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PROCEEDINGS OF THE

ENTOMOLOGICAL
SOCIETY OF
MANITOBA

VOLUME 43

1987

Proceedings of the
Entomological Society of
Manitoba

Volume 43

1987

Ingolf S. Askevold

Editor

Winnipeg, Manitoba

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MINUTES OF THE 43ND ANNUAL MEETING

ENTOMOLOGICAL SOCIETY OF MANITOBA

13:30 h, 6 November, 1987
Freshwater Institute,
Winnipeg, Manitoba

The President, Dr. P.A. Mackay, presided. A quorum being present, the President called the meeting to order and asked the Secretary of the Society, Dr. N.D.G. White, to take minutes of the meeting.

Attendance:

Executive:

Dr. P.A. Mackay, President;
Dr. M.M. Galloway, Past-President;
Dr. N.J. Holliday, President-Elect;
Dr. J.C. Conroy, Regional Director to E.S.C.
Mr. A. Wiens, Member-at-large.

Executive Staff:

Dr. R.E. Roughley, Editor of the Proceedings;
Dr. N.D.G. White, Secretary;
Dr. G. Gerber, Treasurer.

Members:

R.J. Lamb	T. Galloway	W.B. Preston
M. Smith	D. Dixon	R. Gadawski
W. Ralley	A.G. Robinson	R. Ellis
B. Galka	G. Ayre	D. Smith
R. Brust	I. Askevold	J. Guthrie

Guest: Dr. E.C. Becker, representing the Entomological Society of Canada.

1. AGENDA (Appendix A).

Motion: - Guthrie/Galloway: Adoption of the Agenda.

CARRIED

2. MINUTES OF THE 42ND ANNUAL MEETING

Motion: - G. Gerber/J. Conroy: Adoption of the minutes of the 42nd Annual Meeting of the Entomological Society of Manitoba Incorporated, held on 14 November, 1986, and published in the Proceedings of the Entomological Society of Manitoba (Vol. 42, 1986).

CARRIED

3. BUSINESS ARISING FROM THE MINUTES OF THE 42ND ANNUAL MEETING

None

4. EXECUTIVE REPORTS

4(a). President (Appendix B)

Oral Report given by P. Mackay

Motion: - Conroy/Guthrie: That the President's report be received.

CARRIED

4(b). Treasurer (Appendix C - Audited financial statement)

Motion: - Gerber/Conroy: That the Auditor's report be accepted

CARRIED

Motion: - Gerber/Holliday: That D. Nicholson and Co. be appointed as auditors for the Society in the coming year.

CARRIED

4(c). Editor - Proceedings of the Entomological Society of Manitoba (Appendix D)

R. Roughley presented the guidelines for a fund to assist authors to publish in the Proceedings (Appendix E, F).

Motion: - Ellis/Roughley: That the presented guidelines be adopted.

Discussion: The Treasurer opposed the motion since the allocated \$400 would come from endowment fund interest which is currently used for the scholarship (\$1000.00) and must pay for the Proceedings, usually around \$1000.00. Since we are now earning \$2500-2600 in annual interest, the proposed \$400 would use all of the Society's reserve interest. Also the Annual Meeting usually has a deficit which would be covered in part by membership fees leaving little for general Society expenses.

T. Galloway indicated we must support the Proceedings and increase scientific content or subscriptions will end.

R. Gadawski indicated that the Society may face financial difficulty in 2 or 3 years but this project must be judged on its own merit.

R. Brust noted that we must attempt to put scientific publications in the Proceedings to meet the terms of our Trust Agreement.

Vote on Motion: CARRIED

4(d). Regional Director to E.S.C. (Appendix G)

J. Conroy presented an oral report.

Motion: Conroy/Dixon: Receipt of the regional director's report.

CARRIED

4(e). Endowment Fund Board (Appendix H)

Motion: - Gadawski/Galloway: Receipt of the Endowment Fund report.

CARRIED

5. COMMITTEE REPORTS

5(a). Finance Committee (Appendix I)

R. Gadawski made an oral presentation and discussion on the Society's future financial situation arose.

Motion: Gadawski/Holliday: Receipt of the Finance Committee report.

CARRIED

Motion: Gerber/Conroy: That all committee reports be received.

CARRIED

5(b). Publicity and Newsletter (Appendix J)

M. Smith presented the report.

5(c). Social (Appendix K)

5(d). Education and Youth Encouragement (Appendix L)

W. Ralley summarized the report. R. Brust, J. Guthrie, and the president praised the committee for its accomplishments and initiative.

- 5(e). E.S.C. Common Names (Appendix M)
- 5(f). E.S.M. Archivist (Appendix N)
- 5(g). Manitoba Environmental Council (Appendix O)
- 5(h). E.S.C. Honorary Members (Appendix P)
- 5(i). E.S.M. Student Awards Committee (Appendix Q)

The recipient of both the Student Achievement Award and the SWAT Student Award this year is Mr. R. Lindsay.

- 5(j). E.S.M. Scholarship (Appendix R)

D. Pollock, Department of Entomology, University of Manitoba, was the recipient of the current award.

Action: Send the name of the E.S.M. scholarship winner to the Bulletin of E.S.C.

- 5(k). Scientific Program Committee (Appendix S)

T. Galloway made an oral presentation. A total of 58 people registered for the meeting and 51 tickets were purchased for the banquet.

The President and all the members present expressed their thanks to T. Galloway and D. Giberson and their committees for an educational and enjoyable meeting.

- 5(l). Membership Committee (Appendix T)

T. Galloway orally summarized his report.

6. ELECTION RESULTS - A.G. Robinson.

The scrutineer committee consisted of A.G. Robinson, D. Pollock, K. McGinnis. A total of 150 ballots were mailed to members and 81 were returned. Newly elected officers for 1988 are:

President-Elect - D. Dixon
Member-at-Large - J. Buth

Motion: - Robinson/Holliday: That the ballots be destroyed.

CARRIED

The Executive and the Society thank all participants for allowing their names to stand for election. The interest of all participants is appreciated.

7. TRANSFER OF OFFICE

P. Mackay transferred the office of President to N. Holliday. Neil thanked Pat for her service to the E.S.M.

N. Holliday indicated that chairpersons for all committees have been selected and confirmed, conditional on Executive approval. The Treasurer, G. Gerber, and Secretary, N. White, will continue in their positions for the coming year.

8. OTHER BUSINESS

(a). Profiles of Entomologists in Manitoba.

N. Holliday made an oral presentation on activities completed to date.

- Several meetings of the ad hoc committee for the Profiles were held in 1987.
- \$2700.00 has been obtained for the Manitoba Heritage Foundation (another \$300.00 is conditional) for publication of the Profiles.
- Matching funds should be available from the Entomological Society of Canada.
- The format of the Profiles has been approved by the Executive of the E.S.M.
- 92 completed Profiles have been prepared.
- At the end of 1987 the information will be sent to Paul Riegert and hopefully will be published in 1988.

10. ADJOURNMENT - 15:13 h.

Motion: - Conroy

APPENDIX A

ENTOMOLOGICAL SOCIETY OF MANITOBA
43rd Annual Business Meeting
November 6, 1987.

AGENDA

1. Appointment of Secretary to record proceedings of the annual business meeting.
2. Acceptance of Agenda.
3. Minutes of last annual meeting.
4. Business arising from the minutes.
5. Reports - Executive, Trustees.
 - a) President P. Mackay
 - b) Treasurer (Auditor) G. Gerber
 - c) Editor of the Proceedings R.E. Roughley
(Funding assistance criteria for publication in the Proceedings).
 - d) Regional Director to ESC J.C. Conroy
 - e) Endowment Fund Board R. Gadawski
6. Reports - Committees
 - a) Finance Committee R. Gadawski
 - b) Publicity, Newsletter M. Smith
 - c) Social D. Giberson
 - d) Education & Youth Encouragement W. Ralley
 - e) E.S.C. Insect Common Names A.G. Robinson
 - f) Archivist A.G. Robinson
 - g) Manitoba Environmental Council M. Trottier
 - h) Honorary Members (ESC) R. Brust
 - i) Student Achievement Award (ESM) N. Holliday
 - j) ESC Scholarship Committee J. Conroy
 - k) ESM Scholarship Committee G. Bracken
 - l) Scientific Program and Annual Meeting Local Arrangements T.D. Galloway, D. Giberson
 - m) Membership Committee (ESM & ESC) T.D. Galloway
7. 1987-1988 Election Results -
Scrutineer Committee, A.G. Robinson
8. Transfer of office
9. Other business: Profile of Entomologists in Manitoba update -
N. Holliday
10. Adjournment.

APPENDIX B

President's Report

The activities of the Society seem to have proceeded smoothly this past year, thanks to the continuing support of the membership. Details of those activities will be highlighted in the various committee reports to follow.

There are a number of events related to the financial life of the Society which deserve special mention. We said a grateful, if reluctant thank-you to Walley Askew who stepped down from his position as Treasurer after many years. Fortunately, however, George Gerber consented to take over from Walley and has spent the last year keeping track of not only your money but also your executive officers' and chairpeople's. George carried out his new duties along with a new Finance Committee and Endowment Fund Board chaired by Randy Gadawski. We are most grateful for their careful guidance. In their reports this year, I believe they will be offering us an opportunity to make some decisions about future directions of the Society.

The Society was involved in some special financial transactions this year. Thanks to Neil Holliday, and his committee, we were successful in an application to the Manitoba Heritage Federation for \$3000 to help finance the production of the Profiles of Entomologists. Wendy Ralley and Kathy McGinnis, as Chairs of the Youth Encouragement and Public Education Committee have applied for support to produce an information booklet for elementary and junior high schools. We have not yet had word on that application, but we are optimistic. We are able to respond positively and generously to a request for financial support from the International Congress of Entomology. Last year's joint annual meeting with the E.S.C. here in Winnipeg was a financial success and we were therefore in a position to return to them a major portion of the grant that society makes to the hosting society. Through discussions with the E.S.C., we were able to direct that money, a donation of \$3200, to the Congress, in the name of the E.S.M.

The functioning of the Executive in carrying out the routine business of the Society can be credited to a number of factors. Most important among these is the Secretary of the Society, Noel White. It was Noel who knew what needed to be done, and when. Next most important were the committee guidelines, the production of which was initiated by the Executive two years ago, during Roy Ellis' tenure as President. The Executive has continued to modify and extend these guidelines as necessary, in order to try further to improve continuity from year to year. Their availability means that committee chairs find it much easier to fulfil their responsibilities. I hope therefore that if you are approached and asked to chair a committee, you will accept. However, I would also strongly encourage you not to wait until you are approached. If you would like to become more involved in Society affairs, please approach any member of your Executive. We will find something interesting for you to do. The Society needs an active membership if it is to function to its fullest.

In closing I would like to thank everyone I have worked with in the past year for all their help, and I look forward to continuing involvement in Society affairs under the Presidency of Neil Holliday.

Patricia A. MacKay
President, 1986/1987

APPENDIX C

ENTOMOLOGICAL SOCIETY OF MANITOBA INC.
FINANCIAL STATEMENTS
AUGUST 31, 1987

AUDITOR'S REPORT

To the Directors of the
Entomological Society of Manitoba, Inc.

I have examined the balance sheet of the Entomological Society of Manitoba Inc. as at August 31, 1987 and the statement of income for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion the attached financial statements present fairly the financial position of the Company as at August 31, 1987 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Doug Nicholson & Co.,
Certified General Accountant
Winnipeg, Canada
October 13, 1987.

ENTOMOLOGICAL SOCIETY OF MANITOBA INC.
BALANCE SHEET
AUGUST 31, 1987

ASSETS

Cash advances (note 2)	\$ 550.00
Cash in bank (note 3)	8,448.00
Investments (note 4)	<u>23,224.00</u>
	\$32,222.00

LIABILITIES nil

SURPLUS

Surplus	\$32,222.00
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STATEMENT OF INCOME AND EXPENSES.
YEAR ENDED AUGUST 31, 1987.

REVENUE (note 1)	
Annual Meetings (net, note 6)	\$ 2,249.00
Committees (note 5)	3,661.00
Foreign exchange	58.00
Interest income	2,843.00
Members fee	1,521.00
Subscriptions	<u>279.00</u>
	10,611.00
EXPENSES (note 1)	
Bank charges	51.00
Committee expenses	1,723.00
Miscellaneous	106.00
Postage	613.00
Printing	1,150.00
Stationery	<u>89.00</u>
	3,732.00
EXCESS OF INCOME OVER EXPENSES	6,879.00
Surplus, beginning of year	<u>25,343.00</u>
SURPLUS, END OF YEAR	\$32,222.00

The accompanying notes form an integral
part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS
AUGUST 31, 1987.

Note 1: SIGNIFICANT ACCOUNTING POLICIES:

Income and expenses are recorded on the cash basis of accounting. There are no accruals of receivables or payables. Fixed assets are written off when acquired and therefore are not annual depreciation allowances.

Note 2: CASH ADVANCES:

Treasurer	G. Gerber	\$ 25.00
Secretary	N. White	100.00
Editor	R. Roughley	25.00
Social Committee	D. Giberson	200.00
Newsletter	M. Smith	<u>200.00</u>
		\$ 550.00

Note 3: CASH IN BANK:

Savings account	\$ 3,611.12
Current account	<u>4,836.64</u>
	\$ 8,447.76

Note 4: INVESTMENT CERTIFICATES:

7053706	\$ 3,024.33
7058513	2,000.00
7058436	3,000.00
7053871	7,200.00
7053893	2,000.00
7058937	2,000.00
7053959	2,000.00
7053805	<u>2,000.00</u>
	\$23,224.33

Note 5: COMMITTEE INCOME:

Includes grant of \$2,700 from the Heritage Committee.

Note 6: ANNUAL MEETINGS:

Deposit from E.S.M. - E.S.C. Joint committee	\$ 5,648.78
Cheque to E.S.C.	<u>3,400.00</u>
Net	\$ 2,248.78

APPENDIX D

ANNUAL REPORT OF THE EDITOR OF THE
PROCEEDINGS OF THE SOCIETY

We have recently received 310 copies of Volume 42 (1986). As all receipts have not been received yet, I am unable to calculate the cost/copy of this year's Proceedings. I will make this amount available for next year's report.

I have served in an editorial capacity with the Proceedings since 1982. It has been a privilege to do so. It is now my pleasure to hand over the Editorship to a new Editor. Please give him or her your unstinting support.

R.E. Roughley
4 November, 1987.

APPENDIX E

GUIDELINES FOR FUND FOR PUBLICATION OF
SCIENTIFIC PAPERS IN THE PROCEEDINGS OF THE
ENTOMOLOGICAL SOCIETY OF MANITOBA.

The Finance Committee, at the 42nd Annual General Meeting on 14th November, 1986, recommended the establishment of a fund of up to \$400.00 per year to be used for publication and/or related costs of scientific

papers to be published in the Proceedings of the E.S.M. This motion was tabled until the next A.G.M., pending development of guidelines on criteria for awarding the funds and purpose of the fund.

The proposed guidelines, given below, are broad and flexible. They were approved in principle by the Finance Committee and the Executive. Therefore the Editor asks the general membership to consider the following proposal.

1. Whereas the amount of scientific content in the Proceedings of the Entomological Society of Manitoba has diminished, it is recommended that a fund of up to \$400.00/year be allocated to promote publication of scientific papers in the Proceedings.
2. Any entomologist is eligible to make an application to the publication fund.
3. The resources of the fund shall be used for publication in the Proceedings of any aspect of entomology in Manitoba. Such costs as page charges, cost of preparation of illustrations, and purchase of reprints would be legitimate expenses.
4. The funds would be awarded only after final acceptance of the paper for publication in the Proceedings. All papers will be subjected to the normal, peer review process.
5. Application for the use of the fund should be made in writing to the Editor at the time that the manuscript is submitted. The application must provide information on why access to the fund is necessary for publication of the manuscript.
6. Criteria:
 - (a) Priority for use of the funds will be given to amateur entomologists and graduate students.
 - (b) The general interest and value of the manuscript to the entomological community will be considered.
7. All applications will be reviewed by the Editor and the Editorial Board*. The Editorial Board may approve funding of more than one project in a given year but the total amount per annum will not exceed \$400.00 for all projects.
8. The deadline for submission of manuscripts and applications will be January 1st.

* For convenience of members, a copy of the Article XIV of the Society's by-laws is attached (Appendix F).

APPENDIX F.

ARTICLE XIV - THE EDITORIAL BOARD..

1. The Editorial Board shall consist of the Chairman and at least two but not more than four active members or Honorary Members.
2. The Chairman and members of the Editorial Board shall be appointed annually by the Executive or by the President subject to ratification by the Executive.
3. The Editorial Board are not members of the Executive.
4. The Editorial Board shall:
 - a. Recommend publication policies for the Society's official publications to the Executive.
 - b. At the request of either of the Editors, interpret editorial policy and adjudicate material submitted for publication in the Society's official publications.

APPENDIX G

ENTOMOLOGICAL SOCIETY OF MANITOBA
ANNUAL REPORT OF THE REGIONAL DIRECTOR

1. The XVIII International Congress of Entomology will be held on July 3-9, 1988, at the University of British Columbia, Vancouver, B.C. The Board of the Entomological Society of Canada will meet on July 2, 3, and 8. The Banquet will be held on Thursday, July 7, at the Hyatt Regency Hotel, Vancouver. It is strongly recommended that members submit their applications for accomodation early to be guaranteed a place in the University Residences. There are relatively few of these available and with a potential registration of 3,000, they will go fast.
2. For 1988 only, nominations for election of officers of the Entomological Society of Canada must be submitted by March 15, 1988, and the ballots returned by June 1, 1988. This is because the Annual Meeting of the Entomological Society of Canada is being held in conjunction with the XVIII International Congress of Entomology.
3. In future, reviewers for the Canadian Entomologist will have the option of having their names known/not known to the authors. There will be an "opt in" space on the reviewers' form if you wish your name known.
4. The Entomological Society of Canada will not be participating at the B.C.C. Congress in 1990. Future meetings of the Entomological Society of Canada will as follows:

1988: Vancouver, B.C. (with the XVIII Congress)
1989: St. John's Newfoundland (with the A.E.S.)
1990: Banff, Alberta (with E.S.A.)
1991: Quebec (with E.S.Q.)

5. Congratulations are extended to one of our members, Dr. H.G. Wylie, a past president, E.S.M., who, with Dr. E. Munroe, was elected as Honourary Member of the Entomological Society of Canada.
6. It is strongly recommended that the Regional Societies actively consider nominations for the E.S.C.'s Gold Medal and C. Gordon Hewitt awards and make a concerted effort to submit these nominations.

Respectfully submitted:
John C. Conroy, Regional Director,
Entomological Society of Manitoba.

APPENDIX H

ESM ENDOWMENT FUND REPORT

The Endowment Fund continues to be one of the major sources of revenue for the Society. It provides a foundation of money from which the Student Scholarship and the publication of the Proceedings is funded. It is also expected that monies from this Fund will be used to promote the publication of scientific papers in the Proceedings of the E.S.M.

In the 1986-87 fiscal year, \$2,843.70 were generated from a principle amount of \$23,224.33. This year the Society was able to increase the principle amount of the Endowment Fund by \$2,000. However, despite this increase in the principle amount, the income generated was similar to that generated in the previous fiscal year, and reflects the recent trend in interest rates.

Given the considerable responsibility of the Endowment Fund, it is recommended that its principle be increased again, in this current fiscal year, to \$25,000. This would require an investment of approximately \$1,800, and would guarantee the objectives of the Fund in the near future.

Attached is a description of the Endowment Fund investments.

Guaranteed Investment Certificates with Royal Trust				
<u>Cert. No.</u>	<u>\$ Amt.</u>	<u>Interest Rate</u>	<u>Maturity</u>	<u>Annual Int.</u>
705 3706	\$3,024.33	12.375	Dec. 1987	\$374.26
705 8513	2,000.00	11.250	June 1988	225.00
705 8436	3,000.00	10.875	Dec. 1988	326.25
705 3805	2,000.00	12.375	Apr. 1989	247.50
705 3871	7,200.00	12.125	Nov. 1989	873.00
705 3893	2,000.00	10.875	Aug. 1990	217.50
705 3937	2,000.00	10.500	Oct. 1991	210.00
705 3959	2,000.00	9.250	Feb. 1992	185.00
Total	\$23,224.33	11.576		\$2,688.51

6 November, 1987.
 Rob Currie
 George Gerber
 Randy Gadawski, Chairperson.

APPENDIX I

ANNUAL REPORT OF THE FINANCE COMMITTEE.

On October 14th, the Finance Committee met to discuss the financial status of the Society. At this meeting it was determined that in 1986-87, revenues exceeded expenses by \$8,447.76. However, much of this income was generated from exceptional sources, and is not available on an annual basis. Included was income generated at the JAM and a donation received from the Manitoba Heritage Committee for publication of the "Profiles of Manitoba Entomologists". Early in the year the Finance Committee made the recommendation that a portion of the income generated from the JAM be invested in the Endowment Fund. In addition, \$3,200 was made available to the ESC to promote activities of national interest.

It is the view of the Finance Committee that the services provided by the Society are exceptional, and as such the Executive and the membership as a whole should be commended. Each year the Society strives to do more to promote the interests of its membership. In this past fiscal

Entomological Society of Manitoba

BUDGET ITEMS	1985-86 ¹ Actual	1986-87 Actual	1987-88 Actual & Projected	1988-89 Projected
Endowment Fund	21,224.33	23,224.33	25,000.00	25,000.00
INCOME				
Endowment Fund and Bank Interest	2,852.97	2,843.70	2,800.00	2,800.00
Dues, ESM	1,384.50	1,520.50	1,400.00	1,400.00
Subscriptions, Proceedings	384.44	278.63	300.00	300.00
Annual General Meeting	1,814.50	5,648.78	2,200.00	2,200.00
Youth Education Committee	0	750.00	200.00	200.00
Social Committee	111.00	111.00	100.00	100.00
Heritage Committee		2,700.00	0	0
Student Award (SWAT)		100.00	100.00	100.00
Miscellaneous	75.12	58.39	50.00	50.00
Proceedings, ESM - Page charges	425.00	0	0	0
Totals	7,047.53	14,011.00	7,150.00	7,150.00
EXPENSES				
ESM Scholarship		1,000.00	1,000.00	1,000.00
Proceedings, ESM	936.63	710.28	3,400.00	1,400.00
Annual General Meeting ²	2,399.51	3,400.00	2,800.00	2,800.00
Newsletter & Photocopying	576.27	439.94	650.00	650.00
Postage	659.44	613.32	700.00	700.00
Youth Education Committee	1,934.56	83.95	500.00	300.00
Awards Committee	115.29	304.91	300.00	300.00
Stationery Supplies	99.41	88.93	150.00	150.00
Social Committee	364.92	334.27	350.00	350.00
Heritage Committee		0	2,700.00	0
Miscellaneous	105.51	156.26	250.00	250.00
Total	7191.546	7,131.86	12,800.00	7,950.00

¹ Fiscal year ends 31 August.

² Includes cost of invited seminar speaker.

year the first Annual Student Scholarship was awarded as were a number of undergraduate awards. Efforts are also well advanced on the publication of the "Profiles of Manitoba Entomologists", and this year the Proceedings of the ESM included abstracts of all the papers presented at the JAM. In this current fiscal year it is expected that monies will also be made available to promote the publication of scientific papers in the Proceedings of the ESM.

The Society is currently in a secure financial situation. However, expenses cannot be allowed to exceed income as is projected for 1988-89. Without increasing revenue, the Executive will be faced with the very difficult decision of prioritizing and then limiting the services provided. Attached is a list of the expected income and expenses for 1988-89.

Rob Currie, George Gerber
Lynn Manaigre, Robert Roughley
Randy Gadawski, Chairperson.
November 2, 1987.

APPENDIX J

ANNUAL REPORT OF THE NEWSLETTER AND PUBLICITY COMMITTEE

Since Randy Gadawski handed over the responsibilities of ESM Newsletter Editor to me last winter, the committee has consisted of the Chairperson only. For the coming year, Andy Kolach (Manitoba Dept. of Agric.) has agreed to join the committee as Associate Editor.

Issues of Vol. 14 (1987) of the ESM Newsletter have been printed and mailed to members in March, June and September. A fourth issue is to be published in December. Thanks to all those members who have generously contributed suggestions and articles for publication in the Newsletter.

Marjorie A.H. Smith, Chairperson
Newsletter and Publicity Committee.
17 October 1986.

APPENDIX K

SOCIAL COMMITTEE REPORT

The new members social was held on Saturday, March 7, 1987, in the Tartan Room, University of Manitoba Campus. Thirty-nine people turned out to welcome 6 of our new members in an evening that included an illustrated talk by Drs. Pat MacKay and Bob Lamb on the lighter side of their research sabbatical in Australia.

One luncheon was held during the 1986-87 season. Twenty-four members attended an illustrated talk by Ms. Barb Batulla on Places of Historical and Natural History Interest to Visit in Manitoba, at Aalton, Norlander Inn, on March 31, 1987.

As mentioned in the previous year's social committee report, postage costs for mail-outs continue to rise. Currently, about 90% of our 150 or so members require stamped notices, resulting in greater than \$32.00 in postage costs alone for each event. I'd like to suggest that future social committee chairpersons attempt to co-ordinate activity advertizing with the Newsletter Editor, preparing flyers or

notices to be included in the newsletter whenever possible, instead of being mailed separately.

Donna Giberson
6 November, 1987.

APPENDIX L.

EDUCATION AND YOUTH ENCOURAGEMENT

The primary activities of Youth Encouragement during 1987 have been the presentation of talks to 11 various Beaver, Cub, and school groups. The majority of these have been presentations to classroom children. Since a need has been identified at the grade school level regarding the basics of entomology, the Committee has applied for a grant in the sum of \$1,000.00¹ for the writing, collating, publishing and distribution of an information booklet geared to school children as a supplement to the curriculum. The Committee is also in the process of applying for a larger grant (\$8000.00) from the provincial government for the establishment of permanent collections of insects to be distributed to different school boards.

Public education was involved again this year in a week-long display as part of National Wildlife Week. Our display was an obvious 'hit' and the committee would like to thank all those people who helped assemble, man and clean-up the display.

¹ Granting agency: UMZOO CLUB INC., U. of M.

	Expenditures	Credits
ESC Grant		\$200.00
Postage	\$54.00	
Copying	\$18.00	
Lamps	\$44.00	
Transportation	\$20.00	
Total	\$136.00	\$200.00

Wendy Rally,
Kathy McGinnis,
Chairpersons YE & PEC

APPENDIX M

REPORT OF THE COMMITTEE ON INSECT COMMON NAMES.

There have been no applications from ESM members during the past year for new common names or changes in old common names and there are therefore no activities to report.

A.G. Robinson, Chairperson.

APPENDIX N

REPORT OF THE ARCHIVIST

The Archives materials of the Entomological Society of Manitoba are held in Room 213B of the Department of Entomology, University of Manitoba. Donations of archival material are welcome. No activities were undertaken since the Annual Meeting of 1986.

A.G. Robinson, Chairperson

APPENDIX O

REPRESENTATIVE TO THE MANITOBA ENVIRONMENTAL
COUNCIL ANNUAL REPORT 1987.

Following the 1986 Annual General Meeting, a letter was sent (30 January 1987) to Mr. Gerard Lecuyer, the Minister of Environment and Workplace Safety and Health, expressing the unanimous rejection by the ESM membership of the Ministry's proposal to eliminate the Manitoba Environmental Council (MEC) as part of the proposed New Environmental Legislation. The minister responded with a letter (11 March 1987) acknowledging our misgivings with the proposed legislation, but affirming his commitment to this legislation. However, I am happy to report that revisions have been made such that the new Manitoba Environmental Act (Bill 26) specifies an expanded role for the MEC. This act was assented to on 17 July 1987 and is expected to be proclaimed on 1 April 1988.

During the past year the MEC has functioned effectively given the tenuousness of its existence as a result of the proposed legislation. A number of technical briefs were presented to the Minister and a Public Forum, "Power Demand and the Manitoba Provincial Conservation Strategy", was held on 29 May 1987. I would be happy to respond to any inquiries concerning the activities of the MEC, or to communicate to the MEC any environmental concerns which members of the ESM may have.

Marc R. Trottier

APPENDIX P

ESC HONORARY MEMBERS REPORT

Congratulations to Dr. Glen Wylie and his nominators for Glen's election to Honorary Membership, Entomological Society of Canada. Glen served the ESC and the ESM with distinction over the years, and his scientific achievements are clearly outstanding.

Committee nominated a deserving ESC member for the 1988 election for Honorary Membership, Entomological Society of Canada.

October 27, 1987, R. Brust, Chairman.

APPENDIX Q

REPORT OF THE ESM STUDENT AWARD COMMITTEE.

The committee met in October 1987 to review the nominations received for the Student Achievement Award and for the SWAT Student Award. The recipient of both these awards will be Mr. Robbin Lindsay, who has recently graduated from the University of Winnipeg, and is now pursuing graduate studies at the University of Manitoba. The SWAT Student Award will be presented at the ESM Annual Banquet, and the Student Achievement Award will be presented at the new members social evening.

N.J. Holliday (Chairperson)
T.D. Galloway, R.J. Lamb, W.B. Preston

APPENDIX R

E.S.M. SCHOLARSHIP COMMITTEE REPORT

There were three applications for the 1987 ESM Scholarship. By majority agreement the Committee has awarded the Scholarship to Mr. D.A. Pollock of the University of Manitoba.

The winners of the E.S.C. Scholarships were Mr. D.J. Berkvinson (Simon Fraser University) and Mr. E.B. McLean (University of Toronto).

Respectfully,

G.K. Bracken (Chairman)
Dr. R.P. Bodnaryk, Dr. J.C. Conroy

APPENDIX S

E.S.M. SCIENTIFIC PROGRAM COMMITTEE

The 1987 E.S.M. Annual Meeting was held at the Freshwater Institute on the 5-6 of November. Dr. John R. Anderson was the invited speaker who presented a paper entitled "The impact of parasitic insects on wild and domesticated animals". The invited Symposium speakers included Dr. R.E. Roughley (Beneficial aspects of the relationship of insects with man), Dr. R.A. Brust (Arthropod vectors of human disease), Dr. S.G. Sealy (Insectivorous birds and insects in the dune-ridge forest, Delta Marsh, Manitoba), and Dr. H.R. Murkin (Interactions of vertebrates and invertebrates in freshwater wetlands), addressing "Insects in Relation to Other Animals". There were 13 submitted papers, 9 of which were presented by graduate students who participated (with one exception) in the student competition. The prize of \$100 was won by Y.D. Deedat, a Ph.D. student of Dr. P.A. MacKay. Three posters were submitted to the program. There were 57 paid attendants, of whom 15 were student members.

Social events included a Meet-the-Speaker Mixer at the home of P.A. MacKay and R.J. Lamb, and the Banquet at the Holiday Inn South. Fifty-one people (two of whom were invited) attended the banquet, where Dr. Jasper McKee was the after dinner speaker.

The Scientific Program Committee members would like to thank those members who helped in the function and organization of the meeting.

T.D. Galloway (Chairman)
R.W. Currie
D.J. Giberson
D.M. Rosenberg
W.J. Turnock

APPENDIX T

MEMBERSHIP COMMITTEE - ANNUAL REPORT 1987

Membership applications were distributed to potential new members as the opportunities arose. Lapsed members were contacted and reminded of membership fee payment. Compilation of the list of amateur entomologists in the province was continued and now includes 30 names. Information regarding special interests among amateurs is available upon request. One such request for information on lepidopterists was met in 1987.

T.D. Galloway (Chairman), 6 November, 1987.

ABSTRACTS OF PAPERS PRESENTED AT THE FORTY-THIRD
ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF MANITOBA

*
* ABSTRACTS ARE PRINTED AS RECEIVED *
*

PHYLOGENY AND GEOGRAPHIC HISTORY OF MEMBERS OF THE NEW WORLD
GENUS NEOHAEMONIA SZÉKESSY (COLEOPTERA: CHRYSOMELIDAE: DONACIINAE).

Ingolf S. Askevold,

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.

The Nearctic genus Neohaemonia consists of five member species. Of these, N. flohri (Jacoby) is endemic to south-central México. Reconstruction of phylogenetic relationship of members of Neohaemonia shows N. flohri not to be the sister taxon to the remaining four members of the genus. Therefore, at the time N. flohri became isolated in México, most, if not all, the remaining species had evolved. It is argued that N. flohri must have become isolated by the Late Oligocene-Miocene, a result of uplift of the Sierra Madre and the Western Cordillera. This orogeny caused a reduction in distribution of mesophytic elements, by restriction eastward to the southeast U.S.A. and southward into México, and by gradual elimination of these from the west. Persistence of the xerophytic habitats in the southwest U.S.A. since the Oligocene has precluded exchange by dispersal of the hydrophilous donaciine fauna between high-altitude temperate areas of México and temperate North America, where the remaining four species of Neohaemonia occur today. Consistent with an allopatric model of speciation by vicariance, it is proposed that the Oligocene orogeny provided the most recent opportunity for speciation to occur, and that most recent speciations can be correlated with it. Each of two widespread temperate ancestral species became fragmented into eastern and western vicariants, but one also fragmented a Mexican vicariant.

SEQUENTIAL SAMPLING PLANS FOR THE MANAGEMENT OF THE SUNFLOWER
BEETLE ZYGOGRAMMA EXCLAMATIONIS (FABRICIUS) IN MANITOBA.

Y.D. Deedat and P. A. MacKay,

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.

To minimize sampling efforts a sequential sampling decision plan for the control of Zygogramma exclamationis (F.) larvae was developed. The plan was derived from studies of larval dispersal in grower's fields at five locations over two years in Manitoba. Larval dispersion patterns were analyzed using Taylor's power law and Iwao's regression technique. Both methods detected similar dispersion patterns. Iwao's patchiness regression was used as a basis for the sequential model since it provided a consistently good fit to the data.

NATURAL VARIABILITY AND ENVIRONMENTAL MONITORING:
HEXAGENIA IN SOUTHERN INDIAN LAKE, MANITOBA.

Donna J. Giberson, David M. Rosenberg,
and Allen P. Wiens.

Freshwater Institute, Winnipeg, Manitoba.

The burrowing mayflies Hexagenia limbata and H. rigida have been investigated approximately every two years since 1972 as part of a larger monitoring study of the impacts of impoundment and river diversion on Southern Indian Lake (SIL) benthos. Initial conclusions of the study, based on data collected in 1981, indicated a severe impact on Hexagenia with population densities falling from about 70/m² in 1972 and 1977 to a low of <10/m² by 1981. Continued sampling, however, has shown an increase in population density to pre-impact levels, suggesting that factors other than flooding or diversion were responsible for the decline. Current intensive studies of Hexagenia in SIL suggest that bottom temperatures during the larval developmental period and weather patterns during emergence are the controlling variables affecting Hexagenia populations in SIL. The results of this study indicate that caution should be used when assuming impact due to anthropogenic stress based solely on density changes observed during short-term monitoring studies.

RECURRENT SELECTION OF CANOLA SEEDLINGS FOR
RESISTANCE TO FLEA BEETLE DAMAGE.

R. J. Lamb,

Agriculture Canada Research Station,
195 Dafoe Road, Winnipeg, Manitoba
Canada R3T 2M9

During four successive seasons selections of Brassica napus L. and Brassica campestris L. were made from plants which withstood natural infestations of the flea beetles Phyllotreta cruciferae (Goeze) and Phyllotreta striolata (F.). Selections were made from seedlings grown from certified seed of currently recommended cultivars. Selected plants were allowed to reach maturity and the seed they produced was harvested and resown the following year for further selection. In the first year, 3-6 plants survived out of approximately 10,000 sown. In subsequent years selected lines were grown in five, 5-m rows containing 250 seeds per row, arranged as a randomized complete block with five blocks. After the first year, progress towards resistance was monitored by comparing the seedling survivals for the selected lines to survivals in check rows containing Westar and Tobin. The check rows and inferior plants were usually hoed out before they flowered to assure that cross-pollination occurred only among selected plants. For B. napus, the seedling survivals of some selected lines were substantially and significantly higher than those of the checks, after 2 and 3 cycles of selection. For B. campestris, seedling survival and growth rate was substantially and significantly higher for some selected lines than for the checks, after 3 cycles of selection. Based on these results, the possibility of developing Canola cultivars with agronomically useful levels of resistance to flea beetles is discussed.

TUBER YIELD OF POTATO PLANTS IN RELATION TO DEFOLIATION
BY COLORADO POTATO BEETLE: ESTIMATION TECHNIQUES.

Derek J. Lactin

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba Canada, R3T 2N2.

Colorado Potato Beetles (CPB) (Leptinotarsa decemlineata (Say) (Coleoptera: Chrysomelidae)) feed on leaves of potato (Solanum tuberosum L. (Solanaceae)), plants and reduce their tuber yield. Yield reduction of potato plants is generally expressed as a function of the number of CPB/plant. On potato plants, both leaf area and CPB population change over the growing season, hence the number of CPB/plant is at best a crude measure of attack intensity. Because reduction of tuber yield results from reduction in photosynthetic area of the potato plant, it is more informative to determine how the intensity and timing of defoliation affect tuber yield. This talk introduces a simple technique for the measurement of leaf area consumed by CPB of each instar in the field, and a new technique for estimation of mean leaf area of potato plants.

Repeated determination of each of these measures allows estimation of the proportion of leaf area removed on potato plants with known CPB infestation regimes. By expressing yield reduction as a function of the proportion of leaf area removed, results of independent yield-vs.-defoliation experiments can be compared both within and among potato cultivars.

CAN LEAF-AREA DIFFERENCES EXPLAIN DIFFERENCES IN POTATO CULTIVAR
SENSITIVITY TO DEFOLIATION BY COLORADO POTATO BEETLE?

Derek J. Lactin

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba Canada, R3T 2N2.

Colorado potato beetle (CPB), (Leptinotarsa decemlineata (Say) (Coleoptera: Chrysomelidae)) eats leaves of potato plants and by doing so, reduces marketable tuber yield. Plants of cultivar Norland are approximately four times as sensitive to such defoliation as are those of cultivar Russett-Burbank. Norland potato plants have a smaller leaf area than do Russett-Burbank plants; hence, a CPB infestation would remove a greater proportion of leaf area from a Norland plant than from a Russett-Burbank plant. Preliminary results suggest that the difference in mean leaf area of the plants of these cultivars explains some, but not all of the difference in sensitivity of tuber yield to defoliation. Other factors such as leaf characteristics and plant phenology may also contribute to this difference.

EFFECTS OF PERMETHRIN TREATMENT ON THE WEIGHT GAINS OF BEEF
HEIFERS SUBJECT TO STRESS CAUSED BY HORSE FLIES (DIPTERA: TABANIDAE).

P. E. K. McElligott,

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.

A study was carried out at the Seven Sisters Grassland Project, Manitoba, during the summer of 1987 to determine whether biweekly applications of permethrin to beef heifers could reduce the effect of biting horse flies on the animals' weight gains. A group of 55 yearling heifers was divided into two herds, in one of which the animals received biweekly spray applications of 1 L. of 0.1% permethrin, while the other herd served as an untreated control. Animals in both herds were weighed biweekly during the 6-wk fly season, and the mean average daily weight gain (ADG) was calculated for each 2-wk interval.

Mean ADG's for control and treated herds did not differ significantly for the first interval (ADG = 1.545 kg and 1.381 kg; $p = 0.240$), when fly pressure and daily temperature were low. During the second interval, fly pressure and maximum daily temperatures were very high and animals in the protected herd gained on average 0.35 kg/day more than those in the control group (ADG = 0.858 kg vs. 0.511 kg respectively; $p = 0.26$). During the subsequent 14-day interval both fly pressure and daily maximum temperatures dropped, and the control herd compensated for previously suppressed rates of gain, and on average gained more weight than the treated heifers (ADG = 1.238 kg and 0.819 kg respectively; $p = 0.004$). The combined influences of stress from horse flies and heat on the weight gains of growing beef heifers will be discussed.

THE SUSCEPTIBILITY OF MANITOBA HORN FLIES
TO PYRETHROIDS IN EAR TAGS.

Felix S. Mwangala,

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.

Horn flies, Haematobia irritans (L.) were collected from cattle dung using sweepnets. The flies were then assessed for their susceptibility to fenvalerate and permethrin in the field using the impregnated filter paper-petri dish method. Mortality was assessed after 2 hours.

The Manitoban strains showed resistance factors ranging from 0.05 to 14 when compared with the laboratory susceptible strain (Texas, Kerrville). The strains from untreated herds were more susceptible than the laboratory strain. Higher tolerances were observed in strains from herds where ear tags had been used for at least 4 years.

SUNFLOWER MIDGE: WITHIN FIELD DISTRIBUTION
VARIETAL RESISTANCE.

P. Palaniswamy and G. E. Bracken,

Agriculture Canada Research Station,
195 Dafoe Road,
Winnipeg, Manitoba, Canada R3T 2M9.

Surveys were conducted to determine the within field distribution of sunflower midge. Sunflower heads in each of several rows at different distances from the field edge (maximum 400m) were examined. The number of plants infested with the midge egg and the number of larvae/head decreased as the distance from the field edge increased at least within the first 100m. Assessment of the midge damage to sunflower heads also showed this edge effect and was more pronounced than in egg and larval surveys. The edge effect was not noticeable in all sides of the field.

Eleven sunflower varieties were tested for resistance to midge at Glenlea and Niverville in co-operation with the University of North Dakota and the Canada Agriculture Research Station, Morden, Manitoba. Based on numbers of larvae per head, midge density was 5 times greater at Glenlea than at Niverville. Resistance among the varieties ranged from complete destruction to over 70% of normal yield in both test areas. Generally head damage was positively associated with larval density for most varieties but some varieties showed tolerance for relatively high densities of larvae per head.

NATURAL HISTORY OF PYTHO LATREILLE
(COLEOPTERA: HETEROMERA: PYTHIDAE).

D. A. Pollock,

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.

Pytho Latreille is a small genus with 4 Nearctic and 5 Palaearctic species, which are restricted to areas of coniferous forest, and also to fairly high latitudes and/or altitudes. The larvae of Pytho, which have 4-5 instars, feed on the decaying cambium-phloem layer beneath the outer bark of dead, coniferous logs which have been dead for a minimum of 2 years. Early accounts of Pytho being predacious have been disproved. Despite the fact that Pytho, when present, may be very abundant in suitable host trees, little has been published regarding its natural history. This is especially true for the North American species. The life cycle of Pytho is 2 years in s. Manitoba, but may be as long as 4-5 years in n. Fennoscandia. A variety of stages may be found together in one tree because of the overlap in generations, caused by a wide temporary suitability range in host trees. Overwintering occurs in both the larval and adult stages, both of which have relatively high supercooling points and are freeze-tolerant. Adults emerging late in the season overwinter within the pupal cells and remain under bark until late spring, presumably when mating and dispersal occur. The bias in North America towards study of only important forest pest species has meant that taxa such as Pytho may remain virtually unknown, while groups such as the Scolytidae are comparatively well known. The natural history of Pytho is now fairly well understood, through the successful rearing of larvae and pupae of all North American species, and description of all world species as larvae. Numerous field and laboratory observations have contributed greatly to the knowledge of the North American species of Pytho, but there is still much more to investigate.

DEVELOPMENT AND PERFORMANCE OF ALSOPHILA POMETARIA
ON DIFFERENT SPECIES OF DECIDUOUS TREES IN MANITBA.

Blaine H. Timlick,

Department of Entomology, University of
Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.

The objective of this study is to examine the larval performance of Alsophila pometaris (Harris) on four species of deciduous trees, both when eggs hatched at normal times, and when egg hatch is delayed.

To achieve this objective, A. pometaria larvae were reared on leaves of Quercus macrocarpa (Michx.), Ulmus americana (L.), Salix lutea (Nutt.), and Betula glandulosa (Michx.) to determine differences in performance. In this experiment, larval performance was assessed on both larvae grazing on leaves in field cages, and on excised leaves in the

laboratory. Indices of larval performance were survival, duration of feeding, weight at the cessation of feeding before pupation, and the number of eggs produced.

Preliminary results indicate that A. pometaria larvae developed more rapidly, with greater weights and survival on younger leaves than they did on older foliage. U. americana seems to be the most suitable host for larval development, while Q. macrocarpa is observed to be the least suitable.

DENSITY, PARASITISM, AND DISEASE INCIDENCE OF LARVAE
OF THE BERTHA ARMYWORM IN MANITOBA 1973-1986.

W. J. Turnock,

Agriculture Canada Research Station,
195 Dafoe Road,
Winnipeg, Manitoba, Canada R3T 2M9.

Populations of larvae of the bertha armyworm, Mamestra configurata Wlk., in Manitoba showed similar trends over time: a decline from the outbreak of 1971-72 to very low densities from 1975-77, an increase to a peak during years 1979-81, and a subsequent decline. During the period of peak larval populations, brief (1 or 2 years) outbreaks (at least some fields with >20 larvae per m²) occurred at five locations in two regions, the Swan River Plain and the Valley River Plain, but not in the Western Uplands or the Manitoba Lowlands. In the first two regions, larval densities rose rapidly (from <1.6 to >13.8 larvae per m²) in one year. The general trend of population density appears to reflect the influence of weather, but biotic agents may be responsible for the differences in density among regions and locations, and in the timing, severity and duration of peak populations. Two parasitoids (Banchus flavescens Cress., Athrycia cinerea (Coq.) and two pathogens (a nuclear polyhedrosis virus (NPV) and fungi of the Entomophthorales) were the only biotic agents occurring regularly in larval populations. Of these, B. flavescens had the highest constancy among collections and may help to keep bertha armyworm populations at low densities. NPV was rarely found among larvae from low density populations but appeared in all populations that reached outbreak levels. No single biotic agent could be associated with the population declines because of multiple parasitism and the difficulty in partitioning mortality when only a single sample could be taken. The rapid increase of bertha armyworm larvae from very low to outbreak levels in one year will prevent predictions of outbreaks from being based on larval densities in the preceding year.

INHERITANCE OF MALATHION RESISTANCE IN TRIBOLIUM CASTANEUM
(COLEOPTERA: TENEBRIONIDAE) AND EFFECTS OF RESISTANCE GENOTYPES
ON FECUNDITY AND LARVAL SURVIVAL IN MALATHION-TREATED WHEAT.

N. D. G. White and R. J. Bell,

Agriculture Canada Research Station,
195 Dafoe Road,
Winnipeg, Manitoba, Canada R3T 2M9.

Malathion resistance in a strain of Tribolium castaneum was found to be malathion specific, triphenyl phosphate suppressible, autosomal, monofactorial, and semidominant after 15 generations of selection on up to 600 ppm malathion in flour. Confirmation of inheritance patterns was determined using filter paper resistance tests and repeatedly backcrossing heterozygotes to susceptibles. On wheat treated with 0, 4, 8 ppm malathion, with or without ground wheat (dockage), progeny production on insecticide-treated wheat was greatest by homozygous resistant parents whereas heterozygous parents were more productive than homozygous ones on untreated wheat. Different instars raised to adult on the same malathion-treated medium showed that the presence of dockage increased survival and that homozygous resistant larvae were much more resistant than heterozygotes. Mortality was greater in all larvae than in adults. At present, low frequency levels of malathion-resistant strains of T. castaneum in Canada and immigration of susceptible adults raising the proportion of heterozygotes or susceptible progeny, should minimize control failures with malathion.