of the Entomological Society of Canada

Bulletin

VOL. 6. NO. 2. JUNE. 1974

THIS ISSUE

V. R. Vickery — Editor (Society Publications)
D. C. Eidt — Assistant Editor (Bulletin)

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The **Bulletin** is your medium for publishing and receiving news and opinions. It is the principal medium by which the ESC keeps you informed.

CONTRIBUTIONS

Contributions and correspondence should be sent to: D. C. Eidt, Editor, Bulletin of the Entomological Society of Canada, P. O. Box 4000, Fredericton, New Brunswick E3B 5G4. Inquiries about subscriptions and back issues should be refered to the Treasurer, Entomological Society of Canada, 1320 Carling Ave., Ottawa, Ontario, K1Z 7K9.

BOOK REVIEWS

Books for review should be sent to Dr. Carl Yoshimoto, Chairman, Editorial Board, ESC, Biosystematics Research Institute, Agriculture Canada, Ottawa K1A 0C6.

DEADLINE

The deadline for the next issue, Vol 6, No. 2 for June 1974 is 15 May. The approximate date of mailing will be 15 June.

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We regret to announce that **Professor Brian Hocking**, 1960 ESC President, 1967 ES Alberta President, and 1973 Gold medallist, died Thursday 23 May 1974 in Edmonton.

The Entomological Society of Canada Scholarship Fund was established largely through the efforts of Professor Hocking, who proposed it in his Gold Medal address of 2 October 1973. "The survival of societies, like that of species, may well depend on the effectiveness of their concern for the next generation." It seems fitting that many members will be honouring his memory through contributions to the Fund care of the Treasurer, 1320 Carling Ave., Ottawa K1Z 7K9.

Editorial

BIOLOGICAL SURVEY OF THE INSECTS OF CANADA

We draw your attention to the Brief on the proposal for a Biological Survey of the Insects of Canada, published as a supplement to this issue. The proposal was approved by the Governing Board of the Society at its February meeting, and it has since been presented to the Biological Council of Canada and has attracted its approval also.

It is planned to have an informal discussion of the proposal at the forthcoming Annual Meeting of the E.S.C./A.E.S. in Halifax, 26-29 August. All those interested, whether as individuals or as representitives of laboratory groups or departments, are invited to attend and to join in assessing the proposal, both in terms of its value to specific projects or groups and in terms of the resources that are, or might be made, available for carrying it out. It is expected that a representative of B.C.C. will attend the meeting.

SCIENCE POLICY

In its role as the voice of the largest body of biological scientists in Canada, the Entomological Society of Canada has been increasingly outspoken on science policy. The Biological Survey proposed in a supplement to this issue of the **Bulletin** is another manifestation of it. This is as it should be, because science policies cannot be shaped wthout hearing scientists. It comes as a surprise then that on 3 May, MP Peter Reilly read into the Commons record part of a government order forbidding health protection branch scientists from attending the April SCITEC-sponsored forum on national science policy. A national science policy for Canada should be shaped by the maximum input, particularly by the people best able to shape it. If we are to have a firmly defined policy,and this is the trend, it must never become rigid. Rather it should be constantly debated and criticized, and carefully revised and reinterpreted, to ensure that it always comes closest to meeting the aspirations and needs of Canada, for policies are never perfect.

CANADIAN ENTOMOLOGIST 100 YEARS AGO

"Of all the painted populance that live in fields and live ambrosial lives," there is scarcely a family better known than those which compose the last of all the tribes of Hard-shells, the Coccinellidae. To the young and to the old, to the illiterate and to the scientist, they are equally familiar and equally interesting. Popular sympathy is extended towards them by the elders because they do much good in preventing the excessive multiplication of Aphides; by the juveniles because they are very pretty little things and tamely pitter-patter to and fro, and their supposed misfortunes affect deeply sensitive little hearts, while infantile accents lisp "Lady-bird, lady-bird, fly away home; your house is on fire, your children are burned." – (6:81)

STANLEY GEORGE GERALD SMITH RETIRES FROM I.P.R.I.

"Gerry" Smith was born in Wimbledon, England, on February 6, 1909, but claims he never played tennis in his life. Nevertheless time caught up with him, and he retired from the staff of the Insect Pathology Research Institute in Sault Ste. Marie on his 65th birthday. However, anyone wishing to get in touch with him would be well advised to look for him at his old office in the Forest Insect Laboratory where he plans to continue his studies and writing for some time yet.

He was educated at Rutlish school, then, with the award of a scholarship by the Worshipful Company of Gardeners, at the Royal Horticultural Society school at Wisley from which he graduated in 1929 with a diploma in landscape architecture. But he says "In 1929, who was thinking about landscaping their grounds?" So he obtained employment in the Genetics Department at the John Innes Institute. In October, 1930, he decided that things looked at least a little better in Canada, and set out for Montreal where he worked for the late Prof. C. L. Huskins in the Genetics Section of the Botany Department at McGill University. After two years he registered as a student, and graduated B.Sc. in 1935 winning the Major Hiram Mills Scholarship. He continued with postgraduate studes, was granted M.Sc. in 1936 and completed all academic requirements for Ph.D. by the fall of 1937. However, because he had not been registered in the Graduate Faculty for a full three academic sessions as required by the University regulations, he could not graduate until the spring convocation in 1938, when he was awarded Ph.D. *magna cum laude* and the Major Hiram Mills Gold Medal for highest standing.

During the summers while a student he worked for the Canada Department of Agriculture, Forest Insect Investigations, at Fredericton and Belleville, and under Dr. R. E. Balch's direction he was introduced to the problem of the true identity of the European spruce sawfly then devastating the forests of northern New Brunswick and the Gaspe Peninsula. In the fall of 1937 he went to England on a Royal Society of Canada Postdoctorate Fellowship and during that winter studied the cytogenetics of the sawfly, at University College, London, transferring the following summer to Farnham House, headquarters of the Commonwealth Institute of Biological Control directed by the late W. R. Thompson. As a result of his studies on the cytogenetics of the *Diprion* sawflies he was able eventually to establish the identity of several species about which there had ben confusion, and thus demonstrated the value of this approach to the solution of taxonomic problems.

Gerry returned to Canada in the fall of 1938, and as there was no centre in the Department of Agriculture equipped for the kind of research he was doing, arrangements were made for him to be housed in the Department of Genetics at McGill University where he continued until his transfer to Sault Ste. Marie in October of 1945. Beginnng n 1942, he spent the summers on field work at Laniel, P.Q., an arrangement that continued until 1951.

During the winter of 1938 he was involved in an accident that resulted in hospitalization for a broken leg. While there he met a nurse-in-training,

Margaret Jane Caldwell, and they were married in June, 1939. However, nurses-in-training at that time were not permitted to be married – women's lib was still far in the future – so in order to avoid her expulsion from the course they were compelled to keep the news quiet until she had graduated. Neither were wives permitted at government field stations, so Gerry purchased land on Kipawa Lake at Laniel and there he cut trees and built a log cabin so he could have his family with him during the summer. The family eventually totalled three – two daughters and a son, spaced with genetic precision three years and one month apart!

Gerry's work in cytogenetics is known and admired throughout the world. He has published some 70 papers, and is currently collaborating with Niilo Virkki in writing a book, "Cytology of Coleoptera", which will be published later this year by Borntraeger, Berlin. He is a member of the Entomological Society of Canada, the Genetics Society of America, the Society for the Study of Evolution, and the Genetics Society of Canada. He was on the Organizing Committee that developed the last named society, and served as its first President.

Gerry made the headlines locally recently when it was announced that he has contributed 118 units of blood to the Red Cross. He keeps himself in condition by swimming, but it appeared that in spite of that he was to suffer from retirement syndrome – five days after retirement he underwent an operation to replace a section of the abdominal aorta in which an aneurysm had developed. Following the successful operation his surgeon told him he should now live to be at least 100, so he promptly bought a life membership at Vic Tanny's Health and Fitness Club. All his friends sincerely hope that he will obtain full value for his money.

J. MacB. Cameron

APHIDOLOGIST RECOGNIZED

Professor Geddes W. Simpson, Chairman, Department of Entomology, University of Maine at Orono, received on 23 April, the U. of M. President's Research Achievement Award in recognition of a long and distinguished career in research, and for his contributions to the management of potato pests.

A soft-spoken gentleman, Dr. Simpson has won the support of his colleagues here at UMO and in Canada, and at the same time has guided several students into the field of entomology. As an internationally recognized authority on aphids, Dr. Simpson has been published extensively and has several more research manuscripts in progress.

He became a member of the University faculty in 1931 as an assistant entomologist, having earned his M.A. degree from Cornell that year. Working towards his Ph.D. (Cornell, 1935), he developed for Maine potato growers a potato management program that eased them out of the depression of the 1930's into an era of successful, profitable production.

In 1952, Dr. Simpson became a professor of entomology and was designated department chairman in 1954. In addition to holding both of those positions he has continued to do research in his field.

Although he will be retiring the first of July, he plans to do research in an emeritus status for several more years.

The Maine Campus

ACTION BY B.C.C.

The March 1964 meeting of the Biological Council of Canada was looked upon by many societies as one at which the Council must either do or die. That it has not died but instead has drawn up plans for survival and vigorous action may have an important influence on some activities of the Entomological Society of Canada. The proposals for science in Canada alluded to in the speech from the throne provided the impetus for a critical review by BCC of its past activities, and for proposing new ones in which the Council would be able to fulfil its role of advising the government on biological issues.

The "Blueprint BCC" presented by the BCC executive and discussed by the Council outlined possible new and important roles for communicating the views of bioscientists and biological societies to the appropriate sectors of government, and especially to Parliament and to the Ministry of State for Science and Technology (MOSST).

It is quite clear that science policy making and financing for scientific research will be under the control of MOSST acting through three advisory councils, the Natural Sciences Research Council, the Social Sciences and Humanities Research Council and the Medical Research Council, which are to be legislated for during the current session of Parliament. These three councils are to be coordinated by an Inter-Council Coordinating Committee chaired by the Secretary of MOSST and including in its membership the heads of the three granting councils together with certain senior officials to be named later. (The present grant awarding functions of the National Research Council will be transferred to these new councils, possibly during the fiscal year 1974-75).

The BCC will request that at least one third of the membership of the Natural Sciences Research Council be drawn from members of the Canadian national biological societies and that two members be appointed by BCC. It will probably request also that there should be one BCC member each on the Medical Research Council and the Social Sciences and Humanities Research Council. If these requests are granted, the societies through BCC, will have an opportunity to nominate members for the granting panels and also will be able to reach MOSST on policy through the BCC components of the three Councils.

Another important route for maintaining a dialogue with MOSST is through the Science Council which has acquired some new orientation referred to in the throne speech. The association of BCC with the Science Council is adequately summed up in the following excerpt from the "Blueprint BCC". ". . . The BCC relationship with the Science Council of Canada has been both informative and productive in the interchange of ideas and concerns relating to Canadian Biology . . . This informal relationship will be continued particularly in view of the suggested modified responsibilities for the SCC as indicated by comments by MOSST on the 1974 throne speech, e.g. the government will encourage the Science Council to produce advice, not only to the federal government, but to the university and industrial sectors as well. In addition, to promote a better understanding of science policy issues, the government feels that the Science Council should adopt an active public information role. This new activity of the Council is essential to decision-making on science policy in all sectors.

To promote the interchange of ideas and activities between the BCC and the SCC, the Executive Director and his Science Advisors will be invited to participate, when appropriate, in regular meetings of the BCC. It is anticipated that the interchange of published reports between the two councils will be continued."

The respective roles of BCC and SCITEC (The Association of the Scientific, Engineering and Technological Community of Canada) have confused many in the past. The principal function of SCITEC is in holding forums in which broad science policy issues, such as the Lamontagne reports, are examined. Clearly, the BCC must, and intends to retain a position on the executive of SCITEC as it may be the only representation that purely biological (other than medical) societies have in forum discussions.

The current proposal for a House of Science and Technology (HOST) comes from SCITEC. At present MOSST is forming a special task force to study the proposal and the Biological Council has been invited to participate in this, with representation by up to three members. The question of financial support for the House of Science has produced much discussion. The danger seen is that financing by a government department would inevitably affect the degree of autonomy of the societies accommodated by HOST, and on this account MOSST is probably not the most desirable source of funds. Other alternatives are sought such as the matching of government funds with those from societies, or of accepting seed money from MOSST and the remainder from other sources.

The BCC executive believe that the source(s) of financial support will be settled within a few months. If so, the BCC will form part of a special committee to develop and initiate HOST, and BCC will continue to form part of the policy management team. The Entomological Society of Canada remains uncommitted to this project at present, but should it become expedient for the Society to become part of the HOST organization, entry will be facilitated through its membership in the Biological Council. In any case participation by the Biological Council in the development of HOST would put the ESC in a position to observe HOST's progress and possibly make use of some of the facilities, before deciding whether or not to become a resident.

The advantages of a unified biologically oriented group of societies presenting a single point of view are obvious, and to this end closer relationship between BCC and the Canadian Federation of Biological Sciences (CFBS) has been sought. This has been unsuccessful largely because of the difference in structure of the two groups and also because BCC societies have been financially supported by the National Research Council and most of CFBS by the Medical Research Council. The difficulties have been solved to some extent by the appointment of a science policy committee by BCC, composed of the executive and probably to be chaired by the current Past President, which will meet regularly with the science policy committee of CFBS. In this way general policy for bioscience can be formulated in concert, and an effective liaison can be maintained between the two umbrella societies in other matters of common interest.

It is probably true to say that the Entomological Society of Canada has played a significant role in the proposals for survival and new plans of the Biological Council. October last the ESC introduced to BCC a proposal for an Insect Faunal Survey to be formulated by ESC and sponsored by BCC. The need for such a survey has been widely recognized amongst entomologists and invertebrate zoologists as a national priority, and one which must be brought to the attention of the appropriate sectors of the federal and provincial governments, either directly by the Society, or preferably through some more influential umbrella agent. The Biological Council was seen as the most appropriate group of bioscientists to discuss the proposal and if it was well accepted to transmit it to government. The idea received strong support at the October meeting and it was decided that the proposal should be written up and presented to the spring meeting of the BCC. This was done, and the brief was drawn up by Antony

Downes and received approval from the Executive (and subsequently the Board of Governors) of ESC, and it was discussed at the last meeting of the Biological Council in March, 1974. The BCC thoroughly approved the brief in principle and in detail. The Council 1) recognized the need for such a survey and 2) emphasized that systematics is undernourished and should be given high priority among biological disciplines. A directive was issued by the Council to the BCC Executive to investigate the right approach to MOSST for approval and recognition of the project as deserving support. The proposal for an Insect Faunal Survey is published as a supplement to this issue of the **Bulletin.**

In producing this proposal now ESC has provided BCC with a topical and significant project with which to try out the new lines of communication. However, should the BCC fail to reach the appropriate source, the ESC will make every effort to launch the proposal under its own initiative. The attitude of BCC at this March meeting was extremely promising and if maintained, the Council will provide a strong representation for all bioscientists.

The BCC aspires to host
Not every bioscience group, but most;
And also to encourage MOSST
To act in turn as host for HOST.

Max Dunbar

To which I would add

To gain the ear and purse of MOSST
It seems one must belong in HOST;
But ESC would like to coast
Until it sees what HOST can boast.

Anne Hudson

DIRECTORS

Because of the varying terms of office of Regionally appointed directors, the list of Directors changes often. The following is correct to 6 May 1974 and is not expected to change before the Annual Meeting in Halifax.

W. A. Charnetski – Ent. Soc. Alberta
J. A. Downes – At Large 1974
R. W. Fisher – Ent. Soc. Ontario
Peter Harris – Ent. Soc. Saskatchewan
Ann Hudson – At Large 1975
S. R. Loschiavo – At Large 1974
M. E. MacGillivray – Acadian Ent. Soc.
F. L. McEwen – At Large 1976
Gérard Rioux – Ent. Soc. Quebec
R. N. Sinha – Ent. Soc. Manitoba
N. V. Tonks – Ent. Soc. British Columbia
W. J. Turnock – At Large 1975
I. W. Varty – At Large 1976

Entomological Society of Canada
Acadian Entomological Society

TENTATIVE PROGRAM

Sunday, August 25

0900- Governing Board Meeting, ESC

Monday, August 26

1330-1900 Registration – Howe Hall
1330- Accommodation allotment – Howe Hall
1500-1630 Annual General Meeting, AES
1930- Opening Reception

Tuesday, August 27

0900-1000 Registration continues – Life Sciences Centre
0930-1000 Coffee
1000-1100 Opening Ceremonies – Life Sciences Centre
Words of Welcome:
Dr. H. D. Hicks, President, Dalhousie Univ.
Dr. R. L. Horsburgh, President, AES
Dr. J. R. McLintock, President, ESC
Gold Medal Award and Address

Feature Symposium

1100-1230 & 1400-1530 ENTOMOLOGY AND THE ENVIRONMENT

"An appraisal of the entomological effort in Canada" The Minister of Agriculture, Canada. (Attendance subject to government exigencies)

"Synecology, another look at Nature" by Christian de Laet, President/Director General, International Bureau for Professional Development.

"A.T.P.I.T." by Barney W. Flieger, President, Forest Protection Limited.

"Economic insect control and the environment" by John R. McLintock, President, Entomological Society of Canada.

1400-1700 LADIES – Historical tour of Halifax

Submitted Papers

1600-1715 Three concurrent sessions.
1830-1930 Photo Salon Slide Show
2000- Scottish Ceilidh (pronounced Kay-lee)

Wednesday, August 28

0900-1630 LADIES — Tour to Lunenburg, Oak Island, and Peggy's Cove

Special Interest Groups

0900-1000 (1) Contemporary Role and Responsibilities of the Entomological Society of Canada
Moderator: W. J. Turnock

(3C) Survey and Monitoring Techniques C, Forestry.
Moderator: G. A. Simmons

0900-1000 & 1030-1200 (7) Potato Insect and Disease Vector Management, Especially Aphids.
Moderators: M. Ellen MacGillivray and R. H. Storch

(2) Management of Tree Fruit Pests.
Moderator: E. A. C. Hagley

1030-1200 (3B) Survey and Monitoring Techniques B, Aquatics.
Moderator: D. C. Eidt

1030-1200 & 1400-1500 (6) Pesticide Bioactivity
Moderator: D. C. Read

1400-1500 (3D) Survey and Monitoring Techniques D, New Techniques
Moderator: D. O. Greenbank

(5) Recent Advances in Pheromone Research
Moderator: W. D. Seabrook

(10) Biological Survey of the Insects of Canada.
Moderator: J. A. Downes

1530-1700 Annual General Meeting — ESC

1900-2400 Bluenose Attitude Adjustment Hour and Dinner (Shore Club, Hubbards, N. S. Choice of lobster or steak)
Sponsored by the Government of Nova Scotia

Thursday, August 29

Special Interest Groups (Continued)

0900-1000 (9) Biting Flies
Moderator: A. S. West

0900-1000 & 1030-1200 (3A) Survey and Monitoring Techniques A, Agriculture
Moderator: J. H. H. Phillips

(4) Advances in Control Techniques for the Spruce Budworm and their Ecological Significance
Moderator: E. G. Kettela

(8) Effectiveness of Information Flow: Research — Extension — Producer.
Moderator: A. J. McGinnis

1030-1200 (9+3B) (Possibly a combined meeting)

Submitted Papers

1400-1500	Two concurrent sessions.
1530-1700	Special Interest Groups report to Plenary Session
1830-	Governing Board Meeting

Notes

Increase in university-type residential accommodation rates:
Children under 18 – $ 8.50 plus tax per day, including meals
Adults – $12.00 plus tax per day, including meals

Registration fees:

Active Members	– $20.00
Wives or Husbands	– $10.00
Students	– $10.00

(No other charges contemplated)

Scottish Ceilidh – Entertainment, Dancing, etc. Bring your kilt or Scottish dress (Highland or Lowland).

Governing Board Members: Report to Howe Hall on arrival.

NOTICES

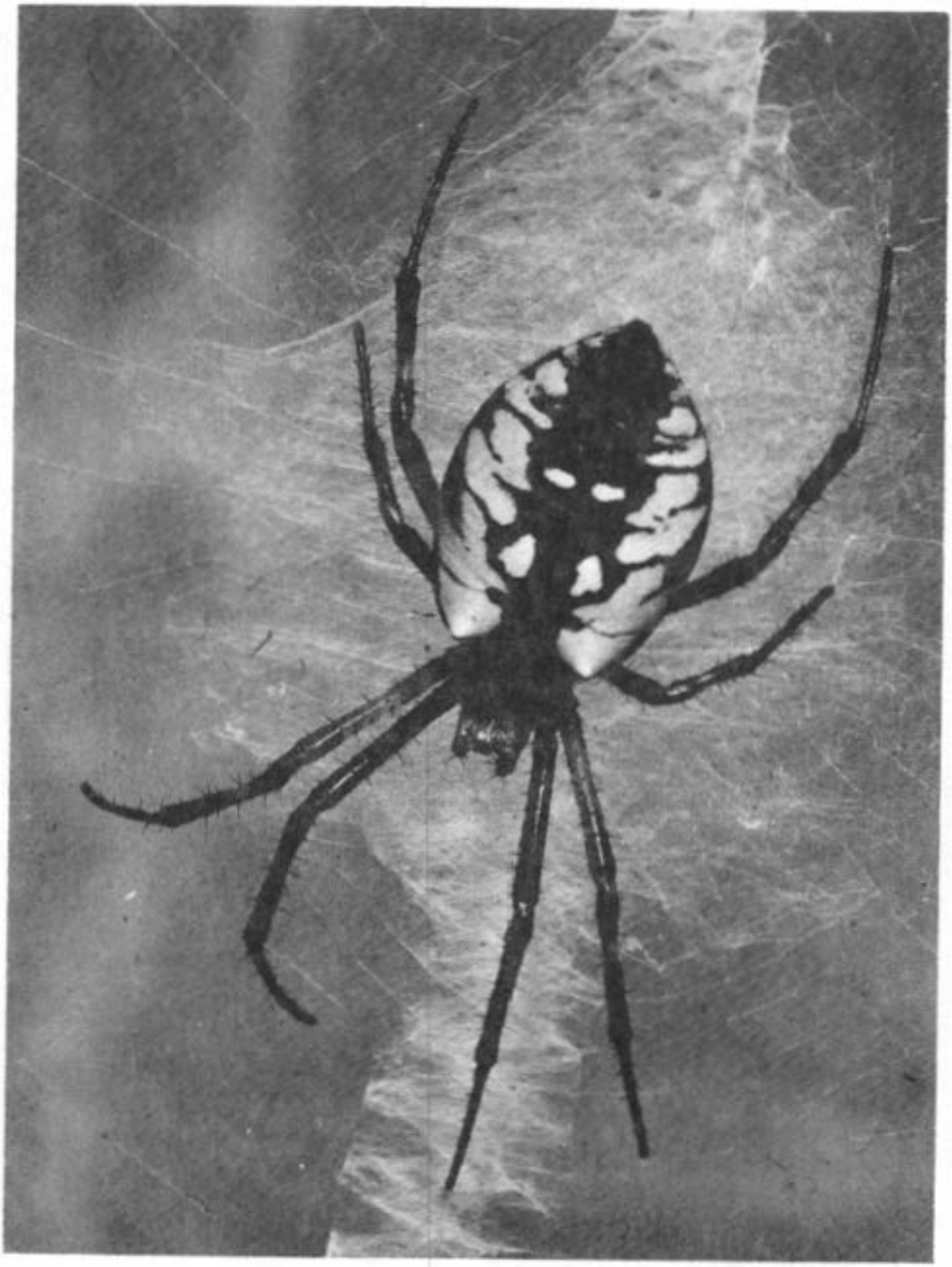
Annual Meeting

Members having items to be considered by the Annual General Meeting will please notify the Secretary, c/o Dept. of Biology, McMaster University, Hamilton, Ontario L8S 4K1.

• • •

Delegates are urged to make their accommodations reservations in advance to facilitate the arrangements for rooms at Dalhousie University. Provide dates of arrival and departure, membership status, type of room (double or single), name of party sharing, names of accompanying spouse and children, or use the form provided in the March **Bulletin.** Send this information and names of ladies who will participate in the ladies program to June Herbert, Research Station, Agriculture Canada, Kentville, N.S. B4N 1J5

FEATURE PHOTOGRAPH



"Stitching Spider Female" by W. A. Crich D.D.S., A.P.S.A., Grimsby, Ontario. From a coloured slide. Also known as the black and yellow garden spider, *Argiope aurantia* Lucas characteristically constructs the central mat and the descending pathway, and assumes the inverted position on its orb web.

R. A. WARDLE 1890-1974

Robert Arnold Wardle, a Professor of Zoology at the University of Manitoba for over thirty years, died Wednesday, 2 January 1974, in Winnipeg.

Professor Wardle was born in Clifton, England, in 1890 and was educated at Manchester Grammar School and Manchester University. During his university years he was a student of Sir Ernest Rutherford who won the Nobel Prize in Chemistry. In 1912 he graduated with a first class honours B.Sc. in Zoology and was appointed a Lecturer in the Royal College of Science, University of London. In 1914 he completed a Master of Science degree on the larch sawfly. He served with the Royal Welsh Fusiliers as a Lieutenant in France from 1914 to 1919 and was severely wounded just before Armistice in 1918. From 1919 to 1928 he was a Special Lecturer in Zoology in Manchester. In 1923, his first book, "The Principles of Insect Control," was published. He spent 1923-24 in the Sudan as a Research Investigator working on the control of cotton pests for the British Cotton Growers Association. In 1927-28 he held a Rockefeller Visiting Professorship in Zoology and lectured in entomology at the University of Minnesota. In 1928 he accepted an invitation from the University of Manitoba and became Head of the Department of Zoology. In 1936 he was named a Fellow of the Royal Society of Canada.

Professor Wardle wrote four technical books (one of which was translated into Polish) and was co-author of three other books on entomology and zoology. In 1932 he published the first of a series of papers on the tapeworms, which ultimately culminated in the publication in 1952 in joint authorship with Dr. J. A. McLeod of his well known "The Zoology of the Tapeworms" – a 780 page monograph on the cestodes. The monograph is widely consulted and represents a significant milepost in the study of this fascinating group of animals. Just prior to his death, he completed with Dr. J. A. McLeod and S. Radinovsky a book entitled "Advances in the Zoology of Tapeworms, 1950-1970", 350 pages, which will be published later this year. His papers include 17 contributions to cestodology and 10 papers to entomology.

He supervised the studies of at least 30 M.Sc. and two Ph.D. candidates. Among these were Dr. J. A. McLeod who later succeeded Professor Wardle to Headship of the Department of Zoology, and several persons who now hold important posts in Canadian entomology.

Over and above his scientific abilities, Professor Wardle possessed a marvelous wit and humour. His lectures were often punctuated with stories and sayings. These, it would seem, spring first to mind in the memory of his students – the content of the lectures being long since forgotten. A lecture delivered to a solemn conclave of the Royal Society in Winnipeg, in 1954 on "The Impact of Mathematics on Zoology" still makes hilarious reading and engenders in the mind the impact that it must have made on that particular occasion. Other contributions including articles in **The Question Mark**, a University of Manitoba Science Students magazine, are well worth reading. Possibly as a mental antidote to his studies on tapeworms, he compiled a massive "History of Humour". Unfortunately this was never published. Had it been, it would un-

doubtedly have surpassed his "Zoology of Tapeworms" and marked Professor Wardle as a humorist of considerable stature.

Professor Wardle had strong opinions on the relationship between arts and science at a university and was once quoted as saying "Universities should always be predominantly arts and the humanities. You can learn sciences, even the most complicated ones, in technical schools". He saw the relation of arts and science as a two-way street and introduced "Genetics and Evolution" for arts students at the University of Manitoba. He frequently gave popular radio lectures on biology.

During an interview on his retirement from the University of Manitoba in 1958, Professor Wardle said he didn't believe in large universities. One of his strongest hopes was that the University of Manitoba would not grow too big. He said that in his student days in England, classes were small and students knew their professors personally.

In 1958 he retired from his Headship at the University of Manitoba to become Professor Emeritus. He accepted an invitation from the United College, now the University of Winnipeg, to establish a Zoology Department, and retired for a second time in 1962.

He once predicted that, someday, the population of the world would move underground to provide sufficient surface to grow enough food for everyone. This bold prediction approaches reality more and more each day, and characterizes the insight of Professor Wardle as a biologist viewing the world around us.

J. A. McLeod; H. E. Welch

BOOK REVIEW

Pine-feeding species of *Cinara* in the eastern United States (Homoptera: Aphididae) J. O. Pepper and A. N. Tissot, Florida Agricultural Experiment Stations Monograph Series, No. 3, Sept. 1973. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, Florida. Paper cover, 149 pages, $1.25 post paid.

This publication consists mainly of descriptions of nineteen species of pine-feeding *Cinara*, including one new species, and a key. The descriptions are supplemented by line drawings and photographs. The apterous and alate viviparous females, the male, and the oviparous female are carefully described; no mention is made of the egg stage. The descriptions and key, apparently written with the non-specialist in mind, are limited to simple, easily observed or measured characteristics. Descriptions of species that have been, or that could be confused with similar species are preceded by a discussion of points of similarity and difference within the species group. General notes, which usually include the feeding site occupied by the species on its host tree, are given for each species.

One of the most useful features of this work is the untangling of the taxonomically difficult group of species on *Pinus banksiana*. The authors, who had access to all the pertinent types, were able to make comparisons, particularly with Wilson's types, and arrived at some new synonomy that will be of interest to many aphidologists.

The work will be very useful to those wishing to identify pine-feeding cinarans in the area covered by the study, and it will also be of general interest to anyone involved in studies of the systematics of the genus.

G. A. Bradley

FINANCIAL STATEMENTS
Year ended 31 December 1973

To the Members of the
ENTOMOLOGICAL SOCIETY OF CANADA

We have examined the balance sheet of the Entomological Society of Canada as at December 31, 1973 and the statement of financial activity for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

As is usual in organizations of this kind, it was not possible to completely verify the revenue from all sources and therefore the statements show the recorded revenue.

In our opinion, subject to the foregoing, these financial statements present fairly the financial position of the Society as at December 31, 1973 and the results of its operations for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceeding year.

GEO. A. WELCH & COMPANY
Chartered Accountants

BALANCE SHEET DECEMBER 31, 1973
(with comparitive figures for December 31, 1972)

ASSETS

	1973	1972
Cash	$ 84,871.23	$ 83,722.26
Accrued interest on bonds	1,580.00	125.00
Receivable re reprints and back issues	26,638.50	12,987.50
Term deposit — 8¾% — due September 18, 1973	—	10,000.00
— 8 % — due December 29, 1973	—	10,000.00
— 8¾% — due December 29, 1978	10,000.00	—
Government and government guaranteed bonds — at cost — (quoted value — $43,850; 1972 $49,735)	49,848.03	54,673.03
Other bonds — at cost — (quoted value — $24,550)	25,000.00	—
	$197,937.76	$171,507.79

LIABILITIES AND SURPLUS

LIABILITIES			
Accounts payable and accrued liabilities		$ 14,997.94	$ 10,668.23
Prepaid memberships, subscriptions and reprints		23,636.00	22,671.50
		38,633.94	33,339.73
SURPLUS			
Balance, December 31, 1972	138,168.06		111,836.25
add:			
Net revenue for year	21,135.76		26,331.81
Balance, December 31, 1973		159,303.82	138,168.06
		$197,937.76	$171,507.79

FINANCIAL ACTIVITY, YEAR ENDED DECEMBER 31, 1973

(with comparative figures for December 31, 1972)

REVENUE		1973	1972
Regular memberships		$ 14,015.50	$ 12,967.05
Student membership		1,073.00	1,096.25
Sustaining memberships		100.00	400.00
Subscriptions		29,907.65	28,605.17
Sale of reprints including page charges		52,420.90	64,688.45
Sale of back issues		1,976.50	2,160.28
Publishing Memoirs		22,587.00	27,142.45
Interest earned — net		8,292.45	6,282.52
Gain on redemption of bonds		250.00	—
		130,623.00	143,342.17
EXPENDITURE			
Publishing costs — Canadian Entomologist	35,852.59		45,937.62
— reprints	5,430.25		6,435.51
— Memoirs	17,816.59		21,308.40
Annual meeting — grants	4,374.38		3,715.48
— travel expense	5,412.02		5,133.40
Biological Council of Canada — dues	3,453.94		2,292.00
— delegates	942.36		1,399.05
Salaries	19,848.86		20,236.50
Directors' expenses	4,010.98		3,764.54
Canada Pension	163.74		156.94
Unemployment insurance	109.36		61.32
Professional fees	375.00		500.00
Postage and office supplies	2,891.06		1,427.94
Telephone	322.79		299.45
Bulletin	4,863.92		3,691.43
General expense	1,491.90		425.28
Insurance	1,002.50		—
Rent	1,125.00		225.00
		109,487.24	117,010.36
NET REVENUE FOR YEAR		$ 21,135.76	$ 26,331.81

WRITING PRIZE 1974

The response to our "popular" entomology writing contest was disappointing and only 15 entries were received, in spite of cash prizes of $1500 being offered.

This poor response is difficult to explain. Possibly it was inadequately advertised or people felt that the competition would be too intense. It is to be hoped that it was not because entomologists are unable, or unwilling, to explain their work in popular terms.

Only four articles were judged to be worthy of prizes, and the following awards were made:—

$250 to N.H. & M.J. Anderson for "Making a Case for the Caddis fly"
$100 each to S.S. Tobe for "How Tsetse Flies Reproduce",
J.D. Shorthouse for "High Arctic Butterflies",
L.A. Swan for "Hold that Tiger".

K. S. McKinlay,

BOOK REVIEWS

Biology of Aphids. A. F. G. Dixon. The Institute of Biology's Studies in Biology No. 44. Published 1973 by Edward Arnold (Publishers) Limited, 25 Hill Street, London, 58 pp. Also published in Canada by the Macmillan Company of Canada Limited, $2.50.

The small paperback edition contains an introductory account of our present knowledge of aphid biology, cleverly condensed into 8 chapters and 58 pages. Chapter headings are: The Salient Features of Aphids, Life Cycles and Polymorphism, Host Alternation, Migration, Aphid-Plant Interactions, Aphids and Plant Viruses, Predators and Parasites of Aphids, and Regulation of the Numbers of Aphids. Two pages of reference material are included, unfortunately with no titles given, and strangely, no references to any of the excellent reviews on aphids in Annual Review of Entomology in recent years.

For the non-aphidologist this is an excellent introduction to aphid biology. Information is of a general nature, designed to ensure that the book meets the needs of those approaching the subject for the first time, and to stimulate interest in aphids. Line drawings are used to good effect, especially so to illustrate mouthparts and feeding mechanisms.

There is nothing in the book on aphid taxonomy, but the reader will understand some of the problems of the aphid taxonomist in dealing with aphid life cycles, polymorphism and host alternation. I recommend this small volume to any biologist (or non-biologist) who is interested in the marvellous complexities of this interesting family of insects.

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The bark and ambrosia beetles of California. Coleoptera: Scolytidae and Platypodidae. D. E. Bright and R. W. Stark, University of California Press, Berkeley 94720, 1973, vi + 169 pp., illustr., $8.50.

This comprehensive publication succeeds admirably in its objective of bringing "together in one source, keys, descriptive comments, distributional notes, host data, and biology of every species of Scolytidae and Platypodidae found within the State of California." Owing to intensive treatment of the subject and the diversity of the State, the usefulness of this book extends well beyond the borders of California. More than 170 species in 44 genera are treated. This includes 57% of the genera and 30% of known species of Scolytidae and Platypodidae of North America, North of Mexico and probably 80% of the genera and 60% of the species occurring west of the Great Plains.

The Introduction succinctly reviews the taxonomic treatment, ecological and economic importance, bionomics, distribution and morphology of the bark and ambrosia beetles. A key to the subfamilies, tribes, and genera is well constructed, inclusive, and can be used with reasonable facility, considering the difficulty differentiating among scolytid genera. Keys to the species appear separately under each genus. Provided with each species is a considerable amount of information including relevant references, biology, host associations, geographic distribution and synonomy. Collection records are summarized by county and, in most cases, plotted on relief maps of California. Unfortunately, some of the maps show collection points which appear to be misplaced and for which no county record is listed. A case in point is the distribution map of *Ips pini* which shows a collection in Alameda Co. for which no record is listed and which is well outside of the range of this species.

Photographs of the gallery systems of 28 species range from poor to adequate and all of them lack an indication of scale. Drawings of the dorsal aspect of 18 species are excellent but also lack an indication of scale. These drawings are marginally useful for the identification of species but, along with diagrams, they adequately illustrate most of the morphological characteristics mentioned in the keys.

Names of all taxonomic ranks are indexed together and the current generic placement is given for each specific name. This method of indexing will accommodate changes in generic concepts with a minimum of inconvenience to future readers. A list of host plants and the beetles that attack them is a welcome inclusion.

The Bark and Ambrosia Beetles of California is consistent with the usual excellent quality of the Bulletin of the California Insect Survey and would be a worthy addition to the library of any coleopterist. The publication is too technical to be useful to most field foresters, but is an excellent reference for specialists in forest entomology.

Gerald N. Lanier

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The Micropezidae of California (Diptera). Richard W. Merritt and Maurice T. James. Bulletin of the California Insect Survey, Vol. 14, 33 pp., 6 maps, 43 figs., 6 pls., + frontispiece. $3.00.

This short paper is more than the title implies because it is really a review of the species of Micropezidae that occur not only in California but in the Rocky Mountains and Pacific Coast states. Of the 20 species (in three genera) treated, only seven are known from California.

This paper is divided into a short introductory section and a systematic section. The introductory section includes a brief discussion of some of the important early literature on the family, and short discussions of the biology of the adult and larval stages, and adult external morphology as it applies to the keys. The systematic section composes the major portion of the paper and includes keys to the three Nearctic subfamilies, and the genera (4), subgenera and species known from the U.S.A. west from the Rocky Mountains. The original citations, geographic range, California records if any plus map, and a brief discussion are given for each of the species treated. Forty-three figures illustrate appropriate features used in the keys.

In the introduction to the paper the authors state that, "Twenty-two species occur in the Nearctic west of the Rocky Mountains, . . .", but they treat only 20 species and mention one other species, *Taeniaptera lasciva* (Fab.), which previously had been erroneously reported from California. Merritt in an earlier paper (Northwest Sci. 46: 40-43; 1972) listed these same 21 species with full western distribution records other than records for California. From the information presented by these authors it is difficult to decide which species is the missing one or if there is a typographical error here. Two species included in this paper, *Compsobata jamesi* Merritt, and *Micropeza unca* Merritt, postdate the catalog of North American Diptera.

There is little one can offer in the way of constructive criticism for a paper such as this one. The paper would be more generally useful if the other four North American genera were added to the generic keys, and brief descriptions of the species treated would have been helpful. Despite these minor points this work is a welcome and useful addition to the literature on this little known family.

B. V. Peterson

BOOK REVIEW

Thrips, Their Biology, Ecology and Economic Importance. T. Lewis 1973 Academic Press Inc., London and New York. XV + 349 pp., 82 text-figures, 32 tables, 16 plates + front piece, 6 appendices, author and subject indices. Cloth $22.00 (U.S.)

Recent monographs on Thysanoptera (eg. Priesner 1960; Stannard 1968; Ananthakrishnan 1969) have been primarily taxonomic. Although they all include some information on biology, none has this as their principal emphasis, and none approaches the subject with much rigour. It is for this reason that the appearance of Lewis' book is such a welcome event.

Dr. Lewis, of the Rothamstead experiment station, England, is well known to ecologists because of his recent (1967) book (with L. R. Taylor): **Introduction to Experimental Ecology.** Most of his research, however, has concerned the biology and population dynamics of thrips, particularly the corn thrips, *Limothrips cerealium*. Thus, he is well qualified to write the text under review.

Morphology and classification (Chapter 1) are covered in only enough detail to make the remaining sections understandable. The reproduction, development and life history of thrips (Chapter 2) and their interrelationships with plants (Chapter 3) and other animals (Chapter 4) are thoroughly treated, with examples chosen from throughout the world from a wide variety of habitats.

My only criticisms concern chapter 2, which is marred by some errors in fact and by some unsupported generalizations. There is no evidence, for example, that gynandromorphs in thrips "develop due to aberrant distribution of sex chromosomes" (p. 9), since sex chromosomes have not been identified with certainty in any species of the order. Also, male Thysanoptera do not have a spermatheca in spite of Lewis' statement to the contrary (p. 11) – in fact no male insects do. In 1956, Bournier showed that many male thripids transfer sperm to the female in a spermatophore, but one searches in vain for this information in this chapter. Those of us interested in the metamorphosis of thrips would also like listed some of the "objections to the 'larva-pupa' vs. the 'nymph' terminology" alluded to on page 23. All studies on this phenomenon to date indicate that thrips are just as "holometabolous" as many of the less derived Endopterygota.

Methods of examining, handling, rearing and studying virus transmission by thrips, of shipping live Thysanoptera over long distances and of measuring the response of thrips to various physical variables are fully explained in chapter 5. Included are drawings of most of the apparatus mentioned. These are sufficiently clear to serve as a basis for making one's own equipment. Sampling of thrips in soil, litter, on vegetation and in flight are discussed in chapter 6. Included are various statistical techniques.

Lewis' own research on migration and dispersal in thrips is consisely summarized in chapter 7. Much of this information should be useful to applied entomologists. Wind-dispersed Thysanoptera, for example, collect behind windbreaks and fences in numbers 2- to 14-fold higher than elsewhere in a field. Periodic sampling in such areas should reveal the presence of pest species long before they reach economic threshold densities such that preventive measures can be implemented at little cost.

The next 3 chapters treat the survival of Thysanoptera in unfavourable seasons (Chapter 8) the natural regulation of field populations, (Chapter 9) and

the spatial distribution and species diversity of thrips in different habitats (Chapter 10).

Of some 5,000 species of Thysanoptera, only a few hundred, mostly thripids, are pests and few of these are of major importance (7 in North America) (chapter 11). Thrips are unlikely to be key factors in integrated control programs directed against other pest arthropods (chapter 12), but there is one successful example of weed control by a thrips (*Liothrips urichi* on Koster's curse in Fiji) and another, *Amynothrips andersoni*, is currently being investigated in the southern U.S. as a potential control agent of alligator weed.

The book concludes with 16 plates of black and white photographs, a bibliography of about 685 titles, and 6 appendices. These last are an unusual and valuable part of the book. Appendix 1 is a list of faunal works on thrips, 2 is a summary of slide mounting techniques, 3 is a list of thrips species and their predators, parasites and prey, 4 lists species associated with different habitats from different parts of the world, 5 lists insecticides, formulations and dosages used against pest species and 6 is an alphabetically arranged list of all generic and specific taxa mentioned in the text together with synonyms and common names.

The book is clearly and concisely written, is well illustrated and is almost free of typographical errors. It is essential reading for anybody interested in Thysanoptera. On the dust jacket, the publishers observe that "as a reference work **Thrips** is likely to be unchallenged for many years". It is a pleasure to agree with this appraisal.

Bruce Heming

FIVE YEAR'S RESIDENCE IN THE CANADAS: . . . IN THE YEAR 1823.

By Edward Allen Talbot, Esq.,
of the Talbot Settlement, Upper Canada.

. . . The Horse-Fly is larger than an humble-bee, and is the most formidable and relentless foe to whose cruel inflictions the poor quadrupeds of Canada are doomed to submit. His bite is nearly as severe as the sting of a wasp; and he never ceases, from June to September, from tormenting every animal of the brute creation. The Horse, the Ox, and the Deer, are, however, the objects of his greatest longings, upon which he exercises his most refined cruelties. In vain do they seek the breezy plain, the woody shade, or the purling brook: He follows them to every retreat, and is their implacable enemy every summer's day, from sun-rise, till evening kindly comes to grant them a few hours' respite. I have frequently observed horses turned out to pasture of excellent quality, in the month of June, in good condition; and have seen them brought back in October, greatly reduced in flesh: And no wonder; for, instead of being permitted quietly to feed, they are every moment employed in defending themselves against the unceasing attacks of Horse-flies, and other vexatious insects. . .

BOOK REVIEWS

Insects: Studies in Population Management. International Congress of Entomology, 1972. P. W. Geier, L. R. Clark, D. J. Anderson, N. A. Nix, Eds. Ecological Society of Australia (Publishers), Canberra, 1973, viii + 295 pp.

The Ecological Society of Australia sponsored the publication of this book formed from a collection of papers presented under the heading "Population management and integrated control" at the 14th International Congress of Entomology, Canberra, 1972. The book is divided into two parts, (1) Biological principles of insect management and (2) Pest control as an exercise in practical ecology. The first part contains 8 papers and the second 10 papers.

Man's accelerating population growth and the relentless growth of his technology threaten to erode and pollute his environment disastrously. The resolution of these pressing problems poses a challenge to anyone interested in population ecology. The essential ingredient for effective resource management lies in the understanding of population phenomena. This book is designed to survey the field of applied entomology in relation to the global problems of proliferating populations, extravagant use of non-renewable energy and misused technology.

The opening paper by E. H. Smith examines entomology in terms of man's total environment and indicates that a better understanding of the class Insecta will yield knowledge for the efficient management of the environment. In the next paper, W. P. Stephen exemplifies in his model for alfalfa seed production the use of insects as tools of management. K. E. F. Watt, in discussing the goals of resource management in agriculture and forestry, stresses the need of exploring methods of pest control based on ecological principles rather than using methods which rely on massive fossil fuel subsidy.

J. A. Bishop emphasizes the need to integrate genetic and ecological concepts in population studies. Until population genetics research is initiated and directed towards the factors closely tied to population dynamics, our knowledge will be basically weak. His argument lies in the fact that environmental components not only determine numbers of individuals in a population but also act as the agents of natural selection to cause evolutionary changes. H. Klomp, in discussing population dynamics, suggests that life table studies should be coupled with process studies for the proper understanding of population phenomena. Because of the enormous complexity involved in the study of insect abundance, he emphasized that such a study should be planned for a long term with a multidisciplinary approach.

Discussing ecosystem strategy, B. P. Springett stresses the need of evaluating man's position and his activities in the framework of ecological thought. Both R. G. Weigert and G. R. Conway exemplify the use of mathematical models for evaluation of the biological facets of ecosystems. The use of such models are essential for having a deeper insight into the factors of population dynamics, thereby opening the potential for effective pest managment. An essential feature of a model is to have predictive capability over a wide range of circumstances; however, we do not at this point have adequate data to provide predictive capability except in a limited sense. Conway suggests that the characteristics required of mathematical models are generality, realism and accuracy. Accuracy of output in a model depends on the accuracy of the input of information. Realism in the model may be less important while the system modelled is not much changed but a greater degree of realism is required if a model has to be adaptive in accordance with the changes of environmental factors.

The following six papers presented by M. J. Way, M. E. Solomon, T. R. E. Southwood and G. A. Norton, P. S. Corbet, B. J. Wood, and Th. Wildbolz and W. Meier discuss in general the problems of developing efficient pest management programs, economic aspects of pest management, and appraise the prospects of integrated control in developing and affluent countries. The essence conveyed is that modern agricultural techniques are geared to destroy the natural diversity and to maintain a genetic monoculture in large blocks of landscape. An efficiency analysis would reveal that many of our modern agricultural practices are merely transforming calories of fossil fuels into calories of food at a net loss of calories. The current demand to develop integrated pest management is in response to emerging recognition of high resource costs and increasing risks of instability associated with the present monoculture system. Integrated pest management is based on the assumption that we can live with pest organisms and we will be able to find methods to keep populations below economic threshold by maximizing environmental resistance and supplementing this by the use of selective pesticide applications if economic levels are endangered. The prospects of integrated pest management would depend on the socio-economic and political considerations and also on our understanding of population phenomena.

The last four papers in this book are presented by D. L. Haynes, R. O. Barr, R. W. Stark, and P. L. Adkisson on pest management based on the systems approach. Haynes, Barr and Stark present outstanding examples of practical realities in pest management strategies and procedures. The systems approach relies heavily on mathematical models and computational techniques with a number of variables and interactions within a system. It is a truism that a concerted effort of ecologists and mathematicians is essential for the solution of practical problems of pest control.

The book is well produced. It has separate author and general indices and also an index of special terms. Typographical errors are almost non-existent (although on p. 173 – the abscissa of figure 6 should read "injury" instead of "inquiry").

Ecologists will read this book with much interest and enthusiasm.

M. K. Mukerji

P.U.B.S. — AN INTERNATIONAL SUCCESS

P.U.B.S. – the eighth annual Prairie University Biological Seminar was held for the first time outside of Canada on 8-9 February 1974. The host was the University of North Dakota, Grand Forks, North Dakota. Over sixty graduate students and friends from the Biology and Zoology Departments of the Universities of Alberta, Brandon, Calgary, Lethbridge, Manitoba, and Saskatchewan (Regina) attended. It was the first time that students from Brandon and Lethbridge participated. P.U.B.S. is organized and run entirely by graduate students.

Twenty-four papers were presented by the students and covered a wide variety of topics ranging from reproductive physiology of mountain lions and behavioural genetics of nematodes to arctic limnology and pollution biology.

The successful two-day programme included a banquet on the evening of the 8th and a 'Darwin's Party' on the evening of the 9th. Next year the conference will be held at the University of Calgary.

H. E. Welch

FORTHCOMING MEETINGS

VI Congreso Lationamericano de Zoologia will meet in Mexico City in October. Further information may be obtained from Dr. Gonzalo Halffter, Cerrada de Monte Kamerum No. 34, Lomas de Chapultepec, Mexico 10, D. F., Mexico.

Entomological Society of America, 2-5 December 1974, Hotel Radisson, Minneapolis, Minnesota.

Southeastern Branch, ESA, 28-30 January 1975, Sir Walter Raleigh Hotel, Raleigh, N.C. Contact Jerry B. Graves, Dept. of Entomology, Louisiana State Univ., Baton Rouge, 70803.

Eastern Branch ESA, 26-28 September 1974, Hotel Hershey, Hershey, Pennsylvania. Contact H. T. Streu, Dept. of Entomology, Rutgers University, New Brunswick, New Jersey 08903.

IV International Congress of Acarology, 12-19 August 1974, Saalfelden, Austria. Write Dr. E. Piffl, Zool. Inst. University Wien, Wien I, Dr. Karl Lueger-ring 1, Austria.

18th Annual Lifestock Insect Conference, 9-12 July 1974, Madison, Wisconsin.

XIX Congress of the International Association of Limnology, University of Manitoba, Winnipeg, 22-29 August 1974. Major themes include Arctic and alpine limnology; the sediment-water interface; structure and dynamics of fresh water ecosystems; experimental manipulation of aquatic ecosystems; environmental research in socio-economic planning, Dr. J. R. Vallentyne, Freshwater Institute, 501 University Crescent, Winnipeg, Manitoba.

Seventh International Conference on Water Pollution Research, Paris, France, 9-13 September 1974. Dr. S. H. Jenkins, c/o Upper Tame Main Drainage Authority. 156/170, Newhall Street, Birmingham B3 1SE, England.

VIII International Plant Protection Congress, 21-27 August 1975, Moscow, USSR. K. S. Nazarenko, Chairman, Organizing Committee, 1/11 Orlikov Rereulok (room 478), 107138 Moscow, USSR.

First International Congress of Ecology, 8-14 September 1974, The Hague, The Netherlands. Write c/o Royal Netherlands Academy of Sciences and Letters, Kloveniersburgwal 29, Amsterdam.

First International Working Conference on Stored-Product Entomology, Savannah, Georgia, U.S.A., 7-11 October 1974. The conference will include symposia, panel discussions, and submitted papers on all phases of stored-product entomology. Address queries to: Organizers, Working Conference on Stored-Product Entomology, c/o Stored-Product Insects Research and Development Laboratory, ARS-USDA, P.O. Box 5125, Savannah, Georgia, 31403, U.S.A.

XVth International Congress of Entomology, 1976, Washington, D.C.

PERSONALIA

Dr. K. Elizabeth Gibbs, PhD, McGill, 1971, has been appointed Assistant Professor of Entomology at the University of Maine, Orono. Dr. Gibbs will continue work in aquatic entomology in the Penobscot and Narraguagus River basins.

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Dr. N. B. Singh, lecturer, Department of Zoology, Hindu College, Muradabad, India has won a 1974-75 National Overseas Scholarship from the Government of India to undertake post-doctoral research in bioenergetics and physiological ecology of stored-product insects at the Research Station, Agriculture Canada, Winnipeg. Dr. Singh is working with Dr. R. N. Sinha in Winnipeg.

EMPLOYMENT

The Entomological Society of Canada maintains a list of employment opportunities in Canada for members, and has an employment office at annual meetings of the Society. Positions wanted and available are published in the **Bulletin.** Forms for the use of prospective employers and employees are available on request. Those seeking employment through and filing curricula vitae with the Employment Committee will please indicate their membership in the ESC.

POSITIONS WANTED

Ph.D. with experience as Special Consultant to the USDA and in university teaching, and with training and research in systematic entomolgy (Diptera) desires position in research or teaching, or with industry or government. Ref. No. 39-1-74.

Please direct all inquiries and correspondence to: A. G. Robinson, Chairman, Employment Committee, Entomological Society of Canada, Department of Entomology, University of Manitoba, Winnipeg R3T 2N2.

Do not direct inquiries to the Bulletin.

PERSONALIA

Jinx Proverbs of the Agriculture Canada Research Station at Summerland, B.C., spent two months in Greece as a consulant for FAO on the sterility method of control of the olive fruit fly in Continental Greece, Crete and Corfu. He will evaluate progress, comment on work to date, and advise on future plans and strategies. The project is cooperative between FAO and the Nuclear Research Center "Demokritos" in Greece.

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Dave MacDonald has joined the Research Program Services Section, Agriculture Canada, as Pesticide Information Co-ordinator. A graduate of Mount Allison University (B.Sc. Chemistry 1962) and McMaster University (MBA 1971) he has several years industrial experience in the production and marketing of specialty chemicals.

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Doug Harcourt, Head of the Entomology Section, Ottawa Research Station, Agriculture Canada, undertook a six-week consultancy with the FAO Alfalfa Program in Argentina. His major responsibilities were to initiate bioeconomc studies on a complex of root-feeding weevils and to develop survey methods for the assessment of insect losses in alfalfa.

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Dr. John B. Dimond, PhD, Ohio State, 1957, has been chosen as the fourth person to assume responsibility for the affairs of the Department of Entomology at the University of Maine, Orono; a Department founded in 1904 by Edith Marion Patch. Dr. Dimond will become Chairman of the Department 1 July 1974.

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E.S.C. President C. R. Harris has been named one of a team of Agriculture Canada Research Branch scientists who will visit China for three weeks in June. Their mission is to establish contacts and to study firsthand, research on crops, including insect and disease control, in the northeast provinces.

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Dr. Gary A. Simmons, PhD, Michigan, 1972, has been appointed a Research Assistant Professor of Entomology at the University of Maine, Orono. He will continue work in Forest Entomology and will teach two courses in the School of Forest Resources.

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BIOSYSTEMATICS RESEARCH INSTITUTE APPOINTMENTS

Andy Hamilton joined the staff as a Research Scientist after earning his Ph.D. in Entomology at the University of Georgia, where he worked on leafhoppers. He is now continuing his research on leafhoppers with Don Oliver.

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Don Lafontaine has joined the staff of the Lepidoptera-Trichoptera Section. He has his B.A. in biology from Carleton University. Don will study the cutworm genus *Euxoa* under the direction of David Hardwick.

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Ian Smith recently joined the staff as a Research Scientist. He has an honours B.Sc. from Western, and a Ph.D. in zoology from Toronto, where he held an N.R.C. postgraduate scholarship. Ian is working with Evert Lindquist and Don Oliver, where he is providing identifications and building the collection of water mites, and is conducting research on the systematics, life history and evolutionary adaptations of water mites whose larvae parasitize adult chironomid flies.

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