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PROCEEDINGS OF THE

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MANITOBA

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Volume 36

1980

Philip S. Barker

Editor

Winnipeg, Manitoba

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ENTOMOLOGICAL SOCIETY OF MANITOBA

An official publication of the Entomological Society of Manitoba, printed by the Society and distributed, free of charge to members in good standing.

PREFACE

The contents of this issue of the Proceedings of the Entomological Society of Manitoba have been expanded to include abstracts of papers and posters presented at the thirty-sixth Annual Meeting of the Society. During the past ten years, the Proceedings have been restricted to keeping a record of the Business Meeting, but from now onwards the Proceedings will keep a more complete record of our annual meetings.

This issue also includes some rules for the preparation of abstracts submitted for publication in the Proceedings during the years to come. I trust that these simple rules will be a help, rather than a hindrance, to authors who prepare abstracts.

I am reminded that the Sociedad Mexicana de Entomologia tells all authors that abstracts of their talks, which appear in Folia Entomologica Mexicana, are considered to be valid publications. In our context, the Proceedings will, at least, provide a public record of talks presented at the Annual Meeting of the Society.

I take this opportunity to thank all of you who have contributed to this issue of the Proceedings for your efforts and splendid co-operation.

Philip S. Barker
Editor, Proceedings Entomol. Soc. Man.

ABSTRACTS OF PAPERS
PRESENTED TO THE
THIRTY-SIXTH ANNUAL MEETING
OF THE
ENTOMOLOGICAL SOCIETY OF MANITOBA
NOVEMBER 13 - 14, 1980
SEMINAR ROOM, FRESHWATER INSTITUTE
501 UNIVERSITY CRESCENT
UNIVERSITY OF MANITOBA CAMPUS
WINNIPEG

FLEAS OF GROUND SQUIRRELS FROM THE BIRDS HILL PARK AREA

V. I. BURACHYNSKY AND T. D. GALLOWAY

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

ABSTRACT: During the summers of 1979 and 1980, a survey of the ectoparasites on Franklin's and Thirteen-lined ground squirrels was conducted on two research plots near Birds Hill park, Manitoba. The dominant flea species on both species of ground squirrels was found to be Opisocrostis bruneri, which has been demonstrated to transmit plague. Franklin's ground squirrel was also found to be infested with Peromyscopsylla catatina, Megabothris quirini, M. acerbus, and Oropsylla rupestris at low levels. Thirteen-lined ground squirrels were found to also be infested with P. catatina, M. quirini, and Ctenophthalmus pseudagyrtis.

O. bruneri was found to have two peaks of adult activity on its principle hosts during the two years of this study. The first peak occurred in May co-incident with the emergence of female squirrels from their hibernation burrows. The second peak occurred in July co-incident with the emergence of

juvenile squirrels from breeding burrows.

A POSSIBLE FOOD CHAIN UNDER SNOW

C. W. AITCHISON

Department of Entomology, University of Manitoba, Winnipeg

R3T 2N2, Manitoba

ABSTRACT: Many small animals are active under snow in winter at temperatures near 0°C; their possible food chain was discussed. Snow mould, which grows in the litter at these low temperatures, includes the genus Cladosporium which is widely fed upon by collembolans of the winter-active genera Isotoma, Orchesella, and Tomocerus. Winter-active juveniles of the spider genera Agroeca and Pardosa, and adults of the small Ceraticelus laetus possibly feed upon the collembolans. Constantly-active and voracious shrews of the genera Blarina and Sorex feed on active invertebrate species and are known to eat spiders. The shrews, in turn, may be eaten by weasels (Mustela). Thus a food chain of a fungus and winter-active fungivores and carnivores, both invertebrate and vertebrate, may exist under snow.

CARABID BEETLES (COLEOPTERA: CARABIDAE) IN A FIRE DAMAGED
BOREAL FOREST

R. J. RICHARDSON AND N. J. HOLLIDAY

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

ABSTRACT: In 1977, a large intense fire occurred in an area of boreal forest north-west of Riverton, Manitoba. Four study sites were chosen: a trembling aspen site and a spruce site in each of the burned and unburned areas. Carabid beetles were collected using a grid of 16 pitfall traps in each site. The species diversity in the burned sites was lower than in the unburned sites, and species diversity was still declining in the unburned sites four years after the fire. The species found in the burned sites were also represented in the unburned sites.

THE GYPSY MOTH, LYMANTRIA DISPAR L. (LEPIDOPTERA: LYMANTRIIDAE)
AS A POSSIBLE THREAT TO FORESTS OF THE PRAIRIE PROVINCES OF
CANADA

F. J. MADRID

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

ABSTRACT: The gypsy moth is considered to be one of the most injurious insect pests of the hardwood forests in the New England region of the United States and southeastern Canada.

Since its introduction, last century, enormous amounts of money have been spent in attempts, first to eliminate it, and subsequently to control its expansion and minimize the damage. These efforts have also coincided with an extensive research program making the gypsy moth one of the most studied insects in North America.

Nevertheless, the pest is spreading in several directions in both the U.S.A. and Canada, where it has a stronghold in southern Quebec and eastern Ontario; recently it has also been reported in British Columbia. The possibility that the gypsy moth can be introduced or naturally colonize the boreal forest region cannot be ignored.

The Canadian winter climate has not proven to be a deterrent factor to the expansion of the pest. Additional factors such as the availability of preferred tree species in the boreal region and the lack of natural enemies in most of Canada, constitute a situation of very real threat to forests of the Prairie Provinces by the gypsy moth.

MERCURY AND SELENIUM UPTAKE BY PREDACIOUS AND DETRIVOROUS
AQUATIC INSECTS

B. E. TOWNSEND

Freshwater Institute, 501 University Crescent, Winnipeg,
R3T 2N6, Manitoba

ABSTRACT: The uptake of radio-labelled selenium and mercury by aquatic insects was studied in experimental aquatic ecosystems ($\approx 10^5$ l tube enclosures) set into a mercury contaminated lake. Experimental treatments consisted of increasing stable selenium concentrations from below detection limits in two controls to 1, 10, and 100 ug/l in three additional enclosures. Selenium uptake was similar and very rapid in all species, whereas mercury accumulation varied and seemed related to trophic level. Elevated selenium appeared to retard the rate

of mercury bioaccumulation by predacious insects (Chaoborus, Sialis, and Clinotanypus) but had no effect on the detritivorous species sampled (Hexagenia limbata and Chironomus plumosus).

HOW TO IDENTIFY DIAPAUSE IN ADULT FEMALE MOSQUITOES

PETER ARNTFIELD

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

ABSTRACT: Several techniques have been used in previous studies to identify a female mosquito that is in diapause. These techniques have involved measurement of the size of the fat body in the mosquito, the amount of lipid in the mosquito expressed as a percentage of wet or dry weight, blood feeding expressed as a percentage of the total number of females offered blood, oviposition rate throughout the summer, ovary length, and ovariole development.

The follicle-germarium ratio of the ovariole has been examined for Culex tarsalis Coquillet, Culiseta inornata (Williston), and Anopheles earlei Vargas, mosquitoes that overwinter as adults in Manitoba. This ratio, as an indicator

of diapause, is easy to determine and is fairly accurate when other factors such as fat body development are also considered.

MANITOBA CATTLE GRUB SURVEY, 1980

T. D. GALLOWAY

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

ABSTRACT: More than 65,000 cattle were surveyed in three Manitoba packing plants in 1980 (12 February to 27 June) for the incidence of cattle grubs (Hypoderma spp.). The first live grubs appeared on 12 March and levels of infection increased to a peak on the week ending of the 16 May. By the week ending on the 27 of June, nearly all live grubs had emerged from the animals. Cattle which originated in Manitoba had higher levels of grub infection than those from Saskatchewan. All second and third instar larvae examined were H. bovis (L.). No H. lineatum (de Villiers) were found.

DEGRADATION AND TRANSLOCATION OF MALATHION AND FENITROTHION IN
WHEAT STORED AT VARIOUS TEMPERATURES

M. H. K. ABDEL-KADER AND G. R. B. WEBSTER

Pesticide Research Laboratory, Soil Science Department,
University of Manitoba, Winnipeg, R3T 2N2, Manitoba

ABSTRACT: Malathion and fenitrothion (EC) were applied as water-based solutions to provide deposits of 8 ppm (AI) on wheat (12% m.c.). The treated grain was stored at -35, -20, -5, 5, 10, 20, and 27°C to determine the influence of Canadian storage temperatures on the rate of malathion and fenitrothion degradation. Very little (<3%) breakdown of both insecticide residues occurred on wheat that had been stored at -35° and -20°C. As the temperature increased, the insecticide residue decreased, the rate depending on the age of the deposit. After 72 weeks, 26, 41, 95, and 96% of the malathion initial deposit had been lost in wheat stored at -5, 5, 10, 20, and 27°C, respectively. Corresponding values for fenitrothion were 18, 35, 56, 90, and 96%.

Application of both insecticides at a higher initial rate resulted in residue levels in whole wheat and its

fractions that were above the tolerance levels established by the joint FAO/WHO Committee on Pesticide Residues. However, with increased duration of storage of treated wheat, the residues progressively declined to within tolerance limits except for bran milled from wheat stored at colder temperatures.

RELATIONSHIP BETWEEN GRAIN DRYING AND MORTALITY OF SOME
STORED GRAIN INSECTS

L. B. SMITH

Research Station, Agriculture Canada, 195 Dafoe Road,
Winnipeg, Manitoba

ABSTRACT: The relationship between the temperatures used to dry grain artificially and the temperatures required to achieve 100% mortality of some stored grain insects was examined. The species for which a thermal death point was determined in immature and adult stages were Cryptolestes ferrugineus, Tribolium castaneum, Sitophilus granarius, S. oryzae, and S. zeamais. After an exposure time of 1 hr, complete mortality of C. ferrugineus was obtained at 65°C, and of the other species, at 55°C. For drying grain, the maximum temperatures

recommended to preserve germinability are 60°C for wheat, and 45° for oats and barley. The maximum temperatures recommended for grain to be used for commercial purposes are 65°C for wheat, 60°C for oats and 55° for barley. In general, 100% mortality of C. ferrugineus would be possible only in wheat to be used for commercial purposes. The other species would have 100% mortality in wheat, oats and barley dried for commercial use. These conclusions are based on the assumption that the grain temperatures reach the maximum recommended temperatures for drying and remain at that temperature for at least 1 hour.

AN ATTEMPT AT CONTROL OF THE MITE, Lepidoglyphus destructor,
(Schrank) (ACARINA: GLYCYPHAGIDAE), WITH CARBON DIOXIDE

PHILIP S. BARKER

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

ABSTRACT: The aim of these experiments was to find out if carbon dioxide, a residue-less fumigant, could effectively control the mite, Lepidoglyphus destructor, in stored wheat. Dewar flasks filled with dry ice were placed in bulks of

wheat. Carbon Dioxide evolved slowly from the insulated dry ice for more than 10 days. Carbon dioxide concentrations declined from 90% on day 1 to 61% on day 10. Populations of the mite, which were in glass tubes in the wheat, produced hypopi in response to the high concentrations of carbon dioxide. Fertile adult mites emerged from the hypopi a few days after the latter were returned to normal atmospheres. It was concluded that high concentrations of carbon dioxide which were maintained for more than 10 days did not eradicate the mites from the wheat.

INSECT PREDATION BY FISH

W. G. FRANZIN

Freshwater Institute, 501 University Crescent, Winnipeg,

R3T 2N6, Manitoba

ABSTRACT: The diversity of Manitoba's freshwater fish and aquatic insect fauna were contrasted. Some 83 species of fishes from eight orders occur in Manitoba's freshwaters as compared with, perhaps, 6500 species of insects from thirteen orders. The effect of different types of habitat on the diversity of fishes and insects was reviewed. The vulnerability

of insects to predation by fish and the importance of insects as food for fish at some point in the life cycle of various locally important fish species were discussed. Examples were provided from the literature and from the author's studies of minnow populations in a small Northwestern Ontario lake which illustrated the variable proportions of aquatic insects in fish diets among species in one lake. The relative availability to, or preference by, three species of minnows for different insect orders in a small lake was shown by a comparison of insect emergence data and composition of fish diets.

Finally an approximation of the economic value of aquatic insects in Manitoba waters (perhaps \$5 million annually) was given as determined from estimates of the value of commercial and sport fisheries.

PREY SELECTION BY CAPTIVE OVENBIRDS

R. ZACH

Whiteshell Nuclear Research Establishment, AECL, Pinawa,

ROE 1LO, Manitoba

ABSTRACT: Prey selection by captive ovenbirds (Seiurus aurocapillus) was examined in a series of experiments. Birds chose novel prey types on the basis of size, preferring large prey, but selection for size was relaxed with increased familiarity with the prey. Experienced birds chose prey on the basis of profitability, that is caloric gain per unit handling time, preferring prey of high profitability. However, prey size and profitability were significantly positively correlated. Prey size, handling time, and percentage chitin accounted for about half of the variation in mean preference rank. Handling time increased steeply with decreasing hunger. During a prolonged experiment, birds mixed their diet although they fed almost exclusively on a preferred prey type. In general, these results are consistent with optimal foraging theory.

SMALL MAMMALS AS PREDATORS OF INSECTS

C. H. BUCKNER

Canadian Forestry Service, Ottawa, K1A 1G5, Ontario

ABSTRACT: Mammalian predation of insects inhabiting larch trees in Eastern Manitoba, has been studied for 15 years. The principle prey insects were Pristiphora and Semiothisa. Both are preyed upon by small mammals during their soil inhabiting phase. No numerical responses of mammals could be attributed to variations in prey numbers, but fortuitous predation, resulting from population shifts in mammals, sometimes occurred. Strong functional responses occurred including small mammal dietary shifts and behavioral changes including hoarding and wasteful feeding. Tests for mammalian predation as a key factor in insect population dynamics were positive for Semiothisa and negative for Pristiphora. During the course of the study, Pristiphora populations remained at a high level, whereas Semiothisa remained at relatively low levels. It is possible that mammalian predation is regulatory for both species at low insect population densities, but not at high densities.

COCCINELLID PREDATION OF APHIDS: THE FUNCTIONAL RESPONSE

AT LOW PREY DENSITIES

N. J. HOLLIDAY

Department of Entomology, University of Manitoba, Winnipeg

R3T 2N2, Manitoba

ABSTRACT: The characteristics of predator response to prey density were outlined. Field and laboratory studies of Hyppodamia tredecimpunctata (Coleoptera: Coccinellidae) feeding on Acyrtosiphon pisum (Homoptera: Aphididae) on faba bean were described. In laboratory experiments, increases in prey density and in temperature increased the rate of disappearance of aphids from faba bean plants. The rate of disappearance was lowest (but not zero) in controls without predators, and highest in trials with female predators; in trials with male predators the rate of aphid disappearance was intermediate.

INSECT PREDATION BY PARASITES

GLEN WYLIE

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

ABSTRACT: The general characteristic of insect parasites (= parasitoids) were outlined, followed by a summary of the various ways in which these species have been used in attempts to reduce the abundance of insect pests. An assessment of biological control programmes with insect parasites was presented. A biological control programme underway in Manitoba against crucifer-feeding flea beetles, Phyllotreta spp. was described and illustrated.

POSTERS
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501 UNIVERSITY CRESCENT
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WINNIPEG

PERMETHRIN DEGRADATION IN AN AQUATIC SYSTEM

G. P. RAWN¹, G. R. B. WEBSTER², AND D. C. G. MUIR²

¹Pesticide Research Laboratory, Department of Soil Science
University of Manitoba, Winnipeg, Manitoba R3T 2N2

²Freshwater Institute, Department of Fisheries and Oceans,
501 University Crescent, Winnipeg, Manitoba R3T 2N6

ABSTRACT: The objectives of this experiment were to determine the bioactivity and fate of permethrin in an aquatic system. Outdoor artificial pools treated with the synthetic pyrethroid permethrin at 0.028 kg ai/ha (15 ppb) resulted in 100% mortality of lab-reared fourth instar Aedes aegypti larvae immediately and for 12 h post-treatment; only 24% mortality was found after 24 h and none was observed at 72 h. Residue analysis were conducted by direct combustion or by TLC-autoradiography, HPLC, and liquid scintillation counting. Radiotracer data indicated a rapid loss of permethrin from the water which corroborated the bioassay results. Permethrin degradation products in the water were found to be more persistent than permethrin itself. Five degradation products were detected

in the water of which four have been identified. Permethrin was sorbed by the vegetation and hydrosol and was degraded, but with the cis - permethrin being more persistent in the hydrosol and vegetation than the trans - permethrin. From these results we concluded that permethrin bioactivity against Aedes aegypti was short-lived at 15 ug/L as a result of the rapid degradation of permethrin in the water and the sorption of permethrin by the hydrosol and vegetation.

THE CHRYSOPIDAE OF CANADA AND ALASKA

J. A. GARLAND

Department of Entomology, Macdonald College of McGill University,
Ste Anne de Bellevue, H9X 1C0, Quebec

ABSTRACT: The display was intended to inform co-operating institutions of the progress of the project and, especially, to alert Manitoba entomologists of distribution gaps and the desirability of more collections of Chrysopidae from their region.

The posters explained that several factors combined to limit the scope of the work to the northern half of the

Neartic Region, with particular emphasis on Canada. One of the posters contained a variety of figures which indicated the different structures currently employed in the taxonomy of green lacewings. Included also, were views of the head and reproductive structures in both sexes.

In summary, the author requests that more directed collecting be done during the coming season, which will still be possible to include in the project, if specimens can be sent to him after July 1981.

OBJECTIVES AND RULES FOR PREPARATION OF ABSTRACTS FOR SUBMISSION
TO THE PROCEEDINGS OF THE ENTOMOLOGICAL SOCIETY OF MANITOBA

There are several objectives to be sought in the preparation of abstracts of papers, presented at the annual general meeting, that are to be published in the PROCEEDINGS OF THE ENTOMOLOGICAL SOCIETY OF MANITOBA. To help authors of abstracts to achieve the objectives, I have listed some rules.

OBJECTIVES:

1. A uniform format is essential for the good presentation of the Proceedings. This format must survive from year to year.

Format includes such things as the proper centering of a title and author's name. Another example is the use of upper case lettering for titles, etc.

2. A uniform style of writing the abstracts is necessary so that objectives, results, and conclusions are clearly stated and can be found easily by the readers.

RULES:

1. Each abstract must have a title in upper case lettering, be centered, and be typewritten double-spaced.
2. The author's name(s) must be in upper case. Initials must precede the surname. There must be 1.5 double spaces between the title and author's name.
3. The author's work address must be in lower case lettering, but capitalized. The address must be double spaced if it is longer than one line. There must be a single double space between the author's name and address.
4. The abstract must be indented 5 spaces. The word ABSTRACT must be written in upper case lettering and must be followed by a colon. The word abstract must be the first word of the first line of the abstract. The abstract itself must be separated by 1.5 double spaces from the author's address.

5. All abstracts must not exceed 350 words (about 1.5 pages of double-spaced typing), and must have 3 cm margins.
6. Abstracts of original research must consist of:
 - a) a brief introduction which contains the objective(s) of the work.
 - b) a brief description of the methods.
 - c) a synthesis of the results obtained.
 - d) the relevant conclusions that are reached.
7. Abstracts of reviews of the literature must contain:
 - a) a real synthesis of work done.
 - b) must reach a conclusion.
8. Abstracts that are so general, nebulous, or superficial, that their contents can be found in any good text, will be rejected.

Philip S. Barker

Editor, Proc. Entomol. Soc. Manitoba

MINUTES OF THE 36 ANNUAL MEETING
ENTOMOLOGICAL SOCIETY OF MANITOBA

14:00 h., 14 November, 1980

Seminar Room

Freshwater Institute, 501 University Crescent, Winnipeg,
R3T 2N6, Manitoba

The President, Dr. W. B. Preston, presided. A quorum being present, the President called the meeting to order and asked the Secretary, Dr. R. Lamb, to take minutes of the meeting.

Present

Executive: Dr. W. B. Preston, President; Dr. A. G. Robinson, President Elect; Dr. J. E. Guthrie, Past President; Dr. W. B. McKillop, Member at Large; Dr. T. D. Galloway, Regional Director; Dr. R. J. Lamb, Secretary.

Executive staff: W. L. Askew, Treasurer; Dr. T. D. Galloway, Editor of the News Letter; Dr. P. S. Barker, Editor of the Proceedings.

<u>Members:</u> Buckner, C. H.	Nairn, L.
Ellis, R. A.	Conroy, J.
MacKay, P. A.	Wylie, H. G.
Smith, L. B.	Arntfield, P.
Watters, F. L.	Burachynsky, V.
Turnock, W. J.	Jay, S. C.
Webster, G. R. B.	Ayre, G. L.
Chance, M.	Gerber, G.
Loschiavo, S. R.	Laufersweiler, P. M.
Flannagan, J. F.	Smith, D. L.

1. Agenda (Appx. A)

Motion - Conroy/Arntfield: Adoption of the Agenda.

Carried

2. Minutes of the last Annual Meeting

Motion - Conroy/Guthrie: Adoption of the minutes of the 35th Annual Meeting of the Entomological Society of Manitoba Incorporated, held on the 9 November, 1979, and published in the Proceedings of the Entomological Society of Manitoba (Vol. 35, 1979).

Carried

3(a). Business arising from the minutes

Business arising from item 5(a) on page 4 of the minutes. President W. B. Preston indicated that the Executive examined the objectives of the Endowment Fund and as a result appointed the Treasurer to the Endowment Fund Board.

Business arising from item 6(i) on page 5 of the minutes. President W. B. Preston indicated that the Executive passed a motion approving the publication of abstracts of papers presented at the Annual General Meeting, in the Proceedings of this Society.

3(b). Auditor's Report (Appx. C-3)

The auditor's report on the fiscal year ending on the 31 August, 1980, was distributed at this meeting.

Motion - Conroy/McKillop: Acceptance of the auditor's report.

Carried

EXECUTIVE REPORTS

4(a). President (Appx. B)

Motion - Guthrie/Ellis: Acceptance of the President's report as read.

Carried

4(b). Treasurer (Appx. C)

Question: G. Ayre asked for clarification of the cause of the deficit.

Answer: The bank incorrectly deposited \$26.00 a year in the Society account to a total of \$655.00 including accrued interest. This amount was reimbursed to the bank in this budget year, causing a deficit.

Motion - Askew/Ayre: Acceptance of the Treasurer's report.

Carried

4(c). Appointment of Auditor

Motion - Askew/L. Smith: That Miss Helen Samboluk be appointed to audit the Society's accounts and financial records.

Carried

4(d). Editor - THE MANITOBA ENTOMOLOGIST

W. Askew reported for the editor that Vol. 12 is at the printers and that \$505.00 is outstanding in unpaid page and reprint charges.

Motion - Barker/Wylie: Acceptance of the editor's report.

Carried

4(e). Regional Director to E.S.C. (Appx. D)

Motion - Galloway/Ayre: Acceptance of the Regional Director's report.

Carried

BOARD REPORTS

5(a). Endowment Fund Board (Appx. E)

L. Nairn indicated that \$655.00, to reimburse the bank, (Item 4(b) in the minutes) was paid out of the Endowment Fund.

Motion - Ellis/Flannagan: Acceptance of the Endowment Fund Board report (L. Nairn, chairman).

Carried

5(b). Editorial Board: No report. (G. Bucher, chairman).

COMMITTEE REPORTS

6(a). Publicity (Appx. F)

Motion - Turnock/Loschiavo: That a copy of each Newsletter be sent to the Editor of the Bulletin of the Entomological Society of Canada.

Carried

Motion - Galloway/Barker: Acceptance of the Publicity Committee report (T. Galloway, chairman).

Carried

6(b). Social (Appx. G)

Motion - Jay/Barker: Acceptance of the Social Committee report (C. Jay, chairman).

Carried

6(c). Youth and Education (Appx. H)

Motion - Guthrie/Ellis: Acceptance of the Youth and Education Committee report (V. Burachynsky - chairman).

Carried

6(d). Insect Common Names

A. G. Robinson, chairman, indicated that no communications concerning proposals for new common names had been submitted. A working document on the common names of Canadian insects has been received for checking.

6(e). Manitoba Environmental Council

The Society had no representative on the Council this year.

6(f). Winnipeg Insect Pest Management (Appx. I)

Motion - Wylie/Galloway: Acceptance of the Winnipeg Insect Pest Advisory Committee report (G. Wylie - chairman).

Carried

6(g). Awards (Appx. J)

Motion - Watters/Guthrie: Acceptance of the Awards Committee report (F. Watters - chairman).

Carried

W. Preston read out a thank-you letter from C. McGinnis, a recipient of an award.

6(h). Archivist (Appx. K)

Read by W. Preston.

Motion - Conroy/Barker: Acceptance of the Archivist's report (R. Heron).

Carried

6(i). Scientific Programme (Appx. L)

G. R. B. Webster expressed the committee's thanks to Mr. F. M. Frittaion, Freshwater Institute, for assisting the Society to publicize the Annual Meeting.

Motion - Webster/Barker: Acceptance of the Scientific Programme Committee report (G. R. B. Webster, chairman).

Carried

Motion - Conroy/Guthrie: that the Society extend a special vote of thanks to the Committee for the excellent arrangements and facilities for the programme.

Carried

6(j). ESC Fellowships and Awards

A. G. Robinson reported that the Committee would recommend to the ESC four members of the Society as potential Fellows.

ELECTION OF EXECUTIVE

7(a) 1980 - 81 Executive

W. B. Preston noted the withdrawal of A. Ashraff from the

Presidential Ballot, and requested ratification of B. McKillop as the President Elect.

Motion - Conroy/Wylie: Ratification of B. McKillop as President Elect.

Carried

7(b). W. B. Preston declared the results of the 1980 ballot for election to the 1980 - 1981 Executive to be:

President	- A. G. Robinson
President Elect	- B. McKillop
Past President	- W. B. Preston
Member-at-Large	- A. Kollach
Regional Director to the ESC	- T. Galloway

TRANSFER OF OFFICE

8(a). W. B. Preston, President, thanked the present executive for their support during this term of office. W. B. Preston expressed his pleasure to install Dr. A. G. Robinson as President of the Entomological Society of Manitoba for the term 1980 - 1981, and presented him with the Society's gavel.

A. G. Robinson expressed his thanks to W. B. Preston.

OTHER BUSINESS

9(a). There being no further business A. G. Robinson called for adjournment.

ADJOURNMENT

10(a). Motion - Conroy/Chance: That the 36th Annual Meeting of the Entomological Society of Manitoba be adjourned.

Carried

10(b). The 36th Annual Meeting of the Society was adjourned at 15:20 h of the 14 November 1980.

R. J. Lamb
Secretary

A. G. Robinson
President

Appendix A

36th Annual Business Meeting

14 November 1980

AGENDA

1. Adoption of Agenda
2. Adoption of Minutes of the 35th Annual Business Meeting held 1979 November 9
3. Business arising from the Minutes
4. Executive Reports
5. Board Reports
6. Committee Reports
7. 1980 - 1981 Elections Mail Ballot
8. Transfer of Office
9. Other Business
10. Adjournment

Appendix B

36th Annual Meeting

PRESIDENT'S REPORT

I am most honored to have been chosen to serve as your president for the term 1979-80, particularly since I consider myself an amateur entomologist. One of the things I wished to do during my term of office was to encourage amateur entomologists to join our society and to encourage interested people to become amateur entomologists. Although ours is a professional society our membership is open to "any person interested in entomology," and, of course, who has five dollars. Perhaps we should remind ourselves, at this point, of the definition of an amateur: one who pursues an activity for the pleasure of it. I think we sometimes tend to confuse the amateur with the novice. (Referring back to my first statement I should confide in you that although I have pursued entomology as a hobby for a little over 20 years, actually I consider myself a novice). In providing encouragement to amateur entomologists we can create a greater public interest in entomology and this would most certainly benefit entomology as a profession.

I believe we all realize the importance of communicating directly with the public. Our Polo Park Shopping Centre exhibits over the years have been quite successful, judging by the interest shown. Unfortunately, due to a booking problem, this year we did not have an exhibit. Although they do require some time, in terms of man hours, and the summer is a busy time for all of us, these exhibits do provide an excellent opportunity for the working entomologist to communicate directly with the public and to enhance our public image.

On the same theme, I would like to emphasize the importance of the media program initiated by Dr. Guthrie during his term of office. Unfortunately before the project was completed our media chairman had to resign due to other pressures. Hopefully for the coming year we can find someone with a strong interest and a

special talent in this field to see the project to completion.

Our membership, now standing at 141, has been increasing over the past few years, but now appears to be leveling off. Unless there is to be an influx of professional entomologists, which seems unlikely at present, our greatest potential for growth in our society appears to be through amateur entomologists, as well as new students.

I would like to take this opportunity to thank the executive staff, board chairmen and members, and committee chairmen and members for their support during my term of office. I wish to extend special thanks to Dr. Webster and his committee for a job well done in arranging our scientific program and to Dr. Jay for the banquet arrangements as well as for the new members' social and the four luncheon meetings held during the year.

William B. Preston

President
1979-80

Appendix C-1

THE ENTOMOLOGICAL SOCIETY OF MANITOBA
 STATEMENT OF RECEIPTS AND DISBURSEMENTS
 FOR THE YEAR ENDING AUGUST 31, 1980

RECEIPTS:

Membership	\$ 555.00	
Subscriptions	670.16	
Page Charges	2,615.00	
Reprints	784.00	
Committees	196.00	
Annual Meeting	935.00	
Current Account Credits	43.63	
Uncashed cheque (#341)	<u>3.00</u>	\$5,801.79

DISBURSEMENTS:

Printing	4,729.72	
Stationery	38.58	
Typing	424.45	
Postage	466.19	
Bank Charges	23.78	
Committee Expenses	410.11	
Meetings - Annual	951.46	
Return of deposits/interest from Guaranteed Investment Certificate debited in error	655.59	
Miscellaneous	<u>58.90</u>	7,758.78
Net Loss from Operations		(1,956.99)
G.I.R. Investment Income		1,559.26
Investment Interest		<u>315.93</u>
NET INCOME for Year Ending August 31, 1980		(81.80)

Appendix C-2

THE ENTOMOLOGICAL SOCIETY OF MANITOBA
BALANCE SHEET
FOR THE YEAR ENDING AUGUST 31, 1980

ASSETS:

Current Account Bank Balance		\$ 627.65
Savings Account Bank Balance		4,319.02
Investments: #J33544	\$2,000.00	
#Q95692	2,000.00	
#Q77695	3,000.00	
#Q0889G	3,000.00	
#JC5048	2,000.00	
#RC5523	2,200.00	
#GE0069	<u>2,000.00</u>	\$16,200.00
Petty Cash: Treasurer		25.00
Secretary		<u>50.00</u>
		<u>\$21,221.67</u>

LIABILITIES AND SURPLUS:

Liabilities	nil	
Surplus Account		
Balance as at 31/8/79	\$21,303.47	
Net Income for Period	<u>(81.80)</u>	<u>\$21,221.67</u>

Appendix C-3

THE ENTOMOLOGICAL SOCIETY OF MANITOBA
AUDIT REPORT FOR THE YEAR ENDED
AUGUST 31, 1980

I have examined the records of the Entomological Society of Manitoba for the year ended August 31, 1980.

In my opinion the attached financial statements present fairly the financial position of the Society as at the year ended August 31, 1980 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.

Helen Samboluk

Appendix D

E.S.C. REGIONAL DIRECTOR'S REPORT - 1980

The Governing Board meeting was held this year in Quebec City at the joint meeting of the E.S.C. and the Société d'Entomologie du Québec in October. Items arising from the minutes which are of general interest to the members will be published in the E.S.C. Bulletin. There are however, several items which may be of direct interest to E.S.M. members.

First, Dr. S. R. Loschiavo is now the president of the E.S.C., taking over from Dr. W. J. Turnock. Hopefully, this extended Manitoba representation on the E.S.C. Executive Committee will result in an increased awareness in Manitoba entomologists, of the role played by the E.S.C. and the importance of their continued support and participation.

Of special interest to the E.S.M. is the report of the Fellowship Committee. At the present time, approximately 7% of the E.S.C. membership are Fellows of the Society. The total number of Fellows is not to exceed 10%. Therefore, it is possible that additional Fellows may be named. However, the regional societies may only put forward names of candidates to the Fellowship Committee, without the necessity of actual fellowship appointment.

As is so often characteristic of newsletter bulletin editors, the E.S.C. Bulletin editor has been short on items of regional society interest. He has made a plea to the regional society members to submit any items that may be of interest, to him for publication in the Bulletin.

Ms. Katherine M. McGinnis, Department of Entomology, University of Manitoba and member of E.S.M. was awarded an E.S.C. postgraduate scholarship at the banquet held at the 1980 joint meeting in Quebec City. Ms. McGinnis is the first Manitoba student to receive this award.

T. D. Galloway
Regional Director, E.S.C.

Appendix E

ANNUAL REPORT OF THE ENDOWMENT FUND BOARD

Bonds to the value of \$2000 each matured October 1979 and July 1980 for the total of \$4000.

Bonds of \$2200 and \$2000 were purchased November 1979 and July 1980 respectively for the total of \$4200.

Thus for the year ending August 31, 1980 investments are up \$200 over the previous year.

All investments are in Guaranteed Investments certificates with Royal Trust Corp. as follows:

<u>Reg. No.</u>	<u>Amount</u>	<u>Interest %</u>	<u>Maturity</u>	<u>Annual Income</u>
J33544	\$ 2,000	10.375	July 1981	\$ 207.50
Q95962	2,000	9.625	Apr. 1982	192.50
Q77695	3,000	9.375	Nov. 1982	281.25
Q0889G	3,000	10.375	Dec. 1983	311.25
JC5048	2,000	10.125	Apr. 1984	202.50
RC5523	2,000	12.375	Nov. 1984	272.25
GE0069	2,000	11.875	July 1985	237.50
	<u>\$16,200</u>	avg. 10.523%		<u>\$1,704.75</u>

Publishing costs for the Manitoba Entomologist are estimated to be approximately the same as last year due to a smaller edition lowering the inflated price.

The Endowment Fund Board now has the Treasurer of Ent. Soc. Man., as a member of the Board.

W. Askew
R. Brust
L. D. Nairn, Chairman

Appendix F

ANNUAL REPORT OF THE PUBLICITY COMMITTEE

Three newsletters were prepared and distributed to ESM members in 1980, and two (2) copies of each have been sent to the National Library of Canada. I would like to thank all those members who submitted material for publication in the Newsletter. Without the support of the membership our Newsletter could not continue.

T. D. Galloway

Appendix G

ANNUAL REPORT OF THE SOCIAL COMMITTEE

Several events were the responsibility of the Social Committee this year.

(1) New Members' Night

This was held at the University of Manitoba Faculty Club during January of 1980, with 74 members in attendance. Mr. Robert Taylor, a well known nature photographer gave an excellent slide lecture relating to the Hudson Bay Coastline.

(2) Noon Hour Luncheons

There were four noon hour luncheons held with an average attendance of 25. All of the guest speakers were interesting and informative.

(3) Annual Banquet

This was held at the New Holiday Inn, Pembina Highway, on Friday, November 14, 1980. The 64 people who attended enjoyed themselves immensely; both because of the fine meal and because of the entertainment (The Meadowlarks).

The chairman appreciates the fine co-operation he received from various members of the Society in organizing the above events --particularly Bob Lamb and Bill Preston.

The committee recommends that all of these activities be continued next year.

S. C. Jay
Chairman, Social Committee

Appendix H

YOUTH AND EDUCATION COMMITTEE

Members of the Y.E.C. have been involved in a variety of activities over the past year that served to educate the public about entomology. The established tradition of visiting Beaver groups has been maintained, as in the past, with great success. We had one field trip to Fort Whyte this past May and a workshop on the construction of collecting equipment was held in July.

Members of the committee have responded to many requests to supply speakers at meetings of special interest groups. Dr. P. Arntfield gave a presentation in February to a group of children with learning disabilities. Dr. T. D. Galloway was invited to give two seminars on "Insects in the classroom" to elementary and secondary school teachers at the STAM-MOSST symposium held on campus last October. In addition the committee chairman was invited to speak to the Winnipeg Dachshund Society in March and to the Newfoundland dog club of Manitoba in May.

It is the recommendation of this committee that established programs aimed at youth be maintained, and at the same time develop new programs to reach the many special interest groups in the Winnipeg area. The committee would like to suggest that a study be made of the feasibility of constructing a permanent mobile exhibit on the role of entomology in Manitoba. Such a display may be used at various public functions.

The committee would like to thank all those individuals who supported and participated in our activities over the past year.

P. Arntfield
V. I. Burachynsky (chairman)
J. Conroy
W. Preston
T. D. Galloway

Appendix I

WINNIPEG INSECT PEST MANAGEMENT ADVISORY COMMITTEE

Report of the E.S.M. Representative

A meeting of the Committee, held 31 January, 1980, reviewed research activities and control operations of the City of Winnipeg Insect Control Branch in 1979, and dealt with Branch plans for 1980 against mosquitoes, forest tent caterpillars, fall cankerworm, elm bark beetles, and miscellaneous insect pests. Dr. Hegdekar represented the Society at this meeting.

H. G. Wylie,
Representative

Appendix J

ANNUAL REPORT OF THE AWARDS COMMITTEE

The 1980 Awards Committee consisted of Dr. F. L. Watters, chairman; and Dr. A. G. Robinson, Department of Entomology, University of Manitoba.

Nominations for the Undergraduate Student Achievement Award were requested from the Department of Entomology, University of Manitoba; Department of Zoology, University of Manitoba; Department of Biology, University of Winnipeg; Department of Zoology, University of Brandon.

Two nominations were received from the Department of Entomology, University of Manitoba: Miss Kathryn McGinnis and Mr. Patrick Copps. Since both nominees have earned excellent academic records it was decided that each student should receive an award. Miss McGinnis is continuing her studies towards a M.Sc. in entomology at the University of Manitoba. Mr. Copps is continuing his studies towards a M.Sc. in entomology at the University of Guelph.

F. L. Watters
Chairman
Awards Committee

Appendix K

ANNUAL REPORT OF THE ARCHIVIST

Progress is being made, albeit slowly, in preparing an historical review of the Society's activities. Currently a year by year summarization of the significant material in the files is being compiled.

It is proposed that the review cover the first 35 years of the Society's existence (1945-1980). Hopefully action on this project will proceed at an accelerated pace during the next few months.

R. J. Heron
Archivist

Appendix L

ANNUAL REPORT OF SCIENTIFIC PROGRAM COMMITTEE

The committee worked hard this year to provide an interesting program and was gratified to have so many good papers submitted from the membership. The symposium addressing our theme, Predator Prey Relationships, attracted a large audience and drew speakers from various university and government laboratories, both from within Manitoba and from Ottawa. I therefore submit this year's program as the major portion of this year's report.

It is worth nothing, I believe, that several new features were added by this year's committee:

- a) the committee of six began working in January
- b) abstracts of all papers were made available at the meeting
- c) a complementary poster session attracted several worthwhile presentations.

In addition, the committee will produce a protocol for future committees on organization of the Annual General Meeting scientific program.

The committee is grateful to our guest speaker, Dr. George Ball, for his excellent lecture and to Dr. Sam Loschiavo for his comprehensive report as president of the Entomological Society of Canada. Thanks are due to all of the speakers for their concise papers and to poster authors for effective presentations. Particular thanks go to Dr. Pat MacKay and Dr. Bob Lamb for hosting the mixer to meet the guest speakers on the evening of November 13. Thanks are also due to the Society executive for their support and to the Freshwater Institute for hosting the meeting in their excellent seminar facilities. Finally, I would like to thank the members of the Scientific Program Committee, R. J. Lamb, N. J. Holliday, J. Flannagan, M. H. K. Abdel-Kader, and G. P. Rawn for their time, cooperation, and effort invested in the meeting, and Dr. Cam Jay for his work in arranging the Annual Banquet.

G. R. Barrie Webster, Chairman