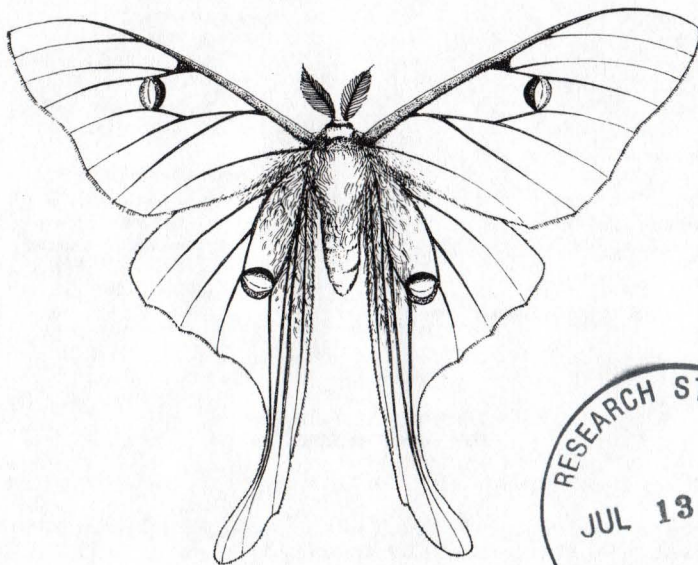

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BULLETIN



ENTOMOLOGICAL SOCIETY OF CANADA
LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA

ENTOMOLOGICAL SOCIETY OF CANADA
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BULLETIN

VOL 22 (1) - March/mars, 1990

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NOTICE

THE SOCIETY'S OFFICES ARE MOVING!!!!

**AS OF JUNE 1, 1990 THE OFFICES OF THE
ENTOMOLOGICAL SOCIETY OF CANADA
WILL BE AT**

393 WINSTON AVE.

OTTAWA, ONTARIO

K2A 1Y8

GUEST EDITORIAL

Entomologie et grand public: l'approche québécoise

Depuis quelques années, on retrouve une préoccupation constante dans les écrits et les discours des présidents de la Société d'entomologie du Canada: il s'agit du thème de l'entomologie et du grand public. En effet, le public connaît mal les insectes et ceci se refléterait malheureusement dans les ressources financières allouées à la recherche en entomologie. Parmi les différentes solutions possibles pour endiguer ce problème, le Québec a une approche originale. Voici en quelques mots l'essentiel de cette approche.

La Maison des Insectes

Depuis 1985, la filiale de Québec de la Société d'entomologie du Québec pilote un projet appelé "la Maison des Insectes". Il s'agit d'un pavillon situé sur le site du Jardin Zoologique de Québec (à Charlesbourg en banlieue de Québec) où l'on expose des boîtes de collections et des insectes vivants. On y fait beaucoup d'animation (panneaux, exhibits et insectes vivants) et l'on écrit des documents pédagogiques destinés aux élèves de la région. Depuis 1985, plus de 400 000 visiteurs ont visité la Maison des Insectes qui ouvre ses portes pendant la saison estivale. L'organisation a également présenté ses exhibits au cours de plusieurs événements de la région de Québec. Les deux paliers de gouvernement et la Société d'entomologie du Québec ont y contribué pour environ \$ 250 000 depuis 1985. Si la Maison des insectes a connu un vif succès depuis ses débuts, c'est grâce à la compétence et au bénévolat de plusieurs personnes de la région de Québec, notamment les Drs. Jean-Marie Perron et Raymond-Marie Duschesne, de même que Madame Céline Piché. En collaboration avec "Les publications du Québec", la Maison des Insectes publiera bientôt un volume sur les insectes.

L'Insectarium de Montréal

On a procédé, au cours de la semaine du 14 février 1990, aux cérémonies d'ouverture de l'Insectarium de Montréal. Il s'agit d'un pavillon situé sur le site du Jardin Botanique de Montréal (qui, en passant est le second jardin en importance au monde après celui de Kew à Londres). Cet édifice est exclusivement réservé aux insectes et aux arthropodes apparentés. A mon avis, il n'y a aucune institution comparable en occident, ni au Smithsonian à Washington ou à la célèbre maison des reptiles du Zoo de Berlin ouest. A l'heure actuelle, seuls quelques Insectaria d'Asie (dont le fameux Tama du Japon) sont de la même classe. Pour le premier mois seulement, environ 60000 visiteurs ont franchi les guichets de l'Insectarium. L'achalandage annuel prévu est 350 000 visiteurs. Il s'agit d'un projet de \$ 5-6 millions. Une campagne de souscription publique a d'abord permis de réunir \$ 700 000 pour le projet. Devant cet appui, la Ville de Montréal a parrainé le projet. Le Ministère de l'Enseignement supérieur, de la Science et de la Technologie du Québec a contribué pour environ \$ 500 000. Le Gouvernement fédéral, par le truchement de deux ministères (Ministère des Communications, Ministère du Tourisme), y a injecté environ un million de dollars. La Ville de Montréal assume le reste des investissements. L'Insectarium de Montréal n'aurait pu voir le jour sans le dynamisme de deux personnes: le Notaire George Brossard, qui recevait en 1988 le "prix Provancher, catégorie amateur" de la Société d'entomologie du Québec, et le directeur du Jardin Botanique de Montréal, M. Pierre Bourque.

Le directeur de l'Insectarium, le Dr. Jean-Pierre Bourassa, est d'avis que les insectes constituent un matériel éducatif extraordinaire pour enseigner les grands principes écologiques. Quand on constate le nombre incroyable de visiteurs qui se sont déplacés et qui ont payé pour voir des insectes épinglés ou vivants dans ces deux institutions, on réalise la force de cette approche: les gens veulent savoir. Nous devons tous être fiers de ces deux institutions qui démontrent qu'une approche originale est souhaitable

et confirment encore une fois les théories du torontois Marshall McLuhan: le message c'est le médium.

La voie nouvelle tracée par le Québec me semble des plus intéressantes en ces temps de crise car il y a sûrement place pour plusieurs institutions de ce genre au Canada. Avec le seul achalandage de l'Insectarium de Montréal, autant de gens (sinon plus) entendront chaque année parler d'entomologie que dans tous les Collèges et Universités du Canada. Ce phénomène est nouveau et significatif. De telles institutions contribueront sûrement à remonter la cote de l'entomologie auprès du grand public et, par ricochet, auprès des politiciens.

Charles Vincent
Station de recherches, Agriculture Canada
Saint-Jean-sur-Richelieu, Qué.

SOCIETY BUSINESS / AFFAIRES DE LA SOCIÉTÉ

Presidential Update

The ESC was accepted, together with the Canadian Society of Plant Physiologists, Canadian Botanical Association, Canadian Society of Zoologists and the Canadian Council of University Biology Chairmen, into the Canadian Federation of Biological Societies in April, 1990. Dr. Clement Gauthier, the CFBS Science Policy Officer met with the ESC Executive on 18 April 1990 to discuss the different Federation activities, and how the new member Societies can be rapidly involved as the addition of the ex-BCC Societies to the CFBS will broaden the spectrum of activities. There has already been considerable communication between the ESC and the Federation, resulting in several of the Executive and Trustees of our Society being named to CFBS Committees, as well as in the preparation of the discussion paper for "*The Green Plan: A National Challenge*" put out recently by Environment Canada.

The ESC has purchased a house at 393 Winston and will take up residence officially on 1 June 1990 (see page 1 of this *Bulletin* for the complete address). The space available will more than meet the needs of the Society and the upper floor will be rented out. More complete information will be provided in the next *Bulletin*.

In recent years, when authors failed to provide a French resumé for papers published in *The Canadian Entomologist* or *Memoirs of the Entomological Society of Canada*, Conrad Cloutier (Laval University) has graciously accepted the responsibility of translating the English abstracts. Last year Conrad informed Dr. Al Ewen that he would like to be relieved of this extremely time-consuming task after December, 1989 due to his research and teaching commitments. A committee of volunteers was set up by the Bilingualism Committee to assume the responsibility for translating abstracts, and for the first two numbers of *The Canadian Entomologist* in 1990, this was by Michel Cusson (University of Toronto) and Robert Lavallée (Concordia University). However, in March, the Executive decided to hire the services of a professional agency, thereby relieving volunteers of this onerous task and ensuring a conformity in prose. A one year contract has been drawn up with The Triple-D Translation Services Ltd. of Regina. At this time, I would like to publicly thank the members that have given freely of their time, especially Conrad Cloutier, for their excellent service to the Society. I should point out that having titles and abstracts translated delays publication, so authors would be doing themselves and the Society a

service if they provided suitable translations at the time manuscripts are submitted.

The Achievement Awards Committee recommended and the Governing Board approved that Dr. Steven S. Tobe (University of Toronto) and Dr. Berni Roitberg (Simon Fraser University) be the respective recipients of the 1990 Gold Medal and the C. Gordon Hewitt Award. I would like to congratulate these two outstanding scientists for this well-deserved recognition.

The Research-Travel Grant Committee has awarded grants to B.V. Brown (University of Alberta) and T.A. Wheeler (University of Guelph).

Don Bright recently informed me that he hopes to be on study leave in 1991 and has therefore tendered his resignation as Treasurer as of December, 1990. An ad hoc Committee, chaired by Ian Smith (BRC), has been charged with the responsibility of finding a replacement. I thank Don for his dedicated service as a Trustee of the Society.

Jeremy N. McNeil

Message du Président

La SEC a été acceptée, ainsi que la Société Canadienne des Physiologistes des Plantes, l'Association Canadienne de Botanique, la Société Canadienne de Zoologie et le Conseil Canadien des directeurs des départements de Biologie, au sein de la Fédération Canadienne des Sciences Biologiques en avril 1990. Le Dr. Clément Gauthier, responsable de la politique scientifique de la FCSB, a rencontré l'exécutif de la SEC, le 18 avril 1990, afin de discuter des diverses activités de la Fédération ainsi que de l'intégration des nouvelles Sociétés membres dans les divers champs d'activités que s'élargiront suite à leur récente adhésion au sein de la FCSB. Il y a déjà eu passablement d'échanges entre la SEC et la Fédération; plusieurs membres exécutifs et administrateurs de notre Société furent nommés sur les comités de la FCSB et impliqués dans la préparation des commentaires sur "*Le Plan Vert: Un Défi National*" présenté par Environnement Canada.

La SEC a acheté une maison au 393 Winston, Ottawa et emménagera officiellement dans ses nouveaux locaux le 1^{er} juin 1990 (voir l'adresse complète en page 1). L'espace disponible au premier plancher suffira amplement aux besoins de la Société en conséquence, le deuxième étage sera loué. D plus amples informations seront communiquées dans le prochain *Bulletin*.

Au cours des dernières années, Conrad Cloutier de l'Université Laval, a accepté gracieusement de traduire en français les résumés des articles publiés dans *The Canadian Entomologist* ou *Memoirs of the Entomological Society of Canada*. L'année dernière, Conrad informa le Dr. Al Ewen qu'il désirait, à compter de décembre 1989, d'être relevé de cette fonction qui exigeait beaucoup de son temps en plus de ses responsabilités de recherche et d'enseignement. Une liste de volontaires a été élaborée par le Comité du Bilinguisme de sorte que les résumés des deux premiers numéros de 1990 ont été traduits par Michel Cusson et Robert Lavallée. Cependant, en mars l'exécutif de la Société décide de recourir aux services d'une agence professionnelle, soulageant du même coup les volontaires de cette tâche ingrate et assurant l'uniformité des textes. Un contrat d'un an a été signé avec The Triple-D Translation Services, Ltd de Régina. J'aimerais ici remercier publiquement les membres, et tout particulièrement Conrad Cloutier, pour leur excellente contribution à la Société. J'ajouterais que la traduction des titres et des résumés retarde la publication des articles, cependant si tous les auteurs fournissaient des traductions convenables lors de la soumission de leurs manuscrits, ils rendraient grandement service à la Société ainsi qu'à eux-mêmes.

Le Comité pour le prix d'excellence et la Direction de la Société ont accepté que les Drs. Steven Tobe (University of Toronto) et Bernie Roitberg (Simon Fraser University) soient respectivement

récipiendaires de la Médaille d'Or et du prix C. Gordon Hewitt, en 1990. Au nom de la Société, j'aimerais féliciter ces deux excellents scientifiques pour cette reconnaissance qu'ils méritent amplement.

Le Comité pour la recherche-déplacement a accordé une subvention à B.V. Brown (de l'Université d'Alberta) et à T.A. Wheeler (de l'Université de Guelph).

Don Bright m'a récemment informé qu'il espérait être en année sabbatique en 1991 et en conséquence, il a offert sa démission comme Secrétaire à compter de décembre 1990. Un comité ad hoc, présidé par Ian Smith, a été mandaté pour trouver un remplaçant. J'aimerais remercier Don pour son dévouement en tant que fiduciaire de la Société.

Jeremy N. McNeil

40th Annual Meetings (second notice)

General Meeting

The Annual General Meeting of the Entomological Society of Canada will be held at the Banff Centre in Banff, Alberta from 1600 to 1730 h on October 9, 1990.

Governing Board

The annual meeting of the Governing Board will be held at the Banff Centre from 0900 to 1700 h on October 6 and from 0900 to 1400 h on October 7, 1990.

Matters for consideration for either meeting should be sent to the Secretary, Dr. R.J. West, Forestry Canada, Newfoundland and Labrador Region, P.O. Box 6038, St. John's, Newfoundland, A1C 5X8. FAX 709-772-2576.

Students, the Society and Everything!

In the current membership year, there are 73 student members of the Entomological Society of Canada. This represents 14% of the membership of our Society. We have at least 3 committees (e.g. scholarship, travel grants, student affairs) whose work is partially or largely concerned with student interests. I am sure there is virtual unanimity concerning the importance of students to the Society, yet I am less confident that the unique needs, roles and responsibilities of the student member are understood.

The "lifetime" of a student is relatively short, 3 to 7 years; none of us (that I know of) aspire to be simultaneously, both student and emeritus members! Through this time period, interests evolve from those of an early graduate student (primarily courses and experiments), through late graduate student (analyses, write-up and presentations) to graduate ("a 1 year postdoc in Central Antarctica??...Hmmm"). With respect to Society affairs, these groups probably have less in common with each other than two members taken at random from the opening mixer at the national meeting. Most students have little knowledge of, or experience with, scientific societies when they become involved with the ESC. On the other hand, the Society spends a considerable amount of its efforts on affairs that directly affect the present and future welfare of students, yet few of the decision makers have recent personal experience with student life.

The Student Affairs Committee exists to bridge the gap between the student and the Society. Its mandate is "To advise student members, the Governing Board, and the Society on programs of the

Society for students and on other matters concerning student affairs.” and to “Advise ... on the training of entomologists and future job opportunities for entomologists in Canada.”

The Student Affairs Committee evolved (anagenesis??) from the Employment Committee. This committee published two extensive manpower studies (in 1976 and 1984 - see *Bulletin* 16:2 1984), and several compilations of resumes of Society members seeking employment. Since the heady days of the Employment Committee, the Student Affairs Committee has been responsible for employment booths at various national meetings, but relatively speaking, the committee has been in “prolonged diapause” over the last several years.

I know from personal experience that students are never at a loss for suggestions on how things could be improved, and I also know that the Society wants and needs this input. In particular, I see the Student Affairs Committee as being more than a “clearing house” for recent graduates.

With this in mind, the Student Affairs committee will be conducting a survey among the student members of the Society this summer. Students will be mailed a questionnaire addressing such issues as: (i) the profile of the graduate student in entomology; (ii) what the Society can do for students, and vice-versa; (iii) the woman student in entomology; (iv) how communication can be improved between students and the Society; (v) new areas of interest for the Student Affairs Committee. Results of the survey will be presented to the Governing Board at the annual meetings in Banff. Based on results of the survey, we hope to recommend changes that will increase the flow of information between students and the Society, and address the concerns of the student members of the Entomological Society of Canada in the 1990's.

I know that many of us are very involved with our research projects during the summer, but I would ask that all students take the 15 or so minutes needed to fill out the survey and return it! Remember, a non-response is also a comment on the role that we want to play in our Society.

Jim Corrigan, Chairperson,
Student Affairs Committee

Les étudiants, la Société et un peu de tout!

Au cours de la présente année, la Société d'Entomologie du Canada compte 73 membres étudiants, lesquels représentent 14% de tous les adhérents. Nous avons au minimum de 3 comités (bourses d'étude, allocations de voyage, affaires étudiantes) dont les activités sont partiellement ou grandement d'intérêt pour les étudiants. Je demeure convaincu qu'il n'y a aucune équivoque quant à l'importance des étudiants dans la Société, cependant je suis moins confiant que les besoins particuliers, les rôles et les responsabilités des membres étudiants soient bien compris.

La “longévité” d'un membre étudiant est relativement courte, de 3 à 7 ans; aucun d'entre nous (à ma connaissance) n'aspire à être simultanément membre étudiant et émérite! Au cours de cette période, les intérêts volent de ceux de l'étudiant gradué recrue (essentiellement des cours et des expériences), à l'étudiant gradué “établi” (analyses, rédaction et séminaires) jusqu'au diplômé (“l'année de post-doc en Antartique Central?? ... Hmmmmm”). En regard des affaires de la Société, ces groupes ont probablement moins en commun que deux membres choisis au hasard lors du cocktail d'ouverture du congrès national. La majorité des étudiants ont peu de connaissance, ou d'expérience des sociétés scientifiques lorsqu'ils s'inscrivent dans la SEC. D'un autre côté, la Société consacre beaucoup de ses efforts au bien-être présent et futur des étudiants, bien que peu des décideurs aient une expérience personnelle récente avec le monde étudiant.

Le comité des Affaires Étudiantes existe pour faire le pont entre l'étudiant et la Société. Son mandat est "De conseiller les membres étudiants, le Bureau des Gouverneurs, et la Société sur les programmes de la Société pour étudiants et sur tous autres sujets concernant les affaires étudiantes" et de "Conseiller...sur la formation des entomologistes et les perspectives d'emplois pour les entomologistes au Canada".

Le comité des Affaires Étudiantes est issue du comité d'Emploi. Ce comité a publié deux études approfondies sur l'emploi (en 1976 et 1984 - voir *Bulletin* 16:21984), et plusieurs compilations de résumés de demande d'emploi de la part de membres de la Société. Depuis les beaux jours du comité d'Emploi, le comité des Affaires Étudiantes fut responsable du volet emploi à divers congrès nationaux, mais relativement parlant, le comité fut en "diapause prolongé" ces dernières années.

Je sais, de part mon expérience personnelle, que les étudiants ne sont jamais à court de suggestions sur la manière d'améliorer les choses, et je sais également que la Société désire et a besoin de cet input. En particulier, je vois le comité des Affaires Étudiantes comme étant plus qu'un "relais" pour les nouveaux diplômés.

Dans ce contexte, le comité des Affaires Étudiantes mènera cet été un sondage auprès des membres étudiants de la Société. Les étudiants recevront par la poste un questionnaire qui évaluera les points suivants; (i) le profil de l'étudiant gradué en entomologie; (ii) ce que la Société peut faire pour les étudiants, et vice-versa; (iii) l'étudiante en entomologie; (iv) comment la communication entre la Société et les étudiants peut-elle être améliorée; (v) les nouveaux secteurs d'intérêts pour le comité des Affaires Étudiantes. Les résultats de ce sondage seront présentés au Bureau des Gouverneurs au congrès annuel de Banff. À la lumière de ce sondage nous espérons faire des propositions qui auraient pour effet d'augmenter le flux d'informations entre les étudiants et la Société, et d'exposer les attentes des membres étudiants de la Société d'Entomologie du Canada pour les années 1990.

Je sais que plusieurs d'entre nous sommes très impliqués dans nos projets de recherche durant la saison estivale, mais j'aimerais que tous les étudiants prennent un 15 minutes pour compléter le sondage et le retourner.

Souvenez-vous que l'absence de réponse s'avère également un commentaire sur le rôle que nous voulons joué dans notre Société.

Jim Corrigan, Président, Comité des Affaires Étudiantes

Traduit par Jacques Brodeur

ESC Research Travel Grant

Research Travel Grants have been awarded this year to Mr. T.A. Wheeler and Mr. B.V. Brown, both of whom will be using their awards to study collections of Diptera in European museums.

Mr. Wheeler is a student in the Department of Environmental Biology, University of Guelph. His Ph.D. research involves a revision of the New World species of the sphaerocerid genus *Leptocera* (*Rachispoda*). He plans to visit museums in Dresden, Bratislava, Budapest and Vienna to examine the type material of many of the neotropical species in the genus.

Mr. Brown is working on a generic revision of the North American Phoridae for his Ph.D. in the Department of Entomology, University of Alberta. The travel grant will assist him to visit the Zoologisches Forschungsinstitut and Museum "A. Koenig" in Bonn, West Germany. There he will examine phorid types from Africa, Europe and south-east Asia in order to augment his previous work on New World material.

Committees - Update

The representatives of the Société d'entomologie du Québec on ESC committees are as follows:
Endangered Species Committee - M. Pierre Bélanger, Ste-Foy.
Insect Common Names Committee - Dr. Laurent Lesage, Ottawa.
Membership Committee - Dr. Paul Albert, Montréal.
Scholarships Committee - Dr. D. Coderre, Montréal.

To All Members - Letter Writing Campaign

The CFBS has requested that all members participate in a letter writing campaign to ministers of the Federal Government, regarding funding for science.

We are requested to urge the Cabinet to: 1) implement the recommendation by the NABST to Prime Minister Mulroney in December 1987 to double the base budget of the granting agencies over the next three years and, at the same time, roll the matching program contribution into the base budget of the councils; 2) stop further deleterious cuts of transfer payments for post-secondary education.

The letters should convey the information that "Canada must improve substantially its support for universities within the coming five years in order to train the highly qualified personnel that the country needs to ensure its economic future".

Please draft a letter, mention your affiliation with CFBS, and encourage your colleagues to do likewise. We can make a difference if we begin to act in concert with large numbers of scientists from other biological societies.

Ministers to contact:

The Right Hon. M. Brian Mulroney; Prime Minister
The Hon. Donald F. Mazankowski; Deputy Prime Minister
The Hon. H. Perrin Beatty; Minister of National Health and Welfare
The Hon. Michael H. Wilson; Minister of Finance
The Hon. Harvie Andre; Minister of State, House Leader
The Hon. Lowell Murray; Leader of the Government in the Senate
The Hon. William C. Winegard; Minister of Science
The Hon. Lucien Bouchard; Minister of the Environment
The Hon. Benoit Bouchard; Minister of Industry, Science and Technology
The Hon. Frank Oberle; Minister of Forestry
The Hon. Bernard Valcourt; Minister of Fisheries and Oceans

I encourage you to write to the Prime Minister and copy letters to several or all of the ministers listed above. Send them to:

House of Commons
Ottawa, Ontario
K1A 0A6

No postage is necessary. All it will cost is a few minutes of your time.

J.E. Laing, Chairman,
Science Policy Committee

Insect Common Names and Cultures Committee

The Committee has approved the following common names:

apple ermine moth, *Yponomeuto malinellus* (Zell.) Lepidoptera: Yponomeutidae
cranberry girdler, *Chrysoteuchia topiaria* (Zell.) Lepidoptera: Pyralidae
pear rust mite, *Epitrimerus pyri* (Nal.) Acari: Eriophyidae
redstriped fireworm, *Aroga trialbamaculella* (Cham.) Lepidoptera: Gelechiidae
shallot aphid, *Myzus ascalonicus* (Donc.) Homoptera: Aphididae
western cherry fruit fly, *Rhagoletus indifferens* (Curran) Diptera: Tephritidae

It has also approved the additional name of pearslug for *Caliroa cerasi* (L.) and the deletion of dusky leafroller, *Orthotaenia undulana* (D. & S.) from *Nomenclatura Insectorum Canadensium* pp. 95, 101 and 186.

Please let me know if you disagree with any of the above proposals within 30 days of receipt of this *Bulletin*. If there are no objections, the proposals will be adopted by the Society.

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

Graduate Research-Travel Grants - Revised Regulations

Preamble

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

Eligibility

To be eligible, a student must:

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

Application Procedure

Applications must be submitted in the form of a grant application, where the applicant provides:

- 1) The subject of the thesis
- 2) A pertinent review of the literature in the field
- 3) A concise presentation of the status of the ongoing thesis research
- 4) A description of the research or course work to be undertaken, clearly indicating the relevance to the overall goal of the thesis and an explanation of why such work cannot be carried out at the student's

own university.

5) A budget for the proposed project

6) Anticipated dates of travel and date on which grant money is needed.

The application form should also be accompanied by:

1) A complete, up-to-date C.V.

2) A supporting letter from the senior advisor

3) When appropriate, a support letter from the scientist or Department Head at the institution where the applicant wishes to go.

Evaluation Procedure

The scientific merit of each application will be evaluated by a committee that has the option of sending specific projects out for external review by experts in the field. The committee should have at least five members, providing representation of the different disciplines in entomology. A constructive written report, underlining the positive and negative aspects of the proposal, will be returned to the applicant.

Proposed Timetable

1) An announcement will appear in the September issue of the *Bulletin*, indicating that application forms may be obtained upon demand from the Secretary of the Society and that all applications must reach the Secretary of the Society by 15 January.

2) By 30 April, the committee will have completed evaluation of all applications and determine if, and to whom, grants will be awarded. The winners will be informed immediately, thereby providing time to make arrangements if the student wishes to start in the fall.

3) The grant must be used in the 12 months following the award. The recipients must provide a short final report (no more than 2 pages), as well as a detailed list of expenses, in the three months that follow the trip. Any money not spent must be returned to the Society. Acknowledgement in any publications arising from the work carried out during the tenure of this grant would be appreciated.

Allocations de Voyage pour Étudiants Gradués - Règlements révisés

Préambule

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

Eligibilité

Afin d'être éligible, l'étudiant doit:

1) Être inscrit à temps plein comme étudiant gradué

2) Être un membre active de la Société d'Entomologie du Canada

Méthode de demande

Les formulaires de demande doivent être soumis sous forme de demande d'octroi et l'étudiant

devra fournir les renseignements suivant:

- 1) Le sujet de la thèse
- 2) Une revue de la littérature pertinente au domaine d'étude
- 3) Une présentation concise du statut du projet de recherche en cours
- 4) Une description de la recherche ou des cours qui seront entrepris, indiquant clairement le pertinence vis-à-vis les objectifs généraux de la thèse et les raisons pour lesquelles ce travail ne peut être entrepris à l'université où l'étudiant est inscrit.
- 5) Un budget pour le projet proposé
- 6) Dates prévues pour voyages et date pour laquelle l'octroi doit être reçu.

L'application devra aussi être accompagnée de:

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

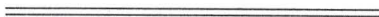
Evaluation

La valeur scientifique de chaque application sera évaluée par un comité qui aura l'option d'envoyer des demandes spécifiques pour évaluation par lecteur externe, expert dans le domaine. Le comité devrait être composé d'au moins de cinq membres, fournissant une représentation des différentes disciplines d'entomologie. Un rapport écrit, contenant une critique constructive, faisant ressortir les aspects positifs et négatifs de l'application, sera retourné à chaque candidat.

Horaire proposé

A chaque année:

- 1) Une annonce paraîtra dans la publication de septembre du *Bulletin* indiquant que les formules de demande peuvent être obtenus du Secrétaire de la Société, et que toute demande doit être reçue par le Secrétaire de la Société, au plus tard, le 15 janvier.
- 2) Vers le 30 avril le comité aura évaluer toutes les demandes et déterminé si, et à qui, les bourses seront décernées. Les candidats choisis seront informés immédiatement, cela afin d'allouer suffisamment de temps pour les préparatifs nécessaires d'un départ possible à l'automne.
- 3) La bourse devra être épuisée dans les 12 mois suivant sa désignation. Les récipiendaires devront préparer un court rapport final (pas plus de 2 pages) en plus d'une liste détaillée de leurs dépenses, dans les 3 mois suivant le voyage. Tout argent non dépensé devra être remis à la Société. La Société apprécierait être reconnue dans toute publication provenant du travail complété pendant la durée de l'octroi.



**JOINT ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF CANADA
AND THE ENTOMOLOGICAL SOCIETY OF ALBERTA**

The Banff Centre, Banff, Alberta
October 6 to 10, 1990

Notice and Call for Papers

October 6	09:00 - 17:00	ESC Governing Board Meeting
October 7	09:00 - 14:00	ESC Governing Board Meeting
	15:00 - 17:00	Opening Ceremonies ESC Awards Gold Medal Address.
	19:00 - 20:00	Students meet the Board Reception
	20:00 - 23:00	General Mixer
October 8	08:30 - 12:00	Symposium: Systematics and Entomology: Diversity, Distribution, Adaptation and Application** Organizers: G.E. Ball, H.V. Danks
	13:00 - 17:00	Discussion Group: Effects of Climatic Change on Insect Distribution and Abundance* Organizer: D. Johnson Submitted Papers
	17:30 - 21:30 -	B. B. Q. President's Mixer (by invitation)
October 9	08:30 - 12:00	Symposium: Biotechnology & Insect Control*** Organizer: G. R. Wyatt
	13:00 - 15:00	Discussion Group: Arctic Insects: Faunistics, Biology and Abundance* Organizers: H.V. Danks, R.A. Ring
Submitted Papers	15:15 - 16:00	Heritage Lecture (by John Carr)
	16:00 - 17:30	ESC Annual General Meeting
	18:00 - 19:00	Banquet Cocktail Hour
	19:00 -	Banquet
October 10	08:30 - 12:00	Discussion Group: Livestock Insects* Organizer: A. Khan Submitted Papers
	12:00 - 14:00	ESC Governing Board Meeting
	14:30 - 16:00	ESA Annual General Meeting

* ** *** Further information on following page.

*Those wishing to participate in the Discussion Groups are asked to contact the following:

“Effects of Climatic Change on Insect Distribution and Abundance”

Dr. Dan Johnson,
Agriculture Canada, Research Station,
P. O. Box 3000, Main,
Lethbridge, Alberta, T1J 4B1 (Ph. 403-327-4561)

“Arctic Insects: Faunistics, Biology and Ecophysiology”

Dr. R. A. Ring,
Department of Biology,
University of Victoria,
Victoria, B. C. V8W 2Y2. (Ph. 604-721-7102)

“Livestock Insects”

Dr. Ali Khan,
Animal Industry Division,
Alberta Agriculture,
7000 - 113 St.,
Edmonton, Alberta T6H 5T6 (Ph. 403-427-5083)

** Details of the symposium “Systematics and Entomology: Diversity, Distribution, Adaptation and Application”, organized by G.E. Ball and H.V. Danks appeared in the *Bulletin* 21(4): 101-102

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

*** Symposium - Biotechnology and Insect Control

October 9, 8:30 a.m.-12:00 noon

Organizer: G.R. Wyatt

Provisional Program

Speakers

S. Whyard
Queen's University, Kingston

Molecular Genetics of Insecticide Resistance

P. Lau
Montreal Biotechnology Institute

Improving the Effectiveness of Bacillus thuringiensis

K. Iatrou
University of Calgary

Molecular Engineering of Baculoviruses

D. Hickey
University of Ottawa

Molecular Genetics and Insect Pest Management

G.R. Wyatt
Queen's University

Juvenoid Insect Growth Regulators

For further information, contact G.R. Wyatt, Biology Department, Queen's University, Kingston, Ontario K7L 3N6 (613-545-06120)

**RÉUNION ANNUELLE CONJOINTE DE LA SOCIÉTÉ D'ENTOMOLOGIE
DU CANADA ET DE LA SOCIÉTÉ D'ENTOMOLOGIE DE L'ALBERTA**

The Banff Centre, Alberta
du 7 au 10 octobre 1990

Avis et Appel de Présentations

6 octobre	09:00-17:00	Réunion du Conseil de Direction de la SEC
7 octobre	09:00-14:00	Réunion du Conseil de Direction de la SEC
	15:00-17:00	Cérémonies d'Ouverture Décorations de la SEC Allocution Médaille d'or
	19:00-20:00	Les Etudiants Gradués recontrent le Conseil
	20:00-23:00	"Mixer" Général
8 octobre	08:30-12:00	Symposium: La Systématique et l'Entomologie: Diversité, Distribution, Adaptation et Application** Organisateurs: G.E. Ball, H.V. Danks
	13:00-17:00	Groupe de Discussion: Les Effets des Changements Climatiques sur la Distribution et l'Abundance des Insectes* Organisateur: D. Johnson Communications
	17:30-	Barbecue
	21:30-	Réception du Président (par invitation)
9 octobre	08:30-12:00	Symposium: La Biotechnologie et le Contrôle des Insectes*** Organisateur: G.R. Wyatt
	13:00-15:00	Groupe de Discussion: Les Insectes de l'Arctique: Faunistique, Biologie et Abondance* Organisateurs: H.V. Danks, R.A. Ring Communications
	15:15-16:00	Historique de l'Entomologie (par John Carr)
	16:00-17:30	Assemblée Générale de la SEC
	18:00-19:00	Cocktail
	19:00-	Banquet
10 octobre	08:30-12:00	Groupe de Discussion: Insectes du Bétail* Organisateur: A. Khan Communications
	12:00-14:00	Réunion du Conseil de Direction de la SEC
	14:30-16:00	Assemblée Générale de la SEA

*Ceux qui désirent participer aux Groupes de Discussion sont priés de contacter le personnes suivantes:

“Les Effects des Changements Climatiques sur la Distribution et l’Abondance des Insectes”

Dr. Dan Johnson,
Agriculture Canada, Station de Recherche,
C.P. 3000, Main,
Lethbridge, Alberta T1J 4B1 (Tél. 403-327-4561)

“Les Insectes de l’Arctique: Faunistique, Biologie, et Ecophysiologie”

Dr. R.A. Ring,
Département de Biologie,
Université de Victoria,
Victoria, B.C. V8W 2Y2 (Tél. 604-721-7102)

“Les Insectes du Bétail”

Dr. Ali Khan,
Division de l’Industrie Animale,
Alberta Agriculture,
7000 - 113 St.,
Edmonton, Alberta T6H 5T6 (Tél. 403-427-5083)

**Les détails du Symposium: “La Systématique et l’Entomologie: Diversité, Distribution, Adaptation et Application”, organisé par G.E. Ball et H.V. Danks, ont paru dans le *Bulletin de la SEC* 21(4): 101-102.

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

The Banff Centre, Banff, Alberta
October 7 - 10, 1990

REGISTRATION FORM

Check one: Regular _____, Student _____

Name _____ Title _____
(last) (first) (initial)

Address: _____

City: _____ Province/State: _____

Postal Code: _____ Phone: _____

Registration Fees - figures are \$ Cdn
(After Sept. 1, 1990, add \$10 to each fee)

Registration, regular \$75 _____

Registration, student \$45 _____

Registration, spouse \$35 _____

_____ (name of spouse) TOTAL _____

FIELD TRIPS AND TOURS: A trip to the Tyrell Museum of Paleontology in Drumheller will depart Banff, October 10 in the afternoon, overnight in Drumheller and return to Calgary by 3 p.m. October 11. Approximate cost: \$150.00 per person.

ACCOMMODATION: See announcement in this issue of the *Bulletin*

Please return this form and registration fees to:

Dr. A. Finnamore,
Provincial Museum of ALberta,
Edmonton, Alberta
T5N 0M6

**RÉUNION ANNUELLE CONJOINTE DE LA SOCIÉTÉ D'ENTOMOLOGIE
DU CANADA ET DE LA SOCIÉTÉ D'ENTOMOLOGIE DE L'ALBERTA**

The Banff Centre, Banff, Alberta
du 7 au 10 October 1990

FORMULAIRE D'INSCRIPTION

Indiquez: Régulier ____, Étudiant ____

Nom _____ Titre _____
(nom de famille) (prénom) (initiales)

Adresse: _____

Ville: _____ Province/État: _____

Code Postal: _____ Téléphone: _____

	Frais d'inscription (\$ Cdn)	
	(Après le 1 septembre 1990, ajoutez \$10)	
Inscription, régulier	\$75	_____
Inscription, étudiant	\$45	_____
Inscription, conjoint	\$35	_____

(nom de conjoint)	TOTAL	_____

EXCURSION: Un voyage au Musée de Paléontologie Tyrell à Drumheller a été organisé. Le départ se fera du 10 octobre dans l'après-midi, et les participants passeront la nuit à Drumheller. Le voyage se terminera à Calgary le 11 octobre à 15:00 heures. Coût approximatif de l'excursion: \$150 par personne.

LOGEMENT: Voir l'annonce dans ce numéro du *Bulletin*.

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

Dr. Albert Finnamore,
Provincial Museum of Alberta,
Edmonton, Alberta T5N 0M6

**JOINT ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF
CANADA AND THE ENTOMOLOGICAL SOCIETY OF ALBERTA**

SUBMITTED PAPER AND POSTER PRESENTATION REPLY FORM

Please return to: Dr. R. H. Gooding,
Department of Entomology,
University of Alberta,
Edmonton, Alberta
T6G 2E3

Deadline: Postmarked on or before July 31, 1990

Title (not to exceed 15 words): _____

Author's Name(s): _____

Institution and Address: _____

To be presented by: _____

Abstract(not to exceed 50 words): _____

Form of Presentation Desired (check one):

Oral presentation of 12 minutes plus 3 minutes discussion

Poster presentation

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

**RÉUNION ANNUELLE CONJOINTE DE LA SOCIÉTÉ D'ENTOMOLOGIE
DU CANADA ET DE LA SOCIÉTÉ D'ENTOMOLOGIE DE L'ALBERTA**

**FORMULAIRE DE PARTICIPATION:
LES COMMUNICATIONS ORALES ET LES POSTERS**

Veuillez retourner à: Dr. R. H. Gooding,
Department of Entomology,
University of Alberta,
Edmonton, Alberta
T6G 2E3

Date limite: au plus tard le 31 juillet 1990

Titre (15 mots au maximum): _____

Nom de l'auteur (des auteurs): _____

Institut et Adresse: _____

Nom de presenteur: _____

Résumé(50 mots au maximum): _____

Format de présentation (cochez votre choix):

Communication orale (12 min et 3 min de discussion)

Poster

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

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

The Banff Centre, Box 1020, Banff, Alberta T0L 0C0
October 7 - 10, 1990

ACCOMMODATION REGISTRATION FORM

NAME: DR./MRS./MR./MS. _____ M _____ F _____

AFFILIATION: _____

ADDRESS: _____

_____ POSTCODE _____

TELEPHONE (____) _____ - _____ BUS. (____) _____ - _____ RES.

ARRIVAL DATE: _____ FIRST MEAL: _____

DEPARTURE DATE: _____ LAST MEAL: _____

Room Rates (includes three meals per day)

Single: \$86.70/person/day

Sharing: \$72.00/person/day

Accommodation requirements: (Please check one)

_____ SINGLE*

_____ SHARING(Sharing with spouse/companion)**

_____ SHARING(Sharing with another delegate)**

* As single accommodation is limited, rooms will be assigned on a first come, first served basis.

** If sharing with someone in particular, please indicate the name of the person below. Otherwise, if you would like to share but with no one in particular, we will assign you to room with another delegate of the same gender. **Preferred roommate** _____

I will not be staying at the Banff Centre and have made my own arrangements at the _____
_____ (information for message purposes only)

Please complete and mail by July 31, 1990 to:

Patrick Scholefield,
Alberta Environment
Second Floor, Deerfoot Square
2938 - 11 Street N.E.
Calgary, Alberta T2E 7L7

**RÉUNION ANNUELLE CONJOINTE DE LA SOCIÉTÉ D'ENTOMOLOGIE
DU CANADA ET DE LA SOCIÉTÉ D'ENTOMOLOGIE DE L'ALBERTA**

du 7 au 10 October 1990
The Banff Centre, Box 1020, Banff, Alberta T0L 0C0

FORMULAIRE D'INSCRIPTION POUR LE LOGEMENT

NOM: DR./MME./M./MAD. _____ M _____ F _____

AFFILIATION: _____

ADRESSE: _____

_____ CODE POSTALE _____

TÉLÉPHONE (____) ____ - _____ Affaires. (____) ____ - _____ Domicile.

DATE D'ARRIVÉE: _____ PREMIER REPAS: _____

DATE DU DEPART: _____ DERNIER REPAS: _____

Frais d'hôtel (incluent trois repas par jour)

1 personne: \$86.70/person/day

2 personnes: \$72.00/person/day

Logement requis: (Cochez votre choix)

_____ CHAMBRE INDIVIDUELLE*

_____ DÉSIRE PARTAGER AVEC CONJOINT**

_____ DÉSIRE PARTAGER AVEC UN AUTRE DÉLÉGUÉ(E)**

* Le nombre de chambres individuelles est limité. Elles seront assignées aux premiers venus.

**Si vous désirez partager une chambre avec une personne en particulier, veuillez indiquer son nom ci-dessous. Si vous désirez partager une chambre mais non pas avec une personne en particulier, nous vous assignerons une chambre avec un autre délégué du même congrès et du même sexe.

Je ne resterai pas au Banff Centre et j'ai fait mes propres arrangements à _____
_____ (ces informations seront utilisées pour transmettre les messages seulement).

Remplissez et postez avant le 31 juillet 1990 à:

Patrick Scholefield
Alberta Environment
Second Floor Deerfoot Square
2938 - 11 Street N.E.
Calgary, Alberta T2E 7L7

User Fee: \$17.00/person/day (includes lunch, subject to change)

Those people staying off campus, for whatever reason, will be subject to a user fee which will be the responsibility of the individual. These people have the same privileges as those staying on campus (i.e. parking, classrooms, lounges, recreation building and lunch). All off campus delegates will be required to register at the Front Office where they will receive the same "passport" as the on-campus delegates.

"No Shows" Policy:

"No Shows" is a term applied to those people who, for a variety of reasons, fail to register as planned. A room will be held until 11:00 pm on the planned day of arrival. If it is known that some people will arrive after this time, we will require 24 hours notice. Otherwise, these people will be classed as "No Shows" and a charge for the first night's accommodation will be levied against the individual.

On the Saturday evening there will be a limited number of rooms available on campus. Therefore, **BOOK EARLY**, otherwise you will have to arrange to spend Saturday evening in a motel in Banff. More rooms will be available on Sunday, October 7 to meet the needs of the meeting.

Opening Address:

The Opening Address is scheduled for 3:00 pm on Sunday, October 7 and the meeting will finish at noon on October 10. Those delegates wishing to stay over that evening are advised to book rooms at one of the motels in Banff as we are unable to secure rooms on campus.

Air Canada is the Official Air Carrier for the 1990 ESC/ESA Meeting. We urge you to make your bookings by phoning 1-800-361-7585, and please specify that you are attending the 1990 ESC/ESA Meeting in Banff, Alberta.

Les Frais d'Utilisation: \$17/personne/jour (inclut le repas du midi, sujet aux changements)

Ceux qui logeront hors campus, pour quelque raison que ce soit, seront sujets à des frais d'utilisation qui seront la responsabilité de l'individu. Le paiement de ces frais accordera à ces délégués les mêmes privilèges réservés aux délégués logeant sur le campus (i.e., le stationnement, les salles de classe, les salons, le pavillon des loisirs, et le repas du midi). Tous les délégués logeant hors campus devront s'inscrire au Bureau d'Accueil, où ils recevront le même "passeport" que les délégués logeant sur le campus.

La Politique de Non-Assistance:

Les chambres seront réservées jusqu'à 23:00 heures du jour d'arrivée. Les personnes prévoyant arriver après 23:00 heures devront nous en avvertir au moins 24 heures à l'avance. Sinon, ces personnes seront classées "No Shows" et seront facturées pour la première nuit.

Il y aura un nombre limité de chambres disponibles sur le campus samedi soir le 6 octobre. **Faites vos réservations le plus tôt possible.** Sinon vous devrez trouver un autre logement pour le samedi soir (voir la liste des motels à Banff en annexe). Il y aura un plus grand nombre de chambres disponibles dimanche le 7 octobre, pour répondre aux besoins des congressistes.

Le Discours d'Ouverture:

Le Discours d'Ouverture se tiendra à 1500 h, dimanche le 7 octobre et le congrès se terminera le 10 octobre à midi. Les délégués qui désirent passer la nuit du 10 octobre à Banff sont avisés de louer une chambre à l'un des motels de Banff, parce que les chambres sur le campus ne seront pas disponibles.

Workshop of Biological Pest Control in Canada

The Alberta Environmental Centre is organizing a workshop on biological control in Canada, to be held in Calgary on 11 - 12 October 1990. It will cover biological control of pests in the broadest sense, including insect pests, weeds and plant diseases. The program will include review papers, a poster session and panel discussions on current issues. We hope to attract a wide attendance including not only researchers but producers, extension staff and decision-makers. The workshop immediately follows the annual meeting of the Entomological Society of Canada in Banff and we invite entomologists interested in biological control to extend their stay in Alberta for a couple of days to attend. For further information, please detach or photocopy the form below, complete and return to Dr. A.S. McClay, Alberta Environment Centre, Bag 4000, Vegreville, Alberta T0B 4L0.

Name _____

Address _____

Telephone (____) _____

Speciality _____

_____ Please send further information

_____ I expect to attend the workshop

_____ I expect to present a poster

Return to Dr. A.S. McClay, Alberta Environment Centre, Bag 4000, Vegreville, Alberta T0B 4L0.

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ARTICLES

Communicating Science

I attended a Public Awareness of Science conference organised on the 25-27 March 1990 by the Royal Society of Canada, entitled "*Communicating Science: How and Why*". It was very evident from the presentation by Dr. E.F. Einsiedel on her recent study "*Scientific literacy: A survey of Canadian adults*" that the Canadian public has a very poor understanding of science (but on par with the British and Americans, if that is a consolation), with more than 20% thinking that the sun goes around the earth. Furthermore, 40% of the people questioned agreed with the statement "because of their knowledge, scientists have a power that makes them dangerous". It is evident that we will have an uphill battle to persuade the public of the importance of science to Canada and Canadians and to enlist their aid in our efforts to improve the working climate for scientists in this country. Furthermore, as pointed out by Dr. David Harpp, this may not altogether surprising given that in most films, TV programmes, etc., scientists are portrayed as "the bad guys" or individuals that should only be let out of the funny farm on days that begin with the letter Q. Dr. Harpp (McGill University) and several of his colleagues have an active programme of bringing science to the public through a series of evening lectures and public demonstrations. Such efforts are understandably time consuming, but essential and I would urge all members to get involved in local public education programmes. If they do not exist in your area then recruit some other scientists and initiate something yourself. I know from personal experience that there is quite a demand from schools, gardening clubs etc., for someone to present something on entomology. If the public do not appreciate science and scientists, is anyone better placed than ourselves to rectify the situation?

Another avenue that individual scientists must exploit to improve public awareness is through the media. I realise that nearly every scientist has to least one horror story of how a journalist totally misrepresented the facts given during an interview and is therefore very reticent to expose him- or herself to such treatment again. Unquestionably, some cases are just the work of a poor journalist in search of a sensational story or pushing one side of an argument. However, in many cases, the scientist is not also free of guilt. At the symposium "*Communicating Science: How and Why*" participants met TV and press journalists in workshops. These professionals are well aware of our complaints, such as "Why can't I proof your article before it goes to press?" or "Why can't I screen your work before it goes on the air?" But as they pointed out, they have as many complaints about us. In most cases, especial when associated with a hot new item, they have deadlines and their story has to be developed and rendered in a final form within hours. They may not be able to get back in touch with you to find out if what they understood was what you really wanted to say or even if they try, you may be unavailable. A blank page or screen with a note stating that "as Dr. X has not proofed the article on his research, the story we intended to present will not appear until tomorrow" does not sell papers or attract viewers. They present a number of very simple but useful points when preparing for an interview.

Be as concise as possible. On TV, the use 10-15 second clips from the interview, so a 45 second ramble to say "I have data that conclusively prove that the earth is flat" means that they will take a section that appears to be the most appropriate. Subsequently, you may feel that their choice of footage does not do justice to the quality of your work. Your fault or theirs? Quotable quotes make their day. Just make sure that it is one you want them to use.

Keep it simple and, if possible, use an analogy that will be easily understood. Remember that the general public will not always have a solid grasp of your subject (In the literacy study, people that indicated that they had a clear or passable understanding of DNA then gave responses such as "it is

something in the blood”, “the study of genes”, “it has something to do with skin tissue”, “the energy of muscles” and “a brain hormone”) and certainly will not understand specialized jargon.

Think of the potential questions you may be asked. By preparing ahead of time, you can prepare concise responses, and will actually have better control of the interview. Through the answer to one question, you can bring up another point that you feel should be covered which directs the subsequent line of questioning. Such pointers are obviously not foolproof, but should make both the interviewer’s and interviewee’s life a little easier, and certainly reduce the possibility that you will be misquoted. In passing, they recommend wearing suitable attire for TV interviews as it portrays a more respectable image (so much for those of us dedicated to tee-shirts and jeans!). Furthermore, look the interviewer in the eye when you are talking, without furtive sideways peeps at the camera. The person behind the camera will do all possible to make you look your best. Shifty-eyed behaviour only reinforces the public idea that scientists are questionable characters.

The bottom line is that most information the public gets on science comes from the media, so we must overcome our prejudices and work with the responsible reporters to get our messages across. There is no shortage of self proclaimed experts only too willing to give interviews on any subject. These people become the only sources of information that the public obtains if qualified, responsible scientists choose to refuse interviews. Given the present state of affairs, I do not believe that we can afford the cost of such behaviour. Sure there will still be some horror stories, but that is the price we must pay. Our bad experiences will probably be no more than horrifying than those reporters will have with certain scientists.

Jeremy N. McNeil

Le Public et la Science

Du 25 au 27 mars 1990, j’ai assisté à une conférence intitulée “*Communicating Science: How and Why*”, organisée par la Société Royale Canadienne. La présentation de la récente étude du Dr. E.F. Einsiedel sur le “*Scientific literacy: A survey of Canadian adults*”, a démontré que les Canadiens ont une connaissance scientifique très pauvre (par rapport aux Britanniques et aux Américains, si cela peut être une consolation); plus de 20% croit que le soleil tourne autour de la terre. De plus, 40% des gens interrogés étaient d’accord avec l’énoncé “de par leur connaissance, les scientifiques possèdent un pouvoir que les rend dangereux”. Tel que souligné par Dr. D. Harpp (McGill) cela n’est pas surprenant compte tenu que dans la majorité des films, émissions de télévision, etc., les scientifiques sont présentés comme “des méchants” ou comme des individus qui devraient être mis en liberté que sur les jours de semaine commençant par la lettre Q. Il est évident que nous aurons un défi de taille à surmonter pour convaincre le public de l’importance de la science pour le Canada et les Canadiens, et pour obtenir l’appui nécessaire à l’amélioration du milieu de travail des scientifiques dans ce pays. Le Dr. D. Harpp et plusieurs de ses collègues offrent, à travers une série de conférences et de démonstrations publiques, un programme dynamique pour sensibiliser le public à la science. De tels efforts sont naturellement exigeants, mais essentiels. J’encourage donc tous les membres à s’impliquer dans des programmes locaux d’éducation ou d’en créer un si ceux-ci n’existent pas dans votre région. Si le public n’apprécie pas la science et les scientifiques, qu’est mieux placé pour rectifier la situation sinon nous-mêmes?

Une autre avenue qui doit être exploitée est celle des médias. Presque tous les scientifiques ont au moins une histoire horribile à raconter à propos des journalistes qui ont mal interprété les faits présentés lors d’une entrevue. Quelques uns sont sans doute le travail de journalistes incompetents à la recherche de sensationnalisme ou voulant trop insister sur un des aspects de la question. Dans d’autres cas, ce sont les scientifiques qui sont responsable de cette fausse opinion. Au symposium du

“*Communicating Science: How and Why*”, les participants ont pu rencontrer les journalistes de la Télévision et de la Presse au cours d’ateliers de travail. Ces personnes sont bien informées de nos complaints tels que “Pourquoi n’est-il pas possible d’examiner votre article avant de le publier?” ou “Pourquoi ne pas nous montrer votre reportage avant de le diffuser sur les ondes?”. Cependant, comme ils l’ont aussi souligné, ils en ont autant à formuler à notre égard. Lorsque surviennent des événements d’actualité d’importance, ils sont souvent limités dans le temps pour présenter leur reportage et en conséquence celui-ci doit être livré sous une forme finale en moins de quelques heures. Il se peut qu’ils ne soient pas en mesure de vous rejoindre pour s’assurer qu’ils ont bien compris ce que vous vouliez dire, et même s’ils essayaient, il se pourrait que vous ne soyez pas disponible. Une note sur une page blanche ou un écran disant: “étant donné que “le Dr. X n’a pas révisé l’article sur sa recherche, nous reportons sa parution à plus tard” n’est pas une façon de vendre des journaux ou d’attirer des téléspectateurs. D’habitude, seulement un certain nombre de points sont retenus lors d’une entrevue.

Soyez donc aussi concis que possible. Lors d’une entrevue télévisée, seulement une ou deux séquences de 10 à 15 secondes seront utilisées, en conséquence un commentaire de 45 secondes disant sensiblement que “J’ai obtenu des données qui démontrent que la terre est plate” il est certain que les journalistes ne retiendront que les sections qu’ils jugent les plus importantes. Vous pourriez penser par après que les séquences choisies ne rendaient pas justice à la qualité de votre travail. kEst-ce de leur faute ou de la vôtre? Une phrase précise peut faire toute la différence. Cependant, il faut faire en sorte que ce que nous disons est bien ce que nous voulons qu’ils retiennent.

Restez simple, et si possible, utiliser des analogies que sont faciles à comprendre! Souvenez-vous que le public n’a pas toujours une connaissance solide de votre sujet (dans le sondage du Dr. Einsiedel évaluant le niveau de connaissance des gens, plusieurs individus qui proclamaient avoir une bonne ou passable compréhension de l’ADN ont fourni des réponses telles qu’“c’est quelque chose dans le sang”, “l’étude des gènes” “c’est en rapport avec la peau”, “l’énergie du muscle”, et “une hormone du cerveau”) et il est évident qu’ils ne comprendront pas le jargon spécialisé.

Penser aux questions qui peuvent vous être posées. En vous préparant à l’avance vous pouvez formuler des réponses plus concises et vous aurez ainsi un meilleur contrôle de l’entrevue. En répondant à une question, vous pouvez soulever un aspect que vous aimeriez discuter et ainsi diriger le déroulement de l’entrevue. Ces conseils ne sont pas toujours garantis, mais ils devraient cependant rendre la vie de l’interrogateur et de l’interrogé un peu plus facile et aussi réduire les chances d’être mal interprété. Il est aussi recommandé de porter des vêtements convenables lors des entrevues à la télévision, parce qu’ils donnent une image plus respectable (tant pis pour ceux qui ne croient qu’aux tee-shirts et aux jeans!). De plus, regardez bien la personne qui vous interroge lorsqu’il vous interroge et évitez de jeter des regards furtifs à la caméra; l’opérateur fera tout son possible pour obtenir la meilleure image de vous-mêmes. De tels regards ne font qu’accentuer l’opinion du public à l’effet que les scientifiques sont des personnes étranges.

Il est ici important de se souvenir que la majorité de l’information que le public reçoit sur la science vient des médias, et c’est à nous de changer notre attitude et de travailler avec des journalistes responsables pour que nos messages soient transmis comme il se doivent. On ne manque pas d’individus qui se prennent pour des experts et qui sont prêts à se prononcer publiquement sur n’importe quel sujet. Ces personnes deviennent alors la seule source d’information auquel le public a accès si évidemment des scientifiques plus qualifiés et responsables refusent de donner des entrevues. Compte tenu de l’état actuel des choses, je ne crois pas que l’on puisse se permettre d’agir ainsi. Il est certain qu’il y aura encore des histoires horribles, mais c’est le prix que nous devons payer. De toute façon, nos mauvaises expériences ne seront probablement pas plus horribles que celles que pourront avoir des journalistes avec certains scientifiques.

J’ai aussi assisté à des ateliers sur l’établissement de réseaux d’échanges d’information et de

commercialisation. Même si les présentations s'adressaient surtout à des Sociétés plutôt qu'à des individus, ceux-ci étaient bien organisés et informatifs. Notre adhésion à la FCSB nous fournit un réseau potentiellement efficace, cependant son succès dépendra de la participation active de toutes les sociétés membres de la Fédération. En ce qui concerne la commercialisation, nous devons définir exactement le secteur public que nous espérons toucher et développer en conséquence une stratégie efficace pour atteindre nos buts. Dans le passé, la SEC a concentré ses énergies dans la préparation de rapports à l'intention des politiciens. Bien que nous devrions maintenir cette approche, il est nécessaire aussi de développer et de mettre sur pied des campagnes efficaces d'éducation publique. Nous avons une responsabilité et il est temps que nous nous mettions sérieusement à la tâche. Ceci devrait être un projet collectif et à cet effet, je vous invite à faire parvenir vos suggestions ou idées au Dr. Vince Nealis, Président du comité des Relations publiques, en espérant que ce premier geste, bien que modeste, devienne une initiative majeure de la SEC.

PERSONALIA / PERSONNALITÉS



Malcom Elijah Neary, 1913 - 1990

Malcolm Neary, a long time member of the Entomological Society of Canada and the Acadian Entomological Society, died peacefully at his home on March 11, 1990.

Malcolm was a graduate of the Nova Scotia Agricultural College and Macdonald College of McGill University, where he earned his B.Sc. (Agr.). His entire professional life was spent in the service of agriculture. In the early years, he worked under Dr. W.H. Brittain, then A.D. Pickett, and succeeded them as Provincial Entomologist for the Nova Scotia Department of Agriculture and Marketing. As Professor of Entomology and Zoology at the Nova Scotia Agricultural College, he influenced many future entomologists, agriculturalists and veterinarians from the Atlantic provinces and elsewhere. Indeed, he inspired not a few to pursue careers in entomology. He retired in 1977.

Malcolm Neary was the epitome of the extension man. One of those people who, to use today's terms, transfer technology. Farmers can be a conservative, shrewd and cautious lot who size up people rather quickly, but with Malcolm they were dealing with an equal. He was raised on a farm in Greenwich, N.S. and never lost sight of his roots. He had an outstanding ability to communicate with farmers on their own level and persuade them to adopt more advanced ways of coping with insect and disease problems. He always had just the right story and knew their concerns as individuals.

Equally important, he could translate their problems into questions for researchers. Indeed, he played a little recognized role in the origin of what is now called IPM, integrated pest management, through his involvement with Dr. A.D. Pickett when the concept was being born. Malcolm Neary contributed ideas, was peripherally involved in the research and provided the extension contacts with orchardists. The contributions of a man such as this are difficult to assess but, in Malcolm's case, were considerably greater than was obvious.

Malcolm Neary was a true friend and was respected by all who knew him. He is survived by his wife Myrna, two daughters, a son and four grandchildren.

D.C. Eidt and V.R. Vickery

**Robert S. Anderson - Curator of Entomology
Canadian Museum of Nature**

Dr. Robert S. Anderson was recently appointed as the new Curator of Entomology at the Canadian Museum of Nature (formerly the National Museum of Natural Sciences) in Ottawa. Dr. Anderson received his B.Sc. for the University of Toronto, his M.Sc. in Biology for Carleton University and his Ph.D. in Entomology from the University of Alberta. He returns to Canada following a two year NSERC postdoctoral fellowship and a one year research assistantship at Texas A & M University. He research focuses on the systematics, evolution and biogeography of beetles of the family Curculionidae. Current projects include faunistic studies of the weevils of the Yukon Territory and of south Florida and the weevils associated with Christmas mistletoes (Viscaceae). Plans are currently underway for long-term study of the systematics and evolution of the leaf-litter inhabiting weevils of the New World. The entomology collection at the Canadian Museum of Nature is a general insect collection although is comprised mainly of Coleoptera, especially Curculionidae (largely Anderson's personal collection, now on indefinite loan to the CMN), Chrysomelidae, Cerambycidae, Buprestidae (largely from the personal collection of Henry and Anne Howden, now deposited [in part] in the CMN), as well as a number of smaller families and a large assortment of presently unsorted Coleoptera from Canada, U.S.A., Chile, Argentina, Australia, South Africa and various Central American countries. In addition to Coleoptera, Lepidoptera and Homoptera currently comprise the remainder of the collection. Loan requests are welcome and should be addressed to Dr. Robert S. Anderson, Curator of Entomology, Canadian Museum of Nature, P.O. Box 3443, Station D, Ottawa, Ont. K1P 6P4. Visitors to the entomology section also are welcome but should make plans in advance.

Retirement - Philip S. Corbet

Philip Corbet's part-time contract at the University of Dundee terminated in January 1990. On his retirement, he was appointed Professor Emeritus of Zoology at the University. He now lives in Edinburgh where he works as an Honorary Fellow in Department of Zoology, University of Edinburgh, continuing his research interests on dragonflies and mosquitoes

NEWS OF ORGANIZATIONS / NOUVELLES DES ORGANISATIONS

International Commission on Zoological Nomenclature

Applications published in the Bulletin of Zoological Nomenclature

The following applications were published 19 December 1989 in the *Bulletin of Zoological Nomenclature* 47 (1). Comment or advice on these applications is invited for publication in the *Bulletin* and should be sent to the Executive Secretary, I.C.Z.N., British Museum (Natural History), Cromwell Road, London, SW7 5BD, U.K.

Case 2547

Cymatiinae Iredale, 1913 (1854) (Mollusca, Gastropoda) and Cymatiinae Walton in Hutchinson, 1940 (Insecta, Heteroptera): proposal to remove the homonymy.

Antti Jansson, Zoological Museum, University of Helsinki, P. Rautatiekatu 13, SF-00100, Helsinki, Finland.

Alan G. Beu, New Zealand Geological Survey, DSIR, PO Box 30368, Lower Hutt, New Zealand.

Abstract. The purpose of this application is to remove the homonymy between the molluscan family-group name Cymatiinae Iredale 1913 (1854) and the insect family-group name Cymatiinae Walton in Hutchinson, 1940. It is proposed that the latter be altered to Cymatiinae by changing the stem of the type genus *Cymatia* from Cymati- to Cymatia-.

Case 2678

***Carcinochelis* Fieber, 1861 (Insecta, Heteroptera): proposed designation of *Carcinochelis alutaceus* Handlirsch, 1897 as the type species.**

Richard C. Froeschner, Department of Entomology, Stop 127, U.S. National Museum of Natural History, Washington, D.C. 20560, U.S.A.

Nicholas A. Kormilev, 5924 Gulfport Boulevard S., Gulfport, Florida 33707, U.S.A.

Abstract. The purpose of this application is to conserve the established meaning of the ambush bug genus *Carcinochelis* Fieber, 1861 by the designation of *C. alutaceus* Handlirsch, 1897 as the type species. The first included nominal species was *C. binghami* Sharp, 1897, but acceptance of this as the type species would make *Carcinochelis* a senior subjective synonym of *Carcinocoris* Handlirsch, 1897, and would upset the usage of both generic names.

The following Opinions were published on 27 March 1990 in Vol. 47, Part 1 of the *Bulletin of Zoological Nomenclature*.

Opinion 1577 *Hydrobius* Leach, 1815 (Insecta, Coleoptera): *Dytiscus fuscipes* Linnaeus, 1758 conserved as type species, and *Berosus* Leach, 1817 (Insecta Coleoptera): conserved

Opinion 1578 *Vespa triangulum* Fabricius, 1775 (currently *Philanthus triangulum*) (InsectHymenoptera): specific name conserved

Name Change in the Canadian National Museum

The name of the National Museum of Natural Sciences as been changed to the Canadian Museum of Nature. This change, part of the Museums Act passed by Parliament earlier this year, coincides with the separation of components formerly collected under an umbrella organization known as the National Museums of Canada into individual, and independently administered, crown corporations. Included here are the National Gallery of Canada, recently rehoused in a new building in Ottawa (the NGC includes the Canadian Museum of Photography), the Canadian Museum of Civilization, formerly the National Museum of Man, recently rehoused in a new building in Hull (the CMC includes the Canadian War Museum), and the Canadian Museum of Nature, formerly the National Museum of Natural Sciences. Exhibit and some administration sections of the Canadian Museum of Nature remain in the Victoria Memorial Museum Building in downtown Ottawa, a building formerly shared with the Canadian Museum of Civilization, although permission has not yet been granted for the CMN to renovate the vacated half of the building and expand it exhibits. Research and other divisions of the CMN continue to be housed in eleven other buildings in the Ottawa region.

POSITIONS AVAILABLE / EMPLOIS DISPONIBLES

NSERC Visiting Fellowship in Systematic Entomology at the Canadian Museum of Nature in Ottawa, Canada

The entomology section at the CMN invites applications for an NSERC Visiting Fellowship in a Government Laboratory in the field of Systematic Entomology for the years 1991-92, with possibility of extension to 1993. Taxonomic group and geographic area of study are unrestricted. Applicants must meet all NSERC eligibility requirements.

The entomology collection at the CMN is a general insect collection although is comprised mainly of Coleoptera, especially Curculionidae, Chrysomelidae, Cerambycidae, Buprestidae, as well as a number of smaller families and a large assortment of presently unsorted Coleoptera from Canada, U.S.A., Chile, Argentina, Australia, South Africa and various Central American countries. In addition to Coleoptera, Lepidoptera and Homoptera currently comprise the remainder of the collection. In addition to the collection and facilities at the CMN, extensive collections and facilities are available at the Biosystematics Research Centre and Carleton University. Library facilities in the Ottawa area are unsurpassed. In addition to the basic NSERC stipend, limited funding should be available for field work and other research-related expenses through the CMN. All inquiries concerning the collection, facilities and opportunities for research at the CMN (and the Ottawa area in general) are welcome and should be addressed to Dr. Robert S. Anderson, Curator of Entomology, Canadian Museum of Nature, P.O. Box 3443, Station D, Ottawa, Ont. K1P 6P4 (613-954-2649).

Application forms and details of application procedure are available from Ms. Nicole Lalonde, NSERC, 200 Kent Street, Ottawa, Ont. K1A 1H5 (613-995-5075); forms for the 1991 competition should be available in late August 1990. The deadline for submission will be announced by NSERC. Fellowships normally commence on or soon after April 1, 1991. Those planning to submit an application should notify the Curator of Entomology at the Canadian Museum of Nature and submit a brief statement of their proposed research prior to submission of their application to NSERC.

PUBLICATIONS

Book Reviews

Emmet, A.M. and J. Heath. (eds.). 1989. *The moths and butterflies of Great Britain and Ireland. Vol. 7, Pt. 1, HesperIIDae to Nymphalidae, the butterflies*. Colour illustrations by Richard Lewington. Harley Books, Martins, Great Horkesley, Colchester, Essex. 380 pp. Hard cover. £49.50

As conceived by the late John Heath, Volume 7 of the series on the moths and butterflies of Great Britain and Ireland originally was to include butterflies and larger moths, but it was decided to publish the section on butterflies separately as Vol. 7(1). Here, then, is a detailed treatment of the 54 native, 4 (and perhaps up to 8) formerly native but extinct, and 49 migrant, introduced or adventive species of British butterflies, assembled through the work of nearly 30 authors. The whole has been edited and coordinated by A.M. Emmet with John Heath.

The work is well standardized, even though much of the species-by-species information was contributed by individual ecologists working on particular species, generally from a conservation perspective. Indeed, such a theme pervades the book - though not obtrusively - and one separate introductory chapter, by M.G. Morris and J.A. Thomas, treats the establishment of insect populations with special reference to butterflies (Vol. 1 of this series included a chapter on conservation). Another introductory chapter, by A.M. Emmet, deals with the vernacular names and early history of British butterflies.

The major part of the book comprises species-by-species treatments, preceded by a checklist of species and an introduction to the group. Keys to species of adults are provided for each family. A typical species account includes: a substantial description of the adult of each sex, including variation; life history, including descriptions of the immature stages and biological and ecological information for egg, larva, pupa and adult; distribution; and a brief account of the vernacular name and early history. The descriptions are augmented by 24 colour plates comprising 568 separate illustrations; many variations are included. Happily, all of the illustrations are of fine quality and are shown at natural size. Twenty-two line drawings in the text illustrate characteristics of the different families. Eighty-three maps of species ranges in Great Britain and Ireland appear in the text, based on the British Biological Records scheme, which records occurrences on a 10 x 10 km grid: records from before 1940, after 1960 (Ireland) or 1970 (Britain), and the intervening years, are distinguished on maps for many species, documenting any historical changes. The work is completed by references, a glossary, and index to the authors (shown in the species accounts only by means of their initials), a general index and an index of host plants.

The texts for the species generally are well written and informative. A great deal has been learned since earlier students (including this reviewer) were introduced to the fascination of British butterflies by works such as Richard South's *Butterflies of the British Isles* (1906 and subsequent editions). Two short excerpts must serve to give the flavour of the text treatments of life histories. Thomas and Emmet (p. 125) report on the secretive behaviour of adults of the Brown Hairstreak, *Thecla betulae* (Linn.), as follows:

“Within any colony, the adults emerge at low densities over a wide area, and then congregate on ‘master trees’ Both sexes are extremely inconspicuous when on treetops; they roost, rest, bask, mate, or crawl over the leaves and drink honey-dew with little or no need to fly in between. Indeed, it is unusual for males to be seen at all, except on certain sites in occasional years when they descend to feed on flowers.....”

Wilson and Emmet's account (p. 261) of the early part of the life cycle in the Marbled White, *Melanar-*

gia galathea (Linn.), reads:

“Before hatching, the larva eat round the crown of the egg, thereby forming a lid which it pushes up to effect emergence. It eats most of the empty shell and at once enters hibernation without further feeding, selecting a buff-coloured piece of grass matching its own hue on which to rest”

In summary, this is an excellently conceived and executed book. Entomologists in the British Isles will find it especially useful. However, it will be of interest to lepidopterists elsewhere for its approach and presentation as well as for the specific information it contains on the relatively small number of British species.

H.V. Danks
Ottawa, Ont.

Noyes, J.S. and E.W. Valentine. 1989. *Chalcidoidea (Insecta: Hymenoptera) - Introduction, and review of genera in small families*. (Fauna of New Zealand No. 18). DSIR Publishing, P.O. Box 9741, Wellington, New Zealand. 91 pp. 126 figs. Soft cover. \$(NZ)22.95.

Though this work is partly titled as an introduction to the Chalcidoidea of New Zealand, it represents the final contribution to a series of publications that together treat all the families and genera of the Chalcidoidea and Mymarommatoidea known from New Zealand. The present work provides a key to, diagnoses of, and general biological information on the 16 known families, and treats the genera of those 12 families with 11 or fewer genera. These are the Agaonidae, Aphelinidae, Chalcidae, Elasmidae, Eupelmidae, Eurytomidae, Perilampidae, Rotoitidae, Signiphoridae, Torymidae, Trichogrammatidae and Mymarommatidae. The latter is recognized as a superfamily separate from the Chalcidoidea. Though some may consider this to render the title inappropriate, the apparent contradiction is noted as part of a footnote to the title and this classification is explained in the text. Such is the present schizophrenic nature of chalcidoid suprageneric classification.

Following a concise introduction that includes a listing of previous papers on New Zealand chalcidoids, the authors tabulate the number of known genera and species by family and discuss their zoogeographic relationships. Introductory sections also include the use of chalcidoids in biological control in New Zealand, preferred methods of collection and preserving specimens, specialized terms used and diagnostic characters for the Chalcidoidea.

The key given to identify chalcidoid families is simple to use, but one should be cautious if using it to identify specimens from other areas because it is designed specifically for the relatively depauperate fauna of New Zealand. The family diagnoses also do not pretend to cover world diversity, but these limitations are a natural consequence of the scope of the work. Of much greater general interest and value is the section on biology given for each family, which includes descriptions of the eggs and larvae characteristic of each. Taxonomic works on the Chalcidoidea invariably ignore the immature stages and this is an informative exception.

In all, 44 genera are recognized in the 12 families treated, including one newly described genus in the Trichogrammatidae. Each genus is diagnosed and illustrated with a line drawing of at least one representative species, biological attributes are given when known and species diversity in New Zealand is compared with world diversity. Known host associations are summarized in three tables.

This work is, of course, essential to anyone interested in the Chalcidoidea of New Zealand. Because it treats to family level 16 of the 21 chalcidoid families generally recognized, it should also provide novices with a relatively simple yet highly interesting and informative introduction to the Chalcidoidea.

Gary Gibson,
Ottawa, Ont.

Mound, L. 1990. *Insects*. Alfred A. Knopf Inc. New York. 64 pp. \$(Can.)18.00

If the geometry and colour of insects capture your attention, then this magnificent book is for you. It is part of the Eyewitness Books series on natural history which "show you what other books only tell you". This uniqueness of the book lies in the life-like photographs from cover to cover. Great attention was paid to capture the colour and details of specimens.

Opening this book is like entering an entomology museum. For the layperson, the fascinating world of insects is introduced by an overview of insect anatomy, structure and function, general classification and some interesting social and ecological interactions. For the professional, it is hard to contain oneself from turning the pages over and over again to view the incredible photographs.

Many original techniques were used to make learning about insects pleasurable. Disarticulation of a buprestid beetle presents general insect anatomy. Photographic sequences of a cockchafer launching itself and of a locust springing into action demonstrate the biomechanics of insect flight. Gemstones of the book are the sequences which take you through incomplete metamorphosis of a damselfly and the complete metamorphosis of the Mexican bean beetle. Peruse these photographs and you will be left with the impression that the insects indeed are molting before you. Anyone who has tried to photograph insects will know that the photography is painstakingly done because the details of the exoskeletons are sharp.

Apart from the photography, I must also compliment the author for the layout and clarity of the text. Each page of this book (29 x 22 cm) is attractive and easy to read. The majority of the several hundreds of insect photographs have captions with Latin names and tidbits of information. The text is well placed among the photographs so there is no confusion. I was surprised to detect no typographical errors. Unfortunately, the photographs are lacking only an indication of the actual size of the specimen.

The striking beauty of the book entices the reader to want to know more about insects and would adorn any coffee table. The book would be appreciated by young entomologists, by the layperson as well as by the seasoned professional.

Yves Prévost,
Thunder Bay, Ont.

Stehr, F.W. (ed.). 1985. *Immature insects*. Kendall/Hunt Publishing Co., Dubuque, Iowa. xiii + 754 pp. Hard cover. \$(US)69.95

This is a multi-authored guide for identification to family level of larvae of 24 insect orders (Protura, Collembola and Diplura which are ranked as orders, as well as Microcoryphia, Thysanura, Ephemeroptera, Odonata, Blattodea, Isoptera, Mantodea, Grylloblattodea, Phasmatodea, Orthoptera (*s. str.*), Dermaptera, Embiidina, Zoraptera, Plecoptera, Psocoptera, Mallophaga, Anoplura, Mecoptera, Trichoptera, Lepidoptera and Hymenoptera); the remaining nine orders will be treated in a second volume. The emphasis is on larvae (and not all immature stages as suggested by the title; eggs and pupae are not treated) from America north of Mexico for most groups.

The introduction is short but informative. Terms for life history stages are defined as well as certain difficulties in their application. Techniques for collecting, rearing, preserving and studying immature insects are discussed in Chapter 2. Most of the basics are covered but the treatment is uneven. For example, freeze drying is described well but critical point drying of larvae is not mentioned. A significant error occurs in the reference Table 2.1 which recommends that large larvae of Lepidoptera and Megaloptera be injected "orally"; this surely should read "anally" or "intersegmentally". Oral injection would destroy the delicate features of the hypopharynx of lepidopterous larvae. There are only

41 references for this section and these emphasize Lepidoptera. Chapter 3 is a key to order for larvae of most terrestrial and freshwater Arthropoda of America north of Mexico as well as many other invertebrates. It is very well organized if somewhat unconventional in appearance; figures are arranged, for the most part, along the bottom of the relevant pages of the key. This format works well and will be quite appropriate for most users. However, the complexity of some elements of this key may cause confusion (e.g. comparison among the five features of three rubrics of #45).

Larvae of each of the 24 orders are treated in Chapters 4 to 27. The format for each order is similar. There is a brief synopsis of the world fauna and the phylogenetic position of the order, a summary of life history data, structure and developmental peculiarities. There are detailed sections about important structural features of the group and sections called "Comments", "Techniques" and "Classification". Each chapter contains a key to family level. Families are discussed in a similar pattern to that for orders. For each order, there is an excellent "Bibliography". These sections are not provided uniformly for all orders or families, however. The figures were the responsibility of individual authors and generally are uniform and informative.

A helpful and useful addition are the 15 supplementary keys to selected groups of larvae. Most of these deal with larvae of pest species such as cockroaches or Lepidoptera of various crops. There are also keys to larvae of some other groups (such as katydids and parasitic Hymenoptera). However, the choice of these additional keys seems somewhat arbitrary (e.g. within Hymenoptera there is a key to subfamilies of sphecids but not ants). These keys should have been made inclusive by including use rubrics which reported "Features not as above species not treated" because for instance all of the few noctuid larvae that I have tried to key out must not be "representative".

Within a book like this, the keys are of critical importance. Most are well written and relatively easy to use; the ample illustrations are a considerable aid. Unfortunately certain jargon particular to each order is inherent and may impede swift mastery of the keys. The content of the keys varies widely so a user must be careful about the scope and/or geographic coverage of the key. Reference figures can be confusing. For example, in the key to representative noctuid larvae, figures numbered "fig. 26.4" refer to chapter figures whereas "fig. 4" refers to an independent set of figures for that key alone. Once this is recognized there is little problem in using such keys, most of which are independent.

The book concludes with an extensive and very detailed glossary, a host plant and substrate index, as well as an index which includes species and generic epithets, names of higher taxa and common names. My copy of this book is already well used and has stood up well.

This is an excellent book. I recommend it strongly to every entomologist in Canada and the United States working on whole organism biology with insects. Even if your book budget is limited (and whose isn't?), this book represents a "must buy". In most fields of entomology, we need accurate identifications of larvae and this book provides the primary (re)source to which many of us will turn for many years to come. Prof. Stehr has put extensive work into this volume; his efforts are greatly appreciated in achieving a modern and effective replacement for, and extension of, Alvah Peterson's *Larvae of insects* which treated only the Holometabola. I eagerly await the second volume of this work.

R.E. Roughley,
Winnipeg, Man.

Sabrosky, C.W., G.F. Bennett and T.L. Whitworth. 1989. *Bird blow flies (Protocalliphora) in North America (Diptera: Calliphoridae), with notes on the Palearctic species*. Smithsonian Institution Press. Washington, D.C. 312 pp. 29 plates, 14 maps. \$(US)16.95

The authors of this book have combined their expertise to provide an exhaustive study of a group of blow flies whose larvae are haematophagous ectoparasites of nestling birds. In North America, 26 species of *Protocalliphora* are now recognized, including 15 new species described herein. Introductory chapters include an account of the complex nomenclatural history of the genus name, and a discussion on geographical distribution with a brief account of the Palearctic fauna. The section on life history draws on many sources of both entomological and ornithological literature, as does a review of the possible economic importance of these parasites in reducing the population of beneficial birds. The maggots infest the nests of species in nearly all families of perching birds, most of the northern raptors and owls, plus lesser numbers of doves and woodpeckers. Only the big groups of wading and swimming birds appear to escape their attacks. The extensive data on host/parasite relationships are well summarized in two tables, one for all North American orders of birds, the other for families of Passeriformes.

The bulk of the text (185 pages) concerns fly taxonomy. Keys are provided for adults of both sexes, puparia and third instar larvae. The senior author has used exemplary judgement in modelling his adult keys so as to make use of the best available characters. The species are, with few exceptions, not readily distinguishable, so that the provision of a preliminary key to species groups (page 67) is of great value in narrowing the field for users unfamiliar with the problems. Sabrosky has also been at pains to draw attention to individual variation, and has even managed to find useful new characters. Adult descriptions are well organized and devoid of superfluous detail. The important measurements of ratios involving the head shape, besides being given in the descriptions, are tabulated separately for ready comparison of all species together. Distribution data are detailed and extensive.

Bennett's treatment of immature stages necessitates staining and slide mounting of third instar larvae and parts of puparia. He provides an essential glossary of terms used in the keys. Measurements of these features (in microns) form a main ingredient of the descriptions. Even experienced taxonomists will have difficulty with the keys especially if they lack adequate reference collections.

An appendix lists all known native hosts arranged according to the 1983 *Checklist of North American Birds*. The bibliography has 275 annotated references, of which over 100 are from non-entomological journals. There are also separate indices for both birds and flies. Bennett has provided beautiful photomicrographs of puparial parts, but a serious omission is that no plate is labelled so as to connect them all to the terms listed in the glossary. Another disappointment is the paucity of line drawings. Male terminalia are restricted to outlines in lateral view of the cercus and surstylus. The aedeagus is shown for only three species and there are line drawings of larvae.

This book has been rightly referred to by another reviewer as a work of scholarship. It exemplifies to a remarkable degree the long, patient, often tedious analysis of detail that is required to produce first-rate systematics. It will be on reference shelves of both entomologists and ornithologists for many years.

G.E. Shewell
Ottawa, Ont.

Gupta, A.P. (ed.) 1987. *Arthropod brain, its evolution, development, structure and functions*. John Wiley and Sons, New York. 588 pp. Hard cover. \$(US)64.95.

The primary focus of this reference book is on the macro- and microanatomy and functions of the brain and some related parts of the central nervous system of arthropods, with some considerations given to evolution and development. It brings together most of the up-to-date information on structure, physiology and biochemistry of this system.

About two-thirds of the coverage is on insects; the remaining one-third deals with brains of crustaceans, acarines, myriapods, spiders and onychophorans. The emphasis is on functional morphology supported by biochemical, electrophysiological, histochemical and behavioral findings. Of primary consideration is the integration of inputs involving gustation and olfaction. Vision is treated lightly. However, this is not a serious omission, as there are many books and reviews already available on this subject.

Three chapters are devoted to the mushroom bodies, which seem to be important integrative centres in the control of behaviour. These would be of interest to behavioral neurobiologists. According to Gupta, well-developed mushroom bodies denote an advanced evolutionary state in arthropods. Specific to insects, Christensen and Hildebrand comprehensively review the olfactory pathways in the lepidopteran brain and Blaney and Simmonds cover recent findings on gustatory pathways in and through the subesophageal ganglion. Five chapters are devoted to specific biochemical and histochemical aspects of central nervous system constituents and function.

Current research in neurobiology is dependent on the application of new techniques. These are alluded to throughout the chapters, and are treated specifically in the final two chapters. However, for a more comprehensive coverage of neuroanatomical techniques, one would be advised to consult the two excellent books edited by Strausfield (published by Springer-Verlag).

All-in-all, this is a valuable contribution to the comparative functional neuroanatomy of the arthropod brain. It is well illustrated throughout, with line drawings and photomicrographs, but the quality of the latter is variable and sometimes poor. It should be of interest to neural morphologists and physiologists as well as behavioral neurobiologists. The price is reasonable given the content.

Russell Y. Zacharuk,
Regina, Sask

Books Available

Dunn, G.A. *Buggy books: A guide to juvenile and popular books on insects and their relatives*. This reference work provides information on 736 of the most significant "bug books" written for youth. This guide includes titles, authors, publishers, dates, number of pages and illustrations, ISBN, price, age-appropriateness, contents and quality/usefulness rating. Titles are cross referenced by subjects, age-appropriateness and authors. \$(US)12.95(+\$2 postage). Young Entomologists' Society, 1915 Peggy Place, Lansing, Michigan. U.S.A. 48910-2663

UPCOMING MEETINGS / RÉUNIONS À VENIR

CRYO '90 - Fourth International Symposium Invertebrate and Plant Cold-Hardiness, 17 - 23 July 1990, Binghamton, N.Y.

CONTACT: Dr. Kathleen L. Horwath, Center for Cryobiological Research, State University of New York, Binghamton, N.Y., U.S.A. 13901

Australian Entomological Society, Twenty First General Meeting and Scientific Conference, 30 June - 5 July 1990, Canberra, A.C.T.

CONTACT: Dr. Jane Wright, CSIRO Division of Entomology, GPO Box 1700, Canberra, A.C.T. 2601, Australia

Troisième Conférence Internationale des Entomologistes d'Expression Française, 9 - 14 juillet 1990, Gembloux, Belgium.

CONTACT: M. C. Verstraeten, Zoologie générale et appliqué, Faculté des Sciences agronomique de l'Etat, B-5800 Gembloux, Belgique

Fifth International Working Conference on Stored-Product Protection, 9 - 14 September 1990, Bordeaux, France

CONTACT: Dr. Fleurat-Lessard, INRA, Centre de Recherches de Bordeaux, P.P. 131, 33140 Pont de la Maye, France.

International Congresses of Dipterology

The Second International Congress of Dipterology will be held in Bratislava, Czechoslovakia from 27 Aug. - 1 Sept. 1990. The First Circular (with preregistration form) has been distributed. Canadian dipterists who have not received this circular may obtain copies from Dr. Graham C.D. Griffiths, Department of Entomology, University of Alberta, Edmonton, Alberta T6G 2E3 (403-922-3221). The Secretary of the Congress is Dr. L. Jedlicka, Department of Zoology, Comenius University, Mlynská dolina, CS - 842 15 Bratislava, Czechoslovakia.

Proposals for hosting the Third Congress (1994) may be addressed to Graham Griffiths, Chairman of the Council for International Congresses of Dipterology.

MISCELLANEA / DIVERS

Editor's Notes

There are issues raised in this number of the *Bulletin* that I think deserve serious attention by members of the ESC.

The first is the letter writing campaign outline by John Laing. I strikes me as imperative that all members sit down and inundate Ottawa with such letters. Since a good number of us now have computers, it shouldn't be much of a task. I read a survey recently that indicated the least informed professionals about science were lawyers. Given that many of the MP's are lawyers, it shouldn't come as too much of a surprise why science in this country usually gets of unsanitary end of the Ottawa financial stick.

The second is the article by Jeremy McNeil on dealing with the media. Several of us have to deal with the media and are usually utterly ignorant of the constraints in getting the message across. The points raised in Jeremy's article are well worth taking to heart.

Finally, every time I send out an issue of the *Bulletin*, I wonder how many people are actually reading it. My last editorial (*Sex, Lies and Videotape*) certainly put that bit of uncertainty to rest. I am presently writing to the authors of the letters I received for clearance to publish them and will put them in the next issue. So far I'm about midway between a sexist bigot and the voice of sweet reason.

Ron Aiken



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