

Bulletin

Entomological Society of Canada
Société d'entomologie du Canada

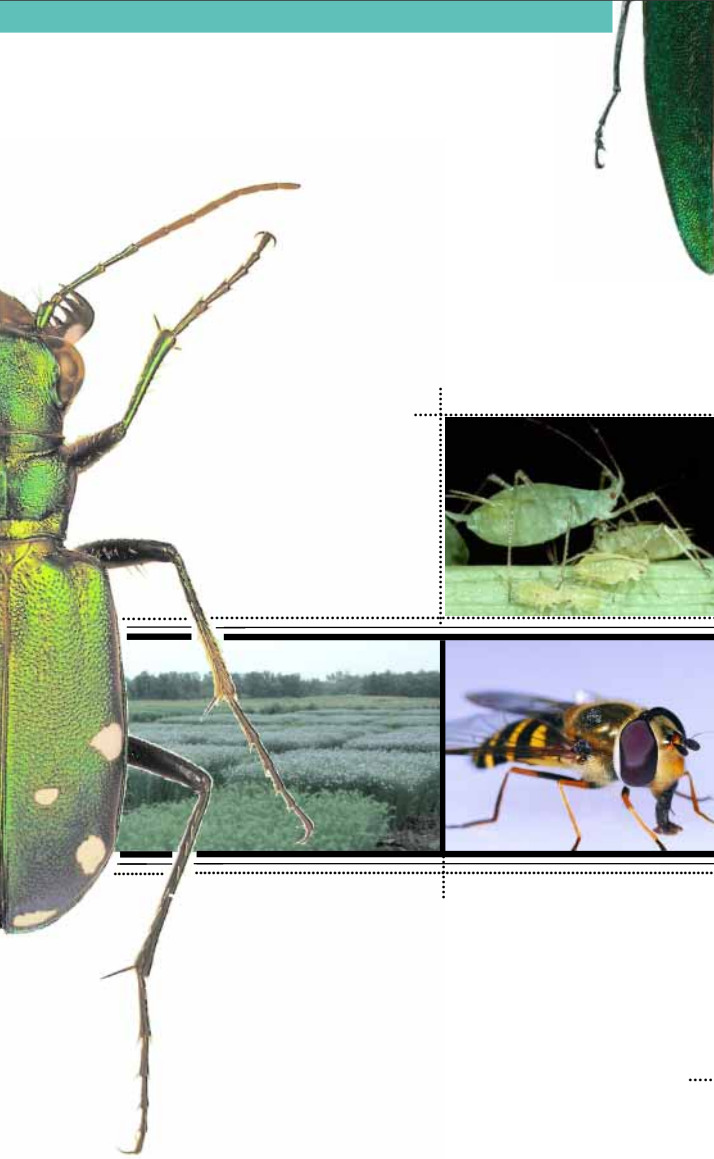
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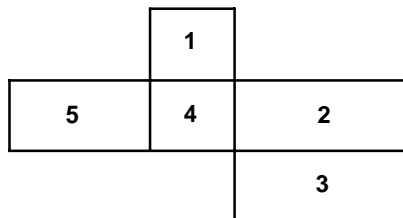
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Plans for the New Year

It was a great honour and pleasure for me to assume my new position on the Executive at the annual AGM in Canmore. The meeting was very well organized, generated lots of stimulating discussions and provided for lots of social interaction. Congratulations to John Acorn, Dan Johnson, Stephanie Erb, Derek Sikes, Dave Langor, Felix Sperling, Maya Evenden, Greg Pohl, Kimberly Rondeau, Heather Proctor, Derrick Kanashiro and their colleagues from the Entomological Society of Alberta, as well as to Terry Shore and others from the Entomological Society of Canada who assisted them, for organizing such a great meeting.

The annual meeting illustrated once again that the Society is doing well, not only scientifically and financially, but also with its impact on present and future generations of entomologists. There were over 175 oral and poster presentations, of which almost 40% were presented by students, who are active and productive in all aspects of entomological research. I extend special thanks to Tonya Mousseau, who has so capably chaired the Student Affairs Committee for the last few years.

Bob Lamb did a tremendous job leading the strategic review of our Society during the last year, and he deserves extra thanks for taking on so much of the work himself. At the Governing Board meeting, we passed several resolutions emanating from the strategic review that will be discussed in future *Bulletin* issues.

There are several major challenges that we will

Plan pour la nouvelle année

C'était avec grand honneur et plaisir que j'ai accepté la présidence de la société lors de la réunion générale annuelle tenu à Canmore. La réunion, qui était très bien organisée, a suscité plusieurs discussions intéressantes en plus de favoriser les interactions sociales. Nos félicitations à John Acorn, Dan Johnson, Stephanie Erb, Derek Sikes, Dave Langor, Felix Sperling, Maya Evenden, Greg Pohl, Kimberly Rondeau, Heather Proctor, Derrick Kanashiro et leurs confrères de la Société Entomologique de l'Alberta de même qu'à Terry de la Société Entomologique du Canada et tous ceux et celles qui lui ont prêté main-forte afin d'assurer le succès de cette réunion.

Encore une fois, la réunion annuelle a prouvé que la Société se portait bien non seulement du point de vue scientifique et financier mais également pour ses répercussions positives sur les générations d'entomologistes présentes et futures. Il y eu plus de 175 présentations orales et affiches murales dont presque 40% furent présentées par des étudiants actifs et productifs et ce, dans tous les domaines de la recherche entomologique. J'aimerais remercier tout particulièrement Tonya Mousseau qui, depuis deux ans, a présidé avec succès sur le Comité des Affaires Étudiantes.

Bob Lamb a fait un travail exceptionnel en dirigeant la revue stratégique de notre société et se mérite des remerciements additionnels pour avoir accompli lui-même la plupart des tâches. Plusieurs résolutions provenant de la revue stratégique ont été adoptées à la réunion du conseil d'administration et ces dernières seront discutées dans les prochains numéros du *Bulletin*.

Plusieurs défis de tailles seront abordés cette année. Premièrement, nous continuerons à faciliter et à augmenter le niveau de communication électronique à l'intérieur de la Société. Dès janvier 2006, de nouvelles lignes directrices apparaîtrons dans Instructions pour les auteurs demandant aux auteurs de soumettent électroniquement leurs articles au rédacteur en chef de la revue *The Canadian Entomologist*. Ce

address during the next year. First, we will continue to facilitate and increase the level of electronic communication within the Society. Starting in January 2006, new guidelines in the "instructions to authors" will instruct all authors to submit their manuscripts to the Editor-in-Chief of *The Canadian Entomologist* electronically. This change will greatly expedite the processing of manuscripts and hopefully will increase submissions to *The Canadian Entomologist*.

Second, an ad-hoc committee is being formed to evaluate the role of electronic communication in our Society. This committee will continue the work initiated during the strategic review, and it will suggest ways to improve electronic communication in both the short and long term.

Third, during the coming year we must find replacements for the Editor-in-Chief of *The Canadian Entomologist*, the Editor of the *Bulletin* and for our only full-time employee at our office in Ottawa. Thanks to Richard, Paul and Sandy for the great work they continue to do for us. All of them have made special efforts to make the transition for the new editors and head office employee as smooth as possible.

Finally, I want to thank all of you who give graciously of your time to serve the Entomological Society of Canada by chairing and serving on committees, participating in meetings, submitting manuscripts to the *Bulletin* and *The Canadian Entomologist*, reviewing manuscripts submitted to our two primary publications, and for assisting in numerous other ways.

Have a great holiday season and happy New Year.

changement a pour but d'accélérer la vitesse de traitement des articles et par conséquent, augmenter le nombre d'articles pouvant être soumis à la revue.

En second lieu, un comité ad-hoc est en train d'être mis sur pied afin d'évaluer le rôle de la communication électronique dans notre société. Ce comité continuera le travail initié pendant la revue stratégique et suggèrera des moyens qui permettront d'améliorer la communication électronique à court et à long terme.

Troisièmement, nous devons trouver dans l'année qui vient, des remplaçants pour l'éditeur en chef de *The Canadian Entomologist*, pour l'éditeur du *Bulletin* et pour notre seul employé à temps plein du bureau d'Ottawa. Merci à Richard, Paul et Sandy pour tout le travail qu'ils continuent d'effectuer pour nous. Tous les trois feront en sorte que la transition soit des plus faciles pour les nouveaux venus.

Finalement, je veux remercier tous ceux et celles qui ont donné si généreusement de leur temps afin de servir la Société d'entomologique du Canada en présidant ou servant sur des comités, en participant aux réunions, en soumettant des articles au *Bulletin* et au *The Canadian Entomologist*, en révisant les articles soumis à nos deux publications primaires ou en aidant avec les nombreuses autres tâches.

Passer de belles Fêtes et une bonne et heureuse année à tous.

Meeting announcements / Réunions futures

International Symposium: Integrated Pest Management in Oilseed Rape

University of Göttingen, Göttingen, Germany, 3-5 April 2006

<http://www.symposium-ipm-oilseed-rape.de>

56th Annual Meeting of the Entomological Society of Canada

Montreal, Quebec, Canada, 18-22 November 2006

<http://www.esc-sec.org/agm.htm>

53rd Annual Meeting of the Entomological Society of America

Indianapolis, Indiana, USA, 10-14 December 2006

http://www.entsoc.org/annual_meeting/



Insects in film

In the last decade or so, insects have been the subject of many films: from stunningly beautiful documentaries such as *Microcosmos* (1996) to high-grossing animated films such as *A Bug's Life* (1998) and *Antz* (1998). Finally, it seems as though filmmakers have begun to understand the wonder and intricacy of insects, rather than simply portraying them as archetypal villains as was common in many 1950s "B" movies. But who am I kidding? Which would you rather watch: real ants drinking from raindrops or a thirty foot high cardboard insect attacking poorly equipped soldiers? Below are five films I recommend for their entomological interest (not necessarily for their scientific veracity). Naturally, in my quest for peace and harmony among all entomologists, I have limited my choices to one film per insect order (lest I be accused of favouritism of one order over another).

Diptera: *The Fly* (1958, 1986) Whether one prefers the concluding spider web scene of the original film (help... me!) or watching Jeff Goldblum remove various pieces of his anatomy in the re-make, both versions serve up a fine sampling of entomological fare (a tasty treat to be consumed, regurgitated and consumed again). The premise is simple: take one part human and one part fly; mix thoroughly in your handy teleportation unit and *voilà!* It makes the setae on the back of my neck stand up just thinking about it.

Andrew Bennett is a research scientist with Agriculture and Agri-Food Canada in Ottawa working on the taxonomy of Ichneumonidae. He received his PhD at the University of Toronto. Contact details: e-mail: bennetta@agr.gc.ca, telephone: (613) 759-1900.

Hymenoptera: There are so many candidates from which to choose, but in the end, I have to recommend *Them!* (1954) above all others. This is a typical nuclear age/ giant insect thriller. A trail of death and destruction in the desert accompanied by lingering whiffs of formic acid leads to the discovery of 12-foot-long radiation-ravaged ants. The colony is found and destroyed but not before several queens escape and make their way to Los Angeles... One has to wonder what people were thinking detonating atomic bombs in the desert and then stockpiling huge quantities of sugar in unguarded sheds near the blast zone. Silly humans...

Blattodea: *Joe's Apartment* (1996). Two tarsi way up for this sweet tale of love and filth in the urban jungle. Starring several thousand wilful, but generally well-intentioned talking cockroaches, anybody who has lived in apartments in a large city can relate (but not necessarily appreciate) the skitter-scatter of tiny feet every time the light in the kitchen is turned on. Required viewing for any serious students of urban entomology.

Mantodea: *The Deadly Mantis* (1957). With our present apprehension regarding global warming, the theme of this film is as pertinent today as it was when it was made. A frozen prehistoric beast, in this case, a sixty foot mantis, is unleashed from its resting place in an Arctic ice cap. Its hunger for meat (especially human) drives it south, ultimately and inevitably to the unsuspecting residents of New York City...

Lepidoptera: *Godzilla vs. Mothra* (1964). *Mothra* the giant moth that first starred as an invasive pest in *Mothra* (1961) returns in this film as a beneficial invasive that helps manage the frightening vertebrate, *Godzilla*, an invasive pest previously thought to be eradicated from the Japanese Islands. The geographic range of *Mothra* is inadvertently extended when her egg is washed by ocean currents from her home island to Japan. Disregarding correct quarantine procedures, some foolish people take the egg to the city to make a profit by displaying it. *Godzilla* appears and concerned biocontrol workers travel to *Mothra's* island to attempt to re-introduce the adult *Mothra* to

Japan (to protect her egg and to rid Japan of Godzilla). Mothra flies to Japan and dies defending her egg from Godzilla, but the two larvae that hatch from the egg successfully control Godzilla by enveloping him in silk after which he topples into the sea. This is a classic early study of a successful integrated pest management program (tanks, helicopters with nets, bazookas and the introduction of natural enemies). A must-see for any with a historical interest in biocontrol.

Of course, there are many other great insect (not to mention arachnid) films and the list above only covers five of the thirty or so orders. I invite all film *aficionados*, not to mention filmmakers, to fill in other taxonomic gaps in my list. For example, embiopterans could probably be turned into credible, celluloid villains (e.g. "they wrap their victims in giant silken webs and pummel them with enlarged front basal tarsomeres"). Special bonus points will be awarded for any frightening films starring Zoraptera.

Seeking Office Manager: ESC headquarters

Duties: The office manager will work at ESC headquarters in Ottawa. Under supervision of the Treasurer, the office manager: a) manages Societal financial accounts and budget control information; b) liaisons with Treasurer, Executive, Committees, public and personnel of other organizations; c) manages membership lists; d) manages headquarters responsibilities relating to publications; and e) manages routine maintenance of Headquarters office building.

Qualifications: Strong interpersonal and organizational skills and ability to use spreadsheet, text and basic web software.

Salary: Will be negotiated and depend on qualifications and experience of the successful applicant.

Application Procedures: All applicants must send a cover letter and curriculum vitae to Patrice Bouchard (Treasurer - Entomological Society of Canada, 960 Carling Avenue, Ottawa, Ontario, K1A 0C6) by 1 March 2006.

Seeking new *Bulletin* Editor

The Entomological Society of Canada is looking to fill the position of *Bulletin* Editor. The main duties of the Editor are to solicit material to be published in the *Bulletin*, arrange the material, proof-read galleys, and to arrange printing and mailing of the *Bulletin*. This position provides an excellent opportunity to become fluent with desk-top publishing, and allows the incumbent to become familiar with all aspects of the Society.

The *Bulletin* Editor is appointed by the Governing Board, is a Trustee of the Society and an *ex officio* member of the Publication Committee. He or she is encouraged to attend the Annual General Meeting and Governing Board Meetings. Currently, the Editor receives an honorarium of \$500/year and can be provided some funds to attend the AGM. If you are interested in serving the Society in this important position, please contact by 1 June 2006,

Dan Quiring

President, Entomological Society of Canada

Email: quiring@unb.ca

Telephone: (506) 453-4922

À la recherche d'un nouveau rédacteur du *Bulletin*

La société d'entomologie du Canada cherche à combler le poste de rédacteur du *Bulletin*. Les tâches comprennent, entre autres, la recherche de matériel neuf pour le *Bulletin*, la mise en page, la révision des épreuves, l'impression et l'envoi du *Bulletin*. Ce poste fournit une opportunité excellente d'apprendre à travailler dans le monde de l'édition, tout en devenant familier avec les diverses facettes de la Société.

Le rédacteur du *Bulletin* est nommé par le conseil d'administration, est un fiduciaire de la société, et un membre *ex officio* du comité de publication. Elle ou il est encouragé à assister à l'assemblée générale annuelle et aux réunions du conseil d'administration. Présentement, le rédacteur reçoit des honoraires de 500 \$/an et peut recevoir des fonds pour assister à l'AGA. Si vous désirez servir la Société dans ce poste déterminant, veuillez communiquer, avant le 1 juin 2006, avec : Dan Quiring, Président de la SEC

The adventures of *Ento-Man* (Episode IV)

Text: Andrew Bennett

Art: Gaétan Moreau

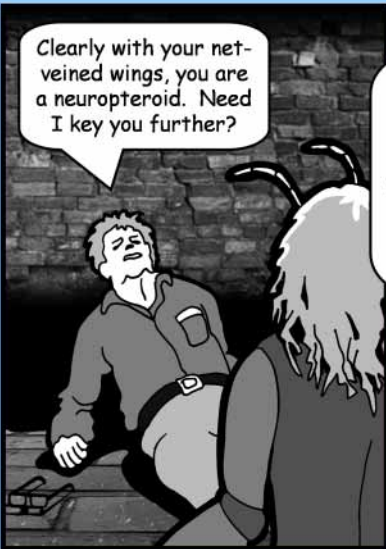
After reverting to his alter ego, Michael Newman (a.k.a. Ento-Man) is walking wearily back to the Museum of Comparative Entomology when a sound from the rooftops captures his attention.



Now we'll play a little game... Tell me what manner of beast I am or DIE!



Clearly with your net-veined wings, you are a neuropteroid. Need I key you further?



Your Ento-Savvy has saved you this time. Not like the last fool who thought me a common orthopteroid! Now, be gone and consider this your only warning from Mantispid!



Heritage lecture / Allocution du patrimoine

By David J. Larson

Prairies then and now: Personal reflections on prairie entomologists and entomology

2005 Heritage lecture

It is an honor to be invited to give this lecture. Generally, it would seem that an old, venerable person be chosen. Just by letting nature take its course, one qualifies reluctantly for the old, but I don't know about venerable.

Age has one of two effects on how we view the world: we have either seen it all and are experts on everything and can solve all problems if you pay attention (viz. the coffee row in any small prairie café); or, the less sure we are that we know anything. I tend to be in the latter camp and about the only thing I feel I have any expertise on is me. Therefore I am going to talk about myself. However, I qualify this by using my experiences to talk about some entomologists and entomological experiences I have found memorable. I hope by sharing them we can identify some common experiences and review some aspects of the entomological environment and history of the Prairies.

My route to entomology

I think I was preadapted to the field. My mother says my first word was spider. This is not to say I think there are grand designs and patterns in history. I subscribe to the idea that history is "just one damned thing after another" (various authors, Arnold Toynbee). But in my sequence of damned things, it was those with an entomological basis that most influenced me.

David Larson gave the 2005 Heritage lecture at the Joint Annual Meeting of the Entomological Society of Canada and Alberta, Canmore Alberta. David was a professor of biology at Memorial University, St John's Nfld from 1977 to 2004. Contact information: David J. Larson, Box 56, Maple Creek, Saskatchewan, S0N 1N0 dmlarson@sasktel.net



Paul Fields

This isn't unusual given my home environment. My father especially enjoyed the outdoors. His youth was spent on a homestead in southeastern Saskatchewan, and he knew about the expanse and sweep of the Prairies and the prairie biota. He introduced me to and involved me in these experiences and interests. Whenever possible we fished and hunted together throughout the years. My father had a job that took him outside a lot and he would quite often come home from work with some treasure he had found placed under his hat for safekeeping - e.g. a butterfly, a flower, an interesting feather. My mother was not a naturalist in the same way, but she was tolerant. She didn't object to me using her pots to render down mouse skulls to flesh them or having the lettuce crisper of the refrigerator full of diapausing insects. In summary I had a good supportive family, who not just tolerated my peculiar behaviors, but also actively participated in and encouraged them.

Watson Lake

My early school years were spent at the small airbase of Watson Lake in the southeastern Yukon. To us the known world was the Alaska Highway which passed nearby, and the string of airports along the Highway built as the North West Staging route in the Second World War. All around us was essentially unknown country - a true frontier. Having a frontier, specifically a geographical area that is essentially unknown, can have a great effect on one. There is curiosity as to what is there, for the possibilities are unlimited if you have a good imagination. Just walking to the edge

of the community put me at the edge of the frontier. In a modest way this was a personalization of the relationship America has with its West or Canada with its North. It provides an environment that encourages curiosity, activates the imagination and induces myths that foster exploration, in many ways aspects contained in the scientific process.

My first encounters with entomologists and entomological literature occurred at Watson Lake. The north is renowned for its biting flies. Each summer the Air Force sent survey crews of students to monitor biting fly levels on the airbase and when they reached a certain level, a DC-3 aircraft was sent in to fog the base and its residents with DDT, and this was followed up by truck-drawn foggers. Some of these people learnt about a kid who was interested in bugs, and I was sent a copy of *Insect Collectors Guide* (McMullan 1955). This, along with a copy of *Golden Guide to Insects* (Zim and Cottam 1951) which my father bought on a trip to the outside, were my bibles.

When I had finished elementary school, my parents feared that the kids, me especially, were going to go "bushed" if we stayed in the north so my father got a transfer out to Lethbridge. This return to civilization was not as big a shock as one might imagine. In the later 1950's Lethbridge was a small, rurally focused city. Farms were

small, and around the city were many small market gardens and abandoned fields so that country-side and town interdigitated. We lived in a new house but right on the edge of town where there were farm shelter belts, alfalfa fields with summer butterflies, irrigation ditches with salamanders, and Rancho La Brea-like tar pits from an old burnt-down oil refinery, all within several hundred meters of the house. Urban expansion later homogenized the area into housing but not before I had a driver's license and could look farther afield.

Ruby Larson

One of the most important events in my life was meeting Ruby Larson (Fig. 1). An entire talk could be devoted to the life and ideas of Ruby Larson. I am only going to look at few of her activities but biographies have been published by Riegert (1989) and Wasiak (2005) (an excellent biography that shows her sense of humor and enthusiasms). When I met Ruby she was a geneticist with Agriculture Canada at the Lethbridge Research Station. Although professionally a geneticist, she has broad interests and has been honored by both the Alberta and Canadian Entomological Societies. She has two major interests: scientific knowledge, and the process of doing science and scientific discovery.

Between 1958 and 1973, Ruby gave up her



Figure 1. Ruby Larson (front in white) and some members of her Science Club (back row, left to right; Joe Shorthouse, Dave Larson, Ken Richards and Doug Salt).



Figure 2. Science Club members who became professional entomologists: Joe Shorthouse, Dave Larson and Ken Richards.

private life on Saturdays to run a Junior Science Club. This consisted of a group of about a dozen Junior High and High School kids who liked science. We would get together at Ruby's house and talk about science and do science projects. There was a preponderance of activities related to entomology, for this was a major interest of a number of the kids. Ruby had a strong background and interest in insects, and there were resources at the Science Service Laboratory of the Lethbridge Research Station.

But Ruby gave up more than just her Saturdays. She had a remarkable tolerance of insensitive youth. We practically lived at her place - we had to tell her about new discoveries or ask her opinion or advice on things we had seen or heard.

Although her knowledge was encyclopedic, she was quick to point out what she didn't know but helped to show us how to find out through both the literature and personal observation. She had an extensive library, many items of which were bought for the Science Club. And she had a Wild dissecting microscope in the basement which she freely gave us the use of. It's no wonder such a resource spawned entomologists - three of the initial club members (Joe Shorthouse, David Larson and Ken Richards) ended up as professional entomologists (Figs. 2, 3).

She introduced us to Borror & DeLong (1954), the first serious entomology book that I had encountered, and a book that half a century of entomologists have since cut their teeth on. The Ento-

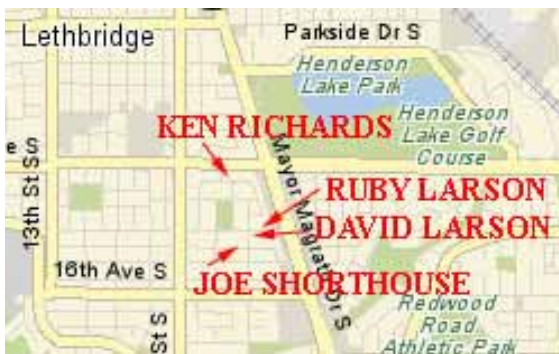


Figure 3. Map of Lethbridge, Alberta, with location of the homes of Ruby Larson and young entomologists.

mological Society of Alberta ran an insect collection competition during the time of the Science Club. For those of us interested in entomology, this competition provided a focus and a stimulus to our collecting activities. Each year we re-entered the competition and the collections grew into great unwieldy assortments of boxes that had to be transported to the annual meeting for judging and display. Most of the entomological community in Lethbridge became involved, answering our questions about collecting techniques and identification, and the transportation of the insect boxes. I especially remember the efforts made by Charlie Lilly (Fig. 4A) and Phil Blakeley (Fig. 4B). It was through Ruby that we made acquaintance with the entomologists of the Science Service Lab that led to various of us working for them as summer students, accompanying them on field work and even having them mentoring our university research projects.

Ruby directly or indirectly set each of us on our career paths. Joe Shorthouse remembers the start of his interest in galls when Ruby showed him a willow gall and suggested he investigate how the insect controls the plant growth so that a complex gall is formed. Again, mediated by Ruby, Joe met and worked for Alex Harper who, as part of his studies on aphids, investigated aphid gall formation. Similarly, Ruby was instrumental in introducing Ken Richards to Gordon Hobbs and his work and through this Ken followed a career looking at bees and pollination.

Norman Church

My first job in entomology was as a summer

student for Norm Church (Fig. 4C). From this job I learnt about political interference in research: I started my first day of work at 9 am and by coffee break I was laid off. The Diefenbaker government introduced an austerity program, and then, like now, it was the lowest on the ladder who took the hit. I was rehired about a month later.

Norman Church, an insect physiologist, was interested in insect development and as blister beetles develop more than almost any other type of insect with their larval hypermetamorphosis, he chose to work on them. A focus was the Caragana blister beetle, *Lytta nuttali*, probably because it was large, abundant and mysterious. When I worked for him and his technician Bill Pelham, the life history wasn't known. I don't know if it is now as I am not current in the literature. However, based on other species of blister beetles and species of *Lytta* the larvae were probably parasitoid/predators on grasshopper eggs or solitary bee larvae. It was easy to get fertilized eggs, for in captivity all these gross beetles do is eat, copulate and lay eggs. Bill and I took newly hatched larvae and tried to raise them on every sort of insect food readily available, the most successful being overwintering larvae of wheat-stem sawflies. The lab seemed to run on sawflies so fall was busy with people collecting wheat stubble containing diapausing sawfly larvae which were stored in cold for use in the various projects the following winter and summer. We all have done unusual, repetitive jobs at one time or another in the course of research. Collecting sawfly larvae was my initiation. This involved slicing the stubble longitudinally with a scalpel without



E. Gushul

Figure 4. A - Charlie Lilly; B - Phil Blakeley; C - Norm Church.



Figure 5. Gordon Hobbs and associates at Scandia Field Station. Hobbs in black hat, counterclockwise, John Virostek, two student assistants, Evan Gushul, Bill Nummi, Oswald Peck.

injuring the larva and extracting it with forceps - and doing it hundreds of times per day, day after day as the finicky blister beetle larvae toyed with the food and died. Rearing was never very successful, but Norm did get enough material for some work, especially his careful studies on embryological development and its contribution to the understanding of the evolution of the insect head (Rempel and Church 1971).

Gordon Hobbs

I never worked for Gordon Hobbs and was only peripherally involved in some of his projects. Nevertheless, Gordon is to me a hero and a legend. He and his associates, technicians Bill Nummi and John Virostek and photographer Evan Gushul, (Fig. 5) have been recognized for their excellent research and role in developing an important industry - leaf-cutter bee pollination of alfalfa (subsequently expanded to canola). This group was known to work hard, but they also knew how to play. The field work was often grueling but always an adventure with tales of both hardship and exciting discoveries. They traveled in a great boat-like station wagon loaded to the gunnels with entomological equipment as well as fishing rods, spotting scopes, etc. They worked hard but there are times that are meant for fishing or for tracking down the habits of that big elk in preparation for hunting season, and these

were not wasted. What they did was pursue field work as a life style with a good complement of fun.

Gordon was the bane of administrators. He had his own agenda and priorities and not much patience for a bureaucracy that stood in the way. I can remember staff meetings which when the discussion turned to things that interest administrators, Gordon would get up and with a muttered "God damn it" stride out. You can imagine his response when he was queried by administration over his lavish field expenses when as Evan Gushul informed me he submitted a claim of \$1.90 for the dinner party of the previous picture.

George Ball

When I went to University of Alberta I searched out George Ball (Fig. 6A). I had heard of him as an expert on ground beetles and as I had a leaning towards collecting beetles and had a few boxes of black beetles, I took them to him hoping to get some identifications. Finding George and his students was a reaffirmation of many values such as looking under rocks being one of the more important things one can do in life. George didn't name my specimens for me. Rather he gave me a space in one of the teaching labs along with a microscope and some pertinent literature and said that I was to figure out, with his guidance, what I had. This was an epiphany for me for I had previ-

ously been unaware of what diversity in insects really meant. The many black beetles gradually rearranged into numerous tribes, genera and species. Things that once looked similar were refocused into things of very different shape and structure. With this recognition of diversity came remembrances that all were not taken from under rocks but different habitats and habits suggested themselves.

George did several important things for me. He gave me a home and a sense of identity in the big impersonal university. I think this is a really important thing for students that our mass-production universities do not adequately cater to. The nomadic student is terribly disadvantaged over one that has a place to work and assemble material and to develop an identity. He, like Ruby Larson, provided a guide to the tools of research then said find out for yourself and stood back giving advice, suggestions, and a great deal of enthusiasm for new discovery. Amongst the literature George introduced me to were two very recently published works: Arnett's *Beetles of North America* (1963) containing George's excellent chapter treating the genera and higher taxa of Carabidae (Ball 1963); and Lindroth's *Ground Beetles of Canada and Alaska* (1961-69). These works have become classics and their appearance made ground beetles accessible and began a renaissance of ground beetle research. Lindroth's work is a classic to which I like to draw the attention of all entomologists. It contains all the components of a comprehensive faunal study but presented with a lightness and sparseness of touch that gets the essentials across very clearly. Many groups within the fauna could be made accessible to study if treated in works like this. Unfortunately there is a recent trend for more taxonomic papers in *The Canadian Entomologist* dealing with foreign insects than with the Canadian fauna.

Don Whitehead was a graduate student of George's at this time. Don was an extremely knowledgeable carabidologist and taxonomist and he freely gave of his time and advice. I best remember Don though for introducing me to the wonders of beetle diversity in the field. Three of us took a spring trip through southern Alberta: he, myself and my friend Ron Getty, an archaeol-

ogist. Don showed us the amazing things one could find by splashing, treading, digging, night collecting and other specialized collecting techniques. Ron kept us from vandalizing archaeological sites, for teepee rings and Indian stone ceremonial sites just look like rocks spread out conveniently for collectors. (Collectors on unbroken grassland please take note, for these archaeological features are often not obvious, especially if your head is down and you are not visualizing the larger picture of how the stones lie in relation to one another. Some people are as interested in the top side of rocks as we are in what occurs under them).

Andy Nimmo (Fig. 6B), also a graduate student of George's at this time but studying caddisflies rather than beetles, also did me a great kindness. I got a summer job collecting fisheries data on Great Slave Lake. Andy wanted a caddisfly collection from the region and arranged for me to have a supply of alcohol, vials and a field dissecting microscope. Armed with this equipment, a copy of Arnett (1963), and new found techniques for collecting I had a great summer of discovery. Living in the bush for the summer my coiffure was primitive to put it politely, and it wasn't helped by doing microscope work with the light of a red-hot pressure kerosene lantern. Even to this day the smell of hot kerosene and burnt hair bring back happy memories. I don't think Andy was disappointed with the caddisflies.

While at university, there were various subdisciplines of natural history that interested me and I did some casting around. Talking about options with an old rancher prompted him to make this observation. He said he had two bulls, an old one and a young one. The young one spent his time running around the pasture looking for cows but despite the effort was not being particularly successful in breeding the cows. The old bull on the other hand lay down by a water hole and every time a cow came by, which was twice a day for each cow, he got up and inspected her and did what was necessary, thus most of the rancher's production was from the old bull. In conclusion the rancher said "Son, find yourself a water hole". Well, I took his advice - and ended up studying water beetles. On reflection maybe I took him too

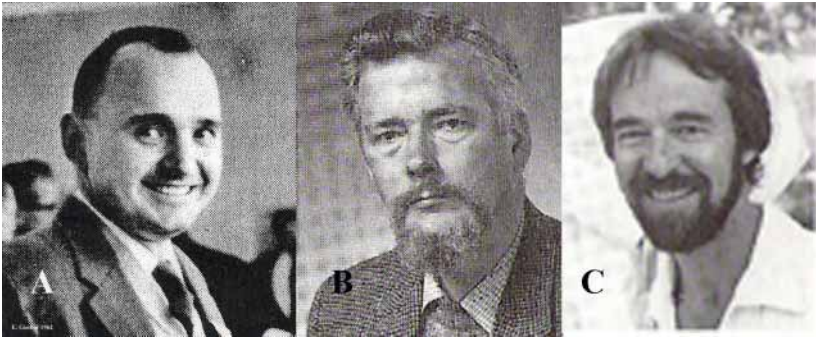


Figure 6. A - George Ball; B - Andy Nimmo; B - Gordon Pritchard.

literally - but I never regretted it and had fun in the water hole.

Gordon Pritchard

I ended up at the University of Calgary, working on water beetles under the supervision of Gordon Pritchard (Fig. 6C). A more supportive supervisor a student could not have. I hold that most graduate students graduate because of an irritation index (II) that reflects tension between student and supervisor. Over the course of the student's program this gets ratched up and when it approaches the homicidal level it drives the student to quit the sinecure of grad studies and graduate. This usually deflates the index precipitously. With Gordon I graduated in spite of the II not even registering. These were happy days of discovery and learning.

Bert and John Carr

When in Calgary I was informed by Hugh Leech, an eminent water beetle taxonomist then at the California Academy of Sciences, that John Carr also lived in Calgary. He knew John as a keen and knowledgeable water beetle collector, but who had been inactive for a while. I looked up Bert and John Carr (Fig. 7) and found them at a stage in their life when they were resuming their beetle collecting interests - and resume it they did with gusto. John and Bert had a superb knowledge of the beetles of Western Canada, and John especially knew the aquatics. He showed me water beetles in the same way Ruby Larson had shown

me insects and George Ball and Don Whitehead had shown me carabids. In spite of his vast knowledge and experience in beetles, John did not publish his work. He was a petroleum geologist by vocation and said his job had enough technical demands that he didn't want to carry these over into his avocation. However, he was happy to share his collection and observations with others and allow them to incorporate them into their work. When John and Bert's health failed and they were no longer able to work on beetles, in their characteristic generous way they donated their superb beetle collection, along with accompanying field notes, to the Canadian National Collection.

Following John's retirement, Bert and John traveled and collected extensively in western North America. Their knowledge and collection became well known to Coleopterists, both locally and internationally and their beetle bedroom became a Mecca for beetle people.

Bert and John became good friends and my wife and I spent many an evening at their place and in the field with them. The most memorable trip was a Larson family - Carr expedition to the Yukon to gather water beetle information for the Biological Survey project on Insects of the Yukon.

Do you ever wonder who your audience is when you write a paper? I always knew that I had an audience of at least one person - John. He read everything carefully and while always supportive and encouraging also had a good critical sense

and insightful comments.

The people I have discussed are only a small subset of entomologists who were active in Alberta during my period of entomological training. However, these are people who in my random walk through life I encountered and who through their kindness and interest in the discipline helped and encouraged me. Many other people helped in various ways, and I apologize for not having time to properly thank all to whom I owe gratitude. Riegert (1989) gives concise biographical sketches of many of these people.

A common denominator of the people I have mentioned is they all fostered doing entomology - that is getting out and making individual discoveries. This could be original research as in a graduate program or as a professional entomological researcher, or it could be discovery through the literature of entomology, not discovering new things at the boundaries of science but discovering things at the boundaries of one's individual experience. Geographical frontiers may no longer exist but knowledge frontiers in entomology abound and form a satisfactory substitute for the curious mind.

I have recently retired as a professional entomologist. Whereas in a professional life one has to focus on the boundaries of scientific knowledge and do original research, in my retired incarnation I can indulge in learning personally what other people already know. That is, I see myself changing from a producer of scientific knowledge to a consumer - to someone who can read and enjoy the accumulated wisdom and heritage

of the field. Too bad this is a luxury many will have to wait for retirement to do.

Reflections on life and entomology on the great plains

The preceding has been some reminiscences about my early experiences in entomology on the prairies. It also seems appropriate to reflect a little about prairie life and entomology. There are aspects of prairie life my wife and I like so we bought a ranch in southwestern Saskatchewan in the mid-nineteen nineties.

Since we have been on the ranch we have experienced a series of calamities. Just a partial list includes: flood, fire, drought, vermin plagues (maple bugs, blow flies, mosquitos, flea beetles, cutworms, voles, gophers and rabbits), late and early frosts, and a visiting friend came down in shingles so we say she had boils just to round out the biblical list of plagues. So far we have missed severe hail and grasshoppers, but they will come.

Aldo Leopold (1949) contended that "Every farm ... in addition to yielding crops and animals, should provide its owner with a liberal education. This crop of wisdom never fails, but it is not always harvested." Even if the farm does not produce agriculturally, there are things to be learnt and this is the motivation for our back to the land move.

The history of our place is typical of the prairie experience. Saskatchewan is often called "Next Year Country". Things didn't work out this year because of some unusual event which likely won't be present the following year. And often it isn't,



D. Larson

Figure 7. Bert and John Carr.

but there is still a crop failure due to some other factor. The prairie culture is full of quips on the harshness of the environment.

One of the early people to scientifically evaluate the economic potential of the Canadian prairies was Cpt. John Palliser in the late 1850's who concluded that the dry prairie south of the South Saskatchewan River (known as Palliser's Triangle), was unsuitable for settlement (Spry 1995). The regional wisdom is that we have spent the subsequent 150 years proving him right.

The plight of the prairie farmer is well summed up in a poem by the Sweet Songstress of Saskatchewan, Sarah Binks, who also recognizes the importance of insects in Saskatchewan culture. A portion of her poem *To My Father* (Hiebert 1995) illustrates this.

*I used to think the cut-worm and the weevil,
Were things that blindly come and go by chance,
And Hessian-fly an undiluted evil,
To make the farmer shudder in his pants;
But now I know they hold him to his acre,
For could he ever win and take his ease,
He'd up and leave his binder and his breaker,
And give the precious land back to the Crees.
The hopper should be cherished and be shielded,
And Hessian-fly is something we should trust -
If what we call the crop is ever yielded,
You'll never see the farmer for his dust.*

What are the implications of these environmental catastrophes for insects? Presumably they suffer the same fate as humans - some years things work and they prosper, other years the populations are devastated. Agricultural entomologists know this with the difficulties in forecasting pest outbreaks.

The northern Great Plains has a relatively rich fauna, but various entomologists have commented on the lack of endemism (Ross 1970). This is probably due to both the short-term vagaries as well as major long-term changes in climate, such as drought, temperature change and glaciation.

Several people have tried to recreate the pre-agricultural prairie environment through reviewing the records of the early European visitors to the plains (Nelson 1973, Potyondi 1995). A common denominator is sudden large-scale variability.

Many comment on the abundance of bison and the devastating impact their passage made on plant communities, water bodies and soil, yet in any given site this varied from year to year and there is also evidence of large variation in total bison numbers over time, perhaps due to periods of drought (Potyondi 1995). Fire catastrophically and irregularly burnt huge areas of the plains. And of course there is always the severe, unpredictable weather events whether it be unseasonable storms and frosts, drought of greater or lesser duration or extreme winter such as vividly described by Stegner (1962) which must keep the fauna in a state of disequilibrium. This may explain the lack of endemism, as regionally populations may not be able to persist in time.

On the other hand the ability to survive catastrophic variability probably explains why the fauna has held up so well in the face of the onslaught of modern agriculture. Some of the major recent impacts on the prairies are:

- Cultivation - there is enough tractor power to dig up every square meter of the prairie several times a year;
- Harvesting - a large proportion of the primary production essential to an ecosystem is swept up and exported;
- Grazing - What used to be grazed, probably sporadically and by an estimated 3 bison / km² (Potyondi 1995), is now relentlessly pursued by cows at higher densities and unrelenting intensity;
- Herbicides - there are enough herbicides to wipe out all vegetation;
- Adventive species - available space and resources now have to be shared by adventive species, many of which are better adapted to the current conditions than are the indigenous species.

And yet the diverse insect fauna persists. I submit that the insect fauna, like the human culture, is one adapted to adversity, most of the time taking its licks but, in the rare event of favorable conditions, rapidly able to take advantage and through wide dispersion somewhere in the vast grasslands things work out for someone each year, making survival and hope a possibility.

So far much of the biota has persisted. There are few documented cases of loss of insect species on the northern plains. But how far can it go?

Will climatic change reduce or increase the severity and frequency of devastating weather events? How far can humans push the system before it stops bending and breaks - can an industrialized prairie support its traditional biota and cultures?

There is some good news. Although the trend of loss of all types of natural prairie habitat continues, there are small attempts to slow or even reverse this. Governments have a poor record of prairie conservation: provincial governments generally do more damage than good when designating a park; and the federal government's efforts are little better than token. The bright spot is individuals and private groups of individuals who value what the prairie has been and are committed to keep it.

I would like to end my talk by bringing to your attention the major theme espoused by Aldo Leopold (1949) who stated:

"That land as a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics. That land yields a cultural harvest is a fact long known, but of late often forgotten."

There are many reasons for loving and hating the Prairies, but for the sake of our natural and cultural heritage it's going to take a lot of love and respect for prairie to survive in its historical form.

Acknowledgements

I thank Evan Gushul and Joe Shorthouse for sharing photographs, information and memories of entomology in Lethbridge in the 1950s and 1960s.

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Tricks of the trade / Trucs et astuces

By Donna Giberson

Keeping the bugs in their place

Ever had to pick bugs out of your collecting net in mosquito country? Ever tried to pluck up that tiny little fly without damaging it, then find yourself nailed by a mosquito or black fly, or worse, a monster tabanid, just as you were moving it from the net to the bottle? As a long time user (perhaps an over-user?) of DEET products, and the stronger the better, I never worried about such things. I slathered the stuff on, repeated as necessary, and hardly thought about it. Oh sure, I melted a few plastic vials and pairs of sunglasses, but I was safe from the madding hoards.

But about 10 years ago, I developed a skin allergy to DEET. I don't mean the little itchiness we all get when DEET gets applied to a sensitive area of one's anatomy... I'm talking about full-blown blistering sores that erupt within seconds of exposure. Even standing next to fellow DEET encrusted colleagues isn't an option any more; I can break out just from the fumes. DEET allergies aren't common, but a growing number of people are looking for ways to at least keep it away from fingers and faces.

Personally, I've accumulated an eclectic set of head and body nets over the years to provide some sort of physical barrier to the little blighters. I've collected my bugs of choice (aquatic insects, mostly from streams) in northwestern Ontario, northern Manitoba, and northern New Brunswick, and worked through the worst of the biting fly seasons without a problem. I didn't feel even a twinge of trepidation, therefore, when I made plans to head up to the arctic to paddle a northern

Donna Giberson has been warding off mosquitoes and black flies in Canada's north for nearly 30 years, in her steady pursuit of mayflies and stoneflies in the country's rivers and lakes. She is currently an Associate Professor of Biology at the University of Prince Edward Island in Charlottetown. email: giberson@upe.ca, website: <http://www.upei.ca/~biology/giberson/giberson.html>



Doug Currie

Figure 1. "Canadian Tire Special" bug shirt

river with Doug Currie, the black fly specialist at the Royal Ontario Museum (ROM). Nothing to worry about, I thought, just be sure to pack the body armour!

Boy, was I wrong! I decked myself out in my full mosquito/black fly barrier gear at the start of the trip (Fig. 1), and prepared for our planned month on the river. I had a "Canadian Tire Special" bug shirt with tight-weave cotton inserts and elastic at the wrists. I had mosquito-proof pants, and neoprene socks (good for getting in and out of canoes as well as keeping the mossies off). I even had surgical gloves to wear while sorting benthic samples at the sides of the river, to keep the flies away from my tender knuckles.

But two problems appeared within minutes of watching the float plane disappear into the ever-present arctic sun. First... I realized I was going to have to crack the net open on that shirt at some point to eat. No-one who knows me would ever accuse me of voluntarily missing any meals, so it is particularly odd that I never thought of that little detail. Eating in the tents wasn't an option, since we were in serious bear (tundra grizzly!) country. Consequently, the size of my swollen, black fly chewed ears on the first days of that trip

generated shock and a little awe among my fellow travelers, just from the black flies that snuck in every time I opened my net to pop food in. The second problem became clear shortly after I discovered the first problem. At regular points during the trip, I was going to have to open the lower part of my body armour and expose some particularly tender flesh to the ravages of biting Diptera. Screened dining tents are a nice option for the feeding problem (assuming you have room in the canoe and time to set them up), but they aren't appropriate for reading the newspaper out behind the low bushes of the tundra.

I had a full month on that trip to think about better ways to travel and work in serious bug country. The working part of the trip wasn't so bad, since I had lots of experience collecting and sorting while wearing headnets and gloves. Still, I've always been irritated by trying to see properly through the netting of the head net, and I worried that the smallest insects might be getting away. On a warm day, the get-up is a bit confining, and while the surgical gloves really do keep the fingers from being bug-chewed, they are pretty warm as well.

The driving force behind my creative process, though, continued to center around protecting myself during the bodily-function components of these expeditions. Over the next season, I constructed and field-tested quite a number of complicated designs, including ones with shock-corded teepee poles, with internal and external frame construction, various types of suspension setups, and so on. But then it struck me... all I really needed



Steve Burian

Figure 2. Plain white mosquito netting with hat.



Donna Giberson

Figure 3. Full body bath on the tundra.

was a good big piece of netting to keep the bugs out and a way to keep it away from my face and hands.

Like many eureka moments, the idea was a simple one. All I had to do was pick up a package of plain white mosquito netting from the local hardware store (you know, the stuff you can buy to suspend over your bed on tropical collecting trips). Wearing a hat with a wide brim will keep the netting away from your face, and there's no need for poles or suspension if you simply fling it over yourself (Fig. 2). The net provides full protection (if you swat all the mossies you let in during the flinging process) during all sorts of activities, since once it is in place, you have your hands free but protected, your eyes clear of netting, and the tools of your trade under the net with you. One thing though... if you plan to use it for bathroom moments, as well eating and sorting bugs, I'd recommend bringing two.

This net has now been field-tested across the arctic and northern maritime provinces, and works well for all sedentary activities; eating, excreting, picking bugs, and as we've recently discovered, for the full body bath on the tundra (Fig. 3). It works as well on the treeless tundra as it does in the boreal forest, and it fits easily into the fanny pack or collecting bag. The relief when it is in place is quite indescribable. Don't throw away your bug shirt - it is still useful for traveling along the trails or on the waterways. But you might want to consider the "portable bug tent" for some of those sedentary moments at trail- or pond-side. Happy Hunting!

ESC 2005 Award Winners / Gagnants des prix SEC 2005

Gold Medal Award

Peter G. Kevan

The 2005 recipient of the Entomological Society of Canada's Gold Medal for Outstanding Achievement in Canadian Entomology is Peter Kevan, University of Guelph. This award is presented in recognition of the range and diversity of his contributions to research in insect ecology and management, especially his work on pollination ecology, which was carried out in arctic, temperate and tropical environments.

Born in Edinburgh, Scotland, Peter Kevan completed a BSc in Zoology at McGill University in 1965 and defended his PhD thesis, which evaluated the inter-relationships of arthropods and flowers on Ellesmere Island, at the University of Alberta in 1970. Following a short National Research Council of Canada postdoctoral fellowship at the Central Experimental Farm in Ottawa, Peter taught at Memorial University and at the University of Colorado before moving to the Department of Environmental Biology at the University of Guelph in 1982.

Peter Kevan's research record includes outstanding contributions that link botany and entomology in research into the keystone process of pollination. His basic research in pollination integrates diverse fields such as ecology, physiology, behaviour and conservation and makes a major contribution to an overall synthesis of knowledge of pollination systems. In addition, he has responded innovatively to the challenges of applying knowledge and expertise to solving practical problems relating to pollination in agroecosystems.

Although he is frequently recognized for his research on pollination ecology, Peter is also well-known for his numerous and wide-ranging contributions to other areas of entomology. His research has addressed questions related to soil microarthropods, rhizosphere ecology, agricultural entomology, novel methods of biological control of pests, insect behaviour, thermoregulation, vision, predation ecology, pest management, genetic diversity, biodiversity and environmental science. He has published over 150 articles in



peer-reviewed scientific journals, including articles in *Science* and *Nature*, 57 book chapters and symposium proceedings, five books, more than 100 additional publications, and obtained three patents.

Peter's enthusiasm for entomology has influenced a large number of undergraduate students, who enrolled in his general courses on applied ecology and environment and on arctic, boreal or tropical ecology, or in his more specialized courses on pollination ecology, apiculture and arctic and boreal entomology. Thirty-one students have completed graduate degrees under Peter's supervision and he has acted as an external examiner for graduate defenses in seven countries. His arctic, boreal and tropical field courses are always well attended by students from a broad range of universities and countries.

Despite a very active teaching and research program, Peter has always found time to serve entomological societies and journals and to facilitate interactions between entomologists. He has served as a member of the Board of the Entomological Society of Ontario and of Canada and as Editor of the *Proceedings of the ESO* and of *The Canadian Entomologist*. In addition to participation in numerous other organizations and committees, Peter created and still operates Entomo-L, an early internet discussion list related to entomology that currently has over 1000 users worldwide.

These outstanding contributions to entomological and ecological research, to the education of entomologists, ecologists and agronomists, to management of insect pollinators and insect pests, and to many academic institutions and entomological organizations make Peter Kevan eminently qualified to receive the Society's Gold Medal.

La Médaille d'Or

Peter G. Kevan

Médaille d'Or de la Société d'Entomologie du Canada qui reconnaît les réalisations exemplaires d'un entomologiste canadien est décernée au Peter Kevan de l'Université Guelph. L'attribution de ce prix souligne l'étendue et la diversité de ses travaux de recherche en écologie et gestion des insectes, et plus particulièrement, ses travaux sur l'écologie des pollinisateurs effectués dans des régions arctiques, tempérées et tropicales.

Né à Edinburgh, en Écosse, Peter Kevan a complété un BSc en Zoologie à l'Université McGill en 1965 et défendu sa thèse de Doctorat qui portait sur les relations entre les arthropodes et les fleurs sur l'Île Ellesmere, à l'Université d'Alberta en 1970. Suite à un court séjour au Conseil National de la Recherche du Canada pour un stage post-doctoral à la Ferme Expérimentale d'Ottawa, Peter a enseigné à l'Université Memorial puis à l'Université du Colorado avant de s'installer au Département de Biologie Environnementale de l'Université de Guelph en 1982.

Les réalisations de Peter Kevan comportent des contributions importantes qui établissent des liens entre la botanique et l'entomologie pour la compréhension des processus clés de la pollinisation. Ses travaux de recherches en pollinisation intègrent différents domaines comme l'écologie, la physiologie, l'éthologie et la protection des habitats et constituent une synthèse des connaissances des systèmes de pollinisation. De plus, il a su appliquer de façon innovatrice ses connaissances et son expertise pour résoudre des problèmes pratiques reliés à la pollinisation dans des agroécosystèmes.

Bien que le plus souvent renommé pour ses travaux en pollinisation, Peter est également reconnu pour ses contributions nombreuses et variées dans d'autres domaines de l'entomologie. Ses travaux ont également porté sur les microarthropodes du sol, l'écologie de la rhizosphère, l'entomologie agricole, le développement de méthodes nouvelles de contrôle biologique des insectes ravageurs, éthologie des insectes, la thermorégulation,

la vision, l'écologie des prédateurs, la gestion des insectes ravageurs, la diversité génétique, la biodiversité et la science de l'environnement. Il a publié plus de 150 articles scientifiques dans des périodiques scientifiques dont *Science et Nature*, 57 chapitres de livres et comptes-rendus de symposiums, cinq livres, plus de 100 publications diverses et obtenu trois brevets.

L'enthousiasme de Peter pour l'entomologie a influencé un grand nombre d'étudiants de premier cycle qui ont assisté à ses cours en écologie appliqué et environnement, écologie des régions arctiques, boréales et tropicales ou à un de ses cours plus spécialisés portant sur l'écologie de la pollinisation, l'apiculture et l'entomologie arctique ou boréale. Trente et un étudiants gradués ont complété leur études sous la direction de Peter et il a également fait partie de comités de thèses dans des universités de sept pays. Ses cours de terrain en milieu arctique, boréal ou tropical sont suivis par des étudiants d'un grand nombre d'universités et de pays.

En dépit d'un programme de recherche et d'enseignement chargé, Peter a su trouver le temps de s'impliquer au sein de sociétés et de revues entomologiques tout en encourageant les interactions entre entomologistes. Il a été membre de l'exécutif de la Société Entomologique d'Ontario et du Canada et éditeur des *Proceedings of the ESO* et du *The Canadian Entomologist*. En plus de sa participation à de nombreux comités et organisations, Peter a créé et s'occupe toujours de Entomo-L, un site Internet de discussion utilisé par plus de 1000 entomologistes à travers le monde.

Ses contributions exceptionnelles au niveau de la recherche de même qu'aux nombreuses institutions académiques et organismes entomologiques rendent Peter Kevan des plus apte à recevoir la Médaille d'Or de la Société.

C. Gordon Hewitt Award

Dwayne Hegedus

Dwayne was born in Wakaw, Saskatchewan on 29 October 1966. He demonstrated a love for the outdoors and a keen interest in nature from an early age. He spent many summers at Wakaw Lake, where he earned extra pocket money by capturing and then selling minnows as bait. Throughout his childhood, Dwayne helped his father farm, an activity that he continued on weekends after moving to Saskatoon. He looked forward to helping on the weekends because he missed the outdoors. Perhaps it was listening to his father's complaints about the poor yields of his crops that led Dwayne to become a research scientist dedicated to developing better crops.

Dwayne completed a BSc in microbiology at the University of Saskatchewan in 1988. Aided in part by scholarships from NSERC, the Entomological Society of Saskatchewan and the Pest Management Alternatives Office, Dwayne pursued graduate studies on the biochemistry and molecular biology of entomopathogenic fungi in the Bioinsecticide Research Laboratory at the same institution. He was awarded a MSc and a PhD from the department of Applied Microbiology and Food Science in 1991 and 1995, respectively. During a NSERC post-doctoral fellowship at the University of British Columbia, Dwayne conducted research on development of vectors and protocols for the exploitation of insect cell culture lines as expression systems for eukaryotic proteins.

Since joining Agriculture and Agri-Food Canada in 1997, Dwayne has developed an internationally recognized and competitive research program in insect and disease resistance and transgenic technologies. He has developed genomic, proteomic and bioinformatics resources for five canola pests, which have greatly increased our understanding of digestive biochemistry, regulation of insect metabolism and nutrient uptake. Dwayne has been instrumental in establishing flea beetle and *Arabidopsis* as a model system to elucidate the molecular and biochemical bases governing



insect – plant interactions. This project resulted in the identification of genes that regulate defences to flea beetles, or that are involved in the synthesis of insect bioactive phytochemicals. In addition to projects on *Sclerotinia* resistance and genetic modification of plants, Dwayne has recently developed a DNA-based system using species-specific PCR primers that accurately identify *Lygus* nymphs to species and determine the incidence of parasitism in a single reaction. These and other research projects have resulted in 35 scientific publications in peer-reviewed journals, five book chapters and reviews, six patents at the Canadian Intellectual Property Office, and over 50 conference presentations.

Although still early in his career, Dwayne is frequently asked to present his research results at national and international meetings, and to review papers for journals and grants for granting agencies. He is a member of the editorial board for *Biopesticides International* and the *Canadian Journal of Microbiology* and serves on several steering, advisory and assessment committees. He was chair of the Organizing Committee at the 1999 Annual Joint Meeting of the Entomological Societies of Canada and Saskatchewan and has served six terms as treasurer of the Entomological Society of Saskatchewan.

An adjunct professor at the University of Saskatchewan, Dwayne has supervised two graduate and three undergraduate students. He also contributes to undergraduate and graduate training by giving lectures.

Prix C. Gordon Hewitt Dwayne Hegedus

Dwayne est né à Wakaw, en Saskatchewan, le 29 octobre 1966. Son intérêt pour la nature et les activités de plein air s'est manifesté très tôt. Dwayne passa plusieurs étés au lac Wakaw, où il capturait des ménés qu'il vendait comme appâts afin de se faire de l'argent de poche. Dès son plus jeune âge, Dwayne aidait aux travaux de la ferme. Cette activité se poursuivit même après qu'il eu déménagé à Saskatoon, car il revenait à la ferme paternelle à toutes les fins de semaine pour aider son père. Il anticipait les fins de semaine avec joie car elles signifiaient du travail au grand air avec son père. C'est peut-être en écoutant son père se plaindre du rendement de ses récoltes que Dwayne fut inspiré à devenir un chercheur scientifique.

Dwayne compléta un BSc en microbiologie à l'Université de Saskatchewan en 1988. Aidé en partie par des bourses du CRSNG, de la Société Entomologique de Saskatchewan et du "Pest management alternatives office" Dwayne a complété ses études graduées en biochimie et en biologie moléculaire des champignons entomopathogéniques dans le Laboratoire de Recherche de Bioinsecticide de cette même institution. Il se mérita une MSc ainsi qu'un PhD du département de Microbiologie Appliquée et des Sciences Agroalimentaires, en 1991 et 1995, respectivement. Dwayne amorça sa recherche sur le développement des vecteurs et les protocoles d'exploitation des lignées de culture de cellules d'insectes comme système d'expression des protéines eucaryotes, après avoir reçu une bourse post-doctorale du CRSNG de l'Université de la Colombie Britannique.

Depuis son entrée à Agriculture et Agroalimention en 1997, Dwayne a développé un programme de recherche, reconnu internationalement, portant sur la résistance aux maladies et sur la technologie transgénique. Il a développé des ressources génomiques, protéomiques et bioinformatiques pour cinq insectes nuisibles du canola. Ce programme augmenta considérablement notre compréhension de la biochimie de la digestion,

de la régulation du métabolisme des insectes et de leur prise de nutriments. Dwayne a joué un rôle important dans l'établissement de l'altise et *Ara-bidopsis* comme système modèle pour élucider les bases moléculaires et biochimiques gouvernant les relations plantes-insectes. Ce projet eu comme résultat l'identification de gènes qui contrôlent les systèmes de défense contre les altises ou qui sont impliqués dans la synthèse des produits phytochimiques actifs contre les insectes. En plus de ses projets sur la résistance du *Sclerotinia* et de la modification génétique des plantes, Dwayne a récemment développé un système qui a pour base l'ADN utilisant des PCR spécifiques aux espèces qui identifie de façon précise les nymphes du genre *Lygus* et détermine les incidences des parasites et ce, dans une seule réaction. Ces projets de recherche et bien d'autres encore lui ont permis d'écrire 35 publications scientifiques, cinq chapitres de livres et comptes rendus, six brevets et plus de 50 présentations à diverses conférences.

Bien qu'il soit qu'au début de sa carrière, Dwayne est souvent sollicité pour présenter ses résultats de recherche à des conférences nationales et internationales et pour évaluer des articles scientifiques et des demandes de subventions. Dwayne est membre du comité éditorial pour *International Biopesticides* et le *Canadian Journal of Microbiology* et siège sur plusieurs comités d'organisation, consultatif et de modération. Il a également présidé le comité d'organisation des réunions annuelles des Sociétés d'entomologie du Canada et de la Saskatchewan en 1999 et a été trésorier de la Société Entomologique de la Saskatchewan pendant six mandats.

Comme professeur adjoint à l'Université de Saskatoon, Dwayne a supervisé deux étudiants gradués et trois étudiants sous-gradués. Il contribue aux programmes d'études graduées et sous-graduées en donnant des conférences.

Gold Medal 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 2006). The information should include a statement of relevant achievements (three pages maximum) and a *curriculum vitae*. 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 **28 February 2006**.

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.

Médaille d'Or 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. L'information devrait comprendre un énoncé pertinent des accomplissements (trois pages maximum) et un *curriculum vitae*. Veuillez envoyer vos nominations (pour l'année 2006) au :

Comité des décorations
La Société d'entomologie du Canada
393 Winston Avenue, Ottawa, ON 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 **28 février 2006**.

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 réalisée 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.

2005 Criddle Award Winner
Gary Anweiler
Entomological Society of Alberta

Gary G. Anweiler was born in Melville, Saskatchewan, in 1944, and grew up with a keen interest in biology. After some colorful adventures in the 1960s, Gary worked as a bird biologist. In 1990, he moved to Edmonton, and found work in building maintenance and management. In Edmonton Gary quickly connected with researchers and local amateurs. He became a regular volunteer at the University of Alberta's Strickland Museum, and also contributed many hours to the CFS and Olds College collections. Over the years, he has helped many researchers and graduate students in western Canada.

Gary has become one of the premier experts on noctuid moths in North America, all on his own time after work. He has always shared his time freely, helping many others and spreading his infectious enthusiasm. He retired in 2003, and now devotes much more energy to his avocation.

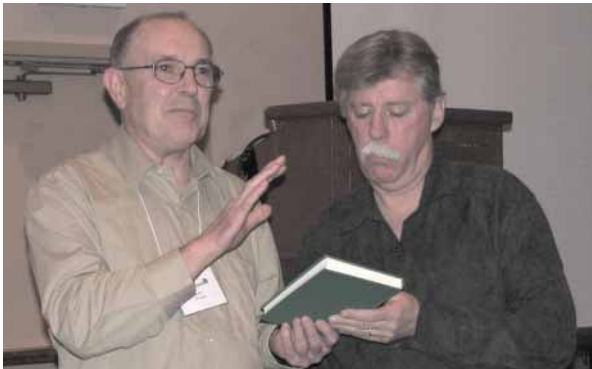
Gary is a member of the Alberta Lepidopterists' Guild, the Entomological Societies of Alberta and Canada, and the International Lepidopterists' Society. He also serves as a member of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Arthropods Species Specialist Subcommittee.

Laureat du prix Criddle de 2005
Gary Anweiler
Société d'entomologie de l'Alberta

Gary G. Anweiler à vu le jour à Melville en Saskatchewan en 1944, et à grandi avec un intérêt marqué pour la biologie. En 1990, il déménage à Edmonton et travaille dans la gestion et l'entretien d'édifice. À Edmonton, Gary prend rapidement contacte avec les chercheurs et les amateurs locaux. Il devient un volontaire régulier au Strickland Museum de l'Université de l'Alberta et donne aussi son temps aux collections du SCF et de Olds College. Au cours des années, il a aidé plusieurs chercheurs et étudiants gradués dans l'ouest du Canada.

Gary est devenu un des principaux experts des Noctuidae en Amérique du Nord de son propre temps après le travail. Il à toujours partagé son temps gratuitement en aidant plusieurs personnes en répandant son enthousiasme contagieux. Il à pris sa retraite en 2003 et dédie maintenant plus d'énergie à sa vocation.

Gary est membre de la Guilde des Lépidoptéristes Albertains, de la Société d'entomologie de l'Alberta et du Canada et de la Société Internationale des Lépidoptéristes. Il est aussi membre du Comité sur la Situation des Espèces en Péril au Canada (COSEPAC) dans le sous comité des spécialistes sur les arthropodes.



Paul Fields

ESC President Bob Lamb (left) presenting the Criddle Award to Gary Anweiler at the ESC/ESA Annual Meeting, Canmore Alberta, 2 November 2005.

The student wing / L'aile étudiante

By Tonya Mousseau

After four years of serving as the ESC student representative, I am pleased to announce that Greg Smith (University of Northern British Columbia) and Chris Borkent (cborkent@primus.ca) will be co-chairing this position. I hope that they will find this position as rewarding as I have. If you are interested in helping with the student committee, please contact Greg or Chris.



M. Alperyn

I am also pleased to announce that Kimberly Rondeau (University of Alberta) will be the new ESC student webmaster. Please contact her, KRondeau@agr.gc.ca, to post your ESC student webpage.

It was another great time for the students in Canmore at the ESA/ESC JAM this year in Canmore! I'd like to extend my thanks to Tyler Cobb who helped me organize and moderate the student symposium this year, and thanks to the students who were willing to forego presenting in the President's rize to participate this symposium. I'd also like to thank all the people who donated books for the silent auction. We made over \$950 for donation into the student scholarship fund! Thanks and see you next year!

Thesis Roundup

- Brauner, Andrea; a.brauner@utoronto.ca, MSc April 2005. *Semiochemical attractants to capture the white pine cone beetle*, *Conophthorus coniperda* (Schwarz) (Coleoptera: Scolytidae). Supervisors: Peter de Groot, Canadian Forest Service and Sandy Smith, University of Toronto.
- Edde, Peter A.; peter_edde@yahoo.com or peter.edde@okstate.edu, PhD October 2005. *Chemical ecology of host plant finding by Rhizophthera dominica* (Coleoptera: Bostrichidae). Supervisor: T. W. Phillips, Oklahoma State University.
- Hallstrom, Wayne. MSc January 2005. *Effect of invasion by scotch broom* (*Cytisus scoparius*) and change in habitat quality on rare butterflies of garry oak meadows. Supervisor: Jens Roland, University of Alberta, Department of Biological Sciences.
- Hass, Claudia; claudia.haas@gmail.com, MSc 2005. *Flight performance of bumble bees with wing wear*. Supervisor: Ralph V. Cartar, University of Lethbridge.
- Mattila, Heather; hrrm24@cornell.edu, PhD July 2005. *The effects of the availability of pollen in colonies on the quality and quantity of worker honey bees* (*Apis mellifera* L.). Supervisor: Gard Otis, University of Guelph.
- Montelegre-Z., Fernando; fmonteal@utm.utoronto.ca, PhD September 2005. *Biomechanics of musical stridulation in katydids* (Orthoptera: Ensifera: Tettigoniidae): An evolutionary approach. Supervisor: Glenn K. Morris, University of Toronto.
- Roth, David; dzroth@gmail.com, MSc August 2005. *The effects of forest fragmentation on parasitoids of the forest tent caterpillar* (*Malacosoma disstria*). Supervisor: Jens Roland, University of Alberta, Department of Biological Sciences.
- Ryan, Kathleen; kat_ryan@hotmail.com, MSc July 2005. *Effect of forest management on the diversity and composition of understory vegetation, butterfly (Lepidoptera) and carabid beetle (Coleoptera: Carabidae) assemblages in jack pine* (*Pinus banksiana*) forests in southeastern Manitoba. Supervisor: Neil Holliday, University of Manitoba.
- Underwood, Robyn; umunder0@cc.UManitoba.ca, PhD August 2005. *The use of formic acid for control of Varroa destructor Anderson and Trueman and other pests in overwintering honey bee* *Apis mellifera* L., colonies. Supervisor: Rob Currie, University of Manitoba.
- Wist, Tyler; tylerwist@shaw.ca, MSc October 2005. *Pollination biology of Echinacea angustifolia and E. purpurea in Saskatchewan*. Supervisor: Art Davis, University of Saskatchewan.

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

Entomological Society of Canada / Société d'entomologie du Canada

393 Winston Ave., Ottawa, Ontario, Canada K2A 1Y8

Tel: (613) 725-2619, Fax: (613) 725-9349

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Telephone (bus.) / Téléphone (au travail) : () _____

E-mail/courriel : _____ Fax : () _____

Membership is a personal affiliation; publications are the personal property of the individual member. / Cette cotisation s'adresse aux individus; les publications payées ici sont la propriété personnelle du membre.

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and/et *Bulletin* Print/Imprimé

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\$92.00 Cdn (HST/TVH incl.)
OR USA & Int'l: \$74.00 US or/ou \$100.00 Cdn
 STUDENT / ÉTUDIANT Canada: \$42.80 Cdn (GST/TPS incl.) or/ou
\$46.00 Cdn (HST/TVH incl.)
USA & Int'l: \$36.00 US or/ou \$45.00 Cdn
The Canadian Entomologist: If print and web \$10.00 Cdn or/ou \$10 US
Si imprimé et web

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Prix et bourses d'études de la Société d'entomologie du Canada

Étudiants, notez les changements de dates pour la plupart des prix et bourses annoncées pour 2006. Veuillez aussi vous assurer de consulter le site Internet de la SEC durant la nouvelle année pour les formulaires et les conditions mis à jour.

Bourses pour étudiants gradués

La Société d'Entomologie du Canada offre deux bourses d'une valeur de 2000\$ chacune pour aider des étudiants qui débutent des études graduées et des recherches en vue de l'obtention d'un diplôme d'études supérieures en entomologie (normalement une bourse à un(e) étudiant(e) à la maîtrise et l'autre à un(e) étudiant(e) au doctorat). Les bourses seront accordées aux étudiant(e)s en raison des seuls critères de réussite académique. **Date limite : 13 février 2006.**

Subventions de recherche-voyage au niveau des études supérieures

Deux subventions de recherche-voyage pouvant atteindre 2000\$ sont offertes pour aider les étudiant(e)s à élargir le champ de leur formation supérieure. Les bourses seront accordées aux étudiant(e)s en raison des seuls critères de réussite académique. **Date limite : 13 février 2006.**

Bourse de la Commission biologique du Canada

En reconnaissance de la Commission biologique du Canada, la SEC offre une bourse d'étude supérieure de 1000\$ pour aider un(e) étudiant(e) dans ses études supérieures sur le sujet de la biodiversité des insectes ou arthropodes au Canada. Cette bourse sera accordée aux étudiant(e)s selon des critères de réussite académique et d'excellence en faunistique, et sera offerte une année sur deux en alternance avec la bourse Keith Kevan en systématique. **Date limite : 13 février 2006.**

Bourse étudiante de voyage pour assister à la réunion annuelle de la SEC

Une ou plusieurs bourses de 500\$ chacune seront offertes pour aider les étudiant(e)s, membres de la Société, à assister à la réunion annuelle de 2006 à Montréal. Pour être admissible, les étudiant(e)s doivent faire une présentation orale ou une affiche lors de la réunion annuelle. Les bourses seront accordées aux étudiant(e)s en raison des seuls critères de réussite académique. **Date limite : la même que celle de soumission d'un résumé** (i.e. juillet ; vérifier le Bulletin ou le site Internet de la Société pour plus d'information, <http://esc-sec.org>). Note : les récipiendaires seront avisés en septembre 2006 ce qui leur donnera amplement le temps de planifier leur voyage.

Nouveau cette année !

Bourse John H. Borden

Une bourse d'une valeur de 1000\$ sera offerte chaque année à un étudiant(e) gradué(e) dans une institution canadienne pour ses recherches innovatrices en lutte intégrée ayant une emphase entomologique. La bourse sera attribuée en raison des seuls critères de réussite académique. **Date limite : 13 février 2006.**

Consulter <http://esc-sec.org/students.htm> pour plus de détails ou contacter Rose De Clerck-Floate à Floate@agr.gc.ca



Steve Marshall

Entomological Society of Canada awards and scholarships

Students, note the change in deadlines for most awards and scholarships being announced for 2006. Please also make sure you check the ESC website in the New Year for updated application forms and conditions.

Postgraduate Awards

Two postgraduate awards of \$2000 will be offered to assist students beginning study and research leading to a post-graduate degree in entomology (normally one to a MSc, and one to a PhD student). The postgraduate awards will be made on the basis of high scholastic achievement. **Deadline: 13 February 2006.**

Research-Travel Scholarship

Two research-travel scholarships of a maximum of \$2000 each will be awarded to help students increase the scope of their graduate training. Applications will be judged on scientific merit. **Deadline: 13 February 2006.**

Biological Survey of Canada Scholarship

In recognition of the Biological Survey of Canada, the ESC is offering one postgraduate award of \$1000 to assist a student in a postgraduate program who is studying insect or terrestrial arthropod biodiversity in Canada. The award will be made on the basis of high scholastic achievement and excellence in faunistics, and will be offered in alternate years to the Keith Kevan Scholarship. **Deadline: 13 February 2006.**

Student Conference Travel Awards

One or more awards of \$500 each to be awarded as financial assistance for travel by student members of ESC to the 2006 annual meeting in Montreal. To be eligible, students must present a paper or poster at the annual meeting. Applications will be judged on academic merit. **Deadline: same as deadline for abstracts to annual meeting** (i.e., July; watch for more information

in the *Bulletin* or on the ESC website, <http://esc-sec.org>). Note: winners will be notified by September 2006 so travel plans can be made.

New this year!!

John H. Borden Scholarship

One scholarship of \$1,000 will be awarded yearly to a postgraduate student at a Canadian institution for innovative research in Integrated Pest Management with an entomological emphasis. The scholarship will be made on the basis of high scholastic achievement. **Deadline: 13 February 2006**

See <http://esc-sec.org/students.htm> for complete award details, or contact Rose De Clerck-Floate at Floate@agr.gc.ca

Seeking Graduate Students

I am seeking one or two qualified students interested in pursuing graduate studies in insect behavior and chemical ecology at either the MSc or PhD level. The Department of Biological Sciences at the University of Alberta has a large graduate program (>200 students), and substantial strength in entomology and ecology. Applications will be accepted until positions are filled.

Our research examines factors influencing mate finding in several moth mating systems in managed and natural landscapes. Projects could include both basic behavior and the application of semiochemicals to Integrated Pest Management. Suitable applicants are eligible for teaching and research assistantships (minimum \$17 700 per year). Operating funds are provided in part by existing support (NSERC). Students would also be expected to pursue additional sources of funding. If interested, please contact me at:

Maya Evenden

Department of Biological Sciences

University of Alberta

Edmonton, AB T6G 2E9

Telephone: (780) 492-1873

Fax: (780) 492-7150

Email: mevenden@ualberta.ca

www.biology.ualberta.ca/faculty/maya_evenden/

ESC Student Awards 2005

There was a wonderful showing of excellent student applications this year from across the country. All winning students were available at the Annual Meeting in Canmore, Alberta to accept their award and/or Society acknowledgement of their accomplishment. Congratulations to these students!

Research Travel Scholarship: This year a scholarship was awarded to **Owen Lonsdale**, a PhD student at the University of Guelph. Owen is conducting a revision of the New World dipteran family, Clusiidae, using both morphological and molecular techniques, and requested travel to the University of North Carolina to accomplish his molecular research.

Student Conference Travel Awards: Two students received awards to help them travel to the 2005 Annual Meeting in Canmore, where they gave presentations on their research. The recipients were, **Kathryn Dau-Schmidt**, a MSc student from the University of Prince Edward Island,

and **Maxence Salomon**, a PhD student at Simon Fraser University. Kathryn is studying the biology and biocontrol of the European corn borer as a pest of potatoes, and Maxence is studying the behavioural ecology of western black widow spiders.

Postgraduate Awards: The 2005 Postgraduate Award for a PhD student went to **Zoë Lindo** from the University of Victoria. She is studying oribatid mite community ecology in ancient Western red cedar forests of Vancouver Island. The MSc Postgraduate Award went to **Andreas Wins-Purdy** of the University of Alberta, who is studying a novel approach of controlling an apple moth pest using an oil-pheromone combination.

Keith Kevan Scholarship: Awarded to a deserving postgraduate student studying arthropod systematics, this year Mrs. Keith Kevan herself was in attendance at the Canmore banquet to present the award to **Amanda Roe**. Amanda is a PhD student at the University of Alberta, who is studying the molecular systematics and phylogeography of *Dioryctria* moths.



The winners of the ESC Student Awards, presented at the ESC/ESA Joint Annual Meeting, 4 November 2005, Canmore Alberta, from left to right: Maxence Salomon, Owen Lonsdale, Amanda Roe, Andreas Wins-Purdy, Zoë Lindo, Kathryn Dau-Schmidt

Graduate Student Symposium

**Joint Annual Meeting of the
Entomological Society of Canada and
the Entomological Society of Alberta
4 November 2005, Canmore, Alberta**

**Organizers: Tonya Mousseau and Tyler
Cobb**

Comparison of component communities associated with cynipid galls near James Bay and central Ontario.

M.J.T. Bodnar, J.D. Shorthouse
Dept. Biology, Laurentian Univ., Sudbury, ON
P3E 2C6

Populations of galls induced by the cynipid wasp *Diplolepis spinosa* on the stems of roses were sampled at five locations from Manitoulin Island in Lake Huron, northwards to the mouths of three rivers entering James Bay. Gall populations near James Bay are isolated and found only on riverbanks. Even so, James Bay galls housed assemblages of parasitoids similar to those of southern galls. How gall communities remain diverse at isolated northern sites will be discussed.

The role of diversity in agricultural systems: effect of within field diversification on *Delia radicum* (Diptera: Anthomyiidae) oviposition and cauliflower yield.

C. Parsons^{1,2}, P. Dixon¹ and M. Colbo²
¹Agriculture & Agri-Food Canada, PO Box
39088, St. John's, NL, A1E 5Y7. ² Memorial
University of Newfoundland, St. John's, NL, A1B
3X9

Allowing a diversity of vegetation in agricultural systems is an area of increasing importance as we search for more sustainable forms of crop production. Bare-ground monoculture cropping systems are known for their instability and susceptibility to insect pest outbreaks. Increasing the

diversity within a cropping system enables growers to rely on basic ecological processes to help manage insect pests. A diverse cropping system favours the presence of beneficials to prey upon pest species and plants that will either physically or chemically repel pests and/or disrupt herbivores in their search for host plants. Two research trials, conducted in St. John's, Nfld., investigated the effect of field diversification on first-generation *Delia radicum* egg numbers and the effect of intercrop competition on cauliflower yield. *D. radicum* laid fewer eggs on cauliflower transplanted into a winter wheat living mulch than on cauliflower in bare ground, however, competition was intense and few marketable cauliflower were produced in the undersown plots. Lettuce planted between cauliflower rows (relay cropping) significantly reduced the numbers of eggs laid by *D. radicum*. Cauliflower yields in the relay-cropped plots did not differ from the bare-ground control due to the complementarity of the two intercrops as well as reduced time competing for key resources. Further research into other possible crop combinations and potential effects on other pests and natural enemies is warranted.

Characteristic communities, hungry hunters, and unknown immatures: Studying spider assemblages in apple orchards.

Tara Sackett¹, Chris Buddle¹, Charles Vincent²
¹Dept. Natural Resource Sciences, McGill Univ.,
Macdonald Campus, 21,111 Lakeshore Rd., Ste
Anne de Bellevue, QC H9X 3V9; ² Centre de
recherche et de développement en horticulture,
Agriculture et Agro-alimentaire Canada, 430 boul
Gouin, St-Jean-sur-Richelieu QC J3B 3E6

Spiders can play an important role in controlling pest populations in agroecosystems such as apple orchards. My research on spiders focuses on their role as predators, how assemblages in apple orchards are affected by adjacent habitats, and whether post-collection data sorting affects the results of community analyses. Using microcosm and mesocosm experiments I investigated the role of spiders in controlling populations of

the orchard pest, *Choristoneura rosaceana* (Lepidoptera: Tortricidae). There is a dramatic population peak of young spiders concurrent with the development of *C. rosaceana* in July; thus spiders may prey upon the larvae. I determined the predatory and functional response of common spiders from three families to varying densities of neonate *C. rosaceana*. Salticids (jumping spiders) are the most effective predators of larvae. Although spiders are known to readily disperse, little is known about what habitat types adjacent to a crop will have spider assemblages similar to those in the crop, and could contain source populations. I investigated whether adjacent habitats with similar vegetation structure and degree of disturbance would have the same assemblages as the crop (apple orchards). Results from assemblage comparisons in May to August 2004 in four orchards and three adjacent habitat types (forest foliage, low growing vegetation, and field) confirmed that both disturbance and vegetation structure affect spider assemblages, and that deciduous forests have the same spider assemblages as orchard foliage. Within this assemblage study I examined potential bias in post-collection exclusion of spider data. Collections of foliage dwelling spiders are mostly immature specimens, which often are not identifiable to species and are excluded from analysis. To determine if this exclusion affects the conclusions of assemblage comparisons, immature spiders collected were reared until maturity and identified to species. Comparative analysis of the assemblages in each habitat used data sets that either included or excluded this extra species information. Rearing immature spiders increased the number of individuals in the study by 52%, and the number of species by 18%. However, analyses of both data sets for assemblage similarity between habitats presented the same conclusion that spider assemblages in orchards are most similar to those in forests, and dissimilar to assemblages in fields and herbaceous forest vegetation.

Temperature changes on honey bees due to infestation by varroa mite.

S. Desai¹, A. Manickavasagan², D.S. Jayas², R. Currie¹

¹ Dept. Entomology; ² Dept. Biosystems Engineering, Univ. Manitoba, Winnipeg, MB R3T 2N2

The parasitic varroa mite is a major pest of bees, throughout the world. Knowledge about the thermobiologic behaviour of honey bees in relation to varroa mites is still fragmentary. Honey bees produce heat from the thorax as a defense mechanism to intruders. The objective of this study was to investigate the thermal behavior of bees in response to the presence of varroa mites on their bodies. Group stress response of bees while infested with varroa mites was measured by infrared thermal photography.

New scientific society

The Canadian Society for Ecology and Evolution/la Société Canadienne d'Écologie et d'Évolution (CSEE/SCEE) has been formed to meet the needs of the Ecology and Evolution community in Canada. The purposes of the society are:

- 1/ to promote the study of ecology and evolution in Canada,
- 2/ to raise public awareness of the importance of ecology and evolution to Canadian society,
- 3/ to facilitate communication between members of the Society and decision-makers in the public, private and non-governmental sectors, and
- 4/ to act as a liaison with Federal and Provincial funding agencies to support and promote ecological and evolutionary research in Canada.

In order to reach these objectives, the Executive and Council of the CSEE will work to establish strong collaborative relationships with other Canadian biological societies and organizations. Their aim is to promote and participate in a powerful synergy that will help achieve collective interests in biological research, public awareness, and advocacy for biological science. For additional information see: <http://www.ecoevo.ca/>

Gaétan Moreau at the Université de Moncton

Gaétan Moreau has been hired to teach entomology and ecology in the Department of Biology at the Université de Moncton. His research will concentrate on the effects of ecosystem alterations on food webs within forest and agricultural systems. He is a member of the research group on leaf beetles (Chrysomelidae) at Uppsala University and is involved in several projects conducted in association with CFS. He contributes also to the *Bulletin of the ESC* through his illustrations of the Adventures of Ento-Man.

Gaétan Moreau completed his BSc and MSc at the Université Laval, and his PhD at the University of New Brunswick. His PhD research was on the influence of forest management on the population dynamics of the balsam fir sawfly



during an outbreak. His postdoctoral studies at the Atlantic Forestry Centre and the Swedish University of Agricultural Sciences focused on the trophic interactions between plants, insects and natural enemies.



Winners of the President's Prize for student presentations at the ESC/ESA Joint Annual Meeting, 4 November 2005, Canmore Alberta, from left to right: Tara Gariepy, University of Saskatchewan (Parasitoids and Biocontrol), Tyler Cobb, University of Alberta (Forest Entomology), Tonya Mousseau, University of Calgary (Faunistics and Systematics), Michael Kasumovic, University of Toronto (Terrestrial, Riparian and Aquatic Ecology), Wim van Herk, Simon Fraser University (Pest Management), Wade Jenner, Carleton University (Poster), Jeff Boone, University of Toronto (Biocontrol Network Award)

Congrès conjoint de la Société d'entomologie du Canada et de la Société d'entomologie de Québec

18 au 22 novembre 2006

l'Hôtel Holiday Inn Midtown, Montréal, Québec

Le thème de la réunion : Diversité.

L'équipe de l'organisation :

Responsable principal et relations avec l'hôtel : Charles Vincent, vincentch@agr.gc.ca

Programme scientifique et décorations : Terry Wheeler, wheeler@nrs.mcgill.ca

Correspondance scientifique, résumés et équipements audio-visuel : Chris Buddle, chris.buddle@nrs.mcgill.ca

Trésorerie, suivi des finances et administration : Michel Cusson, cusson@cfl.forestry.ca

Levée de fonds : Jacques Brodeur, jacques.brodeur@plg.ulaval.ca

Webmestre : Thierry Poiré, poiret@inspection.gc.ca

Arrangements locaux, photographies et programme connexe : Pierre Lemoyne, lemoynep@agr.gc.ca

Coordination du banquet : Johanne Landry, johanne_landry@ville.montreal.qc.ca

Des informations seront disponibles prochainement sur les sites de la Société d'entomologie de Québec : <http://www.seq.qc.ca/> et de la Société d'entomologie du Canada, <http://www.esc-sec.org/>

Joint annual meeting of the Entomological Society of Canada and Entomological Society of Quebec

18-22 November 2006

Holiday Inn Midtown Hotel, Montreal, Quebec

Meeting theme: Diversity

The organisational team:

General chair and hotel related matters: Charles Vincent, vincentch@agr.gc.ca

Scientific program and awards: Terry Wheeler, wheeler@nrs.mcgill.ca

Scientific correspondence, abstracts and audio-visuals: Chris Buddle, chris.buddle@nrs.mcgill.ca

Treasurer, finance tracking and administration: Michel Cusson, cusson@cfl.forestry.ca

Fund raising: Jacques Brodeur, jacques.brodeur@plg.ulaval.ca

Webmaster: Thierry Poiré, poiret@inspection.gc.ca

Local arrangements, photographs & side program: Pierre Lemoyne, lemoynep@agr.gc.ca

Coordination-banquet: Johanne Landry, johanne_landry@ville.montreal.qc.ca

Information will be soon available on the Entomological Society of Quebec website: <http://www.seq.qc.ca/>, as well as the Entomological Society of Canada website <http://www.esc-sec.org/>

Books to be reviewed

If you are interested in reviewing one of the following books, please contact Allan Carroll, Chair of the Publications Committee.

- Acorn, J. 2004. Damsel flies of Alberta: Flying neon toothpicks in the grass. University of Alberta Press, Edmonton. 156 pp.
- Anderson, N.M., and Weir, T.A. 2004. Australian water bugs: Their biology and identification (Hemiptera-Heteroptera, Gerromorpha & Nepomorpha). Apollo Books, CSIRO Publishing, Australia. 344 pp.
- Ben-Dova, Y., and German, V. 2003. A systematic catalogue of the Diaspididae (armoured scale insects) of the world, subfamilies Aspidiotinae, Comstockiellinae and Odonaspidinae. Intercept Limited, Scientific, Technical and Medical Publishers, Andover, Hampshire, UK. 1111 pp.
- Gullan, P.J., and Cranston, P.S. 2005. The insects: An outline of entomology. Blackwell Publishing, Oxford, UK. 505pp.
- Hajek, A. 2004. Natural enemies: An introduction to biological control. Cambridge University Press, New York, NY. 378 pp.

- Heckman, C.W. 2003. Encyclopedia of South American aquatic insects: Plecoptera. Kluwer Academic Publishers. 329 pp.
- LaFontaine, J.D. 2004. Noctuoidea, Noctuidae (Part): Noctuinae, Agrotini, *In*: Hodges RW (Editor) The moths of America North of Mexico. Fascicle 27.1. The Wedge Entomological Research Foundation, Eugene, OR. 385 pp.
- Neunzig, H.H. 2003. Pyraloidea, pyralidae (Part), phycitinae (Part), *In*: Dominick, R.B. et al. (Editors) The moths of America North of Mexico. Fascicle 15.5. The Wedge Entomological Research Foundation, Eugene, OR. 338 pp.
- Russell, S.A. 2004. An obsession with butterflies. Basic Books, Perseus Books Group, NY. 238 pp.
- van Emden, H.F., and Service, M.W. 2004. Pest and vector control. Cambridge University Press, New York, NY. 349 pp.
- Send correspondence concerning book reviews to the Chair of the Publications Committee:
Allan Carroll
506 West Burnside Rd, Pacific Forestry Centre
Victoria, BC, Canada V8Z 1M5
Tel: (250) 363-0639, Fax: (250) 363-0775
E-mail: acarroll@pfc.cfs.nrcan.gc.ca

Seeking Assistant Professor

The Department of Biological Sciences, Towson University, seeks applicants for a tenure-track position at the Assistant Professor level to begin mid-August, 2006, in the field of invertebrate zoology. A PhD in an appropriate field is required. Teaching and post-doctoral experience is desirable. Initial teaching responsibilities will include the following: 1) a major's introductory course in either Biodiversity or Ecology, Evolution and Behavior (to be determined), 2) upper-level undergraduate/graduate-level courses in Invertebrate Zoology and Entomology. Eventually the person in this position may also teach a graduate (Master's) level course in their area of specialization.

The candidate is expected to develop an active research program involving undergraduate and graduate students. Preference will be given to individuals whose research is at least partly field-

oriented and involves the ecology, evolution, behavior, systematics or conservation of invertebrate animals. Additional information on this position is available at: <http://www.new.towson.edu/biology/TU%20Biology%20-%20Available%20Positions.htm>

Qualified applicants should send letter of interest, C.V., one page statements of teaching philosophy and research plans, photocopies of all transcripts, and three letters of recommendation (hard copies of all documents only) to: Chair, Invertebrate Zoologist Search Committee/ Department of Biological Sciences / Towson University / Towson MD 21252 USA. Review of applications will begin 15 Jan 2006 and will continue until a suitable applicant is found. Further questions can be directed to L. Scott Johnson at: sjohnson@towson.edu

In memory / En souvenir de

Thomas Anderson Angus 1915-2005

Tom Angus passed away at the Parkwood Hospital in London, Ontario on 16 June 2005 just a few months short of his 90th birthday. Tom was predeceased by his beloved wife Jane in 1992 and their son John David in 1961. He is survived by his daughters Beth and her husband, John Schiks and their sons, David and Thomas, and by Jeanie and her husband Rod Perkins and their daughters, Elizabeth and Alex, all of whom live in London. As his health began to fail, Tom moved from Sault Ste. Marie to London approximately four years ago to be near his family who meant so very much to him.

Tom Angus was a remarkable man - a World War II veteran, a world renowned insect pathologist, a respected research manager, a long-standing and revered municipal politician, a very accomplished orator, a knowledgeable historian, an extremely community-minded individual, a devoted husband, father and grandfather, a gentleman, a statesman, a respected colleague and a true and wonderful friend. He will long be remembered by those fortunate enough to be associated with him in any capacity.

Tom was born in Toronto in 1915 where he received his High School education. In 1939, he was working in a men's haberdashery in Toronto and, if World War II had not broken out, he might have continued a career along that or similar lines much to the detriment of science and, in particular, insect pathology. However, he enlisted in the Royal Canadian Air Force and was stationed in England where he served with distinction as a bombardier/ navigator and was awarded a Distinguished Flying Cross and Bar. Following the war, Tom took advantage of the educational opportunities afforded veterans and enrolled at the Ontario Agricultural College in Guelph where he earned a BSc in Biology. He later received an MSc from the University of Toronto and his PhD in Microbiology from McGill University. During his university years, Tom worked as a student assistant at the Forest Insect Laboratory in Sault Ste. Marie and, after graduation, was appointed



as a research officer at the Insect Pathology Laboratory which was established in Sault Ste. Marie in 1950 and in 1959 was renamed the Insect Pathology Research Institute (IPRI). It was here that Tom's distinguished research career in insect pathology was carried out and where, with colleagues like Arthur Heimpel and others, he conducted pioneering research which defined the mode of action of *Bacillus thuriensis* (*B.t.*) on lepidopterous insects, thus enabling its subsequent commercial development as an important biological control agent for a wide range of insect pests. Over his career, Tom was the author or co-author of over forty refereed research papers and book chapters, mostly on *B.t.* and other crystalliferous bacteria. Because of his profound knowledge of this particular area and his knowledge of insect pathology in general, he was constantly called upon to address scientific gatherings worldwide where insertion of his renowned sense of humour into what might otherwise be an somewhat cut and dried presentation was sure to keep the audience awake! During his active research career at IPRI Tom's wide knowledge of insect pathology was often called upon by IPRI management for advice and guidance in expanding the Institute's program along new lines and in the recruitment of appropriate staff to fulfill these needs. As a senior researcher, his door was always open for advice and guidance of both his peers and junior colleagues and his scientific in-

tegrity and exceptional command of the English language resulted in continual requests for him to edit his colleagues' research papers. In addition to his career within IPRI, Tom played a key role in the development of the Society for Insect Pathology, first as a Founding Member in 1967 and later serving terms as the Society's Vice-President and President.

In 1970, Tom turned his many talents more to research management and administration and was named Associate Director of IPRI assisting Dr. J.M. Cameron who had been the Institute's Director since its inception. When Dr. Cameron died in 1975, Tom became Acting Director of IPRI, a position he held until the Forest Pest Management Institute (FPMI) was formed in 1977 through amalgamation of IPRI and the Chemical Control Research Institute. From 1977 until his retirement in 1980, Tom served as Deputy Director and Program Manager of Control Products Research and Development at FPMI where his scientific acumen and his people management skills contributed significantly to the somewhat difficult amalgamation of these two previously independent National Institutes. Throughout his research and management career Tom always found time for fitness and exercise. He was a long time member of the Sault YMCA's noon volleyball league and swam at least three times a week, the latter, an activity he maintained in London until shortly before his death.

Tom's service to Sault Ste. Marie, a community that he loved, was second to none. He entered municipal politics in 1960, serving the city first as councilor for Ward 1 and later (when the ward boundaries were changed) for Ward 2, for 31 consecutive years, becoming the city's longest continually-serving municipal politician. His concern for all things in Sault Ste. Marie transcended the wards in which he was elected and won him respect across the entire city. He brought to the council chambers a sound knowledge of accepted political procedures, an excellent working knowledge of the history and the real needs of the city itself, and an innate ability to lead discussion on contentious issues within council to conclusions that were acceptable to most and of optimal benefit to Sault Ste. Marie. Because of these qual-

ities, he was often called upon to serve as the city's Deputy Mayor. In addition to his service on city council, Tom served for several terms as chair of the Algoma Health Unit, as a board member of Sault College and as a board member of Algoma University College, the latter through some of the now successful institution's most trying times.

Tom will long be remembered by all who knew him, not only for his accomplishments and his contributions, some of which have been noted above, but also for his passion for life, his endless humour, his helpfulness in so many ways and his true friendship over the years. We, who were his colleagues, will miss him greatly.

George W. Green
Sault Ste. Marie, Ontario

Recently deceased

Compiled by Ed Becker

Joan Skidmore, wife of Bob Skidmore, #203-2090 Neepawa Ave., Ottawa ON K2A 3M1, died on 15 September 2005. She had been in and out of the hospital for several months. A memorial service was held in the Arboretum at the Central Experimental Farm on 24 September 2005.

Dick Davis, long time insect bionutritionist at the Saskatoon Research Station, died on 23 November 2005 in Peterborough ON at age 80. According to my records, he was living in Peterborough and only his daughter, Elyse Bruce, Unit 25-30 Alexander Ave., Peterborough ON K9J 6B4, knew Dick's address. She called me on 26 November and said that her father died in his sleep.

Christopher John Read Sanders 1935-2005

Chris Sanders was born on 7 October 1935 in Kent, England, where he later graduated from St. Edmonds School, Canterbury, in 1954. He served in the British Army in Germany from 1954 to 1956 as a 2nd Lieutenant in the Royal Engineers. Chris received his BA (Honours in forestry) from Oxford University in 1960. Chris immigrated to Canada after graduation where he worked as a forester for the New Brunswick Department of Lands and Mines. In 1962, he obtained a MSc from the Department of Forestry, University of New Brunswick, where his thesis was titled: *Biology of the carpenter ants of the Fredericton area, N.B.* In 1962, he worked for six months as a Research Scientist with the Canadian Department of Forestry in Fredericton, New Brunswick. He then entered a PhD program at the School of Natural Resources, University of Michigan, from which he graduated in 1965. His thesis, under the supervision of Fred B. Knight, was titled: *Natural regulation of the aphid Pterocomma populifoliae*. He was hired in 1965 as a Research Scientist with the Canadian Forestry Service in Sault Ste. Marie. With the exception of a brief foray into academia in 1985, he continued in that position until his retirement in 1997. From retirement until his passing, Chris enjoyed the status of Emeritus Scientist whilst continuing to further his research goals.

Chris' Honours dissertation while at Oxford, on mycorrhizal associations, was published in the journal *Plant and Science* and his MSc research on carpenter ants was also published in a peer-reviewed journal, *The Canadian Entomologist*. The results of Chris' PhD research were published in the prestigious journal *Ecology*. Chris continued this publication trend throughout his career with 59 additional papers in peer-reviewed journals, 51 in which he was the senior author. He also authored a total of more than 30 book chapters, symposium proceedings or technical reports.

The major focus of Chris' research was the development of pheromone-trap monitoring systems for forest insects, with emphasis on spruce and



jack pine budworms. Chris was also actively involved in research on spruce budworm population dynamics, adult dispersal, mating behaviour, and development of sex pheromones for regulation of populations by mating disruption. Other areas of his research expertise included adult behaviour of white pine weevil, adult behaviour of gypsy moth in relation to mating disruption, behaviour and biology of carpenter ant, and bird populations and predation on Lepidoptera in the boreal forest.

Chris was actively involved in training the next generation of entomologists. He served as an adjunct professor at the University of Guelph, University of Toronto, and Lakehead University where he lectured and co-supervised three MSc and two PhD students. For a short period in 1985, he was employed as a Professor of Forest Entomology at the University of New Brunswick. He was also a sessional lecturer at Algoma University College in Sault Ste. Marie during the 1990s where he taught applied entomology.

Chris was a world-renowned scientist. He was invited to make presentations at symposia in Canada, United States, The Netherlands, France, England, Germany, Switzerland, Australia and Greece, often as a keynote speaker. He participated as a member of a Canadian Forest Service mission to China and a Sault Ste. Marie forestry delegation to Ecuador and Chile. He spent a year at Imperial College, London, U.K. on career de-

velopment leave working with Professor J. S. Kennedy. He was also invited by CSIRO to undertake a career development leave in their Division of Entomology in Canberra, Australia in 1990-1991 to work on mating-disruption strategies for the oriental fruit moth.

Chris was an active member of the Entomological Society of Ontario (ESO), Entomological Society of Canada, Entomological Society of America, and Canadian Institute of Forestry. Chris served as a Director of the ESO from 1995 to 1997 and in 2002 Chris was elected a Fellow of that Society.

Chris was a consummate naturalist and outdoorsman. He was an avid and competent birder, and an active participant in breeding bird surveys and counts, often acting in local and regional coordinator roles. After his retirement, sunny days meant that Chris was either hiking with a pair of binoculars or on the golf course. If the weather turned ugly, he would be found sitting at his desk working on one of his many projects. Chris was a regular on the cross-country ski trails in the Sault Ste. Marie area where he was often seen in the company of his dogs. On 17 May of this year Chris Sanders passed away suddenly while engaged in two of his favourite avocations, birding and sailing. Chris is survived by his wife Susan, son David, daughter Ann Boyonoski and grandchildren Garrett, Hannah and Meagen.

Chris was a friend, colleague and mentor to many. His keen sense of humour, valued opinion and sparkle in his eye will be greatly missed.

Barry Lyons

Canadian Forest Service, Sault Ste. Marie



Although there were many guesses; Thelma Finlayson, Shelia Fitzpatrick, Jarmila Kukalova-Peck, Ellen MacGillivray, Pat MacKay, Judy Myers, Sandy Smith and my personal favourite, George Ball, none were correct, wrong century. This is a photo of Norman Criddle taken in about 1878. For more information on Norman Criddle see, Holliday, N. 2005. Norman Criddle: Pioneer entomologist of the Prairies. Bull. ESC 37:10-19. Thanks to Sherry Dangerfield of the Criddle Vane Homestead Heritage Committee for providing the photo. The key chain will now go to the person who offers up a similarly challenging photo for a subsequent issue of the Bulletin. Editor



Steve Marshall

Standing committees / Comités permanents

Nominations / Nominations

R. Lamb, Chair, Winnipeg
D. Hunt, Harrow
S. Fitzpatrick, Agassiz
D. Quiring, *ex officio*, Fredericton

Elections / Élections

R. Hallett, Chair, Guelph
C. Cutler, Guelph
S. Goodfellow, Guelph
D. Quiring, *ex officio*, Fredericton

Continuing committees / Comités en cours

Achievement Awards / Prix d'excellence

P. Dixon, Chair, St. John's
S. Fitzpatrick, Agassiz
Y. Pelletier, Fredericton
R. Roughley, Winnipeg
D. Quiring, *ex officio*, Fredericton

Annual Meeting / Réunion Annuelle

T. Shore, Chair, Victoria
D. Quiring, *ex officio*, Fredericton

Bilingualism / Bilinguisme

V. Martel, Chair, St.-Jean-sur-Richelieu
M. Mignault, Montreal
M. Marcotte, Quebec
M. Wu, St.-Jean-sur-Richelieu
D. Quiring, *ex officio*, Fredericton

Bylaws, Rules & Regulations / Règlements

G. Gerber, Chair, Winnipeg
T. Mousseau, Calgary
D. Quiring, *ex officio*, Fredericton
R. West, *ex officio*, Portugal Cove-St Philips

Finance / Finance

D. Gillespie, Chair, Agassiz
B. Broadbent, London
P. Mason, Ottawa
P. Bouchard, Treasurer, Ottawa
D. Quiring, *ex officio*, Fredericton

Fund Raising / Levée de fonds under review

Headquarters / Siège social

V. Behan-Pelletier, Chair, Ottawa
J. Cumming, Ottawa
P. Bouchard, *ex officio*, Ottawa
D. Quiring, *ex officio*, Fredericton

Heritage / Patrimoine

C. Gillott, Chair, Saskatoon
E. Becker, Ottawa
J.-P. Bourassa, Trois-Rivières
D. Quiring, *ex officio*, Fredericton

Insect Common Names / Noms communs d'insectes

C. Buddle, Saint-Anne de Bellevue
H. Goulet, Ottawa
J-F Landry, Ottawa
M. Roy, Ste.-Foy
D. Quiring, *ex officio*, Fredericton
W. Gall *ex officio*, Buffalo NY (Chair, Entomological Society of America Common names committee)

Marketing / Comité du marketing

O. Olfert, Chair, Saskatoon
L. Braun, Saskatoon
K. Heller, Salt Lake City
D. Quiring, *ex officio*, Fredericton

Membership / Adhésion

J. Sweeney, Chair, Fredericton
H. Carcamo, ESA, Lethbridge
A. Carroll, ESBC, Victoria
L. Braun, ESS, Saskatoon
D. Hunt, ESO, Harrow
M. Roy, SEQ, Ste. Foy
P. MacKay, ESM, Winnipeg
K. MacKenzie, AES, Kentville

K. Ryan, student rep, Toronto
D. Quiring, *ex officio*, Fredericton

Publications / Publications

A. Carroll, Chair, Victoria
R. Bennett, Victoria
G. Boivin, St.-Jean-sur-Richelieu
P. de Groot, Sault Ste. Marie
P. Kevan, Guelph
K. MacKenzie, Kentville
P. Fields, *ex officio*, Winnipeg
B. Lyons, *ex officio*, Sault Ste. Marie
D. Quiring, *ex officio*, Fredericton
R. Ring, *ex officio*, Victoria

Science Policy and Education / Politique scientifique et éducation

T. Shore, Chair, Victoria
H. Carcamo, ESA, Lethbridge
A. Carroll, ESBC, Victoria
L. Braun, ESS, Saskatoon
D. Hunt, ESO, Harrow
M. Roy, SEQ, Ste. Foy
P. MacKay, ESM, Winnipeg
K. MacKenzie, AES, Kentville
D. Quiring, *ex officio*, Fredericton

Student Affairs / Affaires étudiantes

C. Borkent, Co-Chair, Montreal
G. Smith, Co-Chair, Prince George
A. Henderson, Vancouver
M. Marcotte, Quebec
J. Peterson, Vancouver
J. Perry, Vancouver
J. Savage, Montreal
S. Wilkerson, Victoria
R. De Clerck-Floate, *ex officio*, Lethbridge
D. Quiring, *ex officio*, Fredericton

Student Awards / Prix aux étudiantes et étudiants

R. De Clerck-Floate, Chair, Lethbridge
J. Delisle, Ste Foy
J. Myers, Vancouver
N. Holliday, Winnipeg
T. Wheeler, Ste-Anne-de-Bellevue
D. Currie, Toronto
F. Sperling, Edmonton

D. Quiring, *ex officio*, Fredericton

Ad hoc Committees / Comités ad hoc

Joint Meeting Document / Document du congrès conjoint

T. Shore, Chair, Victoria
J. Sweeney, Fredericton
D. Quiring, *ex officio*, Fredericton

Ento-Man T-shirts for sale

You may have seen people sporting these stylish T-shirts at the ESC/ESA meeting in Canmore this fall. They are now available for a limited time, for \$15 Cdn plus shipping (about \$6 dollars, multiple T-shirts to a single address will save on shipping costs). If you are interested, contact Peggy Dixon (dixonpl@agr.gc.ca, telephone: (709) 772-4763) before 28 February 2006, with the following information: T-shirt size: S, M, L, XL, style: man's or woman's, colour: black, grey, red or white. Delivery should be made before the end of March, well before the summer sampling season.



Carolyn Parsons hard at work in her Ento-Man T-shirt.

Annual Meetings of the Governing Board and Membership

By Rick West, Secretary

Governing Board Meeting, Canmore, Alberta, 2 November 2005

Strategic Review

A summary of activities by and recommendations from the Strategic Review Committee and prepared by President Lamb was distributed for discussion and action. The following motions were approved in the areas of membership, finances, and technology.

Membership

The Guidelines for the Membership Committee (General Item 1) be changed to read: "in consultation with the Office Manager provide an update on membership numbers by classes, to the Treasurer for inclusion in a summary report to the mid-term Executive meeting."

The Guidelines for the Membership Committee be changed to read: "in consultation with the Office Manager, send the first notice for Membership Renewal one month prior to the Annual Meeting, and the first reminder in mid-January."

The Guidelines for the Membership Committee (General Item 6) be changed to read: "in consultation



The 2004-2005 Governing Board of the Entomological Society of Canada, enjoying the mountain air in Canmore, Alberta, 2 November 2005. From left to right: Rick West (Secretary), Charles Vincent (Past-President), Patrice Bouchard (Treasurer), Kenna McKenzie, (Regional Director, AES), Dave Gillespie (Director-at-Large), Dan Quiring (First Vice-President), Peggy Dixon (Second Vice-President), Rose De Clerck-Floate (Director-at-Large), Allan Carroll (Regional Director, ESBC), Bob Lamb (President), Terry Shore, Lorraine Braun (Regional Director, ESS), Hector Carcamo (Regional Director, ESA), David Hunt (Regional Director, ESO), Tonya Mousseau, (Student Representative), Rob Roughley (Director-at-Large), Paul Fields (Editor, *Bulletin*), Barry Lyons (Webmaster), Pat MacKay (Regional Director, ESM), Richard Ring (Editor-in-Chief, *The Canadian Entomologist*).

with the Office Manager and the President, the ESC President will contact those members who have not renewed their membership by March 1st ".

The Guidelines for the Membership Committee (General Item 5) be changed to read: "in consultation with the Office Manager and the President, invite members of Affiliates who are not ESC members to join the ESC as follows: in even-numbered years Regional Directors on the Membership Committee will be requested to contact regional members who are not current ESC members and send a letter from the President, including a brochure, explaining the benefits of membership and inviting them to join".

The Guidelines for the Membership Committee be changed to read: "operate an ESC membership desk during Registration at each Annual Meeting".

The Guidelines for the Membership Committee (under Active Membership Item 3) be changed to read: "In consultation with Office Manager provide new and renewing ESC Members with a welcome including a membership card with password directing the new member to the ESC website for information on the bylaws and activities of the Society. New members will receive the Society's brochure and other information."

The Finance Committee and Treasurer, in consultation with the Webmaster, assess the advisability of using the Website Membership Area to handle on-line payments for membership activities and ESC products using a third-party organization.

The Annual Meeting Committee reassess the Society's role and profile in organizing the Annual Meeting, and if a more prominent role is needed, provide advice on how these goals could be achieved.

The Scientific Editor, Treasurer, Publication and Finance Committees assess the implications and value of eliminating page charges in *The Canadian Entomologist* for members, or increasing the differential for members and non-members, as an encouragement to increase membership.

An ad hoc committee be set up to assess the committee structure of the ESC with a view to restructuring Committees that are not essential to core entomological activities and the well-being of ESC, and report by the mid-term Executive meeting. The Committees and Trustees should advise this ad hoc committee whether their duties are reasonable given the committee structures and volunteer time available. Committees that require consideration are: Fundraising, Headquarters, Marketing, Annual Meeting and Science Policy. The latter two committees may need to be restructured to better serve the aims of the Society.

Finance

The Treasurer, in consultation with the Finance Committee, annually update a summary analysis on the financial situation of the Society, for inclusion in the Minutes of the Mid-term Executive Meeting. The document should include a summary of the financial situation based on the most recent audit, the current number of members and institutional subscribers.

The Finance Committee review membership fees, subscription fees and book sales, and devise ways of assuring charges are neutral to currency changes, so long as pricing schedules do not become unduly complicated.

The Finance Committee and Executive carefully track institutional subscriptions in 2005, 2006 and 2007, reporting back to the Board annually, to assure that appropriate actions can be taken to protect revenue flow for TCE.

The Finance Committee, in conjunction with the Student Awards Committee and Executive, make recommendations on the level of funding for the various awards and determine whether awards should be raised for 2006 or 2007, with the emphasis on increasing the size of the awards and not the number of scholarships offered.

Information Technology

An ad hoc technology committee be struck to develop processes to collect and deliver Societal

information electronically. This ad hoc committee needs to provide an appropriate name for this new committee and develop terms of reference and guidelines to aid in its establishment as a continuing committee.

The Publications Committee, in consultation with the President, should name a small ad hoc committee of technology-savvy entomologists to develop a system that incorporates an electronic review process into the editorial duties of *The Canadian Entomologist*, in consultation with the Editor-in-Chief.

Treasurer

A summary document detailing major financial activities of the Society in the last five years was prepared for the Strategic Review and will be updated each spring and presented to the Board and the Finance Committee before the interim meeting.

Auditor's Report

The financial health of the Society remains positive. Although concerns were raised at the Annual Meeting 2004 about the decrease in revenue due to the lower dollar exchange rate, the Society had a higher net revenue in 2004 (\$24,487) than in 2003 (\$9635). The stated "Balance End of Year" total of \$803,884 is an all time high for the Society.

NRC Contract Renewal

The new contract for the publication of *The Canadian Entomologist* was accepted by the Board in the fall of 2005 and signed by the President, Bob Lamb, in early October. The contract will give us budgeting stability over the next four years.

Resignation of Office Manager

After years of sterling service, Alexandra Devine has given notice of her intention to resign as Office Manager as of 1 May 2006. The incoming President will strike an ad hoc committee to find a replacement.

Scientific Editor

Report received. A "paper flow" problem was addressed at a meeting of the editorial board on November 4th. Some rationalization is needed to address the disproportionate amount of papers submitted to some divisional editors. R. Ring gave notice of his intention to resign at the end of 2006. The President will strike an ad hoc committee to find a replacement.

Editor - Bulletin

Paul Fields gave notice of his intention to resign as Editor of the *Bulletin* in 2006. An ad hoc committee will be struck to find a new editor of the *Bulletin* by the end of June 2006.

Web Site

Web content, access and design needs will be addressed by the new ad hoc technology committee.

Publications Committee

PDF reprints purchased from the ESC may be freely distributed by the author.

Achievement Awards Committee

A list of Criddle Awards was prepared and will be posted on the web site.

Bylaws, Standing Rules and Committee Guidelines Committee

Guidelines for the Annual Meeting Committee should specify the timing of the ESC Annual Meeting so as not to coincide with the Annual Meeting of the Entomological Society of America.

Heritage Committee

The Heritage Committee will update Index to Biographies every five years for publication in the *Bulletin* and posting on the web site.

Insect Common Names and Cultures Committee

The list on the ESC web-site now contains the forms required for people to submit proposals for common names, along with the list of 'recommendations' for selecting common names.

Membership Committee

As of 16 September 2005, there were 494 members, 24 more than in September 2004 and 60 more than in April 2005. In an effort to recruit additional members, a member of the membership committee will be at the registration desk at future meetings. The Society has a full complement of honorary members and cannot add new members at this time.

Student Awards Committee

The John Borden Award, the sixth award administered by the Society, is now developed and will be launched in 2006. In order to facilitate the process of award application, and especially the receipt and review of applications for student awards, the following awards have their annual application deadlines moved or set to a time in mid-February, thus condensing effort: Graduate Research-Travel Scholarship, Postgraduate Scholarship, Keith Kevan Scholarship, Biological Survey of Canada Scholarship, and the John Borden Scholarship.

Changed application forms, ready for the New Year, will be posted on the web. Curriculum vitae information will be required in applications for the Postgraduate and Keith Kevan Scholarships.

Science Policy and Education Committee

It was decided that since in some years it is difficult to obtain suitable nominations for ESC's internal awards, nominations for external awards will not be considered at this time.

The mandate of the Canadian Academies of Sciences (CAS) is to provide a source of credible, independent assessments and advice on science-based matters of public interest and to help with policy development as well as to provide a voice for Canada internationally. The Science Policy Committee contacted the CAS and offered the services of the ESC in providing entomological expertise when the CAS is up and running. Contact with the CAS will be maintained in the event that entomological activities could be given some support.

Soliciting of commercial funding such as advertising will not be pursued at this time.

Student Affairs

Accomplishments of the Committee include updating the Student Wing column in the *Bulletin*, student web pages, an updated Directory of Entomological Education in Canada, an ESC graduate student symposium and a silent book auction to raise funds for the scholarships fund. There are presently 72 student members, but few are involved with the Society. Actions to improve student participation such as brainstorming sessions with students and comparisons to student activity in other societies are needed. Tonya Mousseau is resigning as Chair and a replacement needs to be found. Two

students are interested in maintaining the student web pages.

Marketing Committee

A new edition of *Diseases and pests of vegetable crops in Canada* is being advocated by the current president of the Canadian Phytopathological Society (CPS). No action will be taken by the ESC until a formal proposal is received from the CPS. Potential purchasers of remaining copies of *Diseases and pests of vegetable crops in Canada* are being contacted by mail.

Policy on Sales of Memoirs for which Only a Few or One Print Copies Exist

The Treasurer is investigating whether or not it is appropriate to sell memoirs for which only a few or one print copies exist. CD production with a new computer and scanner at the ESC office may be the best way to resolve this situation.

Annual Meeting Committee

A number of revisions were made to the guidelines for Organization of the Annual Meeting of the Entomological Society of Canada and the most recent version was provided to the Secretary, the upcoming annual meeting chair and posted on the Website. The sequence and status of upcoming meetings is as follows:

2006 - SEQ (contact: Charles Vincent, Chair) - Montreal, 18-22 November 2006, Holiday Inn. Terry Wheeler (Program) Chris Buddle (Audio visuals and local logistics) J. Brodeur and M. Cusson (financing and finances)

2007 - ESS (contact: Dwayne Hegedus, Chair), Cedric Gillott Gillott (Scientific Chair); Keith Moore (Local Arrangements)

2008 - ESO Ottawa (probably John Huber/Fiona Hunter - contacts).

There needs to be a mechanism to ensure that JAM Organizing Committees read and follow the guidelines as much as possible other than just having the Annual Meetings Committee Chair sending them a copy. T. Shore will recommend such mechanisms in consultation with the regional societies. A regional director could be named as a member of the annual meeting committee and serve on the organization committee of the hosting society. The chair of the organizing committee of the previous Annual Meeting should also be consulted by the annual meeting committee to suggest actions by future JAM organizers. Negotiations concerning profit sharing will continue.

Fundraising Committee

The continuation of committee is under review.

Biological Survey of Canada (Terrestrial Arthropods)

The large cooperative project on grasslands continues, and final chapters for a book on grassland habitats are coming in. A major new project has been launched in the form of an electronic *BSC Journal of Insect Identification*. Among other BSC projects, those on forest arthropods, insects of Newfoundland and Labrador, and invasions and reductions in the Canadian insect fauna are most active.

Annual General Meeting, Canmore, Alberta, 4 November 2005

A resolution affirming that the body of knowledge referred to as the theory of evolution is the foundation and unifying principle of biological sciences, and opposing policies that would allow the teaching of Intelligent Design and other faith-based beliefs in public school sciences classes, was passed and will be posted in the Science Policy section of the web site.

Action items from the Governing Board Meeting, Canmore, Alberta, 5 November 2005

Books by the Canadian Phytopathological Society (CPS)

President Quiring met with Bruce Gossen of the CPS advising him that the Society would give the CPS moral support in producing new, smaller and topic specific versions from the *DPVCC* but no financial support. However, the board is concerned that sales of existing copies of the *DPVCC* book are not adversely affected. Any questions of copyright for the new versions would have to be brought before the Publications Committee for review.

Electronic Submission of Manuscripts to TCE

Further to the meeting of the editorial board on 4 November 2006, authors will be asked to submit their manuscripts electronically beginning in 2006.

Membership Poster

The Marketing Committee will design an updated version of the poster taken to annual meetings promoting the Society.

Seeking New Editor-in-Chief of *The Canadian Entomologist*

The Entomological Society of Canada is seeking a replacement Editor-in-Chief of *The Canadian Entomologist*. The Editor-in-Chief has overall responsibility for the scientific and editorial integrity of the journal, and is responsible for publication of *The Canadian Entomologist*. The duties of the Editor-in-Chief have changed dramatically with the appointment of three division editors, each responsible for the scientific calibre of the contents of their assigned division. The Editor-in-Chief is appointed by the Governing Board, is a Trustee of the Society and an *ex officio* member of the Publication Committee. He or she is encouraged to attend the Annual General Meeting and Governing Board Meetings. Currently, the Editor receives an honorarium of \$500/year and can be provided some funds to attend the AGM. This is one of the most important positions within the Entomological Society of Canada. If you are interested in serving in this critical position, please contact, by 1 June 2006,

Dan Quiring
 President Entomological Society of Canada
 Email: quiring@unb.ca
 Telephone: (506) 453-4922

À la recherche d'un nouveau Rédacteur en chef de *The Canadian Entomologist*

La Société d'entomologie du Canada est à la recherche d'un nouveau rédacteur ou rédactrice en chef pour *The Canadian Entomologist*. Le titulaire du poste est responsable de l'ensemble du journal; de sa publication ainsi que de son intégrité éditoriale et scientifique. Cette année, les tâches reliées au poste ont changé considérablement, depuis la nomination de trois rédacteurs, chefs de secteur, dont la responsabilité comprend le contenu et la qualité scientifique du domaine attribué. Le rédacteur en chef est nommé par le conseil d'administration, est un fiduciaire de la société, et un membre *ex officio* du comité de publication. Elle ou il est encouragé à assister à l'assemblée générale annuelle et aux réunions conseil d'administration. Présentement, le rédacteur reçoit de honoraires de 500 \$/an et peut recevoir des fonds pour assister à l'AGA.

Il s'agit d'un des postes les plus importants au sein de la Société d'entomologie du Canada. Si vous désirez servir la Société dans ce poste déterminant, veuillez communiquer, avant le 1 juin 2006, avec :

Dan Quiring
 Président, Société d'entomologie du Canada
 Courriel : quiring@unb.ca
 Téléphone : (506) 453-4922

**55th Annual General Meeting
Radisson Hotel and Conference Centre
Canmore, Alberta
4 November 2005**

President R. Lamb called the meeting to order at 17:55 h. Fifty members were present.

1. Notice of Meeting. Notices of the meeting were published in the March and June 2005 issues of the *Bulletin* (Vol. 37).

2. Proxies. C. Vincent for M. Roy (SEQ)

3. Additions to the Agenda and Approval of the Agenda. N. Holliday moved and K. MacKenzie seconded that the agenda be accepted. **Carried.**

4. Deceased Members of the Entomological Community. R. West thanked Ed Becker who kindly writes letters of condolence to the families of the deceased on behalf of the Society. Ed is the longest serving member of the Society and was in attendance for his 46th consecutive time at an annual meeting of the Society. This distinction was noted by appreciative applause. Ed also produces the *Senior Entomologists Newsletter* and was pleased to see 23 seniors attending the meeting.

A moment of silence was observed in memory of the following members of the Entomological Community who passed away during the past year: Gordon Hamilton, Dave Pengelly, Edna Jacobson, Lorne Paul, Akira Mutuura, Rose Robinson, Elmer Peters, Bruce McLeod, Tony Brown, David Greenbank, Alfred Arthur, Norman Alexander, Françoise Harper, Duncan MacDonald, Ed Swailes, Bev Smallman, Chris Sanders, Alexandra Smirnoff, Lou West and Joan Skidmore.



Paul Fields

The Executive of the Entomological Society of Canada for 2005-2006 at the 55th Annual General Meeting of the ESC, 5 November 2005, Canmore, Alberta, from left to right; Rick West (Secretary), Dan Quiring (President), Bob Lamb (Past President), Peggy Dixon (First Vice-President) and Terry Shore (Second Vice-President).

- 5. Minutes of the 54th Annual General Meeting.** Minutes of the 54th Annual General Meeting were posted on the web site and action items published in the December 2004 issue of the *Bulletin* (Vol. 36). P. MacKay moved and R. Roughley seconded that the minutes be accepted. **Carried.**
- 6. Business Arising from the Minutes.**
- 6.1 Financing Student Awards at Annual Meetings.** Financing student awards is now discussed with the organizers in advance to avoid any confusion. **No action required.**
- 6.2 Data Base Repository.** This item was discussed in the *Bulletin* (Sept 04). The Society will not create a data base repository at this time. **No action required.**
- 7. Report from the Governing Board.** President R. Lamb presented a report on behalf of the Governing Board and gave an update on progress from the strategic review, informing members that a new technology committee has been formed to address technological change and electronic publication. The report from the Governing Board and regular updates are published in the *Bulletin*. This particular report will be published in the December, 2005 *Bulletin* (Vol. 37).
- 8. Auditor's Report.** P. Bouchard presented the Auditor's Report for 2004 as published in the June 2005 issue of the *Bulletin*. P. Bouchard moved and D. Gillespie seconded that the Auditor's report be accepted. **Carried. No action required.**
- 9. Elections Committee Report.** R. West read the Elections Committee report. Those elected were: Terry Shore, Second Vice-President; and Sheila Fitzpatrick, Director-at-Large.
- 10. Installation of Officers.** President Lamb called on C. Vincent to escort T. Shore, Second Vice-President, to the dais then congratulated D. Quiring as incoming President of the Entomological Society of Canada. The new President assumed office and thanked the Members for the honour of being elected President.
- 11. Presentation of Service Awards.** President Quiring thanked R. Lamb, outgoing President, for his service to the Society and presented him with a service award.
- 12. Appointment of Auditor.** P. Bouchard moved and E. Becker seconded that McCay, Duff, and Company be retained as Auditors for 2005. **Carried. Action: P. Bouchard.**
- 13. Resolution** At the request of President Quiring, H. Danks presented the following resolution on behalf of the Entomological Society of Canada:
- 13.1 Thanks to Organizing Committee:**
 "Whereas the Entomological Society of Canada has met jointly with the Entomological Society of Alberta at the Radisson Hotel and Conference Centre, Canmore, Alberta, November 2-5, 2005;
 and
 Whereas there has been a full and interesting meeting of lectures, symposia, posters and papers; and
 Whereas the meeting has been planned with care and concern for those attending; and
 Whereas there has been ample opportunity for social interaction and visits to Canmore and surrounding areas;
 Be it resolved that the Entomological Society of Canada express its sincere thanks to the Organizing

Committee for their hard work and skill in arranging a worthwhile and entertaining program; and Be it further resolved that the Society thank the Organizing Committee and meeting contributors for their generous assistance; and Be it further resolved that the Society express its thanks to the Management and Staff of the Radisson Hotel and Conference Centre for their courteous assistance during the Meeting." The resolution was accepted with a round of applause. **Action: R. West.**

13.2 Evolution vs Faith-based beliefs in Science Classes

D. Johnson moved and G. Ball seconded that the following resolution be accepted:

"Whereas, entomological science is firmly based on the theory of evolution by natural selection, which is the robust, well-proven and congruent foundation of biological science, and Whereas, proponents of Creationism and so-called Intelligent Design have promoted the teaching in public schools of explanations of natural phenomena based on religious faith or political positions, while denying evolutionary theory, without offering evidence of convincing arguments, and Whereas, Creationism and Intelligent Design further undermine science education in general, by presenting misleading arguments, invalid methods, and false definitions, for example regarding what constitutes theory, fact, and hypothesis, and Whereas, scientific organizations have a duty to maintain the high quality of science in research, education and service to society, Therefore, be it resolved that the Entomological Society of Canada, like other scientific societies and their members, affirms that the body of knowledge referred to as the theory of evolution is the foundation and unifying principle of biological sciences, and further that the Entomological Society of Canada opposes policies that would allow the teaching of Intelligent Design and other faith-based beliefs in public school sciences classes."

Carried. This resolution will posted on the ESC web site. **Action: Science Policy Committee, B. Lyons.**

14. New Business. There was no other business.

15. Notice of 56th Annual General Meeting. The 56th Annual General Meeting will be held 18-22 November 2006 with the Société d'Entomologie du Québec at the Holiday Inn Midtown, Montreal, Quebec. Further notices for the meeting will be published in the March and June 2006 issues of the *Bulletin* (Vol. 38) and on the ESC web site.

16. Adjournment. President Quiring adjourned the 55th Annual General Meeting at 18:35 h following a motion by D. Quiring, seconded by J. Shorthouse.



Henri Goulet

Larvae of Notodontidae, Mantiou Lake, Watson Ontario

Summary of Committee Reports

By Paul Fields, *Bulletin* Editor

The full versions of the committee reports are available on the Entomological Society of Canada's web site <http://esc-sec.org/>. Committee Chairs and members for 2004-2005 were published in the December *Bulletin* 36(4) 188-189, see page 218 for current Committee Chairs and members.

Annual Report by the President (Robert Lamb)

The year 2005 was an exciting and stimulating one in which to serve as President. The year began with newly-designed ESC publications. Richard Ring for *The Canadian Entomologist* and Paul Fields for the *Bulletin*, their editorial teams and the Publications Committee ensured that the first issues of both serials were outstanding in content and appearance. Pat Bouchard completed his first full year as Treasurer, handling the finances of the Society in exemplary fashion, as well as organizing a new four-year contract with NRC Research Press. Barry Lyons gave the Website a new look, and based on the number of requests for entomological information directed to the President, both the general public and our members found the website to be very useful. Alexandra Devine, Office Manager, was kept busy responding to my many e-mails, as well as carrying out her many other duties with outstanding competence. Of course, Rick West was an amazingly efficient Secretary, as usual, but the view from the President's office reveals clearly just how important Rick is to the Society. Paul Fields deserves special acknowledgement, not only for producing such a fine *Bulletin*, but for his many other contributions to ESC, and for almost daily advice and encouragement. The Committees in general fulfilled their mandates, and some were particularly busy. The Bilingualism Committee should be singled out, for the mostly anonymous but critical work of translating Society documents, particularly for a verbose President who regrettably is not bilingual. This year, I would also like to acknowledge the efforts of the Student Awards Committee; the new awards and the many applications by worthy candidates made for a great deal of work, but valuable outcome for ESC.

Besides the day to day routine of Presidential duties, two larger tasks were accomplished. I found both personally rewarding. One was the production of a digital facsimile of *Maladies et Ravageurs des Cultures Légumières au Canada (MRCLC)*, the French-language version of *Diseases and Pests of Vegetable Crops in Canada*, published 10 years ago by ESC and the Canadian Phytopathological Society. MRCLC recently went out of print but is still in demand in Quebec, and we couldn't afford to reprint 614 pages with over 1000 colour photographs. I was able to scan the book and create a PDF document of reasonable quality when printed. The CD is being sold at \$20, and costs less than \$5 to duplicate commercially; the paper book sold for \$65. Only 100 CD's were produced, but more can easily be made. In the past two months, nine copies of MRCLC have been sold. The popularity of the CD is yet to be determined, but at least we can continue to provide this valuable entomological resource at little cost to ESC. This project served as an effective experiment to determine how valuable entomological publications, both past and future, might be made available.

The second task for the President was to organize and Chair a Strategic Review of the Society. The review focused on Membership, Finances and the Implications of Information Technology, and was completed just in time to be considered by the Board at the 2005 Annual Meeting, thanks to timely input from many members. What struck me from the review process was just how vibrant and healthy our Society is. Importantly, the finances of ESC are in excellent shape. In my view, our financial situation justifies a change in outlook, from a careful husbanding of resources to finding ways to put our money to work to assure that our core entomological activities flourish. The most important activities of ESC are: encouraging graduate students who are the future of the Society; helping members communicate their entomology to each other and the world; and preserving our heritage of entomological publications by making them easily available to entomologists everywhere. As noted by past Presidents, our

goals will be met most easily by embracing the rapid changes in information technology to enhance entomological communication. Of course some aspects of the Society are a cause for concern. Most important is declining membership, although as the review indicates membership could perhaps be stabilized and even increased with some simple changes to routine procedures. Also worrisome is a decline in institutional subscriptions to *The Canadian Entomologist*, the main source of revenue for publishing our journal. The solution to this problem may come through imaginative uses of information technology. With a four-year contract with NRC Research Press in place, we have an opportunity to determine if the decline in subscriptions will continue, and if so, to find a solution.

The Strategic Review cannot be considered finished until the recommendations are considered and implemented, if approved. Much of that task is for 2006 and beyond. My hope is that the review will help ESC see the future a little better, and help our members maintain the fine traditions of entomology in Canada.

Treasurer's Report (Patrice Bouchard, Treasurer)

The Society is in good financial standing, although increases in the new contract with NRC Research Press for the publication of *The Canadian Entomologist* may increase expenditures.

There is a growing interest for the Society to have an online membership renewal system. These transactions usually add some costs to the Society and there may be other drawbacks to such systems. Pros and cons should be identified clearly before a final decision is made. **Action: P. Bouchard, D. Gillespie.**

There should be a review of *The Canadian Entomologist* page charges in an effort to increase membership by charging lower costs to members. **Action: P. Bouchard, R. Ring, A. Carroll, D. Gillespie.**

Finance Committee (Dave Gillespie, Chair)

The 2006 budget was received from Treasurer Patrice Bouchard, and was discussed and approved by the Finance Committee. The modification of the budget to show changes from the previous budget is particularly welcome. The budget now clearly shows where budget items differ by 5% or more from the previous year. This should facilitate the budget discussion at the AGM.

There is a projected deficit of \$17,700, up from \$10,052 in 2005. The projected deficit is of some concern, but it should be noted that over three-quarters of this amount is due to the transfer of funds to the investment fund (i.e. savings), and outlays to scholarships in excess of scholarship fund revenues. General operations receipts are projected to decline in 2006, by \$8350, and although expenditures are also projected to decline, by \$6000, income from other sources (endowment, investment) will also be less, by \$3752. This combined, causes the substantial increase in the projected deficit from the 2005 estimate. The Board should take note of this trend. The Finance Committee recommends a conservative approach to expenditures in 2006. New (unplanned) expenditures should only be undertaken where there is new income to support those expenditures.

Doug Parker has served his term as member of the finance committee and has informed the chair that he will be stepping down, effective at the 2005 AGM. The Chair thanks Doug very much for his years of service to the Society. A replacement will be found for the 2006 year.

The Canadian Entomologist (Richard Ring, Editor-in-Chief)

The period covered by this report is from 1 October 2004 to 30 September 2005. The new format and design of *The Canadian Entomologist (TCE)* seems to have been met with a huge amount of enthusiasm, although some comments and suggestions have been expressed. The advent of the first issue of the new journal also provided me with an opportunity to change some of the Instructions to Authors.

Manuscripts: The total number of manuscripts received was 105. The distribution of submissions by

subject area was as follows: Reviews (Division 1) 2 manuscripts, 2%, Systematics (Division 2) 44 manuscripts, 42%, Physiology and Genetics (Division 3) 9 manuscripts, 9%, Ecology and Behaviour (Division 4), 25 manuscripts, 24%, Insect Management (Division 5), 16 manuscripts, 15%, Techniques (Division 6) 9 manuscripts, 9%, and Forum (Division 7), no manuscripts. This number compares with 114 in 2004 and 123 in 2003. The final tally for the calendar year of 2005, however, may not differ significantly from previous years since I already have an additional 17 manuscripts in hand.

The place of origin of manuscripts is as follows: Canada 53 (51 %), U.S.A. 17 (16 %), Europe 16 (15 %), China 13 (12 %), Japan 5 (5 %), Other 1 (1 %). The proportionate representation amongst countries of origin has not changed significantly, but, perhaps, with a relative decline in the submissions from the U.S. and an increase from Europe and China.

There were 47 manuscripts (45%) suitable for publication, 32 manuscripts (31%) unsuitable, and 26 manuscripts (25%) in progress. The proportion of suitable/unsuitable manuscripts remains at approximately 60 / 40, unchanged from 2004 (60.5 / 39.5) and 2003 (47.7 / 46.3, but with 6% out for review which usually get published).

We/I have experienced a "paper flow problem" this year in the office of *TCE*. This is a topic on the agenda of our Board of Editors' meeting in Canmore on 4 November 2005.

Also to be discussed at that Executive Council meeting is the urgent problem (and solution?) of handling and reviewing manuscripts for the *TCE* in a timely fashion (i.e. electronically). We need someone in the Editor's office who will lead us into the electronic age. AND I AM NOT THE ONE! I therefore tender my resignation as Editor-in-Chief on the 31 December 2006. This is not a precipitous action, but it allows you over a year to discuss the implications of such a move on the whole of our Society, its subscribers and authors (not to mention reviewers), and to choose the most qualified (and willing) person for the job.

I have some recent relevant information on the status of *TCE* and its international ranking among all entomological journals (31 out of 64, and just behind the *European Journal of Entomology*!). Neville Winchester and I plan on working up an article on this subject for the next *Bulletin* of the ESC.

Budget. The budget for *TCE* covers the handling costs for submitted manuscripts. These include office supplies, paper, ink cartridges, telephone, fax and software (when necessary). I have not had a part-time office assistant since April, 2005. The total spent in the fiscal year 2005 so far is \$915. Please remember that when you start talking about "cutting costs"!

Bulletin (Paul Fields, Editor)

The major change for the *Bulletin* in 2005 is the new cover. Kudos to Charles Vincent, Gary Gibson and Allan Carroll for getting this done. With the new colour cover, it will cost about an additional \$500/issue for printing, or about \$0.60/printed copy. I had discussed the advantages and disadvantages of going with colour on the *Bulletin* with the Publication Committee. All that responded agreed that it was worth going with the colour cover.

Sandy Devine suggested that to launch the new cover, the March issue should be mailed to all members. This was discussed with Patrick Bouchard and Bob Lamb, before going ahead with the printing. This required the printing of an additional 300 copies, and mailing an additional 170 copies, at a total estimated cost of \$4000. The March issue cost more because of the full mailing. I estimate that the total cost for the *Bulletin* in 2005 will be \$14 000, compared with \$17 710, \$20 487, \$18 891 and \$9752 for 2001, 2002, 2003 and 2004 respectively.

Advertising has been approved in principal for the *Bulletin*, and many years ago there was advertising in the *Bulletin*. I can think of a number of companies that would be of interest to members; book publishers, entomological suppliers, and a number of companies that would offend some members; pesticide companies and competing journals. For comparison, the *Antennae*, the bulletin of the SEQ,

receives about \$2000/year in advertising, with 2-4 pages of advertising in an issue of 24 pages. The rates for the *American Entomologist* range from \$1000 to 670/full page, depending upon placement and number of issues. It has a circulation of 6000 with a readership of 12 500. I believe we would be able to generate about \$2000/year. This would increase the work of the Editor, although it may be something the Assistant Editor could take on. My question to the Executive in April 2005 was, "Is the \$2000/year worth the headaches?". The answer was: not in the foreseeable future.

Unfortunately, Lucie Royer asked to resign from the position of Assistant *Bulletin* Editor, due to commitments at work. Her last issue was the June 2005. Lucky for me, Marj Smith has agreed to be Assistant *Bulletin* Editor. Marj began officially in August, and she has been a great help in getting out the *Bulletin*.

Next year, 2006, will be my last year as Editor. I have been *Bulletin* Editor for 3 years. I have been pleased with the changes I have brought about in the format and content of the *Bulletin* over the years. However, I feel that the *Bulletin* needs to have a new Editor to continue to bring new ideas to the publication. In March 2006, I will make announcement in the *Bulletin* advertising for people to apply for the position, so that the new Editor can be in place by the fall of 2006.

Web Site (Barry Lyons, Webmaster)

General: Our domain name (esc-sec.org) and annual server fee have been renewed (US\$99.00) as of October 2005 with our service provider (Ready Hosting Inc.). The main default page of the website has undergone a major facelift recently. Even more recently, the French language main page has also been revised to mirror most of the changes to the English language page.

Main Page: As reported to the Interim Executive Board Meeting, a new graphic-intensive header tops both pages with the Society's name in both official languages. The order of the names is opposite in each language's header. The footer is also a graphic banner containing insect pictures. Module buttons are insect photographs from the ESC collection with embedded text. The entire page also has a new colour scheme. The new logo and the new cover for *The Canadian Entomologist* are both displayed on the opening pages. Updates to the main page include links to 1) the 2004 award recipients, 2) the Annual Meeting in Canmore, 3) the September edition of the *Bulletin* and 4) the 2005 revision of the common names list in .PDF format. A link to the rules for the photo contest is also provided on the main page.

Modules

Member Area: The password-protected area has remained unchanged. Access problems to this area were encountered and had to be corrected by the service provider.

Membership: French and English versions of the 2005 membership form, in PDF format, are available on the site.

Executive and Committees: The list of executive members and trustees, and committees of the Society were updated for 2005. The aforementioned individuals should verify that their contact information is correct and that corrections are provided as information changes.

Affiliated Societies: This module has links to the seven regional societies.

Student Affairs: This module contains the 1) Student Members of Entomological Society of Canada; 2) Directory of Entomological Education in Canada (5th edition; revised October 2005); 3) Entomological Society of Canada Graduate Research Travel Scholarships 2005; 4) Entomological Society of Canada Postgraduate Awards 2005 5) Entomological Society of Canada Keith Kevan Scholarship 2005; 6) Entomological Society of Canada Student Conference Travel Awards 2005; 7) Biological Survey of Canada Scholarship 2006; and 8) Entomological Society of Canada Graduate Student Symposium 2005: Call for Submissions. This module provides an outlet for exchange of information by the Student Representative and student members of the Society.

Science Policy and Education: This module was updated in August 2005 when Peggy Dixon, chair of this Committee provided the following documents: 1) Members of the Science Policy and Education Committee, 2004-2005, 2) Mandate of the Science Policy and Education Committee, and 3) Activities of the Science Policy and Education Committee 2004-2005.

Annual Meetings: This module contains a listing of past, present and future Annual Meetings with links to the pages provided by the Regional Societies hosting the events. This page was updated to include a link to the official 2005 Joint Annual Meeting Page (Joint Meeting of the Entomological Society of Canada and the Entomological Society of Alberta, Radisson Hotel and Conference Centre, Canmore, Alberta 2-5 November 2005). If available, photographs from the meetings are also posted here.

Awards: this module was created in May 2005 and includes lists of award winners for 2001-2004, Gold Medal Recipients, C. Gordon Hewitt Award Recipients, and Fellows of the Society. Currently, there is no list for past recipients of the Norman Criddle Award. There are also documents describing the criteria for the three main awards.

Publications: This section has had only a few minor changes over the past six months. The new cover page for *The Canadian Entomologist* is now displayed in this module. This section is linked to current issues of the journal on the NRC Research Press website, abstracts of some past issue, editorial contact information, and administrative information for referees and authors (publication policies and forms). Current subscription rates for 2005 are also posted in this module. The new cover page for the *Bulletin* is now displayed in this module. This section contains links to the current and recent issues of the *Bulletin* in PDF format provided by P. Fields. Editor contact information is also available. c) Memoirs - This page was linked to an existing list of Memoirs.

Insect Photos: This module has not been revised in the last six months.

Common Names: The 2005 revision of the Common Names List is now available through this link.

Entomology Links: The links module has been periodically updated as new links are suggested or existing links require modifications. Broken links should be reported to me when encountered.

Entomology Events: This module was underutilized during the last six months.

Nominations Committee (Charles Vincent, Chair)

Terry Shore and Bob Vernon were nominated as Second Vice-President and Chris Buddle, Sheila Fitzpatrick and Yvan Pelletier were nominated as Director-at-Large.

Elections Committee (Rebecca Hallet, Chair)

Terry Shore was elected as Second Vice-President and Sheila Fitzpatrick was elected as Director-at-Large.

Achievement Committee (Dan Quiring, Chair)

Following a review of the nominations of several well qualified candidates, the awards committee recommended that Dwayne Hegedus receive the C. Gordon Hewitt Award and that Peter Kevan be awarded the Gold Medal. The two recommendations were supported by the Board.

The committee confirmed, as requested, that the winner of the Criddle Award selected by the Entomological Society of Alberta met the criteria for an amateur entomologist. We take this opportunity to extend congratulations to Gary Anweiler, who will be presented the award at this annual meeting.

As requested, the committee wrote summaries of the guidelines for the C. Gordon Hewitt Award and the Gold Medal that were sent to Barry Lyons, who incorporated them into the ESC web page.

We were asked to provide a list of previous Criddle award winners for inclusion on the E.S.C. web site and publication in the *Bulletin*. A review of old *Bulletins* and governing board minutes of the ESC,

as well as web searches of information from regional societies and a request to secretaries of all regional societies for information, has resulted in the identification of the last six Criddle award winners. Six other Criddle award winners, from 1981, 1983, 1986, 1992, 1993 and 1997 were also identified. It is possible that Criddle Awards were not given during the other years. We have attached an appendix that lists the Criddle Award winners mentioned above. If anyone knows of any other winners they should contact the chair of the awards committee.

The recognition of the great contributions made by outstanding members is one of the most important functions of a scientific society. The awards committee is convinced that there are many members of the ESC that have made outstanding contributions to entomology and encourages all members to nominate such individuals for the C. Gordon Hewitt Award and the Gold Medal.

Bilingualism Committee (Michèle Roy, Chair)

The committee has been quite busy this year. We have translated several documents for different members of the ESC. Hélène Chiasson decided to quit. I want to thank Hélène for her important contribution to bilingualism within the society. I have also decided to resign as Chair of the Bilingualism Committee, but Veronique Martel is ready to take over.

For the coming year the Committee we will thus have to get two more volunteers to help out. It will continue to provide help to translate the ESC documents and we will have to put more emphasis in the Bilingualism of our Web site.

The bilingualism committee would like to make a few suggestions to all members who plan to prepare text that is intended for translation into French. In order to help the translators, we suggest that text be as succinct, clear and without the use of familiar or slang expressions as much as possible. The mother tongue of the translators is French and therefore they have difficulty in understanding either colloquial expressions or poorly structured sentences. They have noticed also that certain texts could be shortened without taking away from its meaning. This would greatly help in reducing the work load that usually is requested on a short notice. The members of the Committee would greatly appreciate if this information could be passed on to ESC members and look forward to collaborate with the members in the future.

Bylaws, Standing Rules and Committee Guidelines Committee (Robert Footitt, Chair)

The Committee recommends that a statement be included in the guidelines for the Annual Meeting Committee that this committee " should coordinate the timing of the ESC Annual Meeting so as not to coincide with the Annual Meeting of the Entomological Society of America". This statement should also be included in the Annual Meeting Document. This will avoid future conflicts for people wishing to attend both meetings.

Heritage Committee (Cedric Gillott, Chair)

Further to items in progress noted in the October 2004 Report to the Executive Council, the following actions have been taken: 1. The biography commemorating Bob Randell's retirement, together with obituary notices for Leo Dionne and Charlie Devlin were published in the March 2005 Issue of the *Bulletin*. 2. Plans for articles on previous editors of *The Canadian Entomologist* and *Bulletin*, for publication in the *Bulletin*, are still in the organizational stage. Further exchange of ideas is required between the *Bulletin* Editor and the Chair of the Heritage Committee to determine the most appropriate way to present these biographies.

Three other activities of the Heritage Committee have been completed since the October Report: 1. An obituary for Alfred P. Arthur (formerly AAFC, Saskatoon Research Centre) has been submitted for

publication in the *Bulletin*. 2. A copy of the Program of the 2004 Joint Meeting of the ESC and AES, held in Charlottetown, has been requested, for sending to the National Archives. 3. An enquiry as to the forenames of A.B. Baird, a founder member of the ESC, has been answered, courtesy of Doug Eidt.

The Heritage Committee would appreciate a statement from the Board with respect to the following. In March 2003 (*Bulletin* ESC 35(1): 17), the Heritage Committee (comprising Doug Eidt, Ed Becker and Paul Riegert) published the 'Index to Biography'. The Index, which apparently took an enormous amount of work, was current to the end of 2000. If the Board is of the opinion that the Index is a worthwhile project, it would seem that regular updates would be the best way to keep the project manageable. The 5-year period to the end of 2005 would seem to be an appropriately sized 'bite' for the Heritage Committee to swallow. Presumably, updates could be published in the *Bulletin*.

Insect Common Names Committee (Chris Buddle, Chair)

The Insect Common Names committee has been relatively inactive since the last report, and this is primarily because the Chair has been exceedingly busy over the past several months. This inactivity, however, does not imply lack of interest and we will continue to work on improving the common names list for the ESC. One key development is that the Chair of the Insect Common Names committee for the Entomological Society of America (Wayne Gall) now sits on this committee as an *ex-officio* member. This arrangement is reciprocated as the chair of the ESC's committee (C. Buddle) sits as an *ex-officio* on the ESA common names committee. This will facilitate new common names proposals. For example, a series of common names have been proposed for a set of forest insect pests (as part of the western forest insect work conference), and our committee will rework the relevant proposals for Canada, and these will be integrated into the common names list for the ESC in the future.

We are still working on validating scientific names for the current list. This is close to completion, but some large Orders remain to be finished. The chair of the committee will continue to work on getting this completed. At the completion of this, we will work more directly on making our common names list more user-friendly on the ESC web-site.

The list on the ESC web-site does now contain the forms required for people to submit proposals for common names, along with the list of 'recommendations' for selecting common names. This is a positive step, as now the process for common name proposals is more streamlined.

Membership Committee (Jon Sweeney, Chair)

Membership Trend. Good news for a change! As of September 16, 2005, we had 494 members, 24 more than September 2004 and 60 more than we had in April 2005 (See *Bulletin* 2004 36(4): 202 for detailed record of membership in previous years). Most of the new members are students, which is very encouraging. Many thanks to Bob Lamb who actively recruited members with personal appeals and also to our new and renewing members who see the value in supporting entomology and the ESC.

Science Policy and Education Committee [SPPE] (Peggy Dixon, Chair)

International Commission on Zoological Nomenclature. Request for financial support from the International Commission on Zoological Nomenclature. SPPE recommended that ESC consider a one-time donation with an accompanying letter from the President in support of the ITZN's activities to be circulated to potential government funding agencies. President Lamb subsequently provided a one-time contribution of CDN\$500 from the President's discretionary fund.

External Awards. Nominating ESC members for external awards such as the Gerhard Herzberg Canada Gold Medal for Science and Engineering. It was decided that since in some years it is difficult to obtain suitable nominations for ESC's internal awards, we should not consider nominations for external awards at this time.

Canadian Academies of Science. The Canadian Academies of Science (CAS) is a not-for-profit organization under the auspices of The Royal Society of Canada (RSC). The federal budget of February 2005 included a \$30,000,000 grant over 10 years to support the development of the Academy. The CAS currently is in the process of searching for a President/CEO and is working towards becoming operational early in 2006. A website is being developed and should be launched by March 2006 but for now, information is available at the RSC website, www.rsc.ca under "programs". The mandate of the CAS is to provide a source of credible, independent assessments and advice on science-based matters of public interest and to help with policy development as well as to provide a voice for Canada internationally. The SPPE contacted the CAS and offered the services of the ESC in providing entomological expertise when the CAS is up and running.

The Canadian Society for Ecology and Evolution. Information on this newly formed Society was circulated to the SPPE and is available at www.ecoevo.ca. The purposes of the society shall be (1) to promote the study of ecology and evolution in Canada, (2) to raise public awareness of the importance of ecology and evolution to Canadian society, (3) to facilitate communication between members of the Society and decision-makers in the public, private and non-governmental sectors, and (4) to act as a liaison with Federal and Provincial funding agencies to support and promote ecological and evolutionary research in Canada.

ESC website. The Science Policy and Education Committee page was updated with a list of current members and an outline of activities.

Public education: Every Regional Society is encouraged to apply for \$200 annually to support various aspects of public education and entomological outreach. Societies can also, at their discretion, apply for current year and up to 2 past years together, resulting in a larger grant of \$600. In 2004-2005, the Committee approved a number of requests for Public Education. The Entomological Society of British Columbia was awarded \$600 to fund 10-15 small grants to school teachers to buy equipment/supplies for entomological class projects. The Entomological Society of Manitoba was given \$200 to assist with the purchase of educational materials and supplies and upgrading rearing equipment necessary for insect colonies used in school programs. The SEQ was awarded \$200 in collaboration with the Association des entomologistes amateurs du Québec (AEAQ) to organize activities with the public and to buy supplies for schools and stands.

Annual Meeting. In an effort to recruit additional members, a member of the membership committee will be at the registration desk in Canmore during peak times, with an up-to-date membership list, membership forms, and copies of the new ESC brochures.

Benefits to Honorary Members. Last fall the Membership Committee reviewed the benefits of ESC Honorary Members and recommended they be awarded the full benefits of Active Membership. The following amendment to the standing rules was approved by the membership:

"Honorary Members shall receive all the benefits and voting privileges of Regular members, including the *Bulletin* and *The Canadian Entomologist*, either as print copy or online access." I recently contacted each Honorary Member to let them know of their new privileges.

Student Affairs Committee (Tonya Mousseau, Chair)

In August 2005 I resigned as the ESC student representative. I have emailed all the students regarding an opening in this position - once in August and once in October, and put a notice in the *Bulletin of the ESC* for a replacement; however, I have heard no responses. I will attend this year's ESC Board meeting in Canmore and will still be responsible for the silent book auction, but I would like someone to take over the position. The committee is in good shape and I have found someone to be responsible for the student web pages. At the present time (Oct. 2005) there are 72 students registered with the ESC.

ESC Bulletin Column, the Student Wing. The students think that the possibility of having the president's prize winning abstracts published in the bulletin is a great idea and we hope this will be made possible. The new student representative will be responsible for writing articles to keep members informed of student affairs.

Student Webpages. The student webpages have been updated. Kimberly Rondeau (University of Alberta - krondeau@agr.gc.ca) has agreed to be the ESC Student webmaster.

Directory of Entomological Education in Canada. The Directory of Entomological Information in Canada is completed and is now posted on the ESC website in the student section.

ESC Graduate Student Symposium. The graduate student symposium was organized and moderated by the ESC/ESAB students, notably Tonya Mousseau and Tyler Cobb.

Silent Book Auction. This year, the students have organized the silent book auction at the ESC conference in Canmore, AB.

Comments. We really need incentives for students to get involved. I had a very hard time trying to get students to help me with things and ended up doing most of the work myself. Here are some thoughts from Peggy Dixon:

1. What about putting something in the *Bulletin* to canvass more widely - how could that be done so it would be effective and not just ignored?

2. How do we (ESC) become more relevant and dynamic to students? We need them but what can we offer them to make them want to join and participate?

3. Maybe we could have a brainstorming session with a group of interested students. We could assess/summarize what we do now (the various awards and scholarships, your Committee activities, grad student sessions at the meetings etc.) and come up with some new ideas.

4. Find out what other Societies do that we could copy.

Student Awards (Rose De Clerck-Floate, Chair and Brian Van Hezewijk, Interim Chair)

Committee members came through with detailed, conscientious reviews of what amounted to an excellent showing of student applications for the various awards. The selections were made more difficult by the high quality of many of the competing applications this year; which is in itself good news.

This year we have developed yet another new award; the John Borden Scholarship (\$1,000) to annually assist a postgraduate, entomology student who is studying Integrated Pest Management (IPM) at a Canadian institution. The scholarship terms have been developed with John Borden's input, and were circulated to and given approval by the Governing Board in July 2005. French and English versions of the scholarship terms, an application form and general notice are now complete, and the award will be launched in the new year.

The addition of the John Borden Scholarship now brings the total count of ESC student awards to six. Following is a list of the awards given in 2005 and the successful applicants. Note that the Biological Survey of Canada (BSC) Scholarship was not given this year as it alternates with the Keith Kevan Scholarship.

Graduate Research-Travel Scholarships. Awarded to PhD student, Owen Lonsdale (University of Guelph), for travel to the University of North Carolina in early 2006 to conduct molecular studies on the phylogeny of New World Sobarocephala. A second scholarship winner was chosen, Veronique Martel, but she declined the scholarship because of a conflict with another scholarship.

Postgraduate Scholarships. The PhD award went to Zoë Lindo (University of Victoria), who is studying oribatid mite communities. The MSc award went to Andreas Wins-Purdy (University of Alberta), who is studying novel controls of the obliquebanded leafroller. There were 4 PhD and 10

MSc applicants competing for the awards this year!

Keith Kevan Scholarship. Awarded to Amanda Roe, a PhD student at the University of Alberta, who is working on the molecular systematics of Dioryctria moths.

Student Conference Travel Awards. We awarded Kathryn Dau-Schmidt (MSc at University of Prince Edward Island) and Maxence Salomon (PhD at Simon Fraser University) each \$500 to help with travel to the Canmore meetings. Both were very deserving and appreciative. A total of 9 applications were submitted this year for this relatively new award.

As mentioned in last year's Report to the Governing Board, a growing concern is how to streamline the process of award application receipt and review; especially with the addition of 3 more awards and a growing response from the student population. A suggestion is to move the majority of award application deadlines to sometime in mid-February (i.e., within the academic year), so that they can all be dealt with in one large, concentrated effort by the Chair and Committee. Early in the year also coincides with the deadline time of other university scholarships and awards, and hence, may be a better period for students and supervisors when applying. Of course, the Student Conference Travel Award would still have a deadline tied to submission of meeting abstracts in July. After receiving favourable responses from half the Student Awards Committee and some Board members regarding the plan to change the award deadlines, we are presenting the following resolution for Board vote;

Let it be resolved that in order to facilitate the process of award application, and especially the receipt and review of applications for student awards, that the following awards have their annual application deadlines moved or set to a time in mid-February, thus condensing effort; Graduate Research-Travel Scholarship, Postgraduate Scholarship, Keith Kevan Scholarship, Biological Survey of Canada Scholarship, John Borden Scholarship.

If the proposed resolution is passed, then award notices and applications will be changed immediately ready for the new year's awards cycle.

It also is planned to improve on the application form format for the awards (Brian to help). Changed forms will be posted on the web, ready for the new year. Furthermore, we will add the requirement that curriculum vitae information be provided with applications for the Postgraduate and Keith Kevan Scholarships to help reviewers in giving a fairer and more informed assessment of applications for these awards.

Marketing Committee (Owen Olfert, Chair)

The Entomological Society of Canada (ESC) and The Canadian Phytopathological Society (CPS) collaborated to create *The Diseases and Pests of Vegetable Crops in Canada (DPVCC)*, and the French edition, *Maladies et Ravageurs des Cultures Légumières au Canada (MRCLC)*. Unfortunately, while stocks of the English version are still available, all copies of the French version have been sold, yet are still in demand. Reprinting/revision costs for the MRCLC were prohibitive. Paul Fields suggested that we try to scan MRCLC to a CD which would be available for general purchase. President Bob Lamb has taken the initiative to personally and painstakingly scan the 600 pages of the French MRCLC through the appropriate colour or black-and-white photocopier, and built links between the table of contents and chapters and figures. The software for Adobe Acrobat Reader was added to the CD with the book. Guy Boivin with Claude Richard, CPS, translated the cover pages and Guy Boivin helped by scanning some recalcitrant pages from his personal copy of MRCLC. MRCLC on CD was available for sale (\$20) at the annual meeting of the Entomological Society of Quebec (SEQ), and MRCLC and DPVCC will be available at the 2005 Joint Annual Meeting. See Bob's in depth account of this achievement in the September 2005 issue of the ESC *Bulletin* [http://esc-sec.org/Bulletin_Sep_2005.pdf]

Meanwhile, Kirk Hillier and Alexandra Devine, Office Manager, have been busy compiling lists of potential customers for DPVCC. These potential customers include IPM Coordinators for Northern

United States, Entomological Contacts in Canada and Northern United States, Educational Programs for Organic Gardening in Northern US and Canada, and Organic Grower Organizations.

Annual Meeting Committee (Terry Shore, Chair)

The primary work of the Annual Meeting Committee this year has been in firming up future meeting locations and contacts, providing advice to meeting organizers, and updating and distributing the document "Organization of the Annual Meeting of The Entomological Society of Canada".

One of the issues arising is the wording of the profit sharing arrangement with the hosting society. Current wording suggests that the hosting society may keep the profits after returning the ESC seed money. I would suggest that this be changed to sharing the profits equally between the hosting society and the ESC after return of the seed money.

Another point that has occurred to me is that it has historically been considered that the document "Organization of the Annual Meeting of The Entomological Society of Canada" may be a helpful guide if the organizing society wishes to use it. It is becoming clearer to me that there are many intricacies in these meetings now, such as alternating years of awards and symposia, sponsors with special requirements such as Synchroscopy, details regarding events such as the President's Reception etc. that make it mandatory that this guide be read and followed carefully by the organizing society. Otherwise, things fall through the cracks. I am not sure if there is a mechanism to ensure that JAM Organizing Committees read and follow the guidelines as much as possible other than me sending them a copy.

Future Meetings:

2006 - SEQ , 18-22 November 2006, Montreal, see page 212 for details

2007 - ESS, 30 October, 3 November, Saskatoon, General Chair: Dwayne Hegedus; Scientific Chair: Cedric Gillott; Local Arrangements: Keith Moore.

2008 - ESO, Ottawa (probably John Huber/Fiona Hunter - contacts)

2009 - ESM, Their turn but no invitation yet.

2010 - ESBC, Their turn but no invitation yet.

Biological Survey of Canada (Hugh Danks, BSC Secretariat)

General highlights. The large cooperative project on grasslands continues, and final chapters for a book on grassland habitats are coming in. A major new project has been launched in the form of an electronic "BSC Journal of Insect Identification". Among other BSC projects, those on forest arthropods, insects of Newfoundland and Labrador, and invasions and reductions in the Canadian insect fauna are most active. A field trip associated with the grasslands and forest projects was held in Waterton National Park in July 2005.

Day-to-day coordination and information exchange continues through the Secretariat, including the production of newsletters and other documents, as well as site visits. Information about the Biological Survey of Canada (BSC) on the Internet continues to be updated and expanded: <http://www.biology.ualberta.ca/bsc/bschome.htm> [English], and <http://www.biology.ualberta.ca/bsc/cbchome.htm> [French] A re-designed site (but with similar content) will soon be launched.

Following the recent review by the BSC of its activities, including recommendations for succession when the current head of the secretariat retires, the Canadian Museum of Nature is convening a workshop on October 26 to discuss the future of the Survey with other agencies (including the ESC).

ESC linkages:

BSC Award. The BSC student award is given every two years by the ESC. It will next be awarded in 2006. In due course, the BSC intends to encourage applications for that award.

BSC Annual Report. The BSC annual report for 2005 was submitted to the CMN through the ESC President.

BSC meetings in conjunction with ESC meetings. Holding the 2003 and 2004 meetings of the BSC Committee immediately following the ESC joint annual meetings was successful, and the concept will be continued. However, severe budget reductions for the Survey (and other Museum components) in 2005 has forced a more limited associated meeting, without reimbursement for those attending. It is expected that the normal pattern will resume next year.

BSC symposia at ESC annual meetings. The 2005 Joint Annual Meeting includes BSC symposia about Maintaining Arthropods in Northern Forest Ecosystems and about Fire and Arthropods. Such symposia will continue.

Information for ESC members. An account of BSC activities is published each March and September in the *Bulletin*. (A more detailed report appears in the BSC Newsletter, available on line at <http://www.biology.ualberta.ca/bsc/english/newsletters.htm#arthropods>).

Development of the Survey. The ESC President may be able to offer details about the October 26 meeting at the Canadian Museum of Nature.

Affiliated Societies (Regional Directors)

See page 242 of this issue for the members of the Executives of the Regional Societies.

Entomological Society of Alberta (Hector Cárcamo, Regional Director): The 2005 JAM organizing committee has put together a rich program that will include over 180 science presentations: 48 President's Prize talks, 12 President's Prize posters, 52 regular talks, 27 regular posters, 1 workshop on *Delia* with 5 speakers, 5 Symposia (34 speakers), 1 plenary talk, 1 demonstration (arachnid data base), Heritage Lecture by David Larson, 6 President's Prize Awards and 1 Biocontrol Network Award will be presented for talks and posters.

The ESA is in good financial shape and has retained most of its members. As of October 2005 we have 83 regular members and 29 student members. These numbers are lower than 2004 (96 and 31, respectively) but we expect that after the JAM they will increase.

One other item to report is the Waterton Bio-Blitz 2005 organized by the Biological Survey of Canada that saw 27 enthusiastic entomologists, under the guidance of Dave Langor, invade the park this past summer to aid in the inventorying of insect diversity of this unique ecosystem.

Entomological Society of Saskatchewan (Lorraine Braun, Regional Director): The Spring business meeting of the Entomological Society of Saskatchewan was held on 29 April 2005. Treasurer Dwayne Hegedus reported that the ESS had 53 members in good standing. Committees were discussed for the Joint Annual Meeting of the ESC and ESS to be held 30 Sept. - 3 Oct. 2007, in Saskatoon. Cedric Gillott has agreed to serve as Chair, Scientific Committee, and Dwayne Hegedus will serve as Meeting Chair.

Entomological Society of Manitoba (Pat MacKay, Regional Director): The membership of the Entomological Society of Manitoba rose slightly to 116 this year. There were 23 new members, of which 10 were students, while 14 former members, of which 8 were students, were dropped from the list.

The 2005 Meeting of the Entomological Society of Manitoba took place in Winnipeg on 21-22 October 2005. Plans for the March 2007 Joint Meeting of ESM and the North Central Branch of the Entomological Society of America are progressing well. Brent Elliott and Paul Fields are handling Canadian arrangements. The ESM expects to host the ESC Annual Meeting in 2009.

The Society's members have continued to be active in promoting Entomology since the last report to ESC. Since October 2004, the Youth Encouragement Committee has provided 24 presentations or tours to school or youth groups, reaching over 750 children. An additional 4200 children have been exposed to entomology as a result of the Committee's collaboration on two major events: the Incredible

Insects exhibit at the Manitoba Children's Museum from March to April; and a 3-day event called Amazing Agriculture Adventures hosted by Agriculture in the Classroom in early September. In October, 3 ESM members, Neil Holliday, Bob Lamb, and Pat MacKay, helped the Manitoba Naturalists' Society celebrate its 85th anniversary. Neil spoke on October 17 about Norman Criddle, a Manitoba pioneer entomologist and naturalist. Bob and Pat spoke on October 24 at a MNS and Winnipeg Art Gallery event celebrating the anniversary and the WAG show, "Bug City" and describing the Secrets of the Bug World.

The Entomological Society of Ontario (Dave Hunt, Regional Director): The 142nd Annual Meeting of the Entomological Society of Ontario was held at the University of Toronto, 21-23 October 2005. The ESO will be hosting the Joint Annual Meeting with the ESC in Ottawa in 2008. The ESO continues to be in sound financial shape, with 263 members, including 125 regular members, 103 students, 18 retired, 13 amateur and 4 fellows.

Société d'entomologie du Québec (Michèle Roy, Directeur Régional) : D'abord, depuis octobre 2004, le conseil d'administration compte désormais un membre étudiant. Le Comité d'action pour la promotion de l'entomologie au Québec (CAPEQ) est un comité ad hoc mis sur pied en 2001 dont la mission était de tâter le pouls des différents intervenants dans le domaine de l'entomologie au Québec sur de l'état actuel de la profession dans notre province et d'élaborer des stratégies pour en faire la promotion. Le rapport final sera publié dans le numéro d'Antennae de cet automne. Il y aura ensuite un suivi des recommandations. Le comité des affaires étudiantes a été lui aussi très actif puisqu'il a produit un bottin étudiant regroupant diverses informations sur les étudiant(e)s d'universités québécoises de 2e et 3e cycles dont les projets de recherche touchent à l'entomologie. Une centaine d'exemplaires ont été rendus disponibles lors du congrès 2004 et il est également possible d'obtenir une copie PDF de ce bottin en visitant le site web de la SEQ.

De son côté, l'équipe éditoriale d'Antennae a livré, comme à l'habitude, trois numéros/an bien remplis et de haute qualité. Des énergies ont également été consacrées à l'amélioration esthétique de la couverture du bulletin ainsi qu'à sa mise en disponibilité sur le site web de la SEQ en format PDF. Diverses mises à jour et améliorations ont été apportées au site web de la SEQ. Par exemple, le bottin des membres est disponible en format PDF.

'Vues d'ici', la 131^{ème} réunion annuelle de la SEQ s'est tenue les 4 et 5 novembre à l'hôtel Holiday Inn de Montréal. 'Mille et Une Entomologie; vers de nouveaux horizons', la 132^{ème} réunion se tiendra les 27 et 28 octobre prochain à Jouvence, Orford. En 2006, la réunion aura lieu au Holiday-Inn Midtown à Montréal du 18 au 22 novembre. Cette réunion sera conjointe avec celle de la SEC.

Acadian Entomological Society (Kenna MacKenzie, Regional Director): AES continues to have a small, but dedicated membership. A successful annual meeting was held on June 19-21 at the Lord Beaverbrook Hotel, Fredericton, New Brunswick with over 45 registered attendees from the Atlantic Provinces and Maine, and 30 papers/posters. Pawlina Dexter of the Department of Biology at the University of New Brunswick was awarded the best student presentation and Andrew Morrison, Faculty of Forestry and Environmental Management, UNB was the runner-up. Donna Giberson was recognized for her excellent work organizing the 2004 Joint Annual Meeting of the ESC and AES.

Plans are underway for the next annual meeting to be held at the Agriculture and Agri-Food Canada Research Centre in Kentville on 11-13 June 2006. The website (<http://www.acadianes.org/>) has been well received as a good source of information about entomology in the region. Rick West has done a great job as the Society Webmaster. Submissions for publication in our on-line journal, edited by Don Ostaff, are being solicited (<http://www.acadianes.org/journal.html>). A membership drive is planned for early in 2006.

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Editor's note: Society Directors and Officers are reminded to check these lists, and submit corrections, including the names and positions of new officers.

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**Bulletin
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Canada**

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Rédacteur : Paul Fields
Rédactrice adjointe : Marj Smith

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.

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The Buzz / Bourdonnements

Paul Fields, Editor / Rédacteur



This has been a great year for the *Bulletin*! The new colour cover has served to highlight the diversity and the beauty of the insects that we have the privilege to study daily. Over 100 people have taken the time to contribute to the 2005 *Bulletin*, and I thank them for their efforts. A special word of thanks goes to several people; Bob Lamb (Up front), Andy Bennett (Moth balls and Ento-Man text), Gaétan Moreau (Ento-Man drawings), Tonya Mousseau (Student wing) and Lorraine Forbes (translations and revisions), who have contributed to each issue. Finally, the *Bulletin* would not have been possible without the work of the two Assistant Editors. Lucie Royer has stepped down as Assistant Editor, after doing a great job for over a year. Marj Smith has taken over from Lucie, and she has quickly joined the wonderful world of desktop publishing. Thanks to both of you for your hard work.

I am pleased with the changes in format and content that I have brought to the *Bulletin* over the three years that I have been Editor. However, I feel it is time to step aside, and to have someone else take over the *Bulletin* in January 2007 to bring new ideas to this important part of the Society. If you are interested in serving the Society in this important position, please contact Dan Quiring, President of the Entomological Society of Canada, by 1 June 2006. Although the position requires a considerable time commitment, I have found it very rewarding. My writing skills and editing skills have greatly improved, and I have learned a lot about the world of Canadian entomology. I hope the new Editor will be chosen this summer, so that he or she will have time to get up to speed, before taking over the *Bulletin* in January 2007.

C'était une année formidable pour le *Bulletin*! La page couverture en couleur est une très belle façon de mettre en évidence la diversité et la beauté des insectes, le sujet de notre travail quotidien. Plus de 100 personnes ont pris le temps de contribuer au *Bulletin* en 2005, et je les remercie. J'aimerais remercier tout particulièrement plusieurs personnes; Bob Lamb (Avant-propos), Andy Bennett (Boules à mites et le texte pour les Aventures d'Ento-homme), Gaétan Moreau (les Aventures d'Ento-homme dessin), Tonya Mousseau (L'aile étudiante) et Lorraine Forbes (traduction et révision), qui ont contribué à chaque numéro. Finalement, le *Bulletin* ne serait pas possible sans le travail des deux rédactrices adjointes. Lucie Royer a du quitter ses fonctions de rédactrice adjointe, après avoir fait un super travail pendant plus d'un an. Marj Smith a pris la place de Lucie, et elle a rapidement appris comment fonctionner dans le monde de l'édition. Merci, à vous deux pour votre beau travail.

Je suis heureux avec les changements au format et au contenu que j'ai mis en place au *Bulletin* dans mes trois ans comme rédacteur. Cependant, je pense qu'il est temps pour quelqu'un d'autre de prendre le *Bulletin* en main dès janvier 2007 pour apporter de nouvelles idées à cet élément important de notre société. Si vous êtes intéressé à travailler pour le SEC dans ce poste clé s.v.p. contactez Dan Quiring, le président de la Société d'entomologie du Canada, avant le 1 juin 2006. Malgré le fait que le poste de rédacteur demande un temps considérable, personnellement je l'ai trouvé très valorisant. Mes compétences dans le domaine de l'écriture et de la rédaction ont amélioré énormément, et j'ai appris beaucoup sur le monde de l'entomologie à travers le Canada. J'espère que le nouveau rédacteur sera choisi cet été, pour lui laisser le temps de se mettre à jour, avant de prendre la responsabilité du *Bulletin* en janvier 2007.

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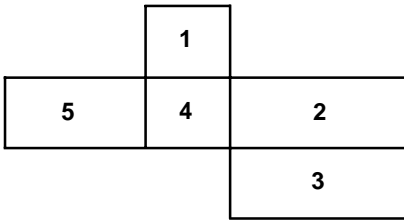
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Images

On the spine: The six-spotted tiger beetle, *Cicindela sexguttata* Fabricius (Cicindellidae), a common predaceous beetle in eastern North America, photo: H. Goulet.

Beside title: The emerald ash borer, *Agrilus planipennis* Fairmaire (Buprestidae), an invasive beetle from Asia that threatens North American ash trees, photo: K. Bolte.

Photos on front cover:

1. *Acyrtosiphon pisum* (Harris) (Aphididae), a species used in studies of seasonality, photo: R. Lamb.

2. Apple sawfly, *Hoplocampa testudinea* (Klug) (Tenthredinidae), trap used to determine population levels in orchards, photo: C. Vincent.

3. Dead lodgepole pine trees killed by mountain pine beetle, *Dendroctonus ponderosae* Hopkins (Scolytidae), in British Columbia, photo: A. Carroll.

4. *Syrphus ribesii* Linnaeus (Syrphidae), a common nectar-feeding hover-fly found in gardens, hedgerows and woodlands, photo: S. Marshall.

5. Research plots used to study the impact of *Macrosiphum euphorbiae* (Thomas) (Aphididae) on flax, photo: R. Lamb.

Back cover: *Ixodes gregsoni* Lindquist, Wu and Redner (Ixodidae), a tick parasite of mustelids, photo: K. Bolte.

Français à l'intérieur de la couverture avant

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