

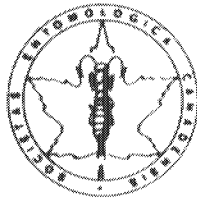
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ENTOMOLOGICAL SOCIETY OF CANADA

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# Bulletin

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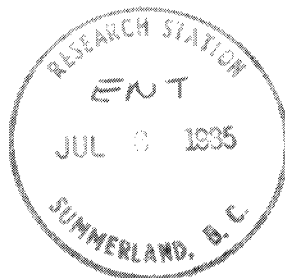
SOCIÉTÉ ENTOMOLOGIQUE DU CANADA

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Vol. 17

June-juin 1985

No. 2



Entomological Society of Canada  
Soci t  Entomologique du Canada

*Bulletin*

Vol. 17 June-juin 1985 No. 2

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H. J. Liu: Bulletin Editor

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Cover Design: M. A. Sydor

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Published by:  
The Entomological Society of Canada,  
1320 Carling Avenue, Ottawa, Ontario K1Z 7K9

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**ENTOMOLOGICAL SOCIETY OF CANADA  
FINANCIAL STATEMENTS  
DECEMBER 31, 1984**

**Auditors' Report**

To the Members,  
Entomological Society of Canada.

We have examined the balance sheet of the Entomological Society of Canada as at December 31, 1984 and the statement of revenue and expenditure for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Society as at December 31, 1984 and the results of its operations for the year then ended in accordance with accounting principles as described in the notes to these financial statements, applied on a basis consistent with that of the preceding year.

McCay, Duff & Company  
Chartered Accountants

Ottawa, Ontario,  
March 15, 1985.

# ENTOMOLOGICAL SOCIETY OF CANADA

## Balance Sheet

AS AT DECEMBER 31, 1984

	ASSETS	<u>1984</u>	<u>1983</u>
<b>GENERAL FUND</b>			
<b>CURRENT</b>			
Cash .....		\$ 61,321	\$ 10,334
Deposit certificates .....		110,000	70,000
Accounts receivable .....		33,469	39,354
Due from Scholarship Fund .....		2,107	—
Accrued interest .....		11,995	12,150
Prepaid expenses .....		4,146	792
		<u>223,038</u>	<u>132,630</u>
INVESTMENTS (note 2) .....		199,897	239,644
		<u>422,935</u>	<u>372,274</u>
<b>ENDOWMENT FUND</b>			
Cash .....		3,557	695
Investments (note 2) .....		23,840	23,840
		<u>27,397</u>	<u>24,535</u>
		<u>\$450,332</u>	<u>\$396,809</u>
<b>LIABILITIES</b>			
<b>GENERAL FUND</b>			
<b>CURRENT</b>			
Accounts payable .....		\$ 7,366	\$ 13,293
Due to Scholarship Fund .....		—	709
Deferred revenue .....		67,325	55,599
		<u>74,691</u>	<u>69,601</u>
<b>EQUITY</b>			
<b>GENERAL FUND</b>			
BALANCE — BEGINNING OF YEAR .....		302,673	313,004
Net revenue (expenditure) for the year .....		45,571	( 10,331)
BALANCE — END OF YEAR .....		<u>348,244</u>	<u>302,673</u>
		<u>422,935</u>	<u>372,274</u>
<b>ENDOWMENT FUND (note 3)</b>			
BALANCE — BEGINNING OF YEAR .....		24,535	—
Bequest received .....		—	24,297
Interest income for the year .....		2,862	238
BALANCE — END OF YEAR .....		<u>27,397</u>	<u>24,535</u>
		<u>\$450,332</u>	<u>\$396,809</u>

## Statement of Revenue and Expenditure

FOR THE YEAR ENDED DECEMBER 31, 1984

	1984			1983	
	Canadian Entomologist	Memoirs and Other Publications	Society	Total	Total
<b>REVENUE</b>					
Regular memberships .....	\$ 17,130	\$ —	\$17,130	\$34,260	\$28,105
Student memberships .....	1,855	—	1,855	3,710	2,010
Sustaining memberships .....	350	—	350	700	700
Subscriptions .....	53,869	36,668	—	90,537	72,231
Reprints .....	27,847	—	—	27,847	25,141
Page charges .....	89,850	25,645	—	115,495	93,446
Back issues .....	5,329	—	—	5,329	3,273
Sales of Memoirs .....	—	9,249	—	9,249	2,753
Sales of Arctic Arthropods and Bibliography .....	—	895	—	895	1,231
Gain on currency exchange .....	—	—	9,550	9,550	6,588
Government grant .....	32,000	—	—	32,000	35,000
Miscellaneous .....	—	—	6,845	6,845	258
	<u>228,230</u>	<u>72,457</u>	<u>35,730</u>	<u>336,417</u>	<u>270,736</u>
<b>EXPENDITURE</b>					
Publishing and mailing costs ...	118,691	54,161	—	172,852	169,953
Reprint costs .....	11,769	—	—	11,769	14,390
Bulletin publishing and mailing .....	—	—	14,619	14,619	14,616
Salaries and benefits .....	48,339	6,056	11,098	65,493	60,391
Office .....	4,517	400	4,305	9,222	13,748
Professional fees .....	1,175	—	1,175	2,350	2,375
Prizes, awards, brochure, etc. ....	—	—	862	862	1,255
Honoraria .....	—	—	2,900	2,900	2,900
Committees:					
Education .....	—	—	—	—	400
Science Policy .....	—	—	2,684	2,684	3,510
Common Names .....	—	—	—	—	—
Employment .....	—	—	569	569	772
Fellowship .....	—	—	—	—	—
Finance .....	—	—	—	—	100
Support of other organizations .....	—	—	4,548	4,548	3,991
Annual Meeting:					
Grant .....	—	—	2,500	2,500	2,500
Honorees .....	—	—	150	150	—
Governing Board:					
Interim meeting .....	—	—	2,136	2,136	2,075
Annual meeting .....	—	—	18,436	18,436	15,994
Other meetings .....	—	—	800	800	3,281
President's discretionary expenses .....	—	—	—	—	1,629
Computer equipment .....	5,316	—	5,316	10,632	—
General .....	3,184	—	2,015	5,199	2,081
	<u>192,991</u>	<u>60,617</u>	<u>74,113</u>	<u>327,721</u>	<u>315,961</u>
<b>NET REVENUE (EXPENDITURE) FOR THE YEAR FROM</b>					
OPERATIONS .....	35,239	11,840	( 38,383)	8,696	( 45,225)
Interest on investments .....	—	—	36,875	36,875	34,894
<b>NET REVENUE (EXPENDITURE) FOR THE YEAR .....</b>	<u>\$ 35,239</u>	<u>\$11,840</u>	<u>(\$ 1,508)</u>	<u>\$45,571</u>	<u>(\$10,331)</u>

## Notes to Financial Statements

DECEMBER 31, 1984

1. SIGNIFICANT ACCOUNTING POLICIES

- (a) The Society uses the accrual method of accounting.
- (b) Furniture and equipment purchases are expensed in the year of acquisition.
- (c) Entomological Society of Canada is incorporated without share capital under Part II of the Canada Companies Act and is non taxable.

2. INVESTMENTS

	1984	1983
<b>GENERAL FUND</b>		
Bonds, at cost (market value 1984 — \$195,761, 1983 — \$194,163) .....	\$199,897	\$199,644
Guaranteed investment certificate — 16.5%, 1984 .....	—	40,000
	\$199,897	\$239,644
<b>ENDOWMENT FUND</b>		
Bonds, at cost (market value 1984 — \$24,370, 1983 — \$23,840) .....	\$ 23,840	\$ 23,840
	\$ 23,840	\$ 23,840

3. ENDOWMENT FUND

The direction of the bequest, by which this fund was founded, states that, without imposing any legal obligation, hope is expressed that the principal will not be invaded and that the income will be utilized to aid in the publication of the Canadian Entomologist.

**ENTOMOLOGICAL SOCIETY OF CANADA  
— SCHOLARSHIP FUND**

**Balance Sheet**

AS AT DECEMBER 31, 1984

	ASSETS	1984	1983
<b>INCOME FUND</b>			
Cash .....		\$11,499	\$ 6,109
Due from General Fund .....		—	709
		<u>11,499</u>	<u>6,818</u>
<b>CAPITAL FUND</b>			
Cash .....		1,062	2,082
Investments — bonds — at cost (Quoted market value — \$33,697, 1983 — \$29,305) .....		32,461	28,465
		<u>33,523</u>	<u>30,547</u>
		<u>\$45,022</u>	<u>\$37,365</u>
<b>LIABILITIES</b>			
<b>INCOME FUND</b>			
Due to General Fund .....		\$ 2,107	\$ —
<b>EQUITY ACCOUNT</b>			
<b>INCOME FUND</b>			
Balance — beginning of year .....		6,818	4,939
Interest income .....		4,544	3,879
Gain on sale of investments .....		30	—
		<u>11,392</u>	<u>8,818</u>
Scholarship awards .....		2,000	2,000
Balance — end of year .....		<u>9,392</u>	<u>6,818</u>
<b>CAPITAL FUND</b>			
Balance — beginning of year .....		30,547	26,336
Donations received .....		2,976	4,211
Balance — end of year .....		<u>33,523</u>	<u>30,547</u>
		<u>\$45,022</u>	<u>\$37,365</u>

## **SEARCH COMMITTEE** **for a Scientific Editor for The Canadian Entomologist**

Dr. Steven M. Smith has resigned as Scientific Editor effective July 31st, 1985. A selection committee to find a replacement for Dr. Smith is being set up with Dr. Douglas A. Craig, Department of Entomology, University of Alberta, Edmonton, Alberta T6G 2E3 (Phone: 403-432-3716) as Chairman.

Members who wish to serve a term as Scientific Editor, or who have suggestions of suitable persons for that position, should contact Dr. Craig as soon as possible.

### **Achievement Awards Committee:** **Gold Medal for Outstanding Achievement in Canadian Entomology** **and** **The C. Gordon Hewitt Award, Call for Nominations**

Members of the Society are invited to nominate individuals whom they regard as eligible for these awards. Nominations should be sent in an envelope marked "Confidential" to the following address:

Achievement Awards Committee  
Entomological Society of Canada  
1320 Carling Avenue  
Ottawa, Ontario K1Z 7K9

and should comprise: (1) the name and address of the nominee(s); (2) a statement of relevant achievements; and (3) the name of the nominator and at least one seconder. To be considered by the Achievement Awards Committee nominations must bear a postmark no later than November 30, of the current year.

The following conditions govern these awards:

1. Outstanding contributions should be judged on the basis of
  - (a) superior research accomplishment either as a single contribution or as a series of associated endeavours and which may be either in entomology or a related field where the results obtained are of great consequence;
  - or
  - (b) dedicated and fruitful service in the fields of Society affairs, research administration, or education.
2. No more than one of each award shall be granted per year but, where circumstances warrant, more than one individual may be mentioned in a single award.
3. Recipients need not be members of the Society providing their contribution is judged to have a major impact on entomology in Canada.
4. The award may be granted on different occasions to the same recipient but for different contributions to entomology in Canada.
5. Nominees for the C. Gordon Hewitt Award must be less than 40 years of age throughout the calendar year in which the award is both announced and awarded.



## **Entomological Society of Canada, List of Neglected Areas of Entomological Research in Canada**

The Science Policy Committee maintains a file of neglected areas of entomological research in Canada and initiates action under appropriate circumstances. The Committee urges members of the Society to submit items they deem important along with supporting documentation.

It seems appropriate at this time to inform the membership what action has been taken on the list presently in the file. Two submissions, cold-hardiness in northern insects and taxonomy of immatures are now with the Biological Survey and action is underway on both. A submission on insect pathology is part of a report being prepared by an ESC Committee on microbial control in Canada, and this report will be published prior to the 1985 annual meeting. The insect fauna of sphagnum bogs is the subject of another report which is near completion. Two submissions, insect resistance to insecticides and insect transmission of disease are so broad in scope that it is difficult to know what action to take. The originator of these submissions will be contacted by the Science Policy Committee to determine what action will be appropriate. A new submission, the role of terrestrial arthropods in decomposition of plant litter will be placed on the file as soon as documentation is received by the originator.

Harold F. Madsen  
Chairperson  
Science Policy Committee

### **35TH ANNUAL GENERAL MEETING**

The Annual General Meeting of the Entomological Society of Canada will be held Tuesday, September 24, 1985 at 3:45 P.M. at the Skyline Hotel, Ottawa.

Matters for the consideration of this meeting or of the Governing Board meeting, to be held on September 21 and 22, 1985 at Ottawa, should be sent to the Secretary, Dr. J. A. Shemanchuk, Research Station, Agriculture Canada, Lethbridge, Alberta T1J 4B1.

La Réunion Annuelle d'Affaires de la Société Entomologique du Canada aura lieu le mardi, 24 septembre 1985, dans l'Hôtel Skyline, Ottawa. Ceux qui désirent soumettre des propositions pour cette Réunion ou au Conseil de Direction, voudront bien les envoyer à l'adresse donnée plus haut.

**ANNUAL MEETING**  
**Skyline Hotel, Ottawa, September 23-25, 1985**

**Final Announcement and Call for Papers**

This is the final announcement for the 1985 Annual Meeting. By now, all members should have received an information package. Please check this package for further details and also note the announcement in the March Bulletin. For your convenience, a paper submission form, a pre-registration form and a hotel reservation form are included herein. Addresses for forms: Room Reservation; H. Goulet, Biosystematics Research Institute, K. W. Neatby Building, C.E.F., Ottawa, Ontario K1A 0C6.

Registration; M. J. Sharkey, BRI. Submitted Papers; C. M. Yoshimoto, BRI. We invite your participation in the meetings. Hope to see you in September.

**ROOM RESERVATION, RÉSERVATION DE CHAMBRE**

The Skyline Ottawa, 101 Lyon Street, Ottawa

Name .....	.....	CHECK TYPE OF ROOM REQUIRED	
Nom .....	.....	INSCRIRE LE TYPE DE CHAMBRE DÉSIRÉ	
Address .....	.....		
Adresse .....	.....		
City .....	Prov/State	Single room	
Ville .....	Prov/Etat	Chambre simple	<input type="checkbox"/>
Arrival date .....	.....	Double room	
Date d'arrivée .....	.....	Chambre double	<input type="checkbox"/>
Departure date .....	.....	Twin room	
Date de départ .....	.....	Chambre jumelée	<input type="checkbox"/>
Arrival Time .....	.....	Suite	
Heure d'arrivée .....	.....	Suite	<input type="checkbox"/>

Accommodation held only until 6:00 P.M. unless payment guaranteed (credit card\*)

La réservation sera retenue jusqu'à 18h00 à moins que le paiement soit garanti (carte de crédit\*)

\*Name of card, Nom de la carte .....

Expiration date, Date d'expiration .....

Number, Numéro .....

## REGISTRATION/INSCRIPTION

Name \_\_\_\_\_  
 Nom \_\_\_\_\_  
 Address \_\_\_\_\_  
 Adresse \_\_\_\_\_

Spouse's name \_\_\_\_\_  
 Nom du conjoint \_\_\_\_\_

Date and time of arrival \_\_\_\_\_  
 Date et heure d'arrivée \_\_\_\_\_

Date and time of departure \_\_\_\_\_  
 Date et heure de départ \_\_\_\_\_

Arriving by \_\_\_\_\_  
 Arrivée en \_\_\_\_\_

Plane       train       car   
 Avion                      train                      auto

	Am't enclose Montant inclus
Registration Fees Coût de l'inscription	
Pre-registration* \$50.00 Pré-inscription	.....
Late registration* \$65.00 Inscription tardive	.....
Student or spouse* \$25.00 Étudiant ou conjoint	.....
Daily registration \$15.00 Inscription quotidienne	.....
*Includes banquet *Banquet inclus	
Total	.....

## SUBMITTED PAPERS, POSTER PRESENTATIONS AND STUDENT COMPETITION COMMUNICATION PRÉSENTÉE, PRÉSENTATION D'AFFICHES ET COMPÉTITION ENTRE ÉTUDIANTS

Submitted paper\*   
 Communication présentée\*  
 Poster presentation   
 Présentation d'affiches  
 Student competition paper\*   
 Compétition entre étudiants\*

Author(s) \_\_\_\_\_  
 Auteur(s) \_\_\_\_\_

Institute and address \_\_\_\_\_  
 Institut et adresse \_\_\_\_\_

Paper or poster title (up to 15 words) \_\_\_\_\_  
 Titre de la communication ou de l'affiche (jusqu'à 15 mots) \_\_\_\_\_

Projection equipment required  
 Appareil de projection requis

2 X 2 slide projector  
 2 X 2 projecteur de diapositives

35 mm slides projector  
 35 mm projecteur de diapositives

overhead projector  
 rétroprojecteur

16 mm

\*12 minutes oral presentation with 3 minutes of discussion.  
 \*Présentation orale de 12 minutes avec 3 minutes de discussion

## PERSONALIA



Meet the new Managing Editor, *Barbara Patterson*, who began her duties in early December. Barbara has had seven years' experience editing with the NRC journals and Fisheries and Oceans Canada. If you have problems (who doesn't) don't hesitate to call or write Barbara, or if you are in town, she would appreciate a visit.



Better late than never! *Mary Lawson* has been the part-time clerk for the Society for the past seven years. She is the one to whom you send your dues or else she sends you another notice! Perhaps you should check whether or not you have paid your 1985 dues, thus saving the Society postage and time. As with Barbara, Mary appreciates it when members stop by to say hello.

## **A Letter From Margaret McBride**

I am deeply moved by the opinions expressed in the many letters addressed to me on the occasion of my retirement as Managing Editor of *The Canadian Entomologist* and *Memoirs*. Also, I am most appreciative of the very generous gift of money. The letters and money were presented to me by Ed Becker at a happy gathering of friends, friends from without and within Entomology.

I leave with many special memories, not the least of which is the standing ovation accorded me following presentation to me of the Society's service plaque at the Annual Meeting of the Entomological Society of Canada at St. Andrews, New Brunswick.

It seems no time at all since Pat Pielou was handing manuscripts to me for publication in *The Canadian Entomologist* and *Memoirs* and Phil Corbet and I were discussing editorial procedures. That was 17 years ago and about 35,000 published pages later.

As I take my leave, I extend warm wishes to all.

12 January 1985

*Graham C. D. Griffiths* of the University of Alberta was elected a Fellow of the Willi Hennig Society at the Society's annual meeting in London, England on July 21, 1984. This title is awarded for outstanding contributions to the development of phylogenetic systematics (cladistics).

*J. L. Auclair* has been recognized by the Institute for Scientific Information, Publishers of Science Citation Index for his 1963 review (Annu. Rev. Entomol. 8: 439). Over a twenty year period, Dr. Auclair's review was one of the most cited items in its field. A response from the author can be read in Current Contents, March 26, 1984 under Citation Classic.

*Narinder Kapoor* won the second prize in the electron microscopy category of the 1984 worldwide Instant photomicrography competition, and was awarded a certificate of honour and a cash prize of \$700.00 U.S. Dr. Kapoor is an Associate Professor of Biology, at Concordia University, Montreal.

## **POSITION AVAILABLE**

### **Entomologist/Fungal Epizootologist**

Available immediately. Ph.D. in entomology or an M.Sc. in this field with related research experience including authorship of reports or papers equivalent to that normally obtained at the doctorate level. To conduct research into the effectiveness of fungal pathogens as control agents for forest insect pests, to contribute to the development of computer simulation models of host-pathogen interactions and to participate in the development of entomogenous fungi as practical biological control agents. Contact Gisèle Samson-Verreault, Room 1052, Sir John Carling Building, Ottawa, Ontario K1A 0C5.

## MEETINGS

### Announcements

Annual Meeting *Entomological Society of Canada*, at the Skyline Hotel, Ottawa, Ontario, on 23-25 September 1985 (see this Bulletin issue for further information).

CONTACT: Dr. D. E. Bright, Biosystematics Research Institute, K. W. Neatby Building, Carling Avenue, Ottawa, Ontario K1A 0C5. Telephone (613) 996-1665.

*I Canadian Congress of Biology*, organized by the Biological Council of Canada, at the University of Western Ontario, London, Ontario, on 23-28 June 1985 (see below for further information).

CONTACT: Dr. Glenn Wiggins, Department of Entomology, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario M5S 2C6.

*Deuxième Conférence Internationale des Entomologistes d'Expression Française*, organisée par la Société d'Entomologie du Québec, du 15 au 18 juillet 1986, à l'Université du Québec à Trois Rivières. Conférences libres; plusieurs symposiums dont un sur les insectes d'importance agricole, un sur les insectes d'importance forestière, un sur le contrôle des culicidés et des simuliidés.

Président du Comité Organisateur: Dr. Jean-Pierre Bourassa, Département de chimie-biologie, Université du Québec à Trois-Rivières C.P. 500, Trois-Rivières, G9A 5H7.

*III International Congress of Systematic and Evolutionary Biology*, at the University of Sussex, Brighton, England, on 4-10 July 1985.

CONTACT: Dr. B. Cox, ICSEB Congress Office, 130 Queen's Road, Brighton, Sussex BN1 3WE, U.K.

*XVIII International Congress of Entomology*, at the University of British Columbia, Vancouver, B.C., on 3-9 July 1988 (see below for further information).

CONTACT: Dr. G. G. E. Scudder, Secretary General, XVIII International Congress of Entomology, Department of Zoology, University of British Columbia, Vancouver, B.C. V6T 2A9. Telephone (604) 228-3168.

*VIII International Symposium of Odonatology*, at the Museum national d'Histoire naturelle, Paris, France, on 18-26 August 1985.

CONTACT: Dr. Jean Legrand, Museum national d'Histoire naturelle, Laboratoire d'Entomologie, 45 rue de Buffon, F-75005, Paris, France.

Triennial Meeting *Pan American Acridological Society*, at the University of Saskatchewan, Saskatoon, Saskatchewan, on 30 July-1 August 1985.

CONTACT: Dr. A. B. Ewen, Local Chairman, PAAS, Research Station, Agriculture Canada, 107 Science Crescent, Saskatoon, Saskatchewan S7N 0X2. Telephone (306) 343-8214.

Annual Meeting *Lepidopterists' Society*, at the University of Illinois on 18-21 July 1985.

CONTACT: Dr. George L. Godfrey, Illinois Natural History Survey, 172 Natural Resources Building, 607 East Peabody Dr., Champaign, IL 61820, U.S.A. Telephone (217) 333-6846.

Annual Meeting *Florida Entomological Society*, at the Sheraton Hotel, Ocho Rios, Jamaica, on 5-8 August, 1985.

CONTACT: Dr. Carl S. Barfield, Department of Entomology and Nematology, 3103 McCarty Hall, University of Florida, Gainesville, FL 32611, U.S.A. Telephone (904) 392-7089.

Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of Manitoba, 6-8 October 1986, Holiday Inn South Winnipeg, Winnipeg, Manitoba.

CONTACT: Dr. N. J. Holliday, General Chairman, Department of Entomology, University of Manitoba, Winnipeg, Manitoba, R3T 2N2, or Dr. G. H. Gerber, Chairman, Scientific Program Committee, Research Station, Agriculture Canada, 195 Dafoe Road, Winnipeg, Manitoba, R3T 2M9.

## MISCELLANEA

### A Conservative

The garden beds I wandered by  
One bright and cheerful morn,  
When I found a new-fledged butterfly,  
A-sitting on a thorn,  
A black and crimson butterfly,  
All doleful and forlorn.

I thought that life could have no sting  
To infant butterflies,  
So I gazed on this unhappy thing  
With wonder and surprise,  
While sadly with his waving wing  
He wiped his weeping eyes.

Said I, "What can the matter be?  
Why weepest thou so sore?  
With garden fair and sunlight free  
And flowers in goodly store:" —  
But he only turned away from me  
And burst into a roar.

Cried he, "My legs are thin and few  
Where once I had a swarm!  
Soft fuzzy fur — a joy to view —  
Once kept my body warm,  
Before these flapping wing-things grew,  
To hamper and deform!"

At that outrageous bug I shot  
The fury of mine eye;  
Said I, in scorn all burning hot,  
In rage and anger high,  
"You ignominious idiot!  
Those wings are made to fly!"

"I do not want to fly," said he,  
"I only want to squirm!"  
And he drooped his wings dejectedly,  
But still his voice was firm:  
"I do not want to be a fly!  
I want to be a worm!"

O yesterday of unknown lack!  
To-day of unknown bliss!  
I left my fool in red and black,  
The last I saw was this, —  
The creature madly climbing back  
Into his chrysalis.

**Charlotte Perkins Stetson**  
ca. 1893

Contributed by D. K. McE. Kevan

# International Commission on Zoological Nomenclature

Reference ITZN59

2 April, 1985

The following Opinions have been published by the International Commission on Zoological Nomenclature in the *Bulletin of Zoological Nomenclature*, volume 42, part 1, on 2 April, 1985:

*Opinion No.*

- 1288 (p. 17) *Sphinx tipuliformis* Clerck, 1759 (Insecta, Lepidoptera): conserved.  
1290 (p. 21) *Leptinotarsa* Chevrolat, 1837 (Insecta, Coleoptera): conserved.  
1297 (p. 39) *Xenocrepis pura* Mayr, 1904 designated as type species of *Xenocrepis* Foerster, 1856 (Insecta, Hymenoptera).

Reference ITZN 11/5

2 April, 1985

The Commission hereby gives six months notice of the possible use of its plenary powers in the following cases, published in the *Bulletin of Zoological Nomenclature*, volume 42, part 1, on 2 April, 1985 and would value comments and advice on them from interested zoologists.

Correspondence should be addressed to the Secretary (c/o British Museum [Natural History] Cromwell Road, London SW7 2BD), if possible within six months of the date of publication of this notice.

*Case No.*

- 2491 *Actia* Robineau-Desvoidy, 1830 (Insecta, Diptera): request for designation of type species.

R. V. Melville  
Secretary

## PUBLICATIONS

### Book Reviews

Andrewartha, H. G., and Birch, L. C. 1984. *The Ecological Web, more on the distribution and abundance of animals*. The University of Chicago Press, Chicago and London, xi + 506 pp., table of contents, References and author index, subject index, one appendix, cloth. \$U.S. 35.00.

Mention of these authors' earlier book (1954) could always be relied upon to generate a heated response from faculty at UC Berkeley when I was a graduate student. The Great Debate in ecology concerning population regulation was beginning to cool in the 1960's but any suggestion that the 1954 book had valid ideas about the issues upon which the debate festered could fan any discussion into an inferno.

I, like the authors in their Preface, hoped the latest book would be a new contribution and not a reworking of the old.

The book is divided into three parts: The Theory of Environment; General Theory of Population Ecology; and Population Ecology as it is Practiced. The theory of the environment is formally described in a mathematical addendum by B. S. Niven using logic symbolism. Basically the theory is a set of definitions and rules for using them that allows classifying all aspects of the environment that impinge on an organism. The resulting "envirogram" provides a platform for hypotheses making and testing. This taxonomic approach to ecology and the frequent semantic subtleties required to support it are the meat of The Great Debate. The authors do not believe that competition, for example, is a useful parameter (or term?). Competition is eliminated from discussion by defining what I would call death due to competition as an "indirectly acting component." I find such semantic hair-splitting, of which there are many examples, frustrating and annoying. Ecologically contentious issues are conveniently defined out of existence so that the authors need not critically assess theories with which they disagree. In this way almost all theoretical works in ecology are dismissed as are all modelling efforts that attempt generalizations. The spreading of risk theory of den Boer is accepted and to a large extent this book differs in approach from the 1954 version because of the acceptance of this theory.



The case histories and literature used most extensively (with the exception of the spruce budworm and Isle Royale wolf studies) are restricted to Australia: rabbits, snails, fruit-flies, maggies, limpets, psyllids, sheep ticks and the famous *Thrips imaginis*. This geographical restriction formed much of the conflict of the Debate and the formulation of the theory presented in the present book. Australian climate and its domination in terrestrial ecosystems is not universal but the theory reflects that perspective and experience.

There are many points in the book that will generate much annoyance because of the authors' Australian perspective, selection of references and off-handed manner of dismissing whole areas of ecological thought and study. The works of A. F. G. Dixon, C. S. Holling, M. P. Hassel, R. M. May, T. R. E. Southwood and G. C. Varley, for example, are cited once each and only to be dismissed.

It took some time to find any discussion of insect parasitoids (parasites). Neither term was listed in the indices because all enemies are considered to be predators with little discussion of the noteworthy ecological characteristics of parasitoids. I would have appreciated at least a reference to them in the index.

The in-depth descriptions of the ecology of 14 selected species in part 3 leave no doubt as to what the authors consider good ecological studies. These examples as summarized will undoubtedly be the topics of many future graduate seminars.

I have not been able to answer the question as to whether this book is truly a new contribution. The content and organization is new but the theory and substance are very similar to the 1954 book. I was hoping for a critical synthesis and a new-style-of-ecology textbook. It is neither.

Despite the deficiencies noted above, this book is a brave and ambitious attempt to set ecology on a basis of firm taxonomy and to place the many and varied fields of ecology into one unifying theory. Ecologists have always been good at arguing and there is much in this book to argue about. Because of this most libraries will find they will require a copy of this book. Every practicing ecologist should have a look at it and judge for themselves, but only the most ardent or wealthy will likely purchase a personal copy.

This volume is very well bound, produced on good quality paper and printed with easily read type. The extensive table of contents and indices make it very easy to find specific discussions and to check usage of particular references in the text. The extensive and painstaking cross-indexing, rare in modern books, is extremely helpful.

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Berridge, M. J., J. E. Treherne and V. B. Wigglesworth, Editors. 1983. *Advances in Insect Physiology*, Volume 17. Academic Press, London. 318 pp. \$U.S. 50.00.

This most recent volume in the series, distributed in the Spring of 1984, consists of four quite unrelated chapters as their titles indicate: Mechanisms of Sclerotization in Dipterans (H. Lipke *et al.*), The Physiology of Insect Tracheoles (V. B. Wigglesworth), The Endocrine Control of Flight Metabolism in Locusts (G. J. Goldsworthy), and The Neurosecretory-neurohaemal System of Insects; Anatomical, Structural and Physiological Data (M. Raabe).

The first chapter, dealing with sclerotization of cuticle, is a thorough treatise of the chemistry and biochemistry of macromolecules found in cuticle and their structural relationships. Although limited to evidence gathered in the study of dipteran cuticle, much of the information presented is most probably relevant to many other taxa. Readers not fluent in the language of chemistry may find most of this chapter rather tough going.

Wigglesworth's review of insect tracheoles is, of course, comprehensive; what else would one expect from such an eminent contributor to this field? The author's personal research on insect respiration spans over 50 years (represented by citations in the reference list), yet he still treats us with fresh ideas on the role of tracheoles in the rapid flashing of firefly photogenic organs, and on the relationship between permeability of tracheole walls and oxygen supply in flight muscle.

Goldsworthy's chapter on endocrine control of flight metabolism similarly leaves very little room for complaint, although to be fair, two reviews by the same author in 1982 (cited in the present work) cover much of the same ground. The figures (9 and 10) depicting models of lipoprotein metabolism and its endocrine control, respectively, are particularly worthwhile.

The final chapter easily matches the quality of the other contributions to this volume. The neurosecretory-neurohaemal system of insects is approached by consideration of the processes involved: production of neurohormones, their release, and the factors regulating

production and release. The morphological diversity amongst the Insecta with respect to neurosecretion is very well documented, and serves as a good example of how difficult it can be to find a unifying thread in any particular aspect of insect physiology.

Overall, the production of this volume is excellent. Even though each of the contributions constitutes an excellent reference, their total number, four, combined with the price of the volume, will probably keep it from most personal libraries, save for those of the most ardent series subscribers.

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Skou, Peder 1984. *Nordens Målere (Danmarks Dyreliv Bind 2)* is distributed by Apollo Bøger, Lundbyvej 36, DK-5700 Svendborg, Denmark. Hard cover with 332 pp., 248 of which are text (in Danish), 358 figs. and 24 colour plates. Price: D.kr. 433.00. Price includes postage; and there is a 15% discount with a subscription to the series. Free brochures about the book can be ordered.

Northern loopers: Handbook of the Danish and Fennoscandinavian species of Drepanidae and Geometridae (Lepidoptera) is the second volume in a new series about the Danish fauna. In the foreword, Peter Skou writes that the study of moths has long been a tradition in Denmark and several books have been written about them since the first was published in 1891. In 1981 Leif Lyneborg of the Universitets Zoologiske Museum in Copenhagen, editor of the new series, asked Skou to write an up-to-date handbook about the Danish geometrids. Skou acknowledges that the present work is based on several of the earlier texts and hopes that readers will be inspired by it to further the study of the Danish geometrids.

The introduction deals briefly with the layout of the book and with classification. The family Drepanidae is divided into two subfamilies, the Drepaninae and Thyatirinae, and the Geometridae into six subfamilies, the Archiearinae, Oenochrominae, Geometrinae, Sterrhinae, Larentiinae and Ennominae. D. C. Fergusson in the Check List of the Lepidoptera of America North of Mexico (1983) divides the Geometridae in the same way but treats the Drepanidae and Thyatiridae as separate families of the Drepanoidea.

The 359 species dealt with are discussed in their taxonomic order. The name of the species with its synonyms, if any, is followed by sections dealing with the characteristics, distribution, habitat, flight period and biology, which includes life history and food plants. The text is liberally illustrated with 100 or so black and white photographs of the larvae and typical habitats. There are many attractive half-tone drawings of wings (by Lars Anderson) showing the different patterns and also numerous line drawings mainly of genitalia (17 pp. are devoted to more than 100 figs. of the genitalia of the 54 spp. of *Eupithecia*). Five pages of bibliography are followed by 24 colour plates consisting of about 1000 photographs of both sexes and local variations of all the species. The plates were made in collaboration with Dr. Kauri Mikkola who is working on a book about Finnish geometrids. A final section reviewing distribution contains a map of Scandinavia divided into about 80 regions and a table (in English and Danish) shows in which of these regions each of the species has been collected and whether it has also been found in Great Britain, Ireland, Estonia, Latvia, Lithuania, Poland, East or West Germany or the Netherlands.

The book is produced on heavy glossy paper so that the print, figures and most importantly, the photographs have reproduced very clearly. The colour plates are of very high quality and the species are easily located on the captions opposite the plates which also refer back to the section dealing with that species in the text. This should enable amateurs to identify their captures, although with 359 species to look through and no keys to assist them it may be a lengthy process.

I was interested to compare the Danish species with those discussed and keyed out by W. C. McGuffin in his four scholarly contributions to our knowledge of the Canadian geometrids (in *Can. Ent. Suppl.* 8; *Mem. Ent. Soc. Can.* 50, 86 and 101). Two of the 24 Canadian species of the family Sterrhinae are found in Denmark as are ten of the 131 spp. of Larentiinae, although none of our 33 spp. or the 54 Danish spp. of *Eupithecia* are holarctic. Five species of the Canadian Ennominae so far dealt with are also found in Denmark. Further cross-referencing can be done when the eagerly-awaited parts 3, 4 and 5 of the Guide to the Geometridae of Canada II, Subfamily Ennominae are published. Skou noted that some of these species are found in North America but was apparently unaware that others were, and

Canadian lepidopterists will be interested to learn more about their European food plants and other aspects of their trans-Atlantic ecology.

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Price, Peter W. 1984. *Insect Ecology*. Second Edition. John Wiley & Sons, Inc., 605 Third Avenue, New York, N.Y. 10158. xvi + 607 pp. \$U.S. 37.50.

Nine years ago, Peter Price's new, advanced-undergraduate text, *Insect Ecology*, received critical acclaim because it stressed ecological principles and then employed examples from the insect world rather than the reverse. Now, a second edition of *Insect Ecology*, one that follows the same well-balanced format, has been published. Rather than review the text *per se*, I will address a question many people will ask; that is, "How does the second edition compare with the first?". In other words, would a student be equally well served by purchasing Edition 1 from the University used book store? I think not, for several reasons.

First, ecology has undergone tremendous growth in the past decade as evidenced by the ca. 60% increase in the already-large number of references Price provided in the first edition. To keep abreast of these changes, Price has updated sections where major advances have been made. For example, the chapter on herbivore-plant interactions has been greatly enlarged to discuss theoretical constructs, experimental approaches and controversies that have evolved during the past decade. In addition, some of the ecological jargon has been updated; e.g. "co-evolution between..." in Edition 1 has been changed to "interactions between...".

Second, new sections have been added. The chapter on size and scaling is particularly effective since it alerts ecologists to the physical costs and benefits of being small. Chapters on parasite-host interactions and mutualisms are also well written and thought-provoking. The new chapter on population dynamics modelling is strangely unsatisfying. It reads as if Price thought the subject to be important though not intellectually stimulating. Finally, a new chapter on behavioural ecology explores two major areas of intense study: finding food and finding mates. Strangely again, Price never really explains what behavioural ecology is; i.e. the "study of the survival value of behaviour" (Krebs and Davies 1981). Thus, the purpose of this chapter is never entirely clear. Further, while Price discusses many examples of competitive interactions among individuals, he never refers to nor discusses the utility of game theory to elucidating such interactions. This is unfortunate, since the book is designed as an overview of current ecological and evolutionary principles and techniques for non-specialists. Finally, the addition of new chapters has been accompanied by the deletion of some of the less effective chapters from Edition 1: biological control, populations under insecticidal stress, species packing, and social systems.

Third, Price has heeded advice from reviewers of Edition 1 and made the necessary alterations. For example, as suggested by Myers (1976), the section on key factor analysis has been dramatically enlarged. In addition, Price tempers his "missionary" zeal (Futuyma 1976) for modern ecological theory as evidenced by the following quote: "it is a very weak argument to predict frequency of interaction types in nature by the stability properties of mathematical models." Some problems inherent to Edition 1, however, remain. Price frequently discusses subjects without defining terms. For example, he never defines "fitness," although the term is often employed, nor does he explain the difference between tactics and strategies (p. 236), a particularly important distinction for applied entomologists. Further, the order in which concepts are presented might prove difficult for many students. For example, zero-growth isoclines are shown for two interacting populations 67 pages prior to the discussion of the logistic growth model. These problems are, however, relatively minor when compared with the overall high quality of the book.

As consumers in a consumer-oriented society, most of us are wary of products labelled *NEW* and *IMPROVED*. It is my opinion, however, that the second edition of *Insect Ecology* truly represents a new, improved version of an already fine text.

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Ordish, R. G. 1984. *Hydraenidae (Insecta: Coleoptera). Fauna of New Zealand (number) 6*. 56 pp., 125 figs., soft cover. Obtainable from the Publication Office, Science Information Publishing Centre, DSIR, P.O. Box 9741, Wellington, New Zealand. \$NZ 7.50.

R. G. Ordish is the Curator of Entomology, National Museum of New Zealand (NZ), and his contribution to this series about the NZ fauna is slim but well laid out and adds significantly to our knowledge of the, until recently, little-known group of beetles, the hydraenids. In the introduction, he writes, "small size, obscure habits and poor representation in some countries have impeded study of the hydraenids." The type genus, *Hydraena*, was erected by Kugelmann in 1794 and the first hydraenid from NZ was described by the pioneer coleopterist, T. Broun, in 1919. Until publication of the present work, only five species in three genera were known from NZ. Dr. Ordish attributes his interest in the group to Dr. Balfour-Browne who wrote to him about some undescribed specimens in the British Museum collections. This initiated an extensive collecting program and from the nearly 5000 hydraenids taken, two new genera and 27 new species have been described, vastly increasing the number of known representatives of this family in NZ. This is comparable to a recent (1980) review of the hydraenids of the western hemisphere in which P. D. Perkins of the Smithsonian Institution recorded 206 species, 142 of which were new and at least 28 of which have been found in Canada. Adult hydraenids are small (about 2mm) flattened beetles mostly living in fast-flowing water. Adults of all but four of the NZ species are aquatic as are some of the larvae. The four terrestrial species are found on the sea shore.

A key to genera is followed by a description of each genus and by keys to both its males and females. The Greek derivations of the two new generic names are given, which is useful if you don't possess Borror's "Dictionary of word roots and combining forms." The camera-ready typing is sharp but, on the copy I examined, the page numbers on the right margin of the checklist of taxa (p. 5) were missing. The diagram of a representative hydraenid is large and clearly labelled and the drawings of representatives of the genera ("habitus") are excellent. More than 100 line drawings illustrate the key characters. The keys look fairly easy to use, but I wonder how reliably species can be separated by locality alone—in females of *H. carinata* and *H. spatulata* and of *O. calcarata* and *O. dilatata*. Two scanning electron micrographs show what may be a stridulatory patch on the inner surface of the elytron of *Podaena kuscheli*. Ordish states that these patches seem to occur on both sexes of all NZ hydraenids. Perkins, in his review, describes a different stridulatory device on the head and pronotum of the males of a few species from the western hemisphere but does not mention patches of stridulatory spines on the elytra or elsewhere.

My only criticism is in the systematic section where Ordish seems to disagree with Crowson's (1967) placing of the Hydraenidae in the Hydrophiloidea rather than the Staphylinoidea, although he has not made his own position clear. Perkins (1980) writes that the phylogenetic relationships "remain equivocal."

The discovery of four names from my student days gave me some nostalgic moments—J. Balfour-Browne and M. E. Bacchus of the British Museum where I spent some time as a summer student; G. Kuschel with whom I corresponded about Chilean weevils; and R. A. Crowson, my supervisor at Glasgow University.

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Graham, Frank, Jr. 1984. *The Dragon Hunters*. Truman Talley Books. E. P. Dutton Inc., 2 Park Avenue, New York, N.Y., xii + 334 pp., \$U.S. 22.95.

Heralded on the dust jacket as "The Coming Victory Over the Superpests—The Most Fascinating Environmental Story of Our Time," *The Dragon Hunters* is an attempt to put pest management and biological control into a historical perspective and to clarify their economic importance. Although the book addresses itself to the layman, even biological control experts may find useful information here because of the many-faceted and complex treatment of the topic. *The Dragon Hunters* opens with an account of the campaign against the cottony-cushion scale in 1888/89, when Albert Koebele introduced the vedalia beetle from Australia to California in a first-time effort at biological control of an exotic pest. From there, the book moves quickly on to more recent and still-continuing control programs such as those against citrus whitefly, gypsy moth, cereal leaf beetle, ice-plant scales, screwworm, California red scale, boll weevil, water hyacinth, and locusts. For each pest, the particular aspects of the

control program are discussed and related to pest attributes. Beyond the basics, the reader can find information on differences between parasites and parasitoids, pre-release studies, exclusion cages, and such esoteric subjects as direct and indirect hyperparasitism and adelphoparasitism.

But *The Dragon Hunters* is also the story of the people who bring the scientific data and observations together in effective biological control: the foreign collectors, for example, who may encounter poisonous snakes or a distrustful local policeman in their search for natural enemies. For the informed reader, Frank Graham's skillfully-drawn vignettes will evoke many memories of past and present colleagues and friends in biological control.

The book is based almost exclusively on work done in the United States, but it offers nevertheless a generous synopsis of the scope of current research in biological control and pest management. Generally free of errors, *The Dragon Hunters* will make entertaining reading for those interested in insects and environmental protection.

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Steinman, H. and L. Zombori. 1984. *An Atlas of Insect Morphology* Akadémiai Kiadó, Budapest, 1984. Distributed by Heyden & Son Inc., 247 South 41st Street, Philadelphia, Pa. 19104. \$U.S. 26.00.

This 248-page book consists of a one-page Preface, a two and one-half page Introduction, 159 pages of illustrations comprising 756 separate figures, 35 pages of Latin-English Index and 35 pages of English-Latin Index.

The Preface indicates that the Atlas is a survey of the terminology of the exoskeleton of adult insects using diagrams rather than text. The Introduction explains the structure of the Atlas. The authors state that a wide selection of world literature has been used to homologize terminology of skeletal elements, appendages, body apertures, copulatory organs, abdominal organs, microsculpture, external and internal cuticular processes, segmentation and articulation, and wing patterns. They indicate that they tried to use the most commonly used descriptive word from amongst many synonyms, but do not intend to suppress any one word or expression.

The major part of the book consists of the illustrations, most of which have been adapted from the literature, although some are by the authors. While they say basic forms showing all the principal skeletal features are shown as well as the principal types that diverge from the basic form, this is not always apparent.

The concept for the book is excellent, but unfortunately its execution leaves something to be desired. A serious fault is that there is no Bibliography, despite the fact that illustrations of some 80 authors have been used, many of them more than once and 33 times for both Shvanvich and Snodgrass. Thus the reader does not know from which of an author's papers the illustration has been taken, nor can the original paper be checked.

There are imbalances in the space given to certain groups. For example, diagrams of genitalia of some of the smaller orders are given equal or greater numbers of illustrations than the larger orders: Zoraptera has 5, Plecoptera 12, and Dermaptera 16, whereas Lepidoptera has 5, Diptera 7 and Coleoptera 9.

All the names on the figures are in Latin which means that the reader must constantly refer to the Latin-English Index for the English terminology. A large proportion of the Latin and English names are identical, although good English names exist for a number of them, e.g., knee for genu and file for lima. I have been unable to locate a number of terms that are identical in both Latin and English; some examples are: caulis, medignium, perigynium, pileolus, specillum and styloideum.

A number of illustrations appear to have errors in either the drawing or the naming of the parts. Figure 99 shows the labial palp attached to the galea of the maxilla; either the galea is mis-named or the labial palp is shown in the wrong position. The ligula consists of a pair of inner glossae with a paraglossa on either side of each glossa; however, Figures 107 and 123 show a central ligula with inner paraglossae and outer glossae. Figure 144 apparently shows the hypopharynx identified as a mandible. Figures 601 and 602 are dorsal and lateral views of the same thing; whereas 601 shows the titillator lateral to the penis, 602 shows it ventral to that organ. Figure 603 appears to be a ventral view rather than dorsal as labelled.

Figures 38 to 49 consist of six sets of side-by-side diagrams without indicating what the

left and right parts illustrate. Figures 667 and 668 show chaetotaxy of the thorax without indicating of what, although we can probably assume they are of Diptera. Cross-sections of genitalia as in Figures 618-620 are not too useful because there are no indications of where they have been made.

There are many typographical errors. These are a few examples: on page 9, place should be space; page 11, figuring should be figured; page 19, the h is left out of *Thysanopt.*; pages 31 and 242, spatulate should be spatulate; page 44, delete the second 146; in the caption; page 49, in the caption 175-175 should probably read 174-175; page 58, insert 198: before "In lateral view"; pages 118 and 119, Tettigonid should be Tettigoniid in several places in the captions; page 173, arhythmical should be arrhythmical.

The book is unique in bringing together morphological characters of all the insect orders. Many parts of it are of value but it should be used with some caution.

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Vane-Wright, R. I. and P. A. Ackery (eds.) 1984. *The Biology of Butterflies*. Academic Press, London, xxiv + 429 pp. Symp. Royal Entomol. Soc. London, No. 11. \$U.S. 60.00.

This book is one of a series resulting from symposia sponsored by the Royal Entomological Society, and is one of the best yet to appear. The topic is much broader than the title implies, since the approach is to use butterflies to examine population and community structure, coevolution, allelochemical interactions, genetics, and communication. As such, it will be a useful part of any entomologist's library, particularly those non-lepidopterists needing examples for courses and lectures which support general concepts.

The flavour and excitement of the Symposium come through strongly in most of the articles, and, unlike many publications of presented papers, the authors appear to have included some of the ideas in the published work which arose out of exchanges with colleagues at the meetings. The care taken by the editors in choosing participants also contributes to a well-rounded and complete treatment of contemporary butterfly biology.

The book starts out with some recollections directed to E. B. Ford, to whom the Symposium was dedicated, and tributes to 3 recently deceased lepidopterists, C. B. Williams, D. Gifford, and R. E. Silberglied, the last of whom completed his paper for the book only a few days before his death. A brief chapter by Phillip Ackery sets the stage for the rest of the book by examining systematic and faunistic studies, and the heart of the book begins with thorough reviews by Paul Ehrlich and Lawrence Gilbert on population and community structure respectively. Other articles in this section examine technique problems with studies at this level, and also with extending the work of the Ehrlich and Gilbert "schools" to other groups besides *Euphydryas* and *Heliconius*.

The next section is of more limited interest to non-butterfly biologists, since it deals with butterfly food. Host plant choice seems to be the dominant theme in this section. The third section concerns predation, parasitization, and defence, and is highlighted by a thorough review of chemical defence by Lincoln Brower and two intriguing articles on mimicry by John Turner and Dianne Gibson. The following section has 4 articles on genetic variation, and while good information is given for certain species, some broader overview in some of the papers might have been included here.

Part VI covers sex and communication, and is highlighted by a paper concerning visual communication and sexual selection by Robert Silberglied. In Part VII, various authors discuss migration and seasonal variation, including a deceptively simple review by Robin Baker on when or how to go or stay. The last section deals with conservation, and includes articles on vulcanism by Robert Pyle and conservation in temperate countries by Jeremy Thomas. This section is a fitting end to an enjoyable and stimulating book, since many of the species and interactions documented here may not exist much longer.

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## Book Notices

Snodgrass, R. E. 1956, 4th Printing 1984. *Anatomy of the Honey Bee*. Cornell University Press, 124 Roberts Place, Ithaca, New York 14850. 334 pp.

"The study of anatomy can be pursued merely from interest in the facts of animal structure, but it becomes more meaningful if we attempt to understand the mechanical and physiological reasons for anatomical facts." This paperbound book is an informative work providing scientists, students and beekeepers with a source of information on the structure and mechanisms of the honey bee and how they relate to their interesting communal life. The subject of each of the fifteen chapters is presented from the broadest evolutionary perspective beginning with a general discussion of arthropods and subsequently introducing honey bees when they typify a specific evolutionary adaptation. As in his earlier works, *Anatomy of the Honey Bee* (1910) and *Anatomy and Physiology of the Honey Bee* (1925), the presentation of material in this book is indicative of Snodgrass's desire for accuracy and precision, yet a quality of writing is maintained which makes the book enjoyable reading from cover to cover. The illustrations, most of which are from his earlier works, are well labelled and easily located when referred to in the text. The Index and Table of Contents are also well described providing the reader with immediate access to desired information. I recommend this book as an excellent addition to any personal library.

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Kelleher, J. S. and M. A. Hulme, Editors. 1984. *Biological Control Programmes against Insects and Weeds in Canada 1969-1980*. Commonwealth Agricultural Bureaux, Farnham Royal, Slough SL2 3BN, England. x + 410 pp. Soft cover. \$U.S. 60.00.

This book is the third review of biological control programmes in Canada published by the CAB. Contributions are made by 64 researchers engaged in the programmes. Divided into 3 sections, the book covers 27 agricultural insect pests, 24 weed species, and 21 forest insect pests in a style that generally includes: pest status; background; releases and recoveries; evaluation of control attempts; recommendations; and references. Contributions are presented in alphabetical order by genus and are indexed by both generic and common names. A critical overview of the biological control programmes in the 3 areas precedes each section and adds continuity to the book. The work is authoritative, comprehensive beautifully organized and very readable. It should prove an invaluable source for students, teachers at the graduate and undergraduate levels and all researchers involved in biological control programmes.

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## BOOK REVIEWERS WANTED

From time to time the Entomological Society of Canada receives for review books, conference proceedings and periodicals from various areas of entomology. Reviews are published in the Bulletin of the Canadian Entomological Society either as a full review or, if shorter, as a book notice. Reviewers may retain the review copy for their own library.

The Publications Committee is currently establishing a file of individuals willing to review publications in their area of specialization. In order to be included in the file, please fill out the form below.

I am willing to review publications for the Entomological Society of Canada in my area(s) of specialization.

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| <input type="checkbox"/> Biological control            | <input type="checkbox"/> Lepidoptera              |
| <input type="checkbox"/> Chemical control              | <input type="checkbox"/> Trichoptera              |
| <input type="checkbox"/> Other .....                   | <input type="checkbox"/> Hymenoptera              |
| <input type="checkbox"/> Genetics                      | <input type="checkbox"/> — parasitic              |
| <input type="checkbox"/> Evolution                     | <input type="checkbox"/> — non-parasitic          |
|  | <input type="checkbox"/> — social                 |
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## OBITUARY

### Merkuri Serge'evich Gilyarov 1912-1985

It is with profound regret that we have learnt, from Academician V. E. Sokolov, of the recent death of Academician Merkuri Serge'evich GILYAROV (or GHILAROV), Director of the Laboratory of Soil Zoology and Experimental Entomology of the A. N. Severtsov Institute of Animal Evolution, Morphology and Ecology, Academy of Sciences of the U.S.S.R., Moscow. M. S. Gilyarov died 2nd March 1985 in his 73rd year. He was a pioneer of soil entomology, stressing particularly its evolutionary aspects, most fully documented in his book, *Osobennosti Pochvy kak Sredy Obitaniya...* (*The Peculiarities of the Soil as an Environment...*), published as long ago as 1949. This was never translated, though it should have been because of its original approach and its innovative and sometimes unorthodox ideas. Gilyarov later became involved in many biological fields and was a member of many important permanent committees. Like many an able scientist he (to use his own expression) "was kicked upstairs" in recognition of his abilities and became more and more involved in administrative duties, in which he was very competent and effective. At the time of his death he was President of the Organizing Committee of the 9th International Colloquium on Soil Zoology to be held in Moscow, August 1985. He will be greatly missed, not only for his contributions to biology, and to entomology in particular, but also for his sense of fun and ready wit, which he could exercise in at least four languages to my knowledge.

D. Keith McE. Kevan

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