of the Entomological Society of Canada

Bulletin

Vol. 3, No. 2, June, 1971

THIS ISSUE

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D. C. Eidt — Assistant Editor (Bulletin)

Cover Design: M. A. Sydor, bio-Graphic Unit

Published by the
Entomological Society of Canada
K. W. Neatby Building, Ottawa

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1970 - 1971

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There are some changes in the list of boards, committees and representatives in Bulletin 2(3). Since many of these offices will change in August after the Annual Meeting, a complete list will be published in the September issue.

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Bulletin

Vol. 3, No. 2, June, 1971

Editorial

We have it direct from Richard Ring, Chairman of the Programme Committee that all is in readiness for a stimulating and enjoyable Annual Meeting at Victoria. It is rumoured that the foresighed Government of British Columbia chose 1871 to join in Confederation so that we could celebrate the 100th Anniversary with them this year.

The choices of olfaction and chemical attractants as major topics were wise and timely. Some would say that these subjects tend to dominate programmes these days, but they are fast-moving fields and fresh insight is virtually assured. Likewise now is an excellent time for a fresh look at systematics and evolution, because support is hard to obtain lately for research in this area. Perhaps the importance of more effort and avoiding losing inspired young talent will be more apparent to some policymakers through our discussions.

POSITIONS WANTED — AVAILABLE

These lists are to be a continuing feature of the Bulletin. We hope you will find them useful, and that employers in particular will use them since "Wanted" is where the need is. This new, vigorous Employment Committee, chaired by Sam Loschiavo, has worked extremely hard since September and deserves commendation.

GOVERNMENT AUSTERITY AND ENTOMOLOGY

The reply of the Minister of Fisheries and Forestry, now the Minister of the Environment, completes the Government's reply to the President's letter (Bulletin 2(3):74). In retrospect, over a year having passed since the Government's austerity policy took effect, we suggest the letter and the five replies make interesting reading.

INSECT COLONIES

The third supplement to the Bulletin accompanies this issue. Pagination is independent, and it may be readily removed for separate filing if desired. The colour of the paper was carefully selected to match the eyes of the compiler.

CORRESPONDENTS AND CONTRIBUTORS

The deadline for the next issue, Vol. 3, No. 3 for September 1971 is 31 August. Be prompt however, the date is late to make it possible to cover the Annual Meeting.

21st Annual Meeting

ENTOMOLOGICAL SOCIETY OF CANADA

70th Annual Meeting

ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA

University of Victoria, B.C.
24, 25, 26 August 1971

PROGRAMME

Monday 23 August

1900-2200 Registration, informal reception with buffet and refreshments.

— Photo Salon report and showing.

Tuesday 24 August

0800-0900 Registration

0900 Opening ceremonies. President's address.

1015 **Symposium: Insect Systematics and Evolution**

— Chairman, G. G. E. Scudder, University of British Columbia, Vancouver.

— H. H. Ross, University of Georgia, Athens.

— D. K. McE. Kevan, Department of Entomology and Parasitology, Macdonald College, Quebec.

— Anne Hudson, Entomology Research Institute, C.D.A., Ottawa

— W. P. Stephen, Department of Entomology, Oregon State University, Corvallis.

— J. W. Kamp, Zoology Department, University of British Columbia, Vancouver.

1200 Retired Members Luncheon

1330 **Symposium, Insect Systematics and Evolution, continued.**

1530 **Invitation paper: Understanding Olfaction.**

— R. H. Wright, British Columbia Research Council, Vancouver.

1830 Buses leave University for Salmon Barbecue and Logger's Show at Sooke, about 25 miles west of Victoria.

Wednesday 25 August

0900 Symposium: Chemical Attractants and Insect Control.
- Chairman, R. W. Stark, University of Idaho, Moscow.
- H. Storey, University of California, Riverside.
- C. J. Sanders, Canadian Forestry Service, Sault Ste. Marie, Ontario.
- John Borden, Simon Fraser University, Burnaby, B.C.
- Bland Ewing, University of California, Berkeley.

1330 Symposium: Chemical Attractants and Insect Control, continued.

1430 Invitation paper: **Fine Structure of Mouthparts of Vector Insects.** A. R. Forbes, Canada Agriculture Research Station, Vancouver, B.C.

1515 Annual General Meeting, Entomological Society of Canada.

1800 Entomologists' Mixer.

1900 **Banquet**
Guest speaker: Dr. Roderick L. Haig-Brown, Chancellor of the University of Victoria, Provincial Court Judge, renowned author and conservationist.

Thursday 26 August

0900 Submitted Papers

1200 **Gold Medallist's Luncheon, Oak Bay Marina.**
The Entomological Society of Canada Gold Medal for Outstanding Achievement in Canadian Entomology will be presented to Professor J. G. Rempel who will address the Societies on "The University at the Crossroads".

1330 Sealand visit – Ocean Aquarium.

1515 Submitted Papers.

Friday 27 August

0830 Buses leave for post-conference excursion of lower Vancouver Island, with stops at Cathedral Grove and the Big Qualicum River Salmon Project.

2ND ANNUAL PHOTO SALON

This year awards in the Photo Salon will be made in three categories: black and white prints, colour prints, and 2x2 colour slides. Photographs will be on display throughout the conference and a showing of the slides is planned.

LADIES PROGRAMME

Opportunities will be provided for shopping and sight-seeing in beautiful Victoria. Visits are planned to the Art Gallery, the Provincial Museum and historic sites in the area. A highlight of the Ladies Programme will be a visit to the famous Butchart Gardens, which were created from an abandoned limestone quarry through the imagination and zeal of Mrs. Butchart. Child-care facilities will be available during the conference.

LETTER TO THE EDITOR

Sir:

Can you kindly print this note in your Bulletin for members or otherwise make its content known? I wonder whether there would be an interest in insects from Australia and possibly Oceania, Asia and Europe. If so, I should appreciate particulars about methods of preservation, packing, etc. preferred.

Could I also perhaps have a sample copy of your scientific periodical(s)?

I should be glad to hear from you.

Very truly yours,
Karl Ströder
c/o Post Office
Darwin
Northern Territory
Australia

PRAIRIE UNIVERSITY BIOLOGICAL SEMINAR

Graduate students on the Regina Campus of the University of Saskatchewan were hosts to the 5th Annual Prairie University Biological Seminar (PUBS) on February 19th and 20th, 1971. Over 70 graduate students and 10 staff attended and represented the Department of Zoology, University of Alberta; Departments of Botany, Entomology and Zoology, University of Manitoba; Department of Biology, University of North Dakota (Grand Forks); and the Departments of Biology, Regina and Saskatoon Campuses of the University of Saskatchewan.

This year PUBS was the largest and most widely representative of the five PUBS held to date. The first and original was held at the University of Manitoba in 1966 and included graduate students from Regina and Saskatoon. Since then meetings have been held at Regina, Saskatoon and Winnipeg. The purpose of the meetings is to provide opportunities for presentation of findings and for discussion of topics of mutual interest among graduate students. Graduate students arrange the scientific and social programme. The host university decides the format and nature of the meeting, which usually consists of sessions of submitted papers and of social activities.

This year's scientific programme consisted of 36 papers given in nine sessions. Papers were 10 minutes long with a lively five minutes of questions afterwards. Each session covered several subjects and participation was high throughout the programme. Topics included parasite distribution, fish physiology, mammalian ecology, plant phylogeny and anatomy, mosquito biology, plant and animal ecology, host-parasite relations, environmental physiology including barometric pressure, animal behaviour, nematode sex-attractants.

A visit to a brewery and a dinner with entertainment completed the conference activities. The Department of Zoology, University of Alberta will be host in 1972.

GOVERNMENT AUSTERITY AND ENTOMOLOGY

(A reply to the President's letter Bulletin 2(3):74)

Dr. W. F. Baldwin
President
Entomological Society of Canada

March 31, 1971

Dear Dr. Baldwin:

This is in reply to your letter of March 8 in which ou refer to earlier correspondence concerning employment of entomologists in the public service of Canada, and anxiety caused by lay-offs from the Department of Fisheries and Forestry, more specifically from the Canadian Forestry Service, in 1970.

You are no doubt aware of the federal government policy decision, reached in 1969, that expenditure levels in 1970-71, in all but a very few departments, should not be permitted to increase. Also, you will perhaps recall that negotiated retroactive salary adjustments, effective in 1969 and 1970, had the effect of increasing the outlay for salaries and wages, for a fixed staff complement, by approximately 20 per cent. For an agency such as the Canadian Forestry Service, in which salaries and wages constituted a very large proportion of its operating budget, there were only two alternatives: (a) suspend all activities that engender operational costs; or (b) reduce salary and wage costs associated with lower priority programs, so that normal operations could be continued in the remaining programs. The latter alternative was recommended by senior management of the Canadian Forestry Service and was implemented with my concurrence. I have no doubt that this was the correct decision under difficult circumstances.

In the process of program adjustment, including the closing down of two establishments, there were numerous staff transfers and a sizeable staff reduction through retirement and lay-off. A number of entomologists were included among the professionals who were transferred, retired or laid off. They represented a small proportion of those thus affected. Program adjustment was undertaken on a broad problem priority basis, not on the basis of disciplinary training. All senior management of the Forestry Service participated in the extended program reviews leading to the decisions which were taken.

Entomological problems rank quite high among those of importance to forestry in Canada, and I am reassured in the knowledge that this Department has a very competent corps of professionals trained in this discipline who are making valuable contributions to the cause of forestry. While it is not possible for me to make any commitments regarding future recruitment programs, or the needs of Canadian educational facilities regarding the training of entomologists for the future, I am confident that the value of this discipline is well recognized in the Department, and that staffing will continue as required to meet departmental needs, always of course, within constraints imposed by available funds.

Yours sincerely,
Jack Davis
Minister of Fisheries and Forestry

WILLIAM HAROLD BRITTAIN 1889-1971

Dr. W. H. Brittain died January 30, 1971 in the Ste Annes Hospital, Ste Anne de Bellevue, of a heart attack. Dr. Brittain was well known to Canadian agriculturalists and especially to entomologists. He was born in Fredericton, N.B. and received his early education in Woodstock and Saint John, N.B. He was a member of he first graduating class of the faculty of agriculture at Macdonald College in 1911, being the Cold Medallist of his class.

After serving with distinction as provincial entomologist in British Columbia and in Nova Scotia, he completed his Ph.D. at Cornell in 1921, and joined the staff of the Nova Scotia Agricultural College as professor of entomology.

In 1928, he become professor of entomology of McGill's Faculty of Agriculture at Macdonald and became dean in 1934, serving as dean of agriculture and vice-principal of Macdonald College until his retirement in 1955, when he was honored with an LL.D. by McGill as part of Macdonald's semi-centennial celebrations.

Dr. Brittain was acting principal of McGill University in the 1937-38 session before the appointment of Principal Douglas.

For his work in entomology he was elected a fellow of the Royal Society of Canada, and held an honorary D.Sc. from the University of British Columbia. The Quebec Ministry of Agriculture awarded him the Ordre du Merite Agricole. He served as president at different times of the Agricultural Institute of Canada, the Canadian Association for Adult Education and the Ontario Entomological Society.

In addition to his major scientific achievements in entomology, Dr. Brittain's second career at Macdonald College's Morgan Arboretum has provided not only technical assistance to the forest industry but untold pleasure to all who have enjoyed its beauty. At the time of his death Dr. Brittain was still serving as scientific adviser to the Arboretum association.

As vice-principal of Macdonald College, Dr. Brittain provided the leadership which gave McGill's Faculty of Agriculture the pre-eminent place it has for imaginative innovation in the professional degrees in agriculture, and for research in the basic agricultural and biological sciences.

He is survived by his wife, Mary (nee Cruickshank), one son, Bruce (Ottawa) and three daughters, Mrs. J. R. Bulman (Peggy), Mrs. J. B. Poole (Barbara), and Mrs. B. A. Bohan (Bonney).

F. O. Morrison

REPORT OF THE SENATE SPECIAL COMMITTEE ON SCIENCE POLICY

A FORECAST OF VOLUME TWO

An appraisal of Volume One of the Senate Report on "A Science Policy for Canada" indicates that Volume Two should contain specific recommendations for action on the following matters:

1. The implementation of a coherent science policy for Canada.
2. The reorganization of administrative science policy structures, including a reallocation of functions and responsibilities in existing organizations and the creation of new ones where needed.
3. The development of an effective network of relations between the federal, provincial and municipal governments; the Canadian scientific and technical community; international institutions and other countries.
4. The division of resources between basic research, industrial research and development and social research and development.
5. The support and function of SCITEC.
6. The establishment and function of a standing Senate Committee on Science Policy.
7. The collection, storage and dissemination of scientific and technical information, including research outputs and manpower data.
8. The collection, storage and dissemination of information on research efforts and manpower in the social sciences.
9. The transfer of the doing of applied research to the site where it will be used.
10. The fostering of indigenous inventions and innovations, including support of the independent inventor.
11. An increase of the national effort in social science, to improve the quality of life, with emphasis on problems in health, education, urban living, pollution, poverty, labour unrest, leisure and adaptation to accelerating change.
12. A division of resources so that more effort is devoted to the life sciences and social sciences rather than the physical sciences; and more to engineering and development activities rather than to scientific disciplines and fundamental research; and more to economic and social objectives rather than to curiosity and discovery.
13. The attainment of such a division by an increase of funding in the areas to be stressed rather than by a diminution of effort in the other areas.
14. A stimulation of industrial research through the broader use of contract research in industry by government.
15. The development of more effective incentive schemes for industrial research.
16. A greater support of research on education, as the largest industry in Canada.

You might prepare your position on these points so that you can react promptly to Volume Two when it issues.

R. C. Quittenton, Chairman
SCITEC Response Committee for the
Senate Science Report

LETTER TO THE EDITOR

Sir:

SHOULD DDT BE RESURRECTED?

Apparently some American scientists and pseudo-scientists think so. Based upon an embryonic organization called "SOS-DDT" their sole objective is to reinstate DDT. Their organization came to light by their unofficial presence at the recent annual meeting of the Entomological Society of America held at Miami Beach. Their ultimate objective is to obtain public support to counteract the present feeling against the use of DDT and other harmful pesticides. Ilowever, their message as conveyed through their printed leaflets evo es a mixed response from the scientific community, with individual feelings ranging from indignant oppositon, to occasional sympathy for their emotional appeal. SOS-DDT argued the current ban or curtailed use of DDT resulted from an emotionally aroused public opinion. This might be partly true, but they in turn adopt the same emotional approach in their own campaign for DDT reinstatement. For example, J. G. Edwards (Professor of Entomology at San Jose College) writing in the Sunday Oregonian says, "After all, we thought, there are some things like motherhood, patriotism, and DDT that simply do not need defending".

Scientists have a code of ethics which predicates that they cite references of scientific work in support of their statements. Nowhere do we find SOS-DDT has quoted any references in support of DDT. In this age, scientists simply cannot be gullible to the point of accepting SOS-DDT without scientific backup in their statements. Clearly then, the approach of SOS-DDT does not satisfy us and in fact it is downright misleading. We hope, however, that our entry into the fray will help place DDT in a more rational perspective.

Obviously the benefits for human welfare that have resulted from the use of DDT have been clearly recognized. Nobody can deny the tremendous increases in crop yields and the effective control of insect vectors of diseases as a result of the development of DDT and other synthetic insecticides. But during the last decade scientific investigations have led to an increased awareness of the limitations and hazards of DDT. As far as hazards are concerned, SOS-DDT appear to be evading the real issue, i.e. the accumulation of DDT in fatty tissues of animals and its deleterious effects on such animals. While they state that water becomes saturated at the very low concentration of 1.2 p.p.b., they ignore the fact that it will accumulate to a concentration of 500 - 1000 ppm in the fat body of mammals when their diet contains 100 ppm of DDT (Insect-Pest Management and Control, National Academy of Sciences, Washington, 1969). It is well known that females accumulate more DDT than males, and secrete it in their milk at approximately one tenth of the concentration existing in their fat body (*loc. cit.*).

Undesirable side effects often result when persistent insecticides become involved in food chains. For example, the death of a considerable number of western grebes on Clear Lake, California, was caused by the application of DDD for gnat control, at .02 ppm in the water on three occasions during a 10-year period. In one food chain in this lake, DDD accumulations were 5 ppm in the plankton, 800 in the visceral fat of blackfish, and 1600 in that of largemouth black bass and western grebe (Hunt, E. G. and A. I. Bischoff. California Game and Fish 46(1): 91-106, 1960). Nesting adult robins have been killed by

the DDT dosage of 2 lb/tree to control bark beetle vectors of the fungus causing Dutch elm disease. The robins fed on earthworms which contained about 80 ppm of DDT and 30 ppm of DDT derived from the contaminated soil they ingested. It was found that about 100 of these earthworms constituted a lethal dose (Hickey, J. J. and L. B. Hunt. J. Wildl. Mgmt 24:259-265, 1960). In such situations, the loss of songbirds must be weighted against the loss of elms. The extreme mobility and persistence of DDT resulted in dramatic reduction in populations of fish, birds, and small mammals and the beneficial insects that are natural control agents for agricultural and forest crops. This is the main concern among ecologists and conservationists.

SOS-DDT tries to lessen the gravity of the question of persistence of DDT by stating, " . . . DDT does degrade to more innocuous substances sometimes in a short period of 2 days". It has been proven that the average half-life of DDT in loamy soil is 25 months, and in orange rind about 50 days (Nat. Acad. Sciences *loc. cit.*). However, SOS-DDT would seemingly dismiss most of these residues as being polychlorobiphenyl compounds (PCB's) which they claim are trace contaminants in plastics. Does this imply we should discontinue using plastic food containers? Whatever the answers are, there still remains an amazing correlation between repeated DDT applications and the levels of recoverable residues both in animals and soil.

During the decade 1945-1955, unprecedented effectiveness was achieved for the control of wide range of pest species by the application of **broad spectrum** pesticides at maximum dosage rates. However, biologists did not realize the adverse effects that could follow from the indiscriminate use of such chemicals. This unilateral approach of pest control is nothing more than palliative and amounts to what has been termed "bulldozing nature". The ecologist fully recognizes the fact that a dynamic, multilateral management system is essential for the regulation of pest populations in the continually evolving components of agricultural and forest ecosystems. It is more than clear that a thorough understanding of the dynamics of insect pest populations in relation to total ecosystems should precede attempts at chemical and biological control if the results of such measures are to be properly understood, and manipulated with predictability.

Our aim should not be to eliminate a pest species completely but to find ways and means to coexist with it. For this a well designed management program should be sought 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 pressing need now, and more than at any time in the past, is to develop narrow spectrum and short-lived chemical compounds with low animal – and plant – toxicity instead of seeking for panacea compounds like DDT. It is worth recognizing at this point that many crops can tolerate substantial levels of infestation of some pests without loss in yield or nutritional value. Consumers have been conditioned to demand food products completely devoid of blemishs produced by pests and consequently growers always try to harvest crops without blemishes often by excessive and indiscriminate use of pesticides. This attitude prevents efforts to adopt pest management programs that would considerably reduce the use of pesticides.

We must agree that chemical insecticides should be retained to supplement other control measures as emergencies arise. But we must not forget to use these in accordance with scientific ecological principles otherwise we will pay a very high price for our ignorance.

M. K. Mukerji, C. F. Hinks

BOOK REVIEW

Contributions Towards a Monograph of the Fleas of New Guinea, by G. P. Holland. Memoirs of the Entomological Society of Canada No. 61. 77 pages, illustrated. The Entomological Society of Canada, Ottawa. 1969. No price.

The fauna of New Guinea in general is a fascinating one, not only because of its diversity and endemism, but by virtue of its importance in our understanding of zoogeography and evolution. This is particularly true of the Siphonaptera, and since the fleas of New Guinea have been relatively little known, this excellent opus is especially valuable. The review deals with all the relevant Siphonaptera reported or available to the author, namely 4 families, 22 genera (7 new to science), 58 species and subspecies (26 new species and 3 new subspecies), and includes a key to the genera, keys to the New Guinean species of 9 of these genera (the remainder being known only from a single species in New Guinea), illustrations of the major diagnostic features of the new taxa and for described forms not adequately figured heretofore, a host-parasite list, a chapter on zoogeography, a table showing distribution, and 41 bibliographic references.

The illustrations prepared by the author are accurate, clear, neat, well-produced, appropriate regarding selection, size, spacing, and format, and readily serve to differentiate the taxa concerned. The descriptions of the new and little-known taxa are detailed enough for critical study and evaluation and are well organized. These are important considerations, since the figures and text are already being used extensively in dealing with additional new species discovered subsequent to the preparation of this volume.

The taxonomic treatment is revolutionary in that the large genus *Stivalius* Jordan & Rothschild, 1922, was deemed a heterogenous assemblage in need of revision, and hence the New Guinean representatives were separated into 7 categories, which were treated as distinct genera and named accordingly. In the opinion of the reviewer, this revision of *Stivalius* was not only necessary and desirable, but was handled in an extremely competent manner despite many inherent difficulties.

That the resulting taxonomic concepts are sound and represent natural groupings is indicated by the facts that: 1) the reviewer had reached similar conclusions independently, using a different set of characters (aedeagal) than had the author when he proposed the classification; 2) a large number of new species of New Guinean "*Stivalius*", which Dr. Holland had never seen, all readily conform to the scheme; 3) the diagnostic characters are on a par with those used by specialists dealing with other genera of fleas.

Holland's concept of species and subspecies seems equally valid, and the correctness of his system of classification is reflected by the ease with which his keys for identification of the genera and lower taxa can be used. Thanks to the fine figures and cross-references, even the non-specialist can readily use the keys.

The volume has been prepared with great care, not only with regard to systematics, but also with respect to preparation and presentation of type material, locality and other data, use of modern and correct host-names, designation of material examined and illustrated, etc. Typographical errors are rare.

and the complex terminology is consistently and correctly used throughout. The format used in the descriptions is very good on the whole, although in a few instances salient diagnostic characters are not designated as such in the description of new species. In those exceptional cases it is necessary to compare the text of the descriptions of two species point by point. Complete bibliographic citations are presented and taxonomic changes are properly indicated.

In the case of fleas, the morphology of the males is so compl x that there is a plethora of taxonomic characters that can be used, and males are frequently named and described in the absence of females. There are 3 such in this opus, as well as 3 female whose mates are yet unknown. The latter category will present great difficulties when the time comes to associate "unknown" males with named females, since there frequently are no non-sexual diagnostic characters to facilitate identification. However, I believe there was sufficient justification for the author's handling of the problem under existing circumstances, in that the females seemed adequately distinctive.

The text also includes noteworthy observations on evolution, such as the footnote that fleas of bandicoots tend to have sharply pointed spines. The concept of sibling species is also appreciated (although not designated as such) in that Holland recognized the specific identity of specimens most workers would have incorrectly dismissed as being merely additional representatives of one of the commonest species on the island. Designating these as worthy of species-rank (e.g., *Metastivalius rothschildae*) was a real service.

The chapter on zoogeography also presents refreshingly original and significant ideas, and includes observations on mammals as well as fleas. For exampl , Holland points out "species of *Stivalius* that occur outside the Australian Region may represent a line, or lines, that emigrated from New Guinea towards the East Indies in early (Miocene?) times rather than lines that survived from the now extinct marsupial fauna in the areas where the species now occur." The great majority of mammalogi ts believe the movement of mammals was in the opposite direction. Here again, the reviewer has material which the author had not seen, which supports his contentions. (In fact, they extend the argument both in geologic time and distance.) This chapter also emphasizes the great degree of endemism that exists in the New Guinean flea fauna and the amount of adaptive radiation that has occurred.

The title Holland selected indicates that there obviously is a great deal yet to be learned about the fleas of New Guinea, and it also explains his manner of treating the subject. When preparing a review of the fauna of a little-studied region, an author faces a series of dilemmas. Should he describe and illustrate the new species in ultimate detail and thus greatly delay publication, or should he do a sufficiently thorough job to make the fauna known, so that the opus can serve as a firm foundation for subsequent studies? Should he postpone completion of the volume so as to await the discovery of more new taxa, or should he proceed with what i at hand? Holland chose the latter alternatives, and, in my view, this was a very wise decision, and one other workers will greatly appreciate. The task of recognizing new species and genera is now immeasurably easier, and, more important, the systematics of New Guinean fleas has been firmly organized and present d.

George P. Holland is recognized as one of the world's outstanding workers on the taxonomy and distribution of Siphonaptera, and is regarded as a well-rounded naturalist. This book shows his reputation is well deserved,

and merits the congratulations and thanks of his colleagues and of all those interested in zoogeography, the distribution of mammals and ectoparasites.

Robert Traub
Department of Microbiology
University of Maryland
School of Medicine
Baltimore

(This review was originally published in the Journal of Medical Entomology. It is reprinted here with the permission of the author and the editors of the Journal because of the importance of the book. – Ed.)

HOW SCOGGIN SOLD POWDER TO KILL FLEAS

From: Jest upon Jest. A Selection from the Jestbooks and Collections of Merry Tales Published from the Reign of Richard III to George III. By John Wardroper 1970. Published by Routeledge and Kegan Paul Ltd., London, and reprinted here by permission of the publisher.

Scoggin divers times did lack money and could not tell what shift to make. At last he thought to play the physician, and did fill a box full of the powder of a rotten post, and on a Sunday he went to a parish church and told the wives that he had a powder to kill up all the fleas in the country, and every wife bought a penny-worth, and Scoggin went his way ere mass was done. The wives went home and cast the powder into their beds and in their chambers, and the fleas continued still.

On a time, Scoggin came to the same church on a Sunday, and when the wives had espied him, the one said to the other, 'This is he that deceived us with the powder to kill fleas.' 'See', said the one to the other, 'this is the selfsame person.' When mass was done, the wives gathered about Scoggin and said, 'You be an honest man, to deceive us with the powder to kill fleas!'

'Why,' said Scoggin, 'are not your fleas all dead?'

'We have more now,' said they, 'than ever we had.'

'I marvel of that,' said Scoggin. 'I am sure you did not use the medicine as you should have done.'

'They said, We did cast it in our beds and in our chambers.'

'Ay,' said he. 'There be a sort of fools that will buy a thing, and will not ask what they should do with it. I tell you all that you should have taken every flea by the neck, and then they would gape, and then you should have cast a little of the powder into every flea's mouth, and so you should have killed them all.'

Then said the wives, 'We have not only lost our money, but we are mocked for our labour.'

Author's note: Story from "The First and Best Part of Scoggin's Jests, gathered by Andrew Boord, Doctor of Physicke, 1626, British Museum. John Scoggin is stated to have been at court in the reign of Edward IV, who died in 1483.

COMMUNICATION OF RESEARCH

ARE WE BRIDGING THE GAPS BETWEEN BIOLOGISTS, RESOURCE MANAGERS AND THE PUBLIC?

Symposium sponsored jointly by the Northeastern Forest Insect Work Conference and the Acadian Entomological Society, Fredericton, N. B. 6, 7 April 1971.

Public demand for information is increasing and the public has a right to the information, for which it has paid. If it does not get the information from knowledgeable and respected scientists, it will get it from the lunatic fringe of the scientific world. In the past, scientists have been indifferent to communication with outsiders. The scientist must now prepare himself to communicate effectively with the public; he must learn to use the news media – TV, radio and newspapers – effectively, for if he does not, his ideas will be distorted – intentionally or otherwise, the public will be misinformed, or he may be made to look stupid, or all three. If the occasion demands it, scientists should be prepared to become involved in public debate. These were some of the views that were expressed at the symposium, and for each one of these there was a counter-argument.

The point was made that most scientists who present papers at conferences, or submit them to journals, take a great deal of care in their presentation; however, when it comes to being interviewed for radio or television, they spend far too little time, although the number of people reached in a television interview will probably be greater than the number reached in five years of conference going.

The techniques of public communication are very different from those for scientific communication. The scientist has no control over the media he is using, the audience does not have the specialized knowledge that his colleagues ha e, and generally the audience has to be entertained to remain interested. The usual stodgy scientific message has little appeal to the public. If the audience is not being entertained, or informed in an interesting manner, they will simply not listen, watch or read.

Although scientists have a reputation for being uncommunicative and the media have a reputation for twisting the facts, the two groups must get together if any real communication is going to take place between the scientists and the public. Between the scientist and the resource manager it appears that communication takes place when there is a pressing need, but between the resource manager and the public there is little communication, and the resource managers always appear to he on the defensive. Until these things are changed, there will be little real communication.

C. C. R. Croome
Regional Editor
Canadian Forestry Service
Fredericton, N. B.

CANADIAN ENTOMOLOGIST 100 YEARS AGO

Entomologists in France. – The second *seige*, by which Paris has suffered so much, has spared the persons of entomologists, but has utterly annihilated or greatly damaged many of their collections and libraries.

JACOBSON, THE CUTWORM EXPERT, RETIRES

Larry A. Jacobson of the Crop Entomology Section, Lethbridge Research Station, retired on March 31, 1971. Larry joined the Dominion Entomological Laboratory at Lethbridge in 1934 and he continued his career at Lethbridge until his retirement. He obtained his B.Sc. from the University of Alberta in 1934 and his M.Sc. from Montana State College in 1938.

His first research program dealt with the Say stink bug, a sporadic pest of wheat and other cereal crops in the prairies since it first appeared in 1934. He conducted research on its biology and life history, demonstrated the necessity for its control through crop loss studies, and went on to develop chemical and cultural controls.

Larry has been in charge of the project on cutworms of the prairies for over 28 years. During that time he has provided essential information on the biology, laboratory rearing, and control of the pale western cutworm, the army cutworm, and the red-backed cutworm, and other species. Most recently he has been cooperating in research on sex pheromones of cutworms. In addition to research he has been responsible for the annual pale western cutworm survey and forecast. His research has been of value both to science and to the agricultural industry of the prairies.

He was in charge of planning and construction of the building for the Science Service laboratories, which was completed in 1949 and now serves as the Biology Building of the Lethbridge Research Station. This was a major project undertaken at a time when shortages of money, labor, and materials required a great deal of special talent and ingenuity.

Larry has served actively in scientific societies having been twice President of the Lethbridge Branch of the Agricultural Institute of Canada, President of the Entomological Society of Alberta, General Chairman of the annual meeting of the Entomological Society of Canada in 1960, on the membership committee of the Pacific Slope Branch of the Entomological Society of America, a member of the American Association for the Advancement of Science, a charter member of the Alberta Institute of Agrologists, and a member of the Professional Institute.

Larry has also been very active in community affairs having served as President of the Rotary Club of Lethbridge, President of the Kinsmen Club of Lethbridge, and on the executive of the Lethbridge Golf and Country Club. He served in the militia, rising to the rank of major and receiving the CD medal. He has been an active curler and golfer, a member of the Lethbridge Sketch Club, and is an expert fisherman.

Larry and his wife, Edna, will continue to live in Lethbridge. Their son, Brian, lives in Sarina, Ontario, and their daughter Janice at Peace River, Alberta.

Larry has been a very popular and productive member of the staff and has served wholeheartedly on many station committees. We all regret that he decided to retire before the compulsory retirement age.

Larry has published 28 scientific papers and numerous other publications. He has just completed a monograph of the pale western cutworm, which will be published shortly in Quaestiones Entomologicae, a publication of the University of Alberta. Some of his key papers and other publications are:

Control of the wheat stem sawfly. With C. W. Farstad. Agr. Supplies Board Special Pamphlet 59. 1945.

Influence of photoperiodism on oviposition by the army cutworm, *Chorizagrotis auxiliaris* (Grote) in an insectary. Ann. Ent. Soc. Amer. 53: 474-475. 1960.

Control of the pale western cutworm. Can. Dep. Agr. Res. Br. Pub. 1109. April 1961.

Damage to wheat by the Say stink bug, *Chlorochroa sayi* Stal. Can. J. Plant Sci. 45: 413-417. 1965.

Mating and oviposition of the pale western cutworm, *Agrotis orthogonia* Morrison, in the laboratory. Can. Ent. 97: 914-1000. 1965.

Damage by larvae of the pale western cutworm after heading. J. Econ. Ent. 60: 1318-1320. 1967.

Laboratory ecology of the red-backed cutworm, *Euxoa ochrogaster* (Lepidoptera: Noctuidae). Can. Ent. 102: 85-89. 1970.

N. D. Holmes

CANADIAN ENTOMOLOGIST 100 YEARS AGO

Destruction of the Walsh Cabinet in the Chicago Fire. We have no reason to suupose that the Chicago fire consumed any considerable number of noxious insects, with the exception of that very familiar and domestic species known, in scientific language, as the *Cimex lectularius*. If these had been the only insects destroyed, resignation would have been an easy virtue. But, as if it were ordained that no kind of interest should escape grief and loss from that great calamity, so the science of entomology was put under heavy contribution, by the destruction, not only of many small amateur collections of insects, but also by the ruin of the large collection belonging to the Chicago Academy of Science, and over and above all, in value and importance, was the admirable cabinet of insects purchased by the State from the heirs of the late Benj. D. Walsh, of Rock Island, and which had been deposited in the Academy for safe keeping. . . . . When we consider the long years of patient toil and research of which this cabinet was the result, the thought of its inevocable destruction becomes too painful to be dwelt upon, especially by the professed entomologist, to whom this cabinet was invaluable for purposes of reference .

CANADIAN ENTOMOLOGIST 100 YEARS AGO

. . . . I contend that patience is the chief gift to make a successful entomologist; without it he cannot grasp an abtruse subject, for being too hasty his brain wanders to isolated points, magnifying them, to the exclusion of other more important ones, whereas he should watch patiently, and record facts as they gradually come before him. — William Couper

CERTIFIED ENTOMOLOGISTS

The Entomological Society of America has just established an "American Registry of Certified Entomologists" Bull. Ent. Soc. America 17(1): 55-57. It has invited individuals who are legal residents of the United States or its territories and possessions who are members of the E.S.A. to pay $30 a year plus another $10 a year for each "classification category" (i.e. specialty) under which he wishes to apply for certification. Some applicants will be required to take an examination at $50 a sitting and a committee of scientists, educators and recognized authorities in entomology will review credentials, set standards, give examinations, judge, certify, issue certificates, conduct hearings, and deny, revoke, or suspend certification. To what purpose?

Society demands, in the words of the E.S.A., evidence of the professional competence of entomologists who render certain services and certify the acceptability of procedure. New laws governing pest management, restrictions of choice and use of pesticides, prescription programs, and an increasing number of regulations limiting the application of control procedures to qualified individuals are cited by the E.S.A. as activities requiring the services of certified entomologists. Laws and regulations are not activities but results of the activities of legislating bodies concerned with improving the quality of services to the public and the competence of those who render them.

The purposes of the Registry are at best vague. Failure by legislating bodies to properly regulate use of pesticides and activities of pest control operators might logically predicate self-regulation by the professions concerned. It hardly requiries a closed society of all entomologists including some disciplines (e.g. of a basic nature) in which the need obviously does not exist.

Aside from the cost to individuals, which like everything else is bound to go up, not down, the Registry will create another hierachy over American entomologists, it will exclude competent colleagues wihout degrees and will inevitably, like other registries in other professions, protect some incompetents. Professionals already have sufficient credentials: their degrees, their publication records, their employment records, their personal reputations, and the testimonies of their colleagues and teachers. As stated in the slogan of the Registry, professional certification may well reflect extensive preparation. It may also mandate ethical and superior execution in the service of the public but it is highly unlikely that it will get it.

Had the E.S.A. opted to press for uniform and enlightened laws and regulations relevant to entomology, all the regulation the profession ever needed could be had. Instead it has chosen to set up a society within a society, a new empire for the professional organizers, and a closed shop, which is not likely to achieve anything really beneficial to the profession or, more important, to society.

The idea of a registry will almost inevitably spread to the Entomological Society of Canada. There are those among us who will press it strongly. It should be opposed vigorously or Canadian entomologists too might get a registry of certified entomologists, that all would have to join but most would not want.

D. C. Eidt

SALT TERMINATES COLD HARDINESS STUDIES

Reginald W. Salt of the Crop Entomology Section, Canada Agriculture Research Station, Lethbridge, Alberta, has retired after attaining a place as a world authority on insect cold hardiness.

His scientific career started in 1930 at the Dominion Entomological Laboratory at Lethbridge, Alberta, upon graduating from the University of Alberta and continued at Lethbridge until December, 1970. He obtained a M.Sc. degree from Montana State College in 1933 and a Ph.D. degree from the University of Minnesota in 1936.

By 1940, Dr. Salt showed the need for leafcutter bees in alfalfa pollination, and from 1940 to 1942 he served as acting head of the Entomology Department of the University of Alberta. He then conducted research on diapause in the wheat stem sawfly, which attracted international recognition. Shortly thereafter he began working on cold hardiness of insects.

In 1950 he gave an invited paper on cold and cold-blooded animals at a symposium of the Royal Society of Canada. His research on the relation between undercooling and moisture content lead to a study of nucleation and to important new concepts concerning time of freezing and effects of food on cold hardiness. He pioneered the research on the role of glycerol and in intracellular freezing in insects.

He reviewed the field of insect cold hardiness in Ann. Rev. Ent. 1961, the "factors influencing nucleation in supercooled insects" in Can. J. Zool. 44: 117-133, 1965, and "the survival of insects at low temperatures" in Dormancy and Survival, 23rd symposium, Soc. exp. Biol. 23: 331-350, 1969, Cambridge Univ. Press. His last scientific paper on the subject, "Analysis of insect freezing temperature distributions," appeared in the Can. J. Zool. 48: 205-208, 1970.

During his career he published 49 scientific papers and reviews. The principles established through his research have basic implications not only to insect and plant cold hardiness but also to the fields of cloud physics and weather modification. The Research Branch program in insect cold hardiness has terminated with Dr. Salt's retirement.

Dr. Salt and his wife will continue to live at Lethbridge. He is continuing for a time to advise on the cold hardiness research of a postdoctoral fellow at the Lethbridge Research Station. Copies of his reprints not yet exhausted are being retained in the Crop Entomology Section, Lethbridge Research Station.

N. D. Holmes

CANADIAN ENTOMOLOGIST 100 YEARS AGO

The Bud-moth Caterpillar (*Graptolitha oculana*). Be on the lookout for this mischievous little creature — a tiny, pale, dull brown worm, which is fond of locating itself about the base of the blossom-buds, where, tying the various flowers or newly-formed fruits together with silken threads, it revels on their substance, soon causing them to blacken and wither. — Wm. Saunders

BIOLOGICAL COUNCIL OF CANADA
CONSEIL CANADIEN DE BIOLOGIE

The impetus for the organization of the BCC came from the Royal Society of Canada; the initial meeting was organized under the partial sponsorship of the Biological Section. Representatives of biological associations met in March of 1966 at the National Research Council in Ottawa. Following a discussion on the need for the development of an overall biological council for Canada as a voice for scientists to the government, an interim council was appointed. This council met during the summer and drafted a Constitution and By-Laws for the new organization culminating in a founding meeting. The Biological Council of Canada was founded in October, 1966, and the first President was Dr. Ian McTaggart Cowan.

The Council since its founding has been quite active in developing policy for biology in Canada and the following major programs have been initiated and developed:

The BCC co-sponsored the Study of Basic Biology commissioned by the Science Council of Canada and appointed the late Dr. K. C. Fisher as the Study Director. This study has now been completed and submitted to the Science Council.

The BCC recently published the Panel Chairman Reports of the Study of Basic Biology and these are now available.

The BCC sponsored a survey of High School Biology Education; an extensive report was completed in October 1968.

The BCC is sponsoring a national conference on the Teaching of Biology in High Schools.

The BCC sponsored a submission to Senator Lamontagne's Committee on science policy in January 1969. This brief was well received by the Senate Committee.

The BCC is currently sponsoring the publication of a career brochure for biology students. It will be published shortly.

The BCC played an active role in the formation of SCITEC (Association of the Scientific, Engineering and Technological Community of Canada). Dr. J. A. F. Stevenson, Past President, Dr. E. J. LeRoux, President and Dr. J. B. Armstrong, Vice President, are members of the Executive Committee of SCITEC. The BCC was one of the two organizations that financially supported the development of SCITEC at its founding meeting in January 1970.

The BCC supports the Youth Science Foundation and the Canada-Wide Science Fair activities of the Foundation, as well as participate on the Editorial Board of Science Affairs, "the science magazine for Canadian students".

The BCC produces, on an irregular basis, information bulletins of its activities.

The delegates of the Entomological Society of Canada are: Dr. J. Auclair, U. of Montreal, Dr. J. A. Chapman, Forest Research Laboratory, Victoria, and alternates Dr. W. G. Friend, U. of Toronto, and P. Harris, C.D.A. Research Inst., Belleville.

XVII GENERAL ASSEMBLY I.U.B.S.

On November 7th, 1970, members of the Canadian National Committee for the International Union of Biological Sciences met in Ottawa and reviewed the reports of Drs. C. Quadling, B. Cumming and H. E. Welch who had attended the XVII Assembly of I.U.B.S. in Washington, D. C. from October 4 to 9, 1970.

The General Assembly was attended by over 100 biologists representing 22 countries and 34 biological organizations. The agenda included an opening session, nine working committees, a business session, and a closinig plenary session. Seminars on Population Growth and Consequences, Environmental Changes and Health, and nvironmental Monitoring were presented between these business sessions.

Over the last three year the principal activities included sponsorship and support of 23 International Congresses and 40 International Symposia. Other areas of active support involved I.B.P., S.C.O.P.E. (Special Committee on Problems of the Environment). I.U.B.S. assumed a stronger role in I.C.S.U. (International Congress of Scientific Unions) and joined with other biological unions to press for more emphasis on biological programmes.

I.U.B.S. approved of the decision of I.C.S.U. (Madrid, 1970) to continue the various I.B.P. programmes to July, 1974. The Section on Ecology was authorized to act as the liaison agent for I.U.B.S. in its work with such non-government programmes as S.C.O.P.E. of I.C.S.U., and with the inter-governmental programme of Man and Biosphere (MAB) of UNESCO.

A decision of considerable interest to Canadian entomologists was the establishment of the International Commission on Biological Control, based on the International Organization of Biological Control organized at Amsterdam in 1969.

A resolution for the establishment of an International Committee for Congresses of Systematic Biology centred interest on the fate of the International Commission of Zoological Nomenclature and its probable demise with that of the International Congress of Zoology. This I.U.B.S. committee will aid in the formation of a new international body to sponsor the new and revised Commission.

Resolutions on the non-political nature of scientific meetings and free circulation of scientists, as well as the resolution sponsored by the Division of Microbiology banning biological warfare were passed rapidly. Other resolutions concerning the need for national policies on population, pollution, prohibition of insecticides, and prevention of phosphate eutrophication were more contentious, and some were tabled for further study.

Organized originally in 1919, I.U.B.S. has a six-fold purpose: to promote the study of the biological sciences in the widest sense of the word; to initiate, facilitate and co-ordinate research and other scientific activities that demand international co-operation; to ensure discussion and dissemination of the results of co-operative research; to promote the organization of international conferences and to assist the publication of their reports; to promote the co-ordination and dissemination of biological knowledge; and to provide an international organization embodying the unity of biological science.

The Canadian delegates returned from the meeting impressed by the range of activities in I.U.B.S. and the increasing need for international co-operation in the solution of biological problems of global dimension.

SMELLY SPRING

There was an entomologist
(That is to say, ecologist)
Who thought that air and water should be clean.
He was startled to discover
That his daughter was a lover
Of fast livi g, snowmobiles, and nicotine.

His search for a solution
To the problem of pollution
Led him to a situation very sad:
People smoke to solve their ills
And drive a bomb to get their thrills –
Henee pollution is no longer wholly bad.

Our erstwhile ent-ecologist
Thus needed a technologist,
Plus a sociologist of worth
To put profit in his pleasure –
To keep pleasure in his leisure –
And maintain the purity of Mother Earth.

For thirty years the group worked on
Through heat of day and misty dawn –
Races, creeds, and colours joined the fight
But they all succumbed together
And became a part forever
Of a fly-infested, greenish sea of blight.

C. D. Dondale

CANADIAN ENTOMOLOGIST 100 YEARS AGO

All the old entomologists took the greatest trouble and care in describing the habitations of insects, and why should we, at this advanced age of entomological science, confine ourselves to the collecting and study of insects only. – William Couper

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CANADIAN ENTOMOLOGIST 100 YEARS AGO

Friendly notes. – I see you have published a little scrap in No. 3 Can. Ent., "by C. V. Riley, State Entomologist of Missouri, St. Louis." I had to laugh at the mountain you have made of the mole heap, and, in future, if you care to use any of my scribblings in print, I must i sist that you follow copy, and omit the "ha dles". I have no particular fondness for the latter, and they seem to be especially out of place at the head of trifling communications. – C. V. Riley

EMPLOYMENT COMMITTEE

The purpose of the employment committee of the Entomological Society of Canada is to develop and maintain an employment service for those seeking employment in entomology. It will maintain a list of employment opportunities in Canada for entomologists, and establish an employment office at annual meetings of the Society where prospective employers and employees may contact one another and conduct interviews. The committee has sent about 230 letters to federal and provincial government departments or agencies, university departments of biology, entomology or zoology, and the agricultural chemicals industry. Many of the replies to date have expressed approval of the concept and aims of the committee. Many others have indicated a desire to cooperate fully in providing information on employment opportunities as they become available.

Up-to-date listings of positions available and positions wanted will be published in this and future issues of the **Bulletin**. Identities will be kept confidential. In addition, files containing resumes of candidates for employment in various areas of entomology will be made available at each annual meeting of the Society.

Blank forms designed for use by prospective employers and candidates for employment are available upon request to:

S. R. Loschiavo,
Chairman, Employment Committee,
Entomological Society of Canada,
c/o Research Station, Canada Agriculture,
25 Dafoe Road,
Winnipeg 19, Manitoba.

The committee will not publish names unless expressly requested by individuals concerned. All resumes received will be accessible to interested persons at the placement office at annual meetings unless otherwise instructed by applicants.

POSITIONS WANTED

Ph.D. candidate, desires position in taxonomy and ecology of freshwater invertebrates or in pesticide ecology of this fauna. Available in fall 1971. Ref. 43-1-71.

Ph.D. candidate, interested in classification zoogeography and biology of Diptera and braconid parasites desires university position with supervision of graduate students or research post in systematics. Seventeen years experience. Ref. 37-2-71.

Ph.D. candidate expecting to graduate in 1971 available after June for teaching position or as a research entomologist. Major interest: ecology of biting flies. Ref. 42-3-71.

Ph.D. with 15 years research experience with insecticide metabolism and artificial diets seeking permanent position in research or teaching. Ref. 33-4-71.

POSITIONS WANTED
(continued)

Graduate student available in summer of 1971 for position in taxonomy or ecological research. Interested in biological control. Ref. 42-5-71.

Single girl graduating with B.Sc. in 1971 interested mainly in biological control of insects would like a research position in ecology or biological control after Sept. 1972. Ref. 49-6-71.

B.Sc. candidate available in June for position in the broad field of entomology. Major interest is biological control. Ref. 47-7-71.

M.Sc. candidate desires position in taxonomy and ecology of some groups of Coleoptera. Available August 1971. Ref. 46-8-71.

Ph.D candidate with four years experience in taxonomy and ecology is interested in applied entomology, population dynamics, environmental manipulation, and biomathematics. Available August 1971. Ref. 40-9-71.

Ph.D. presently seeking research or teaching position, or postdoctoral assignment. Has teaching experience and has worked on host-plant relationships primarily in Diptera. Interested in wide spectrum of plant-insect interactions or in e olutionary biology and taxonomy. Ref. 41-10-71.

Ph.D. in physiology interested in nutrition, digestion and behavior would like position in research or in research and teaching. Experience in collection of parasites, feeding behavior, and sterile male techniques. Ref. 31-11-71.

Ph.D. candidate available September 1971 interested in research on zoogeography of insects; teaching in taxonomy, morphology, general biology; or illustrative art work in biology. Ref. 35-12-71.

Biology teacher with 8 years experience and Ph.D. in entomology desires position as a teacher, research worker or both. Interested in biological control and insect haemocytes. Ref. 29-13-71.

Teaching or research position desired. Has M.Sc. in biology, B.A. and B.Ed. Interested in entomology and parasitology. Ref. 37-14-71.

M.Sc. candidate majoring in entomology and ecology desires a field position in agrochemicals, extension, or stored grain entomology. Ref. 37-15-71.

Ph.D. with major interest in insect physicology would like position in research or research and teaching. Experience in digestive physicology excretion and nutrition. Ref. 36-16-71.

Please direct inquiries and correspondence re positions wanted citing reference numbers to:

S. R. Loschiavo, Chairman,
Employment Committee,
Entomological Society of Canada,
c/o Research Station,
25 Dafoe Rd.,
Winnipeg 19, Manitoba.

DO NOT direct inquiries to the Bulletin.

POSITIONS AVAILABLE

Post doctoral fellowships are available for eligible candidates with a background in insect physiology and research experience in insect endocrinology. Preference will be given to those familiar with juvenile hormone analogues. Interested and qualified candidates are invited to send *curriculum vitae* including personal data, education, experience, professional contacts, and the name of two references to Dr. Lucien Huot, Directeur, Département de biologie, Faculté des Sciences, Université Laval, Québec 10, Québec.

The Department of Fisheries and Forestry has a research position for a physiologist to plan and coordinate research program on bacteria causing disease in insects. Ph.D. preferred with specialization in microbiology and related subjects. Must have ability to organize, execute and direct research. Contact Dr. J. M. Cameron, Director, Insect Pathology Research Institute, Sault Ste. Marie for further details.

Agricultural chemicals company requires technical sales representative with B.Sc.A. to be responsible for sales in Eastern Canada and to develop new candidate chemicals to protect crops. Contact G. H. S. Malcomson, Box 26, Toronto-Dominion Centre, Toronto, Ontario.

Fruit and vegetable extension specialist. Entomologist required to provide information and advice as the Ontario provincial authority on the control of insects infesting fruits and vegetables. For complete details contact Province of Ontario Civil Service Commission, or the Department of Agriculture and Food and cite position code number 01-1801-10.

Positions for graduating students in agriculture may be available in some of the following companies:

Firm	Address	Contact
Beaver Lumber Company Ltd.	120 Fort St., Winnipeg	Personnel Manager
Canada Packers Ltd.	95 St. Clair Ave. W., Toronto	National Recruiting Coordinator
Ford Motor Company of Canada Ltd.	The Canadian Road Oakville, Ontario	Salaried Employment and Placement Manager
John Labatt Ltd. and subsidiary companies	(See local listings or university placement officer.)	
Public Service of Canada	(See literature in campus placement offices or write to H. F. Jeffers, University Recruiting Coordinator, Bio-Physical Sciences Program, Public Service Commission of Canada, Tower "A" Place de Ville, Ottawa 4, Ontario.)	
The Upjohn Company of Canada and subsidiaries	865 York Mills Rd., Don Mills (Toronto)	
Imperial Oil Ltd.	(See university placement officer for addresses.)	

The Personnel Officer and Director General of Environmental Quality of the Department of Fisheries and Forestry have been advised by the Minister of the work and scope of the Employment Committee. Hopefully the new Department of the Environment may avail itself of our services.

PERSONALIA

Dr. C. C. Loan, C.D.A. Research Institute, Belleville, spent 42 days during March and April 1971 visiting 14 research establishments in 12 European countries, to examine type insects of various parasitic groups associated with several biological control projects at Belleville. Valuable type material from national collections in Ireland, Sweden and Belgium were borrowed for study at Belleville. Taxonomists in the U.S.S.R. were very enthusiastic about Dr. Loan's visit to Leningrad and indicated their desire to exchange material with Canadians and offered him some of their material for study.

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Dr. Philip S. Corbet and Dr. Stephen M. Smith, C.D.A. Research Institute, Belleville, spent most of April in Dar es Salaam, Tanzania, as consultants to the World Health Organization on a project involving the biological control of the yellow-fever mosquito, *Aedes aegypti*.

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Dr. Philip S. Corbet, C.D.A. Research Institute, Belleville, has accepted an appointment as Professor and Chairman of the Department of Biology, University of Waterloo, Ontario, effective in August. Dr. Corbet is President-Elect of the Entomological Society of Canada. Dr. Peter Harris will become Acting Director at Belleville.

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Dr. W. O. Haufe, Lethbridge, Alta., has been elected President of the International Society of Biometeorology. This office includes responsibility for the 6th International Biometeorological Congress that will be held in Stresa, Italy, September 3-9, 1972.

FORT COMING MEETINGS

SCITEC will hold its regular Annual Meetin 28 and 29 June 1971 in Ottawa. A special SCITEC conference on the Senate Science Report will be held after Volume Two of the Senate Report on Science Policy issues, which is not now expected before early summer. Personal memberships are available for the modest sum of $10 from SCITEC, Suite 900, 151 Sl ter St., Ottawa 4.

CANADIAN ENTOMOLOGIST 100 YEARS AGO

Under the new Constitution recently adopted by the Society all subscribers to the Entomologist residing in Canada become ordinary members, and those residing in the United States, England, or elsewhere, Associate members of the Society.

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When the time approaches for the escape of the moth, which is about the beginning of June, the internal dark brown chrysalis is ruptured by the struggles of the occupant, and the newly born moth begins to work its way out of the cocoon. As it is possessed of no cutting instrument of *any* kind, this would indeed be a hopeless task had not the all-wise Creator made a special provision for this purpose, and to this end a fluid adopted for softening the fibres is furnished just at this juncture and secreted from about the mouth. – W. Saunders on *Cecropia*

OFFICERS OF THE ACADIAN ENTOMOLOGICAL SOCIETY FOR 1971-73

(until 1973 Annual Meeting)

President	Dr. John B. Dimond
Vice-President	Dr. R. H. Storch
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