FOREWORD TO THE "RED LETTER / APATHY ISSUE"

Perhaps you have noticed the new format of the cover on this issue of *Boreus*. This is an attempt to draw to your attention the fact that *Boreus* is dying a slow and horrible death. Leaderless and editor-less, this issue of the newsletter of the Entomological Society of British Columbia has been left to the editorial whims and whimsy of the Society's Secretary/Treasurer. Troy Danyk, the previous editor, announced his resignation last year but there has been no rush of volunteers clamouring for a chance to take over the *Boreus* helm. The Secretary/Treasurer agreed to cobble together this issue using paper abstracts and minutes from the October 1998 Annual General Meeting.

UNLESS A NEW EDITOR VOLUNTEERS TO TAKE OVER AS *BOREUS* EDITOR IN THE NEXT FEW MONTHS, THERE WILL BE NO FURTHER PUBLICATION OF THE NEWSLETTER.

Send a message to the WebMeister if you have suggestions or can volunteer your time.

Web Editor's Note (August 25, 1999): *As of April 23, 1999, a new editor has been found. Phil Jones of Vernon, BC was unanimously approved and is working on the next issue now.*

Paper Titles and Abstracts from the 1998 Annual General Meeting of the Entomological Society of British Columbia

Are Ancient Forests Repositories for Arthropod Biodiversity?
Neville N. Winchester (Biology Department, University of Victoria)

Abstract:
In an effort to record arthropod biological diversity in ancient rainforests of the Pacific Northwest I have studied canopy arthropods in a number of Vancouver Island rainforest types since 1992. Distinct invertebrate assemblages were found associated with three biotopes - the forest floor and understory, the forest canopy, and riparian habitats. I present evidence to indicate that these ancient forests act as a source habitat for several arthropod species. Examples from the canopy arthropod community are discussed to support the assumption that these forests are global and continental foci of diversity for several taxa. In conclusion, ancient forest arthropod diversity is maximized by historical events that serve to increase the structural and functional complexity in these forests.

The Effect of Rearing Temperature on Performance of *Trichogramma sibericum* at Ambient Temperatures: Flight Initation
Renee Prasad (Simon Fraser University)

No abstract submitted

Variation in *Elatobium abietinum A*ttack on *Picea glauca* and its Relation to *Pissodes strobi* Resistance
Kornelia G. Lewis, Rene I. Alfaro and Danny Andrucko (Canadian Forest Service, Victoria)

Abstract
White spruce (*Picea glauca* (Moench) Voss) is host to several pests including the white pine weevil (*Pissodes strobi* (Peck)) and the green spruce aphid (*Elatobium abietinum* (Walker)). The larvae of the white pine weevil damage spruce leaders by consuming the cortex while the green spruce aphid is a defoliator. White spruce emblings (seedlings produced by culturing tissues from seed embryos) from 18 families previously ranked for resistance to the white pine weevil, were defoliated to varying degrees by the green spruce aphid in a natural outbreak that developed within a holding shadehouse. A strong relationship was shown between damage caused by the aphids and weevil resistance. Emblings ranked as highly weevil resistant sustained significantly less aphid defoliation.

Parasitoid Avoidance and the Life History Strategy of *Gynaephora groenlandica* (Wocke) (Lepidoptera: Lymantriidae)
Wm. Dean Morewood (Department of Biology, University of Victoria)

Abstract:
Gynaephora groenlandica is an arctic endemic species with a seven-year life cycle in which metamorphosis and reproduction require most of a growing season to complete while larval activity is limited to a brief period early in the growing season. Larval development consists of a single moult annually, after which the larvae spin silk hibernacula and become dormant until the following spring. Adults of two primary parasitoids, *Hyposoter pectinatus* (Hymenoptera: Ichneumonidae) and *Exorista* n.sp. (Diptera: Tachinidae), that attack larvae of *G. groenlandica* emerge around the time that larvae are spinning hibernacula in the field, leading to the hypothesis that early larval dormancy is an adaptation for avoiding parasitism. An alternative hypothesis holds that early larval dormancy in *G. groenlandica* is a response to declining foodplant quality. Larvae of *G. groenlandica* were reared in the laboratory under continuous light and a constant temperature of 15, 20, or 25°C, and provided with willow cuttings at the same stage of development (buds and expanding leaves) throughout the rearing period; larvae that died were placed into large plastic vials and held under the same conditions to monitor the emergence of adult parasitoids. Even under these unchanging rearing conditions, larvae of *G. groenlandica* developed only through a single moult and then spun hibernacula and became dormant, indicating that larval dormancy is not a response to declining foodplant quality or other environmental cue. The amount of time the larvae remained active was inversely related to rearing temperature, and at each temperature the onset of larval dormancy coincided with the emergence of adult parasitoids. These results suggest that larvae of *G. groenlandica* restrict their annual development to a set amount of "physiological time", which corresponds to that required by the parasitoids to complete their development and emerge as adults.

Use of an Egg Parasitoid, Trichogramma, to Manage LeafrollerCaterpillars in Raspberry Crops
Tracy Hueppelsheuser, Dr. B. Roitberg (Simon Fraser University)

Abstract:
I am exploring the use of two species of *Trichogramma*, *T. minutum* and *T. sibericum*, as biological control agents against leafroller caterpillars(*Choristoneura rosaceana*) in raspberry crops. These insects are a major fruit contaminant in berries in the Fraser Valley of British Columbia. Egg parasitoids are being released at two rates

per species from central point sources in plots for four weeks. The results will suggest which species and rate tested will be most appropriate for this crop use.

Short-Term Impacts of a Microbial Pesticide on Non-Target Lepidoptera.
Tim Boulton (University of Victoria)

No abstract submitted

Development of Pheromone-Based Monitoring and Detection of Nun Moth, *Lymantria monacha* (L.) (Lepidotera: Lymantriidae)
Petra Morewood & Gerhard Gries (Biological Sciences, Simon Fraser University)

Abstract:
The nun moth, *Lymantria monacha* (L.), is an important defoliator of spruce and pine forests in central Europe. If introduced into North America it would threaten the vitality, biodiversity, and stability of North American forests. The research objectives of this study were to develop pheromone-based detection and monitoring of the nun moth. In comparative analyses of rubber- and polyurethane-based dispensers impregnated with a 20:20:1 blend of (±)-disparlure, (±)-monachalure, and 2-methyl-*Z*7-octadecene the polyurethane-based dispensers afforded higher captures of nun moth males throughout the flight season in northeastern Germany. In deciduous forests in central Europe, baiting Unitraps with 2, 20, 200, or 2000 μg of the nun moth volatile blend resulted in increasing and species-specific captures of nun moth males. (±)-Disparlure tested at the same four doses indiscriminately attracted males of both the nun moth and the gypsy moth, *Lymantria dispar* (L.). Polyurethane dispensers in Unitraps loaded with 2000 μg of the nun moth blend are recommended for species-specific and sensitive detection surveys in North America. In 38 spruce or pine forests in central Europe, captures of nun moth males in non-saturating Unitraps and saturating Delta sticky traps baited with 0.2, 2, 20, or 200 μg of the nun moth blend were compared with estimates of population densities obtained by counts of larval fecal pellets, pupal cases, and adult moths resting on tree trunks. Total captures of nun moth males throughout the flight season in both types of trap were correlated with numbers of larval fecal pellets, irrespective of pheromone dose. Non-saturating Unitraps baited with 2 μg of the nun moth volatile blend would provide a cost-effective tool for monitoring nun moth population densities. Long term testing of this monitoring system will be required to substantiate the quantitative relationship between larval populations and trap captures of nun moth males and to determine the threshold number of captured males that indicates an incipient outbreak.

Has the Attraction of Predatory Coccinellids to Cornicle Fluid Constrained Aphid Alarm Signaling Behaviour?
Edward B. Mondor (Biological Sciences, Simon Fraser University)

Abstract:
Many aphid species secrete an alarm pheromone, resulting in the dispersal of surrounding conspecifics, when attacked by predators. While alarm signaling greatly enhances the survival of clone-mates, enigmatically aphids usually do not emit alarm pheromone upon initially recognizing a predator. Rather, most aphid species wait until actually being captured by a predator to emit alarm pheromone. One hypothesis explaining this behaviour is that aphid alarm pheromone is attractive to predators, and thus alarm signals should only be emitted in dire situations. We tested this hypothesis by investigating the olfactory cues that the multicolored Asian lady beetle, *Harmonia axyridis* Pallas, uses to locate pea aphid, *Acyrthosiphon pisum*, colonies. In choice tests, *H. axyridis* was attracted to odors from pea aphids, whether feeding or not feeding on a host plant leaf, but predators were not attracted to odors from undamaged host plant leaves. Odors from aphid cornicle secretions, containing alarm pheromone,

were not attractive to *H. axyridis*. Further, in Petri dish bioassays, pea aphids emitting cornicle fluid were not located more often or in a shorter period of time by lady beetles than aphids not emitting cornicle fluid. Thus, *H. axyridis* cues in on odors from pea aphids, but not aphid alarm pheromone, when searching for pea aphid colonies. As a result, the ecological cost of emitting early alarm signals is not prohibitively high for pea aphids in regards to the attraction of predatory coccinellids, such as *H. axyridis*.

The Conifer Seedbug *Leptoglossus occidentalis* (Hemiptera: Coreidae) Reduces Seedset in Lodgepole Pine Seed Orchards.

Ward Strong (BC Ministry of Forests, Vernon BC)

Abstract

A bagging study was conducted to test the hypothesis that *L. occidentalis* caused economically significant reductions in harvestable seed from interior BC lodgepole pine (*Pinus conorta v. latifolia)* seed orchards. Six treatments were applied to second-year pine cones, using bags and coverings designed to control insect access and microclimate effects. The results indicated that *L. occidentalis* is capable of causing nearly 100% seed loss, and in the study year caused approximately 60% reduction in operational seedset compared to cones from which *L. occidentalis* were excluded.

Screening for Weevil Resistance in Sitka Spruce

R. Alfaro (Canadian Forest Service, Victoria, BC), J. King (BC Ministry of Forests, Victoria, BC), G. Brown and K. Lewis (Canadian Forest Service, Victoria, BC).

Abstract

A Sitka spruce progeny trial at Jordan River was screened by creating an artificial infestation in the plantation. This method allowed fast screening for progeny testing: 4 years, compared to 10 or more, if we wait for a natural infestation to develop. Results indicated that families originating from the Qualicum Beach area of Vancouver Island yielded trees with a high degree of resistance. Although selection is yielding resistant genotypes, deployment of this material should, at all times, take into consideration the need for avoiding the risk of insect selection leading to biotypes capable of overcoming the resistance mechanisms.

Insect Biodiversity - Planning and Executing a Study

H.V. Danks (Canadian Museum of Nature, Ottawa)

Abstract:

Insects are very valuable for studies of biodiversity because there are so many species, with great ecological importance. However, the same features of insects demand that any study is based on a careful plan. Components of such a plan are outlined, emphasizing three requirements in particular: objectives and procedures that allow specific questions to be answered but at the same time are adequate to add to the general fund of usable knowledge about biodiversity; arranging for resources to complete all stages of the project from concept to publication; and planning in advance for identification to species.

Effects of Prey Species on Survival and Development in *Nabis roseipennis* (Heteroptera: Nabidae)

Dawn Higginson, (Plant Science, UBC), Rob McGregor, and Dave Gillespie (Pacific Agri-Food Research Centre, Agassiz)

Abstract:
Damsel bugs (Heteroptera: Nabidae) are common generalist predators in a number of habitats, and may have potential for biological control of insect pests in greenhouse vegetable crops. We evaluated the performance of *Nabis roseipennis* on diets of twospotted spider mites (*Tetranychus urticae*), green peach aphids (*Myzus persicae*), lygus bugs (*Lygus* spp.) and a combination of aphids and spider mites to determine if this species could survive and develop on typical greenhouse prey species. *N. roseipennis* did not complete development past second instar on a diet of spider mites alone. Survival was better on a mixed diet of aphids and spider mites (86%) than on either aphids alone (45%) or lygus bugs (47.8%). Survival on a diet of lygus bugs was reduced by predation by the lygus nymphs on *N. roseipennis* nymphs during molting. Total development time was significantly shorter on a diet of lygus (28.7 days) or aphids and mites mixed (29.7 days) than on a diet of aphids alone (33.7 days). Dietary mixing in *N. roseipennis*, through feeding on both spider mites and aphids, appears to increase survival and reduce the duration of nymphal development.

Inventory of Dragonflies at Risk in the Columbia Basin
Syd Cannings (BC Ministry of Environment, Lands and Parks, Victoria)

Abstract:
The dragonflies and damselflies (Insecta: Odonata) are a well known group which usually can be identified readily and are present in a wide variety of streams, lakes and wetlands. In British Columbia these habitats have been and continue to be altered , lost or destroyed. Beginning in 1993, all of British Columbia's odonates were ranked by the Conservation Data Centre as to their conservation status in the province. Despite the fact that the Odonata are among the best known insects, our knowledge of detailed species distribution, especially that of rare species, is still limited. Inventory efforts have been thus focused on the species that were considered at risk, in order to accurately determine their status and to identify specific sites for conservation. In 1998 a survey was conducted in the Columbia Basin north of Invermere, with the cooperation of and assistance from Parks Canada, the Royal British Columbia Museum, and the Columbia Basin Trust. This area contains a high percentage of species thought to be at risk. Before the field season began, a list of possible species was produced, target species were highlighted and habitats for the target species identified. In the field, adults and larvae were collected and identified, and specimens were ultimately deposited in the Royal British Columbia Museum. As a result of this inventory, five species were added to the regional list and two new species (*Lestes forcipatus, Somatochlora forcipata*) were added to the provincial list. Our knowledge of the habitat requirements of a number of species also increased greatly. While many of the targeted species were found only sparsely or not at all, two of them (*Aeshna tuberculifera* and *Somatochlora cingulata*) were discovered to be more abundant or widespread than previously thought, and their conservation ranks will be changed accordingly. A further inventory of the Columbia Basin south of Invermere is planned for 1999.

Insect Biodiversity Studies in the South Okanagan
Geoff Scudder (University of British Columbia)

No abstract submitted

Arctic Insects and Global Change
Richard Ring (University of Victoria)

Abstract:
The International Tundra Experiment (ITEX) was established in late 1990 at a meeting of tundra ecologists as a response to predictions that human-enhanced greenhouse warming would occur earliest and to the greatest

degree at high latitudes. The initial objective was to monitor phenology, growth and reproduction in major vascular plant species in response to climate variations and environmental manipulations at sites throughout the tundra biome. The manipulations involve passive warming (1-3ºC) of tundra plots in open-top chambers (OTC's), and manipulating snow depth to alter growing season length. The effect of OTC's on insect/plant interactions has been studied within the ITEX context since 1995. Insect specimens have been collected from six ecologically distinct plant communities at Alexandra Fiord, a polar oasis on Ellesmere Island in the NWT, Canada. Differences among insect pollinator taxa both within and without (control) the OTC's have been compared and contrasted. Lepidoptera and Diptera are present in almost equal overall abundance, but significant differences have been found between insect pollinators collected in OTC plots versus control plots for some taxa. Mean numbers of Lepidoptera per site suggest a 32-fold overall decrease within the OTC's. OTC's do not significantly affect the abundance of the majority of Diptera families, but Bombus specimens (Hymenoptera) are found only in control plots. Significant exclusion of some larger insect pollinators occurs within OTC's, resulting in serious implications for experimental work on global change scenarios using OTC's. These results will have confounding effects on reported ITEX data, particularly with respect to reproductive success.

Non-Indigenous Woodboring Beetles: Recent Introductions in British Columbia
Lee Humble (Canadian Forest Service, Victoria)

No abstract submitted

ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA

Fall 1998 Annual General Meeting

Pacific Forestry Centre, Victoria BC

9 October 1998 4:20pm – 4:50pm

Minutes of the Business Meeting

1) Call to Order (Lindgren)

Meeting called to order at 4:20pm.

2) Approval of Agenda (Lindgren)

Agenda approval moved by Les Safranyik, seconded by Murray Isman, carried.

3) Approval of Minutes from Spring 1998 Executive Meeting (Lindgren)

Approval of Fall 1997 AGM Business Minutes as circulated earlier to membership in *Boreus* moved by Murray Isman, seconded by Bob Vernon, carried.

4) President's Report (Lindgren)

Lindgren read the following report.

"The past year has been relatively uneventful from the President's point of view. This is primarily due to the excellent work done by the rest of the executive. I would like to devote this report to highlighting some of the people who make the ESBC function on a day-to-day basis.

"**Secretary-Treasurer Robb Bennett**. There is probably no position that people avoid more on an executive than that of Secretary and/or Treasurer, particularly when combined as is the case in the ESBC. Robb's efforts, usually mixed with a somewhat off-beat sense of humour, continue to make the job for the rest of us easy. Those of us who tend to be hangers-on owe Robb a great deal for his willingness to continue to serve in this capacity for the ESBC.

"**Editors Peter Belton and Dave Raworth.** The Journal is the flagship of our society, and its quality reflects upon how the ESBC is viewed by entomologists throughout the world. Editing a journal is not an easy task, and we are indeed fortunate to have had Peter Belton, who produced his last issue in 1997, and now to have Dave Raworth. Dave has demonstrated his commitment to excellence in pursuing continuing education opportunities on editorship through several sources. Critical to our ability to continue publishing the Journal is also **Dave Holden,** who has provided inexpensive and professional type-setting for the Journal for the last few years.

"**Editor of Boreus Troy Danyk**. While editing a newsletter may seem somewhat less arduous than editing a journal, those of us who have attempted this quickly learn that the main problem is finding suitable material. Voluntary contributions are usually few and far between, and it takes time and effort to find and/or write your own. It is not always possible to get material in electronic form, making it necessary to re-type contributions. Troy has carried out the editorship from "abroad", so to speak (Alberta), perhaps making it even more difficult. Thanks to his efforts, Boreus has remained a high quality, enjoyable, and useful publication.

"**Elspeth Belton**. Elspeth has operated in the background for many years, and we often forget to acknowledge her very important contributions to the ESBC. While she has retired along with Peter, she deserves special recognition for her efforts.

"**Web page master Lisa Poirier**. In these times of cyberspace communication, every self-respecting organization must have a home page on the WWW. The web gives us exposure that would otherwise be extremely expensive to obtain. Lisa created the ESBC home pages, but she has indicated that she will no longer be able to maintain them.

"**Ward Strong** stepped down from the executive last year, but has remained active in handling the Education Fund announcements and applications.

"**AGM Organizer Terry Shore**. The AGM is the highlight of the ESBC year. Terry has once again put his considerable organizational skills to work in putting an excellent annual general meeting together.

"**The rest of the executive**. Much of the executive business is conducted through e-mail discussions and votes. In addition members of the executive have helped with a multitude of tasks. Without them, the President's job would be considerably more difficult.

"On behalf of the ESBC, I would like to thank all of the individuals I have mentioned. If I have forgotten somebody, it is not by design. My year as President has essentially consisted of agreeing with the rest of the Executive, writing the odd letter, and putting some agendas together, and I guess that is the way it should be. It has been an enjoyable experience, and I look forward to continuing to work with the new executive."

Acceptance of President's Report moved by Safranyik, seconded by Lee Humble, carried. Using appropriate metaphors, incoming President Isman thanked Lindgren and Bennett for their service to the Society.

5) Secretary's Report (Bennett)

Currently, ESBC has 80 Exchange partners. This number may be reduced in light of duplication with Pacific Forestry Centre's library holdings. Subscribers number 20 in Canada, 30 in the USA, 4 in Australia and New Zealand, 4 in Great Britain, 4 in the rest of Europe, and 1 in Japan. 38 are paid up for the current year. In 1997, 132 members paid dues; 108 have paid up to date in 1998. Brian Beirne died in the last year dropping our number of Life Members to three. Four new Life Members (Geoff Scudder, Manfred Mackauer, Elspeth Belton, and Peter Belton) were installed earlier at this Annual General Meeting.

Discussion centred on the need to keep Memberships and Subscriptions up in order to balance off Journal deficit. Acceptance of Secretary's Report moved by Isman, seconded by Imre Otvos, carried.

6) Treasurer's Report (Bennett)

See attached. Bennett noted that the September 1998 account statement had not yet been received – September service charges and interest were not included in the balance sheet (**Note:** attached balance sheet has now been updated and is complete). Additionally, an invoice for $353.00 (Journal page charges) was still outstanding. Journal income has dropped considerably with the adoption of the new page charge / reprint schedule; Journal is now operating in a deficit. Loss is balanced by Membership/Subscription income and thus, the ESBC continues to operate in the black.

Acceptance of Treasurer's Report moved by Ward Strong, seconded by Terry Shore, carried. Bennett will pass books on to Dave Gillespie for auditing as soon as the last account statement is incorporated.

7) Journal Editor's Report (Lindgren for Raworth)

Lindgren read the following report from Raworth.

"**Status:** The December 1998 issue of the Journal is progressing well. I have received 16 submissions: 2 are out for review; 8 are being revised by the authors; and 6 are at the galley proof stage. Rob Cannings has offered a drawing of a dragonfly for the cover. I plan to approach the SFU print shop with the final version in December or early January.

"**The process:** As a new Editor, it will be useful to outline how I am going about the work. Upon receipt of a manuscript, the material is scanned, and two reviewers are selected – one from the Editorial Committee, and one, a specialist in the field. Specialists are usually selected from BC, but where necessary, I look outside the Province. Reviewers are contacted to ensure that they are both interested and able to review the manuscript within a reasonable period. Authors are notified of receipt, and the manuscript is sent out for review within 1-3 days. Reviewers who take more than 3 weeks with a review (plus 2 weeks in transit) are contacted to see if there is a problem. Reviews are returned to the authors along with the Editor's comments within 2 days of receipt of the reviews. Revisions are reviewed by the Editor (and occasionally, a third reviewer) to ensure that they are adequate – if not, then further changes are requested. Manuscripts that are accepted are edited for Journal format

and sent to Dave Holden for typesetting. Dave usually has the galley back within a few weeks. The galley is reviewed in 2-3 days and sent to the author(s) for final editing and approval, along with Transfer of Copyright and billing agreements.

"In the past, figures and plates have been reduced and set into the galleys by the print shop just prior to printing. This year, Dave Holden is attempting to do most of this with a computer. If the quality is good, it will mean that authors will be able to check a complete galley, and the print shop will have fewer reproduction steps.

"**Acknowledgments:** I wish to acknowledge and thank the reviewers for their efforts. They have taken considerable time to carefully consider each manuscript, ask pertinent questions, and make constructive suggestions for improvement. Their work adds considerably to the quality of the Journal. Dave Holden is doing a fine job with the galley proofs; and Peter Belton left the Editorial position well organized – it has made for a very smooth transition. Many thanks to you both.

"**To the members of the Society:** This is your Journal. If you have any suggestions for improvement, please submit them to me or a member of the Editorial Committee

Acceptance of Editor's Report moved by Safranyik, seconded by Isman, carried.

8) Boreus Editor's Report (Lindgren for Danyk)

Lindgren read the following report from Danyk.

"Robb Bennett arranged duplication of Boreus 18(1) at no cost to the ESBC. The quality of the printed copies was excellent and Robb reported no duplication problems. I am grateful to the following people for information they contributed to Boreus 18(1): Peter and Elspeth Belton, Carole Conlin, Carol Maier, Terry Shore, Mike Smith and Ward Strong.

"This is my last report as Editor of Boreus. My term as Editor has been a positive educational experience, and I am glad to have had the opportunity to serve the Society. Production of Boreus was made easier by folks that include Elspeth and Peter Belton, Robb Bennett, Therese Poland and numerous contributors over the years. Best wishes to my successor, whomever that may be."

Acceptance of Boreus Editor's Report moved by Shore, seconded by Otvos, carried. Ward Strong has indicated his interest in taking over the Web Editor's position. No one has come forward to take over as Boreus Editor.

- **9. Education Committee Report (Strong)**

92 applications received from schools around the province, 14 grants awarded as follows:

Bert Ambrose Elementary School, Fort St. John	92.95
Centennial School, Coquitlam	153.75
F.A. Tomsett Elementary School, Richmond	89.79
Harrison Hot Springs Elementary School	150.00

John Stubbs Memorial School, Victoria	30.00
Lonsdale Elementary School, North Vancouver	76.85
Miracle Beach Elementary School, Black Creek	84.74
Nestor Elementary School, Coquitlam	137.85
Pleasant Valley Secondary School, Armstrong	131.50
Reynolds Secondary School, Victoria	35.00
Ruskin Elementary School, Maple Ridge	35.00
Sir Alexander Mackenzie School, Vancouver	108.66
Valemount Elementary School, Valemount	48.46
Wasa Elementary School, Wasa	50.00
TOTAL:	**$1,224.55**

10) Scholarships / Awards

Naomi DeLury and Laura Fagan were awarded the first two ESBC student scholarships ($500.00 each). ESC President Hugh Danks presented the awards earlier in the AGM. Unfortuantely, Naomi DeLury was unable to attend the meeting and accept her award in person. Tracy Huepplesheuser received the James Grant Award for best paper presentation by an M.Sc. student ($100.00, sponsored by the North Okanagan Naturalists Club). Ed Mondor and Dean Morewood split the Harold Madsen Award for best Ph.D. paper ($50.00 each, sponsored by Phero Tech Inc.).

11) Elections Report (Bennett)

Murray Isman takes over the helm from Staffan Lindgren for 1999. Neville Winchester is the new President-Elect, to be installed at the 1999 Annual General Meeting. New Directors are Bob Costello, Karen Needham, and Marian Partridge. Bennett noted some minor "teething" problems with the new elections system but the general feeling is that all Members now have the opportunity to nominate and vote for Executive candidates. Destruction of ballots moved by Les Safranyik, seconded by Lee Humble.

12. **Other Business**

Ward Strong is the new ESBC Webmeister.

1999 Annual General Meeting will be held at the University of British Columbia, probably in October 1999.

17) Adjournment

Rob Cannings moved adjournment of the meeting at 4:50pm.

Minutes submitted by:

Robb Bennett, Secretary

December 1998

Entomological Society of British Columbia

1998 Year-End Financial Statement (1/x/1997 -- 30/ix/1998)

Forwarded

1. Bank balance forwarded on 30 September 1997	**10,243.48**

Receipts

1. Dues		
Memberships (incl. 84.41 US exchange)	2,432.94	3,731.67
Subscriptions (incl. 17.33 US exchange)	1,298.73	
2. Publication		3,582.22
Page/reprint charges, back issues (incl. 187.22 US exchange)	3,531.69	
Royalties	50.53	
3. Other income		22,238.67
Interest	69.88	
Cashed investment certificate (CSC 259-2244387)	4,000.00	
Cashed investment certificate (FTC 259-2244399)	16,000.00	
Interest (CSC 259-2244387)	92.96	
Interest (FTC 259-2244399)	400.00	
Phero Tech (H. Madsen Student Award -- 1997/1998)	200.00	
N Okan. Field Naturalists (J. Grant Student Award -- 1997)	100.00	
Ent. Soc. Canada (Education Grant)	600.00	
1997 AGM registration	705.00	
1997 AGM expense repayment (IPM Technologies)	70.83	
4. Total Income		**39,796.04**

Expenditures

1. Publication		6,467.68
Boreus printing	0.00	
1997 Journal typesetting	547.50	
1997 Journal printing	4,786.18	

CBE Registration	85.00	
Editor's expenses (Belton plus Raworth)	1,050.00	
2. Other expenditures		22,781.81
Student awards (Huepplesheuser/DeLury)	200.00	
Society registration (1997 + 1998)	30.00	
Web site registration (+ 1997/1998 monthly charges @ 20.00)	706.80	
1997 AGM expenses	498.96	
Term deposit (Island Savings 1203595-1 @ 5%)	20,000.00	
Credit Union membership	5.00	
Education fund disbursements	1,224.55	
Service charges	116.50	
3. Total Expenditures		**29,249.49**

Balance

39,789.53 - 29,239.49	**10,546.55**

Bank Balance on 30 September 1998 $10,546.55

Statement submitted 20 October 1998

Robb Bennett, ESBC Secretary/Treasurer