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*Supplement: The Funding of University Research in Entomology. 16 pages*

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B.J.R. Philog ne                      Bulletin Editor

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*Bulletin*  
Société Entomologique du Canada

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EDITORIAL

The Supplement to the current issue of the *Bulletin* deals with the funding of university research in Entomology in Canada. Its interest goes far beyond the boundaries of the campuses of our institutions of higher learning. While the National Research Council of Canada has been the traditional source of funds for professors and students, it is becoming obvious that new money will become available in the form of contracts, in line with the "mission-oriented", "make-or-buy" policies of the Government of Canada. Scientists in general and entomologists in particular should normally rejoice at the prospect of tapping new sources of funding.

However, the peer-review system of NRC, as inadequate as some might consider it to be, is not and probably will not be built into the contracting out policy. Who will sort out the relevant research project from the not so desirable? Administrators are obviously going to have a heavy hand in such decisions. Scientific societies will therefore have to exercise vigilance and strong leadership to ensure that *bona fide* entomologists and other biologists be the recipients of the available contract money, where the expertise of such scientists is necessary. This is already on the mind of President-elect McEwen, as he pointed out in his address to the mid-term board meeting, last February in Vancouver.

Un homme averti en vaut deux!



*Entomological Society of Canada Gold Medal  
for  
Outstanding Achievement  
in  
Canadian Entomology  
1978  
Presented to  
Ronald W. Stark  
at  
Ottawa, Ontario  
August, 1978*



The 1978 Gold Medal for outstanding achievement in Canadian entomology is awarded to Dr. Ronald W. Stark, Professor, College of Forestry, Wildlife and Range Sciences, University of Idaho, Moscow, Idaho.

Ronald Stark was born of Scottish ancestors in Calgary, Alberta on December 4, 1922. He received his elementary and high school education in Calgary and demonstrating the industriousness that would characterize his career, worked part-time at a variety of jobs such as paper boy, dairy helper, and tennis club groundskeeper. He received his B.Sc. degree in forestry from the University of Toronto in 1948, mixing his formal educational career with such part-time activities as serving as pinboy in the bowling alley, working in the box factory, and as subscription processor for a magazine publisher. Upon completion of his undergraduate program he joined the Canada Department of Agriculture, Division of Forest Biology, at Calgary, as a research entomologist.

He was granted leave to continue his training and entered the graduate school at the University of Toronto where he obtained a Master of Arts degree in Zoology in 1951. In 1953, he enrolled at the University of British Columbia and was awarded the Ph.D. degree in forest entomology in 1958. In 1959, he accepted appointment to the faculty of the University of California, in Berkeley, as assistant professor and was promoted to associate professor in 1961, and professor in 1966. In 1970, he left California to become Coordinator of Research and Graduate Dean, University of Idaho.

In 1944, Ron married Mary McMann and the union has been a happy one, blessed with two children — Debra Jean and David Ronald.

Ronald Stark has been a member of the Entomological Society of Canada since his graduate student days in Toronto in the late 1940's. He was a Director-at-Large from 1969 through 1971, but he has also served the Society in a variety of other ways, not least through his many invited contributions to both general and special sessions of our annual meetings since the 1950's. His presentation at those sessions are noted for their scholarly documentation, thought-provoking content, and interesting delivery. Consequently, his name on the program always ensures a large and attentive audience. Currently, Prof. Stark serves as a member of the Membership Committee of the Entomological Society of Canada.

Dr. Stark's research career now spans thirty years. Despite his commitments to administration, to teaching, and to his advisory work for governments and industry, he has maintained an active personal research program throughout that period. Since 1948, he has published 108 articles, but his scientific contributions to entomology and to forest biology are even greater than that large number of papers suggests. His work on the lodgepole needle miner, on sawflies, and on bark beetles has contributed greatly to sampling theory, to population biology, and to the development of a systems approach to integrated control.

For example, his work on the lodgepole needle miner in the Canadian Rocky Mountain National Parks has become a classic, not only in forest entomology, but in population

biology. Working in extremely difficult terrain and with minimal laboratory and field facilities in Calgary, Kananaskis, and Banff during the late '40's and early '50's, he simultaneously developed a series of mutually supporting laboratory and field studies to elucidate the impact of the rigorous winters and uncertain summer weather on larval and adult mortality and on the dispersal and distribution of the insect over successive generations in rugged terrain. In order to assess natural populations adequately for those studies, he had to devise and test sampling schemes that were, at that time, new to population biology. Through this effort he became one of the prime developers and popularizers of the sequential sampling methods that have since become so valuable in pest management, particularly in difficult field situations. In addition to the studies mentioned above, he also investigated the role of parasites and of host condition and characteristics in the population dynamics of the insect, to provide a complete and in-depth picture of the forces constraining needle-miner abundance in the Cordillera.

This work was done while the major effort in Canadian forest entomology was being concentrated on the eastern spruce budworm in Ontario and in New Brunswick. At the time, therefore, the needle-miner studies were over-shadowed by the publicity that the more serious pest, *Choristoneura*, received in the scientific as well as in the popular press. In terms of purely scientific contributions, however, the needle-miner study in its own right added as useful a set of sampling methods and as clear a demonstration of the impact of a physical system on a biotic complex as did the 1950's Green River studies — a tribute to Ronald Stark's scientific and organizational abilities, considering the relative numbers of people involved in the two studies.

The leadership that Dr. Stark demonstrated in his needle-miner investigations was given ample scope for its full development when he left the Canadian government service for an academic career, first at the University of California (Berkeley) and later, at the University of Idaho, where he could be closer to his beloved mountains and their fascinating ecological problems. Soon after he began to work at Berkeley, he won an award for distinguished teaching — a remarkable honour for a beginner in an institution as large and as competitive as the University of California. Since then, he has maintained consistently his reputation as an inspiring teacher. Since 1959 he also has launched a large number of graduate students — some 41 to date — on their own careers in research and teaching in forest entomology. Several of those students have made their own mark in North American forest science and in biological control — clear evidence of the excellent guidance they received during their graduate training.

Although Ronald Stark has resided in the United States since 1959, he has maintained close contact with his colleagues in Canada. In fact, his academic and advisory posts have given him better opportunities than any post in a regional laboratory of a government agency could provide for establishing collegial networks and thereby influencing a variety of research programs in Canadian forest entomology as a senior statesman of science. For example, his arguments for a systems approach to integrated control of a variety of forest pests were aimed at — and received by — Canadian as well as American agencies. His service as program director in the Integrated Pest Management — Bark Beetle Project during 1973-74 directly affected western Canadian forest entomological work, since he involved Canadian cooperators in the mountain pine beetle section of the project. He also has been involved in the USDA Expanded Douglas-fir Tussock Moth Project since 1974. This project enjoys considerable Canadian participation.

Prof. Stark's promotion of joint activities between Canada and the United States had teaching as well as research significance. While at the University of Idaho he persuaded that institution to join the Consortium of Canadian Studies, headquartered in Michigan. They encouraged the development and use of Canadian materials in the University of Idaho curricula.

In September, 1977, Dr. Stark resigned as Coordinator of Research and as Graduate Dean at the University of Idaho to devote more time to research and teaching as Professor of Forest Entomology in the University's College of Forestry. He is presently completing a one-year assignment with the United States Forest Service as the deputy program manager super-

vising the completion of the many final reports, manuals, and handbooks arising from the USDA Douglas-fir Tussock Moth Research and Development Program. During the last few months he has served also as co-editor of the Proceedings of the recent Pullman Symposium on the mountain pine beetle, the major closing document of the above mentioned NSF Integrated Pest Management — Bark Beetle Project. In addition, he has been translating the German text of Professor Jost Franz's recent book on biological control. This may explain, in part, why he is enrolled currently in an undergraduate double minor in foreign language (French and German).

Professor Stark is a member of many scientific societies and has served as an officer in at least eleven such organizations. He is recognized widely as a leader in his field and this recognition has brought him a large number of appointments to various offices and committees of regional, national and international scopes. In all such assignments he has served with willingness and distinction. Prof. Stark will be chairman of the working party in entomology at the International Union of Forest Research Organizations Congress to be held in Japan in 1980.

It is for such contributions to the discipline and applications of entomology, to biological research, to academic excellence, and to the affairs and scientific stature of this Society, that the Entomological Society of Canada takes great pleasure in awarding Professor Ronald W. Stark the Gold Medal Award for 1978.



## INSECTES FORESTIERS

Le Service d'Entomologie et de Pathologie du Ministère des Terres et Forêts du Québec a récemment publié une série de feuillets sur plusieurs insectes d'importance forestière. Judicieusement illustrés à l'aide de photographies du Centre de Recherches Forestières des Laurentides, ces feuillets ont été préparés sous la supervision technique de René Béique. La page couverture présente une illustration des dégâts causés par l'insecte et une photo de ce dernier. Le texte intérieur donne sur deux pages les hôtes, le cycle évolutif, la détection, le traitement et les dommages. Parmi les feuillets déjà disponibles citons: les arpeuteuses de l'érablière, la tordeuse des bourgeons de l'épinette, les mineuses du bouleau, les défoliateurs tardifs de l'érable, l'arpeuteuse de la pruche, le porte-case du bouleau, les livraies et plusieurs mouches à scie. C'est là une initiative dont on doit certainement féliciter les responsables. Ces feuillets sont disponibles à l'adresse suivante: Service de l'Information, Ministère des Terres et Forêts, 200 b, Chemin Ste-Foy, Québec (Qué.) G1R 4X7.



## INSECTS FOR ALL BIOLOGISTS

"The time is overdue to recognize that insects are objects of importance to all biologists and not just to entomologists and agricultural experts. (. . .) Consider first that insects are the ecologically dominant animals on the land. Ornithologists cannot account for birds without reference to the insects the birds eat; and botanists cannot begin to understand terrestrial plants without an account of these little animals that constitute their most diversified and efficient herbivores. The coevolution of the more than one million insect species with their parasites, predators, symbionts, and prey is the most intricate and delicate among the land animals. Take away the insects and terrestrial ecosystems would become empty shells within a year."

from *The Insects*  
T. Ersner and E.D. Wilson, editors  
W.H. Freeman & Co., 1977

*Entomological Society of Canada  
C. Gordon Hewitt Award  
for  
Outstanding Achievement  
in  
Canadian Entomology  
1978  
Presented to  
Susan Bertha McIver  
at  
Ottawa, Ontario  
August, 1978*



The C. Gordon Hewitt Award for outstanding achievement in Canadian entomology is awarded to Dr. Susan Bertha McIver, Department of Microbiology and Parasitology, Faculty of Medicine, University of Toronto.

Susan B. McIver was born in California in 1940, where she received her elementary and high school education. She took her undergraduate program at the University of California, Riverside, and obtained a B.A. degree in Zoology in 1962. She then proceeded to Washington State University where she earned an M.Sc. in entomology in 1964 and her Ph.D. in entomology and microbiology in 1967. Upon completion of her Ph.D. program, she joined the Department of Parasitology, School of Hygiene, University of Toronto, where she continues her current association involving no change of position but reflecting a restructuring of the University departmental alignments. She holds the rank of associate professor and has cross appointments with the Department of Zoology and with the Institute of Environmental Studies at the University of Toronto. Since coming to the University of Toronto, Susan McIver has developed an imaginative and productive program both in research and teaching.

Dr. McIver's research interests have been centred on the structure of sensilla, chiefly on the antennae and mouthparts of mosquitoes and blackflies, and on the interpretation of their function in host finding and feeding behaviour. She began this work in her early graduate days at Washington State University with Dr. R. Harwood, with studies on the effects of different hosts, host odours, and carbon-dioxide on two species of mosquitoes, *Culex tarsalis* Coquillette and *Aedes aegypti* (Linnaeus). Her work showed clearly that variations in response were not due to a unique component of any particular odour, but that chemicals with a fairly general distribution among mammals, such as amino acids and estrogens, constitute the most attractive components. Her results emphasized the importance of quantity of odour, for example *C. tarsalis* appeared to be attracted to the host producing the most CO<sub>2</sub> whereas the response of *A. aegypti* did not increase with increasing quantities of CO<sub>2</sub> but was based upon a balance of several factors including heat, CO<sub>2</sub>, odour and visual cues.

Dr. McIver then turned her attention to the receptors for stimuli and investigated the types, numbers, location, and fine structure of sensilla on the antennae and maxillary palps of several species of mosquitoes. These studies have added greatly to our understanding of the role of antennae and of particular sensilla in the behaviour of mosquitoes, and the neurological bases for behavioural responses.

In studies of biting flies where the female is the blood-feeder, the behaviour of the male often is overlooked. Studies by Dr. McIver have shown that males bear the same variety of sensillar types as the female and that the fine structure of each type is similar in both sexes. There are fewer of each type in the male but the ratio of the number of neurons which respond to olfactory, mechanical and thermal cues is the same as in the female. Dr. McIver suggested that these sensilla mediate stimuli involved in location of suitable resting sites, nectar meals and vertebrate hosts. This latter activity would assist the males in finding the females.

Dr. McIver and her students have conducted studies also on blackflies. This work has shown that the palps of blackflies bear sensilla which can mediate responses to mechanical and chemical stimuli, including carbon-dioxide and odours. The antennae of blackflies were shown to bear seven types of sensilla, and she has described these in considerable detail.

An additional significant contribution to studies on blackfly behaviour was made by Dr. McIver and a graduate student when they developed a technique for the artificial feeding of blackflies through latex membranes. Using this technique they have been able to show some factors important in the probing and feeding activity of blackflies.

Recently Dr. McIver and her graduate students have examined the sensory basis for prey finding behaviour of predaceous mosquito larvae and larvae of near relatives, the chaoborids. These studies combine results from behavioural observations and experiments and fine structure investigations to provide significant new insights into how predaceous larvae find their prey.

Although the focus of Dr. McIver's research has been on sensillar structure and function and the behaviour of blood-feeding insects, her interests and activities have not been limited to them. She has participated in projects on the transmission of both human and animal disease agents. Collaborating with her colleagues, she has investigated the role of mosquitoes and blackflies as possible vectors of protozoan parasites of birds and amphibians and engaged in a study of the transmission of St. Louis encephalitis virus through bird populations in southern Ontario.

Dr. McIver's teaching programme in the Department of Parasitology, and later in the Department of Microbiology and Parasitology, has been directed towards the many forms and degrees of parasitism exhibited by insects, but more particularly towards insects which feed on man and are associated with disease transmission. She has a tremendous capacity for stimulating interest in her subject because her lectures are well researched and topical, and also because they are always well spiced with practical experiences. During her early training she took part in a summer course at Wood's Hole Marine Biological Station, and during the whole period of her appointment at the University of Toronto she has spent some part of the summer in the field; in the desert in southern California, in the Maritimes and Newfoundland, in the Arctic and locally in Algonquin Park and eastern Ontario. In these and other places she has collected material for teaching, laboratory demonstration and for her own research, and she has studied certain aspects of the behaviour of blood-feeding insects which subsequently she has clarified by experimental work.

In 1973, Dr. McIver went on a three month's tour of seven Central and South American countries to study the insects associated with disease transmission in the tropics, and in the course of the tour acquired first-hand knowledge of the conditions under which the diseases occur, and observed many cases of people suffering from them. These experiences added greatly to her intellectual and practical resources as a teacher.

Currently Dr. McIver's teaching programme includes a full year course on arthropods as parasites and vectors of disease, given to fourth-year and graduate students; lectures on the entomological aspects of diagnostic medical parasitology, parasites and parasitology; and an advanced course in medical parasitology.

Dr. McIver's leadership in the field of sensory perception in insects has won wide acclaim and she has been invited to participate in many conferences and symposia on not only this aspect but the broader field of medical entomology and the role of vector species. Most recently she received a Visiting Scientist award from the Medical Research Council of Canada to study the behaviour of mosquitoes that are important malaria vectors in West Africa. Dr. McIver has been active in professional societies and serves currently on the Governing Board of the Entomological Society of Canada, and as chairman of its Editorial Committee.

The Entomological Society of Canada takes great pleasure in awarding the C. Gordon Hewitt award to Dr. McIver for her outstanding achievements in research and her equally prominent role in teaching and inspiring graduate students.



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**ACTIONS OF THE GOVERNING BOARD**  
**23-24 FEBRUARY 1978**

**N.R.C. Appointments**

- (1) Approved the following nominations for membership on 1978-79 Grant Selection Committees: Dr. D.C. Eidt and Dr. H. Salkeld, Animal Biology Committee; Dr. F.L. McEwen, Dr. J.L. Auclair and Dr. L.S. Thompson, Plant Biology Committee; and Dr. A.R. Forbes and Dr. T.A. Angus, Cellular Biology and Genetics Committee.

**Finance**

- (2) Approved that the Society engage a professional advertising agency and undertake a trial period of about 2 years for dealing with paid advertising in the Bulletin.
- (3) Agreed that the Society retain the Interim Governing Board Meeting.
- (4) Agreed to recommend to the Membership at the 1978 Annual Meeting that the Student Membership Dues be \$10.00 effective 1 January 1979.
- (5) Accepted the recommendation of the Finance Committee that the Society not have subscribing and non-subscribing memberships.

**Publications**

- (6) Agreed that the Society retain the *status quo* as far as its publications are concerned.
- (7) Announced the names of 3 new Associate Editors: Dr. R.D. McMullen (toxicology), Dr. M.K. Mukerji (ecology), and Dr. L.A. Lyons (forestry and general insect biology).
- (8) Approved the appointment of Dr. D.C. Eidt as Scientific Editor and of Mr. C.A. Miller as Assistant Scientific Editor effective 22 August 1978.
- (9) Agreed that the Society retain The Runge Press Ltd., Ottawa, Ontario, as printers for The Canadian Entomologist.

**Future Annual Meetings**

- (10) Noted the progress of the plans for the 1978 Annual Meeting in Ottawa and 1979 Annual Meeting in Vancouver.
- (11) Approved that the Society hold a Joint Annual Meeting with the Entomological Society of America in Toronto in 1982.

**Science Policy**

- (12) Asked the Subcommittee on Funding of University Research to submit a final draft of its report to the Executive Council by 15 March 1978.
- (13) Noted the progress of the Subcommittees dealing with the Extension Study and with the Status of Entomology in Government.
- (14) Agreed that the Society continue to be a member of S.C.I.T.E.C.
- (15) Approved that the Society continue to be a member of and pay membership dues to the Canadian National Committee of the International Association on Water Pollution Research.

### **By-Laws**

- (16) Reported that the revised By-Laws of the Society had been accepted by the Department of Consumer and Corporate Affairs on 23 January 1978.

### **Membership**

- (17) Approved that the Society have a Membership Application Form printed.
- (18) Announced the names of 6 new Fellows of the Society. These will be listed elsewhere in the *Bulletin*.

### **Achievement Awards**

- (19) Announced the award of the Society's 1978 Gold Medal to Dr. R.W. Stark. Dr. Stark is the seventeenth recipient of the Gold Medal.
- (20) Announced that the fourth recipient of the C. Gordon Hewitt Award is Dr. Susan B. McIver.

### **Scholarships**

- (21) Asked the Scholarships Committee to design and put together a memorial card, which could be sent to the next of kin when a donation is made to the E.S.C. Scholarship Fund in memory of someone.
- (22) Approved that a circular be sent to the Members of the Society soliciting donations for the E.S.C. Scholarship Fund.

### **Archives**

- (23) Asked the Directors to inform Members, with whom they come in contact, that the Heritage Committee would like to receive all materials dealing with Entomology and Entomologists in Canada, which would be suitable for the Archives of the Society.

### **Members**

- (24) Announced that six Members of the Society (G.S. Cooper, E.G. Munroe, J.E.H. Martin, E.J. LeRoux, E.C. Becker, and F.A. Urquhart) had received the Queen's Silver Jubilee Medal.

### **Future Meetings**

- (25) Announced that the next meeting of the Governing Board will be held at 09:00 hours on 19-20 August 1978 in Ottawa, Ontario.
- (26) Announced that the 1978 Annual Meeting of the Society will be held at 16:30 hours on 22 August 1978 in Ottawa, Ontario.

### **NOTICE OF MEETING**

The 1978 Annual Business Meeting of the Entomological Society of Canada will be held on Tuesday afternoon, 22 August, at Ottawa, Ontario. Matters for the consideration of the meeting or of the Governing Board should be communicated to the Secretary, Dr. G.H. Gerber, Research Station, Agriculture Canada, 195 Dafoe Road, Winnipeg, Manitoba R3T 2M9.

## RECENT DEATH

**BRONSKILL, Joan F.** Ottawa, Ont. 5 April 1978, age 53. Member E.S.C., E.S.O. (former director). Fellow A.A.A.S. Research Scientist, Electron Microscope Centre, Agriculture Canada. (Obituary Page )

A fund to be called *The Dr. Joan F. Bronskill Memorial Fund* has been established to provide an annual cash prize to the female student who is adjudged to be the best student in Biology at the Secondary School level (Grades 12-13), in Hastings County, Ontario. The Board of Education for Hastings County has agreed to administer the fund and to present the prize.

Most of Joan's 30 years of service to the Department of Agriculture was centred in the Entomology Laboratory at Belleville in Hastings County. Here, as well as being dedicated to her profession and to the arts, she devoted much energy to encouraging and teaching young people to observe and enjoy the world of living things around them.

Donations can be, in trust to the fund, to account 800H8, the Royal Bank, Front Street Branch, Belleville, Ontario, or to Dr. H. Salkeld, Experimental Taxonomy Section, Biosystematics Research Institute, Central Experimental Farm, Ottawa, Ontario K1A 0C6, or to Mrs. George Wishart, 154 Dufferin Avenue, Belleville, Ontario K8N 3X1.

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## POSTER SALON

### Entomological Society of Canada Annual Meeting 20-23 August 1978

Scientific diagrams, posters or demonstrations are invited for the coming Ottawa meeting of the Entomological Society of Canada from all students and regular members of the Society and any other persons interested in the study of Entomology. These may vary from single pictorial charts and diagrams, with accompanying captions or notes, to complicated demonstrations including kodachrome slides or video-tapes.

Because of a shortage of space individual submissions must be no larger than 2.5 m. in width (height may go up to 2.-3 m.) for flat-wall displays or a total floor area of 3 sq. m. (height again may go up to 2.-3 m.).

All requests for space must be submitted to the Program Committee, c/o Ms. Suzanne Allyson, Biosystematics Research Institute, K.W. Neatby Building, Agriculture Canada, Ottawa, Ontario K1A 0C6.

*Please submit title and details as soon as possible.* It is not too late, and additional entries are earnestly requested.

The Program Committee

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

Title \_\_\_\_\_

Size \_\_\_\_\_

## ENTOMOLOGICAL SOCIETY OF CANADA

### Gold Medal for Outstanding Achievement in Canadian Entomology and The C. Gordon Hewitt Award

Members of the Society are invited to nominate persons whom they regard as eligible for these awards. Nominations should be sent to the Achievement Awards Committee, Entomological Society of Canada, 1320 Carling Avenue, Ottawa, Ontario K1Z 7K9 in an envelope marked "Confidential" and should include: (1) the name and address of the nominee(s); (2) a statement of relevant achievements with supporting documentation; and (3) the name of the nominator and at least one seconder. To be considered by the Achievement Awards Committee, nominations must bear a postmark no later than 30 November, 1978.

The following conditions govern these awards:

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

#### Achievement Awards Committee

The announcement concerning achievement awards and procedures for nominations was published in the June 1977 issue of the Bulletin. The committee received several nominations of outstanding candidates for each award and after an extensive review, unanimously recommended to the Governing Board that Dr. Ronald W. Stark receive the 1978 Gold Medal Award and that the C. Gordon Hewitt award for 1978 be presented to Dr. Susan B. McIver.

Letters were sent to nominators of candidates unsuccessful in 1978 encouraging them to renominate their candidate, if eligible, in 1979 and reminding them that such renomination is necessary if they wish their candidate to be considered at that time.

F.L. McEwen (Chairman)

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## SOCIÉTÉ ENTOMOLOGIQUE DU CANADA

### Médaille d'Or pour contribution exceptionnelle à l'entomologie canadienne et Prix C. Gordon Hewitt

Les membres de la Société sont invités à soumettre les noms de personnes qu'ils considèrent éligibles pour ces honneurs. Les nominations doivent être envoyées à l'adresse suivante avec la mention *Confidentiel*: Achievement Awards Committee, Entomological Society of Canada, 1320 Carling Avenue, Ottawa, Ontario K1Z 7K9. Ces nominations doivent inclure: (1) le nom et l'adresse des candidats; (2) un exposé des contributions, appuyé par des documents appropriés; et (3) le nom du présentateur et au moins un autre parrain. Pour être considéré par le Comité, les nominations doivent être oblitérées au plus tard le 30 novembre 1978.

Les conditions suivantes doivent être remplies:

- Les contributions exceptionnelles doivent être jugées sur les bases suivantes:
    - a) réalisations supérieures dans le domaine de la recherche, seul(e) ou en collaboration, en entomologie ou un domaine connexe, et où les résultats obtenus sont d'une grande importance; ou
    - b) services dévoués et productifs rendus à la Société, ou en administration de la recherche, et en éducation.
  - On ne donnera pas plus d'un seul prix dans chaque catégorie par année, mais, si les circonstances s'y prêtent, plus d'une personne peut se qualifier pour le même prix.
  - Les récipiendaires ne doivent pas nécessairement être des membres de la Société, en autant que leur contribution soit en fonction de son impact sur l'entomologie au Canada.
  - Chaque prix peut être donné au même récipiendaire à des occasions différentes, mais pour des contributions différentes à l'entomologie au Canada.
  - Le candidat au Prix C. Gordon Hewitt doit avoir moins de 40 ans révolus au cours de l'année où le prix sera annoncé et remis.
-

## JOAN FRANCES

### BRONSKILL



Joan Frances Bronskill, one of Canada's best-liked and most courageous women entomologists, died on April 5th, 1978, at the age of 53, after a lifetime of chronic ill health. Born in Ottawa, Ontario, she was the daughter of Mrs. Helen Bronskill and the late Frank Bronskill, and spent her early years in Arnprior, Ontario. She has one brother, Arnold, of Agincourt, Ontario.

Joan graduated from Queen's University in 1948, and after working at the Research Institute, Belleville, Ontario, for a few years, continued her education at Cornell University where she obtained a Ph.D. in 1955.

Joan was a research worker at the Belleville Research Institute for about 25 years. She became well-known to entomologists around the world for her research on the histology and embryology of pest and beneficial insects, aimed at developing better methods of pest control. She acted as consultant on insect histological problems to the Research Institute, Canada Agriculture, London, Ontario, and to the New York State Agricultural Experimental Station, Cornell University. In 1971, when the Belleville Institute was closed, she moved to Ottawa to join the Electron Microscope Section of the Cell Biology Research Institute of Canada Agriculture.

She was author or co-author of about 15 scientific papers on insect histology and embryology, encapsulation, and electron microscopy; and, in association with the Bio-Graphic Unit, Ottawa, produced a 20-minute time-lapse film on insect embryology. She was a member of a number of scientific societies, including the Entomological Societies of Ontario, Canada, and America, and was a Fellow of the American Association for the Advancement of Science.

Joan was committed to community service and gave her time and energy to many causes. For many years she was associated with the Belleville Theatre Guild, both on the executive and as a behind-the-scenes worker. She was a member of the Belleville Branch of the National Ballet Guild, and its President in 1960-62; the Eastern Ontario Drama League; the Dominion Drama Festival, of which she was an Honorary Governor; the Quinte Arts Council; the Hastings County Advisory Board of the Canadian National Institute for the Blind; and the Canadian Federation of University Women. She received Belleville's Annual Cultural Award in 1972 in recognition of her contributions to the artistic and social life of the community.

She had other hobbies reflecting her artistic talents and her interest in people. For many years she was the leader of a Cub Pack. She owned a boat which she sailed on the Bay of Quinte. She designed and created costumes for theatre productions. She loved to entertain, and her friends will fondly remember the many gourmet meals she prepared.

Joan had an enormous love of life and an outgoing, happy disposition. She was acutely aware of others who needed help or encouragement and went out of her way to assist them. She overcame personal physical difficulties so completely that one became unaware of them. She will be sadly missed by her host of friends who will remember her as a valiant spirit.

Thelma Finlayson

## INTERNATIONAL VOUCHER SPECIMEN COLLECTION OF SCOLYTIDAE

The desirability of museums establishing collections for specimens used in ecological or biological studies has been debated a number of times in recent years. Francoeur (1976) states: "It has been a frequent experience that many of the published data in entomological studies are in the final analysis reduced in value or rendered unusable because of the eroding taxonomic base on which they were made". Pechuman (1975) in a symposium concerning systematics collections in entomological research, comments that one of the major functions of a university (also government?) museum is as a repository of voucher specimens representing species used in systematic, biological or control studies. Several examples of the value of voucher specimens are also given in the same paper. In the same symposium, Kosztarab (1975) relates the importance of voucher specimens in pest management studies. In addition, voucher specimens have been used or endorsed by a number of recent authors. Lloyd and Walker (1967), Oman (1972), Townes (1972) and Robinson (1975) have all emphasized the importance of voucher specimens. Lanier (1970) states that he deposited voucher specimens of species used in his study in the C.N.C. Lloyd (1966) designated some specimens of fireflies as "behavior voucher specimens". In all of the statements by various authors supporting voucher specimens, the underlying concept is simply that voucher specimens provide a permanent standard of reference for determining the precise application of a name on which published information is based.

Research into the biology, ecology, etc., of the Scolytidae (bark beetles) is one of the most rapidly advancing areas of entomological research. The taxonomy of Scolytidae is also rapidly changing. Names in use only a few years ago are no longer applicable. Within any one recent year, up to one hundred papers or more are published world wide on various aspects of scolytid biology. Therefore it seems advisable to establish the concept of voucher specimens firmly in the minds of forest entomologists and other workers conducting research on bark beetles.

The purpose of this communication is to inform the scientific community of the establishment of an International Voucher Specimen Collection of Scolytidae (Coleoptera) at the Canadian National Collection of Insects in Ottawa, Ontario. All researchers publishing on the behavior, biology, ecology, etc., of Scolytidae are requested to save a portion of the specimens used in their studies and send these specimens to me at the address below. All specimens will be preserved in the same manner as specimens in the general systematic collection. The voucher specimens will be segregated, however, and labelled with author, publication, etc., in addition to the regular specimen labels. Specimens sent should be mounted and fully labelled since only limited technical assistance is available here. Specimens will be loaned to qualified research workers when requested. In their published studies, investigators should publish a statement that voucher specimens are deposited at the C.N.C. If any questions arise about what to send, the guidelines presented by Robinson (1975) should be consulted or write to me for further information.

Robinson's concluding statement cannot be improved upon and I repeat it here. "All entomologists, indeed all biologists, have a responsibility to use correct common names, valid scientific names, and to document their research and published names with voucher specimens. In many cases it is too late to go back and designate voucher material. But it is not too late to document current research and to instill the concepts of good taxonomy and use of voucher specimens in the minds of graduate students."

Copies of this announcement are being sent to known research workers in Scolytidae throughout the world. Copies will also be sent to authors as their publications become known through my literature review.

### References

1. Francoeur, A. 1976. *Bull. Ent. Soc. Canada* 8 (2): 23.
2. Kosztarab, M. 1975. *Bull. Ent. Soc. Amer.* 21 (2): 95-98.
3. Lanier, G.N. 1970. *Can. Ent.* 102 (9): 1139-1163.
4. Lloyd, J.E. 1966. *Misc. Publ., Mus. Zool., Univ. Mich.* 130. 95 pp.

5. Lloyd, J.E. and T.J. Walker. 1967. *Science* 158: 1525.
6. Oman, P. 1972. *Int. Org. Bio. Cont., Western Hemisphere Reg. Sec. Newsletter* 4: 4-5.
7. Pechuman, L.L. 1975. *Bull. Ent. Soc. Amer.* 21 (2): 91-93.
8. Robinson, W.H. 1975. *Bull. Ent. Soc. Amer.* 21 (3): 157-159.
9. Townes, H. 1972. *Int. Org. Bio. Cont., Western Hemisphere Reg. Sec. Newsletter* 4: 4-5.

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## PILOT STUDY FOR A BIOLOGICAL SURVEY OF THE INSECTS OF CANADA

This summary continues the series of quarterly reports on Pilot Study progress.

### **Future of the Biological Survey**

#### *Interim proposal*

The interim proposal (see *Bull. ent. Soc. Can.* 10 (1): 18) was intended to permit the initiatives of the Pilot Study to continue, as a registry and clearing house for information, and as a forum for discussion and implementation of policy in systematic and faunistic entomology. The proposal was considered by representatives of various government agencies at a meeting on February 27, 1978, attended by Dr. F.L. McEwen, Dr. K.G. Davey, Mr. J.A. Downes and Dr. H.V. Danks, representing the Society; and by Dr. D.F. Mettrick, representing the Biological Council of Canada. Government agencies represented were Agriculture Canada, Biosystematics Research Institute, Ministry of State for Science and Technology, National Museum of Natural Sciences, Parks Canada, and Supply and Services Canada, as well as the Scientific Authority for the contract. Environment Canada submitted a brief letter for use at the meeting.

Universal praise was expressed for the Society's ideas, and its work in the Pilot Study, but the meeting showed that there was far too little financial support to implement the interim proposal.

#### *Contract proposal (Northern review)*

The Society therefore prepared a proposal for a specific piece of work, that was nevertheless related to Biological Survey objectives. This "Review and synthesis of knowledge on northern and arctic insects" was submitted as an unsolicited proposal to Supply and Services Canada on April 18, 1978.

The Pilot Study had shown that entomologists considered northern Canada, especially the north-west, to be that area of the country most in need of study. A first very significant step in studies of the area would be to draw together the scattered North American and European literature on northern insects and on the factors that influence them. Such a synthesis would be particularly timely as man's exploitation of the northlands gathers momentum. The Society therefore proposed that it undertake a major scientific review of the composition, distribution, function and environmental significance of northern insects, including a comprehensive bibliography, to be completed during a 21-month contract period July 1, 1978 until March 31, 1980.

This proposal is presently being considered by the government.



### Third meeting of the Scientific Committee

The final Pilot Study meeting of the Scientific Committee took place on 16-17 March, 1978.

Extensive discussions were held on the basis of a draft of the final report of the Pilot Study, especially the draft recommendations contained therein. Additional plans for the Biological Survey during the period following the Pilot Study were also discussed. On the afternoon of 17 March, 1978, the Committee met with representatives of interested government agencies, leading especially to a helpful exchange of views on the draft recommendations.

### Publications

A brief supplement to the *Annotated list of workers* . . . based on additional information submitted to the Secretariat as a result of the wide circulation of the initial list, was sent out at the end of April, 1978. A few additions to the *List of requests for material* . . . was distributed at the same time.

The manuscript for *Canada and Its Insect Fauna* (59 authors) is nearly complete, although some contributions have been delayed. It is expected that the volume will be published early in 1979 as a *Memoir* of the Entomological Society of Canada.

### Final Report

The *Final Report* called for by the Pilot Study contract is being prepared for submission by the end of June, when the Pilot Study ends. This report will present an inventory of resources and needs in systematic and faunistic entomology in Canada, indicate the successful testing of cooperative efforts, and document other Pilot Study initiatives summarised in earlier *Bulletin* articles.

The final report will make numerous recommendations, as called for by the Pilot Study contract, concerning the scope, form and roles of a continuing survey organisation, the role of the National Parks of Canada in a continuing Biological Survey of the Insects of Canada, and the development of a data bank for faunistic information.

Summaries of the findings and conclusions of that report will be made available to members in due course through the *Bulletin*, and at the August Annual Meeting of the Society.

Secretariat  
Biological Survey Project  
202 — 1316 Carling Avenue  
Ottawa, Ontario K1Z 7L1

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### PERSONALIA

**Dr. H.F. Madsen**, Agriculture Canada, Summerland, B.C., received the Ciba-Geigy Award for Agricultural Research in Entomology at the Washington Meeting of the E.S.A., November 1977.

New appointments at Agriculture Canada: **E.J. Leroux**, Assistant Deputy Minister (Research); **J.J. Cartier**, Director General, Eastern Region; **W. Mountain**, Director General, Central Region; **R. Prentice**, Coordinator for Protection.

## INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE ANNOUNCEMENT

The required six months' notice is given of the possible use of plenary powers by the International Commission on Zoological Nomenclature in connection with the following names listed by case number: (see *Bull. Zool. Nom.* 34, part 3, 9 November, 1977).

- 2199 *Pangonia conica* Bigot, 1857: designation as type-species of *Mycteromyia* Philippi, 1865 (Insecta, Diptera, TABANIDAE).
- 2209 *Attelabus* Linnaeus, 1758 (Insecta, Coleoptera): request for confirmation of designation of type-species.
- 2217 *Cataphryxus* Shiino, 1936 (Crustacea, Isopoda): proposed conservation under the plenary powers.

*Bull. Zool. Nom.* 34, part 4, 28 February, 1978).

Comments should be sent in duplicate (if possible within six months of the date of publication of this notice in *Bull. Zool. Nom.* 34, part 3-4), citing case number to:

R. V. Melville,  
The Secretary,  
International Commission on Zoological Nomenclature,  
c/o British Museum (Natural History),  
Cromwell Road,  
LONDON, SW7 5BD,  
England.

Those received early enough will be published in the Bulletin of Zoological Nomenclature.

The following Opinions (listed by number) have been published recently by the International Commission on Zoological Nomenclature.

### Bulletin Zoological Nomenclature Volume 34, part 3, 9 November, 1977

- Opinion No. 1093 (p. 143)      *Apis rotundata* Fabricius, 1787 (Insecta: Hymenoptera): designation under the plenary powers of a neotype.
- Opinion No. 1094 (p. 147)      Refusal of request to correct the following on the Official List of Family-Group Names in Zoology:  
No. 61 GYROPIDAE Kellogg, 1896 (Insecta: Mallophaga)  
No. 139 PYRALIDAE Latreille, 1809 (Insecta: Lepidoptera)  
No. 199 EPISEMIDAE Guénée, 1852 (Insecta: Lepidoptera)  
No. 207 TRIOPSIDAE Keilhack, 1909 (Crustacea, Phyllopoda)  
No. 213 TRETASPINAE Whittington, 1941 (Trilobita)  
No. 324 TRINOTONIDAE Eichler, 1941 (Insecta: Mallophaga)
- Opinion No. 1096 (p. 155)      *Psednura longicornis*, Sjøstedt, 1920 (Insecta: Orthoptera): designation under plenary powers.

- Opinion No. 1099 (p. 164) *Drosophila mercatorum* Patterson & Wheeler, 1942 (Insecta, Diptera) conservation of;  
*Drosophila carinata* Grimshaw, 1901, suppression of.

**Bulletin Zoological Nomenclature Volume 34, part 4, 28 February, 1978**

- Opinion No. 1100 (p. 203) Designation of *Musca frit* Linnaeus, 1758, as type-species of *Oscinella* Becker, 1909 (Diptera CHLOROPIDAE).
- Opinion No. 1103 (p. 218) Suppression of nine specific names in the family TETRIGIDAE (Insecta, Orthoptera).
- Opinion No. 1105 (p. 234) Designation of a type-species for *Lonomia* Walker, 1855 (Insecta, Lepidoptera).
- Opinion No. 1106 (p. 237) Conservation of the generic name *Rhopalum* Stephens, 1829 (Insecta, Hymenoptera).

The Commission cannot supply separates of Opinions.

**MEMOIRS OF THE ENTOMOLOGICAL SOCIETY OF CANADA**

**No. 104.** *Feeding and mating in the insectivorous Ceratopogoninae (Diptera)* by J.A. Downes. 62 pp. Issued 19 April 1978.

**No. 105.** *Revision of the subfamily Sphaeridiinae of America north of Mexico (Coleoptera: Hydrophilidae)* by Ales Smetana. 292 pp. Issued 4 April 1978.

**No. 106.** *A revision of the North American Omaliinae (Coleoptera: Staphylinidae): 1. The genera Haida Keen, Pseudohaida Hatch, and Eudectoides new genus, 2. The tribe Coryphiini* by J.M. Campbell. 87 pp. Issued 19 April 1978.

**ERRATUM**

MEMOIR 104, The Entomological Society of Canada —p. 60, immediately following line 16, *add* swarm at the moment of coupling, the female is a somewhat passive acceptor of prey and probably all the hunting is done by the males before joining the specific (mating).



**BOOKS RECEIVED**

Foster, Janet. 1978. *Working for Wildlife. The beginning of preservation in Canada.* University of Toronto Press. xii + 283 pp. \$19.95.

International Union for the study of Social Insects. 1977. *Proceedings of the 8th International Congress, Wageningen, The Netherlands.* Centre for Agriculture Publishing and Documentation, Wageningen. xi + 325. (Distributed in Canada by: ISBS Inc., P.O. Box 555, Forest Grove, Oregon 97116. U.S. \$19.50.)

Supplement to Proceedings. Sixty-third Annual Meeting. New Jersey Mosquito Control Association 1976. *A global view of mosquitoes and disease in 1975.* By Helen Sollers — Riedel. P.O. Box 19009, Washington, D.C. 20036.

## FORTHCOMING MEETINGS

*Southern Forest Insect Work Conference.* August 21-23, Virginia Polytechnic Institute and State University, Blacksburg, VA. Workshop subjects will deal with: Southern pine beetle, balsam wooly aphid, spruce budworm, gypsy moth, hardwood insects, wood destroying beetles, scales, cone and seed insects, remote sensing, and forest entomology education. Contact: Gerard D. Hertel, Chairman, S.F.I.W.C., State and Private Forestry, 2500 Shreveport Highway, Pineville, LA 73160.

*Workshop on the History of Entomology.* "Entomological Archives: Acquisition and Storage." The Pennsylvania State University, University Park, July 13-14, 1978. Dr. R. Snetsinger, 106 Patterson Bldg., The Penn. State Uty., Uty. Park, PA 16802 (814-865-1895).

*IX International Congress of Plant Protection.* August 5-11, 1979, Washington, D.C., U.S.A. Dr. B.G. Tweedy, Secretary General, c/o Pesticide Coordinator, Office of Secretary, U.S.D.A., Washington, D.C., 20250, U.S.A.

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Contributions and correspondence should be sent to: B.J.R. Philogène, Bulletin of the Entomological Society of Canada, Department of Biology, University of Ottawa, Ottawa, Ontario K1N 6N5.

**BUSINESS INQUIRIES AND BOOKS FOR REVIEW**

Inquiries about subscriptions and back issues, and books for review should be sent to the Entomological Society of Canada, 1320 Carling Avenue, Ottawa, Ontario K1Z 7K9.

**DEADLINE**

The deadline for the next issue Vol. 10, No. 3 for September 1978 is 15 August. The approximate date of mailing will be 15 September.