

Bulletin

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Images

Sur le dos : Le Sphinx de l'euphorbe, *Hyles euphorbiae* (L.) (Sphingidae), un agent de lutte biologique introduit en Amérique du Nord dans les années 1960, photo : P. MacKay.

Sous le titre : La punaise de l'érable négondo, *Boisea trivittatus* (Say) (Rhopalidae), se nourrissant de graines d'érables négondo femelles, photo : B. Landry.

1. Le croquet birayé, *Melanophus bivittatus* (Say) (Acrididae), unravageur important en Amérique du Nord, complétant sa mue, photo : T. Wist.

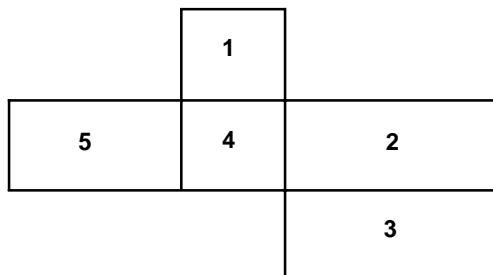
2. Échantillonnage du puceron du soya, *Aphis glycines* Matsumura (Aphididae), photo : J. Brodeur.

3. *Stratiolaelaps scimitus* (Womersley) (Laelapidae), un acarien prédateur utilisé comme agent de lutte biologique contre lesthrips et les sciarides en serre, photo : D. Walter.

4. *Perillus bioculatus* (F.) (Pentatomidae), la punaise bimaculée, un prédateur naturel du doryphore de la pomme de terre, photo : S. Marshall.

5. *Cydia piperana* (Kft.) (Tortricidae), un granivore obligatoire commun sur le pin ponderosa, photo : L. van Akker.

Verso : La punaise assassine, *Zelus luridus* Stal (Reduviidae), se nourrissant d'un syrphé, *Ocyrtamus fascipennis* (Wiedemann) (Syrphidae), photo : S. Marshall.



Up front / Avant-propos

Peggy Dixon, President of ESC / Président de la SEC



As your new President, I would like to take the opportunity to thank you sincerely for this honour. I have been fighting breast cancer since January 2006, and several times wondered if I would be able to fulfill my responsibilities as President, or whether in fact I should resign. There have been few women Presidents and even fewer Newfoundlanders, but mostly I really wanted to do the job - so here I am! It didn't take me long to realize that the large number of volunteers and support makes being President a relatively easy task. Rick West, our Secretary and Pat Bouchard, our Treasurer, in particular deserve mention. The Editor-in-Chief of *The Canadian Entomologist* and the Editor of the *Bulletin*, the Webmaster, Regional Directors, Committee members, our office manager Derna Lisi... contribute countless hours to the Society. I look forward to working with you all over the next year.

I assumed my new position in November at the joint meeting of the ESC and the Société d'entomologie du Québec, in Montréal. This meeting was an unqualified success, with nearly 330 attendees, about half of whom were students; a sincere thank-you to the organizing committee and volunteers. On a personal note, this was my first time speaking French in public and I'd like to thank those who helped with my French pronunciation!

As I write this, it's 10°C in St. John's and there is still some insect activity outside - very unusual for the end of November. Is this an anomaly or a

En tant que nouvelle présidente, j'aimerais saisir l'occasion pour vous remercier sincèrement de cet honneur. Je combats un cancer du sein depuis janvier 2006, et je me suis souvent demandé si je serais en mesure d'assumer mes responsabilités de présidente, ou si je devrais plutôt me retirer. Cependant, il y a eu très peu de femmes présidentes et encore moins de Terre-neuviens, mais par-dessus tout, je voulais vraiment occuper cet emploi - alors me voici! Il ne m'a pas fallu beaucoup de temps pour réaliser que le grand nombre de bénévoles rend la tâche de président plutôt facile. Rick West, notre secrétaire, et Pat Bouchard, notre trésorier, méritent particulièrement d'être mentionnés. Le directeur scientifique en chef de *The Canadian Entomologist*, le rédacteur du *Bulletin*, le webmestre, les directeurs régionaux, les membres des comités, notre gestionnaire de bureau, Derna Lisi et bien d'autres donnent d'innombrables heures à la société. J'ai hâte de travailler avec vous tous tout au long de la prochaine année.

J'ai pris mon nouveau poste en novembre, lors de la réunion conjointe de la SEC et de la SEQ à Montréal. Cette réunion a eu un succès incontestable, avec près de 330 participants, dont près de la moitié étaient des étudiants - un grand merci au comité organisateur et aux bénévoles. Sur une note personnelle, j'ai pour la première fois parlé français devant un auditoire et j'aimerais remercier ceux qui m'ont aidé avec la prononciation!

Alors que j'écris ces lignes, il fait 10°C à Saint John's et il y a encore des insectes en activités à l'extérieur - ce qui est plutôt inhabituel pour le mois de novembre. Est-ce une anomalie ou une indication du réchauffement global? Aucun doute que ceci, parmi bien d'autres questions, incitera la recherche en écologie, biodiversité, systématique et contrôle des ravageurs dans les années à venir. Voilà pourquoi le grand nombre d'étudiants à la réunion de Montréal était particulièrement encourageant, et montrait que l'avenir de l'entomologie, et de la SEC, est entre bonnes mains.

En terminant, rappelez-vous que ces réunions conjointes offrent à tout coup une excellente occasion de recharger ses batteries, d'oublier les tâch-

small indication of global warming? No doubt this and many other issues will prompt continued research in ecology, biodiversity, systematics and pest management in the years to come. This is why the number of students at the Montreal meeting was especially gratifying and a good indication that the future of entomology, and of the ESC, is in good hands.

On a closing note, remember that these joint meetings invariably are an excellent opportunity to recharge one's batteries, to forget job-related administrative duties or thesis-writing for awhile, and to remember why we are entomologists....a fascination for insects (ok - and spiders and mites and arthropods in general). Have a wonderful winter and while you are sorting samples and writing papers, theses and grant applications, remember that the insects are our raison d'être.

es administratives reliées au travail ou la rédaction de thèse pour un moment, et de se rappeler pourquoi nous sommes entomologistes : une fascination pour les insectes (d'accord - des araignées, des acariens et des arthropodes en général). Je vous souhaite un très bel hiver et, alors que vous classez des échantillons ou écrivez des articles, thèses et demandes de fonds, rappelez-vous que les insectes sont notre raison d'être.



Steve Marshall

Meeting announcements / Réunions futures

62nd Joint Annual Meeting of the North Central Branch of Entomological Society of America and Entomological Society of Manitoba

Winnipeg, Manitoba, 25-28 March 2007

http://esa.ent.iastate.edu/2007_winnipeg/meeting

Brent Elliott, BElliott@gov.mb.ca

57th Joint Annual Meeting of the Entomological Societies of Saskatchewan and Canada

Saskatoon, Saskatchewan 29 September to 3 October 2007

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

Dwayne Hegedus, hegedus@agr.gc.ca

55th Annual Meeting of the Entomological Society of America

San Diego, California, USA, 9-12 December 2007

http://www.entsoc.org/annual_meeting/Future_meetings/future_meetings.htm

International Congress of Entomology

Durban, South Africa, 6-12 July 2008

www.ice2008.org.za



Weapons of mass collection (A summary of passive arthropod collection techniques)

The following is a public service announcement to all terrestrial arthropods that may be unaware of the latest passive arthropod collection equipment developed by humans.

Pitfall trap:

These instruments are simple in their design: gaping chasms placed insidiously in the ground to swallow up the unsuspecting terrestrial commuter. Once captured, the victim slowly expires in a watery (or more usually, a propylene glycolly) grave. Do not be tempted by the savoury aromas of succulent faeces or perfectly putrefied flesh. These are nothing more than cruel lures that dangle tantalizingly above you as you slip beneath the surface to a slow, but certain demise.

Avoidance tips: Slow down! Even if your adult life cycle is limited to only one or a few days, it seldom pays to rush. Take your time, utilize what senses you have at your disposal, and beware of gifts that seem too easily obtained.

Malaise trap:

Invented by the Swedish sadist René Malaise, this fiendish implement of flying insect death works like an open tent, intercepting our unsus-

pecting flying brethren with practically invisible walls of netting. It capitalizes on the innate behaviour that many insects share to fly upwards when obstacles are encountered. A cunning mesh roof and walls direct the hapless victim to one or other upper corner where a jar of liquid death intoxicates and pickles them.

Avoidance tips: Whenever hidden obstacles are encountered, do not panic! Whereas instinct may guide you to fly up (or drop down), such behaviour may result in your immediate demise. Remain attached to the obstacle if possible and survey your surroundings carefully. Pan traps (see below) may also be in evidence below to catch those who drop down. The best route is generally to fly out in exactly the opposite direction from which you came.

Sticky trap:

Of all the devilish devices created for the extirpation of insect-kind, this is perhaps the most cruel of all. The careless wanderer at first becomes adhered by one or more appendages. Attempts to extricate the affixed appendage result in further appendages becoming stuck until the captive is irrevocably ensnared. And yet death does not come swiftly for the condemned who lies immobile but ALIVE, enduring hours or days of inextricable entanglement, ultimately succumbing to dehydration or starvation. Victims have been known to plead to passing birds or other vermin to end their futile struggles.

Avoidance tips: As with all traps, calm, objective assessment is the key should one become entrapped. Autotomy of trapped appendages (generally by use of mandibles) is unfortunately, often the best alternative. Whereas attractiveness to mates may be compromised by loss of one or more appendages, the alternative does not bear consideration...

Pheromone trap:

Here is another sinister method of execution, this time aimed at annihilating the males in our populations. Is there no level to which the humans will stoop? In a fair conflict, this kind of trap would likely be outlawed. Capitalizing on the most basic drive of nature, it captures males

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

(often by sticky trap) who are attracted to the sweet (but false) smell of females of their kind.

Avoidance tips: Come on boys! Do you really think your dream mate lives in a cheap-looking, triangular, cardboard box? Be discriminating and don't give humans the pleasure of thinking that our behaviours can be so easily manipulated.

Yellow pan trap:

Similar in some ways to the pitfall trap, these nasty contraptions are aimed at enticing passing travellers into their water-filled domain. Whether this occurs passively by gravity or more actively by mimicking the bright colours of many of our angiosperm allies, the result is the same. Unless you are looking for a lengthy (i.e., interminable) swim, do not be fooled. Even those among us of the aquatic persuasion, should be wary of these devices. The water contained within is generally

laced with surfactants that prevent the egress of even the most gifted of swimmers/ crawlers.

Avoidance tips: Pollinators (especially) beware! All that glitters is not food. It may surprise you that flowers are not generally made of shiny, yellow plastic. Whereas corvids and other pests might be tempted by shiny objects, the discerning insect should be wiser. If for no other reason, think of the embarrassment to friends and family if they were to witness your water-bloated carcass being scooped up and carried off by some hairy biped. Worse still, imagine your impaled body displayed for perpetuity with descriptive commentary of how and where you met your end. Save your relatives the indignity and don't fall for such a cheap ploy.

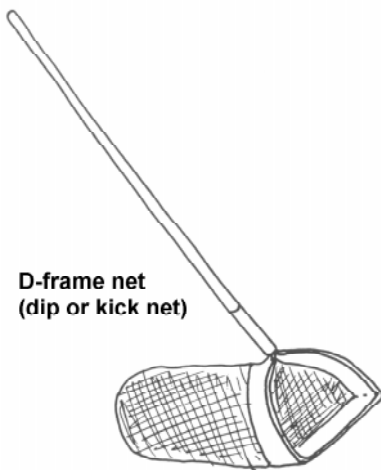
Join me next issue when I discuss more ways of avoiding incorporation into an entomologist's ever-growing slide collection of descriptively annotated *Moth Balls*.



Henri Goulet

A strong but inexpensive collapsible net handle for travel

When I travelled to the Arctic in 2003 to sample aquatic insects in the Thelon River (NWT and NU), I strapped my wooden net handle to my pack and proceeded to the Air Canada check-in counter. I was shocked when Air Canada insisted that it be detached from the pack (although I had travelled this way many times before) and checked as a separate piece of luggage... of course at increased cost. This set me looking for a net handle that could be packed inside a suitcase or backpack for travel, but still function properly when arriving at my destination. I had tried commercially available telescopic and screw-together net handles in the past, but found them both costly and not strong enough for kick-sampling in large river substrates. With a small amount of work, though, we found a low-cost alternative, with some inexpensive hardware supplies and pieces of wooden dowelling. The



D-frame net
(dip or kick net)

Figure 1. Standard D-ring kick net used for aquatic sampling.

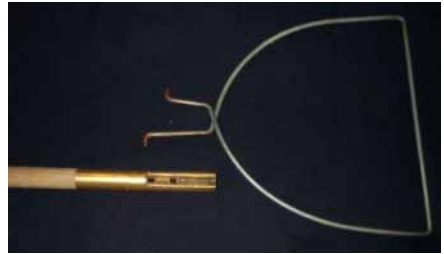


Figure 2. Net ring and handle for commercially available D-ring kick net, showing brass fitting and sleeve.

plans given below are for a heavy-duty D-ring kick net, but the concept should work for other nets as well. Note that measurements are given in imperial measure as well as metric, since these supplies are still usually labelled in imperial measures in hardware stores.

The standard aquatic kick net (Fig. 1) consists of a heavy wooden handle (usually 3/4 inch (~1.9 cm) diameter) with a brass fitting on one end for a set of prongs on a heavy metal net ring to fit into. Once the net ring prongs are inserted into the fitting, a brass sleeve is fitted over top of the fitting to hold it in place (Fig. 2).

The net is deployed by placing it in the water on the surface of the substrate, holding it firmly in place in the current, and disturbing the sediment in front of the net so the current will carry insects into the net (Fig. 3). The net handle should be about 4 feet long (approx 1.25 m), and strong enough to withstand strong current; this makes it



Figure 3. Lisa Purcell using kick net to collect aquatic insects in the Thelon River, NWT.



Figure 4. 3/4 inch Electrical conduit connectors shown in place on net handle.

difficult to pack for travel.

Constructing the net handle: To make the net handle more packable, we needed to be able to separate the net handle into several smaller pieces that could be attached together on site. First, we purchased a 4-foot length (~1.25 m) of 3/4 inch (~1.9 cm) wooden dowelling, and 2 sets of 3/4 inch (~1.9 cm) electrical conduit connectors (Fig. 4) from our local hardware store. The handle was cut into 3 equal sized sections (the number and size of sections will depend on how small a space it must fit into), then the connectors were fit over the handle pieces as shown in Fig. 4. Each connector was then anchored into place using a small brass screw. Black electrical tape can be wrapped around the dowelling pieces to ensure a snugger fit into the connectors.

The screw connectors are not quite enough to make the net handle strong enough for field use, so it is necessary to add a support rod for each net handle section (Fig. 5). This could consist of a smaller piece of wooden dowelling, but the most effective support rod will be one that doesn't swell or shrink with changes in humidity (as wood can do). We used leftover pieces of fibreglass rods, such as those used for tent poles or for driveway markers. The support rods were cut to 3 inches (~7.6 cm), then a drill bit was chosen that was the same size as the support rod. A hole was drilled in both net handle section (Fig. 6), taking care that the hole was perfectly vertical relative to the handle (the best way to ensure this is to use a drill press, and check that the handle and the drill press is vertical using a spirit level). A stronger support can be made with a 4 inch (10 cm) rod, if drill bits are available that are long enough to drill the longer hole.

Insert the rod into one side, then screw the two



Figure 5. Fibreglass support rod.



Figure 6. Net handle section, showing drill hole in centre of connector.

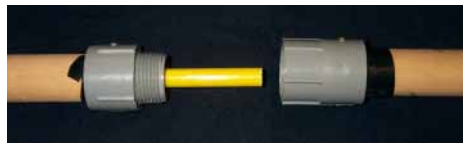


Figure 7. Support rod in place in net handle section.



Figure 8. Close-up view of commercially available net-handle and brass fitting, shown with screw-together net section.

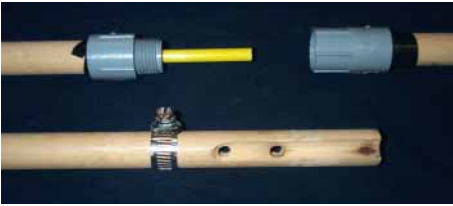


Figure 9. Close-up view of net-handle constructed on the pattern of the commercial one, shown with screw-together net section.

ends together (Fig. 7). Do this for the other pieces to assemble your handle.

Attaching the net-ring: There are two possibilities for attaching the net. The easiest is to simply use a standard net handle for your collapsible net, and cut it as described above (Fig. 8). If you don't want to cannibalize your existing net handle, reproduce the shape of the brass fitting on one end of the handle. Cut a groove into the handle using a router bit, then drill two holes the same size as those on the original, and the same distance apart (Fig. 9). Now you are ready to attach the net ring (Fig. 10), which can be held in place with a hose clamp. Another alternative would be to cut a small piece of pvc pipe to use as a sleeve in place of the brass sleeve of the original.

Attaching the net to the ring: The standard net has a heavy cotton sleeve that is either attached by feeding the wire through the sleeve, or by piercing the cotton with heavy wire clips that are then crimped onto the net ring with pliers. Neither of these methods make for easy net changes, either when changing mesh size or when trying to repair a torn net. Another handy modification of the standard, commercially available, D-ring collecting net, is a ring of velcro around the net for attachment (Fig. 11). The velcro is easy to apply to the net with a sewing machine, and makes changing nets a much more simple process. Simply fold the net around the net ring to attach the two sides of the velcro (Fig. 12).

Your net should now be ready to use (Fig. 13). I've been using mine now for 3 years, and it has proved easy to pack, easy to assemble and disassemble, and strong enough for all sizes of rivers and ponds.

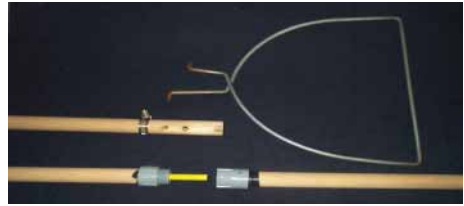


Figure 10. all the pieces of the collapsible net handle, including net-ring.



Figure 11. Net bag, showing Velcro strips sewn around edges

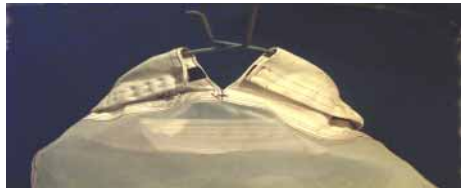


Figure 12. Net bag, shown attached to net ring with Velcro

Cost: (assuming you already have the net ring and net, and based on prices at several Charlotte-town hardware stores in December 2006):

3/4 in. connectors: \$0.45 each (4 total)	\$2.00
Wooden dowelling: 4 ft of 3/4 in	\$3.00
One fibreglass driveway marker-post to cut up for support rods	\$4.00
Brass screws and electrical tape	\$4.00

Approximate total \$13.00

Pat Crawford



Donna Giberson sampling the Eagle River, Yukon, near the Dempster Highway.

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 Professor of Biology at the University of Prince Edward Island in Charlottetown. email: giberson@upei.ca , website: <http://www.upei.ca/~biology/giberson/giberson.html> Pat Crawford is the Pharmacy Consultant, PEI Dept. of Social Services and was formerly an aquatic entomologist working in northern Manitoba. All photos by Donna Giberson, except for photo of Donna Giberson.

Henri Goulet

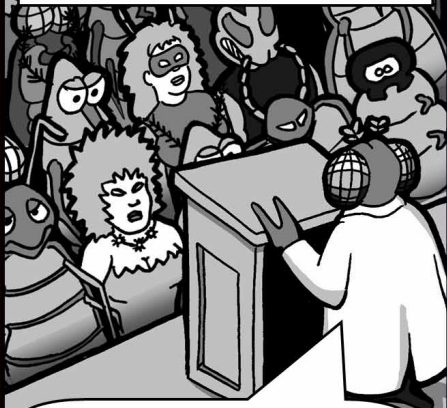


THE ADVENTURES OF ENTO-MAN (EPISODE VII)

TEXT: ANDREW BENNETT

ART: GAËTAN MOREAU

Dr. melanogaster has called a meeting of the greatest Ento-criminal minds in the swarming metropolis of Apodemia.



My sensilla have been stimulated by the news that Ento-Man's urticating interference has once again hindered our well-laid plans.

I have devised a fool-proof ploy to lure Ento-Man to us and eradicate him once and for all! He will not possibly be able to resist...



Classified

WANTED: FRUIT FLY ENTO-MOLOGIST. Must have previous experience in polymerase chain reaction, Southern blot and other molecular techniques. Proficiency with autoclaves also an asset. Apply in person: Suite 6, 66 Drosophila Gardens, Old Dipteraville.

HANG ON, I have something to sell... I just forgot what it was. Oh well, I think I'll call you back.

WANTED: a complete series of THE CANADIAN ENTOMOLOGIST. Will give what you want for it. (333) 555-6666.

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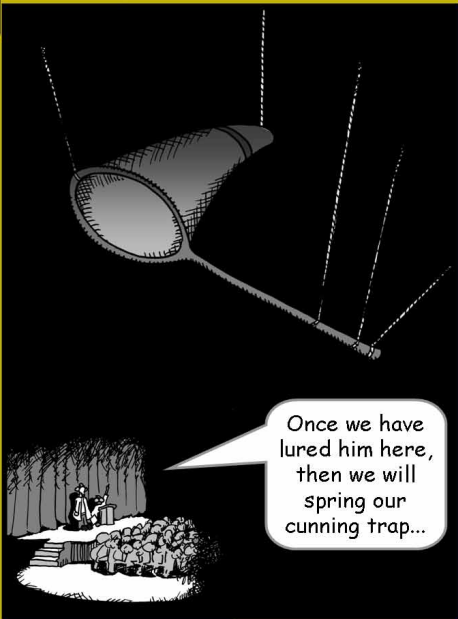
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Once we have lured him here, then we will spring our cunning trap...

ESC 2006 Award Winners / Gagnants des prix SEC 2006

Gold Medal Award

Richard A. Ring

The 2006 recipient of the Entomological Society of Canada's Gold Medal for Outstanding Achievement in Canadian Entomology is Richard A. Ring. This award is presented in recognition of his broad legacy to entomology in Canada, particularly in research on the physiology and ecology of arctic insects and biodiversity, and extensive involvement in graduate education and scientific leadership.

Born in 1938 in a small farm outside Glasgow, Scotland, Richard was educated in Glasgow schools and completed a BSc (Hons.) in Zoology in 1961 and a PhD in Entomology in 1965, both at Glasgow University. Richard began his academic career as Assistant Professor in Zoology at the University of British Columbia, followed by an NSERC Postdoctoral Fellowship at the Entomology Research Institute, Agriculture Canada, in Ottawa (1965-1966). He joined the Department of Biology at the University of Victoria as Assistant Professor in 1966, and remained there throughout his career, rising to the rank of Professor in 1988. In 2004, Richard Ring retired from a long and distinguished career at the University of Victoria as Professor Emeritus.

Richard is a world leader in insect cold-hardiness research and has been one of the most active Canadian entomologists researching insect physiology and ecology in polar regions, especially in the Canadian Arctic. Working on bark beetles, he was among the first to discover that a single species can contain multiple cryoprotective compounds which protect the insect from damage at low temperatures. Early on he realized the significance of connections between adaptations for cold hardiness and for resisting dehydration, as well as the role played by trehalose, an important molecule for protection against both cold and desiccation. Richard's contributions to these areas of study remain relevant for understanding insect cold hardiness, overwintering strategies and adaptation to extreme environments, including not only the Arctic and Antarctic but also saline habitats. Despite his focus on ecophysiology, Rich-



Pierre Lemoyne

ESC President Dan Quiring presenting Gold Medal Award to Richard Ring (right).

ard has pursued research in other areas including the use of native chironomids and caddis larvae in the control of Eurasian watermilfoil, the effects of Btk on non-target Lepidoptera, and, more recently, the fauna of ancient rainforest canopies, conservation and climate change.

Richard has published over 65 articles in peer-reviewed journals, nine book chapters and numerous symposium proceedings and many others. In 2003, a symposium, "Adaptations and Constraints: A Symposium in Honour of Richard Ring", was organized at the annual meeting of the ESC in recognition of Richard's research achievements.

Over 38 years, Richard taught over 16,000 biology and entomology students! In his teaching he is renowned for his enthusiasm and accessibility. His 24 MSc and six PhD students have gone on to successful careers and he has guided dozens of undergraduates. In 2003, he was awarded the University of Victoria's prestigious Science Faculty Teaching Award for educational excellence. As the first entomologist at the University of Victoria, Richard originally developed all the entomology courses. He co-coordinated the large first-year Biology course and was the driving force behind the Biology Co-operative Education Program.

Richard was President of the Entomological Society of Canada (1991-1992) and was elected Fellow in 2001. He was and is President of the Entomological Society of BC (1971, 1983 and 2006) and was granted a lifetime membership in

2003. He is a member of the Entomological Society of America, the Canadian Society of Zoologists, the Royal Entomological Society of London, the Society for Cryobiology and many others. He is well known as a reviewer for primary journals, was editor of the *Journal of the Entomological Society of B.C.* (1988-1994) and is currently Editor-in-Chief of *The Canadian Entomologist* (2004-2006). He was a valued member of the Scientific Committee of the Biological Survey of Canada (1990-2002).

These outstanding contributions to entomological research in the Arctic, to the education of entomologists and biologists, and to various scientific institutions and entomological organizations, make Richard Ring eminently qualified to receive the Society's Gold Medal.

La Médaille d'Or Richard A. Ring

La Médaille d'Or de la Société d'Entomologie du Canada qui reconnaît les réalisations exemplaires d'un entomologiste canadien est décernée au Dr Richard Ring de l'Université de Victoria. L'attribution de ce prix souligne son importante contribution à l'entomologie au Canada, particulièrement pour ses travaux de recherche sur la physiologie, l'écologie et la diversité des insectes arctiques ainsi que pour son implication importante dans les études graduées et son leadership scientifique.

Né en 1938 sur une petite ferme près de Glasgow, en Écosse, Richard a complété un BSc (Hons.) en Zoologie en 1961, et son PhD en Entomologie en 1965, tous deux à l'Université de Glasgow. Richard a débuté sa carrière comme professeur adjoint en Zoologie à l'Université de Colombie-Britannique, suivi par un stage postdoctoral financé par le CRSNG à l'Institut de Recherches Entomologiques d'Agriculture Canada à Ottawa, de 1965 à 1966. Il s'installe ensuite au département de biologie de l'Université de Victoria en 1966, est promu professeur en 1988, et y reste tout au long de sa carrière. C'est en 2004 que Richard Ring prend sa retraite après une

longue et productive carrière à l'Université de Victoria en tant que professeur émérite.

Richard est un leader mondial dans la recherche sur la résistance au froid des insectes, et fut un des entomologistes canadiens les plus actifs en recherche sur la physiologie et l'écologie des insectes dans les régions polaire, surtout dans l'Arctique canadien. Travaillant sur les scolytes, il a été parmi les premiers à découvrir qu'une seule espèce peut posséder différents composés cryoprotecteurs qui protègent l'insecte contre les dommages causés par le froid. Il s'est aperçu très tôt des liens importants entre les adaptations au froid et la résistance à la déshydratation, ainsi que du rôle joué par le tréhalose, une molécule importante dans la protection contre le froid et la dessiccation. Les contributions de Richard dans ce domaine demeurent importantes encore aujourd'hui afin de comprendre la résistance au froid, les stratégies d'hivernation et les adaptations aux conditions extrêmes, comme en Arctique et en Antarctique, mais également dans les habitats salins. Malgré ses principaux travaux en écophysiologie, Richard a également mené des recherches dans d'autres domaines, par exemple sur l'utilisation de chironomides et de larves de trichoptères indigènes dans le contrôle du myriophylle à épi, des effets du Bt sur les lépidoptères non ciblés et, plus récemment, sur la faune des canopées des forêts humides anciennes, sur la conservation et sur les changements climatiques.

Richard a publié plus de 65 articles dans des périodiques scientifiques, neuf chapitres de livres, plusieurs comptes-rendus de symposium, et bien d'autres encore. En 2003, un symposium (Adaptations et contraintes : Symposium dédié à Richard Ring), fut organisé à la réunion annuelle de la Société d'Entomologie du Canada, afin de reconnaître ses réussites en recherche.

Pendant plus de 38 ans, Richard a enseigné à plus de 16 000 étudiants en biologie et en entomologie! Il est reconnu pour son enthousiasme et son accessibilité en enseignement. Il a guidé des douzaines d'étudiants du baccalauréat et ses 24 étudiants à la maîtrise et six étudiants au doctorat ont débuté des carrières réussies. En 2003, il a reçu le prestigieux prix en enseignement par la Faculté des Sciences de l'Université de Victoria

pour son excellence en éducation. En tant que premier entomologiste de l'Université de Victoria, Richard a développé l'ensemble des cours en entomologie. Il a également coordonné le cours de première année en biologie et a été le moteur derrière le programme coopératif en biologie.

Richard a été le Président de la Société d'Entomologie du Canada (1991-1992) et a été nommé membre associé en 2001. Il a été, et est encore aujourd'hui, le président de la Entomological Society of British Columbia (1971, 1983 et 2006) et en 2003, il en est devenu membre à vie. Il est membre de la Entomological Society of America, de la Royal Entomological Society of London, de la Society for Cryobiology et de bien d'autres sociétés. Il est bien connu comme réviseur pour les principaux périodiques, a été rédacteur du *Journal of the Entomological Society of British Columbia* et est actuellement rédacteur en chef pour *The Canadian Entomologist* (2004-2006). Il a également été un membre précieux du comité scientifique de la Commission biologique du Canada de 1990 à 2002.

Ses contributions exceptionnelles à la recherche en Arctique, à l'éducation des entomologistes et des biologistes, et à de nombreuses institutions scientifiques et organismes entomologiques rendent Richard Ring des plus apte à recevoir la Médaille d'Or de la Société.

Nominees Sought for 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. Nominations shall be made only by Members of the Society; they shall be signed by the nominator and by at least one seconder who shall also be a member of the Society.

Nominators should include: (1) the name and address of the nominee(s); (2) a statement of relevant achievements (3-5 pages) which may include but not limited to, the following: outline of research areas, particularly major contributions; numbers of articles in refereed journals, books, book chapters, patents; editorial activities; teaching history, numbers of graduate students, teaching awards; value of grants; involvement in ESC; active involvement and/or memberships in other Societies; entomological extension/community involvement; organizing of symposia, meetings; (3) a current curriculum vitae; and (4) the name of the nominator and at least one seconder. Such documentation should stress the particular achievement or achievements to be considered and not merely the general competences of the nominee. Other seconders may merely state their support, without documentation in a letter of endorsement of the nomination. The Committee shall not prepare the documentation nor conduct research connected with it. **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.

Nominations should be sent to the ESC office in an envelope marked "Confidential" post-marked no later than **28 February 2007** or emailed to the Chair of the Achievement Awards Committee tshore@pfc.cfs.nrcan.gc.ca.

Nominators shall be prepared to submit full documentation should their nomination survive screening based on the initial two-page statements. Such documentation shall include a curriculum vitae and any other documentation the nominators care to provide.



Steve Marshall

C. Gordon Hewitt Award

Chris Buddle

Chris Buddle was born in Peterborough, Ontario on 15 September 1972. He grew up in Lakefield, with summers spent canoeing and fishing on the Kawartha Lakes. His love of nature started early, as his father was a high school biology teacher and an avid naturalist. Chris' interest in arthropods did not begin until his last undergraduate year at the University of Guelph, following a summer working in Doug Larson's Cliff Ecology laboratory. Chris marveled at the diversity of spiders on cliff-faces and embarked on an inventory that proved exciting and challenging. Chris finally took entomology classes during his last term of undergraduate education, and completed a project in Steve Marshall's laboratory. An inspirational weekend collecting trip with Steve on the islands of Fathom Five National Marine Park solidified his interest in arthropods. Questions about patterns of distribution, abundance, and diversity of arthropods started then, and still continue. Chris completed a BSc Honours (with distinction), in pure and applied ecology, at the University of Guelph in 1996.

He received a PhD in Environmental Biology and Ecology from the University of Alberta in 2000, under the supervision of John Spence and Dave Langor. His dissertation was about wolf spider natural history and competition, effects of wildfire, clear-cutting and dead wood on boreal forest spider assemblages. He was a postdoctoral fellow at Miami University in Oxford, Ohio in 2001-2002, and in September 2002, he was hired by McGill University as Assistant Professor of Forest Insect Ecology. Chris has been a productive researcher with current research interests in canopy arthropod ecology, effects of forest management on arachnid biodiversity, long-term biodiversity monitoring, and arachnid ecology. In his short time at McGill he has received grants from major funding agencies including NSERC, the Canadian Foundation for Innovation and the "Fonds Québécois de la Recherche sur la Nature et les Technologies". He has built an active research lab: four MSc and one PhD students have submitted theses or graduated under his supervi-



Pierre Lemoyne

ESC President Dan Quiring presenting C. Gordon Hewitt Award to Chris Buddle (right).

sion, and his laboratory currently hosts four MSc and four PhD students and numerous undergraduates. This research has resulted in 23 scientific publications in peer-reviewed journals. Since joining McGill he has developed two new courses (Economic Entomology and Forest Entomology) and redesigned the Insect Ecology course. Chris has also been active in curriculum design at McGill, including helping to establish a new Neotropical Entomology graduate program in the McGill School of Environment.

He is involved in the Entomological Society of Canada as Chair of the Insect Common Names Committee, as a member of the Organizing Committee for the 2006 Joint Annual Meeting, and as a recently-elected director-at-large. Chris is a member of the scientific committee of the Biological Survey of Canada (Terrestrial Arthropods) and is active in the American Arachnological Society.

Chris receives frequent requests for contributions to public education and outreach and he is an enthusiastic promoter of entomology and arthropod biodiversity to the general public. He lives in Hudson, Quebec, and has been married to Becky Stone for over 10 years, and they have three children: Evan (age 6), Emma (4) and Peter (2). Unlike their father, the kids are starting to show enthusiasm for arthropods at a young age, and the Buddle freezer is suitably stocked with specimens.

Prix C. Gordon Hewitt

Chris Buddle

Chris Buddle est né à Peterborough, en Ontario, le 15 septembre 1972. Il a grandi à Lakefield et a passé ses étés à faire du canot et à pêcher à Kawartha Lakes. Son père enseignant la biologie à l'école secondaire et étant un naturaliste averse, son amour pour la nature s'est rapidement déclaré. Cependant, l'intérêt de Chris pour les arthropodes n'a débuté qu'à sa dernière année au baccalauréat à l'Université de Guelph, après un été à travailler dans le laboratoire d'écologie des falaises de Doug Larson. Chris s'est émerveillé de la diversité des araignées sur les falaises et s'est lancé dans un inventaire tout aussi excitant que rempli de défis. Chris a finalement suivi des cours d'entomologie à sa dernière session au baccalauréat et a effectué un projet dans le laboratoire de Steve Marshall. Une fin de semaine de collecte sur les îles du parc marin national du Canada Fathom Five avec Steve a finalement solidifié son intérêt pour les arthropodes. C'est à ce moment qu'il s'est intéressé aux questions de patron de distribution, d'abondance et de diversité des arthropodes.

Chris a obtenu un baccalauréat avec honneurs en écologie pure et appliquée à l'Université de Guelph en 1996. Il a obtenu son doctorat en biologie et écologie de l'environnement sous la supervision de John Spence et Dave Langor à l'Université d'Alberta en 2000. Sa thèse traitait de l'histoire naturelle et de la compétition chez les araignées loup et des effets des feux de forêts, des coupes à blanc et du bois mort sur les communautés d'araignées en forêt boréale. Il a effectué un stage postdoctoral à l'Université de Miami, en Ohio en 2001-2002. Il a ensuite été engagé comme assistant professeur en écologie des insectes forestiers à l'Université McGill en septembre 2002.

Chris est un chercheur productif dans le cadre de ses recherches actuelles sur l'écologie des arthropodes dans la canopée des forêts, les effets de la gestion des forêts sur la biodiversité des arachnides, le suivi à long terme de la biodiversité et l'écologie des arachnides. Depuis son arrivée à

McGill, il a reçu plusieurs subventions d'organismes subventionnaires majeurs tels que le CRSNG, la Fondation Canadienne pour l'Innovation et le FQRNT. Il a bâti un laboratoire de recherche actif : quatre étudiants à la maîtrise et un étudiant au doctorat ont déposés leur thèse ou ont gradués sous sa supervision, et son laboratoire comprends présentement quatre étudiants à la maîtrise, quatre étudiants au doctorat et de nombreux étudiants du baccalauréat. Ses recherches ont menés à la publication de 23 articles dans des revues avec comité de lecture. Depuis qu'il a rejoint l'Université McGill, il a également mis sur pied deux nouveaux cours (Entomologie économique et Entomologie forestière) et a réorganisé le cours sur l'écologie des insectes. Chris est également actif dans la conception de programme d'études à McGill : il a entre autres aidé à établir le nouveau programme gradué d'Entomologie néotropicale à l'École de l'Environnement.

Chris est impliqué dans la Société d'Entomologie du Canada en tant que président du comité des noms communs d'insectes, en tant que membre du comité organisateur de la réunion conjointe annuelle de 2007 et a récemment été élu directeur général. Il est également membre du comité scientifique de la Commission biologique du Canada (arthropodes terrestres) et est actif dans la société américaine d'arachnologie, la " American Arachnological Society ".

Chris est un enthousiaste promoteur et vulgarisateur en entomologie et en biodiversité des arthropodes. Il est d'ailleurs fréquemment sollicité autant dans le système d'éducation que pour la sensibilisation au grand public. Il vit à Hudson, au Québec, et est marié depuis maintenant plus de 10 ans à Becky Stone avec laquelle il a trois enfants: Evan (6 ans), Emma (4 ans) et Peter (2 ans). Contrairement à leur père, les enfants ont déjà commencé à s'intéresser aux arthropodes, et le congélateur des Buddle déborde de spécimens!

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. Seuls les membres de la Société peuvent présenter des candidatures. Chaque mise en candidature doit porter la signature du présentateur et d'au moins une autre personne appuyant la proposition.

Les mises en candidatures doivent inclure : (1) le nom et l'adresse du (des) candidat(s); (2) les accomplissements pertinents (3-5 pages) qui peuvent inclure, mais ne se limitent pas à : un résumé du domaine de recherche, les contributions majeures; le nombre d'articles dans des revues avec réviseurs, de livres, de chapitres de livres, de brevets; les activités éditoriales; l'historique en enseignement, le nombre d'étudiants gradués, les prix d'enseignement; la valeur des subventions; l'implications dans la SEC; l'implication active et/ou l'adhésion à d'autres sociétés; la vulgarisation et l'implication dans la communauté; l'organisation de symposia et réunions; (3) un curriculum vitae

à jour; et (4) le nom du présentateur et au moins une personne appuyant la proposition. Les candidatures doivent être envoyés au bureau de la SEC dans une enveloppe cachetée identifiée "Confidentiel" au plus tard le **28 février 2007**, le cachet de la poste faisant foi, ou envoyé électroniquement au président du Comité des prix d'excellence (tshore@pfc.cfs.nrcan.gc.ca). **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.

La sélection initiale des candidats se fait sur la base des renseignements fournis dans les textes de deux pages envoyés par les présentateurs, qui doivent être prêts à fournir une documentation complète sur le candidat s'il est sélectionné. Cette documentation additionnelle doit comprendre un curriculum vitae et les autres renseignements que les présentateurs jugent bon de fournir.



Pierre Lemoyne

Winners of the President Prize for presentations at the ESC meeting in Montreal (left to right): Julia Mlynarek (McGill University), Winner in Poster Session, Christina Elliott (University of Alberta), Honorable Mention in Session 2, David Lagacé (University of Western Ontario), Honorable Mention in Session 3, Andrea Patenaude (University of Manitoba), Winner in Session 1, Jennifer Perry (University of Toronto), Honorable Mention in Session 1, Sheena Townsend (Cape Breton University), Honorable Mention in Poster Session and Sean McCann (University of Florida), Winner in Session 3, Geneviève Labrie (UQAM), Winner in Session 2 (not present).

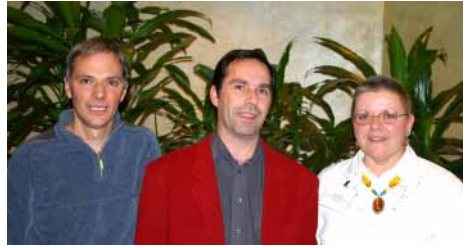
2006 Prix Norman Criddle

André Beaudoin

André Beaudoin est né à Montréal en 1962, où il a grandi en développant un intérêt marqué pour les insectes. Toutefois, ce n'est qu'en 2001 qu'il a transformé cet intérêt en un passe-temps sérieux, après avoir accepté un poste de chercheur scientifique au Service canadien des forêts (SCF) à Québec. Ses recherches en télédétection et géomatique, en plus de ses liens avec des entomologistes du SCF, ont dès lors alimenté sa passion pour en faire un loisir à la fois scientifique et de communication.

André est membre actif et représentant de l'Association des entomologistes amateurs du Québec (AEAQ) depuis 2003, association au sein de laquelle il œuvre auprès de son collaborateur, Yves Dubuc. André a grandement contribué à la dynamisation de la scène entomologique amateur dans la région de Québec et au-delà. En peu de temps, il a contribué avec énergie et enthousiasme au rayonnement de l'entomologie auprès du grand public et, en particulier, auprès des jeunes.

Au-delà de sa collection personnelle de Lépidoptères du Québec, qui intègre des spécimens très rares de migrants, tous capturés par lui-même, on compte parmi ses principales réalisations : l'organisation au sein de l'AEAQ de nombreuses conférences et d'excursions entomologiques pour le public et les élèves des écoles élémentaires, la réalisation, avec la collaboration d'entomologistes amateurs, d'inventaires documentés entre autres dans les réserves écologiques du Ministère du développement durable, de l'environnement et des parcs, et la promotion de l'utilisation d'outils géomatiques accessibles pour des fins entomologiques (GPS, Google Earth, images de télédétection). Finalement mentionnons aussi des ateliers et conférences de l'AEAQ qu'il donne régulièrement, diverses contributions écrites et une entrevue à une émission radiophonique populaire animée par Marie-France Bazzo à Radio-Canada.



Daniel Cormier, SEQ President, André Beaudoin, 2006 Norman Criddle Award winner and Peggy Dixon, ESC President (left to right).

2006 Norman Criddle Award André Beaudoin

André Beaudoin was born in Montréal in 1962, where he grew up and developed an early interest for the world of insects. However, it was only in 2001, after accepting a position as a research scientist at the Canadian Forest Service (CFS) in Quebec City, that his interest for insects developed into a serious hobby. At the CFS, André works in the area of remote sensing and geomatics, but he acknowledges that his interactions with CFS entomologists have helped feed his passion for entomology and turn it into both a scientific and communication hobby.

André has been an active member and regional representative of the Association des entomologistes amateurs du Québec (AEAQ) since 2003, along with Yves Dubuc. In that capacity, André has played a key role in the recent enhancement of the Association's activities in the Québec City region and beyond. During this short time span, André poured his energy and enthusiasm into the promotion of entomology within the general public, with special attention given to the younger adepts of this discipline.

Beside his personal collection of butterflies and moths, which includes some very rare migrant species collected by himself, André's main achievements include: the organization of numerous AEAQ talks and entomological excursions, the coordination and implementation, involving many amateur entomologists, of insect inventories, particularly in ecological reserves of Québec,

under permits issued by the Ministère du développement durable, de l'environnement et des parcs, and the promotion of accessible geomatic tools for entomological purposes (Google Earth,

GPS, free remote sensing images, etc.). His contributions also include AEAQ workshops and talks he gives regularly, various articles on insects and, finally, an interview on a French CBC

Greetings from New Editor-in-Chief of *The Canadian Entomologist*

The first manuscript I ever submitted to *The Canadian Entomologist (TCE)* was quickly rejected by then Editor-in-Chief, Jean Turgeon. I'm rather proud of that milestone in my entomology career, especially now that I am poised to become (on 1 January 2007) the latest in the long line of *TCE* editors stretching back nearly 150 years. Yet another lesson learned while navigating the publication experiential highway: carefully consider the presentation of your message and your target audience.

Over the past few months I have been working closely with Richard Ring, out-going *TCE* Editor-in-Chief, and (somewhat less closely) with the Information Technology Committee to learn the basics of the job and facilitate the transition of *TCE* to full web-based processing of manuscripts. My principal task in 2007 is to oversee this transition but I intend to accomplish this with minimal negative effects on service to authors. I view "service to authors" as the primary function of an Editorial Board. Without compromising the scientific and literary standards of our periodical, my tenure objectives are to ensure publication of any relevant submission (or component parts) and to see that this is done in a timely and consistent fashion. Thus, from editors and reviewers I expect adherence to deadlines, clear argumentation for rejection and revision decisions, and helpful instructions for manuscript improvement. From authors I expect attention to the details of *TCE* Instructions to Authors, adherence to revision deadlines, and thoughtful consideration of editorial comments.

I am excited about this new challenge in my life (and am ready for the slings and arrows!). In a hopeful effort to improve some areas of *TCE*

radio show hosted by Marie-France Bazzo.



manuscript review, Richard and I have created a new editorial division to handle submissions on biodiversity and related topics and appointed a number of new Associate Editors. My grateful thanks are extended to the new members of the Editorial Board for agreeing to be part of the process (their names will appear in the Jan/Feb 2007 *TCE*), to the members of the Board and the entomological community who have provided relevant insightful advice and commentary to me over the past few months, and to the Information Technology Committee for its enthusiastic and attentive pursuit of our web-based goal. Finally, I thank Richard for his active and continuing help in teaching me about the philosophy, practice, and politics of scientific editing.

Robb Bennett

The student wing / L'aile étudiante

Mike Borkent



Chris Borkent

Happy New Year everyone! We were glad to see so many of you turn up at the ESC-SEQ JAM in the beautiful city of Montreal in November. There were a total of 72 student presentations and 37 student posters in the President's Prize competition and the winners and honourable mentions are listed on pg 148.



Jessica Smith

Greg Smith

The Graduate Student Symposium was well attended and very well received by all. All six students who spoke presented entertaining and informative talks showcasing their thesis research. Full abstracts for all of the talks are published in this issue of the Bulletin (pg 145). We would like to sincerely thank the Lyman Museum and Terry Wheeler for providing the funding to cover the selected student's conference fees.

The Silent Auction made \$723 which will go into the scholarship fund. We would like to thank all of the donators such as the Biological Survey of Canada and Hugh Danks, the Assiginack Historical Society, Neville Winchester, Peggy Dixon, the Victoria Bug Zoo, David Langor, Allan Carroll, Jim O'Hara, the Lyman Museum and Atelier Jean Paquet. A number of books arrived on the table without us knowing who the generous contributors were so thanks to all we have not mentioned. And finally, we would like to thank all that helped out by bidding on, and purchasing, most of the items that were available.

One of the benefits of being a student member of the ESC-SEC is the web space available to students on the Student Affairs page for you to post a description of your research. This is a good way to make your work more visible to the entomological community and maybe get a job offer or two! Go to <http://www.esc-sec.org/ESCstudentwebpage.doc> to download the webpage template and submit it to Kimberly Rondeau to have it posted and remember to check out the other students already online at <http://www.esc-sec.org/gradstud.htm>. Another benefit of membership is you receive reminders about upcoming deadlines for awards, etc. If you have any colleagues who have not yet joined, get them to sign up, so they too can benefit from these updates.

IMPORTANT: Deadlines are coming up very soon for scholarships (pg. 148-147). Remember to apply. Last year, no one submitted an application for the John Borden Scholarship worth \$1000!

And finally we would like to acknowledge the time and hard work that Paul Fields has put in as editor of the *Bulletin*. Paul is passing the forceps onto Kevin Floate in the New Year. That's all for now

Thesis roundup / Un foisonnement de thèses

Bourassa, Stephane; sb22@ualberta.ca, MSc, September 2006. *Response of carabid assemblages to genetically modified herbicide-tolerant corn and to sustainable farming*. Supervisors: John Spence and Hector Carcamo, University of Alberta.

Mackay, Catherine A.; cmackay@edynamics.com, MSc, August 2006. *Effects of clearcut logging on organic matter and invertebrate drift exported from headwater streams in the interior of British Columbia*. Supervisors: J. Mark Shrimpton and Brian A. Heise, University of Northern B.C.

Graduate Student Symposium
Joint annual meeting of the
Entomological Society of Canada and
Entomological Society of Quebec
18 November 2006
Montréal, Québec

Organizers: Chris Borkent, Greg Smith

Scent of a woman: Males track changes in selection pressures through cues of female and male density

Michael Kasumovic and Maydianne Andrade
 Integrative Neuroscience and Behaviour Group,
 University of Toronto at Scarborough

Examining any species with a unimodal distribution of phenotypes demonstrates an astonishing amount of diversity. This phenotypic variation is surprising since strong stabilizing selection should eliminate inferior phenotypes, leading to a decline in overall variation. The maintenance of this variation is usually explained by condition dependence and gene by environment interactions—sub-optimal phenotypes arise due to differences in resource acquisition in variable environments. However, these theories perpetuate the ideal of a single optimal phenotype. Here we challenge this conclusion by showing that various competitive contexts favour different phenotypes. Male Australian redback spiders (*Latrodectus hasselti*) have evolved to assess local pheromonal cues of conspecific density, allowing males to determine the intensity of direct versus scramble competition and to respond by developing the appropriate phenotype. Males matured significantly smaller and faster when reared in high female density when scramble competition was important, and matured larger and in better condition in low female and high male density when the potential for competition was greater. When testing phenotypes within their developmental context, each phenotype performed optimally in the selective environment in which it was reared. Linear selection gradients confirm the reversal from positive selection on size and body condition under direct competition to positive selection on development time, and thus, negative selection on size under scramble competition. This highlights the importance of

context-specific tests of fitness and calls into question the assumed global fitness value of size and other competitive male traits. Our results contradict the common emphasis on the importance of heritable variation in the ability of individuals to acquire resources sufficient to reach some optimum trait value. We therefore propose that male phenotypes alone are not good indicators of male fitness, and quality should instead be measured as the ability to develop tactically in response to cues of environmental and selective heterogeneity.

Insects and fire-killed trees: An “ignited” couple!

Yan Boulanger and Luc Sirois
 Centre d'Études Nordiques, Université du Québec
 à Rimouski

Saproxyllic diversity and succession in fire-killed black spruce (*Picea mariana* [Mill.]) coarse woody debris (CWD) in northern Quebec are estimated in this study using a 29-yr postfire chronosequence. Sampling was performed using both trunk-window traps and rearing from snag and log sections. 37 312 arthropods (>220 taxa) were collected from both sampling methods including 88 saproxyllic beetle species. The turnover of the postfire saproxyllic community occurs stepwise. The onset of initial colonisation occurs the same year as the fire while the second colonisation phase begins only once debris falls to the ground. The initial colonisation event is influenced by fire-associated species including subcortical predators, xylophagous species and ascomycetes feeders. Abundance and diversity of most initial colonizing species decline with time since fire with the disappearance of subcortical habitat. No substantial species turnover was noted in snags thereafter. Lack of succession in snags is related to very low decomposition rates for postfire CWD as this substrate is unsuitable for species associated with highly decayed wood. Snag falling triggers fungal growth and concomitant saproxyllic succession toward micro- and saprophagous Coleoptera and Diptera and increases accessibility for soil-dwelling organisms. Since the position of woody debris greatly influences overall physical properties of dead wood, the fall of burned CWD plays a major role in saproxyllic community shift after fire.

A more extensive research concerning beetle

colonisation in fire-killed trees is currently on the run and revealed even a higher number of species (155 spp.) related to trees killed the year of fire. Staphylinidae, Cerambycidae, Scolytinae and Elateridae are the most diverse families collected from this project. Those data give a first look to the colonisation process at the landscape level of fire-associated saproxylic species the very year of fire.

Deciphering the past: Reconstructing the phylogeny of the clusiidae (Diptera) using multiple (and sometimes conflicting) data sets

Owen Lonsdale and Stephen A. Marshall
Department of Environmental Biology, University of Guelph, Guelph, Ontario

The acalyptrate family Clusiidae is a diverse and widespread group with many unusual and rare representatives, demanding the use of disparate data sets for the reconstruction of its evolutionary history. Traditional morphological techniques have been very useful, but because the family includes so many rapidly diverged lineages and clusters of externally similar species, it has been necessary to employ a wide variety of characters to resolve phylogenetic relationships. Male and female genitalic characters have proven to be the most robust indicators of phylogenetic affinity, but several polytomies still exist (such as the one between the three subfamilies) and a number of taxa are of uncertain placement within genera.

To clarify these parts of the phylogeny not entirely resolved by the morphological data, as well as to provide an independent assessment of the family's evolutionary history, molecular sequence data were collected from numerous exemplars from across the Clusiidae and related families. Nearly 6000bp of sequence data were gathered from the mitochondrial protein-coding genes cytochrome oxidase I (COI) and cytochrome oxidase II (COII), the large nuclear ribosomal subunit (28S) and the fifth region of the nuclear protein-coding gene CAD (or "rudimentary"). The molecular analyses largely corroborated the phylogenies derived through morphological means with little clarification of ambiguous nodes, but there was evidence for the potential non-monophyly of the subfamily Clusiinae, with the Chilean genera consistently being recovered as the sis-

ter-group to the Sobarocephalinae.

The Impact of rotational seasonal grazing on the invertebrates of mixed-grass prairie, using ground beetles (Carabidae) and spiders (Araneae) as bioindicators

Anita Stjernberg and Robert Roughley
Dept. of Entomology, University of Manitoba, Winnipeg, Manitoba

Grasslands need periodic disturbance (drought, grazing, fire etc.) in order to be maintained. The continued existence of areas of mixed-grass prairie is threatened by four major factors: cultivation, Trembling aspen encroachment, exotic species invasion, and inappropriate grazing management. The Nature Conservancy of Canada owns the Yellow Quill Mixed-Grass Prairie Preserve which is located 20 km southeast of Brandon, and 2 km north of the junction of the Assiniboine and Souris Rivers. The current management strategy involves twice-over rotational cattle grazing through several pastures on the site. A stimulatory graze of 15 days is applied in the spring and a fall graze of 30 days is applied later on in the season. The main goal of this research is to establish what impact this common management strategy has on the diversity and abundance of selected groups of invertebrates in the mixed-grass prairie ecosystem (Coleoptera: Carabidae, and Araneae). Some spider families in particular are sensitive to the architectural changes in their environment caused by the removal of 3-dimensional grasses since these are used for web-building and prey capture. A secondary experiment attempts to determine what times of the season are most appropriate for grazing such that the biodiversity of the habitat remains intact. Pitfall traps and sweep-netting were used from May through October of 2005 and 2006. Only the carabid results are to be discussed at this time.

The diversity of indirect effects between soil fungi and insects.

Robert Laird
Department of Biological Sciences, University of Calgary, Calgary, Alberta

Insects are celebrated for their unparalleled species diversity. Correspondingly diverse is the ar-

ray of direct and indirect interactions in which insects participate. Many indirect interactions concern the reciprocal effects between belowground and aboveground ecological processes. These interactions are typically mediated by plants, which, by spanning the soil-air interface, act as conduits through which soil processes affect aboveground processes and vice versa. My research focuses on the diversity of interactions between aboveground phytophagous insects and the mycorrhizal fungi that form symbioses with most plants' roots. In a series of experiments, I manipulated the presence/absence of mycorrhizal fungi in sunflower plants (*Helianthus annuus*), and demonstrated that these fungi indirectly benefited specialist sunflower beetle larvae (*Zygogramma exclamationis*) in terms of increased survival, growth, and feeding efficiency. I will discuss how insect life history traits (e.g., diet specialization) contribute to variation in the outcome - and therefore, to the diversity - of mycorrhizal fungi-herbivore interactions. In other experiments, I tested the hypothesis that mycorrhizal fungi can also indirectly affect insects involved in protection-for-food mutualisms, in which the insects protect their host plant from herbivory in exchange for food rewards in the form of extra-floral nectar. Mycorrhizal broad bean plants (*Vicia faba*) produced fewer food rewards than non-mycorrhizal plants. Because mycorrhizal fungi are a strong carbon sink to their host plant, these results suggest that the fungi pre-empt carbon that would otherwise be available for extra-floral nectar production. Insofar as nectar production affects the insects that use extra-floral nectar, this may represent a case of plant-mediated fungus-insect resource competition. Due to the ubiquity and variety of both fungus-plant and plant-insect interactions, these types of tri-trophic relationships are likely to be extremely important in contributing to the diversity of indirect interaction types in natural communities.

Diversity in males' reproductive strategies

Véronique Martel^{1,2} and Guy Boivin²

¹Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Quebec

²CRDH, Agriculture & Agri-Food Canada, St-

Jean-sur-Richelieu, Quebec

To maximize their fitness, male insects should not necessarily inseminate as many females as possible but should rather optimize both the number of females inseminated and the quantity of sperm transferred by female. Several life-history traits, including the reproductive structure of a population, influence the reproductive strategies available to males. For example, we could expect prospermatogenic males (males that emerge with their full complement of sperm and do not produce more) to express more optimizing strategies in sperm allocation than synspermatogenic males (males that emerge with no sperm and produce sperm throughout their life). Among the other parameters that influence the reproductive strategies of males are: synchronization of emergence, occurrence of sperm competition, sperm precedence in sperm competition, spermatheca's capacity, etc. In response to these parameters, a male could change his mating partner's preference, his dispersal from the emergence patch, the quantity and quality of sperm transferred to a given female, and his sperm competition avoidance mechanisms.

A synthesis of available information on the diverse reproductive strategies of male parasitoids has been presented, including some of my results on a hymenopteran egg parasitoid, *Trichogramma turkestanica*. Males from this species are prospermatogenic, and they can become sperm-depleted following several matings on the emergence patch. In these conditions, we expect these males to use their sperm optimally, using strategies somewhat similar to what has been described in females. In opposition to what was traditionally assumed, males are not simply inseminating as many females as possible. My objective was to present some of these strategies in *T. turkestanica* and show how males can optimize their fitness by using these.

Sincere thanks to the Lyman Museum and Terry Wheeler for providing the funding to cover the student symposium speaker conference fees.

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 2007. 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 : 16 février 2007.**

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 : 16 février 2007.**

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 2007 à Saskatoon (29 septembre - 3 octobre). 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>).

Special

Bourse Keith Kevan en systématique

En mémoire du D. Keith McE. Kevan, la Société d'entomologie du Canada offre une bourse d'étude de 1000 \$ pour aider les étudiant(e)s post-diplômé(e)s qui entreprennent des études en taxonomie des insectes. Cette bourse sera accordée, les années impaires, selon des critères d'excellence académique et de la prééminence en taxonomie des insectes. **Date limite : 16 February 2007.**

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 : 16 février 2007.**

Consulter <http://esc-sec.org/students.htm> pour plus de détails ou contacter Présidente de comité des prix aux étudiantes et étudiants, Judith Myers (Dept. Zoology, University of British Columbia, 6270 University Bld. Vancouver, C.B. V6T 1Z4, myers@zoology.ubc.ca).

Job Opening

Minor Use Pesticide Coordinator
Abbotsford, BC, \$47,000 - \$59,000

Qualifications: Bachelor's degree in agriculture or related science from a university of recognized standing with an emphasis on crop protection/pest management and course work in pesticides. Registration as a Professional Agrolgist with the British Columbia Institute of Agrolgists. Three years (or two years with a graduate degree) experience in activities related to agricultural pesticides and pest management; experience in research and analysis; experience in project management; effective oral and written communication skills and the ability to interact successfully with a wide variety of people.

See for details see: http://postings.gov.bc.ca/index.php?view_posting=034560

Entomological Society of Canada awards and scholarships

Students don't miss the upcoming deadlines for the 2007 roster of awards (below). Please also check the ESC website in the new year for updated application forms and conditions.

Postgraduate Awards

Two postgraduate awards of \$2,000 will be available 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: 16 February 2007**

Research-Travel Scholarship

Up to two scholarships of a maximum of \$2,000 each will be awarded to help students increase the scope of their graduate training. Applications will be judged on scientific merit. **Deadline: 16 February 2007.**

Student Conference Travel Awards

One or more awards of \$500 each to be awarded as financial assistance for travel by student ESC members to the 2007 annual meeting in Saskatoon (29 September - 3 October). 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 for the annual meeting,** so keep watching for information on both the meeting and award deadline in the Bulletin or on the ESC website, <http://esc-sec.org>.

Special

Keith Kevan scholarship in systematics

\$1,000 is available for awarding to a deserving postgraduate student studying arthropod systematics. The award will be made on the basis of high scholastic achievement and excellence in faunistics. **Deadline: 16 February 2007**

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: 16 February 2007**

See <http://esc-sec.org/students.htm> for complete award details, or contact the incoming Chair of the ESC Student Awards Committee, Judith Myers (Dept. Zoology, University of British Columbia, 6270 University Bld. Vancouver, B.C. V6T 1Z4, myers@zoology.ubc.ca)



Steve Marshall

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

Name & Address (please print): / Nom & Adresse (lettres moulées SVP) :

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.

Membership Dues with / Cotisation avec

The Canadian Entomologist Print/Imprimé Web or/ou or/ou Both/Les deux
 and/et *Bulletin* Print/Imprimé

- REGULAR / RÉGULIER Canada: \$85.60 Cdn (GST/TPS incl.) or/ou
 \$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

Membership with / Cotisation avec

Bulletin only/seulement Print/Imprimé

- STUDENT / ÉTUDIANT Canada: \$21.40 Cdn (GST/TPS incl.) or/ou
 \$23.00 Cdn (HST/TVH incl.)
 USA & Int'l: \$18.00 US or/ou \$25.00 Cdn

Endorsement / Signature du professeur.....

TOTAL PAID / PAYÉ

Official receipt / reçu officiel Yes/Oui

Name and contact information on the ESC Web Membership Directory? Yes/Oui

Nom et vos coordonnées dans l'annuaire Web de la SEC des membres? No/Non

Cheque or money order payable in Canadian or US Funds as detailed above, through Canadian or US Institution to the Entomological Society of Canada.

Chèque ou mandat poste payable (\$ Canadiens ou US, ci-dessus) par établissement canadien ou US à la Société d'entomologie du Canada.

MASTERCARD AMEX or/ou VISA

#..... Exp. Date/..... Signature.....

Credit card payments will be processed using the Canadian dollar amounts

Les frais portés à une carte de crédit seront traités en utilisant les dollars canadiens.

ESC Student Awards 2006

Congratulations to the successful recipients of the 2006 Entomological Society of Canada student awards. Three of five students were present at the Joint Meeting of the ESC and Société d'entomologie du Québec (18-22 November, 2006) to receive their certificates for these awards. The winners and their projects are as follows:

Graduate Research-Travel Scholarship: This year's award went to MSc student, **Conan Phelan** (Simon Fraser University), for his travel to Kenya to field test growth models of malaria mosquitoes.

Postgraduate Scholarships: The PhD award went to **Jennifer Rosati** (University of Windsor), who is studying carrion insect communities. The MSc award was presented to **Aynsley Thielman** (Brock University), who is studying *Anopheles* systematics.

Biological Survey of Canada Scholarship: This year's scholarship was awarded to **Andrea Déchéne** (MSc student, McGill University), who is studying soil and litter microarthropod communities of Quebec boreal forests.

Student Conference Travel Award: **Christina Elliott** (MSc at University of Alberta) received the award, which helped her get to the Montreal meeting to present her talk, *The effect of flight on the mating behaviour and fecundity of female Choristoneura conflectana (Lepidoptera: Tortricidae)*.

Students don't miss the upcoming deadlines for the 2007 roster of awards (see page 148). Please also check the ESC website in the new year for updated application forms and conditions.



Barry Lyons

The recipients of the 2006 Entomological Society of Canada student awards, from left to right; Christina Elliott (University of Alberta), Andrea Déchéne (McGill University), Aynsley Thielman (Brock University), along with ESC President, Peggy Dixon, Joint Meeting of the Entomological Society of Canada and Société d'entomologie du Québec, 21 November 2006, Montreal, Quebec.

Seeking Graduate Students

University of Alberta

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

(780) 492-1873 mevenden@ualberta.ca

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

University of Victoria

I am seeking graduate students who are interested in insect evolutionary ecology and/or host-parasite interactions. I use a number of approaches (including experimental, molecular, and phylogenetic methods), in the lab and the field, to study the evolution and ecology of associations between insects and their symbionts.

Steve Perlman

(250) 721-6319, stevep@uvic.ca

<http://web.uvic.ca/biology/People/perlman/perlman.htm>

University of Winnipeg

We are looking for a student to enter into a Masters research program in the laboratories of Andy Park and Richard Westwood, University of Winnipeg. The research project will include studies of the effects of livestock grazing on aspen regeneration, a comprehensive analysis of forest health in regenerating aspen forests subject to grazing and a detailed investigation on the effects of soil and climatic factors on aspen regeneration and survival in mixed wood forests.

Prospective students should have undergraduate experience in one or more of the following areas: general biology, entomology, plant pathology, botany, forestry, forest ecology, environmental science or a related discipline, and an interest in forest ecosystems. Students should be highly motivated and able to work independently. MSc candidates will be expected to supervise summer student assistants and spend considerable periods of the summer working in remote areas in western Manitoba. Field expenses including food costs, and all transportation etc. are provided. An annual graduate stipend will be provided for two years (minimum of \$16,000 per annum). Experience reading maps, use of GPS, using aerial photographs, and orientation with a compass and GIS is helpful. Knowledge of forests is an asset, but students will be trained as required. Physical requirements include the ability to walk over rough terrain carrying a backpack and other equipment and the ability to work in inclement weather. You must possess a valid driver's license.

Students will be registered in the Dept. of Botany, University of Manitoba and based in the Centre for Forest interdisciplinary Research, University of Winnipeg. Students seeking an interview should provide a detailed resume, a photocopy of their academic record and the names of three references by 28 February 2007. For further information on the project and submission of application material please contact:

Richard Westwood

Centre for Forest interdisciplinary Research
University of Winnipeg

515 Portage Ave., Winnipeg, MB R3B 2E9

Ph: 786-9053

email: r.westwood@uwinnipeg.ca

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

Insects: Microscale Subjects for Megascale Research

Delta Bessborough Hotel

29 September - 3 October 2007, Saskatoon, Saskatchewan

The starring roles of insects as models in the establishment of biological principles, especially in genetics and ecology, their central position in energy flow from primary producers to upper-level consumers in ecosystems, and as both friend and foe in integrated pest-management schemes are well known. Entomological research is now being taken in new and exciting directions with the advent of molecular biology, nanotechnology and biologically-inspired artificial systems. Whole genome sequences are now available for several insects of commercial and agricultural importance, powerful light sources allow one to probe matter at the atomic level and advanced sensors and imaging systems are helping to elucidate the emerging principles of insect biomechanics and neurophysiology. These technologies serve to advance the state of traditional entomological studies such as physiology, taxonomy and the development of safe strategies for improved pest management, while generating a wealth of information for non-traditional activities. Clearly, an intimate knowledge of insect biology is requisite for success in these ventures.

The aim of the ESC-ESS JAM in 2007 is to introduce researchers from multi-disciplinary areas to both new and established entomological tools and concepts, ultimately leading to a plethora of exciting research opportunities in the foreseeable future.

Meeting Chair: Dwayne Hegedus
Agriculture and Agri-Food Canada
107 Science Place, Saskatoon, SK S7N 0X7
Tel: 306-956-7667
E-mail: hegedusd@agr.gc.ca
<http://www.usask.ca/biology/ess/>

Tentative Program:

Saturday, 29 September 2007

All day: ESC Governing Board Meeting

Afternoon: Registration

Sunday, 30 September

Morning: Registration, Opening Ceremonies, Gold Medal Address, Plenary Session

Afternoon: Scientific Sessions

Evening: Student Mixer & General Mixer

Monday, 1 October

Morning: Scientific Sessions

Afternoon: Excursion, Heritage Lecture, AGM

Evening: President's Reception

Tuesday, 2 October

Morning: Scientific Sessions

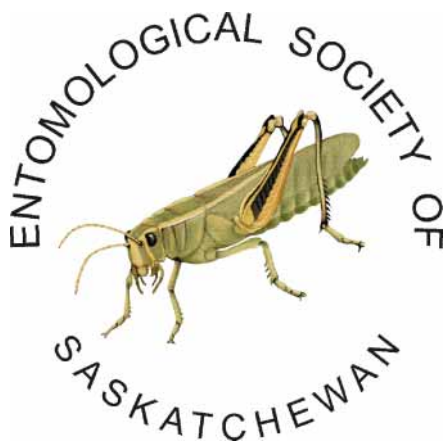
Afternoon: Scientific Sessions

Evening: Banquet

Wednesday, 3 October

Morning: Scientific Sessions

Lunch: ESC Governing Board Meeting



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

Les insectes : Petits sujets pour de grandes recherches
Delta Bessborough Hotel
29 septembre - 3 octobre, 2007, Saskatoon, Saskatchewan

Les insectes sont des modèles dans l'établissement des principes biologiques, particulièrement en génétique et en écologie, des éléments indispensables pour les transferts d'énergie dans les chaînes alimentaires, et des ravageurs ou des bénéficiaires dans les systèmes de lutte intégrée. De nouveaux domaines de recherche se sont récemment ouverts en entomologie à la suite du développement de la biologie moléculaire, des nanotechnologies et des systèmes artificiels inspirés de la biologie. Le génome de plusieurs espèces d'insectes a été séquencé et les informations sont maintenant à la disposition des chercheurs. L'utilisation de faisceaux lumineux suffisamment puissants pour observer les tissus au niveau atomique se fait de façon routinière et la mise au point de capteurs sensibles associés à des systèmes d'imagerie permet d'étudier les principes de la biomécanique et de la neurophysiologie chez les insectes. De nombreuses informations utiles à la poursuite de recherches classiques ou non traditionnelles sont générées. Ces nouvelles technologies sont complémentaires aux domaines de recherche classique tels que la physiologie, la taxonomie ou le développement de la lutte intégrée et ne pourraient être utilisées sans une connaissance approfondie de la biologie des insectes.

L'objectif de la Réunion conjointe SEC-ESS est de présenter aux chercheurs venant de domaines très divers, de nouveaux outils et des concepts adaptés à l'entomologie, qui leur offriront la possibilité d'explorer de nouveaux sujets de recherche.

Responsable principal : Dwayne Hegedus
Agriculture et Agroalimentaire Canada
107 Science Place, Saskatoon, SK S7N 0X7
Tel: 306-956-7667, courriel : hegedusd@agr.gc.ca
<http://www.usask.ca/biology/ess/>

Programme provisoire :

Samedi 29 septembre 2007

Réunion du conseil d'administration de la SEC

Après-midi : Inscription

Dimanche 30 septembre

Matinée : Inscription, cérémonie d'ouverture, remise de la médaille d'or, assemblée plénière

Après-midi : Communications scientifiques

Soirée : Réception d'étudiants, Réception générale

Lundi 1er octobre

Matinée : Communications scientifiques

Après-midi : Excursion, Allocution du patrimoine, assemblée générale

Soirée : Réception du Président

Mardi 2 octobre

Matinée et après-midi :

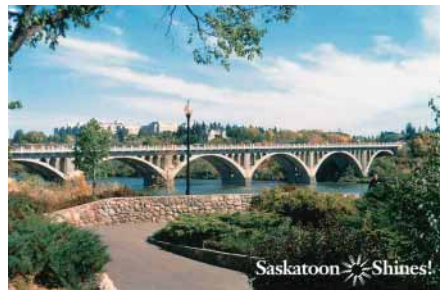
Communications scientifiques

Soirée : Banquet

Mercredi 3 octobre

Matinée : Communications scientifiques

Déjeuner : Réunion du conseil d'administration de la SEC



Insect diversity conservation. Samways, M.J. 2005. Cambridge University Press, Cambridge, UK. xi + 342 pp. ISBN 0521789478 (paperback) CAN \$73.95, ISBN 0521783380 (hardback) CAN \$148.95.

Insect diversity conservation has increasingly become a topic of interest to not only entomologists, but ecologists and conservationists world-wide. Habitat loss as a result of human activity, in conjunction with climate change, is having a large impact upon global ecosystems and subsequently insect diversity. Insects are the most common animals in the world and are vital for large numbers of ecosystem functions. *Insect diversity conservation* is an excellent compilation of current information on this topic.

The book is divided into three sections, each reviewing different topics in insect conservation. Part I contains 3 chapters which introduce the topic of insect diversity conservation. Chapter 1 is dedicated to the philosophy and ethics of conservation, while Chapter 2 reviews insects as a special case in conservation biology, looking at global species richness, prehistoric survival, current extinctions and the challenges of taxonomy and perception of insects by the general public. Chapter 3 examines the role insects play as pollinators, food items, keystone organisms, herbivores, predators, parasitoids and disease vectors, and how they exist and function within an ecosystem. Part II of the book addresses "insects and the changing world," discussing degradation of ecosystems (Chapter 4), responses of insects to changing landscapes (Chapter 5), threats to insects as a result of exotic animals and plants, introduced biological controls and genetic engineering (Chapter 6) and finally climate change and insect response (Chapter 7). Part III covers topics concerning "conserving and managing insect diversity". Chapter 8 focuses on research and describes methods and approaches for insect conservation, and deals with prioritization of species at risk. Mapping using GIS, inventorying and monitoring of insects species are discussed in Chapter 9, while Chapter 10 covers management of insect diversity. Chapter 11 looks at hab-

itat restoration for conserving and improving insect diversity while the final chapter examines social issues of insect conservation efforts, such as international jurisdiction of endangered species, perception of insects and insect trade. A comprehensive list of references is included as well as a good index. A glossary is not included, but would have been a useful addition.

This book is an exceptional read, as Samways takes a realistic look at a number of difficult conservation issues and discusses them from both a deep-ecology point of view and a utilitarian one. The ethical discussions introduced early on are revisited throughout the text, giving the reader a broader sense of the material with very little bias. Samways does a wonderful job presenting the topic of insect diversity conservation and encouraging stronger efforts in this field. Not only does he offer a global perspective on the current needs for insect diversity conservation, he lays out numerous methods to go about working with insect populations and ecosystems through the use of a large number of examples and figures in each section.

Insect Diversity Conservation is recommended by the publishers for everyone from undergraduates to researchers and managers, to which I agree, as it is written at a level which is challenging for beginners, but understandable, and still compelling and informative for seasoned practitioners. Overall, this is an excellent text for any one interested in the subject of insect diversity conservation or even conservation of biodiversity in general.

Greg Smith
Natural Resources Canada
Canadian Forest Service
Victoria BC

Guide for the importation and release of arthropod biological control agents in Canada.

De Clerke-Floate, RA, PG Mason, DJ Parker, DR Gillespie, AB Broadbent and G Boivin, 2006. Ministry of Supply and Services Canada, Cat. No. A42-105/2006E, iii, 52 pp. http://www.agr.gc.ca/env/pest/index_e.php?page=arthro

In the good old days, it was practically gospel that the introduction of biological control agents was the right thing to do. Sure, there were arguments about how many species of biological control agents should be released, which taxa were most effective and the characteristics of successful programs. But these were technical and academic discussions; the logic of biological control seemed irrefutable. Practitioners generally could ply their trade with impunity. In the late 1980s, for example, I was pressed by a senior expert in Europe to import some parasitoids through customs in my pocket 'to save postage' (I dumped the vial in one of those trash cans in the airport meant for weapons and recreational contraband). Release of natural enemies was sometimes no less cavalier. Inquiries to colleagues about the fate of parasitoids in their care once brought the explanation, 'I let them go out the window'.

Then, following a high-profile controversy in Australia where one person's biological control solution was found to be another's introduced pest, practitioners were challenged to justify and account for their actions in economic and ecological terms. The Government of Canada's initial suggestion was to regulate biological control agents under the *Pest Control Products Act*. Practitioners were aghast at this prospect. They rightly argued that applying the same registration criteria required for pesticides to living agents would effectively kill biological control. A compromise was reached whereby biological control practitioners agreed that formal guidelines for importation and release would be developed and proposals reviewed by a scientific panel.

The task of developing those guidelines was taken up by the Agriculture and Agri-Food Canada Biological Control Working Group and the

result is the *Guide for the importation and release of arthropod biological control agents in Canada*. The intent of this guide is to provide "practitioners, reviewers of petitions and interested Canadian citizens with information on the requirements for obtaining regulatory permission for importation and release of arthropod biocontrol agents in Canada". The inclusion of "interested Canadian citizens" may explain why this guide contains more basic information on biological control than one would expect from a guide for practitioners. The result is a fairly descriptive document that at times runs the risk of losing the primary audience in the details. It took a couple of passes, for example, to determine the distinction between a permit (which I think you need to import an agent to Canada) and a petition (which I think you need to release that agent). There are many points where what is necessary is difficult to distinguish from what would be nice to know. For example, it is not clear if Table 1 in the section titled, *Things to consider before starting a biological control project*, is an obligatory checklist or simply included for interest. Similarly, the section on Canada's containment system is informative but not particularly operative unless you backtrack to discover that your permit (not petition) must specify the authorized containment facility receiving the organisms. The section on voucher specimens justifiably stresses the critical importance of this step and what information should be included but does not indicate any necessity of depositing said vouchers into a recognized museum or even database although the reviewer of the petition is asked to check that this has been done. If this is part of the protocol, then more specifics are required. To whom are they sent? How many in the series? Since it seems that this whole system relies to a great extent on voluntary compliance and judicious, volunteer reviewers, it is important the requirements and their criteria are as clear and succinct as possible. Perhaps these ambiguities reflect the nature of guidelines as compared to regulations?

Moving through the document to the *Key elements...*, I found that the guidelines for introduction of biological control agents in Canada are available from the North American Plant Protec-

tion Organization (NAPPO) website. This made me wonder whether the guide I was reading was authoritative or if I should go to the NAPPO guidelines and work from there. The body of this *Key elements...* section is very informative as to what and why certain facts are desirable. The level of detail required is clarified by reference to the sample petitions in the Appendices. The section of most interest to me as a potential reviewer (*Petition review guidelines*) consists of several questions a reviewer should ask plus reference to a sample comment sheet (Appendix D, not C as directed in the text). These questions re-iterate important points but one needs to look at the examples to judge whether or not the information under review is sufficient.

In addition to the sample petitions, the guide also includes a list of available sources for more information and a glossary of terms. Critical terms in the glossary are taken directly from an international glossary published by FAO. International consistency is good. One small complaint. The Canadian Forest Service is not "responsible for providing agricultural information...". We're busy enough providing forestry information, thanks.

All in all, this guide is addressing an important need, positioning biological control as a management practice requiring explicit, informed risk analyses (see the issue of *Biological Control* 35, 2005). A large part of that change in attitude is educating both professionals and the public of international standards and protocols. This guide takes a giant step in that direction. At the same time, the process itself must be introspective and sufficiently flexible to enable defensible decisions in the face of uncertainty. Publishing this document on-line as a pdf provides the opportunity to periodically re-evaluate and improve the document and pave the way for more operational publications. Future versions, for example, might consider a more explicit checklist format with referenced clauses such as those developed by other plant protection organizations (e.g. FAO and EPPO). Hopefully, the international community is working collectively on minimal acceptable criteria and best-practices which also can be incorporated in future guidelines. The continuing involvement of a Canadian working group dedicated

to making biological control a low-risk, scientifically-informed tool for pest management will no doubt ensure more explicit risk assessment for biological control agents in Canada.

Vince Nealis
Natural Resources Canada
Canadian Forest Service
Victoria, BC

Tortricidae (Lepidoptera). In World catalogue of insects, Volume 5. Brown, J.W. (compiled by). 2005. Apollo Books, Stenstrup, Denmark (www.apollobooks.com). ISBN 87-88757-41-2, ISSN 1398-8700. DKK960.00 (approximately \$2 Cdn). 741 pp.

This taxonomic catalogue covers one of the largest and most economically important families of Lepidoptera, with over 9000 valid species included. Given the economic importance of the Tortricidae, there has never been a truly comprehensive, global catalogue of the family. In recent years there have been a number of significant nomenclatural and classificatory changes in the Tortricidae, particularly with respect to the fauna of the Northern Hemisphere, due to increasing efforts to harmonize the North American and European nomenclatures. Yet most of these changes are scattered in specialized technical and scientific publications, many not always easily accessible. The present catalogue brings all of this information into a single, authoritative source, and includes all scientific names of tortricids published to the end of 2004. It is a purely taxonomic catalogue, it does not include references and citations of an economic, ecological, or applied nature.

In the benedictine task of assembling such a work, John Brown, the principal compiler who is at the Systematic Entomology Laboratory of the USDA in Washington, D.C., was assisted by seven collaborators. The collaborators, listed on the title page, are from different parts of the world, and are established experts in tortricid taxonomy and nomenclature: Joaquin Baixeras, Richard Brown, Marianne Horak, Furumi Komai, Eric

Metzler, Józef Razowski, and Kevin Tuck. The acknowledgements further provide an extensive list of people who contributed information and helped with the resolution of problems, attesting to the efforts of the compiler to give breadth and depth to this catalogue.

The introductory section is relatively brief (five pages), and provides a summary of the development of the catalogue, its structure, and its data sources. This is followed by a relatively short 'Literature Cited' section which contains only references cited in the introduction, a list of institutional abbreviations which are used throughout the catalogue in reference to type depositions, and a 'References and their abbreviations' section. A two-page part named 'Synonymy of subfamilial and tribal names' closes the introductory sections.

The main body of the catalogue is laid out in two-column format and offers excellent readability. The catalogue proceeds by listing valid genera, under which are listed generic synonyms, followed by valid species and their synonyms under each valid genus. Taxa are presented in strict alphabetical order, including all invalid names under each valid one. After the taxon name, a typical entry includes its author(s), year of publication, abbreviated original reference, and page number; for genus names, the current subfamilial and tribal placement follow; for species names, the original generic placement, type locality, and type depository follow. Valid names are bolded, all other names are in normal type. The full references corresponding to the abbreviations are given in the introductory section under 'References and their abbreviations'. This arrangement was undoubtedly chosen to conserve space. To facilitate navigation in this voluminous book, even-page headers display the genus name that begin a current page while odd-page headers display the genus name that ends a page, much like in a dictionary.

There are some new synonymies and new combinations introduced; unfortunately they are not summarized separately, which makes them difficult to notice. All nominal genera and species currently placed in the Tortricidae are listed, including fossils. Misspellings and unavailable names

are also provided, as well as infrasubspecific names, which have no status in zoological nomenclature (unavailable) and are so indicated.

The authors of valid species names that currently are not in their original generic combination are not placed in parentheses, as is customary and required by the International Code of Zoological Nomenclature. This omission in the body of the catalogue is a little puzzling. However, the parentheses around authors, where required, can be found in the index entries.

The catalogue is completed by an index of more than 120 pages, where supraspecific taxon names are in capitals to distinguish them easily from species-group names. All indexed entries comprise the author(s) and dates, and for species names, the genus in parentheses. The last short section that follows the index is made of 32 numbered notes that are referenced in the catalogue and that provide more extensive explanations or comments for some nomenclatural and taxonomic issues pertaining to certain names.

In recent years Apollo Books has specialized as a foremost publisher of taxonomic catalogues, monographs, and faunal works. *The World catalogue of insects* presently stands at eight volumes covering various families of Lepidoptera and Coleoptera, with several more in preparation. While it would be highly desirable to have such taxonomic catalogues available in electronic form, preferably as searchable databases on the Internet, where they could be kept up to date more easily, this contribution constitutes an invaluable, indeed essential, resource to anyone who deals with insects and needs to verify or ensure the accuracy of scientific names.

Jean-François Landry
Agriculture and Agri-Food Canada
Ottawa, Ontario

Books to be reviewed

If you are interested in reviewing one of the following books, please contact Kenna MacKenzie, 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.

Baldizzone, G., van der Wolf, H. and Landry, J.F. 2006. World catalogue of insects. Volume 8. Coleophoridae, Coleophorinae (Lepidoptera). Apollo Books, CSIRO Publishing, Australia, 215 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.

Capinera, J.L., Scott, R.D. and Walker, T.J. 2005. Field guide to grasshoppers, katydids and crickets of the United States. Cornell University Press, Ithaca, NY, 249 pp.

de Prins, W. and de Prins, J. 2005. World catalogue of insects. Volume 6. Gracillariidae (Lepidoptera). Apollo Books, CSIRO Publishing, Australia, 502 pp.

Gullan, P.J. and Cranston, P.S. 2005. The insects: An outline of entomology. Blackwell Publishing, Oxford UK. 505 pp.

Hausmann, A. 2004. The Geometrid moths of Europe: Volume 2. Apollo Books, CSIRO Publishing, Australia, 600 pp.

Heckman, C.W. 2003. Encyclopedia of South American aquatic insects: Plecoptera. Kluwer Academic Publishers. 329 pp.

LaFontaine, J.D. 2004. Noctuoidea, Noctuidae (part): Noctuidae, Agrotini, In: Hodges RW (Editor) The moths of America north of Mexico. Fascicle 27.1. The Wedge Entomological Research Foundation, Eugene OR. 385 pp.

Larsen, T.B. 2005. The butterflies of West Africa: 2 volumes. Apollo Books, CSIRO Publishing, Australia, 900 pp.

Lehane, M. 2005. The biology of blood-sucking in insects, 2nd edition, Cambridge University Press, NY, 336 pp.

Martins UR, Galileo HM, 2004. Cerambycidae sul-americanos, Suplemento 1. Argania Editio, Barcelona, Spain, 147 pp.

Miller, D.R. and Davidson, J.A. 2005. Armored scale insect pests of trees and shrubs. Cornell University Press, Ithaca, NY, 456 pp.

Moret, P. 2005. Los coleopteros carabidae del Paramo en los Andes del Ecuador: Sistematica, ecologia y biogeografia. Gruppo Editoriale Il Capitello, Torino, Italia, 306 pp.

Neunzig, H.H. 2003. Pyraloidea, Pyralidae (Part), Phycitinae (Part), In: Dominick RB et al. (Editors) The moths of America north of Mexico. Fascicle 15.5. The Wedge Entomological Research Foundation, Eugene OR. 338 pp.

Patocka, J. and Turceni, M. 2005. Lepidoptera pupae: Central European species: 2 volumes. Apollo Books, CSIRO Publishing, Australia, 863 pp.

Regnault-Roger, C., Philogene B.J.R. and Vincent, C. 2005. Biopesticides of plant origin. Lavoisier, Paris, France, 310 pp.

Service, M. 2004. Medical entomology for students. 3rd edition, Cambridge University Press, NY, 302 pp.

van Emden, H.F. and Service, M.W. 2004. Pest and vector control. Cambridge University Press, New York, NY. 349pp.

Wiggins, G.B. 2004. Caddisflies: The underwater architects, University of Toronto Press, Toronto, 330 pp.

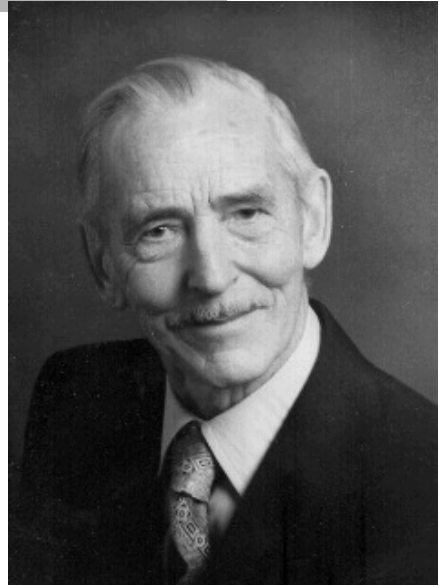
Kenna MacKenzie
 Chair of Publications Committee
 Agriculture and Agri-Food Canada
 32 Main Street
 Kentville, NS B4N 1J5
 Tel: (902) 679-5731, Fax: (902) 679-2311
 E-mail: mackenzie@agr.gc.ca

John Douglas "Jack" Gregson 1910 - 2006

Jack was born in Blackfalds, Alberta and attended a one-room school to Grade 7. The family moved to Courtenay when he was in his teens. There his interest in 'bugs' established his lifelong association with nature. He was a world-renowned scientist, a naturalist, artist, poet, musician, author, photographer, gardener, traveler and most of all, a family man. He eschewed the trappings of the rich and famous and reveled in the bounties of nature.

He received an Honours Bachelor of Arts degree from UBC in 1934, a Masters Degree in Medical Entomology from the University of Alberta in 1936 and was honoured with a Doctorate of Letters from the UCC in 2000. Jack moved to Kamloops in 1936 where he wooed and wed Barbara Claxton, his wife and soul mate of sixty-seven years. It was there he embarked on a career with the Canada Department of Agriculture to study insects injurious to man and animal. He specialized in the study of wood ticks and was recognized globally for his scientific contributions. This resulted in many trips throughout the world, often accompanied by Barbara and whetted their appetite for further travels after retirement. The author of more than 80 scientific publications, he named three species of ticks, discovered and had a stonefly (*Capnia gregsoni*) named for him, as well as a new species of tick, *Ixodes (Pholeioxodes) gregsoni*. They managed as well to raise five children and create their lovely heritage garden, *Grenehalghe*, which became a source of enjoyment for many beside themselves.

Jack was a true naturalist and environmentalist. In 1936, he established the Kamloops Outdoor Club, better to share his appreciation of nature with others. The highlight of many years was the week long 'Alpine Trip' to some of the remote areas of the province that he recorded on film and in paint. His patience was rewarded with many exquisite photos, or 'slides' that captured the highlights of his trips to the mountains and around the world. Some of these he transferred,



with 'artistic license', to canvas. He said "I've moved trees, and sometimes mountains, but always have had a high regard for Nature's beauty and composition." Some of these paintings have hung in the Vancouver Art Gallery and the Kamloops Art Gallery, but for the most part are still in the family homes.

During his 70 years in Kamloops Jack was an outspoken environmental advocate. He is also credited with founding the Kamloops and District Garden Club (1950) and the Kamloops Naturalist Club (1970). He received many awards for his efforts but his greatest reward was the recognition and appreciation shown for the environment that his efforts generated. Among them was the Waterway Park at McArthur Island, the Butterfly Gardens at Riverside Park and McArthur Island, and the bicycle /footpath east of his property on the South Thompson River. He received the Grassroots Award for beautification and protection of Kamloops' natural landscape, BC Federation of Naturalists Club service award, the Kobayashi Award for best-landscaped property and was made a Freeman of the City of Kamloops in 1990.

Jack loved music and played the cornet in high school. He was an accomplished harmonica player,

but any thoughts of a professional career were thwarted by his non-union status and his performance on the CBC show *Klahanee* was short lived. He was a romantic and never failed to remember Barbara's birthday and their anniversaries with special poems he wrote for the occasions. His own birthday was always recognized with a home baked strawberry shortcake and an

ever expanding coterie of family and friends.

Jack and Barbara's urge to travel waned as they grew older and their interests centered around garden, family and friends. He was very proud of the oasis they created out of a patch of tumbleweed acquired in 1946.

John Gregson

Atlas de los escarabajos de México Coleoptera: Lamellicornia vol. II familias Scarabaeidae, Trogidae, Passalidae y Lucanidae. Morón, M.Á. (Editor) 2003. Argania Editio, Barcelona, Spain. 227 pp. ISBN 84-931847-5-6 (paper) Price 95 • + postage (Europe 5 euro, America non registered 10 euro / registered 21 euro).

Anyone desiring a detailed description of the structure, biology, classification, and distribution of the lamellicorn beetles of Mexico will find this atlas a valuable addition to their library. It will be of particular interest to taxonomists, or those interested in the fine points of separating families, tribes and subgenera. While it is not intended as a guide for identification, it will probably be used that way by some people. This volume is the completion of work begun in 1997 with the publication of *Atlas de los Escarabajos de México (Coleoptera: Lamellicornia) vol. I familia Melolonthidae (subfamilias Rutelinae, Dynastinae, Cetoniinae, Trichiinae, Valginae y Melolonthinae)* (Morón, M.Á., Ratcliffe, B.C. and Deloya, C. 1997. Sociedad Mexicana de Entomología. 280 pp. 32 color plates.) At the current exchange rate, the price of Volume II is about \$151.84 Canadian or \$121.65 US, or about twice the cost of Volume I.

The continuing work of exploring, identifying, and describing new taxa during the last 40 years by Mexican and international specialists has resulted in the gathering of basic information on 202 genera and 1,711 species of lamellicorn beetles distributed over the nearly two million square kilometers of the Mexican countryside. Chapter one gives a history of the study of coprophagous, saprophagous and xylophagous Lamellicornia

in Mexico, from the origins of names in the native náhuatl language to the nineteenth century explorations of European naturalists. It describes both macroscopic and microscopic characteristics of these beetles, details the classification scheme, and provides an overview of their diversity and distribution.

Chapters two through five are devoted to the subfamilies of the family Scarabaeidae: the Scarabaeinae, Aphodiinae, Geotrupinae and Ochodaeinae. Chapters six through eight are devoted to the remaining three families. Each chapter begins with a history of the family or subfamily and its classification into tribes, genera and species. Each genus and species is described in detail, with maps and tables showing distribution. Each chapter includes beautiful illustrations of adult beetles and larvae, most of them rendered by Morón himself. There are about 50 pen and ink drawings, as well as 90 color photographs. The occasional misnumbering of figures does not seriously detract from the quality of the presentation.

Readers who are not conversant in Spanish may be unable to appreciate the historical introduction or some of the behavioral descriptions. However, many of the technical terms can be understood without much difficulty, and the quality of the illustrations and photography alone will satisfy many readers.

Connie Mehmel
Area Entomologist
USDA Forest Service
Wenatchee WA

Standing committees / Comités permanents

Nominations / Nominations

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P. Fields, Winnipeg
J. Sweeney, Fredericton
P. Dixon, *ex officio*, St. John's

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C. Cutler, Guelph
S. Goodfellow, Guelph
Z. Moineddin, Guelph
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Annual Meeting / Réunion Annuelle

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M. Erlandson, Saskatoon
P. Mason, Ottawa
P. Bouchard, Treasurer, Ottawa
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J. Cumming, Ottawa
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H. Goulet, Ottawa
J-F Landry, Ottawa
M. Roy, Ste.-Foy
P. Dixon, *ex officio*, St. John's
B. Haack, *ex officio*, Buffalo NY (Chair, Entomological Society of America Common names committee)

Marketing / Comité du marketing

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L. Braun, Saskatoon
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A. Carroll, ESBC, Victoria
D. Hunt, ESO, Harrow
P. MacKay, ESM, Winnipeg
K. MacKenzie, AES, Kentville
C. Olivier, ESS, Saskatoon
S. Rochefort, SEQ, Ste. Foy
G. Smith, student rep., Victoria
C. Borkent, student rep., Ste.-Anne-de-Bellevue
P. Dixon, *ex officio*, St. John's

Publications / Publications

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 G. Boivin, St.-Jean-sur-Richelieu
 P. de Groot, Sault Ste. Marie
 P. Kevan, Guelph
 R. Bennett, *ex officio*, Victoria
 P. Dixon, *ex officio*, St. John's
 K. Floate, *ex officio*, Lethbridge
 B. Lyons, *ex officio*, Sault Ste. Marie

**Science Policy and Education /
Politique scientifique et éducation**

P. Fields, Chair, Winnipeg
 H. Carcamo, ESA, Lethbridge
 A. Carroll, ESBC, Victoria
 D. Hunt, ESO, Harrow
 P. MacKay, ESM, Winnipeg
 K. MacKenzie, AES, Kentville
 C. Olivier, ESS, Saskatoon
 S. Rochefort, SEQ, Ste. Foy
 P. Dixon, *ex officio*, St. John's

Student Affairs / Affaires étudiantes

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 C. Borkent, co-Chair, Ste.-Anne-de-Bellevue
 L. Andreassen, Winnipeg
 V. Jones, Edmonton
 J. Perry, Toronto
 L. Pinault, Fredericton
 K. Rondeau, Lethbridge
 M. Salomon, Burnaby
 J. Myers, *ex officio*, Vancouver
 P. Dixon, *ex officio*, St. John's

Student Awards /**Prix aux étudiantes et étudiants**

J. Myers, Chair, Vancouver
 D. Currie, Toronto
 D. Giberson, Charlottetown
 N. Holliday, Winnipeg
 F. Sperling, Edmonton
 T. Wheeler, Ste-Anne-de-Bellevue
 P. Dixon, *ex officio*, St. John's

**Ad hoc Committees /
Comités ad hoc****Joint Meeting Document /
Document du congrès conjoint**

T. Shore, Chair, Victoria
 J. Sweeney, Fredericton
 P. Dixon, *ex officio*, St. John's



Steve Marshall

Annual Meetings of the Governing Board and Membership

By Rick West, Secretary

Action Items: Governing Board Meeting, November 18, 2006

Strategic Review - Ad hoc Committee on Information Technology

Michel Cusson (Chair) gave an update on progress on the electronic review process and redesign of the web site. The electronic review process (cost of about \$750 per year on Simon Fraser University's Open Journal System) will be tested extensively during December and January before going online permanently. If this does not work out, then the committee recommends to use NRC's review process system (at a cost of around \$7000 per year). The committee recommends that instructions to authors be available only on the internet in the future so that changes can be quickly updated. In 2006, \$2500 will be budgeted for the electronic review process system at Simon Fraser University. In 2007, \$5000 will be budgeted for web site redesign.

Treasurer

Donations to the amount of \$3300 to the Postgraduate Scholarship Fund were received in the name of Mike Spironello who passed away in 2006. Any revenues from annual meetings go to the scholarship funds.

ESC Headquarters Committee

Painting of the office and entrance way, and repairs to the exterior foundation to prevent water leaks, the office ceiling, balcony and stairs need to be made in the coming year. New equipment may need to be purchased in 2007.



Pierre Lemoine

The 2005-2006 Governing Board of the Entomological Society of Canada, enjoying the city air in Montreal, Quebec, 18 November 2006. From left to right: Barry Lyons (Webmaster), Terry Shore (Second Vice-President), Pat MacKay (Regional Director, ESM), Chris Borkent (Student Representative), Rob Roughley (Director-at-Large), Greg Smith (Student Representative), Dan Quiring (President), Rick West (Secretary), Paul Fields (Editor, *Bulletin*), Hector Carcamo (Regional Director, ESA), Bob Lamb (Past-President), Sheila Fitzpatrick (Director-at-Large), Peggy Dixon (First Vice-President), Lorraine Braun (Regional Director, ESS), Kenna MacKenzie, (Regional Director, AES), Chris Buddle, Rose De Clerck-Floate (Director-at-Large) and Patrice Bouchard (Treasurer).

Finance Committee

Action items include reduced page charges for members; a review of membership fees, subscription fees and book sale review; making charges neutral to currency rates and providing online purchasing of memberships.

Scientific Editor

Robb Bennett will replace Richard Ring as Editor-in-Chief of *The Canadian Entomologist* in January 2007. Vasily Grebennikov will replace Don LeFontaine (Divisional Editor, Section 2). The Canadian Entomologist's ranking rose in 2006 and it has a relatively high number of citations. The Board thanked R. Ring for his excellent service as Editor-in-Chief (2005-2006).

Editor - Bulletin

Kevin Floate will replace Paul Fields as *Bulletin* Editor in January 2007. The Board thanked P. Fields for his superb service as Editor of the *Bulletin* (2003-2006). P. Fields thanked M. Smith for her services as Assistant Editor of the *Bulletin*.

Web Site

The web site will be revised in 2007 with a new look and improved bilingual content.

Publications Committee

Kenna MacKenzie will replace Allan Carroll as Chair. Permission for the Canadian Phytopathological Society to use the photos and other content from *Diseases and Pests of Vegetable Crops in Canada* for a defined purpose acceptable to the Publications Committee was given, however, copyright of the photos was not granted. Conditions of use for downloading documents and photos from the web site will be specified in a document to be posted on the web site.

Achievement Awards Committee

A list of Criddle Awards was prepared and will be posted on the web site. The criteria for eligibility for the Gold Medal and Hewitt Awards as written in the Committee Guidelines was amended as follows (changes are italicized):

"Nominations should include: (1) the name and

address of the nominee(s); (2) a statement of relevant achievements (3-5 pages) which may include but not limited to, the following: outline of research areas, particularly major contributions; numbers of articles in refereed journals, books, book chapters, patents; editorial activities; teaching history, numbers of graduate students, teaching awards; value of grants; involvement in ESC; active involvement and/or memberships in other Societies; entomological extension/community involvement; organizing of symposia, meetings; (3) a current curriculum vitae; and (4) the name of the nominator and at least one seconder."

"Nominations should be sent to the ESC office in an envelope marked "Confidential" postmarked no later than 28 February (relevant year) or emailed to the Chair of the Achievement Awards Committee."

Bilingualism Committee

A few sections of the website are not yet available in French and need to be translated.

Bylaws, Standing Rules and Committee Guidelines Committee

The line associated with the financial summary of the Society as published in the *Bulletin* will read as, "Audited financial statements are available on the Member Area of the ESC website (<http://www.esc-sec.org>) and by mail to members upon request." The following change (in italics) was made to Duty 2 of the Nominating Committee to make sure that photos be included with biographies.

" The nominations shall be accompanied by a written statement from the nominee indicating willingness to accept the office if elected, and in the case of Second Vice-President and Director-at-Large, a short biography and *photograph* of each." The following duties of the Nominating Committee were either amended or deleted as follows:

Duty 1: "Secures the nomination, over the signatures of at least three Active Members, of at least two Members for the office of Second Vice-President and office of Director-at-Large." The previous wording was: "...at least 3 members for 2 offices of Director-at-Large."

Duties 3, 4 and 5 were removed from the Guidelines as they were not duties of this committee.

The Committee recommended that the Annual Meeting of the ESC be held after the end of September and before November 10 each year to avoid highly variable lengths for terms of office and inclement weather later in the year. The Annual Meeting Committee will review this recommendation with the regional societies.

Heritage Committee

The Addendum to the *Index of biography of entomologists in Canadian publications, 2001-2005* was completed and submitted to the Bulletin for publication and will also be posted on the web site.

Insect Common Names and Cultures Committee

Michèle Roy has volunteered to serve as the new Chair, replacing Chris Buddle. An article on defining common names will be published in the *Bulletin*.

Membership Committee

Membership has increased for the second year in a row with almost a 10% increase over that in 2005. Regular, student, and emeritus memberships have all increased. Efforts to enable online membership registration and renewals will be made.

Student Awards Committee

All student award certificates were updated, translated to French and redesigned ready for future presentations. A reminder needs to go to students encourage them to apply for the travel award. Rosemary De Clerck-Floate was recognised for her excellent services as Chair and will be replaced by Judy Myers.

Science Policy and Education Committee

The board supported in principle the creation of a proposed South Okanagan - Similkameen National Park Reserve in southern B.C. The board also supported the North American Pollinator Protection Campaign in principle to aid the cause

of pollinator protection in Canada.

Pest management research report archive

The *Pest management research report archive*, a scientific publication of Agriculture and Agri-Foods Canada, is in danger of being discontinued in the near future. The Board agreed to associate our logo with a promotional document for the PMRA and a link will be provided from the ESC website to the PMR reports on the CPS Server.

Student Affairs

Activities in the coming year will include discussion of ways to increase and promote graduate student positions in Canada, updates to the Student Members' webpage, thanking the Lyman Museum and Terry Wheeler for donating registration fees for the six grad student speakers, and organizing the 2007 JAM Graduate Student Symposium. The format for a students' reception will be discussed with JAM organizers.

Marketing Committee

Report received. Revised order forms for *Diseases and Pests of Vegetable Crops in Canada* and *Maladies et Ravageurs des Cultures Légumières* au Canada were prepared and have now been posted on the website. The Publications Committee was charged to look into the copyright issue of making CD copies of *Memoirs*. From an archival standpoint, it would be advisable to have digital copies of all the memoirs as the physical condition of acidified paper deteriorates over time.

Annual Meeting Committee

The Annual Meeting Guidelines will be amended to change the title of the Students Meet the Board Reception to the Students' Reception.

Differential Registration Rates

The committee was asked to look into a differential registration rate for members attending the 2006 JAM out of concern that the rate for members must be sufficiently lower than for non-mem-

bers to encourage membership. The ESBC suggested extending lower registration rates such as are available to students and retired members to amateur entomologists to encourage the participation of the latter at our meetings. Generally, "membership" includes membership in either the ESC or regional society. Often regional membership is very inexpensive or free for students so this does not encourage membership in the ESC. With amateur entomologists we would need to determine whether they need to be members to attend. If we allowed non-members to claim amateur entomologist status we would neither gain members nor gain the financial benefit of non-members attending our meeting so it would seem membership should be mandatory.

Survey of ESC Role in Annual Meetings

Most of the regional societies feel the ESC needs to become more involved in the organization and coordination of the Joint Annual Meetings, and that the ESC needs to earn its share of the profits. They also feel that 50:50 is probably a bit too generous for the ESC considering the work that is put in by the regional society, and many favour looking at the specific circumstances of each meeting and hosting society and working out profit/loss sharing agreements accordingly. The Board agreed that the regional representative be a member of the organization committee. The ESC may also be of more help in organizing the President's Prize Competition in regions where it is held. The Chair of the ESC's Annual Meeting Committee will maintain contact with hosting societies on a regular basis to review meeting dates, registration fees, budgets and assist in planning annual meetings. The Student Affairs Committee, Annual Meeting Committee and Regional Representatives were asked to review the President's Prize competition and formulate a policy for providing feedback on paper/poster presentations by students.

Biological Survey of Canada (Terrestrial Arthropods)

Support for the BSC is provided by the Canadian Museum of Nature (CMN), but critical shortages of funds in the Museum continue and will

until a strategic review is completed in 2009.

Action Items: Annual General Meeting, November 21, 2006

Change to Standing Rule VI 3 (b)

Standing Rule VI 3(b) was amended to read (additions in italics),

"The Treasurer shall have custody of the Society's funds, report on the finances of the Society when required, submit an interim financial statement to the Annual Meeting, submit a budget to the first Board Meeting, and submit an audited financial statement at the end of each fiscal year to the membership ~~through publication in the Bulletin or posted by posting it in the members' area of the Society's website.~~"

Motion in support of the Biological Survey of Canada

The following motion was carried, "that the Entomological Society of Canada affirms its support for the Biological Survey of Canada: Terrestrial Arthropods and acknowledges the importance of BSC's contribution to the study and documentation of arthropod biodiversity in Canada. The Society also recognizes and endorses the ongoing importance of the Head of the Secretariat to the BSC, and the importance of an ongoing interaction between the Canadian Museum of Nature and the Society in facilitating the activities of the BSC."

Action Items: Governing Board Meeting, November 21, 2006

Committee Appointments

The list of Committees and Representatives for 2006-2007 as prepared by the President and the President's appointees to remaining positions to be filled were approved.

2007 Budget

The 2007 budget as prepared by the Treasurer was approved.

MINUTES
56th Annual General Meeting
Holiday Inn Midtown
Montreal, Quebec
21 November 2006

President D. Quiring called the meeting to order at 17:05. Forty-five members were present.

1. **Notice of meeting.** Notices of the meeting were published in the March and June 2006 issues of the *Bulletin* (Vol. 38).
2. **Proxies.** T. Shore for A. Carroll (ESBC), B. Lyons for D. Hunt (ESO).
3. **Additions to the agenda and approval of the agenda.** P. MacKay moved and D. Giberson seconded that the agenda be accepted. **Carried.**
4. **Deceased members of the entomological community.** R. West thanked E. 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 47th consecutive annual meeting of the Society. This distinction was noted by a round of applause. E. Becker also produces the *Senior Entomologists Newsletter*.
A moment of silence was observed in memory of the following members of the Entomological Community who passed away during the past year: Mike Spironello, John Carr, Jack Gregson, Bernie Smith, Dick Davis, Isobel Munroe, Doc Davis, Margery Milne, Ron Baird, Bobbie Peterson, Reg Shuel, Ellen MacGillivray, Vera Forster and Albert Turnbull.
5. **Minutes of the 55th Annual General Meeting.** Minutes of the 55th Annual General Meeting were posted on the web site and published in the December 2005 issue of the *Bulletin* (Vol. 37). S. Fitzpatrick moved and D. Giberson seconded that the minutes be accepted. **Carried.**
6. **Business arising from the minutes.**
There was no business arising from the minutes.
7. **Report from the Governing Board.** President D. Quiring presented a report on behalf of the Governing Board and gave an update on progress during the past year. The report from the Governing Board and regular updates are published in the *Bulletin*. This particular report will be published in the December, 2006 *Bulletin* (Vol. 38).
 - 7.1 Change to Standing Rule VI 3 (b)
K. MacKenzie moved and T. Shore seconded that Standing Rule VI 3(b) be amended to read, "The Treasurer shall have custody of the Society's funds, report on the finances of the Society when required, submit an interim financial statement to the Annual Meeting, submit a budget to the first Board Meeting, and submit an audited financial statement at the end of each fiscal year to the membership through publication in the *Bulletin* or posted by posting it in the members' area of the Society's website." **Carried, Action: R. West, V. Martel.**
8. **Auditor's report.** P. Bouchard presented the auditor's report for 2005. The report was posted on the

web site in July 2006 and summarized in the September 2006 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: Paul Fields, Second Vice-President; and Chris Buddle, Director-at-Large.
- 10. Installation of officers.** President Quiring called on R. Lamb to escort P. Fields, Second Vice-President, to the dais then congratulated P. Dixon 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 Dixon thanked D. Quiring (outgoing President), P. Fields (outgoing *Bulletin* Editor) and R. Ring (outgoing Editor-in-Chief of *The Canadian Entomologist*), and Alexandra Devine (Office Manager) for their service to the Society and presented them with a service awards. All received loud rounds of applause.
- 12. Appointment of auditor.** P. Bouchard moved and D. Giberson seconded that McCay, Duff, and Company be retained as Auditors for 2006. **Carried, Action: P. Bouchard**



Barry Lyons

The Executive of the Entomological Society of Canada for 2006-2007 at the 56th Annual General Meeting of the ESC, 21 November 2006, Montreal, Quebec, from left to right; Rick West (Secretary), Dan Quiring (Past President), Peggy Dixon (President), Terry Shore (First Vice-President) and Paul Fields (Second Vice-President).

Summary of Committee Reports

By Paul Fields, *Bulletin* Editor

The full report version of the committee reports are available on the Entomological Society of Canada's web site <http://esc-sec.org/>. Committee Chairs and members for 2005-2006 were published in the December *Bulletin* 37(4) 218-219; see page 162-163 for current Committee Chairs and members.

Annual Report by the President (Dan Quiring)

The past year has been busy, as we replaced three of the most important positions in the society while attempting to improve the use of information technology. Sandy Devine, our office manager and only full-time employee, retired in spring after many years of excellent service to the ESC. Richard Ring, Editor-in-Chief of *The Canadian Entomologist*, and Paul Fields, Editor of the *Bulletin*, who have also provided exceptional service to our society, will step down at the end of this year. We have been extremely fortunate that Derna Lisi (office manager), Robb Bennett (Editor-in-Chief of *TCE*) and Kevin Floate (Editor of the *Bulletin*) have agreed to take on these positions. Sandy Devine has agreed to work a few hours each week to help Derna during the transition period. Similarly, Kevin Floate and Robb Bennett are helping Richard Ring and Paul Fields with the current issues of *The Canadian Entomologist* and the *Bulletin* to ensure that the transition for the editors is also a smooth one.

Michel Cusson agreed to chair an ad-hoc committee whose objective is to produce improvements in our use of information technology. As is illustrated by the committee's report, the information technology committee has been very active and is proposing substantial changes that will improve several activities of the society. I hope that the board will support the nominal level of funding that the committee requires to expedite this work.

Finally, the Society has more members and financial resources than it did at this time last year. Consequently, we are in a good position to make the strategic initiatives, such as that referred to above, that are necessary to ensure that the society continues to grow and better serve its members. Thanks to all of you that give freely of your time to help entomology and entomologists in Canada.

Additional items:

An ad-hoc committee composed of Paul Fields, Bob Lamb, Ward Strong, David Gray and myself (chair) rewrote the instructions to authors for the *The Canadian Entomologist* (*TCE*). The new instructions, which are shorter and require authors to submit manuscripts electronically, were examined by divisional editors and the Editor-in-Chief and have been incorporated into the journal and our website. The same committee, in consultation with Richard Ring and divisional editors, also prepared a short summary of editorial duties of the Editor-in-Chief, divisional editors and associate editors of *TCE*.

I wrote letters to Sandy Devine and Peter Harper, thanking them for their many years of service to the Society as office manager and as a translator of abstracts, respectively. To further acknowledge their service, both were invited to the next AGM in Montreal, where they will be provided with free registration and Sandy and her husband will be provided with a room in the hotel hosting the conference. Both accepted the invitation.

The motion on Intelligent Design and evolution, passed at our AGM last fall, was cited in an article in *The Globe and Mail* and may have helped prompt many other scientific societies to adopt similar resolutions.

At the request of the chair of the scientific committee of the Biological Survey of Canada, Joe Shorthouse, I appointed three new members to serve on the Biological Survey of Canada's scientific committee. Both Joe and I also wrote separate letters to the President and C.E.O. of the Canadian Museum of Nature stating our support for the Biological Survey and the need to hire an adequate replacement for Hugh Danks, who will retire soon. I have not had a response to my letter, which was

sent on 14 September 2006. We will need to take action shortly after the AGM to ensure that support for the survey is continued.

The Entomological Society of America has asked us to support their application to host the 2012 International Congress of Entomology in San Diego. The Entomological Society of Quebec also requested the ESC to prepare an application to host the same congress in Montreal. We need to make a decision on these two options at the board meeting.

The Pest Management Research Report is a publication prepared and distributed by Agriculture and Agri-food Canada. It is uncertain whether Agriculture and Agri-food Canada will continue to publish the report after 2008, when the current editor retires. We have been requested to assist in developing a plan to ensure the continuance of this publication by the President of the CPS, Bruce Gossen. Julie Soroka will address this issue at the board meeting.

Ad hoc Information Technology Committee (Michel Cusson, Chair)

The activities of the IT Committee officially began in January 2006, when I accepted Dan Quiring's invitation to chair this ad hoc committee. Some individuals had indicated, during the 2005 Strategic Review, their willingness to sit on such a committee; they were contacted individually and asked to join. The Committee is currently comprised of Chris Buddle, Allan Carroll, Michel Cusson (Chair), Emma Despland, Paul Fields, Barry Lyons, David Shorthouse and Rick West. Robb Bennett, the newly recruited *TCE* Editor-in-Chief, and Dan Quiring (ESC President) also made contributions to the activities of the Committee.

The Strategic Review had identified five items requiring the attention of the IT Committee: (i) *TCE* electronic submission/review, (ii) *TCE* electronic publication, (iii) *Bulletin* electronic publication, (iv) ESC web site, and (v) standardization of the ESC electronic communication format. Discussions on these topics were first initiated through email exchanges, which were followed up by a first conference call held on 7 June 2006. During that call, the five above-listed items were on the agenda and were addressed individually with the aim of making decisions on the directions to take and identifying committee members willing to take the responsibility of promoting and overseeing progress for a given item.

During this first conference call, it soon became clear that, of the five items on the list, two needed our immediate (and almost full) attention: the establishment of a web-based submission and review system for *TCE* and various improvements of the ESC website deemed important for the visibility and credibility of our Society. While the web-based submission/review system was seen as an emergency, in view of the various manuscript tracking problems encountered in implementing the current email submission/review system, the second item was also perceived as a means of addressing some of the concerns related to the other three items [e.g., using the website for election of Board members or for payment of membership dues (electronic communication format); and providing access to individual *Bulletin* articles through the website (*Bulletin* electronic publication)].

Most of the initial discussions focused on the choice of a software for the implementation of a web-based submission/review system for *TCE*. Our journal is currently published by NRC Press, which offers its own web-based submission/review package (OSPREY); however, this software comes with a \$14,000 price tag. David Shorthouse brought to our attention the existence of the Open Journal System (OJS), which is a free, highly configurable software developed by Simon Fraser University (SFU) for online submission and review of journal articles. SFU offers hosting services for \$750/year. David, Paul and Chris took on the responsibility of testing OJS to determine whether it was suitable for *TCE*. The initial assessment of OJS suggested that it could be tailored to suit the needs of *TCE* submission/review. When consulted about the choice of software, Robb Bennett was favorable to the idea of implementing OJS, in part because of its much reduced cost relative to OSPREY.

Regarding the website, many suggestions were made for improvement including: (i) the use of a

consistent template across all pages, (ii) the inclusion of a page and pdf spider/indexer/search engine, (iii) the inclusion of a means to generate revenue and activity for the website, (iv) the creation of a splash page with a choice to proceed in either official language, and (v) reduced requirement for vertical and horizontal scrolling, to name just a few. Unfortunately, our webmaster, Barry Lyons, could not attend this first conference call, so we did not immediately get his feedbacks on these suggestions. David and Rick offered to help Barry in implementing the proposed changes.

We held a second conference call on October 23rd, with the aim of making decisions about the choice of the online *TCE* submission/review software and the overhauling of the ESC website. Because these decisions were to involve spending on the part of the ESC, Dan Quiring was invited to participate in the call, and so was Robb Bennett. The decision was made to go ahead with the OJS, with the ESC providing, from this year's budget, the initial \$750 required to sign a contract with SFU, a task that David accepted to take on. Some of the work involved in tailoring OJS to *TCE*'s needs will require some paid help, which Dan indicated the ESC would cover. The Committee suggested that the *TCE*-tailored version of OJS should be thoroughly tested before officially going online, so as to avoid having to withdraw the system should it prove to be unsatisfactory. Testing will likely begin near the end of this year.

Barry, who was able to take part in the second conference call, welcomed most of the suggestions made earlier by members of the Committee. He pointed out, however, that these improvements were going to require the purchase of software as well as some paid technical assistance to redesign the website, which he volunteered to find. Once again, Dan indicated that the ESC would cover all reasonable expenses related to improvements of the Society's website.

The Committee will meet in person on Monday, 20 November 2006, during the ESC Annual Meeting in Montreal.

Treasurer's Report (Patrice Bouchard, Chair)

As for the last few years, the Society is in good financial standing. The Society is expecting to spend a fair amount of money in 2007 in order to support ongoing activities of the ad hoc Information Technology Committee. These important activities include changes to the website, development of online submission system for *The Canadian Entomologist*, etc. have been budgeted for 2007. Repairs at the Headquarters are also needed in 2007.

Headquarters Committee (V. Behan-Pelletier, Chair)

We welcome Derna Lisi and were impressed by the smooth transition of the Office from Sandy Devine to Derna.

The following items need to be dealt with over the next 12 months: parging (repairing the cement) the exterior of the building where needed, to prevent water leaks; repair of the ceiling in the office where water came in (new drywall and paint), repairing the stairs to the back door of the house. These may need replacement; repairing loose boards on the upstairs balcony; installation of a railing on the stairway to the basement; painting the office and the entrance area.

Finance Committee (David Gillespie, Chair)

In general, this has been a somewhat slow year and there is not a great deal to report. This is not because of lack of financial activity in the Society. In general, however, the finances of the society are in good shape, and as a consequence, there has been little that the committee has had to deal with. The treasurer's report was reviewed by the committee, and no problems were detected. One member did comment that the donations were unusually high in 2005, which is one hopes, a reflection of the membership's support for the goals of the society. Three issues were put before the chair by the President and the Treasurer, which did not get transmitted to the committee members for comment.

These were the auditor's report, a question regarding online payment of dues, and a question regarding signing off on the copyright for the *Diseases and Pests of Vegetable Crops in Canada* book. The chair apologizes to the board for this failure.

On a positive note, Martin Erlandson has been recruited to the finance committee, to replace Doug Parker.

The committee has received and reviewed the report and budget from the Treasurer, P. Bouchard. The committee finds no concerns with the report or budget, but does urge the board to pay close attention to information technology costs in 2007, as these are obviously significant concerns. The costs for three IT related items: set-up for online membership renewals; updating/modifying the website; and software to do electronic review of *TCE* manuscripts, are of concern. These could have significant impacts on the budget estimates for 2007.

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

The period covered by this report is from 1 October 2005 to 30 September 2006. See also my Interim Report of April 2006.

I am very pleased to announce the name of my successor as Editor-in-Chief of *TCE* when I resign my duties as of 31 December 2006. He is Robb Bennett, and works for B.C. Ministry of Forests and Range here in Victoria. There will be more information available in an up-coming issue of the *Bulletin* (pg 143). Please introduce yourself to Robb during the JAM meetings in Montreal in November.

Manuscripts: The total number of manuscripts received during the period above was 124. This compares with 123 in 2003, 114 in 2004 and 110 in 2005. I have received 81 manuscripts so far in 2006. The countries of origin were: Canada = 73, U.S. A. = 10, China = 15, Japan = 1, Mexico = 4, Argentina = 2, France = 1, Italy = 2, North Korea = 3, Poland = 2, Russia = 1, Serbia = 2, Spain = 3, Switzerland = 3, Turkey = 2. Status: Suitable = 56 (c.a 60%), Unsuitable = 36 (ca. 40%), Revisions = 21, Review = 11

Since the beginning of 2006, *TCE* has moved exclusively to electronic submission and reviewing of manuscripts. However, we have not yet reached the stage of full electronic management of manuscripts. President Dan Quiring and his subcommittee have been examining the various options we have available to us, and I am expecting an announcement from the Governing Board during the AGM in Montreal. I believe that the "Open Journal System" based at Simon Fraser University is the system of choice, and I hope this will be in place by 1 January 2007 when the new Editor-in-Chief assumes office.

I have received the most recent Journal Citation Report for 2005 from Thomson ISI with the rankings of each entomological journal. The Impact Factor (IF) of *The Canadian Entomologist* has gone up slightly to 0.707 from 0.656 in 2004. This places us in the middle of the pack at number 33 out of 66 journals. However, our total citations is relatively high at 2471, placing us at number 8 out of 66 journals. Furthermore, the Periodicals & Book Catalog (2006) of the Entomological Society of America places us in number 5 spot out of 66 journals when it comes to the "best buys" in entomology (i.e. the total number of citations (12.15) per \$ of Institutional Subscription price).

Budget: The office budget for *TCE* covers the handling costs for submitted manuscripts. These include office supplies such postage, 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 2006 so far is less than \$1500.

Bulletin (Paul Fields, Bulletin Editor)

This year I asked the printers to give me a cost for the four issues rather than an issue by issue price. This resulted in a slightly lower printing cost than in 2005. However, there were fewer pages printed, so the cost per page increased from 2005. I estimate that the total cost for the *Bulletin* in 2006 will be

\$12 200, compared with \$17 710, \$20 487, \$18 891, \$9752 and \$ 13 648 for 2001, 2002, 2003, 2004 and 2005 respectively. For 2006, the costs (all numbers estimates) were as follows: printing \$7626, postage \$4563, total cost \$12 189, cost/page \$63, number printed 3200, number mailed 2684, total number of pages 200.

The new Editor will be changing desktop editing software, probably to InDesign. This will cost approximately \$600 for 2 software packages, one for the Editor and one for the Assistant Editor.

This is my last year as *Bulletin* Editor. I would like to thank all the contributors to this year's *Bulletin*. I would like to extend a special word of thanks to Marj Smith for her efforts as Assistant Editor, which has been essential in getting this year's *Bulletin* to print. Marj has agreed to stay for an additional year as Assistant Editor. I leave the *Bulletin* in her and the new Editor's, Kevin Floate, capable hands.

Web Site (Barry Lyons, Webmaster)

General: The "esc-sec.org" domain name has been successfully renewed through ReadyHosting.com at a cost of \$115. The new expiration date for this domain is now 17 November 2007.

Main Page: The main page contains some general information about the history and role of the Society, but also contains news items. Announcements of new issues of the *Bulletin*, positions, and events (i.e. workshops and Annual Meeting) are accessible from this page.

Modules

Member area: The password-protected area currently contains the following sections: 1) Membership Directory (updated February 2006), 2) Insect Common Names List (the .pdf version of the Common Names List only occurs in the section), 3) Current Issue of *Bulletin*, 4) Biography of Entomologists in Canadian Publications, 5) By-Laws/ Standing Rules/ Committee Guidelines, 6) Outdated Minutes of Meetings, 7) Outdated Committee and Trustee Reports, 8) Board Members (introductory notes for new members), and a new section 9) Financial Statements (scholarship and regular in .pdf format to 31 December 2005) The French language version currently only links to an English language menu. Problems with password access to this directory have been rectified. The task of updating the passwords for this directory should become a responsibility of the office manager.

Membership: French and English versions of the 2007 membership form, in .pdf format, are now available on the site.

Executive: The list of executive members and trustees of the Society was updated for 2005/2006. Committee - This list of committees was updated for 2005/2006 as the President approved the membership of the committees.

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

Student affairs: This module contains the 1) Student Members of the Society (revised for 2006 and containing profiles for 19 students - one profile added during the review period). Kimberly Rondeau is co-ordinating this section and has provided a downloadable form to assist students in creating their profiles 2) Directory of Entomological Education in Canada (5th edition, revised October 2005); and current applications and descriptions of the ESC awards (2006 versions). A new addition for 2006 is the John H. Borden Scholarship. This module provides an outlet for exchange of information by the Student Representative and student members of the Society.

Science Policy and Education: The only change to this module is the addition of the Resolution adopted at the 2005 Annual General Meeting of the Entomological Society of Canada (re: "theory of evolution is the foundation and unifying principle of biological sciences").

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.

Awards: This section has not been updated since 2004.

Publications: this section has remained relatively unchanged over the past year. New updated covers images for the *The Canadian Entomologist* and *Bulletin* have been created and installed on the

site.

a) **The Canadian Entomologist**: 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). The subscription rates have been updated for 2006.

b) **Bulletin**: 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 which was updated with current prices and availability for 2006.

Insect Photos: This module evolved from an idea proposed and implemented by C. Vincent. The gallery currently contains the works of seven photographers, although additional photographs by H. Goulet and D. Giberson still need to be processed for display. The photographs are displayed as simulated slides that, when clicked by the mouse, expand to large format images. A partial new gallery by J.C. Lucier was added during the last year.

Common Names: There have been no revisions to this section during the reporting period. The list was revised in 2005.

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 occasionally updated during the reporting period.

The look and content of the ESC website is currently under review by the ESC Information Technology Committee chaired by Michel Cusson. One initial suggestion from the Committee was that we move the website to a new host provider that offered a greater potential for expansion. However, at the last conference call meeting of the Committee I pointed out that we do not use the full potential of the existing site. I advised the Committee that a group at the University of Guelph, who developed the website for the ESO Annual Meeting (<http://www.uoguelph.ca/eso2006/>), might be interested in a contract to revise the ESC website. This and other options will be explored.

Publications Committee (Allan Carroll, Chair)

During 2006, digital photographs were once again solicited from the membership (via the *Bulletin*) as part of a contest to select images for use on the cover of each new volume of *TCE* and the *Bulletin*. As with last year, very few submissions to the photo contest were received from the general membership (although the June *Bulletin* announcement was inadvertently omitted), and the Publications Committee Chair was forced to actively seek photographs from members. The lack of participation on the part of the membership is worrisome, and some consideration should be given to increasing the profile of *TCE* cover photo contest.

Action: To increase the number of submissions to *TCE* cover photo contest, the profile of the contest must be enhanced in the *Bulletin*, on the Web site and at the AGMs.

Book reviews: Approximately 15 books were received for review during 2005. Nine reviews have been published in the first 3 issues of volume 38 of the *Bulletin*. Copies of the *Bulletin* will be sent to all publishing houses whose books were reviewed in that volume.

This year is the fourth in my tenure as Publications Committee Chair. During that time, there has been a resolution to the issue of copyright within *TCE*, significant changes in the format of both *TCE* and the *Bulletin*, as well as steps toward adoption of electronic publishing by the Society. I have been happy to play a part in each of these developments. However, it is time to step aside and allow a new Chair to embrace the next set of challenges associated with the ESC-SEC publications. Kenna MacKenzie has graciously accepted the appointment, and will assume the duties of Publications Committee Chair as of 1 January 2007.

Nominations Committee (Robert Lamb, Chair)

The Committee submitted two nominations to the secretary for 2nd Vice-President and Director-at-Large, along with biographies suitable for release to the members along with the ballots. The Committee recommends that the two candidates that were not successful in the election be considered again in the 2007 nomination process.

In cooperation with the Chair of the By-laws, Rules and Regulations Committee, updated Guidelines for the Nominations Committee are submitted, and we recommend that the Guidelines be changed accordingly. Duties 3 and 4 should be deleted from the Guidelines of the Nominations Committee because they refer to the duties of the Awards Committee.

Duties:

1. Change "at least three members for two offices of Director" to "office of Director"
2. Change "Directors-at-Large, a short biography of each" to "Director-at-Large, a short biography and photograph of each"
3. Delete this Duty ("Actively seeks nominations for the Gold Medal Award and C. Gordon Hewitt Award. Nominations shall be made only by Members of the Society, according to nominating procedures outlined in the June and September issues of the *Bulletin*.")
4. Delete this Duty ("Submit announcements and guidelines of awards, and annually update list and biographies of winners to the Webmaster and *Bulletin* editor.")

Elections Committee (Rebecca Hallett, Chair)

169 ballots were counted. Paul Fields was elected as Second Vice-President. Chris Buddle was elected as Director-at-Large. Changes to Standing Rules VI 3(b) and XII (3) were approved.

Achievement Awards Committee (Peggy Dixon, Chair)

Following review of the nomination packages, the Awards Committee recommended Richard Ring of the University of Victoria as the 2006 Gold Medal winner, and Christopher Buddle of McGill University, as the 2006 winner of the C. Gordon Hewitt Award. The two recommendations were supported by the Board.

The Committee confirmed that the winner of the Norman Criddle Award, as selected by the Société d'entomologie du Québec (SEQ), met the criteria for an amateur entomologist. As a result we would like to offer our congratulations to André Beaudoin of the Laurentian Forestry Centre in Québec City, who will receive the award at the ESC-SEQ meeting in Montréal.

The Criddle Awards section of the website has many "No award" entries. We encourage all members to check the list to make sure the information is accurate. Because the Criddle recipients are chosen by the regional societies, regional directors in particular are asked to check those years since 1981 when they hosted the Joint Annual Meeting. If anyone knows of any other winners, or whether, indeed, there was no award given in a particular year, please contact the Chair of the Achievement Awards Committee.

The Awards Committee encourages regional directors, and indeed all members, to think about individuals who have made outstanding contributions to entomology, and nominate them for the C. Gordon Hewitt and Gold Medal Awards. Recognition of such contributions is an important function of the Society and although we are sure there are many deserving entomologists, they must be nominated to be considered! Guidelines for nominations are on the ESC website and for additional information please contact the Chair of the Achievement Awards Committee, or Rick West, ESC Secretary.

During consideration of the nomination packages for the Gold Medal, we noticed that the amount and quality of information provided varies tremendously. Obviously the Awards Committee can consider only what is presented in the documentation and felt that packages might be more comparable if nominators were given more guidance. As such the Committee would like the Board to consider the

following changes to the Criteria for the Gold Medal Award as published on the website and elsewhere:

Criteria for eligibility: (requested changes are italicized)

1 - 4 are correct as written. Then, "Nominations should include: (1) the name and address of the nominee(s); (2) a statement of relevant achievements (*3-5 pages*) including but not limited to, the following: *outline of research areas, particularly major contributions; numbers of articles in refereed journals, books, book chapters, patents; editorial activities; teaching history, numbers of graduate students, teaching awards; value of grants; involvement in ESC; active involvement and/or memberships in other Societies; entomological extension/community involvement; organizing of symposia, meetings;* (3) a current curriculum vitae; and (4) the name of the nominator and at least one seconder."

Nominations should be sent to the ESC office in an envelope marked "Confidential" postmarked no later than 28 February (relevant year) or *emailed to the Chair of the Achievement Awards Committee.*

Bilingualism Committee (Véronique Martel, Chair)

In 2006, the Bilingualism Committee translated mainly documents for the *Bulletin* and the Annual Meeting, but in addition to that, we revised the translation for all the awards and scholarships of the Society, to ensure that all texts were appropriate and to shorten some of the names. For the following year, in addition to translating the ESC documents, the committee would like to work on the bilingualism of the website, on which a few sections are not yet available in French.

Bylaws, Standing Rules and Committee Guidelines Committee (George Gerber, Chair)

The Bylaws, Rules and Regulations Committee was asked to respond to 4 matters arising from the Executive Council Meeting of 22 April 2006. The following are the actions and recommendations of the committee.

Auditors Report: The Executive recommended that Standing Rule VI 3 (b) be amended to allow publication of financial statements by posting them in the website. This rule should not be changed, because the ESC is legally obligated to make all financial statements available to all Members in perpetuity. Therefore, the financial statements need to be in one of the official publications of the ESC and the *Bulletin* is the best place for them to appear at present. The appearance of the financial statements in the website can not fulfill our legal obligations, but this does not prevent the ESC from putting them in the website. The Governing Board can pass a motion authorizing someone to place them in the website without a new Standing Rule.

Nominating Committee: The Chair of the Bylaws, Rules and Regulations Committee met with the Chair of the Nominating Committee and agreed that the following change should be made to Duty 2 of the Nominating Committee to make sure that photos be included with biographies. The amended duty needs to be approved by the Governing Board:

"The nominations shall be accompanied by a written statement from the nominee indicating willingness to accept the office if elected, and in the case of Second Vice-President and Director-at Large, a short biography *and photograph* of each." (Change is in italics)

Biographies in First or Third Person: There is nothing in the documents of the ESC preventing this from happening at present. Therefore, no changes need to be made to the duties of the Nominating Committee. If, the Governing Board wants a sentence added to Duty 2 stating that biographies can be written in either first or third person, it should pass a motion covering this matter.

Duties of Nominating Committee.

(a) Duty 1 needs to be amended to read as follows:

"Secures the nomination, over the signatures of at least three Active Members, of at least two Members for the office of Second Vice- President and office of Director-at- Large."

The previous wording was: "...at least 3 members for 2 offices of Director-at-Large." We now elect

only one director each year.

(b)Duty 3 needs to be removed from the Guidelines as it is not a duty of this committee.

(c)Duty 4 needs to be removed from the Guidelines as it is not a duty of this committee.

(d)Duty 5 needs to be removed from the Guidelines as it is not a duty of this committee.

The Governing Board needs to approve the changes to these 4 Duties.

Elimination of Duty 3. This matter was covered under Duty 3 above.

Scheduling the Annual Meeting: The 1977 motion does not need to be rescinded by the Governing Board, but there seems to be a need to replace it with an updated motion to achieve two objectives. (1) The ESC seems to want to avoid meetings being held after about November 10 to avoid conflicts with ESA Meetings. (2) The ESC needs to have a relatively standard time period for its Annual Meeting to avoid highly variable lengths for the term of office of the Governing Board; this was the prime purpose of the 1977 motion. The Committee recommends that the 1977 motion be replaced with one similar to the following: The Annual Meeting of the ESC should be held after the end of September and before November 10 each year. If passed, this action could be put into the guidelines for planning Annual Meetings and the Annual Meeting Committee could be requested to monitor the timing of Annual Meetings to ensure that the action of the Governing Board is followed. If a meeting is scheduled to be held before or after this period, the Governing Board certainly can review each case and approve or reject each scheduling on a case-by-case basis. If the ESC holds another joint meeting with the ESA, it certainly will be held at a different time than our meetings. The Governing Board could certainly pass a motion to allow this to happen.

Heritage Committee (Cedric Gillott, Chair)

Since its March 2006 Report to the Board, the Heritage Committee has undertaken a number of housekeeping activities and has completed a major project.

The housekeeping business comprised: 1. Arranging for the preparation of obituaries of two deceased entomologists. These were M. Ellen McGillivray (prepared by Doug Eidt) and G. Richard F. Davis (Bob Burrage), and their obituaries were published in the June 2006 *Bulletin*; 2. Responding to a request from the granddaughter of Edmund M. Walker for information on her predecessor. She was referred to the citations in the 'Index to Biography of Entomologists in Canadian Publications'; 3. Requesting the regional societies that hosted the 2004 and 2005 Joint Annual Meetings (AES and ESA, respectively) to supply the National Library and Archives (NLA) with a second copy of the program for their meeting. The NLA now requests two copies of documents, one for research, the other for preservation; and 4. Offering an opinion to the ESC office on the disbursement of 'books and journals excess to the (ESC office's) needs as a non-library'. It was suggested that regional societies (principally ESBC, ESM and ESO) be contacted to determine their interest in publications bearing their name. The remaining material comprised mainly single issues from journals, memoirs, and similar publications of little value (in the sense that these are readily available elsewhere). It was agreed that this stuff should be consigned to the 'round files' (Sandy Devine's terminology!).

The major project, which I am pleased to report has been completed and submitted to the *Bulletin* for publication, is the Addendum to the Index of Biography of Entomologists in Canadian Publications, 2001-2005. As I noted in its introduction, the Addendum's preparation was relatively easy compared to development of the original Index. In part, this was because the Addendum covers only a 5-year period compared to the >130 years in the Index. Also, the advent of the electronic age has resulted in virtually all the publications searched being available on-line, removing the necessity of arranging for inter-library loans and of requesting loans or photocopies of material from individuals. A bonus of the electronic search was the discovery that some regional societies have valuable biographic information on their web page but not in hard-copy form. In preparing the Addendum, I received valuable assistance from fellow committee member Jean-Pierre Bourassa who searched material of the SEQ and

prepared the French version of the text. I believe this has been a worthwhile and not too difficult exercise and I recommend that further addenda be produced at 5-year intervals.

Insect Common Names (Chris Buddle, Chair)

The Insect Common Names committee worked on a few key items since the last report. Peter Ebling from the Great Lakes Forestry Centre requested we give permission for him to use our common names list as a starting point for an on-line database being developed at the Great Lakes Forestry Centre. The data-base is for the Insect Production Services, to specifically create a world-wide database of insect producers. To generate this database, they will be asking producers to register on-line by identifying their insect cultures by selection from a menu of insect orders, families and/or common names; the use of the ESC's list of common names will greatly facilitate this process. The committee agreed to this request, with the condition that the ESC is credited appropriately.

The committee also received a request for a common name from the OMAFRA (Guelph, Ontario). This was for *Contarinia nasturtii* (the swede midge / Cécidomyie du chou-fleur). Our committee approved this request. Chris Buddle also forwarded a bulk request for several common names, and the following were approved: *Aphis glycines* (soybean aphid / Puceron du soya); and *Anoplophora glabripennis* (Asian longhorned beetle / Longicorne asiatique). Our committee continues to discuss common names for *Tetropium fuscum* and *Agrilus planipennis*. The full common names data-base will be updated this autumn to reflect the aforementioned changes.

We are also starting to work more seriously on French common names as many species are lacking French common names, and/or current names are not appropriate. Michèle Roy has agreed to put together a list of 'priority' species (i.e., a select set of species in desperate need of a French common name). As a starting point, she will first work on species common and/or important in Quebec.

We are still working on validating scientific names for the current list. This task remains close to completion, but some large Orders remain to be finished (e.g., Lepidoptera).

In conclusion, this is the final report from the current chair of this committee as Chris Buddle will be stepping down. It has been three years and we have made good progress, but it is time for someone else to continue development of the ESC's common names list.

Membership Committee (John Sweeney, Chair)

Membership Trends: Excellent news! Membership has increased for the second year in a row. As of 24 October 2006, we had 547 members, almost a 10% increase over that in 2005. Regular, student, and emeritus memberships have all increased. If anyone knows what might account for the large increase in regular membership, please let me know. It would be good to find out what is working so we can keep it up!

Year	Regular	Student	Emeritus	Total
1997	404	79	70	553
1998	396	76	76	548
1999	382	72	72	526
2000	400	114	77	591
2001	386	98	82	566
2002	364	90	65	519
2003	357	87	74	518
2004	330	68	77	475
2005	338	86	75	499
2006 (Oct.)	378	89	80	547

Reminder to renew membership in 2006 Annual Meeting notice: The following renewal reminder was inserted in the 2006 Joint Annual Meeting notices/mail-outs sent to those who had not yet renewed their ESC memberships: "Our records indicate that you have not renewed your ESC membership. Reduced registration at the Annual Meetings is just one of the benefits of ESC membership. Please take a moment to renew your ESC membership (<http://www.esc-sec.org/06MembershipE.pdf>) and support the study and promotion of entomology in Canada". Thanks to Charles Vincent for including the insert in the June 2006 mail-out and to Dan Quiring for suggesting the idea.

ESC Poster: Lorraine Braun designed a large colorful poster listing the benefits of ESC membership which is intended for display at meetings and conferences. The poster will be laminated and displayed at the 2006 ESC-SEQ Joint Annual Meeting, near the ESC booth/table. The poster pdf file was sent to each regional representative so posters could be printed for display at meetings and universities.

Student Awards (Rose De Clerck-Floate, Chair)

Following are the awards offered in 2006, with the successful candidates.

Graduate Research-Travel Scholarships (6 applicants): Awarded to MSc student, Conan Phelan (Simon Fraser University), for travel to Kenya to field test his growth models of malaria mosquitos. Note: Both Conan and last year's successful candidate, Owen Lonsdale (University of Guelph) have submitted their post-travel research reports as a condition of receiving the awards.

Postgraduate Scholarships (11 applicants) - The PhD award went to Jennifer Rosati (University of Windsor), who is studying carrion insect communities. The MSc award went to Aynsley Thielman (Brock University), who is studying *Anopheles* systematics.

Biological Survey of Canada Scholarship (11 applicants): Awarded to Andrea Déchéne (MSc student, McGill University), who is studying soil and litter microarthropod communities of Quebec boreal forests.

Student Conference Travel Award: We awarded Christina Elliott (MSc at University of Alberta) \$500 to help with travel to the Montreal meeting. Christina was the only applicant this year, but was deemed highly deserving of the award by the Committee.

The John Borden Scholarship: Was developed to annually (\$1,000) assist a postgraduate, entomology student who is studying Integrated Pest Management (IPM) at a Canadian institution, was first offered in 2006. Although announcement of the award and its conditions were mailed to all Canadian universities and posted on the ESC website in January, there were no applications received. It is recommended that the incoming Chair undertake a promotion of the new scholarship, aimed especially at university departments with known IPM programs.

To facilitate the process of award application, and especially the receipt and review of applications for student awards, the application deadlines for all student awards (except for the Student Conference Travel Award) were set to the same date in February (i.e., was voted on at the 2005 ESC Board meeting). This seemed to work well in condensing effort for students, their supervisors and the Student Awards Committee.

However, it now is recommended to disassociate the deadline for the Student Conference Travel Award from the general deadline for meeting abstracts. This year the abstract deadline was delayed to the end of August from the typical July deadline, which may have been a contributing factor to the poor showing of applications for this award (i.e., too close to the beginning of classes at the universities). An annual award deadline sometime in mid-July is recommended.

Award application conditions and forms also were improved with the help of Brian Van Hezewijk, the changes translated to French by Véronique Martel, and then posted to the ESC website by Barry Lyons in January. The added request for specific curriculum vitae information for the Postgraduate and Biological Survey of Canada/Keith Kevan Scholarships helped the reviewers in providing a fairer and

more informed assessment of applications. However, a list of application parts that still need clarification (e.g., what is required for official transcript submissions) was generated based on e-mails from students or supervisors in 2006. As my last duty as Committee Chair, these areas will be improved on, translated and posted for early 2007.

Lastly, all student award certificates have been updated, translated to French (thank-you Véronique and Bilingualism Committee) and redesigned ready for future presentations. In the process of having the certificates translated, it has been noted that the new, shortened, French titles for the awards are sometimes different from what is listed for their announcements and conditions for application. Hence, the titles will be updated on the latter for 2007.

Science Policy and Education (Terry Shore, Chair)

Education: Requests for the ESC \$200 educational grant were received from the AES, SEQ and ESS. These were approved by the committee.

Science Policy: Several issues were dealt with by the committee this year.

1. Dan Johnson's resolution regarding Intelligent Design was put on the ESC webpage so that the ESC position on this issue would be clear and able to be referenced by others.

2. We received a letter from the Western Canada Wilderness Committee requesting our support in pursuing the creation of a proposed South Okanagan - Similkameen National Park Reserve in southern BC. The committee agreed that we should support this initiative and so the letter was forwarded to the membership encouraging individual action, as well as posted on the webpage. We had planned a letter from the President to appropriate agencies, but in speaking with Geoff Scudder who was involved in the hearings regarding the proposed reserve there was some confusion on my part as to how the proposal was proceeding and to whom letters should be written. Therefore, this final action has not yet been taken. The incoming chair could look further into this to see how this process is evolving and whether letters would be appropriate.

3. The *Pest Management Research Report* is a scientific publication of Agriculture and Agri-Foods Canada and is in danger of being discontinued in the near future. The ESC has been asked if we would mind associating our logo with a promotional document for this journal. The Science Policy and Education Committee was agreeable with this and feels we should support the continuation of this publication. This item will be discussed a bit more at the ESC Board meeting in Montreal.

4. Kenna MacKenzie has asked the ESC if they would support the North American Pollinator Protection Campaign as a partner/supporter of the cause of pollinator protection in Canada. The Science Policy and Education Committee felt this was a worthwhile cause and deserved our support.

Student Affairs (Greg Smith and Chris Borkent, Co-Chairs)

The Student Affairs committee currently consists of eight members (including the two Co-chairs) representing all regions of Canada. We continue to keep a running list of new graduates with postgraduate degrees in Entomology in Canada, which is then published in every issue of the *Bulletin*. We also maintain the Directory of Entomological Education in Canada which is updated bi-annually. The committee also has web space for students to post a description of their research (which very few use). We have received a number of donations of books and other items for the Silent Auction in Montreal. We received 22 applications from students hoping to participate in the Graduate Student Symposium at the Montreal meetings. Of these 6 were selected to give talks on Diversity.

Action items:

- Discussion of ways to increase and promote graduate student positions in Canada.
- More frequent updates to Student Members webpage.
- Formal thanks to the Lyman Museum and Terry Wheeler for donating registration fees for the six grad student speakers.

- 2007 JAM Graduate Student Symposium - hosts (Entomological Society of Saskatchewan) are keen and have included it in itinerary already.

- Students Meet the Board evening - replace with either an extra hour on the general reception or start a 'student night out' event - cheap evening for students to mingle.

Marketing Committee (Owen Olfert, Chair)

Policy for sales of Memoirs for which only a few copies exist: The committee suggests that rare issues (with perhaps only 1 or 2 copies left) be scanned in and made available on CD. This will likely involve taking the copy apart to scan the pages, especially if Optical Character Recognition software is utilized. If the ESC Official Board is in favour of this approach, the committee would like to contact Derna to see if she could compile a list of the rare Memoirs and, if possible, assist in prioritizing the list (i.e. beginning with most frequently requested copies). Once the list is compiled, the committee could put out a call for volunteers to scan rare copies of Memoirs. In addition, the link to *Microbial Control of Grasshoppers and Locusts* under 'Books for Sale' on the website has been removed, as it appears in the list of Memoirs.

Membership poster: Lorraine Braun constructed a poster detailing benefits of Membership in the ESC-SEQ. Owen Olfert made arrangements with Charles Vincent and Pierre Lemoyne for a membership & marketing desk at Joint Annual Meeting in Montreal. Books and membership forms will be available, and the ESC Membership poster will be displayed. Jon Sweeney is coordinating staffing the table.

CD order form for *Maladies et Ravageurs des Cultures Légumières au Canada*: Revised order forms for *Diseases and Pests of Vegetable Crops in Canada* and *Maladies et Ravageurs des Cultures Légumières au Canada* were prepared and have now been posted on the website. Changes made indicate that the *Maladies et Ravageurs des Cultures Légumières au Canada* is available in CD only (\$20 plus tax), and the cost for *Diseases and Pests of Vegetable Crops in Canada* and *Maladies et Ravageurs des Cultures Légumières au Canada* has been changed from \$52 to \$58 USD.

Annual Meeting Committee (Terry Shore, Chair)

International Congress of Entomology (2012): The ESC received correspondence from Jens Christian Bungardt, Sales Manager, International Market for the Palais de Congres in Montreal soliciting our support towards putting forth a bid to host the 2012 International Congress of Entomology (ICE). Another proposal was received for hosting this event from conference planners in Toronto (I haven't seen a copy of that letter). I contacted Shirley Hanrahan of the ICE executive who informed that the board would be happy to receive a bid from Canada, but we should be aware that bids are already being developed by the USA and Korea. She also provided some information on the size of venue etc. required. I further contacted Geoff Scudder, who was one of the key organizers of the 1988 ICE held in Vancouver. Geoff emphasized that this was a huge undertaking - all logistics and a fairly well developed program would have to be in place and a professional presentation developed and made to the ICE board. Subsequently, Dan Quiring received a letter from John Trumble of the ESA inviting the ESC to support the ESA bid for the ICE in San Diego. He mentioned that the ESA had supported the ESC in the previous bid for the meeting held in Vancouver in 1988. Also, several ESC members such as Murray Isman (UBC) and Charles Vincent (AAFC) are helping with the ESA bid (in fact Murray Isman is Chair of the organizing committee). Also, it was mentioned that two regional societies (ESBC and ESA) have indicated they will support the bid. Dan Quiring and I subsequently had a conference call with Jean-Louis Schwartz and Jacques Brodeur who are proponents of the bid to have the meeting in Montreal and relayed the above information to them. They declined an invitation to present their case to the board at our meeting in Montreal, but would like the board to vote on whether the ESC would participate in a bid for the 2012 ICE. (note: this request was withdrawn at the JAM).

Students meet the Board reception: Discussions with Student Committee co-chair Greg Smith along with my discussions with previous chair Tonya Mousseau have lead me to believe that the Students meet the Board Reception should be terminated and replaced with a Students Reception. What the students would prefer is a "students only" reception where they get to meet fellow students and discuss their work. This would probably work best as a preliminary social event to the general reception, and could be partially subsidized by meeting revenue.

Differential registration rates: The committee was asked to look into a differential registration rate for members attending the 2006 JAM out of concern that the rate for members must be sufficiently lower than for non-members to encourage membership. Also, I have been asked by the ESBC to consider extending lower registration rates such as are available to students and retired members to amateur entomologists to encourage the participation of the latter at our meetings. Generally, "membership" includes membership in either the ESC or regional society. Often regional membership is very inexpensive or free for students so this does not encourage membership in the ESC. With amateur entomologists we would need to determine whether they need to be members to attend. If we allowed non-members to claim amateur entomologist status we would neither gain members nor gain the financial benefit of non-members attending our meeting so it would seem membership should be mandatory. The rates for the 2006 JAM encourage membership. However, membership in SEQ is \$20 for students and \$40 per regular member as opposed to ESC student membership at \$21.40 (without journal) and \$42.80 (with journal) and regular membership at \$85.60 so there may be more encouragement to join SEQ than ESC.

Survey of ESC role in Annual Meetings: Following the JAM in Canmore, the Annual Meeting Committee drafted a questionnaire that was sent to the regional societies to seek the views on the participation arrangement of the national and regional societies in terms of arrangement of the meetings and profit sharing. Responses to the survey were provided to the Board. Some of the smaller societies indicated that it is a strain on their resources (financial and personal) to host these meetings. For example, one suggestion was that Saskatchewan and Manitoba may want to jointly host a JAM so that there are sufficient numbers of people to help in the organization. Most of the societies feel the ESC needs to become more involved in the organization and coordination of the Joint Annual Meetings, and that the ESC needs to earn its share of the profits. They also feel that 50:50 is probably a bit too generous for the ESC considering the work that is put in by the regional society, and many favour looking at the specific circumstances of each meeting and hosting society and working out profit:loss sharing agreements accordingly.

Biological Survey of Canada (Hugh Danks, BSC Secretariat)

General highlights: BSC projects continue to move forward. The *Canadian Journal of Arthropod Identification*, an online journal of the Biological Survey providing identification aids for the fauna, has been launched with posting of the first few articles. A large cooperative project on grasslands continues, and the initial book on grassland habitats is proceeding. A successful BioBlitz was held in Gros Morne National Park, NL, in July, especially for cooperators in the grasslands and forest projects. A further issue of the forest project's electronic newsletter was produced though the Canadian Forest Service.

The Survey website was reorganized, especially to make the site easier to use by presenting a clear menu to facilitate access to the wide range of content. The *Canadian Journal of Arthropod Identification* is on that site. Web site content continues to be added and updated: <http://www.biology.ualberta.ca/bsc/bschome.htm> (English), and <http://www.biology.ualberta.ca/bsc/cbchome.htm> (French).

Support for the BSC is provided by the Canadian Museum of Nature (CMN), but critical shortages of funds in the Museum continue. Once again, therefore, funds are currently available for only one rather than two annual meetings of the advisory Scientific Committee.

In July 2006 the Head of the Secretariat notified the CMN (as well as the Scientific Committee and the ESC) of his intention to retire at the end of August 2007.

ESC linkages:

BSC Award: The BSC student award is given every two years by the ESC. It is to be awarded at the current meeting in Montreal.

BSC Annual Report: The BSC annual report for 2006 was submitted to the CMN through the ESC President.

BSC meetings in conjunction with ESC meetings: Fall meetings of the Scientific Committee have been held in association with Joint Annual Meetings in recent years. In 2005, severe budget reductions for the Survey (and other Museum components) forced a more limited associated meeting, without reimbursement for those attending. That meeting was nonetheless successful. Budget shortfalls in 2006 again necessitate a similar limited meeting after the Montreal JAM.

ESC contract: Given the shortfall of funds, and following discussions with some members of the ESC, travel arrangements for the spring Scientific Committee meeting were funded directly by the BSC, rather than through a contract with the ESC which would consume overhead.

BSC symposia at ESC Annual Meetings: Papers from a BSC symposium at the 2005 Joint Annual Meeting on Forest arthropods are proceeding to publication in *The Canadian Entomologist*. Means to expand and publish work from the 2005 symposium about Fire and arthropods are being investigated. A major symposium about Non-native terrestrial invertebrates and fungi organized or sponsored by the BSC and other agencies is associated with the 2006 JAM. The BSC intends to continue such associated symposia.

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, and is available on line at <http://www.biology.ualberta.ca/bsc/english/newsletters.htm#arthropods>.

Development of the Survey: There were few visible results of a workshop held in October 2005 at the Canadian Museum of Nature to discuss the future of the BSC with other agencies. CMN response to the planned August 2007 retirement of the Head of the Secretariat has so far been muted, although comments supporting continuation of the BSC were sent to the Museum by the Scientific Committee and by the ESC. The future of the Survey will be considered in the CMN's strategic and budget planning now taking place for the next fiscal year.

Regional Societies

Officers of Regional Societies are given on page 188.

Entomological Society of British Columbia (Alan Carroll, Regional Director)

The 2006 annual general meeting of the Entomological Society of British Columbia was held on October 13 and 14 at The Richmond Nature Park's Kinsmen Pavillion, in Richmond, BC. As voted on by the membership of the ESBC at the 2005 AGM, this year's meeting was a two-day affair; one day of talks by graduate students and professional entomologists, and a one-day symposium on aquatic entomology.

The 2006 ESBC AGM and subsequent symposium were attended by 48 and 21 people, respectively, many of which were students from UVic, SFU, UBC and UNBC. Presentations by students were judged and the following awards were granted:

The James Grant Award (\$200, North Okanagan Naturalists) for the best presentation by a MSc candidate was given to Tim Hazard (SFU).

The Harold Madsen Award (\$200, Phero Tech) for the best presentation by a PhD candidate was given to Gwylim Blackburn (SFU).

Travel scholarships (\$500 each) were also awarded to the following recipients: Gwylim Blackburn

(UBC) and Claudia Copley (UVic).

Entomological Society of Alberta (Hector Cárcamo, Regional Director)

The Entomological Society of Alberta held its 54th Annual Meeting in Lethbridge from the 26th to the 28th of October, 2006. The scientific program included 25 submitted oral presentations and 8 posters. Among the 51 attendees there were 18 students, 4 retired members and 29 regular members. Locke Rowe (University of Toronto) delivered the keynote address entitled "Sexual conflict in bugs". The after dinner speaker was Lorne Fitch who presented an exquisite pictorial overview of the natural history of Alberta. The Carr Award for outstanding contributions by an amateur entomologist was presented to Gary Anweiler of Edmonton for his extensive contributions to the knowledge of Lepidoptera. The ESA Undergraduate Scholarship was awarded to Joseph Purcell of the University of Calgary (student of Mary Reid).

As of October 2006 the ESA has (2005 numbers) 84 regular members (83), 41 student members (29) and 6 honorary members (7). The entomological community of Alberta was saddened by the death of John Carr, one of our honorary members, on 4 September 2006 in Calgary. John was a geologist who made outstanding contributions to the knowledge of the insect fauna of Alberta, particularly the Coleoptera. The massive beetle collection curated by John and his wife Bert was donated to the Canadian National Collection of Insects, Arachnids and Nematodes. Details about John's life, including his memoirs can be read at <http://www.carr-glover.com/Personal>.

Entomological Society of Saskatchewan (Lorraine Braun, Regional Director)

The Fall business meeting of the Entomological Society of Saskatchewan will be held on 7 December 2006 at the Saskatoon Research Centre, Agriculture and Agri-Food Canada.

Plans are well underway for the Joint Annual Meeting of the ESC and ESS, from 29 Sept. until 3 Oct. 2007. A tentative program has been formulated by Martin Erlandson and Cedric Gillott. Letters have been prepared to solicit funds; the website is under construction; the theme has been chosen; a Logo contest is underway; symposia are being developed. See page 153-154 for details on the upcoming ESC/ESS JAM.

Entomological Society of Manitoba (P. MacKay, Regional Director)

The Entomological Society of Manitoba membership currently stands at 118, with 30 of those being student members.

The Society's members have continued to be active in promoting Entomology since the last report to ESC. Since March 2006, Youth Encouragement Committee volunteers have delivered a total of 23 presentations to school or youth groups through core programming activities, reaching almost 600 students. An additional 1100 children were exposed to entomology through participation in the educational event Agriculture in the Classroom

Other Society activities included the New Members' Social which was held on 7 April 2006. The theme/activity was bowling, and 18 members and significant others participated.

The Annual Scientific Meeting of the ESM was held at the University of Manitoba on 14 October 2006. The theme of the meeting was "Extension Entomology in Western Canada". The format of the meeting was one day only this year instead of the usual two, because of the longer meeting of ESM with the North Central Branch of the Entomological Society of America in March 2007. The one-day meeting was well-attended with between 35 and 40 people at each of the morning, afternoon, and evening sessions. The Annual Business Meeting, at which time the new executive will take office, will be held separately in mid-November.

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. It is expected that there will be approximately 12 symposia in addition to the usual submitted papers, student poster and paper competitions, the Linnaean Games and a Photo Salon.

The ESM expects to host the ESC Annual Meeting in 2009.

Société d'entomologie du Québec (Michel Roy, représentante de la SEQ auprès de la SEC)

Encore une fois l'année 2006 a été bien remplie pour la Société d'entomologie du Québec (SEQ) et son conseil d'administration (CA).

La SEQ a reçu en mars 2006, Jens Bungardt, du Palais des Congrès de Montréal, venu solliciter les membres du CA pour une mise en candidature de la ville de Montréal au Congrès International d'Entomologie 2012. Le congrès aurait lieu du 19 au 25 août 2012 et accueillerait entre 3000 et 4000 délégués. Afin de mener à bien ce projet, Jens Bungardt a sollicité l'appui officiel de la SEQ via une lettre qui a été envoyée à Dan Quiring, président de la SEC au mois d'avril 2006. En réponse, la SEC s'est montrée intéressée à poser une candidature à la condition que l'organisation soit assumée par un comité local pour Montréal. La SEQ a donc procédé à un sondage auprès de ses membres afin de trouver des personnes intéressées par la mise sur pied d'un comité local.

La SEC a réalisé un sondage auprès des sociétés provinciales au sujet de l'organisation des réunions annuelles conjointes. Les membres du CA de la SEQ étaient d'accord avec le fait que l'organisation des dernières réunions annuelles conjointes semblait avoir bien été et qu'il serait correct de continuer de la même façon pour les années à venir. La formule actuelle des réunions annuelles conjointes semble aussi adéquate. En ce qui concerne la répartition des profits ou des pertes liés à l'organisation des réunions annuelles conjointes, le CA suggère que la question soit examinée au cas par cas par les organisateurs de chaque réunion annuelle conjointe.

Par sa contribution financière, la SEQ poursuit son appui à l'Association des Entomologistes Amateurs du Québec (AEAQ) ainsi qu'à la Maison des Insectes (MDI) de Charlesbourg afin d'assurer le bon fonctionnement de sa volière à papillons de l'Arboretum du domaine Maizerets.

De son côté, l'équipe d'Antennae, le *Bulletin* de la Société d'entomologie du Québec, a produit sans problèmes ses trois numéros/an (hiver, printemps et automne) avec un contenu de haute qualité. Le numéro d'hiver, Volume 13 no 6 est accessible à tous sur le site Internet à l'adresse suivante : http://seq.qc.ca/antennae/archives/Antennae_vol13_no1.pdf.

En ce qui concerne les réunions annuelles :

- 'Mille et Une Entomologie : Vers de nouveaux horizons', la 132^{ième} réunion s'est tenue les 27 et 28 octobre 2005 à Jouvence, Orford. Cette réunion a été un franc succès avec plus de 100 participants.

- Cette année, la réunion a lieu au Holiday-Inn Midtown à Montréal du 18 au 22 novembre. Cette réunion est conjointe avec celle de la Société d'Entomologie du Canada.

- La réunion annuelle 2007 aura lieu à Québec et son organisation commence à se mettre en place.

Enfin, la SEQ se porte très bien, elle assure cette année sans problème le renouvellement des membres de son CA et affiche un bilan financier nettement positif.

Acadian Entomological Society (Kenna MacKenzie, Regional Director)

AES continues to have a small but dedicated membership. A membership appeal was sent out preceding the AGM and we now have 36 paid-up members. The annual meeting was held this year from June 11-13 at the Agriculture and Agri-Food Canada Research Centre in Kentville, Nova Scotia. There were 26 presentations/posters including a pollination symposium with featured speaker Laurence Packer, York University. Lauren Pinault of the Faculty of Forestry and Environmental Management at the University of New Brunswick was awarded the best student oral presentation with Graham Cox of the Biology Department at the University of New Brunswick the runner-up. This year a student

poster prize was initiated with Lisa Harkness of Acadia University received the best poster award and Rob Johns of the Department of Biology at the University of New Brunswick the runner-up. Thanks to Dave McCorquodale for coordinating the student awards. In conjunction with the AGM and the annual Rhododendron Sunday at the AAFC Research Centre, a public education bug event titled "Who are the insects in your neighbourhood?" was held on 11 June 2006. Even

though the weather was rather gloomy and wet, approximately 200 individuals from the area enjoyed learning about insects. AES thanks ESC for their contribution to this activity.

The next annual meeting will be held in Halifax, likely in June 2007. Submissions for publication in our on-line journal, edited by Don Ostaff, are being solicited (<http://www.acadianes.org/journal.html>).

People in the news / Gens qui font les manchettes



Alexandra (Sandy) Devine (left) accepting a gift from the Society that was presented by Peggy Dixon, President of the Entomological Society of Canada, at the banquet of the Joint Annual Meeting of the ESC and SEQ, Montreal, 21 November 2006. Sandy retired in May 2006 after 20 years of sterling and exemplary service as Office Manager of the Entomological Society of Canada. Her experience, "institutional memory", hard work and devotion to the Society will be sorely missed.

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BC Minimum of Forests & Range
515 Columbia St., Kamloops, BC V2C 2T7
E-mail: lorraine.maclauchlan@gov.bc.ca
Tel: (250) 828-4197
<http://esbc.harbour.com/>

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9th Floor, 9920 108 St.
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E-mail: undershultz@gov.ab.ca
Tel: (780) 422-1508
<http://www.biology.ualberta.ca/courses.hp/esa/esa.htm>

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Agriculture and Agri-Food Canada
107 Science Place, Saskatoon, SK S7N 0X7
Tel: (306) 956-7293
E-mail: grenkowl@agr.gc.ca
<http://www.usask.ca/biology/ess/>

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

Entomological Society of Manitoba

President Blaine Timlick
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204-545 University Cres., Winnipeg, MB R3T 5S6
Tel: ((204) 945-3861, Fax: (204) 945-4327
E-mail: david.ostermann@agr.mb.ca
<http://home.cc.umanitoba.ca/esm/>

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Editor (Journal) Miriam Richards
Secretary David Hunt
Agriculture and Agri-Food Canada
2585 Country Rd. 20, Harrow, ON N0R 1G0
Tel: (519) 738-2251 ext 427
E-mail: Hunt@d.agr.gc.ca
<http://www.entsocont.com>

Société d'entomologie du Québec

Président Eric Lucas
Président-sortant Jacques Brodeur
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Trésorier Nancy Larocque
Rédacteur (Antennae) Christine Jean
Secrétaire Mireille Marcotte
1055, rue du PEPS, C.P. 3800
Sainte-Foy, QC G1V 4C7
Tél. : (418) 648-4928, Fax : (418) 648-5849
E-mail: secretariat@seq.qc.ca
<http://www.seq.qc.ca/>

Acadian Entomological Society

President Kenna MacKenzie
Vice-President Michelle Larsen
Past President John Sweeney
Treasurer Suzanne Blatt
Secretary Suzanne Blatt
Chemistry Department
Acadia University
Wolfville, NS B4P 2R6
E-mail: suzanne.blatt@acadiau.ca
<http://www.acadianes.org/index.html>

Bulletin of the Entomological Society of Canada

Editor: Kevin Floate (2007)

Assistant Editor: Marj Smith

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

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Ottawa, Ontario, Canada K2A 1Y8
<http://esc-sec.org>
entsoc.can@bellnet.ca

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

Send correspondence to:

Kevin Floate
Bulletin Editor
Lethbridge Research Centre
Agriculture and Agri-Food Canada
5403 - 1st Ave. S., Lethbridge, AB T1J 4B1
Telephone: (403) 317-2242
Fax: (403) 382-3156
E-mail: floatek@agr.gc.ca

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Bulletin de la Société d'entomologie du Canada

Rédacteur : Kevin Floate (2007)

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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<http://esc-sec.org>
entsoc.can@bellnet.ca

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

Envoyer vos sousmissions à :

Kevin Floate
Rédacteur du *Bulletin*
Lethbridge Research Centre
Agriculture et Agroalimentaire Canada
5403 - 1st Ave. S., Lethbridge, AB T1J 4B1
Téléphone : (403) 317-2242
Télécopieur : (403) 382-3156
courriel : floatek@agr.gc.ca

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The Buzz / Bourdonnements

Paul Fields, Editor / Rédacteur



I would like to take this final editorial to share with you a few of the lessons I have learnt after 4 years, 16 issues, 976 pages and approximately 400,000 words as *Bulletin* Editor.

1. Students are much more respectful of deadlines than senior scientists. Perhaps, the latter know that my idle threats were just that, idle.

2. I learned to care about such inane things as: in French the “:” has a space before and after it, whereas in English, there is simply a space after it or that the correct abbreviation for Manitoba is MB in an address yet Man. in a text.

3. Do not be shy to ask people for material for the *Bulletin*, everyone has something to contribute to the *Bulletin*.

4. The corollary to number 3 is that people do NOT respond to general requests dumped at the end of a column asking for material, e.g. “Send me your insect photos ...”

5. When PageMaker, the antiquated desktop publishing software we use to put out the *Bulletin*, crashes; ranting, crying, throwing random close-at-hand objects, offering my first-born male son for sacrifice will not bring back the two hours of lost work. However, it will only take one hour to re-input the data, perhaps slightly more to repair the damage from hurling the close-at-hand objects from my desktop.

I would like to take this final opportunity to thank all the people that have contributed to the *Bulletin* over the years, the two Assistant Editors, Lucie Royer and Marj Smith and my wife Lorraine. Finally, I am excited by the innovative ideas that the new Editor, Kevin Floate is proposing for the coming year.

J'aimerais profiter de ce dernier éditorial pour vous faire part de quelques leçons que j'ai apprises après 4 ans, 16 numéros, 976 pages et près de 400 000 mots comme rédacteur en chef du *Bulletin*.

1. Les étudiants respectent beaucoup mieux les échéances que les scientifiques chevronnés. Peut-être que ces derniers savent que mes paroles de menace ne sont que des paroles...

2. J'ai appris à me préoccuper de détails pointilleux, comme l'espace avant et après le « : » en français, alors qu'en anglais il n'y a qu'une espace après. Aussi, l'abréviation de Manitoba est MB dans une adresse postale, mais Man. dans un texte.

3. Il ne faut pas se gêner de demander du matériel pour le *Bulletin*; tout le monde a quelque chose à y contribuer.

4. Le corollaire du N° 3 est que les gens ne réagissent PAS quand on lance un appel général à la fin d'un article, en demandant simplement, “Envoyez-moi vos photos d'insectes...”

5. Quand PageMaker, le logiciel d'édition archaïque qui sert à publier le *Bulletin*, plante; ça ne sert à rien de râler, de chiâler, de lancer tout ce qui tombe sous la main, ou d'offrir mon premier-né en sacrifice — les deux heures perdues ne reviendront pas. Il faudra bien mettre une heure à saisir à nouveau les données, mais un peu plus pour réparer les dommages encourus en lançant tout ce qui tombe sous la main.

J'aimerais aussi transmettre ici mes remerciements à tous ceux qui ont contribué au *Bulletin* ces dernières années; les deux assistantes à la rédaction, Lucie Royer et Marj Smith, ainsi que ma femme, Lorraine Forbes. Je remercie aussi le nouveau rédacteur en chef, Kevin Floate, pour ses idées très intéressantes pour l'année qui vient, que j'ai très hâte de voir mises en œuvre.

Executive Council / Conseil exécutif

President / Président

Peggy Dixon
Atlantic Cool Climate Crop Research Centre
Agriculture and Agri-Food Canada
308 Brookfield Rd.
St. John's, NL A1E 5Y7
Tel: (709) 772-4763, Fax: (709) 772-6064
E-mail: dixonpl@agr.gc.ca

First Vice-President / Premier vice-président

Terry Shore
506 West Burnside Rd
Pacific Forestry Centre
Victoria, BC, Canada V8Z 1M5
Tel: (250) 363-0600, Fax: (250) 363-0775
E-mail: tshore@pfc.cfs.nrcan.gc.ca

Second Vice-President / Second vice-président

Paul Fields
Agriculture and Agri-Food Canada
195 Dafoe Rd., Winnipeg, MB R3T 2M9
Tel: (204) 983-1468, Fax: (204) 983-4604
E-mail: pfields@agr.gc.ca

Past President / Président sortant

Dan Quiring
University of New Brunswick
Fredericton, NB E3B 6C2
Tel: (506) 453-4922, Fax: (506) 453-3538
E-mail: quiring@unb.ca

Directors-at-Large / Conseillers

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Student Representatives /

Représentantes des étudiants

Chris Borkent
McGill University
E-mail: cborkent@primus.ca
Greg Smith
University of Northern British Columbia
E-mail: gregsmith@telus.net

Trustees / Fiduciaires

Treasurer / Trésorier

Patrice Bouchard
Entomological Society of Canada
393 Winston Ave., Ottawa, ON K2A 1Y8
Tel: (613) 759-7510, Fax: (613) 759-1924
E-mail: bouchardpb@agr.gc.ca

Secretary / Secrétaire

Rick West
31 Drover's Heights
Portugal Cove-St. Philips, NL A1M 3G6
Tel: (709) 895-2734, Fax: (709) 895-2734
E-mail: reely.west@nl.rogers.com

Bulletin Editor / Rédacteur du Bulletin

Kevin Floate
Agriculture and Agri-Food Canada
5403 - 1st Ave. S., Lethbridge, AB T1J 4B1
Tel: (403) 317-2242, Fax: (403) 382-3156
E-mail: floatek@agr.gc.ca

Ass. Bulletin Editor / Rédactrice adj. du Bulletin

Marjorie Smith
Agriculture and Agri-Food Canada
195 Dafoe Rd., Winnipeg, MB R3T 2M9
Tel: (204) 984-4889, Fax: (204) 983-4604
E-mail: msmith@agr.gc.ca

Webmaster / Webmestre

Barry Lyons
Tel: (705) 541-5617, Fax: (705) 541-5700
E-mail: blyons@nrcan.gc.ca, <http://esc-sec.org>

The Canadian Entomologist

Editor-in-Chief / Rédacteur en chef

Robb Bennett
BC Ministry of Forests & Range
7380 Puckle Road, Saanichton, BC V8M 1W4
Tel: (250) 652-6593, Fax: (250) 652-4204
E-mail: robb.bennett@gov.bc.ca

Division Editors / Rédacteurs de division

M. Cusson, E-mail: cusson@cfl.forestry.ca
D. Gray, E-mail: David.Gray@nrcan-nrcan.gc.ca
V. Grebennikov, E-mail: grebennikovv@agr.gc.ca

Head Office / Siège social

Entomological Society of Canada
393 Winston Ave., Ottawa, ON K2A 1Y8
Tel: (613) 725-2619, Fax: (613) 725-9349
E-mail: entsoc.can@bellnet.ca, <http://esc-sec.org/>

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 Société d'entomologie du Canada
 393 Winston Avenue
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Images

On the spine: The spurge hawk-moth, *Hyles euphorbiae* (L.) (Sphingidae), a biological control agent introduced to North America during the 1960s, photo: P. MacKay.

Beneath the title: The boxelder bug, *Boisea trivittatus* (Say) (Rhopalidae), feeds on seeds of female boxelder trees, photo: B. Landry.

Photos on front cover:

1. The two-striped grasshopper, *Melanoplus bivittatus* (Say) (Acrididae), a major North American crop pest, completing its molt, photo: T. Wist.

2. Sampling for the soybean aphid, *Aphis glycines* Matsumura (Aphididae), photo: J. Brodeur.

3. *Stratiolaelaps scimitus* (Womersley) (Laelapidae), a predatory mite used as a biological control agent for thrips and fungus gnats in greenhouses, photo: D. Walter.

4. *Perillus bioculatus* (F.) (Pentatomidae), the twospotted stinkbug, a natural predator of the Colorado potato beetle, photo: S. Marshall.

5. The ponderosa pine seedworm, *Cydia piperana* (Kft.) (Tortricidae), an obligate seed feeder common on ponderosa pine, photo: L. van Akker.

Back cover: The assassin bug, *Zelus luridus* Stal (Reduviidae), feeding on a flower fly, *Ocyptamus fascipennis* (Wiedemann) (Syrphidae), photo: S. Marshall.

Français à l'intérieur de la couverture avant