the Entomological Society of Quebec and the Quebec Society for the Protection of Plants

October 13-14, 1993
Saint-Georges de Beauce, Québec

CONTACT: Michel O'c. Guibord, Service de phytotechnie de Québec, M.A.P.A.Q., Complexe scientifique, 2700 rue Einstein, Sainte-Foy, Québec G1P 3W8. Tel. (418) 644-9457; Fax. (418) 643-3361.

Third International Conference on Pests in Agriculture

December 7-9, 1993
Montpellier, France

With simultaneous English/French translation. Plenary sessions include: ethics and environment; role of financial organisations in development programmes; evolution of the insecticide market; recent information on mode of action of insecticides; entomopathogens.

CONTACT: ANPP, 6, Boulevard de la Bastille, F-75012 Paris, France. Tel. 33.1 43 44 89 64; Fax. 33.1 43 44 29 19.

International Conference on Ecology and Environment

June 20-24, 1994
Drake Bay, Península de Osa, Costa Rica

La Fundacion para la Proteccion del Bosque Primario (FUNBOSPRI) (Foundation for Primary Forest Protection) is calling for papers to specialists, organizations and people interested in ecology and environment and related fields. The goal of the conference is to share experiences, to get perspectives and to discuss problems related with ecology and environment and to join individuals and institutions interested in this topic. The main topics considered at the conference are the following: Ecological

Experiences; Models for Development and Planning; Pacific uses of Nuclear Energy and Environment; Quality Control and Environment; Conservation and Management; Community and Ecology; Ecology and Education; Native Cultures and Ecology. Related topics can be considered.

Abstracts due: December 15th, 1993. Summaries no longer than 200 words. Acceptance notification: February 1994. Papers: April 15th, 1994. Conference's schedule available by early May 1994.

CONTACT: Celso Vargas, Departamento de Computacion, ITCR, Aptdo 159, Cartago, Costa Rica, Fax (506) 51 53 48, email: vargase@bitnet.ucrv.m2 or vargase@earn.ucrv.m2 or José Castro, Apartado 7137-1000 San José, Costa Rica.

Third International Congress of Dipterology

August 15-19, 1994

Guelph, Ontario, Canada

The Third International Congress of Dipterology will be held at the University of Guelph, Guelph, Ontario, Canada. The scientific program will feature invited presentations and contributed papers on all aspects of basic and applied Diptera research, including systematics and evolution, ecology, morphology, physiology, behaviour and control.

CONTACT: Dr. S.A. Marshall, Chair, ICD3, Department of Environmental Biology, University of Guelph, Guelph, Ontario, Canada, N1G 2W1.

5th European Congress of Entomology

August 29 - September 2, 1994

University of York, England

The European Congress takes place at four yearly intervals and is the only forum to cover Entomology in its widest sense across Europe. Themes for the Congress include: Insect life histories; Habitat management, creation & restoration; Population processes & spatial dynamics; Biodiversity - does taxonomy matter?; Management of pests & beneficial insects; Insects as indicators of environmental quality. Themes to be broadly interpreted. Offers of papers and workshops welcome. Hosted by the Royal Entomological Society.

CONTACT: IFAB Communications, Institute for Applied Biology, University of York, York YO1 5DD, UK. Tel. +44 (0)904-432940; Fax. +44 (0)904-432917.

MISCELLANEOUS

Amateur Entomologist Newsletter

The Metropolitan Toronto Zoo has taken on the task of producing the *Amateur Entomologist Newsletter* for the Entomological Society of Ontario. Anyone wishing to receive a copy of this newsletter, or contribute an article to the newsletter, please contact: Tom Mason, Curator of Invertebrates, Metropolitan Toronto Zoo, P.O. Box 280, West Hill, Ontario, M1E 4R5

The Publications of D. Keith McE. Kevan

The Lyman Entomological Museum has published a list of D. Keith McE. Kevan's publications, together with a brief profile of the man. The publication, 68 pages, is available from the Lyman Museum. The publications are categorized following a brief list that Kevan made a number of years ago.

As the Museum is "strapped" financially, we have to make a small charge (\$4.00) for each copy. This covers only the cost of production. An extra charge is required for postage as follows: within Canada, \$1.50; U.S.A., \$2.35; all other countries, \$5.00. Please send your request for "Note 17" to:

Lyman Entomological Museum
McGill University (Macdonald Campus)
21,111 Lakeshore Road
Ste-Anne-de-Bellevue
QC, Canada H9X 3V9

V.R. Vickery
Emeritus Curator

Workshop on Delta

A workshop on DELTA (DEscription Language for TAXonomy) is proposed to be held at Florida A & M University, Tallahassee, Florida. DATE: October 28-31, 1993. REGISTRATION: \$50.00, deadline September 1, 1993. Limited space availability, on first-come basis; lap-top owners can be accommodated additionally.

Interested parties are encouraged to respond as soon as possible to: Ingolf S. Askevold, Entomology-Biological Control, Florida A & M University, Tallahassee, FL 32307-2926. Tel. (904) 599-3149; Fax. (904) 561-2248 or (904) 561-2221; email: IASKEVOL@CC.FAMU.EDU

DELTA is a computer program that will generate taxonomic keys, taxonomic descriptions, transpose data into formats compatible with phylogenetics packages and other taxonomic key-generation packages, and data sets can be developed into expert systems. Some systematists maintain that computer programs have a large future in systematics, and that development of expert systems is the way to go. Programs such as DELTA should not replace traditional, hard-copy publication of results of systematic research, but can play a significant role in rendering these results more widely applicable and useable to researchers and technicians in other fields of research.

The workshop will teach basics about use of an IBM/compatible PC-computer, to a level that will permit use of DELTA (so if you're a MAC person, don't despair). Some word processing is required (I use WordPerfect 5.1). Some DOS language and writing small batch files will be used. Complete instruction in the commands required will be given. An IBM PC or compatible will be available for each participant. Lap-top owners can be accommodated additionally. Hard copy of documentation will be provided at the workshop.

Some advance preparation by participants will surely help and instructions will be provided in advance. Attendees are encouraged STRONGLY to prepare for themselves a list of characters and character states for a group they intend to work on, or are already working on. Existing datasets (provided) can be used for purposes of studying the program.

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