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B.J.R. Philog ne

Bulletin Editor

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THE SCIENTIST AND THE POLITICIAN

Dialogue between science and politics has always been a problem. Contributors to earlier issues of "Nature" and "American Scientist" were, for instance, already involved in the debate. Following are excerpts from articles which appeared more than thirty years ago in these respected journals.

"The training of the scientist includes no awareness of the social consequences of his work and the training of the statesman and administrator no preparation for the potentiality of rapid scientific advance and drastic adjustment due to it, no prevision of the technical forces which are shaping the society in which he lives. The crucial impact is nobody's business." (Stamp, J. 1936. The impact of Science upon Society. *Nature*. Sept. 12.)

"There are questions affecting soil and water conservation, health, nutrition, industrial relations, comity between nations, higher and wholly feasible standards of living, the necessity for fundamental physical and biological researches concerning which there is practically no difference of opinion among scientists, but on which action lags, because it must originate in the uninformed area of politics." (Cooke, M.L. 1946. Scientists should knock at the door of American politics. *American Scientist*, Vol. 34, No. 1.)

"The scientist can not much longer dodge his responsibility. Because if he fails to take a hand in these decisions, there are plenty of self-confident and ambitious souls who are not hampered by too much knowledge, and who will not hesitate to make the decisions for him. And these self-confident planners will make their decisions not on the basis of scientific experience but rather on the basis of social and political expediency." (Spoehr, H.A. 1945. Some responsibilities of Science. *American Scientist*., Vol. 33, No. 1.)

ENTOMOLOGICAL SOCIETY OF CANADA
Gold Medal for Outstanding Achievements
in Canadian Entomology, 1979
Presented to GEORGE P. HOLLAND



Dr. G.P. Holland

The 1979 Gold Medal for outstanding achievement in Canadian entomology is awarded to Dr. George P. Holland, Biosystematics Research Institute Agriculture Canada, Ottawa (Retired).

George Holland's early career at the Livestock Insect Laboratory, Kamloops, included varied studies of the biology and control of warble flies, mosquitoes and ticks. But his interest was attracted especially to the fleas, initially in order to assess the danger of the spread of bubonic plague, endemic in wild rodents in British Columbia and Alberta, to the human community. Working alone, he became an authority on the taxonomy, zoogeography and host-associations of the Siphonaptera, and in due course published his first major work *The Siphonaptera of Canada* (1949, 306 pp.). This fine volume was the first comprehensive monograph of any complete order of insects in the Canadian fauna, and indeed even today it is matched only by the Walker/Corbet work on the Odonata.

At a quite early stage in his career, his evident ability and already considerable achievement caught the attention of K.W. Neatby, the Director of Science Service. In 1948 Neatby invited him to assume wider responsibilities in Ottawa, where he has remained ever since. He served successively as Head, Systematic Entomology Unit, 1948-1955; Head, Insect Systematics and Biological Control Unit, 1955-1959 (in which capacity he had responsibility also for the Laboratory of Biological Control, Belleville) and finally as Director, Entomology Research Institute from its organization in 1959 until 1969, when he resigned for reasons of health. He remained however a working member of the Institute until official retirement in 1976, and continues so, under the style of Honorary Research Associate, to the present time.

During his tenure the scientific staff of the Canadian National Collection was developed from an initial nucleus of 7 in 1948 to 27 in 1969; and the Collection itself developed correspondingly, very largely by the efforts of over one hundred collecting and survey parties at carefully chosen stations in Canada, the United States and occasionally further afield. This collection provided the basis for the development of a nation-wide identification service and for a broad program of research in insect systematics. In 1959, with the formation of the Entomology Research Institute, Dr. Holland's responsibilities were increased and widened by the addition of groups interested in insect behaviour, ecology and physiology, and in nematology and apiculture. Again foundations were laid for later work on sibling species and related systematic problems and on the environmental significance of the Canadian insect fauna. Under his guidance, the library was carefully developed, and became the most extensive entomological repository in Canada. A roof was provided also for the Entomological Society of Canada, and both *The Canadian Entomologist* and the *Canadian Journal of Genetics and Cytology* were for many years edited by members of the organization.

The group of entomologists associated with the Canadian National Collection was recruited under Dr. Holland's guidance with careful discrimination, and then supported steadily towards achieving its fullest potential. The arrangements that were established attracted both staff and visiting scientists from many countries, and the group became one of the most highly regarded in the world and developed an overall capacity of great value to the nation and the science. Annually many tens of thousands of specimens submitted by enquirers were identified; the majority of these enquiries arose from current work in the Department of Agriculture and Canadian Forestry Service, and the information given guided the development and effectiveness of numerous projects concerned with the protection or management of crops, livestock and forest resources. The program of research on the systematics, behaviour and ecology of insects steadily enlarged the capacity of this identification service. These timely studies proved especially valuable in the 1970's when the necessary

restrictions of the use of pesticides and the emphasis on method of biological or integrated control increased the demand for information on pests and their enemies. It may be of even greater significance for an oncoming era of scientific management of natural resources.

The program of research, typified by Holland's own work, has been characterised especially by substantial monographs or revisions of systematic groups, usually on a North American basis but frequently with a special interest in the faunal relationship with the Palaearctic area or with Central and South America; and some projects have been on a world basis. In the series of *Memoirs* published by the Society, 106 to date, no fewer than 78 have been written by entomologists of the group built up under Holland's leadership. Close relations were developed with the National Museums of the United States, Mexico, United Kingdom, and continental Europe, including the Soviet Union. A distinctive feature was the sustained interest in the northern fauna which began in 1948. With support from the Defence Research Board and in collaboration with the Veterinary and Medical Entomology Unit and the Universities, and with U.S. government agencies, many field parties were mounted in northern Canada, Alaska and Greenland. An unrivalled collection of boreal and arctic insects, especially the biting flies, was assembled. At the time they were undertaken these northern surveys were regarded by the Defence authorities as of direct national importance; and although it was later recognized that massive military deployment in muskeg and tundra areas was not likely to take place, the 'know-how' developed during this period laid the foundations for later work against mosquito-borne encephalitis in the prairies, the control of shadflies in the St. Lawrence River at the time of Expo 67, and for continuing studies on the biology of insects in the Arctic.

As mentioned already, Dr. Holland became an internationally recognized authority on the Siphonaptera early in his career. Side by side with his many other responsibilities he has maintained a continuing research program that has yielded in all some 45 papers on the taxonomy, geography and host associations of this order of insects. All are illustrated by his own exceptionally clear and elegant pen and ink drawings. A journey with Eugene Munroe to Australia and New Guinea resulted in the important *Contribution towards a Monograph of the Fleas of New Guinea* (1969, 150 pp.), not to mention a great collection of artifacts and many fascinating accounts of their experiences. A valuable study of the geography of arctic and sub-arctic fleas was presented at the Tenth International Congress of Entomology at Montreal (1956) and another on the fleas of Alaska at the Pacific Science Congress at Honolulu (1961). He has now almost completed an entirely re-written *Siphonaptera of Canada, Alaska and Greenland*, which deals with 183 species, an increase of nearly 50% over the pioneering monograph of 1949; it will form a fitting monument to his achievements in research.

Dr. Holland has received many special assignments and honors. He was a charter member of the Advisory Committee on Entomological Research, Defence Research Board, and Chairman from 1963 to 1967. He is an Honorary Curator of the National Museum of Natural Sciences and a Trustee of the Lyman Museum, McGill University, Montreal. He has served as President of the Entomological Society of Canada 1957-8, and Chairman of the Taxonomy Section, Entomological Society of America, 1952 and 1959. He was Chairman of the Program Committee, Tenth International Congress of Entomology, Montreal, 1956 and later served on the Permanent Committee of the International Congresses of Entomology. In 1963 he was Chairman of the Centennial of Entomology in Canada and on that occasion was awarded the degree of Doctor of Science *honoris causa* by Carleton University. He was Chairman also of the First International Conference of Fleas, held at Lund, Sweden, in 1975. He was elected a Fellow, Royal Society of Canada in 1967. In our own Society he was elected an Honorary Member in 1973. He served as Chairman of the Special Committee that established the initial fellowships of the E.S.C., and was himself duly elected a Fellow (1976).

For his outstanding leadership in insect systematics and entomology generally, for his part in developing the Canadian National Collection of insects, for his distinguished research and for his contributions to this Society, the Entomological Society of Canada takes great pleasure in awarding Dr. George P. Holland the Gold Medal Award for 1979.

ENTOMOLOGICAL SOCIETY OF CANADA
C. Gordon Hewitt Award for Outstanding Achievement
in Canadian Entomology, 1979
Presented to JEREMY NICHOL McNEIL



Dr. J.N. McNeil

The C. Gordon Hewitt Award for outstanding achievement in Canadian entomology is awarded to Dr. Jeremy Nichol McNeil, Département de biologie, Faculté des sciences et de génie, Université Laval.

Jeremy N. McNeil was born in Tonbridge, Kent, England in 1944. He received his elementary education Cornerbrook, Newfoundland, and his secondary education at Lancing College, Sussex, England. He returned to Canada in 1965 to enroll as an undergraduate at the University of Western Ontario, and obtained his B.Sc. in Honours Zoology in 1969. He then proceeded to North Carolina State University where he obtained his Ph.D. in Entomology in 1972 under the supervision of R.L. Rabb. Upon completing his Ph.D., Dr. McNeil accepted a position in the Département de biologie, Université Laval, where his first challenge was to learn French in order that he might teach. He presently holds the rank of associate professor and he has developed a dynamic research programme.

Dr. McNeil's research interests have centred primarily on the biology and ecology of agricultural pests. During his stay at N.C. State, he studied diapause initiation in hyperparasites of the tobacco hornworm, *Manduca sexta*. He showed that abiotic and biotic factors inducing diapause may have a synergistic effect in addition to the previously accepted additive effect. This work earned him the Gast Memorial Award for the best paper presented by a graduate student at the Annual Meeting of the Southeastern Branch of the Entomological Society of America at Mobile, Alabama in 1972, and the Entomological Society of America's Entomological Research Institute Outstanding Graduate Student Award presented at the ESA-ESC joint meeting in Montreal in 1972.

Since he joined the Département de biologie at Laval, much of Dr. McNeil's research has been directed towards the development of a pest management programme for the European Skipper, *Thymelicus lineola*, an imported pest of hay fields in Quebec and other northerly regions of North America. He showed that good foliage protection is possible through the application of the biological insecticide *Bacillus thuringiensis* in addition to conventional chemical insecticides. The discovery of natural epizootics caused by a baculovirus prompted him and a graduate student to investigate the feasibility of preventive control using the virus. Recognizing the importance of timing in applying control measures, he and collaborators developed and tested a temperature-driven algorithm which closely predicts the development of skipper larvae under field conditions. The model is in the process of being adopted by the provincial government's agency responsible for warning farmers on control matters. Dr. McNeil also demonstrated the role of hay transportation and certified seed production in the passive dispersal of the skipper at the egg stage.

Although the skipper has been and still is of major interest to Dr. McNeil, his activities have not been limited to this insect. He has also made significant contributions to the study of the effects of pesticides on non-target organisms. He thus showed that juvenile hormone analogs can seriously affect the survival of *Aphidius nigripes*, an important endoparasitoid of the potato aphid. In this work, he emphasized the need for comprehensive studies of the off-target effects of the so-called "third generation pesticides" before their full-scale use in agroecosystems. In another study conducted in collaboration with Dr. J.M. McLeod, formerly of Environment Canada, Dr. McNeil found evidence that fenitrothion, an organophosphorus insecticide used massively in the east against the spruce budworm, persists in treated Jack-pine and has marked effects on the Jack-pine sawfly, a non-target species. Dr. McNeil was invited to present the results of this work at the NRC's Symposium on Fenitrothion in Ottawa in 1977, and at the 4th International Congress on Pesticide Chemistry in Berne, Switzerland, in 1978.

Dr. McNeil's research interests have expanded considerably in recent years, although the various aspects of his work continue to be guided by the principle that solid integrated pest control programmes can be developed only on the basis of a sound knowledge of the biology and ecology of the pest insect. The other projects that he has underway include the role of parasitism in the population dynamics of the potato aphid; the role of aphids in cereal production; pheromone production in the armyworm *Pseudaletia unipuncta*; the seasonal biology of the alfalfa blotch leaf miner; and the predatory behaviour of the red wood ant *Formica lugubris* imported from Italy in Quebec as a biological control agent of forest pests, especially the spruce budworm.

Dr. McNeil is the author or co-author of 25 scientific papers published in refereed journals, and of several other publications. His competence as a research scientist has been recognized at Laval as evidenced by his appointment as Professeur chercheur for the period 1977-79. He has frequently been invited to give seminars and lectures in many Canadian and American Universities. He has also presented several papers at scientific meetings at both the national and international levels.

Dr. McNeil is recognized by undergraduates as a concerned and able teacher. His practical experience with insects, his true commitment to teaching, and his enthusiastic personality are much appreciated by the students, and over the years his lectures in general entomology and on pest insects have become popular among students from the Sciences, Agriculture and Forestry Faculties at Laval. His teaching programme at Laval also includes participation in several other courses including Animal Ecology and Problems of Pollution at the undergraduate level, and Insect Ecology and Ecophysiology at the graduate level. He has also been regularly invited to give lectures off campus to farmers and pest control operators.

Since he became a Faculty Member at Laval in 1972, Dr. McNeil has had 2 M.Sc. students who have completed their thesis, and 5 graduate students including 2 at the Ph.D. level are presently enrolled under his supervision. To all of them Jeremy, as he likes to be called by his students, is known as a caring and stimulating guide.

Dr. McNeil's apparently unlimited energy still leaves him enough time to represent his colleague Associate Professors at the Faculty Council at Laval, and to be active in professional Societies. He has been a member of the Entomological Society of America, the Entomological Society of Canada and the Entomological Society of Québec since 1972. He is President of the E.S.Q. for the current year, and is also its representative on the Board of the E.S.C. for the period 1978-80. Dr. McNeil has served on several Committees of both Societies, and his involvement on the E.S.C.'s Science Policy Committee and Ad Hoc Committee on University Funding of Entomology may be noted. Dr. McNeil has also been an Associate Editor of the Canadian Entomologist since 1976.

It is through his contributions to the Science of Entomology, his excellence as a researcher and teacher, his constructive influence on applied Entomology in Québec, his role in stimulating the interest of students, and his enthusiasm that he so naturally communicates to his colleagues, that Dr. McNeil has established himself as one of the most prominent young entomologists in this country. The Entomological Society of Canada takes a great pleasure in awarding the C. Gordon Hewitt Award to Dr. Jeremy McNeil for his outstanding achievements in Canadian Entomology.



FELLOWS OF THE ENTOMOLOGICAL SOCIETY OF CANADA, 1979

Dr. G.E. Bucher, Winnipeg, Man.

Dr. W.G. Friend, Toronto, Ont.

Dr. H.R. MacCarthy, Vancouver, B.C.

Mr. A.W. MacPhee, Kentville, N.S.

Dr. A.J. McGinnis, Vineland, Ont.

Dr. D.P. Pielou, Halifax, N.S.



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INTERIM REPORT FROM THE PRESIDENT

This year in order to reduce costs of operating our Society, the mid-term meeting of the Board of Governors was not held. In its place the Executive met in Winnipeg on April 26-27 to conduct business essential to the operation of the Society. At that meeting reports of the various committees were received and although official actions could not be taken, it was possible to advise committees with respect to their work and to move forward in finalizing recommendations that can go to the Governing Board when it meets in September. Those matters such as achievement awards and nominations for Fellows of the Society that require Board action were dealt with by mail.



Dr. F.L. McEwen

The committees of the Society have been moving forward in a number of areas. The combined Science Policy/Public Education Committee met in Winnipeg prior to the meeting of the Executive Committee and have made several recommendations for action. Included are two that can have far-reaching implications for the Society. The committee recommended that the Society establish a committee to study the economic importance of insects to Canada. This recommendation grew out of the knowledge that despite the fact we have been concerned with insects and their control for many years, there are few data on insect losses in agriculture, forestry or health. The concept is that this study should be patterned after the Biological Survey with a scientific committee and a small secretariat. The Executive agreed with the recommendation and has established a small committee to develop plans for the study and to write a proposal for funding that can be presented to the Governing Board at its September meeting. The proposal, if approved, would then be submitted to Supply and Services Canada for funding.

The second important recommendation from the Science Policy/Public Education Committee is that the Society should appoint a part-time executive-secretary to ensure that the business of the Society is given continuity and to place the Society in a stronger position with respect to policy making in the biological sciences. The Executive Committee supports this recommendation and, hopefully, we will move forward on this at the September meeting of the Governing Board. Certainly it is clear that if entomology is to get appropriate recognition in Canada our Society must develop a more effective way of making our needs known and provide documentation to give our profession the high priority it deserves.

The Biological Survey Committee is continuing its excellent record of accomplishment and all of you will have received "Canada and Its Insect Fauna". This is a most impressive work and the Scientific Committee for a Biological Survey of the Insects of Canada is to be complimented for bringing this concept to fruition. I speak not only for myself but for the entire Society when I extend to the Scientific Committee, all contributors to "Canada and its Insect Fauna", and especially to our Secretariat and Managing Editor, our thanks for a job well done and a contribution to Canadian entomology that will long endure. The latest contract of the Society, "Review and Synthesis of Knowledge on Northern and Arctic Insects" is proceeding well. The scientific authority for this project, Dr. C.G. Gruchy, National Museum of Natural Sciences, maintains close contact with this project and ensures an excellent and productive working arrangement.

The Extension Study Committee is to be commended for a good review of how extension in entomology is carried out in Canada. The committee identified deficiencies in our extension programs and made suggestions on ways these deficiencies might be corrected. The Executive Committee commented on these suggestions and referred the report to the committee for further consideration.

A number of other matters should be mentioned briefly.

The finances of the Society are sound and we had a slight operating surplus during the past year. We are seeking ways to reduce expenses and a small committee has been asked to look into printing costs. In addition, we are exploring less costly methods of bringing to the membership the information contained in the Bulletin. Our request to NSERC for a publica-

tion grant was honored but only to the extent of \$5,000.00. This will permit a reduction in page charges of about \$4.00 per page. Another good bit of news is the fact that the Scholarship Fund is growing and this year two scholarships will be possible.

One other item of particular interest to entomology students and to those who employ entomologists is the work of the Employment Committee. This year the committee prepared a booklet giving a short résumé of each student who will be seeking employment in 1979. The booklet has been distributed to potential employers and we await with interest comments on how effective this is in assisting employers and job seekers in getting together.

It is not my intention in this report to cover all the activities of the Society or to report fully on the many important Society matters discussed at the Executive Meeting in Winnipeg. I wish, however, to report some of the things we are doing to keep you abreast of Society activities and invite your comments. It has been a busy period. We have a new editor and assistant editor and a new secretary. They are giving yeoman service and it is a pleasure to work with them. But they are by no means the only members to whom the Society is indebted. One of my great pleasures has been the willingness with which Society members have taken on many assignments and ably carried them out. To all, my thanks and best wishes.

NOTICE OF ANNUAL BUSINESS MEETING

The Annual Business Meeting of the Entomological Society of Canada will be held on *Wednesday, October 3, 1979*, at the Holiday Inn, City Center, Vancouver, B.C.

Matters for the consideration of the Board of Governors should be sent to the Secretary, Dr. J.E. Laing, Entomological Society of Canada, Department of Environmental Biology, University of Guelph, Guelph, Ontario N1G 2W1.

La Réunion Annuelle d'Affaires de la Société Entomologique du Canada aura lieu le *mercredi 3 octobre 1979*, au Holiday Inn, City Center, Vancouver, B.C. Ceux qui désirent soumettre des propositions au Conseil de Direction voudront bien les envoyer à l'adresse donnée plus haut.

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, 1979.

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.

(Continued page 44)

BIOLOGICAL SURVEY PROJECT

Northern Contract

The Review and Synthesis of Knowledge on Northern and Arctic Insects is proceeding with the consultation of references on arctic and subarctic arthropods. A file of over 4,000 citations has been compiled from Arctic Bibliography, Biological Abstracts, and many other sources. Several hundred of these papers have already been seen. A preliminary checklist of Northern American arctic species is also being developed, to aid in analysis of the composition of northern faunas.

A visit to the Arctic Institute of North America library in Calgary, for access to literature that is difficult to obtain otherwise, has been planned for June. Several useful papers on northern insects have also been made available by authors across Canada. No translations of foreign papers have yet been initiated, pending a full appraisal of translations already available.

A manuscript has been drafted, outlining general features of northern areas and intended to provide background information in an introductory section of the review of knowledge.

The Society's initiatives in this northern review have been publicised in a report of Man and the Biosphere activities (Canada/MAB Report, March 1979, p. 54), and elsewhere.

Cooperative Endeavours

Several initiatives discussed or facilitated by the Biological Survey Project (see previous reports) are moving forward. On the West Coast, Dr. John Spence is continuing his work in the distribution of introduced Carabidae. Field work in the Yukon — arising from the recommendations of the Pilot Study — is in progress this summer. The general aim of this work is two fold. Firstly, it will help to characterize the fauna of an area that will be subject to great environmental stresses during the next decade; secondly, it will add to our knowledge of the fauna of the Beringian (Alaska-Yukon) ice age refugium, and hence contribute to an understanding of the origins of the insect fauna of northern Canada. Two small parties, one from the University of British Columbia, Vancouver, and another from the Royal Ontario Museum, Toronto, will be in the field from June to August approximately, working initially in the Kluane Lake area and then moving north to the Dempster Highway. Hopefully, this will be the beginning in this important area of a continuing project in which entomologists from various institutions will take part.

In Ontario, the Biological Survey Project, represented by Dr. Ian Smith and others, will take part in preliminary discussions with Parks authorities, directed towards a biological survey of Ontario Provincial Parks.

In the province of Quebec, a Symposium on systematics and the insect of Quebec ("La Systématique et les insectes du Québec"), coordinated by Dr. André Francoeur, will be a major component of the annual meeting of the Société Entomologique du Québec. This is to take place in Chicoutimi during October. The Quebec members of the Scientific Committee are also taking an interest in the disposition of the collections of mainly aquatic insects made in association with the James Bay Hydroelectric project; discussions are currently taking place among interested parties.

In Newfoundland, monitoring of the fauna in areas sprayed for spruce budworm control, and the study of the Elateridae of the province, will both be continued. A most interesting development is that a project aimed at securing insect material from selected sites in the province has been funded by the Youth Employment Branch of Canada Manpower Centre, with Ray Morris as project officer. The grant covers the appointment of a project leader (Mr. Ben Rogers) and six collectors, who will be stationed at Claranville, Marytown, Bishop Falls, Rocky Harbour in Gros Morne National Park, St. Anthony, and at Goose Bay (Labrador). The collectors will be trained at Agriculture Canada Research Station, St. John's and will return there towards the end of the summer to devote some time to sorting, preparing and labelling of specimens.

Canada and Its Insect Fauna

The volume *Canada and Its Insect Fauna* (Danks, H.V. (Ed.). 1979. *Canada and Its Insect Fauna. Mem. ent. Soc. Can.* 108. 573 pp.), publication of which completes the documentation produced through the Pilot Study for a Biological Survey of the Insects of Canada, has been distributed to members and subscribers, and was well received.

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CORRESPONDENCE

Dr. B.J.R. Philogène
Department of Biology
University of Ottawa
Ottawa, Ontario
K1N 6N5

Dear Dr. Philogène:

I am writing to you in the hope that we can solicit your assistance in contacting friends and associates of the late Doug Pimlott. Among his many contributions, Doug was successful in establishing an Environmental Studies Programme at Innis College. The Programme for which he worked tirelessly in the last years of his life is not designed as an in-depth specialist training but one in the spirit of a liberal education concerned with the environmental issues that face all of us.

Innis College has established a scholarship in memory of Doug. This scholarship will be awarded to an undergraduate student, who like Doug in his own life, combines high academic achievement with dedicated social involvement in environmental concerns. It is our hope that we can raise sufficient funds to endow this award so that it will be an ongoing and tangible way of recognizing Doug's contribution to us all.

We would be particularly pleased to have you assist us in the solicitation of donations by any means you feel appropriate. For instance could you circulate this notice to members of your organization or other friends of Doug, or send to me the names of groups or individuals whom we could approach directly? If it is possible for your organization to make a direct contribution that would also be very welcome. Contributions should be made payable to the Douglas Pimlott Fund, University of Toronto, and forwarded c/o The Principal's Office, Innis College, 2 Sussex Avenue, Toronto M5S 1J5. Any amount, however modest, will be appreciated and a receipt for tax purposes will be sent to you.

Thank you very much for your support. I look forward to hearing from you and will, of course, keep you posted on our success in this matter.

Yours Sincerely,
Wm. G. Saywell
Principal

||

Recent Deaths

GARRETT, C.B.D., Horseshoe Bay, B.C. On 1 January 1979, age 96. Amateur dipterist who described about 150 new species.

DUFF, Edward John (Ted), Montreal, Quebec. On 31 December 1977. Age 75, former technician, old Veterinary & Medical Entomology Unit, then with Biosystematics Research Institute, Agriculture Canada, Ottawa.

LINDROTH, Carl, Lund, Sweden. On 23 February 1979. Well-known for his work on Carabidae, particularly his 6-part work on the Ground Beetles of Canada and Alaska, also for his papers on biogeography and the faunal connections between North America and Europe.

AGRICULTURAL RESEARCH COUNCIL

The Scientific Policy and Coordinating Committee of the A.I.C. has been investigating the desirability of establishing an independent Agricultural Research Council. After initiating this study we became aware of a proposal, prepared by the Biological Council of Canada (B.C.C.), to establish such a council. This proposal was discussed at a meeting of the presidents and national directors of the scientific societies. While this group was not prepared to support the document at that time they did agree that the concept had some merit and was well worth pursuing. It was agreed, therefore, that the scientific societies should discuss the idea in depth using the B.C.C. proposal as a basis for discussion. The societies should then be prepared to support or reject the idea at the A.I.C. annual meeting in Fredericton. It is important that the discussion focus on the merits of the concept and *not* on any specific weaknesses of the B.C.C. document. It is also important, however, to discuss the document itself so that a stronger document can be prepared if it is decided to pursue the establishment of such a council.

The B.C.C. proposal was prepared for Mr. John Wise, M.P., the Chairman of the Conservative Agricultural Committee, copies were also sent to Mr. Whelan and Mr. Nystrom. Copies are available from Dr. D.F. Metrick, Department of Zoology, University of Toronto.

It is proposed that an independent Agricultural Research Council be established to support university and industry based research in the Agricultural Sciences. The organization and operation of this council would be patterned after the Natural Sciences and Engineering Research Council (NSERC the successor to NRC) and the Medical Research Council (MRC).

The arguments for separating the responsibility for funding non-government research from the operation of the Research Branch of Agriculture Canada are the same as those presented by the federal government to establish NSERC as a separate entity from the NRC. The arguments for establishing an Agricultural Research Council, rather than using NSERC as the vehicle, are the same as those used to establish the MRC. Certainly there are many parallels between medicine and agriculture.

The council would consist of a president and an appropriate number of members representing industry, farmers, Agriculture Canada and universities. It would report to parliament through the Minister of Agriculture. It would coordinate with the other research councils through the Inter-Council Coordinating Committee. It would coordinate with but not be responsible to Research Branch of Agriculture Canada through C.A.R.C.C. (Canadian Agriculture Research Co-ordinating Committee).

Through a number of discipline or grant review committees the council would administer grants in aid of both basic and applied agricultural research in the natural, engineering and social sciences. This would not prevent agricultural scientists from applying to the NSERC or SSHRC (Social Sciences and Humanities Research Council) for support of appropriate research projects. Similarly it would not prevent non-agricultural scientists from applying to the ARC for support. The council would also administer scholarships, travel grants and conference grants.

The B.C.C. proposal recommends that a minimum of 25 million dollars of new money be made available to establish the new council. It is probably more realistic to assume that the money would be made up of some new money as well as some money from NSERC and SSHRC budgets and the budget of the Agriculture Canada granting program.

The arguments in favor of this council, given the primary importance of agriculture to Canada, are that there will be an increased research effort stimulated by increased funding, by a separate focus on agriculture and by providing a separate spokesman for the objectives and financial claims of this type of research. It should provide funding for basic research as well as more applied research which NSERC and SSHRC are less favorably disposed to and it should provide greater and more equitable funding than presently occurs through the Agriculture Canada grants program.

Fears that applied research would be favored at the expense of basic research would not materialize if we can use the experience of ARC's in other countries as a guide. It should also be kept in mind that NSERC and SSHRC funds would still be available for basic research. Fears that it would develop into a somewhat larger Agriculture Canada granting program should not materialize if it is set up as an independent body and the principle of peer adjudication is adhered to.

Prepared and approved by the Scientific
Policy and Coordinating Committee of the
Agricultural Institute of Canada

May 1979

Erratum — Membership list (December 1978). *R. West* should appear under "Student members".

CATALOGUE OF HOMOPTERA AVAILABLE

The following Parts of Z.P. Metcalf's "General Catalogue of the Homoptera, Fascicle VI, Cicadelloidea," published by the U.S. Department of Agriculture, are available without charge to researchers and to libraries and other institutions. Requests should be sent to:

Dr. Lloyd Knutson, Chairman
Insect Identification and Beneficial
Insect Introduction Institute
Room 1, Bldg. 003
Beltsville Agricultural Research Center-West, AR, SEA, USDA
Beltsville, MD 20705

Bibliography of the Cicadelloidea, 1964, 349 pp.

- Part 1. Tettigellidae, 1965, 730 pp.
- Part 3. Gyponidae, 1962, 229 pp.
- Part 4. Ledridae, 1962, 147 pp.
- Part 6. Evacanthidae, 1963, 63 pp.
- Part 7. Nirvanidae, 1963, 35 pp.
- Part 8. Aphrodidae, 1963, 268 pp.
- Part 11. Coelidiidae, 1964, 182 pp.
- Part 14. Agalliidae, 1966, 173 pp.
- Part 15. Iassidae, 1966, 229 pp.
- Part 16. Idioceridae, 1966, 237 pp.
- Part 17. Cicadellidae, 1968, 1513 pp.
- Species Index, by Virginia Wade Burnside, 1971, 272 pp.

Also Available:

Russell, L.M., M. Kosztarab, and M.P. Kosztarab. 1974. A Selected Bibliography of the Coccoidea. Second Supplement. Agr. Res. Serv., U.S. Dept. Agric., Misc. Publ. No. 1281.

BOOK NOTICES

Crichton, M.I. (ed.) 1978. Proceedings of the second international symposium on Trichoptera. Dr. W. Junk bv Publishers, The Hague. 359pp. \$56.00 U.S.

These proceedings include 38 papers contributed by authors from 22 countries and cover topics such as the systematics and evolution, zoogeography, morphology, behaviour and ecology of the Trichoptera. All papers are in English, except for 3 in French. The best feature of the proceedings of a symposium is not necessarily the papers themselves so much as the discussion which follows each presentation. In this publication many papers were either clarified or expanded upon during subsequent discussions, which are presented primarily in English with an occasional French comment. Another aspect of such discussions, is that they enable the reader to learn where related work on a given topic is being done through comments made by the participants.

The book itself is sturdily bound and the quality of the reproduction of figures, charts and tables is excellent. Some useful features of the text include the list of the 68 participants (with addresses), the author index (including all citations) and the subject-taxonomic index.

S. Berté

Matthews, R.W. and J.R. Matthews. 1978. *Insect Behavior*. vii + 507 pp. John Wiley, 605 Third Avenue, N.Y. 10016. U.S. \$22.50. Hard cover.

In view of the contributions that studies on insects have made to ethology, it is surprising that this is the first book to offer a comprehensive treatment of insect behaviour. The authors describe their approach as two-fold: to offer a comparative evolutionary approach to processes and fundamental concepts, and to help the student gain insight into the ways in which behavioral research is conducted. After an introductory chapter which defines behavior, sketches the history of ethology and warns against anthropomorphism, the book is divided into two sections — the behavior of the individual insect (nerves and hormones, spatial adjustment, feeding; 140 pp.) and communicating activities (chemical, visual and sound communication, defense, reproduction, social life; 310 pp.). Each chapter has a summary and a list of selection references. There are more than 200 figures roughly equally divided between line drawings and photographs.

G. Pritchard

Vaillancourt, J. 1978. *Lexique Anglais-Français. Termes techniques à l'usage des biologistes*. Éditions de l'université d'Ottawa. 427 pp. Paperback. \$12.00.

Ce lexique a été préparé afin d'assister les biologistes et autres scientifiques de langue française lorsqu'ils consultent des textes biologiques anglais. Il y a 10459 termes anglais qui servent de base au lexique, mais l'index français permet aussi à l'utilisateur de retrouver facilement les équivalences anglaises des termes français.

For english-speaking biologists, the index of French words will be useful when reading material in French and the main body of the dictionary will provide assistance when translating into French.

G.P.

Osten Sacken, C.R. (1903-1904). *Record of my life-work in Entomology*. Facsimile Reprint, 1978. 240 pp. E.W. Classey Faringdon, Oxford, U.K. £7.50. Hard cover.

This Record represents half a century of entomological work, for Baron Osten Sacken's first paper was published in 1854 and his last in 1904, two years before his death. Born in St. Petersburg in 1828, Osten Sacken spent the years 1856-1877 in the United States,

holding the position of Russian Consul-General for a part of that time. Specializing on the Diptera, especially the Tipulidae, he was the only dipterist in North America during his sojourn in New York and he became, by his own description, "the grandfather of American Dipterology". He wrote in Russian, German, French, Italian and occasionally Latin, but he preferred English in which he had a dear, and lively style. His writing in this "Record" reflects an aristocratic attitude towards other scientists, even people like Loew with whom he had a long and productive association. Whether or not one agrees with Osten Sacken's criticisms, this book provides a fascinating insight into entomology and entomologists in the second half of the 19th century.

G.P.

Chapman, R.F. and E.A. Bernays (Editors). 1978. Proceedings of the 4th International Symposium on Insect and Host Plant. Nederlandse Entomologische Vereniging, 1018 D.H. Amsterdam. 566 pp. Hfl 90 (incl. postage). Paperback.

The 67 papers presented at the Symposium held in Slough, U.K. in June 1978 have been published as a special volume of *Entomologia Experimentalis et Applicata* (Vol. 24). Except for the final review paper, they follow each other in alphabetical order by first author. All papers are in English with a French summary. No Discussions are included and there is no Index. There is a list of participants with addresses. The majority of the papers fall under the related but broad categories of sensory physiology, behavioral responses to chemicals, food plant preferences, secondary plant substances, and insect growth. Several papers touch on insect control, sometimes of rather novel type. Papers on Lepidoptera predominate, followed by Homoptera, Coleoptera, Diptera, and Orthoptera. Other groups included are Heteroptera, Hymenoptera, Phasmida, Dictyoptera, Isoptera, and Acari.

G.P.

Dondale, C.D. and J.H. Redner. 1978. The Insects and Arachnids of Canada, Part 5: The Crab Spiders of Canada and Alaska. Araneae: Philodromidae and Thomisidae. 285 pp. Agriculture Canada. (Obtainable from Supply and Sciences Canada, Hull, Quebec K1A 0S9. Canada \$7.50; other countries \$9.00). Paperback.

This book contains a key to Spider families, a detailed treatment of 125 species of crab spiders, and a glossary of anatomical terms used in spider taxonomy. For each species there is a list of synonymy, descriptions of the male and female, and comments on structural peculiarities and habitats. The world range of each species is given along with a map of collection localities within Canada and Alaska. The authors admit that many spider genera are in need of taxonomic revision, but hope that a compilation such as this will enable users to make at least some identifications and will perhaps encourage them to make new contributions to the field.

G.P.

Richardson, J. (with W. Swainson and W. Kirby). 1829-1837. *Fauna Boreali-Americana or the Zoology of the Northern parts of British America*. Part 4. Insects. Reprint (1978) by Arno Press, 3 Park Ave., N.Y. 10016. 325 pp. U.S. \$24.00. Hard cover.

This is a volume in the Arno Press collection, "Biologists and Their World." It represents descriptions of insects collected mainly on expeditions to the Canadian Arctic under the command of Captain John Franklin. Some however, were collected as far south as New York, and others were collected at other times in "Canada and Nova Scotia". John Richardson was the Surgeon and Naturalist to the Expedition and organized the reports; this part on the insects was, however, written by William Kirby. Descriptions of Coleoptera occupy most of the book (250 pages, 343 species); also included are Lepidoptera, Hymenoptera, Hemiptera, Diptera, Orthoptera, Trichoptera (2 species), and Odonata, Plecoptera, and Siphonaptera (1 species each).

G.P.

Mound, L.A. and N. Waloff (Editors). 1978. Diversity of Insect Faunas. x + 204 pp. Blackwells, Oxford. (North American distributor: John Wiley, 605 Third Ave., N.Y. 10016). U.S. \$37.50. Hard cover.

This volume comprises the 12 papers which were read at the 9th Symposium of the Royal Entomological Society of London held 22-23 September 1977. The book is attractively produced but contains neither a General Discussion nor Discussions of individual papers as earlier volumes have done. There is no Index. The papers by O. Halkka (*Philaenus*), R.I. Vane-Wright (butterflies), L.E. Gilbert and J.T. Simely (butterflies), and V.F. Eastop (*Sternorrhyncha*) deal with specific groups, while most of the papers are more wide-ranging and deal with such topics as islands (D.S. Simberloff), urbanization (B.N.R. Davis), insects under bark (W.D. Hamilton), phytophagous insects (J.H. Lawton), and quaternary environments (G.R. Coope). Three papers by L.R. Taylor, T.R.E. Southwood, and R.M. May are more theoretical or synthesis-oriented. Although most recent studies of ecological diversity have tended to concentrate on birds, coral reefs or the morass of data produced by environmental impact studies, it is comforting to note that it all started with entomologists a century ago and that diversity can still be a biological study carried out by naturalists whose approach differs little from that of Bates, Wallace and Darwin. This is reflected by the fact that only Taylor (who gives the above support for natural history) dwells on indices of diversity, and only May has equations, and these are delightfully simple.

G.P.

Boudreaux, H.B. 1979. Arthropod Phylogeny with special reference to insects. John Wiley, 605 Third Avenue, N.Y. 10016. 320 pp. U.S. \$21.50. Hard cover.

This book attempts to elucidate the major evolutionary pathways amongst the arthropods, based on the phylogenetic methods of Hennig. An introductory section on the approach used is followed by about 110 pages on pathways leading to the Classes of arthropods and 170 pages on the relationships between the Orders of insects. Each proposed phylogenetic split is given a taxonomic name, some of which are new and many of which will distress many entomologists. The Orders of insects are, however, generally conventional; 34 extant orders are recognized, including the entognathous hexapods. The myriapodous arthropods are grouped into the single Class Myriapoda, the Mandibulata of Snodgrass (1938) is retained as an Infraphylum, and the Onychophora is given the status of a Phylum. The conclusions are in favor of a concept of monophyly, following Snodgrass and Sharov, and opposed to the polyphyletic origin of the arthropods proposed by Manton.

G.P.

Neurotoxicology of Insecticides and Pheromones. Edited by Toshio Narahashi. Plenum Press New York and London (1979). 308 pp. \$US34.50.

This volume is a collection of papers presented at the "Symposium on Chemistry of Neurohormones and Neurotransmission" held in 1978 in conjunction with the 175th National Meeting of the American Chemical Society. There are 13 papers authored by several internationally recognized researchers in neurobiology and neurotoxicology. Only three of the papers deal with pheromones and pheromone perception; the remainder are concerned with electrophysiological modes of action (seven papers) and neurochemical modes of action (three papers) of insecticides.

Although one can sympathize with the editor's hope that this stimulating collection of papers in the field of pesticide neurotoxicology will provide the basis on which further advancement in neurotoxicology is made, the absence of reference to cyclic nucleotides in nervous systems function and insecticide-neurotransmitter-cyclic nucleotide interactions leaves some doubt as to the current direction and orientation of research in this field.

Robert P. Bodnaryk

Horn, D.J., R.D. Mitchell, and G.R. Stairs (Editors). 1979. Analysis of Ecological Systems. Ohio State University Biosciences Colloquia, No. 3 Ohio State University Press, Columbus. ix + 312 pp. \$US27.50.

This book offers nine papers presented at the 3rd Biosciences Colloquium held at Ohio State University in 1977. The participants represent an almost haphazard selection of well-known scientists interested in theoretical aspects of their particular ecological disciplines. The result is a set of papers reflecting the diversity in modern ecological research. Four papers emphasize types of approach including optimization, Darwinian analysis, as well as mathematical and computer modelling. Three papers deal with processes: colonization, competition, and foraging; and two deal with interactions between trophic levels. While each paper aims at generality, four deal extensively with insect examples. Two are of particular interest to entomologists: Development of Theory in Insect-plant Interactions (L.E. Gilbert); and, Parasitoid Ecology and Biological Control in Ephemeral Crops (D.J. Horn and R.V. Dowell).

R. J. Lamb

Sil, W.H., Jr. 1978. The plant protection discipline — Problems and possible developmental strategies. Wiley, New York. x + 190 pp. \$25.00 (U.S.)

This short, easy-to-read, book is directed to government officials and administrators but will be of interest to all who are interested in integrated pest management. The social and economic problems that have hindered a well coordinated, interdisciplinary approach to plant protection are well documented and followed by comment and suggestions. Key words and phrases from the Table of Contents are: prestige, public relations, professionalism, manpower needs, cooperative efforts, "human cussedness", organizational strategies and teaching, research and extension problems.

C.R. Ellis



The preparation and curation of insects (DSIR Information Series 130), by Annette K. Walker and Trevor K. Crosby of DSIR's Entomology Division.

This comprehensive yet inexpensive guide to the management of insect collections is thought to have relevance and appeal well beyond the context around which it was written.

Copies, price NZ \$2.50 (postage free by surface mail), may be obtained from the Publications Officer at the above address; from Mrs B.M. May, Distributions Secretary, Entomological Society of N.Z., 6 Ocean View Road, Huia, Auckland, N.Z.; and from Government Bookshops around New Zealand.



FORTHCOMING MEETINGS

Beltsville Agricultural Research Center Symposium V, Biological Control In Crop Production — Science and Education Administration, Agricultural Research, Beltsville, MD May 18-21, 1980. Contact: E.M. Dougherty, Chairman, Publicity Committee, BARC Symposium V, Building O11A, Beltsville Agricultural Research Center-West, Beltsville, MD 20705.

Awards (continued from page 36)

- 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.