

Bulletin

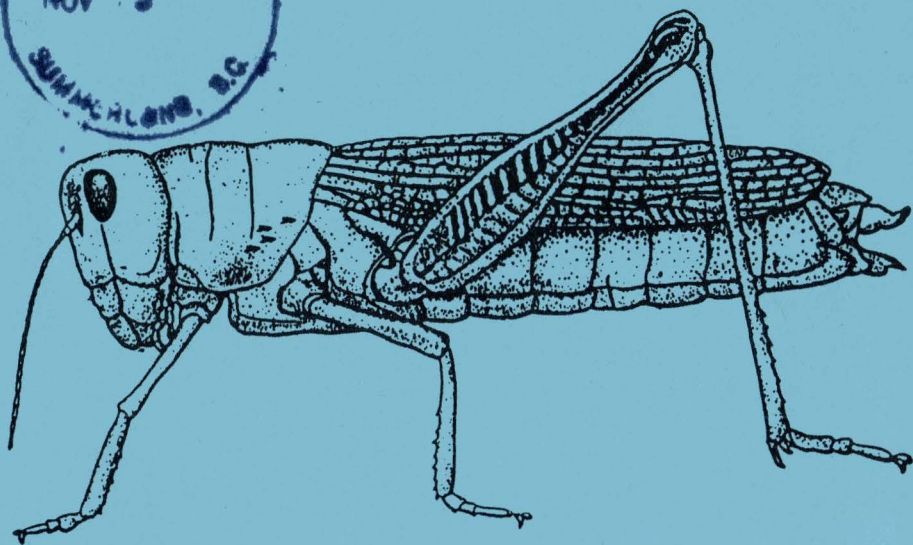
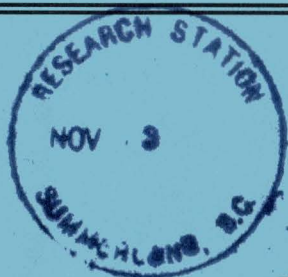
Entomological Society
of Canada

Société d'Entomologie
du Canada

Volume 29

No. 3

Sept/sept 1997



Entomological Society of Canada
Société d'Entomologie du Canada

393 Winston Avenue, Ottawa,
Ontario, Canada K2A 1Y8

Table of contents on back cover / Table
des matières sur la couverture-arrière

Date of issue / Date de publication:
Sept/sept 1997

The **Bulletin of the Entomological Society of Canada**, published since 1969, presents quarterly entomological news, opportunities and information, details of Society business, matters of wider scientific importance and book reviews.

Le **Bulletin de la Société d'Entomologie du Canada**, publié depuis 1969, présente trimestriellement des informations entomologiques, des occasions, des renseignements sur les opérations de la Société, des dossiers scientifiques d'importance, et des analyses d'ouvrages.

Illustrated on the front cover is a female *Melanoplus bivittatus* (Say) (Orthoptera: Acrididae). The two-striped grasshopper occurs widely in North America. It prefers locations that are relatively moist. It is polyphagous and feeds on many kinds of plants, but prefers forbs. This grasshopper is a major crop pest causing great damage to small grains, alfalfa, and corn. [Drawing courtesy of R.E. Pfadt, Laramie, Wyoming.] La page couverture illustre la femelle adulte de *Melanoplus bivittatus* (Say) (Orthoptera: Acrididae). Le criquet birayé est très répandu en Amérique du Nord. On le retrouve surtout dans les endroits relativement humides. C'est un polyphage qui se nourrit de plusieurs sortes de plantes mais montre une préférence pour les herbacées. Ce criquet est un important ravageur des petits grains, de la luzerne et du maïs. [Le dessin est une gracieuseté de R. E. Pfadt, Laramie, Wyoming].

List of contents/Table des matières

Volume 29, no. 3 Sept/sept 1997

| | |
|--|-----|
| Society Business / Affaires de la Société | 85 |
| Meeting Announcements..... | 85 |
| Call for Nominations - Achievement Awards..... | 86 |
| Student Affairs Update..... | 88 |
| Positions Available | 88 |
| In Memory | 89 |
| News of Organizations | 91 |
| Biological Survey | 91 |
| ICZN..... | 95 |
| New Scientific Editor | 96 |
| Publications | 96 |
| Book Reviews..... | 96 |
| New Titles..... | 99 |
| Scholarships | 99 |
| Smithsonian..... | 99 |
| Graduate Research-Travel Grants | 100 |
| Net, Shovel and Axe | 102 |
| Miscellaneous | 103 |
| Membership form (new members only) | 104 |



The **Entomological Society of Canada** was founded in 1863 primarily to study, advance and promote entomology. It supports entomology through publications, meetings, advocacy and other activities.

La **Société d'Entomologie du Canada** a été établie en 1863 principalement pour promouvoir l'étude et l'avancement de l'entomologie. Elle soutient l'entomologie par l'entremise de publications, de réunions et d'autres activités.

SOCIETY BUSINESS/AFFAIRES DE LA SOCIÉTÉ

47th Annual General Meeting

The Annual General Meeting of the Entomological Society of Canada will be held at the *Crowne Plaza Hotel* in Edmonton, Alberta, on October 5-7, 1997.

La réunion annuelle générale de la Société d'entomologie du Canada aura lieu au *Crowne Plaza Hôtel* à Edmonton, Alberta, le 5-7, octobre 1997.

Governing Board Meeting

The Annual Meeting of the Governing Board will be held at the *Crowne Plaza Hotel* in Edmonton, Alberta on October 4 & 8, 1997.

La réunion annuelle du conseil d'administration se tiendra au *Crowne Plaza Hôtel* à Edmonton, Alberta, le 4 & 8 octobre 1997.

Matters for consideration at any of the above meetings should be sent to the secretary at the address below:

Veuillez faire part au secrétaire de tout sujet pouvant faire l'objet de discussion à l'une ou l'autre de ses réunions en communiquant à l'adresse suivante:

Dr. Peggy Dixon
Agriculture and Agri-Food Canada, Box 37
Mount Pearl, Newfoundland A1N 2C1
Tel: 709-772-4763; Fax: 709-772-6064
E-mail: dixonpl@em.agr.ca

Web Page for the ESC

A Web page has been opened for items relating to the Entomological Society of Canada and can be accessed at the address below. <http://www.biology.ualberta.ca/esc.hp/homepage.htm>

The Canadian Entomologist and the Memoirs are available from the Ottawa office and may be purchased by Mastercard or VISA as well as by cheque or money order.

Please send all correspondence concerning
the Bulletin to:

Dr. Hugh J. Barclay
Bulletin Editor
Pacific Forestry Centre
506 West Burnside Road
Victoria, B.C.
V8Z 1M5

Tel: (250) 363-0736
Fax: (250) 363-0775
E-mail: hbarclay@pfc.forestry.ca

Please send all correspondence concerning
Book Reviews for the Bulletin to:

Dr. Sheila Fitzpatrick
Chair, Publications Committee
Pacific Agri-Food Research Centre
6947 #7 Hwy, P.O. Box 1000
Agassiz, B.C.
V0M 1A0

Tel: (604) 796-2221
Fax: (604) 796-0359
E-mail: fitzpatrick@s@em.agr.ca

The deadline for submissions to be included in the next issue (Vol. 29(4)) is **November 1, 1997**

La date limite pour recevoir vos contributions pour le prochain numéro (Vol. 29(4)) est le **1 novembre 1997**

Call for Nominations

Achievement Awards Committee

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

Members of the Society are invited to nominate individuals whom they regard as eligible for these awards (for the year **1998**). Nominations should be sent in an envelope marked "Confidential" to the following address:

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

and should comprise: (1) the name and address of the nominee(s); (2) a statement of relevant achievements; and (3) the name of the nominator and at least one seconder. To be considered by the Achievement Awards Committee, nominations must bear a postmark no later than **December 31 1997**.

The following conditions govern these awards:

1. Outstanding contributions should be judged on the basis of

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

or

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

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

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

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

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

Comité des décorations

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

La Société invite les membres à lui faire parvenir les noms des personnes qu'ils considèrent éligibles à ces deux prix. Veuillez envoyer vos nominations (pour l'année 1998) au:

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

dans une enveloppe portant la mention "Confidentiel". La nomination doit contenir: (1) le nom ainsi que l'adresse du (ou des) candidat(s) désigné(s); (2) un compte rendu des réalisations pertinentes; et (3) le nom du parrain et celui d'au moins une deuxième personne appuyant la mise en nomination. Pour être acceptées par le Comité, les nominations devront porter un sceau postal d'au plus tard le **31 décembre 1997**.

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

1. Les contributions exceptionnelles devraient être jugées dans le contexte

(a) d'un accomplissement hors pair en recherche, soit comme résultat d'une seule contribution ou d'une série d'efforts reliés et ayant abouti à des résultats de grande valeur. Cette recherche aura été réalisé en entomologie ou tout autre domaine connexe.

ou

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

2. Chaque prix ne sera décerné qu'une seule fois par année. Cependant, lorsque les circonstances le justifient, plusieurs personnes peuvent collectivement devenir récipiendaires d'un prix.

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

4. Chaque prix peut être décerné plus d'une fois au même récipiendaire mais pour différentes contributions à l'entomologie au Canada.

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

E.S.C. Bulletin S.E.C.
Student Affairs Committee Update

The Directory of Entomological Education in Canada (le Répertoire des formations en Entomologie au Canada) that the Student Affairs Committee (SAC) compiled has been uploaded onto the ESC home page by Barry Lyons. Barry added some needed internal links to improve navigation within the document and the home page; thanks, Barry. You can find the Directory at: www.biology.ualberta.ca/esc.hp/edu9706.htm. A link to the Directory was kindly added to an internationally-known entomology home page by the people at the University of Colorado (www.colostate.edu/Depts/Entomology/ent.html). We are pursuing other avenues to enable internet surfers to find the Directory with a minimum of effort. An ESC member commented to a member of the SAC that the Directory is missing some schools. This is true. Department/Faculty Heads/Chairs (or prominent people at Colleges) were contacted on at least two occasions and invited to contribute a submission. Schools that did not respond could not be included in the Directory. However, the numerous submissions that we received from participating schools were of excellent quality and should help those schools to attract students, which is the sole purpose of the Directory. When the June 1997 version of the Directory is updated, I will be pleased to accept new submissions.

Some members of the SAC have retired from the Committee and we are seeking people to replace them. As an overview of the SAC, we have two objectives: 1) to advise Student Members, the Governing Board, and the Society on programs of the Society for students, and 2) to advise Student Members and the Society on the training of entomologists and on the future job opportunities for entomologists in Canada. The Committee has met these objectives over the years by publishing Annual Reports and Updates in the Bulletin, conducting employment surveys, coordinating employment workshops at Annual Meetings, collecting and publishing job/study opportunities in the Bulletin, coordinating the First Canadian Linnaean Games and compiling the Directory. The SAC consists of a maximum of four Society Members, including the Chair; however, more than four Members are permitted to be associated with the SAC and contribute to Committee business. The monthly time commitment to the SAC may be between 1 and 5 hours for a minimum term of one year; Committee business is conducted via e-mail. If you think that you would like to become involved in activities of the SAC please contact me for more information.

I plan to attend the 1997 Annual Meeting and while there I hope to meet a number of Student Members at the Student Meet the Board session and throughout the meeting.

If you have an issue that may be of interest to the SAC, contact me at:

Agriculture and Agri-Food Canada, Lethbridge Research Centre, PO Box 3000, Lethbridge, AB, T1J 4B1, Canada; e-mail danyk@em.agr.ca; fax 403-382-3156; phone 403-327-4591, extension 462. The e-mail address of the SAC is: esc-student@sfu.ca.

Troy Danyk
Chair, Student Affairs Committee
Lethbridge, Alberta

POSITIONS AVAILABLE

This section is being discontinued as I am no longer receiving the job opportunities from Troy Danyk. Instead, Troy suggests that interested people look at the Web job banks that cater to science (and some specifically to entomology). The following is a list of some of them that should be of use to many job hunting entomologists:

careers.theglobeandmail.com
colostate.edu/Depts/Entomology/jobs/jobs.html
www.altavista.digital.com/av/content/jobs.htm
www.cedar.univie.ac.at/arch/envjobs-l
www.yahoo.com/Science/Agriculture/Employment
www2.classifieds2000.com/cgi-cls/display.exe

chronicle.merit.edu/.ads/.links.html
recruit.sciencemag.org
www.bdl.fr/Postdoc_Inter.html
www.IPMnet.org/avail.html
www.nature.com

where each address is preceded by "http://".

In addition, there is a Public Service Commission Web Site which advertises positions open to the general public and can be accessed at: <http://www.psc-cfp.gc.ca/recruit>.

NRCan also has a site that advertises positions for both outside of the Public Service as well as those open to employees only at: <http://www.nrcan.gc.ca/css/hrsb/emp/jobprv-e.htm>

For the current postings that are open to employees only, click on Human Resources (you will have to scroll down) on the left side of the screen and then click on Inside Public Service.

Hugh Barclay
Bulletin Editor

IN MEMORY

Lloyd S. Hawboldt
(1916 - 1997)

Lloyd Hawboldt was a forest entomologist, a forest scientist, government bureaucrat and an administrator. He was born in New Glasgow, Nova Scotia on 23 August, 1916 and died in Halifax, Nova Scotia on 10 April, 1997, aged 80.

Lloyd was educated at the Nova Scotia Agricultural College in Truro and at McGill University's MacDonald College, in the 1930s and early 1940s. At the latter institution, he specialized in forest entomology under the tutelage of Melville Duporte and W.H. Brittain. His Masters thesis explored a parasite (*Bessa selecta*) of the spruce sawfly. While studying, Lloyd also worked for the Nova Scotia Department of Agriculture and the Eastern Section of the Canadian Forest Insect Survey. He was here exposed to the research of A.D. Pickett, world-renown for his research on biological insect controls in fruit orchards in Nova Scotia. It was through this background that he learned to embrace an ecological perspective to natural resource management, developing a particular interest in the use of biological insect controls in forest management. Throughout his career he remained faithful to ecological principles in his forest research and forest management practices. This contrasted with the rapid growth of "ecosystems manipulation", and the use of chemical insect controls, in the post-war period.



His career with the Nova Scotia Department of Lands and Forests ran from 1944 to 1976, and was marked by some remarkable achievements. As a result of his unconventional views, however, these achievements were poorly recognized and appreciated, and their insights rarely applied.

In the late 1940s, Lloyd headed a research team in Nova Scotia which advanced the understanding of the causes of the birch dieback. This disease inflicted serious damage on the hardwood forests of eastern North America in the 1940s. Their original findings drew visits from prominent American scientists, and resulted in many scholarly publications as well as an invitation from the Director of the Harvard Forest to write a monograph on hardwoods. (Hawboldt had to decline because his research material had been destroyed in a fire).

In Canada, by contrast, his achievements were less appreciated. The growing commercial emphasis put on the growth of softwood species for pulplogs detracted from the problems of hardwoods. This, together with professional rivalries with the Canadian Forest Service in Fredericton, resulted in the closing of Hawboldt's research unit.

In the 1950s, Lloyd collaborated with an immigrant Russian forester, Simon Kostjukovits, in designing a forest inventory technique based on European methods in Nova Scotia. Considered outrageous at the time because of the perceived differences in forests on the two continents, Hawboldt and Kostjukovits persisted nevertheless, and their methods eventually proved highly superior to the conventional ways. Besides taking stock of Nova Scotia forest resources, the resulting inventory report also offered a plan for restoring a badly degraded forest, and building a balanced forest industry based on both sawmilling and pulp and paper production. However, this strategy was overlooked in the province's aggressive search for pulp and paper industry investment in the late 1950s and early 1960s. The scientific basis of the inventory was sound however, and its methods were later refined by others who received considerable professional recognition for their efforts.

Throughout his career, Lloyd was an ardent supporter of silvicultural methods in controlling the spruce budworm, an insect which caused massive defoliation of softwood trees on a periodic basis. In the 1950s and 1960s, he recommended the cutting of older stands of balsam fir and white spruce stands in exposed areas of eastern Nova Scotia to lower the risk and extent of budworm attacks. When the budworm attacks finally hit these stands on an unprecedented scale in the 1970s, Hawboldt still stood firm. As the principal assistant to the Deputy Minister of Lands and Forests, he opposed proposals backed by the powerful pulp and paper industry lobby and provincial politicians, calling for the chemical spraying of massive forest acreages. This cost him a massive heart attack and led to an early retirement in 1976.

Lloyd lent his last services to the Nova Scotia forest community in the late 1970s, when he wrote *The Trees Around Us*, a forest manual based on ecological principles which offered planning and operational tools for the ordinary woodlot owner. Though the manual received much praise, it was thoroughly criticized by the pulp and paper companies and ignored by the provincial Department of Lands and Forests.

Environmentalists drew support from Lloyd during the budworm battles in the 1970s. But he also had his quiet admirers in the forest industry. One woodlands manager of a large transnational corporation in Nova Scotia once wrote him a personal note stating that: "I find it ironic that the best forester in Nova Scotia is not a forester." This should be considered a compliment of the highest order, coming from a member of what was then a tight-knit and proud professional fraternity. Lloyd himself repeatedly said that his career in forestry was enhanced by the fact that he was not a forester but an entomologist. This, he felt, brought a different perspective to forest management, and a capacity for exploring different management alternatives.

Lloyd lived the last twenty years of his life in relative obscurity. He needed to nurse his wounds and to forget his past battles. Always gracious to his detractors, he was a gentle man with strong principles. The current questioning and challenges of our ability to control and conquer Nature provides powerful support to his convictions.

L. Anders Sandberg, York University
Peter Clancy, St. Francis Xavier University.

NEWS OF ORGANIZATIONS

Biological Survey of Canada (Terrestrial Arthropods) Survey Report of meeting on 17-18 April 1997

Scientific projects

1. Arthropods of the Yukon

Dr. L.M. Dosdall reported on the initiatives undertaken to raise funds for the Insects of the Yukon book. Useful funding had been received and other possible donations were pending. Dr. H.V. Danks reported that all manuscripts are essentially in final form after earlier and later rounds of review, and funding to produce the book through the Biological Survey Foundation is available. Much of the book is now in press and it should appear in 1997.

2. Arthropods of Canadian grasslands

Dr. A.T. Finnamore reported that the grassland project is progressing well, including substantial collections from an ongoing study in Grasslands National Park (much of the material now sorted), a potential study in a bamboo forest in Peru in partnership with the Smithsonian Institution, and other work.

3. Arctic Invertebrate Biology

Dr. R.A. Ring reported that Arctic Insect News continues to be published and recognized internationally. In Canada, Dr. Olga Kukal and Dr. Richard Ring are the only Canadian entomologists active in the arctic. A new Danish station is being opened in Zackenberg, in northeastern Greenland, where some insect studies will take place.

Other scientific priorities

1. Arthropod fauna of soils

Dr. V.M. Behan-Pelletier reported that a U.K./U.S. collaborative project on soil biodiversity and ecosystem function, involving both systematists and ecologists, has led to substantial funding for the U.K. participants. Similar work has been funded in Australia and elsewhere. A U.S. National Science Foundation proposal is pending. A recent Scientific Committee on Problems of the Environment (SCOPE) workshop held in Holland brought together systematists and ecologists representing almost all of the groups that occur in soils, freshwater and marine sediments. A series of articles from the workshop will be published in *Ambio*. Dr. Behan-Pelletier reported that she and a colleague will develop a database to record information on ecological research projects: the first module will be a soil ecology research network, a web-based initiative to record ongoing research projects throughout the world.

2. Arthropods of old-growth forests

A table of forest arthropod inventory projects in Canada was published in the Biological Survey Newsletter, though information about disposition of residues (most are being discarded)

and budgets (most funds are for studying carabid beetles) was not included in the Newsletter version. Other continuing forest studies in British Columbia and Newfoundland were noted.

3. Invasions and reductions in the Canadian insect fauna

Dr. Marshall provided a detailed example of the kind of results a project based on regional collections could yield, using cerambycid beetles. The subcommittee agreed to try to develop a product such as a workshop or publication on invasions and reductions.

4. Survey funding

The Committee considered how additional resources both for expanding to other modules and for the terrestrial arthropod module itself might be secured, given the reduced appropriations available to the CMN. Although the Committee concluded that the core public good work of the Survey is a federal infrastructure responsibility, a subcommittee will look at the feasibility of ideas to generate additional revenue. The Committee noted that the Survey benefits from a great deal of donated expertise, and moreover, in addition to the cooperating individuals, the Survey and the CMN are recognized for the Survey's work.

5. Survey publicity

Dr. J.D. Shorthouse proposed that publicity avenues be developed for the Survey, such as a display for use at conferences, a slide presentation, background information to support talks related to the Survey, and contacts with the press. He agreed to develop these ideas further.

6. Continuing interests

The Committee reviewed a large number of completed or inactive projects that have reached a staging point (and so are no longer fully active) but that remain of interest to the Survey. Among many other matters noted were forthcoming publications and recent losses in biosystematics expertise.

7. Other priorities

The Committee reviewed updated information about other priorities such as faunal analysis, support for the EMAN proposals concerning the Canadian Biodiversity Strategy, infrastructure support for collections, endangered species, arthropods of damaged ecosystems, the availability of collecting-locality information, and the value of insects for wildlife management.

Secretariat activities

During the 1996 round of visits on behalf of the Survey to entomological centres in Canada, Dr. H.V. Danks learned about a variety of work in progress, and discussed the Survey and its projects informally with many entomologists and other biologists. Various lectures or seminars on the Survey and on aspects of the insect fauna were presented.

Liaison and exchange of information with other organizations

1. Canadian Museum of Nature

Dr. P. Colgan, Executive Vice-President, announced the appointment of a new President at the Canadian Museum of Nature. Ms. Joanne DiCosimo, who is currently the Director of the Manitoba Museum, will assume the position as of July 1. She has a strong background in education, is a supporter of science and has a strong track record in fundraising. The move to consolidate all of the CMN scientific and administrative staff and the collections has now been completed. The new building is officially named the Canadian Museum of Nature Natural Heritage Building / l'Édifice du Patrimoine naturel du MCN. Appropriations for all federal museums continue to decrease and in the CMN's case there has not been a compensatory increase in non-appro-

priation revenues. In the research area the three main research projects have been developing. A database of systematists will soon be posted on the Museum's web site (<http://www.nature.ca>). In the collections area, the main activity for the staff has been the move of the collections including upgrading the standard of care of the collections and making those collections again accessible to users. The Museum will again offer a summer school on biodiversity and systematics in conjunction with Queen's University.

In response to questions about voucher specimens, Dr. Colgan noted that details of the Museum's collection policy, how the collections are being developed, and information about access, are available. He explained that while the CMN may not necessarily be a home for all material, the national museum has a responsibility to ensure that nationally important material is being preserved in an appropriate location.

2. Biological Resources Program, ECORC, Agriculture and Agri-Food Canada

Dr. J.S. McKenzie, Program Manager, reported that the program name has been changed from Crop Protection Program to Biological Resources Program, reflecting the services provided to the agriculture community. Dr. J. Surprenant is now the Deputy Director of Research. Sadly, Dr. J.R. Barron, Agriculture's ichneumonid specialist, recently passed away suddenly. Plans to fill Dr. Barron's position are uncertain. Dr. H. Goulet will be taking over the braconid area, vacated by Dr. Sharkey. A major review of the entomology program is ongoing, emphasizing the systematic study of groups important to agriculture and appropriate systematic methods. Collaboration internally and externally is a major focus within the department. Dr. McKenzie noted that priorities in Agriculture and Agri-Food Canada are established through agricultural clients and he believes that those clients have to be helped to appreciate the value and importance of systematics. Members of the Committee pointed out the critical need, despite current requirements for cooperative "client-driven" projects, to have taxonomists describing Canada's fauna, interpreting biodiversity patterns and continuing to develop their expertise in recognizing species and their classification. Dr. McKenzie expressed his agreement with these sentiments, but pointed out the reality that someone has to pay the bills. Government wants the economy driven by science and technology. The Committee supposed that public issues such as the United Nations position on the demise of animal-plant diversity, global warming, the work of EMAN, etc., would be one of the major driving factors for illustrating the importance of the Biological Resources Program. Dr. McKenzie pointed out that biodiversity is a public good research area where the Department of Environment has some responsibility, Agriculture and Agri-Food has some responsibility, and capability has to be matched with funding.

3. Entomological Society of Canada

Dr. Marshall, President of the Entomological Society, reported that the Society is in the process of implementing the recommendations from its strategic review. One of the most important recommendations was a change in publication procedures to save a substantial amount of money; a final decision on those matters will soon be made. He also reported on forthcoming Annual Meetings.

4. Canadian Forest Service

Dr. J. Huber reported that two CFS entomologist positions in systematics in regional laboratories will be staffed this year by biologists at Ste.-Foy, Québec and at Edmonton, Alberta. Recently a Forest Service position paper on biosystematics was produced, which urged the revitalization of biosystematics. Dr. Huber reported difficulties in securing post-doctoral support even for a project important to the forestry industry. Dr. Ian Smith added that this example reflects widespread difficulties caused by the fact that no agency in Canada speaks for biodiversity and can take the biodiversity agenda to a client base and lobby effectively to get things done. Working through sectoral and often inappropriate channels leads to frustrations and few results. The idea

of a consortium that does not have to compete for funding with totally different kinds of scientific activities was discussed.

5. Geological Survey of Canada

Ms. A. Telka, Terrain Sciences Division, noted that Dr. J.V. Matthews has retired but remains active. The Geological Survey recently initiated an industrial partners program in which funds for research are matched to industry funds. Taking advantage of this program requires that scientists become good at market analysis and media publicity, which of course increases the demand on scientists' time. In addition, not all scientists are personally suited for these responsibilities. She hoped that the work of doing real science will not suffer because of such pressures. Ms. Telka announced that a GSC internal publication on multidisciplinary climate change research at the High Arctic Global Change Observatory of the Geological Survey (Hot Weather Creek, Fosheim Peninsula) is due out this year. Dr. Bob Vance has joined the GSC as permanent staff member working on plant macrofossils.

6. Ecological Monitoring and Assessment Network, Environment Canada

Dr. P. Roberts-Pichette, formerly Senior Scientific Advisor, EMAN, currently Executive Secretary, Canada/MAB, reported that a paper discussing EMAN's contribution to the implementation of the Canadian Biodiversity Strategy has been completed, and endorsed by the Biodiversity Convention Office and the Canadian Museum of Nature. Attempts are being made to raise this issue into a memorandum of understanding among the major federal resource departments in Canada. The EMAN Biodiversity Board had its first meeting at the end of October 1996. The next national EMAN meeting will be held in January 1998 and will focus on the boreal shield. Plans are under way to implement species assessments for each ecozone systematically. The summary for the Mixed-Wood Plains species assessment is currently being printed. The next species assessment will be the Montane Cordillera.

Several other issues were discussed, related to Geographic Information Systems and mapping, ecological framework maps, databases, EMAN sites, EMAN objectives, the Biodiversity Convention Office and Canadian biodiversity and IUCN – the World Conservation Union. Further information is available on the EMAN web site [<http://www.cciw.ca/eman/intro.html>].

7. Canadian Society of Zoologists - Parasitology

Dr. D. Marcogliese, Parasitology Section, Canadian Society of Zoologists reported on the perch project, the parasitologists directory, the parasitology survey of taxonomic expertise, and a new national stickleback parasitology project. Further information on many of these items is available at <http://www.biology.ualberta.ca/parasites/home.html>. The Survey of expertise had revealed that there are few broad-based experts in Canada (and most of them are retired or close to retiring), remaining expertise is concentrated on smaller groups of taxa, very little training in parasite systematics is available in Canada, there are gaps of expertise in all groups, and although there is high interest in participation in large-scale national projects there are few ideas for projects or people willing to actually lead the projects.

Other items

1. Regional developments

Information from different regions of the country, including projects at various places, was summarized. For example, in British Columbia the Forest Renewal British Columbia (FRBC) inventory program has been suspended, and the status of other grants is also currently uncertain. The Royal British Columbia Museum, through other government agencies, has proposed a voucher collection protocol for government inventory or research. Several initiatives about work in grasslands and on data management continue in the prairies. A letter was sent on behalf of the Survey to support the preservation of the Criddle homestead in Manitoba; the sale of the site had now been stopped. In Ontario, the new chair of the Department of Environmental Biology at the

University of Guelph is the entomologist Dr. Mark Sears. In the absence of the Committee's regional representative from Quebec, little information was reported from the province. In Newfoundland, hindrances to the establishment of national parks or the preservation of natural habitats of great interest are of concern. A collaborative effort to ensure the future of the various Newfoundland collections is being developed.

2. Other matters

The Survey also considered the Biological Survey Foundation (the Annual General Meeting of Foundation members took place), the Survey's annual report to the Canadian Museum of Nature, Survey Internet connections, and other topics.

H.V. Danks
Ottawa, Ontario

International Commission on Zoological Nomenclature

Applications published in the *Bulletin of Zoological Nomenclature*

The following Applications were published on 30 June 1997 in Vol. 54, Part 2 of the *Bulletin of Zoological Nomenclature*. Copies of these can be obtained free of charge from the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K.

Case 2986 *Dasineura* Rondani, 1840 (Insecta, Diptera): proposed designation of *Tipula sisymbrii* Schrank, 1803 as the type species

Raymond J. Gagné, Systematic Entomology Laboratory, Plant Species Institute, ARS, USDA, c/o U.S. National Museum NHB-168, Washington, D.C. 20560, U.S.A.

Keith M. Harris, International Institute of Entomology, 56 Queen's Gate, London SW7 5JR, U.K.

Marcela Skuhrová, Bitovska 1227, CZ-140 00 Praha 4, Czech Republic

Mario Solinas, Instituto di Entomologia Agraria, Università degli Studi di Perugia, Borgo XX Giugno, 06121 Perugia, Italy

Edvard Sylén, Swedish Museum of Natural History, Section for Entomology, S-104 05 Stockholm, Sweden

Abstract. The purpose of this application is to conserve the economically important gall midge genus *Dasineura* Rondani, 1840 in the generally understood concept by designation of *Tipula sisymbrii* Schrank, 1803 as its type species. Rondani (1856; designated one of the two originally included species, *D. obscura* Rondani, 1840, as type species, but his description of both the genus and the two species was so general as to make them unrecognizable. He subsequently (1860) designated *Tipula sisymbrii* as type species and it is proposed that this designation be validated.

Keywords. Nomenclature; taxonomy; Diptera; CECIDOMYIIDAE; gall midges; agricultural pests; *Dasineura*; *Dasineura sisymbrii*.

Opinions published in the *Bulletin of Zoological Nomenclature*

The following Opinions were published on 30 June 1997 in Vol. 54, Part 2 of the *Bulletin of Zoological Nomenclature*.

OPINION 1870. *Sicus* Scopoli, 1763 and *Myopa* Fabricius, 1775 (Insecta, Diptera): conserved by the designation of *Conops ferrugineus* Linnaeus, 1761 and *C. buccatus* Linnaeus, 1758 as the respective type species; and *Coenomyia* Latreille, 1796 placed on the Official List.

NEW SCIENTIFIC EDITOR

Jean Turgeon, of Sault Ste Marie, has agreed to become the new Scientific Editor of the Entomological Society of Canada. He will be taking over the position as of January 1, 1998. I extend to Jean a hearty welcome to what sometimes seems a thankless task, but one which I have found to be highly rewarding.

Peter Kevan
Scientific Editor

PUBLICATIONS

Book Reviews

Schaefer, C. W. (Editor). 1996. *Studies on Hemipteran Phylogeny*. Thomas Say Publications in Entomology. Entomological Society of America, Lanham, MD. iii + 244 pages. ISBN 0-938522-54-X (soft cover). Order from Entomological Society of America Sales, 9301 Annapolis Rd., Lanham, MD 20706-3115. ESA members, \$13.50 (U.S.); non-members, \$22.00 (U.S.). Add \$2.50 (U.S.) (\$3.50, foreign) per volume for postage and shipping.

This work was initially conceived as a symposium volume, based on presentations given at the Eighteenth International Congress of Entomology, held in Vancouver (1988). The contributions have since been expanded and the result is a collection of twelve chapters by an international group of authors with extensive experience in the study of hemipteran phylogenies.

The introductory chapter by C. Schaefer (United States) provides a summary and synthesis of the other eleven chapters. He also discusses the impact of recently published molecular analyses on concepts of hemipteran phylogeny. Yu. A. Popov and D. E. Shcherbakov (Russia) provide an analysis of the origins and evolution of the Coleorrhyncha, based on fossils. D. E. Shcherbakov also discusses the origin and evolution of the Auchenorrhyncha based on the fossil record. H. D. Blocker (United States) presents a synthesis of past and present ideas on the origin and radiation of the Auchenorrhyncha. J. Koteja (Poland) provides a phylogenetic tree for the coccids and discusses the evolution of this group based on an exhaustive list of 130 morphological, developmental, genetic and ecological characters. K. G. A. Hamilton (Canada) provides an analysis of Cretaceous Homoptera from Brazil along with a discussion of the implications of these data for homopteran classification. P. Stys (Czech Republic) discusses some groundplan characters of the Heteroptera, particularly male genitalia. M Sweet (United States) discusses the comparative external abdominal morphology of the Hemiptera. D. B. Thomas (United States) discusses the role of endoploidy in the evolution of the Heteroptera and suggests areas where cytotaxonomy could be linked to phylogenetic studies. R. J. Wootton (United Kingdom) provides an overview of functional wing morphology and the implications of using these characters in systematic studies of the Hemiptera. J. Aldrich (U.S.) extensively reviews the sex pheromones in the Hemiptera and provides an exhaustive reference list of volatile secretory chemicals in the Hemiptera. H. Mori (Japan) proposes the use of embryonic structures and specifically the characteristics of the ventral nerve masses in the phylogenetic analysis of the Heteroptera.

This work will be of use to entomologists with an interest in the phylogeny of the Hemiptera. The book is well illustrated with numerous figures of phylogenetic characters and

diagrams of phylogenetic relationships. The chapters are extensively referenced. It provides new information on phylogenetic character systems and provides an up-to-date view of the higher classification of the Hemiptera. This work would have broader appeal if it had a subject index. Many terms are used in the text but are not explained. These factors somewhat narrow the potential readership.

R. Footitt, Biological Resources Program
Eastern Cereal and Oilseed Research Centre
Agriculture and Agri-Food Canada, Ottawa

Lehner, Philip N. 1996. *Handbook of Ethological Methods -- 2nd Edition*. Cambridge University Press, New York, New York. xix + 672 pp. Hard cover, \$ 69.95 (US).

The field of ethology has blossomed in the last twenty years, and while the underlying principles have remained the same, new techniques and technologies have evolved with which to study animal behaviour. Philip Lehner has updated his (1979) '*Handbook of Ethological Methods*' with a newly revised version. This second edition is organized into 3 main sections: (1) Getting started (conceptual models of animal behaviour, choosing subjects, observation techniques, and research design), (2) Collecting the data (sampling methods and data-collection equipment), and (3) Analyzing the results (statistical analyses, behaviour sequences, multivariate analyses, circular and spatial pattern analyses, and interpretation and presentation of the results). Appendices of statistical tables, the use of computers in ethology, ethics, and guidelines for the use of animals in research are also included.

The first section is essential reading for any student new to the field of ethology. Topics that are often considered mundane reading by introductory students, are presented in a nicely organized, interesting, and highly informative manner. Of particular interest are the quotes and anecdotes from prominent ethologists such as Tinbergen, Dethier, von Frisch, and Allee. These make interesting reading and show us not only how far we have come in studying behaviour, but also how the fundamentals of good observational skills and a keen interest in animal behaviour remain the same.

Data collection methods are presented in a straightforward manner. Topics range from using pen and paper, to global positioning system (GPS). Discussions on such topics as clocks, counters, and stopwatches may be tedious for experienced researchers, but these parts are written succinctly and are valuable to students new to the area. An extremely useful part of this chapter is a comparison of behavioural data collection software. Researchers wanting to study a new system or use a different procedure to study the same system will find this section useful as a reference guide, as an abundance of references detailing specific research methods are included.

The statistics section is perhaps the most disappointing section of the book. In its favour is the inclusion of statistical techniques such as Markov chain analysis that are often overlooked in other books. However, a mere 10 pages are devoted to parametric statistics, whereas 48 pages are devoted to non-parametric statistics. As behavioural data can, in many cases, be transformed to meet the assumptions of parametric statistical tests, this section should have been vastly expanded. Novice researchers with limited statistical knowledge will undoubtedly still require a good statistical textbook, as examples of how to perform the actual tests are sometimes difficult to follow. I would also have liked to see more emphasis placed on interpretation and presentation of the results.

Overall, this book would be a good investment for students just beginning to study animal behaviour, as it introduces principles fundamental to ethology. It follows a logical progression

from formulating a question to interpreting the results. For experienced researchers, however, it is of questionable value. It would serve as a useful reference book of new techniques, but I feel that experienced researchers would rarely access most of the information contained in the first two sections of the book.

Edward B. Mondor, Behavioural Ecology Research Group
Department of Biological Sciences, Simon Fraser University
Burnaby, British Columbia

Ryan, Lisa Gail . 1996. *Insect Musicians & Cricket Champions. A Cultural History of Singing Insects in China and Japan*. China Books & Periodicals, Inc. San Francisco. 88 pp. (available from the publisher, at <http://www.chinabooks.com>, and via mail-order: Archibald & Seymour, 1630 North Main Street #424, Walnut Creek, CA 94696) \$19.95.

In our modern world, the electronic chirps and trills of digital watches, pagers and cellular phones signal, in some ways, the wealth and importance of the individuals from whom the sounds emanate. Lisa Gail Ryan's book, *Insect Musicians & Cricket Champions. A Cultural History of Singing Insects in China and Japan* gives readers a window into a time and culture where the tone and volume of chirps and trills from crickets in cages concealed in clothing signalled not only the wealth and importance of the individual, but the amount of leisure time the person had to devote to this fascinating pastime. Although the book is not a work of entomological science as such, it provides some fascinating insights into the interface between insects and culture. The history and origins of cricket keeping and cricket fighting, the role of these in the cultures of China and Japan, the art and artisans of cricket keeping, and the science of cricket keeping are treated within the 88 pages of this volume.

The book itself is composed of four parts, skilfully interwoven by the author. The majority of the text derives from two essays. The first, ***Insect Musicians and Cricket Champions of China*** by Berthold Laufer (1927), curator of Anthropology at the Field Museum of Natural History, was written to introduce a display of cricket cages and cricket paraphernalia at the museum from a collecting trip made by Laufer to China. The second essay, ***Insect Musicians*** by Lafcadio Hearn (1898) is from his book, *Exotics and Retrospectives* (1898, Little, Brown and Company). Hearn was an Greek-born expatriate in Japan, and a professor at the University of Tokyo. The book is completed editorial and marginal notes by Ryan that update and add to the information in the essays, and by beautiful and intriguing photographs and illustrations of cricket cages, song boxes, cricket keeping equipment and cricket art. A quick check of the World-wide-web reveals that books by the authors of both essays are sought-after commodities in the rare-book world, and that Lafcadio Hearn in particular, was a well respected interpreter of oriental culture.

The historical essays, combined with Ryan's up-to-date margin and editorial notes, give a detailed account of the biology, ecology and keeping of crickets. Cricket culture, cricket literature, cricket art and cricket fighting complete the subjects treated. The book contains a tremendous amount of information that directly or indirectly illustrates the role of crickets in the cultures of China and Japan. We learn that cricket keeping as a pastime started in China during the Táng dynasty (A.D. 618-906) and continues to this day in Japan. Cricket keeping has been discouraged in China under the present regime (and one presumes that to be officially discouraged, a pastime must play a significant role in a culture!). The oriental literature surrounding crickets is introduced, and some fascinating stories are told. A story about a small boy who accidentally killed his father's prize fighting cricket, and then inhabited the body of a cricket to atone for his misdeed illustrates the importance of cricket keeping in the culture of Ming dynasty. A now extinct class of artisans specialized in growing and shaping the gourds used to construct cages for some species. The appendices give quite a bit of useful information, such as translations of common names and species names of crickets, and suppliers of cricket keeping equipment. The

Entomological Society of Canada is listed under associations. I can't vouch for the accuracy of the scientific names, although a search of the world-wide-web revealed an almost identical list of cricket species in an article in Cultural Entomology Digest (Jin, Xing-Bao, 1994. Chinese cricket culture: An introduction to cultural entomology in China. Cultural Entomology Digest 3:9-15; also: http://www.insects.org/ced3/chinese_crcul.html).

Although this is not a work of entomological science as such, *'Insect Musicians & Cricket Champions. A Cultural History of Singing Insects in China and Japan'* provides some fascinating insights into the interface between insects and culture. Professional and amateur entomologists alike will find it enjoyable and informative reading. This book would make an excellent gift to a colleague or student, and definitely deserves a place on the supplementary reading list of any introductory entomology course.

Dave Gillespie
Agassiz, B.C.

New Titles

Information on the following new titles has been received by the Entomological Society of Canada. For more details, please e-mail or phone S. Fitzpatrick :

fitzpatrick@em.agr.ca or 604-796-2221 x 208.

1) 'A Colour Handbook of Beneficial Insects in Crop Protection'; 'Advances in Insect Control -- the Role of Transgenic Plants'; 'Techniques for Reducing Pesticide Use -- Economic and Environmental Benefits'. All from Intercept Press, UK.

2) Chapman and Hall's Catalogue 'Essential Entomology 1997' contains 14 new titles on pheromones, parasitoids, insect-plant biology, molecular biology, biodiversity, species, canopy arthropods, forest entomology, arthropod relationships, genetics and adaptation, insect disease vectors, veterinary entomology and insect conservation.

3) 'Methods in Ecological and Agricultural Entomology', from CAB International. Copy available for review.

4) 'Evolutionary Ecology across Three Trophic Levels', from Princeton University Press.

(5) Leather, Walters and Bale. 1996. 'The Ecology of Insect Overwintering'. Cambridge University Press, 40 West 20th Street, New York, NY 10011-4211; Hardback 0-521-41758-9 \$89.95 U.S.; New Paperback Edition 0-521-55670-8 \$29.95 U.S. The hardcover edition was reviewed by Hugh Danks in the Bulletin of the Entomological Society of Canada, Volume 26, June 1994, page 88.

SCHOLARSHIPS

Smithsonian Research Fellowships in History, Art and Science

Awarded to support independent research in residence at the Smithsonian for Senior, Predoctoral and Postdoctoral work of three to twelve months.

Biological Sciences: Animal behaviour, pathology, ecology, environmental studies, evolutionary biology, systematics and tropical biology. For more information, write to: Smithsonian Institution, Office of Fellowships and Grants, 955 L'Enfant Plaza, Suite 7000, MRC 902, Washington, D.C., 20560, USA. E-mail: siofg@ofg.si.edu

E.S.C. Bulletin S.E.C.
Entomological Society of Canada Graduate Research-Travel Grants
Invitation for Applications

Preamble

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

Eligibility

To be eligible, a student must:

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

Format of the Application Form

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

The application form should also be accompanied by: 1) an up-to-date C.V.; 2) a supporting letter from the senior advisor; 3) When appropriate, a support letter from the scientist or Department Head at the institution where the applicant wishes to go.

Evaluation Procedure

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

Timetable and Application Procedure

Application forms, which may be obtained from the Secretary of the Society, must be completed and returned to the Secretary of the Society by **15 January 1998**. The committee will evaluate all applications by 30 April 1998 and determine if, and to whom, grants will be awarded. The successful applicants will be informed immediately, thereby providing sufficient time for students wishing to start in the fall to make necessary arrangements. Grants must be used in the 12 months following the award.

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

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

Préambule

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

Éligibilité

Afin d'être éligible, l'étudiant doit:

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

Format du Formulaire de Demande

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

Le demande devra aussi être accompagnée: 1) d'un C.V. complet mis-à-jour; 2) d'une lettre de recommandation du directeur de thèse; et 3) lorsque convenable, une lettre d'appui d'un administrateur de l'institution que le candidat désire fréquenter.

Évaluation

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

Échéances et Procédures

Les formulaires de demande, qui peuvent être obtenus du Secrétaire de la Société, doivent être remplis et retournés pour le **15 janvier 1998** au Secrétaire de la Société. Le comité évaluera toutes les demandes pour le 30 avril 1998 et déterminera si, et à qui, les bourses seront décernées. Les candidats choisis seront contactés immédiatement, cela afin d'allouer suffisamment de temps pour les préparatifs nécessaires à un départ possible à l'automne. La bourse doit être utilisée dans les 12 mois suivant l'octroi.

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

NET, SHOVEL AND AXE

Honeybees on the Loose

"Jack Dickson is delivering the honeybees tomorrow morning," announced Jason as he met with his assistant Harvey, in the hotel in Nipawin, Saskatchewan. The two men were having their supper on this spring evening in the hotel dining room. "Dickson said he will bring two men to help him unload the bees, but he will also need us to give him a hand. The four of us should be able to unload all the bees in short order without any undue disturbance to the insects. So hit the hay early tonight; Dickson is arriving with the bees at four a.m."

At four the next morning the two entomologists were ready and waiting at the edge of a 40-acre field of alfalfa. The owner had contracted with the beekeeper to have 20 hives of bees placed in the field. This would allow the bees more ready access to a source of food and nectar, and so produce more honey. The insects would pollinate more blossoms in their search for the nectar and so produce more seed for the farmer. Both would benefit from the arrangement. The entomologists were there to assess the results.

"Here comes Dickson now," said Jason as he finished 'suited up' in coveralls, bee-hat and veil, and gloves. Harvey was equally attired. Although the temperature was still quite low this early in the morning, and the bees would be relatively inactive, they were taking no chances of being stung by the often unpredictable creatures.

The large, flatbed truck, loaded with 20 hives of bees, each with extra 'supers' - those extra boxes that contained the frames on which the honey would be stored by the bees, and which were placed on top of the regular hive as a 'superstructure' - rolled to a stop in the field.

"Here's what I want you boys to do," said Dickson. "My boys will unload from one side of the truck and you two, from the other. You will unload a hive every 50 paces as I drive through the field. Take a hive off the truck, carry it about 20 paces away from our line of travel and set it down in the alfalfa. If you do this on alternate sides of the truck then we will have a staggered row of hives in the field, each about a hundred yards apart. If you don't jar the hives too much, you won't have any trouble. I see that you boys are suited up and all set to go, so let's be off."

Dickson started the truck and began to move down the field. The men removed the hives as instructed and soon several hives, with their supers, dotted the field.

"So far, so good," mused Jason. "The bees must still be asleep for I haven't seen many of them outside the hives. Those that are visible are sluggish at this temperature. We should be able to get all in place in this field before sun-up."

With these thoughts in mind he, together with Harvey, lifted a hive from the truck and began to carry it away from the truck. Harvey's foot caught a large clod of earth and he stumbled. The hive went sailing out of his hands only to land with a resounding thump on the hard earth. The super went flying and also crashed to the ground, scattering the frames and releasing vast streams of recumbent bees into the dense alfalfa foliage.

The sight of so many bees, each one now beginning to buzz angrily and taking to wing, sent shivers of fear through the young entomologist. His instincts told him to get out of reach of the stinging insects and flight became the order of the moment. He raced away from the accident scene, leaping over the plants as he clumsily scrambled to safety, encumbered by the coveralls, and the veiling.

He stopped short. "Why am I running?" he thought. "I am wearing good protective clothing, so why am I in full flight away from the bees?" He sheepishly returned to the dropped hive and helped Jason rebuild the super and the hive. The bees were awake and buzzing but they had not yet reached a fighting mood. The hive was quickly reassembled and the further unloading of the hives from the truck continued without mishap.

"You should have seen Harvey this morning," said Dickson to the hotel proprietor as they sat and enjoyed a cup of coffee in the hotel after their bee adventure that morning. "He was the true personification of Ichabod Crane as he fled across the field from the hive he dropped. I thought he was going to take off and fly right into the next municipality, judging by the veil that streamed out behind him like a sail."

Harvey sat silently and sipped his coffee as he endured the friendly jibes. He laughed inwardly as he recalled the morning's events. "Instincts can override common sense when you least expect it," he mused.

Contributed by Paul Rieght

MISCELLANEOUS

The Music of the Firs

No, this is not 'Wind in the Willows' or the Aeolian sounds of a breeze sweeping through the branches of a giant fir tree, but it does have a sylvan connection. This is 'Snotty Var' (an unlikely name to a Westerner), a group of musicians who play Celtic music from Ireland and Newfoundland. The group originally consisted of four CFS scientists living in St. Johns and, guess what, two of them are entomologists - Rick West and Allan Carroll, although Allan has seen the light and has come west to the Pacific Forestry Centre in Lotus-land. The name Snotty Var is Newfoundlansese for a Balsam fir tree with pitch solidified on the trunk, and only sounds strange if you come from 'away'. The group has made its first CD and it has been rated by the Newfoundland newspaper 'The Express' as "...one of the best recordings of traditional music in recent memory." We at PFC have been lucky enough to inherit two of the group's musicians, Allan Carroll and Brian Titus, and they have already added to the ambience in lighter moments here. Does this just go to show that entomologists are more versatile than mere mortals? Perhaps not, but it is always nice to see people who are very good in more than one field.

Hugh Barclay
Bulletin Editor

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

393 Winston Ave., Ottawa, Ontario K2A 1Y8

**Application for membership - (new members only)
Demande d'adhésion (nouveaux membres seulement)**

Name and Address (please print):
Nom et Adresse (lettres moulées):

telephone (bus.) / téléphone (au travail):

Fax:

Electronic mail address / Adresse électronique:

Keywords describing interest (up to six):
Décrivez vos intérêts en utilisant jusqu'à
six mots clés.

Membership is a personal affiliation; publications are the personal property of the individual member.

Cotisation est une affiliation personnelle; publications payées ici appartient à l'individu

MEMBERSHIP DUES / COTISATION

Regular member / Cotisation regulier with/avec...Cdn \$80.00 + \$5.60 GST (Can)\$.....
The Canadian Entomologist & Bulletin US\$74 (\$100 Cdn) (U.S.A. & Int'l)

or/ou with Memoirs/avec Mémoires, The CanadianCdn 100.00 + \$7.00 GST (Can)\$.....
Entomologist & Bulletin US\$90 (\$120 Cdn) (U.S.A. & Int'l)

Student member / Cotisation étudiant with/avec...Cdn \$20.00 + \$1.40 GST (Can)\$.....
The Bulletin US\$18 (\$25 Cdn) (U.S.A. & Int'l)

or with/ou avec The Canadian Entomologist & Bulletin...Cdn \$40.00 + \$2.80 GST (Can)\$.....
US\$36 (\$45 Cdn) (U.S.A. & Int'l)

(ask your professor to endorse this form/demande l'appui de votre professeur)

Endorsement/Signature du professeur

Enclose cheque or money order (or use Mastercard or VISA) payable to : Entomological Society of Canada

Inclure un chèque ou mandat (ou utilisez Mastercard ou VISA) payable à: Société d'Entomologie du Canada

If you need an official receipt, please check:

Si vous désirez un reçu officiel, indiquez, s'il vous plaît:

Please copy and distribute to interested non-members. Thankyou.

ENTOMOLOGICAL SOCIETY OF CANADA - 1997 LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA - 1997

Executive Council - Conseil Exécutif

President/Président

S.A. Marshall,
Dept. Environmental Biology,
University of Guelph,
Guelph
Ontario N1G 2W1
Tel. 519-824-4120, extn. 2720
Fax. 519-837-0442
Email: smarshall@evbhort.uoguelph.ca

Second Vice-President/Second Vice-Président

Linda Gilkeson
Pesticide Management Section
B.C. Environment
777 Broughton St.
Victoria, B.C.
V8V 1X4
Tel. 250-387-9410
Fax 250-387-8897
E-mail lgilkeson@epdiv1.env.gov.bc.ca

Trustees - Fiduciaires

Treasurer/Trésorier:

Gary Gibson,
Entomological Society of Canada,
393 Winston Ave.,
Ottawa, Ontario K2A 1Y8
Tel. 613-759-1823
Fax. 613-759-1927
Email: gibsong@em.agr.ca

Scientific Editors/Editeur Scientifique

The Canadian Entomologist:

P.G. Kevan,
Department of Environmental Biology,
University of Guelph,
Ontario N1G 2W1
Tel. 519-824-4120, ext. 2479
Fax. 519-837-0442
Email: pkevan@uoguelph.ca

Bulletin Editor:

H. Barclay,
Pacific Forestry Centre,
506 West Burnside Road,
Victoria, B.C. V8Z 1M5
Tel. 250-363-0736
Fax. 250-363-0775
Email: hbarclay@pfc.forestry.ca

Directors - Administrateurs

Directors-at-Large: A. Ewen (1997), E. Belton (1997), R. West (1998), S. Fitzpatrick (1998),
L. Dosdall (1999), J. Spence (1999)

Regional Directors/Directeurs régionaux: T. Shore (ESBC), D. Langor (ESA), K. Moore (ESS),
N. Holliday (ESM), B. Lyons (ESO), J. Brodeur (SEQ), K.E. Gibb (AES)

First Vice-President/Premier Vice-Président

H.V. Danks
Biological Survey of Canada
Terrestrial Arthropods,
Can. Museum of Nature
Box 3443, Station D
Ottawa, Ontario K1P 6P4
Tel. 613-566-4787
Fax. 613-364-4021
Email: hdanks@mus-nature.ca

Past-President/Président sortant

G. Boivin,
Agriculture and Agri-Food Canada
Research Centre, 430 Gouin Blvd,
St-Jean-sur-Richelieu,
Québec J3B 3E6
Tel. 514-346-4494
Fax. 514-346-7740
Email: boiving@em.agr.ca

Secretary/Secrétaire

Peggy Dixon,
Agriculture and Agri-Food Canada,
Box 37, Mount Pearl,
Newfoundland A1N 2C1
Tel. 709-772-4763
Fax. 709-772-6064
Email: dixonpl@em.agr.ca

Memoirs:

V. Behan-Pelletier,
CLBRR, Agriculture and
Agri-Food Canada,
Ottawa, Ontario K1A 0C6
Tel. 613-759-1000
Fax. 613-759-1927
Email: behanv@em.agr.ca

Entomological Society of Canada:

Head Office
393 Winston Avenue
Ottawa, Ontario
K2A 1Y8
Tel. 613-725-2619
Fax. 613-725-9349
E-mail: entsoc.can@sympatico.ca

OFFICERS OF AFFILIATED SOCIETIES - 1997

ENTOMOLOGICAL SOCIETY OF B. C.

President Dave Gillespie
(gillespie@em.agr.ca)
President-Elect Staffan Lindgren
Past President G. Anderson
Sec.-Treasurer R. Bennett
B.C. Ministry of Forests
Silviculture Branch
31 Bastion Square
Victoria, B.C. V8W 3E7

Editor (Journal): P. Belton
Editor (Boreus) T. Danyk
Reg. Director to ESC T. Shore

ENTOMOLOGICAL SOCIETY OF ALBERTA

President Jan Volney
Vice President Mark Goettl
Past President K. Floate
Secretary A.S. McClay
Alberta Environmental Center
P.O. Bag 4000
Vegreville, AB T9C 1T4
alec@aec.arc.ab.ca

Treasurer Greg Pohl
Editor (Proceedings) M. Williamson
Reg. Director to ESC D. Langor

ENTOMOLOGICAL SOCIETY OF SASKATCHEWAN

President G. Khachatourians
President Elect Scott Hartley
Secretary Larry Grenkow
Saskatoon Research Centre
107 Science Place
Saskatoon, Sask. S7N 0X2
Telephone (306) 956-7293
Fax (306) 242-1839

Treasurer J. Soroka
Editor (Proceedings) K. Roney
Editor (Newsletter) W. Goerzen
Reg. Director to ESC K. Moore

ENTOMOLOGICAL SOCIETY OF MANITOBA

President T.D. Galloway
President-Elect J. Buth
Past-President R.W. Currie
Secretary B. Timlick
Agriculture Canada
195 Dafoe Road
Winnipeg, Manitoba
R3T 2M9

Treasurer M. Smith
Editor (Proceedings) D. Vanderwel
Regional Director N.J. Holliday
Member at large S. Pernal

ENTOMOLOGICAL SOCIETY OF ONTARIO

President Robert Trotter
President-Elect Scott MacDonald
Past President Sandy Smith
Secretary/ESC Rep. Barry Lyons
c/o Canadian Forest Service
P.O. Box 490
Sault Ste. Marie, Ontario
P6A 5M7
blyons@forestry.ca
Tel. 705-949-9461
Fax. 705-759-5700

Treasurer Blair Helson
Editor Dolf Harmsen
Librarian Dave Hull

SOCIÉTÉ D'ENTOMOLOGIE DU QUÉBEC

Président F. Fournier
Vice-président D. Bouchard
Secrétaire Christine Jean
Département de Biologie
Université Laval
Sainte-Foy
Québec G1J 7P4
christine.jean@bio.ulaval.ca

Trésorier M. Fréchette
Président sortant M. Letendre
Rédacteur (Antenne) C. Hébert
Délégué à la S.E.C. J. Brodeur

ACADIAN ENTOMOLOGICAL SOCIETY

President R.F. Smith
Vice President L. Crozier
Past President C. Gibbs
Secretary/Treasurer E. Bent
Agricultural Pest Monitoring
P.O. Box 1086
Wolfville
Nova Scotia B0P 1X0
bent@nsrsk.agr.ca
Reg. director to ESC C. Gibbs

Bulletin Editor: Hugh J. Barclay
Published by: The Entomological
Society of Canada / La Société
d'entomologie du Canada