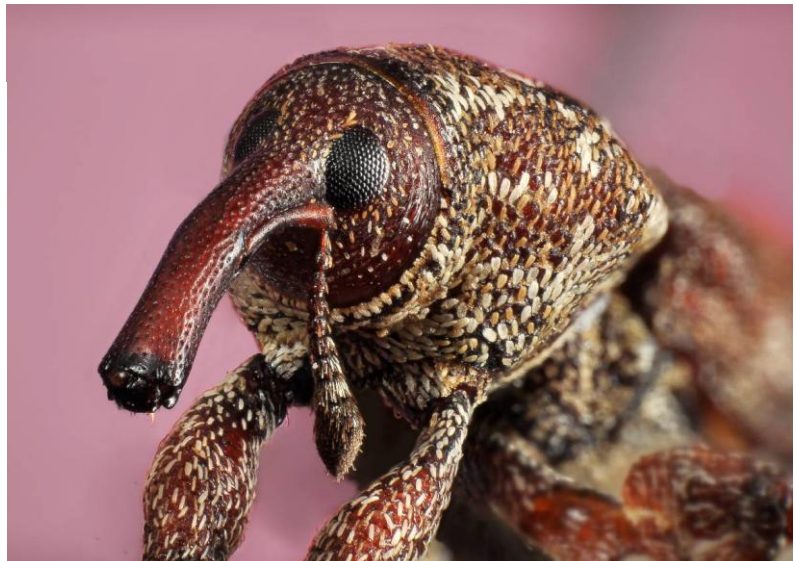
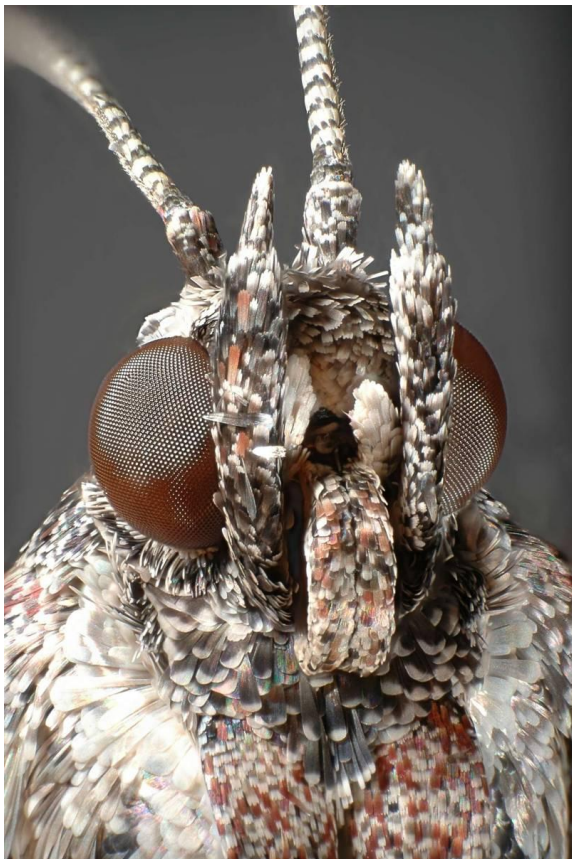


Boreus



Newsletter of the Entomological Society of British Columbia



December 2009
Volume 29 (2)



Halictid (native to B.C.). Photo Ward Strong.

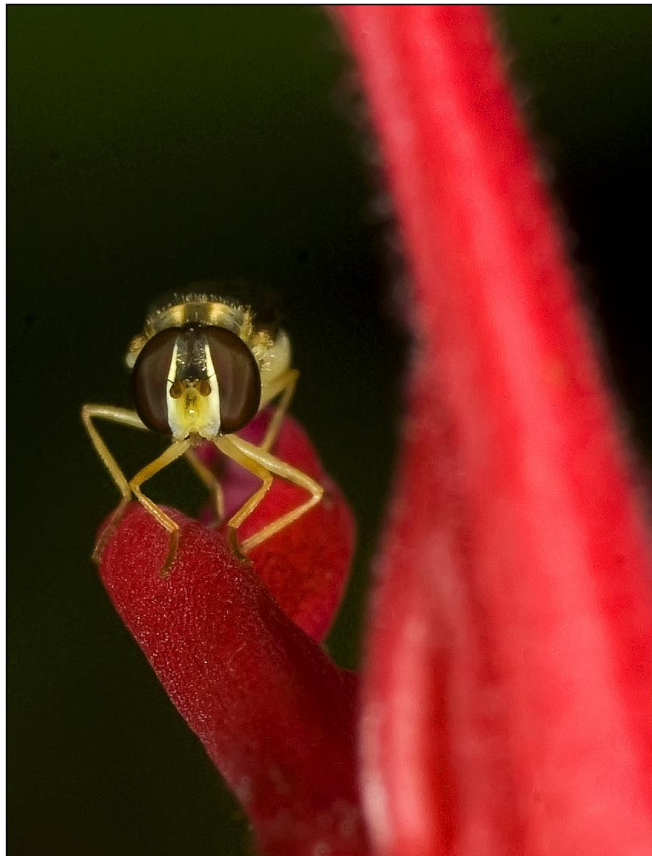


Photo Bernie Roitburg.

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The Executive

The Entomological Society of British Columbia is a scientific Society founded in 1902 for the advancement of entomological knowledge in the Entomological Society of B.C. Executive

President	Tom Lowery Agriculture and Agri-Food Canada, Agassiz
President-Elect	Rob McGregor Douglas College, New Westminster
Past-President	Sheila Fitzpatrick Agriculture and Agri-Food Canada, Agassiz
Secretary / Treasurer	Lorraine Maclauchlan B.C. Ministry of Forests & Range 515 Columbia Street, Kamloops, B.C., Canada V2C 2T7
Editorial Committee (Journal)	Hugh Barclay (Editor), Canadian Forest Service, Victoria Robert Cannings, Royal B.C. Museum, Victoria Lorraine Maclauchlan, B.C. Min. Forests & Range, Kamloops Sheila Fitzpatrick, Agriculture and Agri-Food Canada, Agassiz
Editors (Boreus)	Jennifer Heron, B.C. Ministry of Environment, Vancouver Jeremy deWaard, University of British Columbia, Vancouver
Directors	Ward Strong (1 st), B.C. Ministry of Forests & Range, Vernon Naomi Deluri (1 st) Agriculture and Agri-Food Canada, Summerland Leo Rankin, (2 nd), B.C. Ministry Forests & Range, Williams Lake Dezene Huber (2 nd), University of Northern B.C., Prince George Alida Janmaat (2 nd), University of the Fraser Valley, Abbotsford Jim Corrigan (1 st), B.C. Ministry of F. & R., Vernon
Student Representative	Melanie Hart, Simon Fraser University, Burnaby
Honorary Auditor	Sheila Fitzpatrick Agriculture and Agri-Food Canada, Agassiz
Regional Director of National Society	Bill Riel, Canadian Forest Service, Victoria
Web Page Editor	Bill Riel, Canadian Forest Service, Victoria
Web Page	http://www.sfu.ca/biology/ESBC/

Journal of the Entomological Society of British Columbia

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ESBC

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Entomological
Society of British
Columbia

Publications of the ESBC

Journal of the Entomological Society of British Columbia

The *Journal of the Entomological Society of B.C.* is published annually. Papers for the Journal need not have been presented at meetings of the Society, nor is it mandatory, although preferable, that authors be members of the Society. The chief condition for publication is that the paper has some regional origin, interest or application. Line drawings or photographs as candidates for the cover are also accepted. Contributions should conform to the standards outlined in the Journal and the Website (<http://www.sfu.ca/biology/ESBC/>), and should be sent to the Editor, Dr. Hugh Barclay, Canadian Forest Service, Pacific Forestry Centre, 506 West Burnside Road, Victoria, British Columbia, Canada, V8Z 1M5 Email: HBarclay@pfc.cfs.nrcan.gc.ca

The deadline for submissions to be included in the 2010 issue is September 1, 2010.

Boreus



Newsletter of the Entomological Society of British Columbia



June 2009
Volume 29 (1)

Boreus

Boreus, the Newsletter of the Society is published in June and December. It contains entomological news, comments, reports, reviews and notices of meetings and other events. While emphasizing the Society's affairs, *Boreus* provides members with a forum for their views and news of British Columbia entomology, as well as informal articles, notes regarding research projects, and anything else that may be of interest to entomologists. Please send correspondence concerning *Boreus* to the Editor(s), Jennifer Heron (Jennifer.Heron@gov.bc.ca) and Jeremy deWaard (Jeremy.deWaard@gmail.com). The deadline for submissions to be included in the June 2010 issue is May 15, 2010.

Membership of the Entomological Society of B.C. is available to anyone interested in entomology. Annual dues are Can\$20.00 (regular member) or Can\$10.00 (student member). Members receive the *Journal, Boreus* and *Occasional Papers* (the latter published intermittently).

Inquiries concerning membership and back issues should be sent to the Secretary/Treasurer, Dr. Lorraine Maclauchlan, B.C. Ministry of Forests, 515 Columbia Street, Kamloops, B.C., Canada V2C 2T7; tel 250 828-4179; fax 250 828-4154; e-mail: Lorraine.Maclauchlan@gov.bc.ca

Cover Sketch: *Boreus elegans* (Mecoptera: Boreidae); one of the more conspicuous snow scorpionflies in B.C. Larvae and flightless adults live in, and feed on, moss and clubmoss. Adults appear in the fall and are active on snow on warm winter days. Credit Ward Strong and Robert A. Cannings.

Cover Photographs:

Head of adult fir coneworm (<i>Dioryctria abietivorella</i>) taken by Ward Strong.	Sitka Spruce weevil, (<i>Pissodes strobi</i>) taken by Ward Strong.
	Stag beetle (Lucanidae) taken by David Holden.



Specimens of the American cockroach (*Periplaneta americana*) in the UNBC collection. Photo Dezene Huber.

ESBC Society Business

AGENDA

ESBC Executive Fall Meeting

Thursday, October 1, 2009 @ 14:30 – 16:30 hours (2:30 PM to 4:30 PM)

Ponderosa Room, 116B Courthouse

455 Columbia Street, Kamloops, BC

1. Call to Order (SF)
2. Approval of the Agenda. Late additions? *Motion to approve.*
3. Minutes of the Spring 2009 Executive meeting (LM). *Motion to approve.*
4. Business arising from the Spring meeting will be covered under Reports, Updates, New Business and Other Business.
5. Correspondence (LM)
 - a. Lorraine wrote a letter of thanks to Dr. Dan Johnson for his donation of \$100 to the student scholarship fund. (Letter attached.)
6. Reports and updates (*One motion to approve all reports.*)
 - a. Secretary / Treasurer – *Lorraine*
 - b. Journal Editor - *Hugh*
 - c. Boreus Editor – *Jenny* (announcing co-editor Jeremy de Waard)
 - d. Website Editor - *Bill*
 - e. Regional Director to ESC, including report on planning of ESC JAM 2010 - *Bill*
 - f. Graduate Student Director –
Melanie
 - g. Education Outreach Committee (promotes / administers H.R. MacCarthy Memorial Education Fund) - *Rob*
 - h. ESBC Library Report - *Vince*
 - i. President's Report - *Sheila*
7. New Business



Early-instar larvae of the western tent caterpillar, *Malacosoma californicum* (Lepidoptera: Lasiocampidae), attacking a western larch ramet at the Kalamalka Seed Orchards in Vernon on April 28, 2009 (a newsworthy host record for this species). Photo Jim Corrigan.



Mating pair of the Common sheepmoth (*Hemileuca eglanterina*) photographed by the Cowichan Bay Highway near Duncan in mid-June. Photo Nick Page.

- a. Graduate Student Scholarship Competition. Review of applications submitted to Lorraine. Consensus to determine winners. (*Winners announced at AGM October 3.*)
 - b. ESBC Executive. In an attempt to share the workload more equitably, Sheila will lead a discussion of functions that are or could be performed by each incumbent. (*Motion to approve proposed functions.*)
 - c. ESBC AGM 2010. Reminder of joint meeting with Entomological Society of Canada in Vancouver, Oct. 31 - Nov. 2, as per Bill's report (**6e**, above).
- 8. Other Business**
- a. ESBC AGM and Field Tour, October 2 and 3, 2009. Final details of planning for Friday meeting at Henry Grube Education Centre and Saturday field tour.
 - b. Bylaws will need to be amended to include "Graduate Student Director" and other changes proposed in **7b** (above). Sheila proposes to amend the Bylaws, present them to the Executive at the Spring 2010 meeting, then publish them in *Boreus* and have the membership vote on the amendments at the 2010 AGM.
 - c. Nominations for new officers in 2010-2011. Usually done by Nominations Committee consisting of Past-President, President and President-Elect. Need nominations for President-Elect (to follow Rob McGregor) and three Directors (to replace outgoing Leo Rankin, Dezene Huber and Alida Janmaat).
 - d. Follow up to class action lawsuit from freelance writers against ProQuest. ESBC was a third party in the lawsuit. As of June 15, 2009, the defendant ProQuest discontinued the third party action. Thus the lawsuit has no consequences for ESBC.
 - e. ESBC received the newly printed *Memoirs of J.D. Gregson*, tick expert and former entomologist in the Livestock Insect Laboratory in Kamloops. The *Memoirs* will be on display at the ESBC meeting October 2, then sent to the ESBC Library at the Pacific Forestry Centre in Victoria.

Minutes from the ESBC Annual General Meeting

Henry Grube Education Centre, Kamloops

Friday, October 2, 2009

Minutes taken by L. Maclauchlan, Secretary/Treasurer

- The 2009 ESBC AGM was held in Kamloops this year at the Henry Grube Educational Centre.
- President Sheila Fitzpatrick opened the 2009 AGM and welcomed everyone to Kamloops. There were 18 papers presented over the day.
- Lunch was catered by “Cook’s Catering” of Kamloops.
- Approximately 39 attended the 2009 AGM of which 16 were students.
- Outgoing President, Sheila Fitzpatrick announced the new directors and president elect as follows:

Executive 2010:

- Tom Lowery, President
- Sheila Fitzpatrick, Past President
- Rob McGregor, President elect
- Hugh Barclay, JESBC editor
- Bill Riel, Website Editor and ESC Regional Director
- Jennifer Heron, Boreus
- Jeremy deWaard, Boreus
- Lorraine Maclauchlan, Secretary/Treasurer
- Dezene Huber, Director (2nd year)
- Alida Jaanmat, Director (2nd year)
- Leo Rankin, Director (2nd year)
- Naomi Delury, Director (1st year)
- Jim Corrigan, Director (1st year)
- Ward Strong, Director (1st year)
- Melanie Hart, Graduate Student Representative (2nd year)



Wasp eating a damselfly. Photo Orville Dyer.

- Directors and President read reports (Approved: Chandra Moffat, Ward Strong).
- Sheila gave background of how ESBC came to have the “gavel”
- Agenda was approved (Rob McGregor, Jim Corrigan)
- Minutes of 2008 AGM read by Secretary (Approved: Dave Gillespie, Bernie Roitberg)
- ESBC received a donation of \$100 from Dan Johnson for Student scholarships – a letter of thanks has been sent on behalf of ESBC (LM)
- Treasurer’s & Journal editor’s report read
- **Announcement of ESBC Travel Scholarship Awards:**
 - **MSc Award, Harold Madsen Award (Con Tech Ltd,)** – Chris Borkent (\$500)
 - **PhD Award, James Grant Award (Okanagan Naturalists Society)** – Jeremy deWaard (\$500)
- **Awards for Student Presentations:**
 - **MSc Award** – Alex Chubaty (\$300)
 - **PhD Award** – Chandra Moffat (\$300)
 - **Undergraduate Award, “President’s Prize”** – Salina McGinnis (\$300)
- **The President’s prize** is new this year and came about because of the high caliber of talks presented by undergraduates at this meeting. Sheila Fitzpatrick suggested this award and started the donations which were quickly supplemented by other Directors. Hopefully this award and presentations by undergraduate students will continue at future AGM’s.
- Thank you to the judges of student talks:
 - Naomi Deluri
 - Tom Lowery
- Tom Lowery, new President of ESBC, took over meeting and reminded everyone of the busy year ahead with the joint hosting of the ESC/ESBC JAM in Vancouver in 2010.
- Ward Strong solicited any volunteer to help with keeping the ESBC web site current and updated.
- **Meeting Adjourned @ 4:35 pm (BR, MS)**

- **Field Trip** Saturday was well attended to look at Douglas-fir tussock moth, western pine beetle and mountain pine beetle in the Kamloops and Merritt areas. All participants had fun and enjoyed BBQ smokies in the snow!

Message from the President

I am pleased to be able to publicly thank all the hard working ESBC Executive members and volunteers who keep this society functioning smoothly. Member lists and positions are available elsewhere, but I did want to welcome and thank Rob McGregor, President Elect, and first-term Directors Jim Corrigan, Naomi DeLury, and Ward Strong. Your society is busy this year with several issues and an important event. An initiative that is currently being pursued would involve increased use of electronic communication and member access to journal articles through our website. A move in this direction will not happen overnight, but it will make operation of the society more efficient and help reduce costs. Communication also happens to be the theme of the upcoming joint ESC/ESBC meeting to be held in Vancouver next fall. This event will require additional service from numerous volunteers, but it is a wonderful opportunity to showcase our province and the talents of our society members. Planning is underway to provide an enjoyable and informative meeting and I encourage all of you to attend. In that vein, congratulations go out to the winners of the various student awards that were presented at the annual general meeting in Kamloops this fall: Alex Chubaty, Selina McGinnis and Chandra Moffat. Based on the quality of their presentations and the willingness of students to assist at meetings and with society duties, the future of the ESBC appears to be in very good hands.

Have a great 2010!

Tom Lowery
President, ESBC

Secretary / Treasurer's Report

Prepared by Lorraine Maclauchlan

The membership is steady at about 140-150 members. Students provide most of the variation in annual membership. There are 148 paid members combining 2008 and 2009 dues paid to date. There are 11 Life Members; 60 subscribers and about 75 exchange partners (that receive JESBC). In the December 2009 mailing of JESBC and Boreus I will be asking that all members update their mailing addresses and give me email addresses so that in the future correspondence can be done through email. Also, many mail-outs are returned because of incorrect addresses.

The ESBC election ballots were sent out with Boreus with Rob McGregor running for President; and Jim Corrigan, Naomi Delury and Ward Strong running for Directors. The ballot should have indicated to vote for only two Directors but there was an error and it said to vote for three, therefore all Directors assumedly are voted in.

The results of the 2009 election are total ballots received (45)

Number votes -	Rob McGregor (45)
	Jim Corrigan ((40)
	Naomi Delury (44)
	Ward Strong (43)

Executive 2010:

Tom Lowery, President
Sheila Fitzpatrick, Past President
Rob McGregor, President elect
Hugh Barclay, JESBC editor
Bill Riel, Website Editor and ESC Regional Director
Jennifer Heron, co-editor Boreus
Jeremy deWaard, co-editor Boreus
Lorraine Maclauchlan, Secretary/Treasurer
Dezene Huber, Director (2nd year)
Alida Jaanmat, Director (2nd year)
Leo Rankin, Director (2nd year)
Naomi Delury, Director (1st year)
Jim Corrigan, Director (1st year)

Ward Strong, Director (1st year)
Melanie Hart, Graduate Student Representative (2nd year)

The 2008 ESBC AGM, held in the West End Community Centre, was a tremendous success with 18 talks and 3 poster displays. There were 44 regular members and 18 students in attendance for a total of 62 attendees. The 2008 Student Travel Awards (\$500 each) went to Babita Baines, M. Sc., UBC, and David Jack, Ph.D., UBC. The James Grant Award (\$150 each), for best M.Sc. talk went to Babita Baines and Leanne Harris. The Harold Madson Award (\$300) went to David Jack for best Ph.D. talk.

The award winning student presentations are listed below:

Babita Bains, John McLean & Ward Strong - The role of adelgid fundatrices and gallicolae in gall induction on the expanding buds of interior spruce trees.

Leanne Harris, Suzanne E. Kelly, Martha S. Hunter & Steve J. Perlman - Rapid spread of the bacterial endosymbiont *Cardinium* in the aphelinid parasitoid wasp *Encarsia pergandiella*

David Jack, John McLean, and Gordon Weetman - Can nitrogen fertilizer increase the natural defence of mature lodgepole pine trees against mountain pine beetle attack?

The AGM costs are listed below with overall incoming funds totalling \$1,540 and costs totaling \$1,087.53 (Difference = \$452.47). A huge thank you to everyone who helped organize and assist in the AGM proceedings. A special thank you goes to John McLean, Babita Baines, David Jack and the funding agencies that they secured.

October 2008 AGM Costs			
Date	Description	Deposit	Withdrawal
27-Sep-08	Van City (for 2008 Symposium)	\$500.00	
03-Oct-09	2008 AGM receipts (18 student; 43 regular members)	\$1,040.00	
09-Nov-08	Cheque #58 - Babita Baines, ESBC meeting costs		\$1,087.53
		\$1,540.00	\$1,087.53

Volume 105 of the Journal of the Entomological Society of BC was printed December 2008 and mailed in January 2009. Thank you to Hugh Barclay and subject editors for their hard work.

The Spring Executive meeting was held April 3rd, 2009, in Kamloops. Seven attended in person, and six attended by phone link (see attached minutes of meeting).



Groucho Marx. Photo Lisa Scott.

The Fall 2009 ESBC AGM will be held October 2nd in Kamloops at the Henry Grube Education Centre for a cost of \$100. The AGM will be catered by “Cook’s Cuisine Catering” for about \$9.95/ person plus the \$40 for delivery (estimating ±40 people). The Symposium has been changed to a field tour only with BBQ lunch provided (Field Tour Agenda attached). The total cost to the ESBC should be about \$600.

The Spring 2009 *BOREUS* was copied in Black & White (Staples Copy Centre @ \$360.64) and mailed (mailing cost covered by MFR) to members in early August 2009. The delay in mailing was due to problems with funds to make copies and logistics. Jennifer Heron continues to produce a high quality news bulletin and in a very timely fashion despite some problems this year from my end to mail out to members. Thank you, Jennifer, for your continuing dedication and hard work. Boreus is one of the highlights and strong points of our organization. It is available on the ESBC web site as a pdf. Due to the cost of printing in colour we will discuss other options for future editions of Boreus such as black & white or members requesting colour hard copies for a slight fee among others. This will be discussed at the executive meeting and AGM.

Letters:

I received copies of the “Thank you” letters from scholarship recipients sent to the funding sources.

A donation was received for \$50 dollars from member John Dale, retired USDA Forest Entomologist, San Francisco. The donation was to the Ed Becker Conference Travel Award. I have sent a cheque for \$50.00 to the

Treasurer, Patrice Bouchard, Entomological Society of Canada with instructions.

A donation of \$100 for the ESBC student scholarship fund was received from Dan Johnson (see attached thank you letter).

I received a letter from Lorna Klohn notifying the ESBC of the passing of her father, Walter D. Charles, in December 2008. I also received notification of the death of Philip S. Corbet of the UK in February 2008.

A cheque in the amount of \$600 was received back in June 2008 from the ESC for the Education Grant. This cheque was for three years being 2006 to 2008. I was in contact of Derna Lisi and she will be sending another cheque for \$200 to the ESBC for the year 2009. I sent a thank you *via* email for the continuing support.

A detailed accounting of the Societies income and expenditures over the past year is itemized by activity in the table below. Also appended to the minutes are "Interior Savings Credit Union" monthly statements. Total expenditures by the Society totaled **\$28,988.43** which included JESBC printing costs, scholarships and other. Total income was \$29,149.83 (includes transfer of \$19,000 investment from Island Savings Credit Union).

Other assets total **\$45,944.7** which are comprised of two term deposits at the Island Savings Credit Union totaling \$26,944.75. A term deposit matured and a new 2 year Term Deposit was started at the Interior Savings Credit Union (\$19,000.00). Bank balance as of Sep. 28, 2009, is **\$8,486.14**.



Photo Bernard Roitberg.

Lorraine Maclauchlan
Secretary / Treasurer, ESBC

Entomological Society of British Columbia

October 1st, 2009, Financial Statement

Interior Savings, St. Paul Street, Kamloops, B.C.

ESBC Summary for October 1st, 2009, Executive Meeting

Membership & Subscriber Dues	Income	Payments
Memberships dues paid at Oct 2008 AGM (4 student & 14 regular - some in arrears)	(\$340)	
Membership dues and other cheques to ESBC (cheques & cas; 1 post-dated to 2010)	\$2,640.40	
Membership and other cheques (102) (Oct 2008 - Mar 2009)	\$2,005.00	
Subscribers (CAN and Foreign)	\$428.59	

2008 AGM in Vancouver		
2008 AGM receipts (18 student; 43 regular)	\$1,040.00	
Cash & cheques from 2008 AGM	\$1,355.00	
Donation of \$500 from Van City (for AGM)	\$500.00	
Babita Baines, ESBC 2008 AGM meeting costs (Cheque #58)		\$1,087.53
Babita Baines, ESBC Travel Scholarship (Cheque #52)		\$500.00
David Jack, ESBC Travel Scholarship (Cheque #53)		\$500.00
Leanne Harris, James Grant Award (Cheque #53)		\$150.00
Babita Baines, ESBC M.Sc. Talk (Cheque #54)		\$150.00
David Jack, Harold Madson Award, Ph.D. Talk (Cheque #56)		\$300.00

Journal Income and Costs		
JESBC Page charges - received (and owing)	\$1,840.00	still owed = \$2,065.00
Vernon Graphics (JESBC Vol. 105 2008 printing) (Cheque #11)		\$3,778.21
Jen Perry (typesetting JESBC) (Cheque #60)		\$550.00

ESBC Summary for October 1st, 2009, Executive Meeting

Membership & Subscriber Dues	Income	Payments
Page charges for van Herk et al. 2008a	\$ 70.00	
Page charges for van Herk et al. 2008b	\$ 70.00	

Boreus		
Boreus printing Dec 2008 (cost covered by MFR)	(\$2,487.75)	
Boreus & JESBC mail-out (approx. 350 @\$0.75 each)(postage covered by MFR)	(\$262.50)	
Boreus printing July 2009 (Staples Copy Centre, 200 copies B&W)(postage covered by MFR)	(\$150)	\$ 360.64

Donations & Miscellaneous		
Minister of Finance, BC Registry Services (Cheque #57)		\$25.00
Brodart Co. (Library boxes) (Cheque #59 & cheque #12)		\$537.05
ESC (\$50 donation from John Dale <i>via</i> ESBC - to Ed Becker Scholarship) (Cheque #13 sent to ESC)	\$50.00	\$50.00
Donation from Dan Jofhnson to ESBC Scholarship Fund	\$100.00	
Cheque from Island Savings Credit Union for \$19,050.84 (Term deposit payout)	\$19,050.84	
Deposit in new term deposit at Interior Savings Credit Union		\$19,000.00

Entomological Society of Canada JAM		
12. The Coast Plaza Hotel & Suites (deposit for 2010 JAM) (Cheque #14)		\$2,000.00

Total Income & Expenditures	\$29,149.83	\$28,988.43
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OTHER ASSETS:	
Island Savings Credit Union	
Term deposit @ 3.75% (matures 17-Jan-2010)	\$6,000.00
Term deposit @ 3.35% (matures 17-Jan-2010)	\$20,000.00

ESBC Summary for October 1st, 2009, Executive Meeting

Membership & Subscriber Dues	Income	Payments
Total Investments, shares & interest	\$26,944.75	
Interior Savings Credit Union		
Term deposit @ 2.5% (matures 31-Mar-2011)	\$19,000.00	
Total Other Assets	\$45,944.75	

TOTAL ASSETS on Sep 28, 2009	
Bank Balance - chequing	\$8,486.14
Term Deposits	\$45,944.75

October 2008 AGM Costs

Date	Description	Deposit	Withdrawal
27-Sep-08	Van City (for 2008 Symposium)	\$500.00	
03-Oct-09	2008 AGM receipts (18 student; 43 regular members)	\$1,040.00	
09-Nov-08	Cheque #58 - Babita Baines, ESBC meeting costs		\$1,087.53
		\$1,540.00	\$1,087.53

Cash from Oct 2008 AGM

Number	Denom	Total
50	\$ 20.00	\$ 1,000.00
6	\$ 5.00	\$ 30.00
1	\$ 50.00	\$ 50.00
1	\$ 100.00	\$ 100.00
cheques	\$ 175.00	\$ 175.00
		\$ 1,355.00

Statement prepared October 1st, 2009 - Lorraine Maclauchlan, ESBC Secretary/Treasurer;
Audited – John McLean, Past President

Auditor's Report for the 2008/2009 activities of the Entomological Society of British Columbia

In my opinion the report of the Secretary/Treasurer gives a full and detailed account of the activities of the Entomological Society of British Columbia for 2008/2009.

Notes for Consideration of the Executive:

During my term in office(s) of the Society I have been interested to see where the money comes from and where it goes. The colour printing of Boreus has highlighted how close to the line we are with income and expenditures. A few specific comments:

1. Boreus: Lorraine shows clearly how well we have been supported by government departments in the past and hopefully future support will be available. Postage is not a trivial item either.
2. The Journal:
Production costs of \$4,328.21
Page charges of \$1840 +\$140, arrears of \$2065.
The arrears need to be collected to keep us the Society in a near balanced position.
3. Prizes for Best Papers:
We are fortunate to have two sponsors who cover the James Grant Award (Masters) and the Harold Madsen Award (Ph.D), Northern Okanagan Naturalist Club and Contech Ltd respectively.
4. Travel Scholarships: 2 @ \$500 – the only source of funds for these is the interest on term deposits which this year is listed as \$944.75, so a slight overspend here.
5. Good to see the \$\$ from the ESC [Entomological Society of Canada] for public education. This will increase the outreach capability of the society. Good to see a strong line item here.
6. AGM Costs: Each year we work hard to balance costs here as closely as possible. Any "profits" can be readily be applied to projects by the Executive. We are not in a position to absorb big losses.

In retrospect, these seem to be statements of the obvious. I wish you well with the current AGM and the upcoming JAM.

John A. McLean,
Past President, ESBC

Message from the Past-President

The ESBC's major accomplishment this year is moving the Annual General Meeting from southwestern urban BC to Kamloops. This move takes us from the Coastal Douglas Fir and Coastal Western Hemlock biogeoclimatic zones of southern Vancouver Island and the Fraser Valley to the Ponderosa Pine, Bunchgrass, Interior Douglas Fir and Montane Spruce zones of the interior. In my message in *Boreus* (June 2009, volume 29, page 5), I announced that we would host a symposium focussed on my favorite biogeoclimatic zone – Ponderosa Pine / Bunchgrass. However, I decided that, instead of packing us into a room to talk and listen, it would be a lot



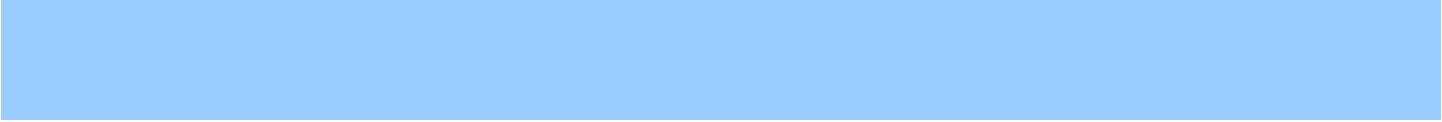
Snowberry fly (*Rhagoletis zephyria*). Photo Thomas Hoffmeister.

more fun to get out and see some of the entomological issues affecting the grasslands and low elevation forests. Our Secretary/Treasurer, Dr. Lorraine Maclauchlan, Entomologist for the BC Ministry of Forests and Range, offered to plan and lead us on a tour of some sites, and I thank her very much for this initiative. The tour will be of particular value for students. For those of you who want to know more about grasslands ecology and conservation, I encourage you to visit the website of the Grasslands Conservation Council of British Columbia

<http://www.bcgrasslands.org/>.

Speaking of websites, the ESBC has a good one, and I encourage all members to visit it regularly. The Society's newsletter *Boreus* is an excellent source of information and lively interesting photos of members and insects. *Boreus* is posted – in full glorious colour – on the website. The Journal of the ESBC is posted, too, and the ESBC Serials collection, which is housed at the Pacific Forestry Centre in Victoria, can be seen and searched from the website.

Electronic communication among Society members will become increasingly important in the near future. There is a substantial cost to producing paper copies of *Boreus*. Instead of raising dues to cover printing and mailing, it has been proposed that *Boreus* reside electronically on the website so that members can print copies or excerpts.



It has been a pleasure and a privilege to steer the Entomological Society of British Columbia through 2009. For their enthusiasm and diligence, I thank all members of the current Executive: past-President John McLean; incoming President Tom Lowery; Secretary/Treasurer Lorraine Maclauchlan; Directors Jim Corrigan, Dezene Huber, Alida Janmaat, Rob McGregor and Leo Rankin; our first ever Graduate Student Director, Melanie Hart; Journal Editor Hugh Barclay; Boreus Editor Jennifer Heron; Webmaster and Representative to ESC, Bill Riel. I wish Tom Lowery every success as President during the planning and hosting of the Joint Annual Meeting with our parent Society in the fall of 2010.

Sheila Fitzpatrick
Past-President, ESBC

Web Editor's Report

Since the last report there has been minimal activity with the web site, other than the usual updating and posting of Boreus. However, in the very near future we will be promoting the ESC-ESBC joint annual meeting, which takes place in Vancouver, October 31st to November 3rd, 2010. For this I will design a page announcing the meeting: this will grow as more information regarding the program, registration and other relevant details become available.

Bill Riel
Web Editor, ESBC

Graduate Student Representative's Report

With the Student Representative being a new position, the slate was clean as to how to start the position and what to do with it. I decided to start out the year by gathering contact information for colleges and universities across BC. For the AGM, the contacts at the various institutions were sent a poster in an attempt to get a more varied group of students, representing a number of universities, to present their research at the meeting. While Boreus lists the travel awards available to students, I think that next year it will be necessary to send an email to the schools to alert students to this funding potential.

Contact with the ESC's student representative, Aynsley Thielman, was also made. It is expected that more correspondence will take place as the 2010 AGM in Vancouver approaches.

I have also been trying to think of a section, similar to the ESC's website, for student affairs. It has become more apparent to me in the last year that the communication among students in the entomology field in BC is lacking. The content of this section is something I am still working on, and hope to have ready to present to the executive at a later meeting.

Suggestions for directions in which I should take the Student Representative position are welcome.

Melanie Hart
Graduate Student Representative, ESBC

Regional Director's Report

As you know, this year's Joint Annual Meeting is taking place in Winnipeg, October 18-21st at the Fort Garry Hotel, and in 2010 the ESC JAM will be held in Vancouver, B.C.



Photo Bernard Roitberg.

In terms of organization, we are largely on track for the JAM in Vancouver taking place at the Coast Plaza, October 31st to November 3rd. I will be in Winnipeg to announce the meeting and promote it.

There are certain items that we need to address in the next while:

Logo: We have decided on a theme of "Communications". At this point, we don't have a logo, nor do we have a process in place to have one made up, and we should get on this as soon as possible. Obviously we won't have one designed for the Winnipeg meeting, but once that meeting is over, we can begin promoting our meeting on our web page and

the ESC web page, Boreus and The Bulletin and so on, and it would be desirable to have something attractive to use.

Fundraising: There might not be much out there and I expect the cupboard will be empty at the usual government sources, but anything we can come up with can help. We need to try to find any sources and perhaps “think outside the box” here.



Newly emerged adult of the European pine shoot moth, *Ryacionia buoliana* (Lepidoptera: Tortricidae), that came out of a lodgepole pine shoot tip collected in the Kalamalka Seed Orchards in Vernon on June 20, 2009. Photo Jim Corrigan.

Scientific Program: We need to finalize our decisions on the number of symposia we will have, and perhaps solicit members of the ESC to see if any want to organize one. We also need to decide on the amount of funds available for invited speakers and how that will be allocated. Invited speakers should be contacted shortly to give plenty of lead time.

Registration: The ESC is floating an idea of hosting secure on-line registration with credit card payment (via Paypal) in conjunction with the hosting regional society (all monies would go to the regional society). There are certain advantages to this: they have a better capacity to host such a site than we do, it's convenient for members to register and in many ways it simplifies things for us. If we approve, we can begin working with the ESC to set this up. Personally, I'm in favour of this.

Bill Riel
Regional Director, ESC

Boreus Report

Thank you to all those who submitted articles and photographs this past year. Jeremy deWaard, a PhD student at the University of British Columbia, is now co-editor of Boreus. Boreus will likely go to electronic format within the next year.

Jennifer Heron and Jeremy deWaard
Boreus Co-editor, ESBC

Entomological Society of British Columbia

Annual General Meeting List of Speakers

Friday, October 2, 2009

Henry Grube Education Centre, 245 Kitchener Crescent, Kamloops B.C.

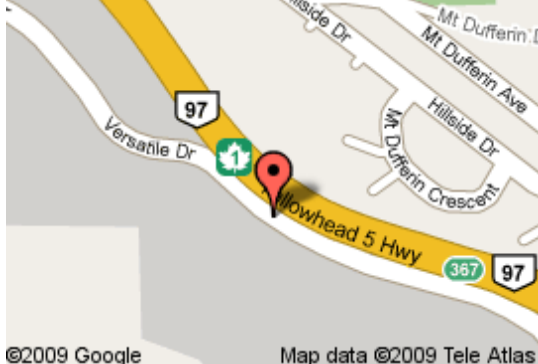
830-900	Registration
900-915	Welcome – Sheila Fitzpatrick (President, ESBC)
First Session	(Moderator: Rob McGregor)
915-930	Tom Lowery – Invasive and new pests of grapes in BC
930-945	Rob McGregor – Fragments of the forest: Ground beetle diversity in Coquitlam, BC
945-1000	Sheila Fitzpatrick & Daniel Peach - Pheromone-release behaviour of female cranberry tipworm, <i>Dasineura oxycoccana</i> , (Diptera: Cecidomyiidae)
1000-1015	Melissa Cook, Sheila Fitzpatrick & Bernard Roitberg - Cranberry Tipworm, <i>Dasineura oxycoccana</i> (Diptera: Cecidomyiidae), and the potential for host race formation in cranberry and blueberry fields
1015-1030	Daniel Peach & Sheila Fitzpatrick - Hymenopteran parasitoids from cranberry tipworm, <i>Dasineura oxycoccana</i> , collected from a cranberry farm in BC
1030-1100	COFFEE BREAK (Coffee and refreshments provided)
Second session	(Moderator: Sheila Fitzpatrick)
1100-1115	Bruce Archibald - Seasonality and the Latitudinal Gradient of Diversity: the British Columbia Eocene Insect Perspective
1115-1130	Tamara Richardson, Ward Strong & Staffan Lindgren - Chemical cues mediating clone preference of <i>Leptoglossus occidentalis</i> in a lodgepole pine seed orchard
1130-1145	Tracy Zahradnik, Audrey Labrie, Patti Brown, Ward Strong, Robb Bennett & Gerhard Gries - Infrared radiation and its exploitation by coniferophagus insects
1145-1200	Alex Chubaty & Melanie Hart - Mountain pine beetle condition and timing of emergence: who emerges when?
1200-1215	Susanna Acheampong - Current insect pest issues in the interior of BC
1215-1315	LUNCH (Lunch provided)

Third session	(Moderator: Melanie Hart)
1315-1330	Mustafa Cheema, Jason Kim & Norbert Haunerland - Expression of large lipids transfer proteins in <i>Helicoverpa zea</i> : differential regulation by juvenile hormone
1330-1345	Michael Wogin, Bernard Roitberg, David Gillespie - What makes an ideal biological control community?
1345-1400	Laura Parkinson, Sophie-Anne Blanchette & Jennifer Heron - Butterfly Surveys in Southwestern BC: some observations, comments and future work
1400-1415	Babita Bains, A. Caldicott, & Jennifer Heron – Chasing pollinators
1415-1445	COFFEE (Coffee and refreshments provided)
Fourth session	(Moderator: Lorraine Maclauchlin)
1445-1500	Chandra Moffat & David Gillespie - The role of nitrogen fertilizer in a greenhouse biological control system
1500-1515	Abida Nasreen & David Gillespie - Behavioral changes in parasitized aphids at episodic high-temperatures
1515-1530	Selina McGinnis, Wim van Herk & Bob Vernon - Effect of residual Capture 2EC on wireworms
1530-1535	A.M. Mostafa & Tom Lowery - Identification and biology of climbing cutworm (Lepidoptera: Noctuidae) from grapevines in the Okanagan Valley, B.C.
1535-1620	ESBC Business Meeting
1620-1630	Announcement of student presentation winners

ESBC Field Tour Program, Saturday October 3rd, 2009

Start Time: 9:00 am

Meet at: COSTCO Parking lot, 1675 Versatile Drive, Kamloops (west of Kamloops off Hwy. 1)



©2009 Google

Map data ©2009 Tele Atlas

Tour Route:

- Exit Costco and take Hwy #1 West
- @7.4 km exit **right** to continue on Hwy #1 West (to Cache Creek) (left is Coquihalla Hwy)
- @ 30 km, turn **left** off Hwy #1 on Tunkwa Lake Road
- Stop at cattle guard where **PINK** Pest Mgmt flagging is hung

Stop 1: Douglas-fir tussock moth, *Orgyia pseudotsugata*, outbreak.



Continue on Tunkwa Lake Road to Tunkwa Lake Park entrance on right entrance.

Stop 2: Tunkwa Lake Park & mountain pine beetle

Leave Park and continue on Tunkwa Lake, then Hwy 97C, to Merritt.

Travel through Merritt heading north. Continue past gas stations and past exits to Kamloops & Vancouver to set of lights (Walmart and MFR District Office on right). Just ½ km past lights turn left up gravel Rd (at burnt tree dressed like a cowboy!).

Stop 3 (Swakum Mtn.) - Ponderosa pine ecosystem with history of underburns. Active population of *Dendroctonus ponderosae*, *D. valens* and other primary and secondary bark beetles, woodborers and associates. **Bring your axe!**

Some multi-passenger Forestry vehicles will be available for those without transportation. Roads are good so most vehicles will be able to drive the gravel roads.



Ponderosa
pine killed by
bark beetles

**LUNCH – BBQ lunch will
be provided at Stop 3**



Dendroctonus valens

End of Field Tour.



ESBC Tour and BBQ lunch with Leo Rankin. Photos Sheila Fitzpatrick.

ESBC 2009 Election Results

Elections for 2009 were for *President-Elect* and three *Director* positions. Directors serve a term of two years. Jim Corrigan, Naomi Delury and Ward Strong were all elected as Directors, and Rob McGregor as President.



Naomi Delury



Rob McGregor



Jim Corrigan



Ward Strong

Announcements

ESBC 13th Annual Graduate Student Scholarships

The *Entomological Society of British Columbia* announces the twelfth annual Graduate Student Scholarship competition. Two \$500 Scholarships (one M.Sc., one Ph.D.) are awarded each year at the Annual General Meeting. Scholarships are to be used to defray research paper or poster presentation related costs (including travel) incurred by graduate students for participation in conferences other than the ESBC AGM.

For consideration, applicants must be graduate students and ESBC members in good standing, and must submit a Word file containing:

- name and locality of conference to be attended
- title and abstract of research to be presented
- current CV

Abstract should be double spaced, 12 font, and a **maximum** of 200-250 words (based on processor electronic word count). Applications will be judged on the basis of scientific importance, quality of the application, and qualifications of the applicant.

Applications from M.Sc. and Ph.D. students will be judged in separate categories; a singleton application in either category will be judged with applications in the other.

Deadline for receipt of applications for 2010 Scholarships is September 18, 2010.

This year's scholarships will be awarded during the ESBC-ESC Joint Annual Meeting, October 31 – November 3 in Vancouver.

Send applications via email to:

Lorraine Maclauchlan

Secretary/Treasurer, ESBC

B.C. Ministry of Forests,

515 Columbia Street, Kamloops, B.C., Canada V2C 2T7

Email: Lorraine.Maclauchlan@gov.bc.ca



Mantid in South Korea.
Photo Dave Holden.



Millipede. Photo Bernard
Roitberg.

Pacific Institute for Climate Solutions Fellowships

<http://www.pics.uvic.ca/fellowships.php>



Cicada in South Korea.
Photo Dave Holden.

The Institute welcomes applications from all disciplinary backgrounds for projects that reflect the PICS mandate to:

- * understand the magnitude and patterns of climate change and its impacts;
- * evaluate the physical, economic and social implications;
- * assess mitigation and adaptation options and develop policy and business solutions;
- * evaluate and strengthen educational and capacity-building strategies to help address climate change;
- * communicate climate change issues and solutions to government, industry and the general public.

Graduate Fellowships (Masters and PhD)

Applications must be submitted to the PICS office no later than March 31 of each year. Please note that students do not apply directly to PICS. Check with your department for their internal application deadline (as early as March 1 in some cases).

Postdoctoral Fellowships

The application deadline is April 15 of each year, except in the case of special calls, which may be issued periodically throughout the year.

Visiting Scholar Fellowships

Candidates must be nominated by a sponsoring researcher(s) at one of the partner institutions.



Photo Bernard Roitberg.

Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Manitoba

October 18 – 21, 2009

Plenary symposium

- *Climate Change: from Geology to Ecology, History of glacial Lake Agassiz and climate since the last Ice Age, as reflected in lake sediments.* Dr James Teller, University of Manitoba.
- *Evolution and Climate Change: potentials and pitfalls*
Dr Camille Parmesan, University of Texas
- *Future shock: invasive insects, climate change, and Canada's forest ecosystems.* Dr Shelley Hunt, University of Guelph.

Symposia

- Apiculture: Bee - Virus Interactions
- Arthropod Host-symbiont Relationships: Diversity, Distribution and Ecology
- Biological Survey of Canada Symposium
- Canadian Forum on Biological Control Symposium: *Putting the 'I' Back Into IPM – How To Integrate*
- Biological Control Effectively In IPM Programs
- Entomological Issues in Potato Production
- Graduate Student Symposium
- Pollination Biology
- Protecting Urban Forests and Structures from Insects
- Wood to Soil: the Role of Arthropods in Forest Nutrient Cycling

Heritage lecture

History of Beekeeping Research in Western Canada. Donald Dixon

Important Dates

31 March 2009 Registration website opens
01 June 2009 Paper submission website opens
15 July 2009 Deadline for paper submissions
15 August 2009 Early registration deadline
15 September 2009 Hotel booking deadline

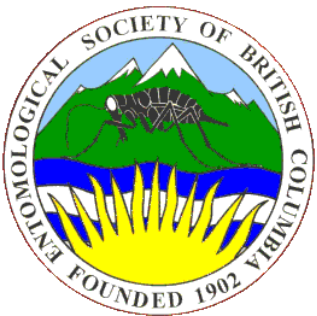
Associated meetings

- Western Forum/Western Committee on Crop Pests/Western Committee on Plant Diseases Oct. 15-17, 2009.
- Biological Survey of Canada October 21-22, 2009.
- Canadian Forum on Biocontrol October 19, 2009.

For further information, see <http://home.cc.umanitoba.ca/~fieldspg/ESC2009.html>
or contact the meeting chair at Brent.Elliott@gov.mb.ca

Announcement

Joint Annual Meeting of the Entomological Society of Canada and Entomological Society of British Columbia will be held at the Coast Plaza downtown Vancouver, October 31 – November 2, 2010



The theme, logo, sponsors, symposia, concurrent meetings, organizing committee and events are all still being planned. If you would like to be part of the planning committee for the 2010 ESC-ESBC JAM, See <http://www.sfu.ca/biology/ESBC/> for upcoming announcements or contact Bill Riel (Conference Chair) at Bill.Riel@NRCan-RNCan.gc.ca.

Random photos from the field



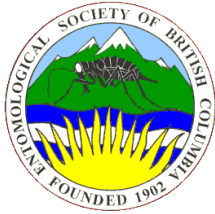
Tamara with lepto handling station. Photo Ward Strong.



Thomas Hoffmeister, visiting scientist from U. Bremen, searching for the elusive snowberry fly (*Rhagoletis zephyria*) on Barnston Island. Photo Bernard Roitberg.

Do you have a random photo from the field ? Email a copy to Jennifer.Heron@gov.B.C.ca or Jeremy deWaard Jeremy.deWaard@gmail.com

Year 2010



Upcoming meetings and conferences

The Joint Annual Meeting of the Entomological Society of Canada and Entomological Society of British Columbia will be held in Vancouver, British Columbia, October 31 – November 2, 2010 at the Coast Plaza Hotel and Suites, downtown Vancouver. See <http://www.sfu.ca/biology/ESBC/> for upcoming announcements or contact Bill Riel (Conference Chair) at Bill.Riel@NRCan-RNCan.gc.ca.

Other events in 2010

The first-ever National Invasive Species Awareness Week is scheduled for January 10-14, 2010 in Washington, DC. Under the concept “Invasive Species: Change and Dollars,” sessions will highlight the relationship of invasive species to climate change, energy development, biofuels, and the “green” economy. Check www.nisaw.org for more information in the future.

The 21st USDA Interagency Research Forum on Invasive Species will be held January 12-15, 2010 at Loews Annapolis Hotel in Annapolis, MD, USA. Contact: Kathy McManus, kmcmanus@fs.fed.us, (203) 230-4330. URL: <http://www.fs.fed.us/ne/morgantown/4557/forum>

The Southern Weed Science Society Annual Meeting will be held Jan 24-27, 2010.

The Association of Applied IPM Ecologists (AAIE) Annual Ecological Pest Management Conference will be held Jan 31-Feb 3, 2010.

The Michigan Mosquito Control Association 24th Annual Conference will be held Feb 3-4, 2010.

The 24th Annual Michigan Mosquito Control Association Conference will be held February 3-4, 2010 in Traverse City, MI at the Park Place Hotel. For further information, please visit the Michigan Mosquito Control Association website at www.mimosq.org or contact Planning Committee Chairman Randy Knepper by phone 989-755-5751 or via email at randy@scmac.org.

The 2010 Gordon Research Conference on Plant Herbivore Interaction will be held February 21-26, 2010 in Galveston, TX, with sessions that range from genetic and biochemical mechanisms to populations, communities and ecosystems, and which embrace mechanism and theory, and link chemistry, ecology and evolution. URL:

<http://www.grc.org/programs.aspx?year=2010&program=plantherb>

The World Aquaculture Society: Aquaculture 2010 will be held Mar 1-5, 2010.

The 8th Meeting on Soil Insect Pests has been postponed for March 24-26, 2010, in Monterrey, Mexico. For more information contact rodriguez.luis@inifap.gob.mx.



The International Plant Resistance to Insects Workshop (IPRI) will be held in Charleston, South Carolina, March 28-31, 2010. The 2010 meeting is co-sponsored by the South Carolina Entomological Society, Inc. Mike Jackson will serve as the Local Arrangements chair for the meeting, and Mike Stout will serve as the Program Chair. As in years past, the 2010 meeting will include several symposia, a mixer and banquet, a student paper competition, and a “field trip” to sites of agricultural interest near Charleston. General information,

registration and hotel information, a call for submitted papers, and a call for student papers can be found at the following web sites:

<http://entweb.clemson.edu/scesweb/ipri/>; <http://www.k-state.edu/ipri/>. For further information, contact Mike Stout

(mstout@agctr.lsu.edu) or Mike Jackson(Mike.Jackson@ars.usda.gov).

The Annual Meeting of the Southwestern Branch of the Entomological Society of America will be held in Cancun, Mexico, April 11-17. It will be a joint meeting with the Mexican Entomological Society. URL:

<http://swbesa.tamu.edu>

The 2010 Imported Fire Ant and Invasive Ant Conference will be held April 19-22, 2010 at the Doubletree Hotel in Little Rock, Arkansas. For additional information, call Kelly Loftin at 479-575-3462 or email kloftin@uaex.edu.

URL:

http://www.extension.org/pages/Annual_Imported_Fire_Ant_Conference

ICP4, The Fourth International Congress on Phthiraptera will be held June 13-18, 2010, Conference Hall of Mustafa Hotel, Urgup, Cappadocia, Turkey. Please see the ICP4 website (<http://www.icp4.org/>) for more information on abstract submissions and registration. For additional information contact: Kosta Y. Mumcuoglu, kostam@cc.huji.ac.il (Chair of the ICP4 organizing committees), Vince Smith, vince@vsmith.info (ICP4 International organizing committee), or Robert Dalglish, bob.dalglish@phthiraptera.org (International Society of Phthirapterists).

2010 June 21 – 27, 2010 is **National Insect Week** in the United Kingdom.

URL: <http://www.nationalinsectweek.co.uk/>

The 10th International Working Conference on Stored-Product Protection will be held in Lisbon, Portugal, June 27 to July 2, 2010. URL:

<http://www2.iict.pt/10thiwcspp>

The 6th International Conference on the Biology of Butterflies will be held at the University of Alberta, Edmonton, Canada from June 29 through July 2, 2010. This meeting has been held at irregular intervals since 1981 and recognizes the role that the study of butterflies has played in our understanding of both evolutionary biology and ecology. URL:

<http://www.biology.ualberta.ca/biobutterfly2010>

The 2010 meeting of the Lepidopterists' Society will be held for the first time in Washington State, in the beautiful European-themed alpine town of Leavenworth during July 8-11. URL:

<http://goodbugs.prosser.wsu.edu/news.htm>

The 5th International Conference on Fossil Insects, Arthropods and Amber, is being held in Beijing, China August 20 – 25, 2010.

<http://entsoc.ioz.ac.cn/jghd/guojigukunchong.pdf>

The 9th European Congress of Entomology will be held August 22-27, 2010 in Budapest, Hungary. URL: <http://www.nhmus.hu/ECE2010/>

The 2010 Entomological Society of America Annual Meeting will be held on December 12-16, 2010, at the Town and Country Hotel and Convention Center in San Diego, California. Contact: meet@entsoc.org, 10001 Derekwood Lane, Suite 100, Lanham, MD 20706, phone 301-731-4535, fax 301-731-4538

Events in 2011

The 2011 Entomological Society of America Annual Meeting will be held on November 13-16, 2011, at the Reno-Sparks Convention Center in Reno, Nevada. Contact: meeting@entsoc.org, 10001 Derekwood Lane, Suite 100, Lanham, MD 20706, phone 301-731-4535, fax 301-731-4538



Tracy Zaradnik with IR camera. Photo Ward Strong.



Late-instar larvae of the red turpentine beetle, *Dendroctonus valens* (Coleoptera: Curculionidae: Scolytinae), exposed while removing bark from a lodgepole pine ramet at the Pacific Regeneration Technologies Seed Orchards in Armstrong BC on August 27, 2009. Photo Jim Corrigan.

Museum Bug Events

Smithsonian National Museum of Natural History

Butterflies and Plants: Partners in Evolution

<http://www.butterflies.si.edu/visitorguide/index.htm>

American Museum of Natural History

The Butterfly Conservatory. Now until May 31, 2010

www.amnh.org/exhibitions/butterflies/

Identification Day - Bring your shells, rocks, insects, feathers, bones, and artifacts to the annual Identification Day! May 22, 2010

www.amnh.org/programs/programs.php

British Natural History Museum, London

Butterfly Explorers. April 8 to September 26, 2010

Come on an exciting expedition through our butterfly house. Explore 4 different habitats across the world and discover 100s of live butterflies.

www.nhm.ac.uk/visit-us/whats-on/butterfly-explorers



Courtesy of Frank Bajich: "here is a picture of one of the fallers with some horseflies on him. I made a stencil of a dragon fly, because they feed on horseflies and used blue log marking paint and sprayed some on my work shirt. I detailed them with a black felt pen. When I stepped next to Skip the horse flies all started to swarm and leave. There were over 300 on him at one time front and back. As you can see there are only 3 or 4 on my pant leg. Works like a charm, everybody was amazed at how well it worked, now we all have work shirts with the dragon fly print and it works as you can see by the pics. They have quite the bite. Now we just have to figure out something for the no see'ums." Photos Frank Bajich.

Awards and Honours

Contech's Chief Scientific Officer John Borden Honoured by UNBC



Photo provided by Tracey Robertson (Contech).

May 25, 2009...Victoria, BC...John Borden, chief scientific officer for Contech Enterprises, will receive an honorary degree from the University of Northern British Columbia as part of the school's annual convocation ceremony on May 29, 2009. Borden, a forest entomologist, will be recognized for his decades of service to B.C.'s forestry professionals.

Honorary degree recipients are selected based on their distinguished achievement in scholarship, research, teaching, the creative arts, business, or other fields of service to the public.

During his 37-year tenure at Simon Fraser University, Borden designed and implemented the school's first Master of Pest Management program, trained and supervised Canada's first forensic entomologist, supervised 101 graduate students, and oversaw 17 research associates and postdoctoral fellows. Every university-level course on forest entomology in B.C. is currently taught by former

students or associates of Borden, and every regional forest entomologist in the province is one of his former students.

It was three of Borden's former students who nominated him for the UNBC honour. "In a community with an economy that is so susceptible to forest insect pest outbreaks, we can think of no one more deserving or appropriate for the honour," wrote Staffan Lindgren, Dezene Huber and Lisa Poirier.

Scientists in pest management, forestry and agriculture confirm that Borden is the pre-eminent international expert in transferring basic knowledge on pheromone-based communication in insects to the practical development of safe and effective pest management practices.

Borden, who signed on with Contech in 2003, received his Ph.D. from the University of California, Berkeley and is currently a professor emeritus at Simon Fraser University. He has received numerous honours throughout his career, including gold medals from the Science Council of British Columbia and the Entomological Society of Canada, the Hewlett-Packard Canada Forum Award, the Scientific Achievement Award from the Canadian Institute of Forestry, the J. Everett Bussart Award

from the Entomological Society of America, and the Founders' Award from the Western Forest Insect Work Conference. He is a Fellow of the Entomological Societies of Canada and America, an Honorary Life Member of the Entomological Society of British Columbia and the Professional Pest Management Association of British Columbia and in 1999 was elected a Fellow of the Royal Society of Canada.

Contech is a designer and provider of animal control and wellness products and non-toxic pest management products for home and garden, forestry, landscape, agriculture, and commercial applications. Safe and effective solutions such as the ScareCrow[®] motion-activated sprinkler and continue to reinforce the company's reputation as a leading innovator in the pet and garden industries. For more information visit: www.contech-inc.com .

RBCM's Rob Cannings receives national award from Canadian museum network

Victoria, BC - Dr. Robert Cannings, a respected scientist who has devoted his career to the study of entomology (insects), is the distinguished recipient this year of the Bruce Naylor Award. This national award, presented by the Alliance of Natural History Museums of Canada (ANHMC), recognizes exceptional contributions to the study of museum-based natural history in Canada.



Rob Cannings receives the Bruce Naylor Award in Ottawa on 27 October 2009. Left to right: Pauline Rafferty, CEO, Royal BC Museum and President of the Alliance of Natural History Museums of Canada; Rob Cannings; Bill Greenlaw, CEO, Nova Scotia Museum and Chair of the Awards Committee.

Dr. Cannings' contributions as a biologist go back decades, from his early days as a naturalist and nature interpreter, to his 29 years as Curator of Entomology at the Royal BC Museum (RBCM) in Victoria. He has authored several books, published more than 100 peer-reviewed scientific articles and written over 100 popular articles. Under his curatorship, the RBCM entomology collection has grown from a few thousand specimens to the present day collection of over 250,000. He has also written text for, and contributed to the planning of, a wide range of museum exhibitions.

While he publishes on many kinds of insects, Cannings' research focuses on the diversity and evolution of dragonflies and robber flies. Books that he has authored or co-authored include *The Dragonflies of British Columbia* (1977), *The World of Fresh Water* (1998), *Introducing the*

Dragonflies of British Columbia and the Yukon (2002) and The Systematics of Lasiopogon (Diptera: Asilidae) (2002).

He joined forces with his brothers, biologists Sydney and Richard, to produce Birds of the Okanagan Valley (1987), and his artistic talents were put to use to illustrate the White-headed Woodpeckers on the book's cover.

For many years Cannings has served on the executive of the Entomological Society of British Columbia and was editor of the ESBC newsletter Boreus (which he started in 1981) until 1991. He is a member of the Arthropod Subcommittee of COSEWIC (Committee on the Status of Endangered Wildlife in Canada) and the British Columbia Invertebrate Recovery Team. He has also been active on the Scientific Committee of the Biological Survey of Canada (Terrestrial Arthropods).

"The thing that I've always tried to do is be broad in my interests, rather than always simply focusing on particular research and collections projects," says Dr. Cannings. "I've tried to be a bit of everything. I like to think this award recognizes that versatility. "

Periodically he teaches at the University of Victoria and has brought fourth-year students into the RBCM labs to give them direct exposure to the kind of work done by museum biologists.

"I have never known anyone so well-rounded and devoted," says Mr. Kelly Sendall, Manager of Natural History at Royal BC Museum. "In my mind he is the epitome of what a curator in a natural history museum should be."

Cannings grew up in Penticton in the Okanagan Valley. His father was the photographer for the Agriculture Canada research station in Summerland. The young Cannings frequently hung around with the scientists. An amateur biologist, his father often took the family to the Penticton museum, and at times they would donate things they found in nature to the museum.

"I was a museum kid long before I ever came here," says Cannings. "Natural history and collecting were part of our life."

Cannings recalls that his family had a long shelf of natural history books, including handbooks produced by the RBCM (formerly the British Columbia Provincial Museum). Even at a young age, one of his ambitions was to write a museum handbook. His goal was realized with The Dragonflies of British Columbia, which was published before he joined the museum in 1980.

In 2008, the Okanagan University College recognized Dr. Cannings and his two brothers as Honorary Fellows for their contributions to the appreciation of nature through their writings, professional activities and dedication.

The Bruce Naylor Award is named for the former director of the Royal Tyrrell Museum of Palaeontology. Deceased in 2007, Dr. Naylor had also served as president of the ANHMC. The award will be presented at a special reception of the ANHMC on October 27, 2009 in The Speaker's Reception Room in the Centre Block of Parliament Hill, Ottawa.

Created in 2003, the ANHMC now has 16 members from coast to coast. Its goal is to increase visibility of Canada's natural history museums, which are responsible for preserving precious collections of millions of specimens that are the record of our natural heritage. The network strives to build capacity in the areas of scientific research, collections development and education about the natural environment, for the greater benefit of all Canadians.

ANHMC Members

- *Canadian Museum of Nature
- *Muséums Nature de Montreal
- *New Brunswick Museum
- *Nova Scotia Museum of Natural History
- *Prince of Wales Northern Heritage Centre
- *Royal Alberta Museum
- *Royal British Columbia Museum
- Royal Ontario Museum
- *Royal Saskatchewan Museum
- *Royal Tyrrell Museum
- *The Manitoba Museum
- *The Rooms Provincial Museum
- Vancouver Aquarium
- *Yukon Beringia Interpretive Centre



Loopworm in South Korea. Photo Dave Holden.

- * Founding members

Associate Members

- Redpath Museum
- Toronto Zoo

Bruce Naylor Award: Thank-you,

Rob Cannings, Royal British Columbia Museum

27 October 2009

Speaker's Reception Room, Centre Block, Houses of Parliament, Ottawa

Madam President, Alliance members, ladies and gentlemen, mes chers amis:

Bonsoir. It's good to be here in Ottawa this evening surrounded by natural historians and other friends...I sincerely thank the Alliance for honouring me with this year's Bruce Naylor Award. I'm truly delighted to receive it. I never met Bruce, but I wish I had. My good friend John Acorn, an Alberta entomologist and paleontologist, knew him well. When I asked John recently about Bruce he said: "Bruce! A great guy....a bit quirky, a very careful paleontologist and a damn good biologist. He was a great guy!" I'm sure I would have liked and admired him.

Also, to my many colleagues across Canada and around the world, and especially at the Royal BC Museum, where I have worked for 30 years, thank you for your help and friendship. My thanks to Pauline Rafferty, CEO of the museum, and her predecessors, for their support. To my wife, Joan, also a Royal BC Museum natural history colleague, thank-you for everything.

Tonight I'd like to tell you a personal story. It's a story that illustrates a critical function of a museum biologist's life – helping a kid; passing the torch.

Jim Grant was an extraordinary naturalist and professional entomologist in BC's Okanagan Valley, where I grew up. He was a great friend of my father and, from an early age, I considered him a friend and mentor. His encouragement was one of the main reasons that I became fascinated by insects in the late 1950s. He had the delightful habit of dropping by our house in Penticton with entomological treasures. Once he brought me the first Monarch butterfly caterpillar I had ever seen. In BC this is a very rare species and, to a young BC insect enthusiast, this iconic caterpillar was pure gold. Jim left it at our doorstep one summer day.

I raised that butterfly patiently and my Dad and I photographed it through the various stages of its growth. I still use some of those pictures in slide shows today. A camping holiday intervened during the pupal stage and I carried the jar the whole way. To my relief, the adult emerged the day after we got home. Then came the big moral dilemma – to let the butterfly go or put it in my collection. I had grown attached to the insect over the weeks that I'd raised it; killing it seemed a really bad idea. And Monarchs were rare in the Okanagan, so letting it go was sensible. But I knew I would probably never catch another, and I desperately wanted that specimen. In the end, the collecting urge triumphed. With considerable guilt, I carefully

added the butterfly to my collection. And, as Jim taught me was critical for all my specimens, I made a label listing all the collection information and pinned it with the butterfly. Now before coming to the Royal BC Museum, I was curator of the Spencer Entomological Museum at the University of BC. Dr. Walter Lazorko, a retired psychiatrist and expert amateur beetle researcher, frequently came to work in the collection. Walter was a tall, distinguished European gentleman, always in suit and tie. He was a character, usually rather morose and pessimistic. He had been through a lot. Among other things, in the chaos of the spring of 1945 he had smuggled his huge beetle collection across war-torn Europe from the Ukraine to Austria and, from there, brought it to Canada. An amazing feat! One day, while we were lamenting the state of amateur entomology in BC, he started talking about his pal, Jim Grant, my old Okanagan mentor.

“There should be more people like Jim”, said Walter, “He always encouraged kids – there would be more young entomologists if more of us were like Jim!”

Walter could get excited in a gloomy sort of way. “Why, he went on, “once when I was on a collecting trip with Jim at Penticton, way back about 1960, we found a Monarch butterfly larva on a milkweed plant.... Very rare. Jim said, ‘I know a young boy who would love to have this.’ Jim and I drove a long way up to this boy’s house but he wasn’t home, so we left the caterpillar in a bag attached to the door handle.”

Walter’s story stunned me. The caterpillar on the door was a family legend. “Walter”, I said softly, “that young boy was me.” Walter was even more flabbergasted – almost disbelieving.

After a long silence, tears ran down his cheeks and he said with conviction, “You see, then you were a small boy and now you’re an entomologist -- that’s what Jim did for you!” Of course, an exact cause and effect is a little far-fetched, but both incidents – the caterpillar on the door and the lunchtime conversation in the museum – have stayed with me.



Later, when I was president of the Entomological Society of BC, I helped create an award for the best graduate student paper delivered at our annual meeting. We call it the James Grant Award in honour of Jim’s dedication to inspiring kids, to passing the torch.

All this is to say that a small act can go a long way in stimulating the quest for knowledge in children and adults alike. I hope that we all can do this, more and more, in our own museum work.

Thank-you all again. Merci.

Art Borkent wins Westwood Medal

Submitted by Rob Cannings, Royal BC Museum



Dr. Art Borkent is a Research Associate in Entomology at the Royal BC Museum. Art has been awarded the prestigious Westwood Medal, given biennially by the Natural History Museum, London and the Royal Entomological Society for the best comprehensive taxonomic work on a group of insects or related arthropods (spiders, millipedes, centipedes, and so on). The award is worldwide in scope; it is the Nobel Prize of insect taxonomy.

Art is a brilliant and prolific BC insect taxonomist who each year publishes several works on the classification and evolution of biting flies. The award was given specifically for Art's monograph entitled "The Frog-Biting Midges of the World (Corethrellidae: Diptera)", a monograph of 456 pages that treats 97 extant species (52 of them new to science) and 7 fossil species (2 new). This family of flies is mostly tropical and is related to the mosquitoes. However, the females bite only frogs and find them by homing in on the calls of male frogs. They have been doing this for at

least 120 million years.

I especially love this monograph because it melds superb technical taxonomic work with broad evolutionary insights and fascinating biology. Some of you may remember Art's son, Chris, who spent several years around ESBC meetings and worked at the RBCM as an entomology co-op student and contract entomologist. Chris is now well on his way to a PhD at McGill University, studying in the same field as his father. The citation of the award-winning work is: Borkent, A. 2008. The Frog-Biting Midges of the World (Corethrellidae: Diptera). *Zootaxa* 1804: 1-456. Images courtesy of the Zootaxa website (www.mapress.com/zootaxa).

Awards for BC students at the Joint Annual Meeting of the ESC and ESM (October 2009)

Graduate students from BC universities fared very well at the Joint annual meeting of the ESC and ESM in Winnipeg in October. Some highlights include:

Three Ed Becker Conference Travel awards were made this year of \$500 each. Winners from BC universities are (2 of 3):

Andrea Stephens (University of British Columbia) who is studying interactions between biological control agents on diffuse knapweed.

Haley Catton (University of British Columbia – Okanagan) who is studying nontarget effects in biological control of houndstongue.

The President's Prize for best oral presentation (1 of 4) was awarded to:

Chandra Moffat (University of British Columbia – Okanagan) for her talk "Impacts of plant nutrition on host-parasitoid population dynamics", co-authored by D. R. Gillespie.

The 2009 Borden Scholarship went to Haley Catton of UBC Okanagan. Haley is studying the invasive weed hounds tongue and its biological control agent *Mogulones cruciger* to directly address questions about nontarget attack: (1) Does nontarget attack affect plants at the population level in the field? (2) What factors (i.e. dispersal distance, starvation, prior experience, host/nontarget plant abundance/distribution/condition) induce *Mogulones cruciger* to attack nontarget plant populations? (3) What level of nontarget attack is acceptable for sustaining populations? It has been found that *M. cruciger* will attack some nontarget plants and thus it is important to evaluate its potential impact.

Other talks presented by BC students in the graduate symposium (2 of 6) were:

- Host range of a male-killing bacterium infecting filth fly parasitoids; Graeme Taylor, Kevin Floate, and Steve Perlman. University of Victoria, Victoria, British Columbia, Canada
- The role of *Anopheles gambiae* mosquitoes feeding decisions on vector-borne disease transmission; Brian O. Ma and Bernard D. Roitberg, Simon Fraser University, Burnaby, British Columbia, Canada



BC students receiving awards from Maya Evendon at the Joint Annual Meeting of the ESC and ESM in Winnipeg. Clockwise from top left: Brian Ma, Graeme Taylor, Chandra Moffat, Haley Catton and Andrea Stephens. Centre: Haley Catton. Photos from the ESC website.

Notes from the Field

999 – The Tradition Continues

Submitted by Karen Needham, Beaty Biodiversity Museum Spencer Entomological Collection

With the move of the Spencer Entomological Museum scheduled for Sept 9-10th, and classes beginning on Sept. 8th, the possibility of an outing for 999 (Sept. 9th, 2009 or 09/09/09) was not looking good. But with a last minute change of the move date to the following week and a group of museum people in desperate need of a break from packing, a decision was made the night before to head out after all - yeah!

We decided to stay close to UBC in case any last minute move complications arose, so Jericho Park was the chosen location. With its diversity of habitats (forest, beach, meadow, and, most importantly, pond!) it offers something for every entomologist on your list. Although Monday, Tuesday, and consequently Thursday and Friday of that week were warm and sunny with temperatures in the mid-20's °C, 999 dawned with torrential rain and the thermostat reading a mere 13 °C – it's a good thing that aquatic insects don't care about the weather! And neither did we!

Our group was small but plucky – myself, Rex Kenner, Rob Curtiss (the SEM's new database manager) and Rob's two kids, Avery (12) and Maisie (1.5). We decided to wait out the rain and meet in the afternoon, and our plan worked – by the time we donned our rain gear and rubber boots the deluge was down to a sprinkle. After an hour or so the sun even came out, favoring us with a single adult dragonfly sighting (*Aeshna* sp.).

Rob and the kids arrived first and did some terrestrial collecting, which yielded an interesting beetle (Trogossitidae: *Ostoma pippingskoeldi*) far inside a well-rotted log also containing several ant species and the dampwood termite, *Zootermopsis angusticollis*. A bit later, Rex and I started our aquatic sampling at the east end of Jericho Pond and worked our way west. Since Rex (and sometimes me or his wife Gail) has been doing monthly surveys of Jericho Pond since 2006, he knows it like the tip of his tarsus. "Here", he says, "you will find a concentration of waterboatmen, probably *Hesperocorixa laevigata*." "There, in that particularly deep part", he predicts, "you will be certain to net a water scorpion (*Ranatra fusca*) or two." And right he is, as we document both of those along with 6 other species of waterboatmen (*Callicorixa vulnerata*, *Cenocorixa blaisdelli*, *Corisella inscripta*, *H. atopodonta*,

Sigara alternata, *S. omani*), 1 species of water strider (*Gerris buenoi*), 1 species of backswimmer (*Notonecta undulata*), 2 species of semi-aquatic bugs (*Mesovelia mulsanti*, *Microvelia buenoi*), and 4 species of aquatic beetles (*Enochrus californicus*, *Hygrotus sayi*, *Peltodytes callosus*, *Tropisternus lateralis marginatus*).

Although collecting in the pond has become somewhat predictable, there is comfort in the familiarity and pride in the dedication it takes to get to know one environment so intimately. And even with such repeated effort, new finds are always emerging. These “discoveries” are often only represented by a single specimen, which highlights the importance of comprehensive collecting and the accurate identification that only a skilled taxonomist can provide. But the biggest reward of the day, of course, is that there are now specimens residing in the SEM that bear the coveted 09/09/09 collection date! 10/10/10 is coming – get out your woolies!!



Rob Curtiss (SEM) and his kids Avery and Masie collecting in Jericho Park, Vancouver on 9/9/99. Photo Karen Needham.

New slugs from the Kootenays



Sheathed slug. Kristiina Ovaska



Pygmy slug. Kristiina Ovaska

Submitted by Kristiina Ovaska (kovaska@shaw.ca) & Lennart Sopuck (biolinx@shaw.ca)

The Kootenay region of B.C. contains an interesting but poorly known terrestrial gastropod fauna that includes many species on the provincial red and blue lists. With support from B.C. Ministry of Environment, Biolinx Environmental Research Ltd. conducted gastropod surveys from 2007 to 2009 across the region, focusing on species at risk. During these surveys, we encountered two native slugs that were previously undocumented from Canada: Pygmy Slug, *Kootenaya burkei*, and Idaho Sheathed Slug, *Zacoleus idahoensis*.

We found Pygmy Slug for the first time in July 2007 and now have several records of the species from Trail eastward to Moyie Lake and northward to Nakusp and Galena Bay, approximately 60 km south of Revelstoke. These records suggest that at least half of the global distribution of the species is in B.C; the remaining is in Montana and Idaho. As its name suggests, this slug is very small with adult length less than 2 cm. Pygmy Slug is now on the provincial red list and the COSEWIC candidate list.

In October 2009, we found the Sheathed Slug near Moyie, south of Cranbrook. To date, this record (1 individual found) is the only documentation of the species from Canada. Previously, it was known from Montana, Idaho, and northeastern Washington. Other gastropods known from south of the border, such as Papillose Taildropper, *Prophysaon dubium*, Blue-grey Taildropper, *P. coeruleum* (interior clade) and Salamander Slug *Gliabates oregonius*, may be found here with increased survey effort. All small slugs found in the forest and away from human

habitation should be examined carefully.

We thank Jenny Heron and Dominique Sigg (B.C. Ministry of Environment) for funding and all their support. Kyle Shottanana (Species at Risk Coordinator for Ktunaxa First Nation) participated in the surveys when the Sheathed Slug was found.

New pest fly species in British Columbia

Submitted by Dave Holden



Drosophila suzukii males. Photo Dave Holden.

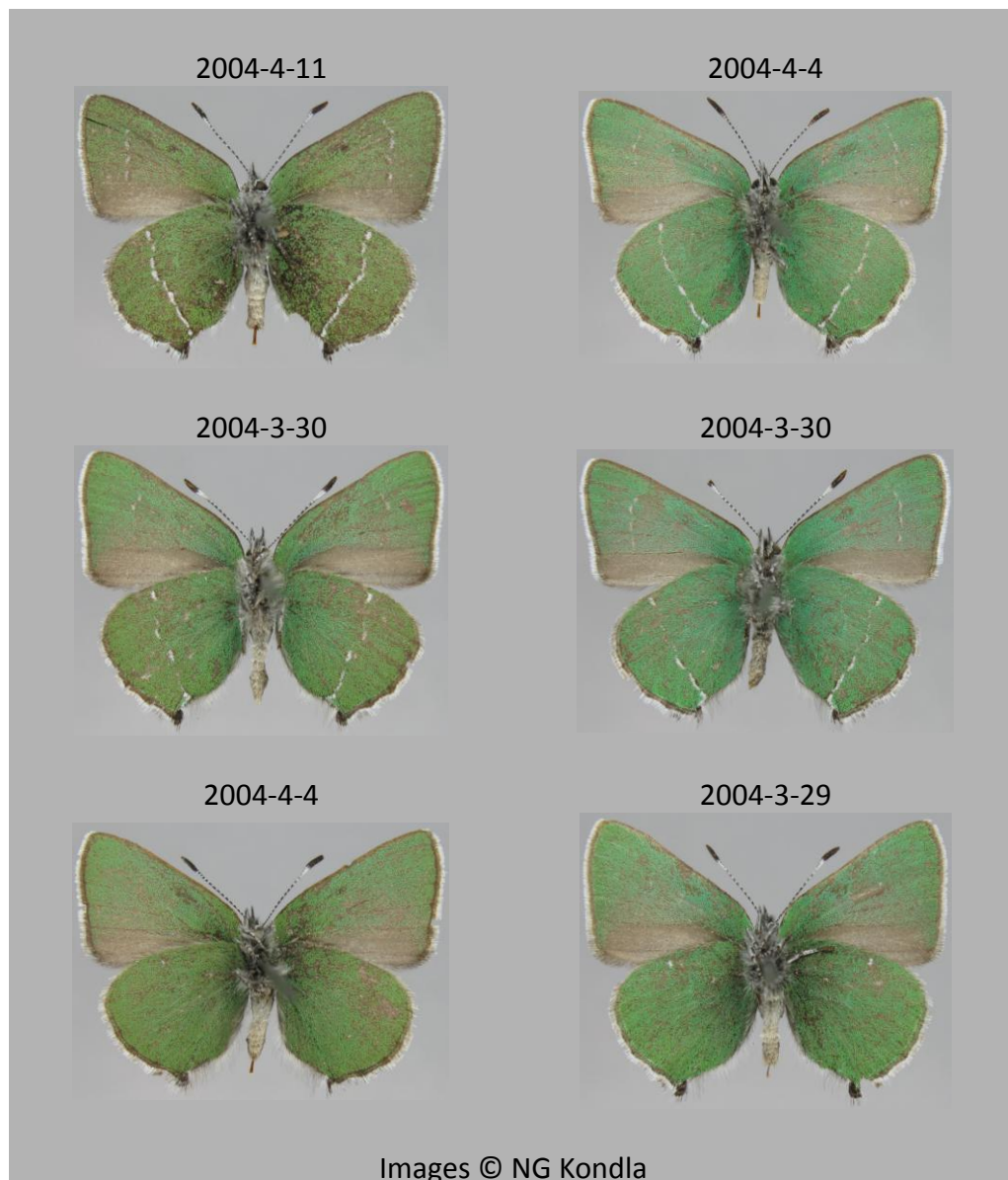
New Pest Alert: Spotted Wing Drosophila, *Drosophila suzukii* found for the first time in Canada at a light trap in Port Coquitlam in August 2009. Now widely reported from the Lower Mainland in BC. Also now recently reported from Washington, Oregon, California and Florida in North America. Attacks almost all fruit crops with soft skin during ripening. Has been reared from blueberries, raspberry, and blackberry in BC and reported from Cherries and grapes in the USA. Maggots feed on the fruit under the skin leaving skin depressions and open wounds for fungal colonization. Males can easily be identified by a black spot on the tip of each wing. Under magnification, females can be distinguished by a large saw shaped structure at the tip of their abdomen. If you see any SWD in BC outside of the lower mainland please contact the author at david.holden@inspection.gc.ca



Tamara Darby Keri Nicole. Photo Ward Strong.

Submitted plates: Sheridan's Elfin *Callophrys sheridanii* Venter Variation By Norbert G Kondla

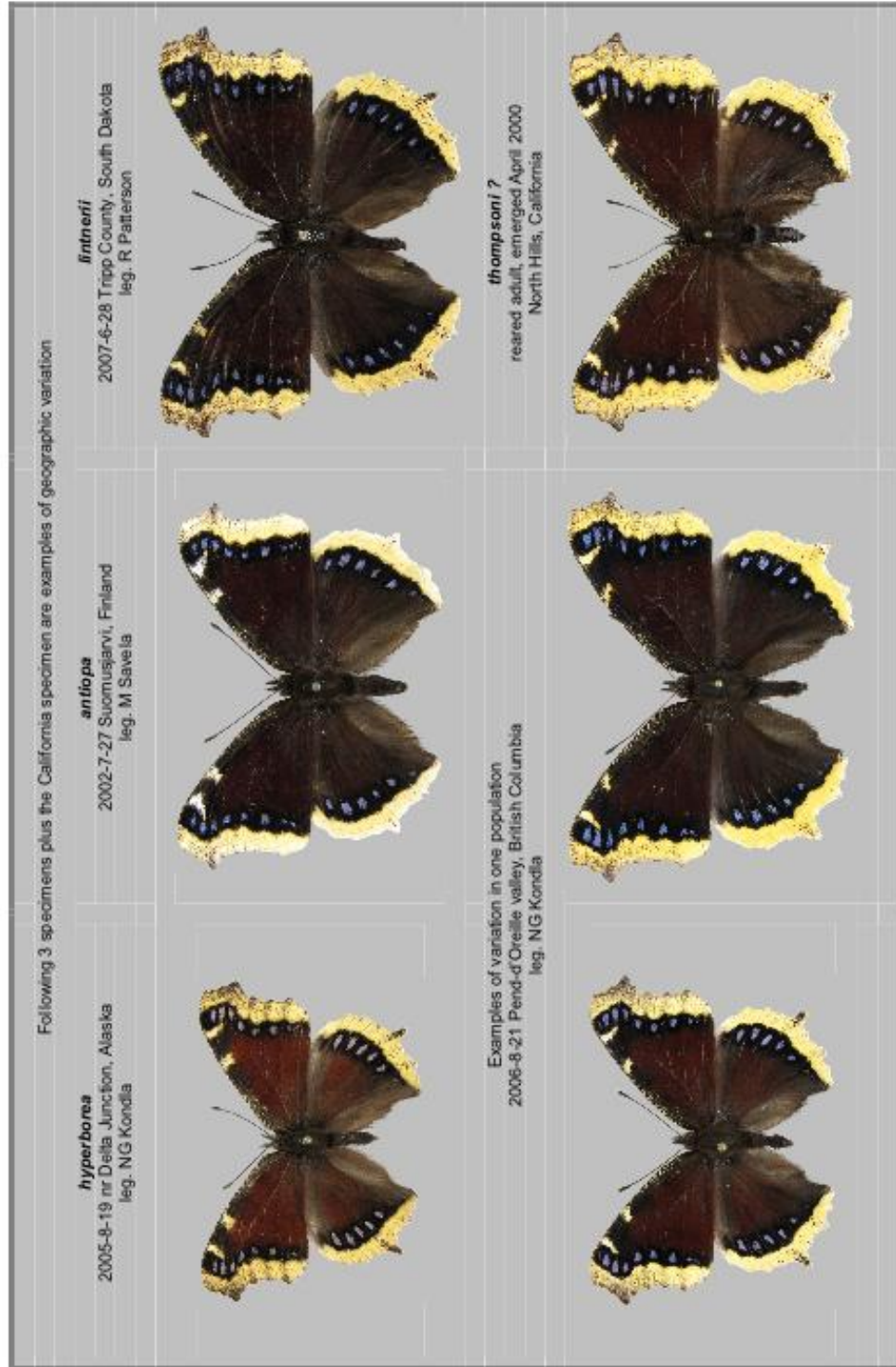
All specimens are males collected by NG Kondla at Waneta, British Columbia on given dates. Note substantial variation in hue of venter green and amount of, even lack of, white post-medial marking on ventral hindwing. Image scale is approximately twice life size. Life size wingspan is 23 to 23.5 mm.



The Highly-variable Cloak (*Nymphalis antiopa*) – some adult variation

Scale = life size

© NG Kondla September 2009



Entomological Humour

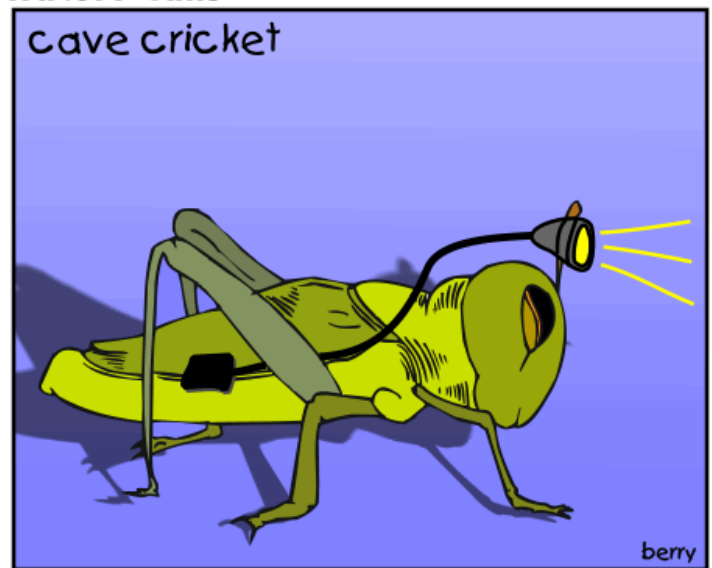
Do you have artistic talent? Do you have a good entomological joke? Send your ideas to the Boreus editor for the June 2010 issue.

Berry Wijdeven is a Species At Risk Biologist for the B.C. Ministry of Environment in Queen Charlotte/Haida Gwaii. Berry's work has been published in *Macleans*, the *National Post*, *Vancouver Sun* and numerous other weekly publications. Among his artistic talents, he creates the weekly comic *Nature Calls*. Register for Berry's weekly email by sending him an email at Berry.Wijdeven@gov.bc.ca

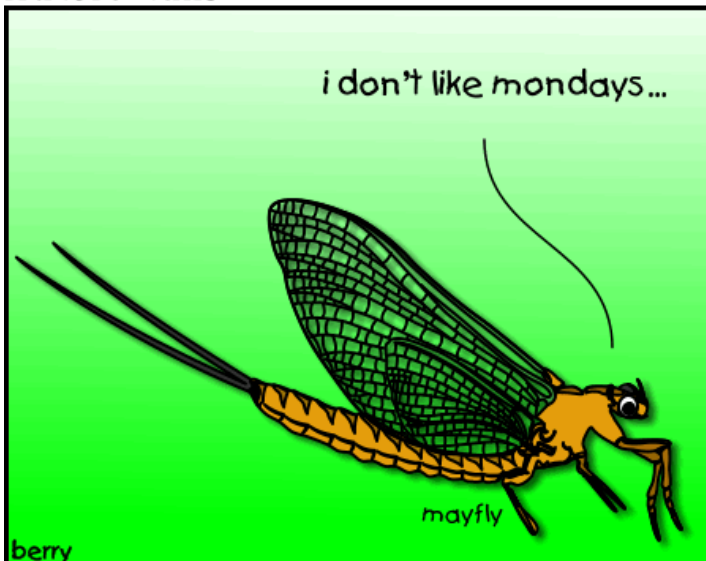
nature calls



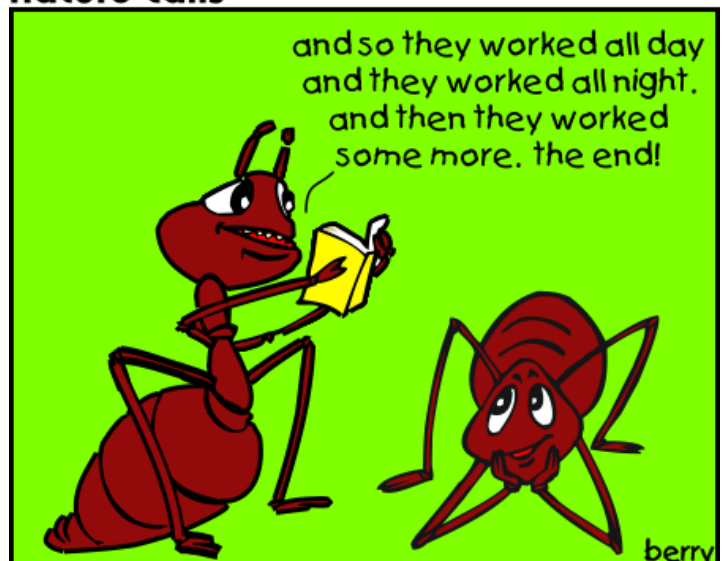
nature calls



nature calls



nature calls



Whistler Bioblitz 2009

Photos by Paul Colangelo



The 3rd annual Whistler BioBlitz August 8-9 was 24 hours of fun and science. Over 30 out of town scientists – some who wrote the guide books for this area – were on hand for kids and public events and inventoried over 400 species. This year it was great to see even more kids out for the Wild Things Scavenger Hunt and Swamp Monsters events. Night Critters was a highlight since bats were on hand for the first time thanks to the weather". There were close to 40 new species records for the Whistler area, not an insignificant feat since there are already over 2,240 species on record thanks to the work done by the Whistler Biodiversity Project. Stay tuned for details on the 2010 Bioblitz, to be held July 24–25, at <http://www.whistlerbioblitz.ca>



Interesting dragonfly story

Originally posted on the TEXBIRDS listserv.

This past Friday, September 25, 2009 I took a bus load of birders to the Smith Point Hawk watch. It was an overcast day with low clouds and very



Scorpion at Vasseux Lake. Photo Daryl Stepaniuk.

little or no breeze. The sky was full of Green Darners. There were also

10-20 Ruby-throated Hummingbirds at two feeders on the Hawk Watch Tower

perhaps 20 feet above the ground. There were about 20 people on the deck

watching birds. There was a flock of about 20 Mississippi Kites soaring

above and near the tower feeding on dragonflies a 100-200 feet above. About

mid-day the hummingbird tumbled across the deck within 6 feet of several of

us on the deck. I assumed it was two hummingbirds engaged as a male had been

trying all morning to defend the feeder from a dozen or more hummers. To all our surprise, the hummingbird was engaged by a Green Darner Dragonfly. The dragonfly had the hummer by the back of the head or upper neck and it appeared the hummer would soon lose its life. Unfortunately one of the people stepped in to save the hummer and before he could touch it, the combatants broke off the fight and both were gone in a flash.

I have heard stories like this but never actually believed them. What's more, one of the alert people got a good series of photos of the tussle. My question to this list is, has this ever been documented? I think the photos and report are noteworthy. If you are aware of any published reports in the literature about this sort of attack I would appreciate you passing it along to me.

Fred Collins
Director: Kleb Woods Nature Center
Cypress Top Historical Park

In Memory

Rex Kenner (1950-2010)

Written by Rob Cannings, RBCM

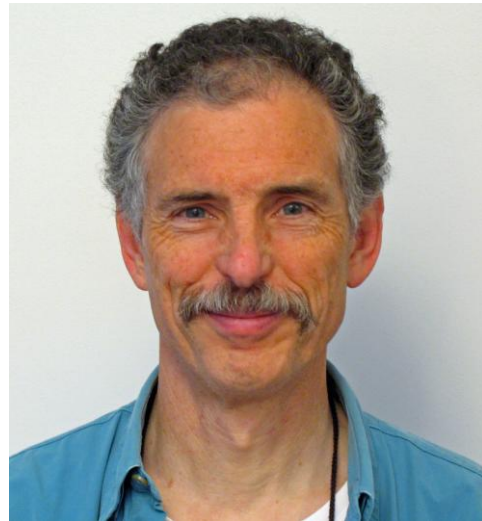
Rex Donal Kenner, PhD – entomologist, vertebrate zoologist, chemist, teacher, conservationist – died of an aortic aneurysm in Vancouver, BC on 23 January 2009. He was 59 years old.

Rex was born on 14 November 1950 in Chicago, Illinois, but grew up in Natchitoches, Louisiana, where his family had moved when he was 9 months old. In

1971 he received a Bachelor of Science degree from Northwestern State University of Louisiana and in 1976 earned his doctorate in physical chemistry from Michigan State University. Rex first came to Vancouver as a post-doctoral fellow in the Chemistry Department at the University of BC (1977-1980) and remained there until 1983 as a research associate. He met his future wife, Gail, in 1978 in Vancouver and they married there in 1980. From 1983 to 1988 Rex was a research chemist at the Ruhr-Universität Bochum in Bochum, Germany and, between 1990 and 1993, he was a researcher at CSIRO in Australia. He and Gail then returned to Vancouver, where Rex focused his life on biology and the natural history of the region. As a boy, Rex had collected insects until he started university; this interest was reawakened when he began watching dragonflies during a Vancouver Natural History Society outing in 1994.

Although Rex had an academic science background, he was a self-taught entomologist and vertebrate biologist who spent much of his time studying insects and teaching others about them. His favourite insects were the aquatic groups, and he concentrated on the taxonomy and distribution of dragonflies, water bugs and beetles. Rex was a strong supporter of the Entomological Society of BC, presented papers at our meetings, and published often in the *Journal* and in *Boreus*. Most of his entomological publications are listed below. Periodically, he also undertook contracts associated with aquatic entomology, such as ecological impact studies; he was an associate of Robertson Environmental Services in Langley.

Most of Rex's recent publications were on the Haliplidae (crawling water beetles). He had unearthed an undescribed genus of halipid beetle from China (he announced the find at the 2006 ESBC annual meeting) and was preparing the description with Rob Roughley, water beetle expert at



Rex Kenner, 2008. Photo: Gail Kenner

the University of Manitoba. In the meantime, Rex found another new haliplid species and, when Rob suddenly died of a stroke in November 2009, Rex decided to name it after him. But now, with Rex's death two months later, these unfinished papers are sad reminders of our double loss – two of Canada's water beetle experts suddenly gone in their prime. When he died, Rex was also studying, with several co-authors, the bird lice of BC. Some of the material was amassed long ago by George Spencer; some was collected by Rex himself. He was excited about the project, not only for its scientific value, but because it closely connected two of his great loves – insects and birds.

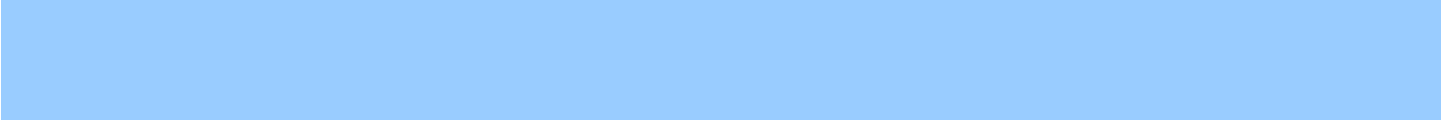


Rex Kenner collecting aquatic insects at Jericho Park, Vancouver. Photo: Gail Kenner.

Since 1995 Rex volunteered up to five days a week in the Spencer Entomological Collection at the University of BC. There, his accomplishments included labeling and sorting the 15,000 Diptera specimens of the Foxlee Collection, reorganizing and databasing the Odonata collection, and identifying and curating several families of aquatic beetles. In addition, as part of various research projects, he identified, curated and databased material from many other collections, including the Royal BC Museum (Victoria), Strickland Museum (University of Alberta), Oregon State Arthropod Collection (Oregon State University), Essig Museum (University of California, Berkeley), California Academy of Sciences (San Francisco), Royal Ontario Museum (Toronto), J. B. Wallis Museum (University of Manitoba), Monte L. Bean Life Science Museum (Brigham Young University) and the James Entomological Museum (Washington State University). He regularly donated aquatic insect specimens to the Spencer Collection and the Royal BC Museum. In recognition of his superb

volunteer work, Rex was appointed honorary Assistant Curator of the Spencer Entomology Collection. The Entomological Society of BC nominated Rex for the national Norman Criddle Award, presented by the Entomological Society of Canada for extraordinary contributions to entomology by an amateur. Rex received the award in Kelowna in November 2003.

Since 2001 Rex's main work was as Curator of the Cowan Vertebrate Museum at the University of BC; he had volunteered in that collection since 1993. Although the position was part-time until recently, Rex kept the collection going during the lean years, largely singlehandedly, putting in far more time than he was paid for. He organized and taught a keen group of volunteers to help with specimen preparation. His keen interest in both public education and the long-term health of the collections made him invaluable when the idea of a public biological museum began to take form at



the university. Rex served on the steering committee planning the Beaty Biodiversity Museum, and played a forceful and vital role in its creation and development, including the daunting task of moving the entire collection to its new location.

Education was a huge part of Rex's life. He was a natural teacher. His enthusiasm and patience made him particularly effective with children, but he was loved by naturalists of all ages across the Vancouver region for his energetic, innovative education programs. His knowledge was wide-ranging. He could explain complex things in simple terms so that everyone understood, yet he maintained the highest scientific standards. Public awareness and appreciation of insects were significant activities. After developing a slide talk on dragonflies, Rex presented it to dozens of audiences, from natural history societies to seniors' groups, from wetland institutes to cultural societies. Newsletters and workshops are full of his programs on dragonflies and the importance of wetlands and aquatic life. Rex led many marsh and dragonfly programs for the Vancouver Natural History Society (now Nature Vancouver) and its Young Naturalists' Club. He published often in the Society's journal *Discovery*. In 2001, in recognition of his exceptional service, the VNHS presented Rex with its Garibaldi Award.

Rex was an instructor at Science World's summer Science Camp for teachers and was active in the Richmond Nature Park, Friends of Boundary Bay, Stanley Park Ecology Society and many other educational and conservation groups. Initially through his passion for birds, but also later through his natural history teaching, Rex was involved with the Taiwanese-Canadian Intercultural Green Club and became a prominent liaison between Taiwanese and Canadian naturalists.

Rex was a keen and committed conservationist. When an extensive environmental survey of Burns Bog was undertaken as part of the effort to preserve this extraordinary habitat, Rex was a major player in the aquatic insect component of the study. This not only involved surveys, but specimen identification, report writing and public presentations. He also helped organize aquatic insect surveys of the Terra Nova Natural Area in Richmond and Lulu Island Bog. The latter includes the Richmond Nature Park and adjacent National Defense lands, and the survey was part of a study directed at preserving the DND lands from development. In 1996 and 1997 Rex surveyed Odonata for the BC Conservation Data Centre and the Royal BC Museum in the Lower Mainland and Peace River region, respectively.

Rex Kenner was a kind, intelligent and committed man, generous of his time and knowledge. He loved the details of the world and he loved sharing them. He and his wife Gail lived modestly but well, committed to an unpretentious and positive view of life. Rex was green before green was cool; didn't drive a car, didn't own a home, didn't need a lot of stuff. He stepped lightly on the earth. We are all better for having known him.

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Kenner, R.D. 1999. First Canadian breeding record for *Tanypteryx hageni* (Odonata: Petaluridae). *Boreus* 19(2): 4-5.

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Kenner, R.D. 2000c. Annotated checklist of dragonflies of the Lower Mainland. *Discovery* 29: 22-23.

Kenner, R.D. 2000d. *Gyrinus cavatus* and *G. minutus* (Coleoptera: Gyrinidae) in British Columbia with comments on their nearctic distributions. *Journal of the Entomological Society of British Columbia* 97: 67-71.

Kenner, R.D. 2000e. Flea from a Black-capped Chickadee nest. *Vancouver Naturalist* 2(3): 7.

Kenner, R.D. 2001. Redescription of the larva of *Leucorrhinia glacialis* Hagen with a key to the nearctic *Leucorrhinia* species (Anisoptera: Libellulidae). *Odonatologica* 30: 281-288.

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Kenner, R.D. 2005a. Redescription of *Haliphus dorsomaculatus* (Coleoptera: Haliplidae) with a new synonymy and comments on habitat and distribution. *Journal of the Entomological Society of British Columbia* 102: 43-56.

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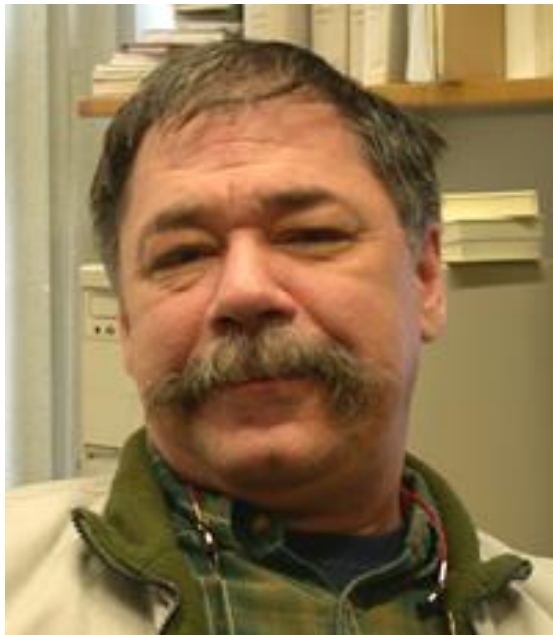
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Dr. Rob Roughley

Dr. Rob Roughly
Ph.D. (Alberta) 1950 – 2009

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The entomological community has lost one of its classic figures. Rob Roughley passed away suddenly at his home on 9 November, 2009 at the age of 59. Rob was an authority on water beetles, especially the Dytiscidae. He completed his B.Sc. (Agr.) in Entomology in the Department of Environmental Biology at the University of Guelph in 1974. He was part of the cadre of young entomologists emerging from Guelph at the time, inspired by Dave Pengelly. Rob became immersed in taxonomy and systematics and stayed on at Guelph to revise the genus *Hydaticus* (Dytiscidae) for his M.Sc., spending some of his time during this period working at the Canadian National Collection in Ottawa. He went to the University of Alberta to revise the genus *Dytiscus* for his Ph.D. under the supervision of George Ball. Even before he defended his Ph.D. thesis, he accepted a faculty position in the Department of

Entomology at the University of Manitoba, where he remained until his untimely death. He was an untiring supporter of collections and collection management in Canada, and as Curator of the J.B. Wallis Museum, helped to develop the JBWM to where it stands today. Rob was integral to obtaining funding to expand the rapidly growing museum facilities and to implement one of the first bar-coded databases for entomological museums in Canada.

Rob had a big voice, a big personality and a big heart. Few entomologists were more generous with their time and expertise. He was endlessly supportive of students, and always provided the encouragement and enthusiasm for all things entomological that seemed to inspire so many of them. If you needed assistance, a reference, some specimens, an opinion, or an update on scores in the NHL games the night before, Rob was always there. Rob was involved in insect research and conservation at many levels, from the work he and his students were doing in diversity in prairie grasslands, in the insects of the subarctic environment of Churchill, with the Biological Survey of

Canada, the Nature Conservancy of Canada, the Committee on the Status of Endangered Wildlife in Canada, CANPOLIN, the dytiscids of North America and the water beetle fauna of Middle America.

Rob has been an important component of the entomological community in Canada and he will be sorely missed.

Donations may be made in memory of Rob Roughley; the funds will be used to support the J.B. Wallis Museum of Entomology, the insect collection to which Rob devoted much of his life. Donations can be made at http://umanitoba.ca/admin/dev_adv/donate_now/index.html or by contacting the Department of Entomology for a donation package.



Photo Dave Holden.



Photo Bernard Roitberg.

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