



BOREUS

**NEWSLETTER OF THE
ENTOMOLOGICAL SOCIETY
OF BRITISH COLUMBIA**

Volume 23(1)

June 2003

ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA

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

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Page

SOCIETY BUSINESS

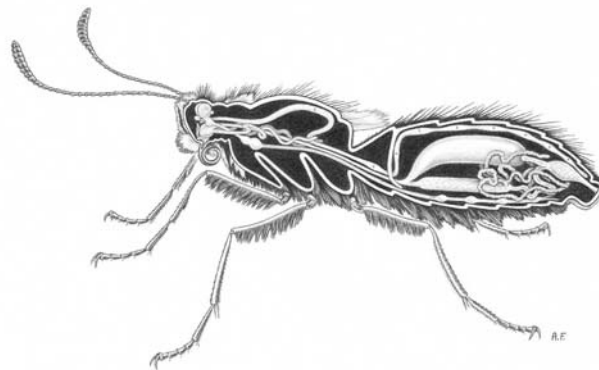
- Graduate Student Scholarships 3
- 2003 Joint ESBC/ESC Annual General Meeting..... 4

LIMITED EDITION PRINTS

- Mourning Cloak Butterfly, by Michael Blackstock 6
- Beetles, by Richard Hunt 7

NOTES

- Spring Azures, *Celastrina echo*, mud-puddling 6
- Ken Graham Donates Literature Collection to ESBC library 12
- Terry Shore and Bill Riel Honoured 13
- Good Housekeeping: Why do shelter-dwelling caterpillars fling
their frass? 13
- Innovative new butterfly attractant product 13
- Cecropia Moth, *Hyalophora cecropia* 13



Anise Swallowtail, *Papilio zelicaon* internal anatomy. Drawing: Aud Fischer.

Publications of the ESBC

Journal of the Entomological Society of British Columbia

The *Journal of the Entomological Society of BC* 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://esbc.harbour.com/>), and should be sent to the Editor, Dr. Ward Strong, BC Ministry of Forests, 3401 Reservoir Road, Vernon BC, Canada V1B 2C7; tel 250-549-5696; fax 250-542-2230; e-mail Ward.Strong@gems7.gov.bc.ca.

The deadline for submissions to be included in the 2003 issue is **September 1, 2003**.

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. Please send correspondence concerning *Boreus* to the Editor, Cris Guppy, 4627 Quesnel-Hydraulic Rd., Quesnel BC, Canada V2J 6P8; tel 250-747-1512; e-mail cguppy@quesnelbc.com.

The deadline for submissions to be included in the December 2003 issue is **November 1, 2003**.

Membership of the Entomological Society of BC is available to anyone interested in entomology. Annual dues are Can\$20 (regular member) or Can\$10 (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. Robb Bennett, BC Ministry of Forests, 7380 Puckle Road, Saanichton, BC, V8M 1W4, Canada; tel 250-652-6593; fax 250-652-4204; e-mail Robb.Bennett@gems6.gov.BC.ca

Cover: *Boreus elegans* (Mecoptera: Boreidae); one of the more conspicuous snow scorpionflies in BC. 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.

SOCIETY BUSINESS

ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA

6th ANNUAL GRADUATE STUDENT SCHOLARSHIPS

The Entomological Society of British Columbia announces the sixth annual Graduate Student Scholarship competition. Two \$500.00 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, and
 - 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 2003 Scholarships is 31 August 2003. This year's scholarships will be awarded during the ESC/ESBC Joint Annual Meeting in Kelowna, 1-5 November 2003.. Send applications to:

Robb Bennett
Secretary/Treasure, ESBC
BC Ministry of Forests
7380 Puckle Road
Saanichton, BC V8M 1W4
robb.bennett@gems6.gov.bc.ca

or by e-mail to:

Announcing the Joint Annual Meeting of the Entomological Societies of Canada and British Columbia



Kelowna, British Columbia November 1 – 5, 2003

The Grand Okanagan Lakefront Resort and Conference Centre

On behalf of the Entomological Societies of British Columbia and Canada we cordially invite you to attend the Joint Annual Meeting to be held in the beautiful Okanagan Valley of British Columbia.

The Grand Okanagan is a spectacular facility on the shores of Okanagan Lake in the downtown area of Kelowna. We have negotiated an excellent room rate with the hotel (\$99 regular, \$135 suite) and encourage you to stay there **and to tell them you are with the Entomology Society of Canada conference**. It is this room subscription that enables the organizers to provide this caliber of facility. Hotel reservations can be made at 1.800.4654651 or see their website at <http://www.grandokanagan.com/>.

The Okanagan Valley is the wine, fruit and recreation centre of British Columbia and provides a host of extracurricular activities. Kelowna is a thriving city with a population of about 100,000. It is easily accessible via several major airlines including Air Canada and its' subsidiary airlines, as well as Westjet and Horizon, or is approximately a five hour drive from Vancouver (check road conditions). A few websites for information about Kelowna are <http://www.kelownachamber.org/> and <http://www.vtours.com/>. For information on some social activities associated with the meeting including dining, wine tours and golf, see <http://www.corkandcaddie.com/ESBCJAM.htm>.

The theme for this meeting will be **Insects in Shifting Environments**. This theme is meant to focus on two similar and topical issues: 1) invasive species 'shifting' to new environments and effecting a change, and 2) impacts on insects of 'shifting' environments such as climate or anthropogenic changes.

Several additional meetings are scheduled to take place in conjunction with the JAM (see Tentative Program).

Keep an eye on our meeting webpage for further information as we continue to develop the program. It can be reached through the Entomological Society of British Columbia webpage at <http://esbc.harbour.com/> or the Entomological Society of Canada webpage at <http://esc-sec.org/>.

For further information: Dr. Terry Shore, JAM 2003 Organizing Chair
Canadian Forest Service
506 West Burnside Rd.
Victoria BC V8Z 1M5
250.363.0666
tshore@pfc.forestry.ca

Tentative Program

Saturday, November 1

- 08:30-17:00 ESC Governing Board Meeting
Contact: Rick West, Secretary, ESC

Sunday, November 2

- 13:00-14:15 Opening Session, ESC Awards, Gold Medal Address
14:45-16:45 Plenary Session: *Insects in Shifting Environments*
Moderator: Bernie Roitberg (Simon Fraser University)
19:00-21:00 President's Reception (By invitation only)
18:00-22:00 Student Mixer (no-host bar and food, Kelowna Curling Club)

Monday, November 3

- 08:30-11:00: Symposium A: *Adaptations and constraints: A symposium in honour of Richard Ring*
Moderators: Robb Bennett (BC Ministry of Forests)
Neville Winchester (U. of Victoria)
Symposium B: *Insects in a changing climate*
Moderator: Richard Fleming (CFS Sault Ste-Marie)
11:00-13:00: Poster Session: Contributed and President's Prize
Lunch provided
13:00-16:30 Workshop A: *Resistance of two kinds: insecticides and host plants*
Organizers: Yvan Pelletier (AAFC Fredericton)
C. Vincent (AAFC St Jean sur Richelieu)
President's Prize Papers – Concurrent Sessions
19:30-20:30 Student Reception – Wine Museum
20:30-22:30 General Reception – Wine Museum

Tuesday, November 4

- 08:30-11:00: Symposium C: *Introduced species: Friends and foes and those we do not know*
Moderator: Judy Myers (University of BC)
Symposium D: *Biodiversity*
Moderator: TBA
11:00-12:30 Contributed Papers – Concurrent Sessions
12:30-13:30 Lunch (on your own)
13:30-16:30 Workshop B: *Ecology and Structure of Aphid Populations*
Organizers: Kevin Floate (AAFC Lethbridge)
Bob Lamb (AAFC Winnipeg)
13:30-16:30 Contributed Papers – Concurrent Sessions
16:30-17:30 ESC Annual General Meeting
18:30-19:30 No host bar
19:30-22:00 Banquet and Entertainment

Wednesday, November 5

09:00-10:00 Heritage Lecture: Richard Ring
10:00-10:30 ESBC Annual General Meeting
10:30-12:00 Contributed Papers – Concurrent Sessions

Associated Meetings

Thur-Fri, Oct 30-31

Mountain Pine Beetle Symposium

Contact: Terry Shore (CFS Victoria)

Thursday, October 30 **Canadian Forum for Biological Control**

Contact: Rose DeClerke-Floate (AAFC Lethbridge)

Friday, October 31-

Saturday, November 1

Western Forum and Western Committees on Crop Pests and Plant Diseases

Contact: Hugh Philip (hugh.philip@gems8.gov.bc.ca)



Spring Azures (*Celastrina echo*) mud-puddling. In the West Kootenay. Note variation in wing pattern. Photo: Norbert Kondla.

CALL FOR SUBMITTED PAPERS AND POSTERS

This and additional information is available on:

<http://esbc.harbour.com/jam.html>

DEADLINE: Postmarked July 7, 2003

Categories of presentation:

Oral presentation – Regular, President's Prize*

Poster presentation-Regular, President's Prize*

*Students are eligible for the President's Prize (1 per session) if:

- ✓ Currently enrolled in a degree program or have graduated from a degree program since the last annual meeting (October, 2002)
- ✓ Registered at the meeting and have indicated the wish to participate in this category at the time the title and abstract were submitted
- ✓ The principal investigator and presenter of the paper or poster

Language: Presentations may be in French or English

Oral presentation: 12 min + 3 min questions and discussion

Presentations in Powerpoint are encouraged. To minimize potential incompatibilities between the software versions you use to develop and we use to display these presentations, we recommend limited use of animation, use of common Windows fonts for text and symbol fonts for equations. Do not mail your presentation but bring to meeting on diskette or CD after testing this copy on a different machine. If using 35 mm slides, please provide your own carousel. Please note method of presentation when submitting your abstract.

Poster presentation:

Posters can be set up on Sunday morning (November 2) and left in place for the duration of the meeting. Presenters are requested to attend their posters in particular during the designated poster session on Monday (November 3) from 11:30 – 12:15.

Information required: 1) Author(s) name(s), 2) name of presenter, 3) address 4) title, 5) abstract, 6) category, 7) language of presentation, and 8) method of presentation (Powerpoint or 35 mm slide). Submit this information by e-mail, on diskette or CD (Word or WP format). Abstracts should be 70 words or less. If longer than 70 words, the editors reserve the right to reduce accordingly. If possible, please provide your information in both French and English. All abstracts will be placed on the website.

Please submit to Chair, Scientific Program

Vince Nealis
Pacific Forestry Centre
506 W. Burnside Rd, VICTORIA
British Columbia, V8Z 1M5

Telephone: (250) 363-0663

FAX: (250) 363-0775

Email: vnealis@pfc.forestry.ca or vnealis@nrcan.gc.ca

Waterford-Wedgwood sponsors Kelowna JAM

Raffle

WEDGWOOD

ENGLAND 1759

When you attend the Joint Annual Meeting in Kelowna this fall, you'll join company with Waterford-Wedgwood Canada and the insects, fruit and flowers of Wedgwood's 'Sarah's Garden' line of table, giftware, glassware, and terracotta.

Sarah's Garden reflects Wedgwood's tradition for quality, excellence and heirloom design, with beautiful hand-drawn illustrations of insects, fruit and flowers that capture the heart of the English countryside. Thanks to the generous sponsorship from Wedgwood Canada, the Entomological Society of British Columbia would like to send Sarah's Garden home with you. See enclosed card for a picture of the pattern. Also you can find the pattern through the Wedgwood website at www.wedgwood.com

Wedgwood Canada has donated some amazing gifts to be raffled off to lucky delegates of the November Joint Annual Meeting - including a 40-piece (8, 5-place settings) set of Sarah's garden tableware valued at \$1,112.00, as well as an elegant tea set (cups, creamer, sugar, and tea pot) worth \$465.00. Be sure to look for the Sarah's Garden display at the convention, and don't miss your chance to win!

If you are not able to attend the conference and would like a chance to enter our raffle please send cash or money order with following information to:

Dr. Terry Shore
Canadian Forest Service
506 West Burnside Rd.
Victoria BC V8Z 1M5
Canada

Tickets are \$5 each or 3 for \$10.

Name _____ Contact Information _____

Number of Tickets _____ Amount Enclosed _____ Cheque__ Money Order__

**Joint Meeting of the
 Entomological Societies of Canada and British Columbia
 The Grand Okanagan Lakefront Resort and Conference Centre
 Kelowna, British Columbia
 November 2-5, 2003**

REGISTRATION FORM

First name: _____ **Last name:** _____
Preferred name for name tag (if different from above): _____
Address: _____
Phone: _____ **Fax:** _____ **e-mail:** _____
Affiliation: _____ **Accompanying person:** _____

<u>Registrant</u>	<u>Registration Fee</u>		<u>Cost</u>
	before August 1 st	after August 1 st	
Regular ESC or ESBC member	\$200	\$250	\$ _____
Regular non-member	\$250	\$300	\$ _____
Student/Retired member	\$125	\$175	\$ _____
Accompanying person	\$125	\$175	\$ _____
		TOTAL:	\$ _____

Banquet dinner preference (circle one): Meat entrée/Vegetarian

Registration includes: Abstracts, admittance to meetings, reception and banquet. Accompanying person registration does not include the technical sessions. Extra banquet tickets may be purchased at the registration desk. Registration may not be fully refunded post October 1, 2003.

Payment Details:

Cheque for total is enclosed (payable to "ESBC").
 Please charge total to my VISA card. (Only VISA accepted)
 Credit card number _____ Expiry date _____
 Signature _____

Accommodation: Everyone is encouraged to stay at the Grand Okanagan Lakefront Resort and Conference Centre (rates: \$99 regular, \$135 suite; if reserved before September 30th, 2003) and please explain when registering that you are with the Entomological Society of Canada conference. It is this room subscription that enables the organizers to provide this caliber of facility. Please reserve rooms early; cancel if you change your plans.

Please return this form with registration fees to:

ESC/ESBC Registration
 c/o Dr. Joan Cossentine
 Agriculture and Agri-Food Canada
 Pacific Agri-Food Research Centre
 Summerland, BC, Canada, V0H 1Z0

Phone: 250-494-6366 Fax: 250-494-0755
 E-mail: ESC-ESBC@agr.gc.ca

Hotel reservations are available through:

The Grand Okanagan Lakefront Resort and Conference Centre,
 1310 Water Street, Kelowna, B.C. Canada, V1Y 9P3
 Phone: (250) 763-4500 Toll Free: 1-800-465-4651
 Fax: (250) 763-4565
 Website: www.grandokanagan.com

MOURNING CLOAK

A limited edition print by MICHAEL BLACKSTOCK

Created for the 2003 Joint Meeting of the Entomological Societies of Canada & British Columbia

Michael Blackstock is a professional writer, visual artist, and forester. He is a Northwest coast native; a member of the Gitksan house of Geel and carries the name Ama Goodim Gyet. Michael was born in 1961 and raised in small communities throughout British Columbia. His mother and father instilled the love of Mother Earth into Michael's upbringing. He now is, first and foremost, a naturalist.

Michael's first book "*Faces in the Forest: First Nations art created on living trees*" (McGill-Queen's University Press (2001)) explores the tree art form within the intended viewing context - the forest. Michael has also published several journal and magazine articles.

Michael began exploring his First Nations heritage through visual art. He expresses his vision through paintings, carvings and photography. His work has been featured in various juried art shows.



Michael has this to say about the limited edition print:

The mourning cloak butterfly (Nymphalis antiopa) is common throughout British Columbia. The print is an interpretation of the mourning cloak based on the oral history of the Northwest coast people. The almost human-like butterfly has wings that represent the ceremonial button blankets worn by Northwest coast dancers and chiefs. The print celebrates life and death. Some First Nations consider the butterfly a wandering spirit or human soul that has departed the body after death. For example, in 2002 the Haida people used the butterfly as "a symbol of the souls that need to come home" for their project to repatriate the remains of their dead in the American Museum of Natural History.

DOCUMENTATION

This limited edition print, titled *Mourning Cloak* by Michael Blackstock, was published in March 2003. The print was hand produced by the screen-printing process by world famous print-makers Pacific Editions Limited of Victoria, BC, Canada (web: pacificeditions.bc.ca). The edition consists of 100 signed and numbered copies, 10 Artist's Proofs and 1 Printer's Proof. All trial copies have been destroyed and the printing stencils obliterated. Paper: Stonehenge Cover White (rag). Paper size: 11 x 15 in. Colours: Black, red, golden yellow, and ultramarine blue. The design is copyrighted © by Michael Blackstock. This is the only limited edition printing of this design.

TO ORDER:

Artist's Proofs \$140.00

Signed/Numbered \$50.00

Payment in \$CAN by cheque, money order, or VISA

Order through Robb Bennett:

by c-mail

Robb.Bennett@gems6.gov.bc.ca

phone 250 652-6593

or regular mail

Robb Bennett
Sec'y-Treasurer - ESBC
7380 Puckle Road
Saanichton BC V8M 1W4

BEETLES

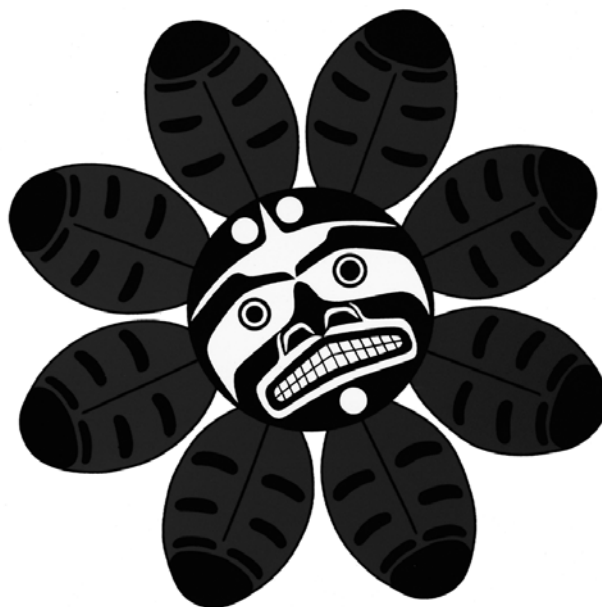
A limited edition print by RICHARD HUNT

Created for the International Congress of Entomology, Vancouver, BC, Canada 3-9 July 1988

Richard Hunt's limited edition print "**Beetles**" was commissioned by Geoff Scudder for use as the emblem of the 1988 International Congress of Entomology held in Vancouver. Following the Congress a number of the signed and numbered prints remained unsold. Overlooked until recently, the remaining prints are now being offered for sale by Dr. Scudder, and may be ordered through Karen Needham. A full-colour version of the information sheet is posted on the ESBC website.

Richard Hunt was born in Alert Bay, British Columbia in 1951 but has lived most of his life in Victoria. He began carving with his father, the late Henry Hunt, at the age of thirteen. In 1973, Richard began work at the Royal British Columbia Museum (RBCM) as an apprentice carver under his father. The following year he assumed the duties of chief carver in the Thunderbird Park Carving Program. He remained in the museum in that capacity for twelve years.

In 1986, Mr. Hunt resigned his position at the RBCM to begin a new career as a freelance artist. He comes from a family of internationally respected artists, which include his father Henry Hunt and his grandfather Mungo Martin. In 1991 Richard Hunt received the Order of British Columbia, becoming the first native artist to be so recognized. In 1994 Richard received the most prestigious award of his career, The Order of Canada. Through his art, his speaking and his dancing, Mr. Hunt has given much to the world.



DOCUMENTATION

This limited edition print (300 signed & numbered copies), titled *Beetles* by Richard Hunt, was produced in 1988. The print was used as an emblem for the International Congress of Entomology held in Vancouver, British Columbia in July 1988, and also appears on the cover of the 100th anniversary issue (Volume 98, published in December 2001) of the Journal of the Entomological Society of British Columbia. Description: paper size 11.5 x 12.5 in. Colours: Black and red on cream coloured paper. The design is copyrighted © by Richard Hunt. This is the only limited edition printing of this design.

TO ORDER:

Signed/Numbered \$40.00

Order through Karen Needham: by e-mail

needham@zoology.ubc.ca

phone 604 822-3379

or regular mail: Karen Needham, University of British Columbia, Department of Zoology, 6270 University Boulevard, Vancouver, B.C. V6T 1Z4 Canada.

Payment in \$CAN by cheque or money order

NOTES

Ken Graham Donates Literature Collection to ESBC library

Dr. Ken Graham, a long-time UBC forest entomologist and ex-member of the Entomological Society of British Columbia, recently moved into a retirement home in Vancouver. No longer having a need for his collection of entomological literature, he has kindly donated a sizeable number of books, reprints, and journals to the ESBC library. Following is a brief biography of Ken. The ESBC library is housed within the library of the Pacific Forestry Centre, Victoria and is one of the largest entomology libraries in Canada. Please take the time to visit it and introduce yourself to the librarian, Alice Solyma, if you are in the vicinity.

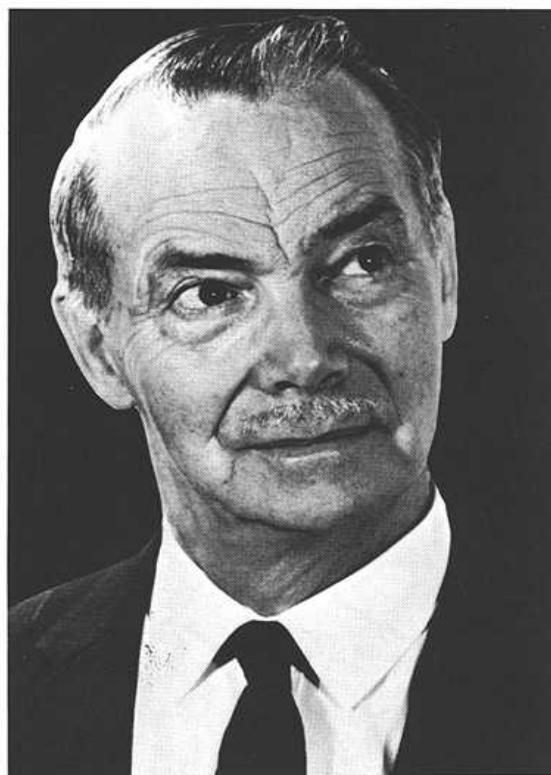
Kenneth Graham

Ken was born in Keatley Saskatchewan on 31 August 1911. He received his BA from UBC in 1933, MSc from McGill in 1937, and PhD from the University of Toronto in 1945. He conducted research in forest entomology in BC and Ontario for the Dominion Department of Agriculture from 1931-48 and was associated with the University of Toronto during 1937-40 and 1943-44. In 1948 he joined the UBC Zoology Department as a forest entomologist.

Subsequently he transferred to the Faculty of Forestry in 1951 and remained there until his retirement in 1977. For part of this period (1949-54) he was also a research consultant for the Division of Forest Biology as well as a Visiting Professor at Berkeley (1967) and Madrid (1972).

Ken's main research interest was the behaviour of *Trypodendron* ambrosia beetles. In 1963 he published "Concepts of Forest Entomology", a text considered to have been well ahead of its time. With R. W. Stark and D. L. Wood he co-authored a "Laboratory Manual of Forest Entomology". He also was a very fine scientific illustrator. At UBC Ken taught forest entomology in the core forestry program. He was chair of the committee overseeing a major revision to the faculty's curriculum in the sixties and was an active member of the Entomological Society of BC.

Ruth, Ken's wife of 37 years, died suddenly on January 1st of 2003. Ken is now living at Crofton Manor in Kerrisdale (402-2803 W. 41st Avenue, Vancouver V6N 4B4) and can be reached by phone at 604-266-0833.



Dr. Ken Graham, from a 1970s UBC Forestry yearbook.

Submitted by: Robb Bennett, BC Ministry of Forests and Susan B. Watts, Faculty of Forestry, UBC.

Terry Shore and Bill Riel Honoured

Terry Shore and Bill Riel recently received a Merit Award from Natural Resources Canada for Team Achievement and Creativity and Innovation in Science. This award was for their "exemplary contribution to the development of Mountain Pine Beetle decision support tools". They were flown to Ottawa for the awards ceremony and presented with a trophy (and also a cheque) by the Deputy Minister, George Anderson. This work involves the development of a risk rating system and spatial and temporal models for improved management decision-making in reducing losses to the mountain pine beetle. The award was mentioned on CBC Radio News.

Good housekeeping: why do shelter-dwelling caterpillars fling their frass?

Off the Internet (Cris Guppy)

Caterpillars of the Silver-Spotted Skipper (*Epargyreus clarus*) butterfly ballistically eject their individual fecal pellets (frass) as far as 40 body lengths away from their resting places in leaf shelters. Why do these and many other shelter-dwelling caterpillars go to such great lengths to distance themselves from their waste?

In a paper to appear in the April issue of Ecology Letters, M. Weiss shows that predatory wasps are attracted to skipper frass placed in leaf shelters, and that caterpillars in proximity to frass are particularly vulnerable to wasp predation. Caterpillars reared in close contact with accumulations of their own waste do not suffer ill effects; nor is repeated shelter-building, another possible consequence of frass accumulation, energetically expensive. Thus selection by natural enemies is likely to have been a driving force behind the evolution of frass ejection behavior in skipper caterpillars.

Innovative new butterfly attractant product

A new butterfly attractant product is commercially available at <http://www.butterflylure.com/>.

From the advertisement: *In the wild butterflies find their greatest source of sodium, essential minerals and vitamins from wild animal urine puddles and urine-soaked leaves. Now you can bring this natural butterfly attractant to your garden with **ButterflyPee** - pure urine from the wild. We have been in the urine business a long time, but we always get excited when we discover a new use for this incredibly renewable resource! **Directions:** Pour a shallow pool of **ButterflyPee** into a colorful dish and place on the ground, stump or fence post in a place that gets a lot of direct sunlight. The butterflies will find it quite soon. Replenish as needed. **12 ounce bottle - US\$14.99.** This note is definitely not intended to be a promotion of the product, but if anyone tries it please let everyone know whether it works. The company also sells a variety of other types of urine, some of which are intended to keep deer from eating your garden.... Cris Guppy.*





Cecropia Moth, *Hyalophora cecropia*. ex. ova from New Brunswick. This species occurs across North America east of the Rocky Mountains, and Utah and Washington. It should be watched for in the BC Kootenays. Photos: Cris Guppy.

