Entomological Society of Canada
Société Entomologique du Canada

Bulletin

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B.J.R. Philogène — Bulletin Editor

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Vol. 9, No. 3 September – Septembre 1977

A happy conclusion to a very successful term. M. Ellen MacGillivray with her Service Award after presentation by President W.G. Wellington.

This has been one of the busiest years of the ESC and the contents of this last issue of the 1977 *Bulletin* bears testimony to the liveliness of the Society. Members will, no doubt, read with particular interest on our renewed relationship with the BCC (pp 114-115) and J.A. Downes's observations on the present position of entomological affairs in Canada (pp 116-120).

Canadian entomologists are also invited to pay particular attention to the notice on page 150 dealing with the search for an editor for the *Canadian Entomologist*.

To all a Joyeux Noël and a Happy New Year.

ON REJOINING THE BIOLOGICAL COUNCIL OF CANADA

Last February, the governing Board of the ESC accepted the Science Policy Committee's recommendation that the Society explore the advisability of rejoining the BCC (Bull. Vol. 9 (1), p. 18). The editorial in the June 1977 issue of the *Bulletin* (Vol. 9 (2), p. 57) informed the ESC membership that the question of rejoining would be put to a vote at the 1977 Annual Business meeting. On August 22, 1977, members voted to rejoin the BCC. On October 27, at its Annual Meeting in Ottawa, the Council voted unanimously to welcome the ESC as one of its member Societies.

At the same October meeting, the Council ratified its new constitution, which automatically places the Presidents of the member Societies on the BCC Executive, as well as providing membership on the council for two voting representatives from each Society in good standing. President Wellington was already a member of the 1977 BCC Executive, and now continues on its 1978 Executive as our Society's presidential member. Our two representatives are J.A. Downes and R.K. Stewart, both active participants in the ESC Science Policy Committee.

The BCC debate in Winnipeg. President Wellington making his point.

The editorial in the June, 1977, issue of the ESC *Bulletin* contained two comments that now require our further attention: (1) that the efficiency of a body like BCC is directly related to the *input* from member organizations; and (2) that we must weigh very carefully the pros and cons of living *within* the BCC (since the more than 2 to 1 positive vote in Winnipeg showed that we have decided not to try to survive *without* it). As to the first item, it should by now be clear to the most apolitical, single-minded bench scientist that "science policy" is no longer a beguiling pursuit for those with nothing better to do. Instead, science policy is now every Canadian Scientist's day-to-day concern, because its twists and turns directly affect the size of everyone's research budget, in government as well as in universities, whether or not vacancies are filled or assistants are hired, and whether we can do field work or travel to conferences.

It is in such cases that the BCC has begun to function with increasing effectiveness during the last few years, as its members have become more familiar with the political scene. But any umbrella organization functions best for those constituents who also keep their own watch on the weather, and that is what members of the ESC must remember to do.

There are three ways in which the ESC and the BCC can interact:

1. Sometimes, the BCC can note, respond to, and even minimize a new threat to the biological sciences before its member Societies and their individual members even become aware of the problem. A recent example of this type of service was the Brief to the Prime Minister regarding Treasury Board's plan to stop NRC publishing its list of Canadian Science Journals by April 1978. This plan was put forward without warning in June. As there was no time for dallying, the BCC responded with a brief that was ready to circulate in July, which was used as a basis for MOSST's representation to Treasury Board, and which has already helped to gain a year's grace for the Canadian Journals while their situation is re-evaluated. But while the situation was most critical, most biologists were busy with summer work, completely unaware of the problem.

2. The foregoing episode is the most recent example of a service that an alert umbrella organization can perform for its members more effectively than they can manage for themselves. The second type of service is less dependent on rapid response but requires more dogged persistence than individuals or small, isolated groups are likely to be able to devote for long to a problem. Nevertheless some input from individuals is also required. By examining byways that had been closed to individuals, the BCC found that government laboratories in fact can send additional representatives to scientific meetings more often than the regulations suggest. According to the responsible Minister, Treasury Board has always been prepared to grant authority to send "additional representatives if, in view of the special circumstances surrounding the conference or meeting, increased representation is necessary to contribute to the goals of the department. Reasons considered acceptable by the Treasury Board for exceeding the limit of one representative per department include: to participate in an official capacity; to present a paper; to cover concurrent sessions of interest to the department; to provide specialized expertise for reporting purposes; to participate in program planning and/or implementation of specialized areas of direct interest to program objectives; and to provide regional representation essential to achieving program objectives". The Minister went on to say that he believes such criteria provide the necessary flexibility to allow multiple attendance where such attendance is necessary. The BCC, through its geneticists, was instrumental in obtaining this clarification of Treasury Board policy. But concerned individuals, not the BCC, now must act on that new information.

3. The ESC Pilot Study for a Biological Survey of the Insects of Canada is the best current example of an enterprise in which we, as concerned entomologists, needed to act on our own initiative to demonstrate to government that: a) there was a problem with increasingly serious economic overtones: b) there was a possible solution that might be achieved by concentrating the combined efforts of government and university scientists, instead of further diffusing them through divisive uncoordinated funding. In this as in kindred enterprises, entomologists should expect to take the initiative. By demonstrating what is possible, we can aid the BCC in its efforts to foster the more accessible, regional museum collections required by all types of biological research, and the intensified regional surveys which stock those collections.

The BCC provides a handy umbrella against major storms. But an umbrella is a shelter, not a cocoon. Nor is it a place in which to diapause.

Entomological Society of Canada Postgraduate Scholarship Award

Mr. Bela A.L. Nagy, University of Western Ontario, is the second recipient of the Entomological Society of Canada Postgraduate Scholarship Award of $500.00.

Address by the Gold Medallist

J.A. DOWNES
Research Scientist, Biosystematics Research Institute
Agriculture Canada, Ottawa

Entomological Society of Canada Annual Meeting
Winnipeg, 21 August 1977

Madam President, Mr. President-Elect, Ladies and Gentlemen.

I would like to start by expressing, both for John Borden and for myself, our deep appreciation of the great honour that has been given to us by this Society. We are delighted, and touched, almost embarrassed. We would also, of course, like at once to thank many good friends and colleagues for their kindness and good wishes on this occasion, and the other friends and colleagues who have assisted and guided us in the past.

Perhaps I should not spend longer on this personal note. I would like, rather, as best I can, to make some observations on the present position of entomological affairs in Canada. This again, however, will be personal, in a slightly different sense — a personal view of our present situation, a view that commits nobody else and that I alone must take the responsibility for expressing. It has not been cleared even with the President!

1. We are living in difficult times, and whichever way one turns many things that used to go well disclose a collection of problems, and an uncertain future. This is true in many scientific endeavours, and especially perhaps in scientific work in the milieu of government. Entomologists are no exception; many of us are dissatisfied or disappointed; becoming frustrated, becoming cynical.

But we must not say it is just because times are hard. We can face our problems and be part of the solution; and in doing so we may even accomplish something that might spread beyond entomology, assisting others.

We must first recognise that a change, a reapportionment, in the entomological programs of government departments has been going on in recent years. There is nothing wrong with this; times change and needs change. Certainly, however, that is what is happening. More and more the work is defined and limited by an ordered series of objectives and goals, related to the more precisely defined functions of the parent department. And this sounds reasonable, this sounds like good management. However, it is also, intellectually and scientifically, a process of fragmentation. Work that requires the same fund of knowledge and the same conceptual approach, but involving different species of insects with differing impact on man, is partitioned between different government organizations; and from this comes duplication of effort, reduction of colleaguely support, a slower development both practically and conceptually. Certainly entomology in the Canadian government service has suffered in this way in insect pathology, biological control, population dynamics, and probably in other fields, ever since the separation between Agriculture and Forestry some 20 years ago. If, additionally, the reorganisation involves the vacation of fields to which considerable efforts of scientific thought and personal orientation had been committed, the impact on the individual scientist is intensified.

Let us look at the dimensions of our work, the science of insects, and the application of that science, in Canada.

Canada is a vast country, the second largest in the world, and rich, richer than we are willing to recognise, in natural resources. It is also, except in the extreme south, a very thinly populated country. The great problems of entomology in Canada are now on the environmental, not on the urban or agricultural, scale. Clearly, this is a major challenge for insect biology. The established urban and agricultural methods, moreover, are failing us, one by one; target insects are becoming resistant, and many of our means of control are so drastic, so indiscriminate, that we dare not go on using them. In any event, the economics of insect control by technological methods, in relation to the area of interest, is, broadly speaking, prohibitive, as in the case of biting flies.

It is clear we need another approach. We cannot go at it bullheaded. If there is to be real hope of effective human intervention, we need to *understand* more about the insects

themselves, and *their* effective environment, and to work more nearly as the insect and its environment works. And indeed, first of all we need to know what insects there are that are there.

J.A. Downes receiving the gold medal from Dr. M.E. MacGillivray

We need, therefore, (i) a primary inventory, or exploration, of the fauna; and (ii) basic research on the properties of the insects themselves, and of the insect faunas as systems or wholes; and on how these properties interact with the environment, especially, of course, the natural environments that are predominant or typical in Canada.

But why do I stress *basic* research? Someone will say, that is too academic (ivory tower; elitist); it will get us nowhere unless we have clearly defined objectives, in appropriate time-frame. But it is *not* ivory tower; it is plain common sense. We *are* nowhere — well, we are not really very far ahead.

We do not know the names of even half the insects around us — they don't have any names.

Still less do we understand the causes, the processes, acting in them and through them, that we gather under such headings as physiology, ecology, behavior, population dynamics, adaptation, speciation.

When we want to modify an insect population, in one way or another, we do not know, concretely, what has to be done or how to do it. And broadly speaking we never will know, in any significantly better way than at present, until we understand the insects in themselves.

This is not unrealistic, it is the whole history of science and technology. Consider atomic energy. Now it is a vast and diversified, world-shaking technology, able to be developed rationally (and irrationally) to a hundred different goals or objectives. But within the memory of many of us, a project "To produce atomic energy" was meaningless; only a fool would have set out with that explicit aim. Before that time there were two whole generations of scientists, physicists, fascinated by the anatomy and physiology, as one might say, of electricity and matter; X-rays, alpha-particles, Rutherford's theory of the atom, Bohr's theory, neutrons, neutron capture, capture cross-sections. Up that stage atomic physics was the domain of scientists enthralled by the nature of matter, working, relatively speaking, on a shoestring. Only at that stage could Fermi and Oppenheimer, among the greatest of scientists themselves, see that a certain nuclear process could be set up so as to repeat itself indefinitely; and if they *had* stumbled upon uranium fission earlier, its significance would not have been recognized, the ordered knowledge of the facts hadn't reached the stage when this had become possible.

More recently the science of genetics has reached somewhat this same stage of development; perhaps the determination of the structure of DNA is the major landmark.

But as for population dynamics — well, I think *Choristoneura* tells us that it is not quite there yet.

Of course, there are lots of things to be done and we have many goals and objectives, but there is no sense in believing that at present we can understand or aim directly at the modification of insect activity on the environmental scale, that is on the only scale that is adapted to the Canadian scene.

II. We are, indeed, gradually building a science of insect activity in relation to other organisms and to the environment at large — or are we? Let us look at some areas of work especially important for entomology in Canada, especially related to the characteristic insect biology of Canadian life-zones. I apologise if the collection is too personal, but even if it is it will suggest similar examples from your own experience.

First the simple inventory of Canadian insects, obviously basic in any general environmental concern. There are some forty or fifty thousand described species of insects (in the strict sense, not to mention the spiders and mites) in Canada, and apparently at least as many as yet unknown — undescribed and unnamed. A single large family such as the Chironomidae or Carabidae has as many species as the whole fauna of land vertebrates, mammals, birds, reptiles and amphibia, taken together. This vast array, and the extent of our ignorance of it, still surprises many entomologists, and even more other zoologists and the general public. The facts show the need for more workers in the field, and for work on all fronts. There are however hopeful signs of recognition, both within and without the government, that the situation needs a remedy. The series of handbooks on various units of the Canadian fauna, projected by the Biosystematics Research Institute, will be a valuable contribution. On the other hand, there are some extraordinary cross-currents. It was officially recommended recently that taxonomists in the B.R.I. should give more attention to the wasps and less to the parasitic families of Hymenoptera. This makes sense neither practically nor scientifically. The wasps, a small group, rather well known, an attenuated southern fauna quickly reaching its northern limit in Canada, few likely new species; the Parasitica, an immense array of thousands of species, and quite certainly even more thousands yet to be discovered, found throughout Canada and numerous and diverse even at the northern limit of land; so many thousands of unknown but specific, target-seeking and self-reproducing flying insecticides, awaiting discovery at this time when our costly, technologically-distributed and unspecific insecticides are failing. Well, I mean to say . . . Excuse the purple passage.

There is not much value in just being able to name an insect; to make a science of taxonomy one needs also to know its qualities, its place in nature, and its origins; and even to extract any practical value from the name one needs to know the first two of these items. And as soon as one begins to enquire into these things, and to study the feeding habits, or mating habits, or enzymes, or chromosomes, then so very often the species disintegrates, it becomes two or five entities of differing ecological valency. It is clear that we have underestimated the number of species of insects because this happens repeatedly, especially with the most important and best known forms — *Anopheles gambiae, Simulium venustum*. And even further, as G.B. White has recently been pointing out, many of the properties of most direct significance to man, for instance, in a mosquito, vagility, host-preference, biting indoors versus outside, often vary also on an infra-specific, race and population, level. The need, *in practice* fully as much as in theory, in real life control projects, is often for a *more* refined, *more* intricate systematics than yet exists. And without it there is blunder and waste. But there are few signs of real awareness of the necessity and magnitude of these tasks that await systematists.

I have mentioned the far north. The insect fauna is relatively small but very interesting, with distinctive aspects to its biology that we need to understand in the context of arctic environmental concerns; it is interesting also for the contrasts that are presented with related temperate forms, offering natural experiments and thus a route to understanding of important processes in insect biology. One third of Canada is true arctic; our arctic area is about one-half of the world's total. Through the sixties there was a program with many contributors, led from the Entomology Research Institute; it was the only such program, and very productive. At the reorganisation of E.R.I. in 1970, the atmosphere was so unfavourable for the continuation of any such basic faunistic study that we made no attempt

even to propose it. The program has left an inheritance in several universities, and a residual interest in B.R.I., but at the present time I know of no organised program dealing generally with the insects of the northern one-third of this country.

The outstanding special question in insect faunistics in Canada is the adaptation of the fauna — the whole fauna, and necessarily so — to the extreme seasonality of the environment, and especially of course to the conditions required for overwintering, including, though not to the exclusion of other aspects, the problem of cold-hardiness. There can be no more general question in insect biology than this, in these north-temperate and boreal life-zones. But Reg Salt's pioneering and influential laboratory of cold-hardiness was, on his retirement, simply discontinued. And the carefully considered program in the biology of overwintering, that was emerging from the arctic program, was sunk without trace in 1970. There are of course valuable individual projects on dormancy, diapause, and the adaptations of the life-cycle, but no sustained program, well worked out and zealously nurtured. Yet this is a distinctive and inevitable Canadian problem, simply because of the life zones we live in; and if we do not do the work for ourselves the only people from whom we can buy are the Russians.

As I have said, it seems to me that the great challenges of Canadian entomology are on the environmental scale; they can hardly be met by mechanical or chemical means dependent on manufacture. Integrated control, in its many forms, is a step in the right direction. A.D. Pickett was a pioneer, though he was scarcely recognised at the time and was usually dismissed as a minor phenomenon, of quite local interest only. And even now much of the detailed thought, and by far the greatest organisational thrust, originates in the United States.

But in general I see no way of influencing the biological elements of the Canadian landscape except by and through these biological entities themselves; control must be biological control in one form or another — parasites, competitors, pathogens, substitution of races of different ecological valency, new genetic elements. Obviously the task is intricate and difficult, and not short-term, but the solution reached can be specific, self-propagating, and wide-ranging. We should keep at it. What happended? The relationship of the Agriculture and Forestry elements of the work in biological control and insect pathology was made more complicated. The traditional centre for biological control at Belleville was closed (without any substantial enquiry "why?" from the entomological community — from this Society). Generally speaking insect pathology was allowed to run somewhat downhill. A suggestion concerning genetical control was put forward in 1959, and by 1962, at a symposium of the Entomological Research Committee of the Defence Research Board, we were talking about meiotic drive, Laven's cytoplasmic incompatibility factors in *Culex pipiens* (which are in fact now in use in south-east Asia), and the possibility of systematic search for incompatible genetical elements. But Dr. Smallman's committee had the temerity to say that a number of positions were necessary to develop the field; so to-day, unlike the Australians, we have no program.

Finally let us look at a large and intensely practical matter, *Choristoneura*. The spruce budworm has been recognised for many decades as the greatest single economic problem in Canadian entomology. In the fifties and early sixties a group of remarkable talent was gathered and brought to bear on its complex biology, and they worked on the most fundamental level. One need only mention Morris and Miller, Watt, Wellington, Holling, Stehr, and others, with leading toxicologists such as O'Brien contributing laterally. But the impetus was not maintained; perhaps its value was not properly understood, and the opportunity provided for some of its most fertile contributors was not sufficient. At all events, the members of this group are now scattered, one in California, another in New York, others persuing distinguished careers elsewhére in Canada, Antoine Stehr, sadly, no longer with us. The spruce budworm problem, however, persists, and satisfactory means of dealing with it have yet to be developed.

III. Looking back on these examples, we see some things of value but predominantly a state of unpreparedness and a group of quite disastrous decisions. The examples do not relate to small projects, but rather to programs or schools of research; programs that are necessary to provide foundations for a knowledge of insects in relation to Canadian conditions. And these conditions present distinctive challenges and opportunities that must be picked up here in Canada, they cannot be supplied from elsewhere.

It seems to me, moreover, that some of the key entomology-related appointments of recent years provide little by way of remedy for this situation. The appointments have been made in relation to quite other purposes in the departments concerned, and too often in the interest of the processes and customs of management. Skill and interest in these areas, unfortunately, do not necessarily run in harness with insight and leadership in respect of the science. How else can I understand the loss of the work in cold hardiness and the biology of overwintering; the lapsing of a main potential for work in biological control, when the time was ripe for probing into half a dozen kindred and interrelated fields; most obviously perhaps the fact that the *Choristoneura* problem is still with us and without a solution in sight, and without also the notable attempt of the fifties and sixties to probe its root causes.

In earlier days entomology in Canada looked for much of its leadership to the old Division of Entomology in Ottawa. Times change. It is reasonable that entomology in the government services should have its own considered and specific objectives. But unless the basic problems of insect biology in the Canadian milieu are faced, unless basic fields that are vacated by one organisation are built up elsewhere, then we are destined for a continuing mediocrity — always a danger, but especially sad in a country as rich and interesting, and potentially resourceful, as Canada.

What are we to do? It seems to me that we must turn for leadership more and more to this Society. The Entomological Society of Canada can bring together from its membership a unique expertise in many fields of entomology, and it must be prepared to do so. It must bring these groups together as working groups, aiming to probe for the best, the most far-sighted, policy and aiming also, in whatever may be the appropriate way, to translate its conclusions into action. It has two recent and very valid models for such activity, the Manpower Enquiry, and the Pilot Study for the Biological Survey. It needs to undertake a continuing series of such operations. I would end, however, by adding a note of reserve and caution. When undertaking such activities the Society must be fully prepared, and fully determined, to see them through. These are real difficulties for an essentially private society, without a full time executive officer, without a real home, and with a fairly rapidly changing governing body and hence a problem of continuity of policy and vigour. I think that these and similar questions must be carefully looked at in the near future.

FELLOWS OF THE SOCIETY
COMPAGNONS DE LA SOCIETE

Any four active members of the Society may present a nomination for Fellowship over their signatures. This nomination shall include a review of the nominee's contribution as support for the nomination. The contribution may be in any area — research, teaching, application or administration — and may be judged on the basis of contribution to and stimulation of the work of others, as well as by direct personal effort. It will usually, though not necessarily, be cumulative over ten years or more.

Toute nomination pour le titre de Compagnon doit être soumise et signée par au moins quatre membres actifs de la S.E.C. Cette nomination doit inclure une revue de la contribution du candidat dans un des domaines suivants — recherche, enseignement, pratique ou administration. On jugera cette contribution sur la base de l'effort personnel aussi bien que de l'effet stimulant sur d'autres personnes. On s'attend à ce que cette contribution couvre au moins, mais pas nécessairement, dix ans ou plus.

Les nominations avec la mention "Confidentiel" doivent parvenir au Président du Comité de Sélection, à l'adresse suivante, au plus tard *le 28 janvier 1978.*

Members are requested to submit, by *January 28, 1978,* their nominations marked "Confidential" to the Chairman of the Fellowship Selection Committee, as follows:

J.L. Auclair
Dépt des Sciences biologiques
Université de Montréal
Case postale 6128, Succursale "A"
Montréal (Qué.) H3C 3J7

ACTIONS OF THE GOVERNING BOARD
20-21 AUGUST 1977

NRC Publications Grant

(1) Noted that the Society would not receive a Publications Grant from NRC during 1977-1978.

NRC Appointments

(2) Announced that Dr. W.G. Wellington had been appointed to the Population Biology Committee.

Finance

(3) Approved that the page charge for papers published in The Canadian Entomologist be increased to $59.00/published page on manuscripts received after 1 October 1977.

(4) Approved that the Society accept paid advertising in the Bulletin.

(5) Agreed that spouses of the Gold Medal Winner, Hewitt Award Winner, and new Honorary Member no longer receive money to cover their expenses to attend the Annual Meeting.

(6) Approved that the $500.00 for the Postgraduate Scholarship Award, which is to be paid to the winner in January 1978, be taken from accrued interest generated by the Postgraduate Scholarship Fund.

(7) Agreed that the present method of financing the Memoirs be retained.

(8) Approved that the Society charge for advertising positions available in the Bulletin and that the rate charged be equal to that charged by the Association of Universities and Colleges in Canada.

(9) Approved that reprints be made of articles in the Bulletin for which reprints are requested and that the charges for the reprints be the same as the charges for reprints of papers in The Canadian Entomologist.

Publications

(10) Agreed that a form of camera-ready copy, which is acceptable to the Society, be accepted in the Memoirs.

(11) Noted that publication in The Canadian Entomologist is restricted to members or co-authors of which at least one is a member of the Society.

(12) Approved *in principle* another series of publications (e.g. large papers or monographs) which would be sold at a price sufficient to cover the cost of publication.

Future Annual Meetings

(13) Noted the progress of the plans for the 1978 Annual Meeting in Ottawa and 1979 Annual Meeting in Vancouver.

(14) Approved that if the Society holds a Joint Annual Meeting with the Entomological Society of America in Toronto in 1982, this meeting be held independent of an Affiliate of the E.S.C.

Science Policy

(15) Noted that the subcommittee studying Funding of University Research in Entomology had nearly completed its report.

(16) Approved that the Society discontinue in 1978 to pay the $50.00 membership fee to the Canadian National Committee of the International Association on Water Pollution Research.

(17) Noted that a subcommittee had been set up to study the Present Status of Entomology in Government.

(18) Reported that the intents and recommendations of the Manpower Study are being followed up by the subcommittee studying Funding of University Research in Entomology and the subcommittee studying the Present Status of Entomology in Government.

(19) Approved that the Society not join The Center for Scientific, Engineering and Learned Societies.

(20) Recommended that the Scientific Committee for a Pilot Study of a Biological Survey of Insects of Canada find sources of funds for extending the biological survey for an 18-month period beyond the length of present contract.

By-Laws, Rules and Regulations

(21) Announced that it appeared that the Affiliate Societies were in agreement with holding the Annual Meeting between 15 September and 31 October each year.

(22) Agreed that the Standing Rules of the Society be translated into French.

Public Education

(23) Asked the Public Education Committee to prepare a country-wide list of names, addresses and telephone numbers of "resource persons" who could provide information on important entomological topics. These people would give expert advice to the Society when information is required on important topics.

Postgraduate Scholarship Award

(24) Approved that the names of contributors to the Postgraduate Scholarship Fund be published annually in the Bulletin with the permission of the contributors.

(25) Agreed that a certificate not be sent to the Postgraduate Scholarship Award Winner.

Common Names of Insects

(26) Approved that the Society reduce its association with the Entomological Society of America vis-à-vis their respective common names committees to that of information only.

Archives

(27) Asked the Heritage Committee to look into the matter of whether the Society should leave indefinitely its material in the Public Archives of Canada.

ACTIONS OF THE GOVERNING BOARD
23 AUGUST 1977

Executive Council

(1) Approved the make-up of the Executive Council as submitted (W.G. Wellington, President; F.L. McEwen, President-Elect; M.E. MacGillivray, Past-President).

Trustees

(2) Approved the names of the Trustees as submitted (E.C. Becker, Treasurer; G.H. Gerber, Secretary; P.E. Morrison, Scientific Editor; B.J.R. Philogène, Bulletin Editor).

Committees and Representatives

(3) Approved the make-up of the Committees and the representatives as submitted (see pages 157-159).

Membership

(4) Agreed that the Membership List of the Society be published in the Bulletin.

Mid-term Governing Board Meeting

(5) Agreed that the Society retain the Mid-term Governing Board Meeting during 1977-1978.

(6) Accepted an invitation from Dr. W.G. Wellington to hold the Mid-term Governing Board Meeting in Vancouver on 23-24 February 1978.

GOVERNING BOARD MEETING

The Governing Board will meet on 23 and 24 February 1978 in Vancouver. The site was selected so that there could be interaction with students at local universities. Matters for the consideration of the Board should be addressed to the Secretary, Dr. G.H. Gerber, Research Station, Agriculture Canada, 195 Dafoe Road, Winnipeg, Manitoba R3T 2M9.

MINUTES
TWENTY-SEVENTH ANNUAL GENERAL MEETING

University Centre, University of Manitoba
Winnipeg, Manitoba

22 AUGUST 1977

The President, M.E. MacGillivray, called the meeting to order at 15:40 hours. There were approximately 90 persons in attendance.

1. **Notice of meeting**

A notice of meeting was published in the Bulletin, 9 (1): 8 (March 1977) and 9 (2): 65 (June 1977).

2. **Proxies**

None were declared.

3. **Deceased members and other Canadian entomologists**

One minute of silence was observed in memory of W.J. Brown, B. Flieger, W.G.P. Garlick, R.G. Glendenning, G.A. Hobbs, P.S. Messenger, and K.E. Stewart.

4. **Minutes of Twenty-Sixth Annual General Meeting (1976)**

The minutes were published in the Bulletin, 9 (1): 9-11 (March 1977). W.A. Charnetski moved, B.J.R. Philogène seconded, that the minutes be adopted as published. Carried.

5. **Business arising from minutes**

There was none.

6. **Report of Governing Board**

President MacGillivray read the report (see Bull. 9 (3), 1977) covering the activities of the Governing Board during the past year.

W.G. Wellington moved, R. Brust seconded, that the report be received. Carried.

7. **E.S.C. Membership in the Biological Council of Canada**

President MacGillivray referred to the notice printed in the Bulletin, 9 (2): 57 (June 1977).

R.K. Stewart moved, B.J.R. Philogène seconded, that the Entomological Society of Canada rejoin the Biological Council of Canada.

W.G. Wellington presented the case for rejoining B.C.C. on behalf of the Governing Board.

The Secretary, G.H. Gerber, reported the Governing Board had approved that if the Society decided to rejoin B.C.C. the membership fees ($5.00 per member) paid to B.C.C. be based on the number of Regular Members residing in Canada. Also, he reported the Governing Board had approved that the money for the B.C.C. membership fees be taken from the general funds of the Society.

J.C. Conroy moved, W.J. Turnock seconded, that the motion to rejoin the Biological Council of Canada be tabled until a more complete study of the methods of financing the membership fees for B.C.C. is conducted. Defeated (In favour, 22; against 35).

The results of the vote on the motion to rejoin B.C.C. were: in favour, 51; against, 23. The motion was carried.

8. **Sustaining Membership Dues and Page Charges for The Canadian Entomologist**

B.J.R. Philogène moved, W.A. Charnetski seconded, that the Sustaining Membership Dues be $100.00 effective 1 January 1978. Carried.

R.F. DeBoo moved, J.C. Conroy seconded, that the page charges for papers published in The Canadian Entomologist be increased to $59.00 per published page on manuscripts received after 1 October 1977. Carried.

9. **Standing Rules**

J.C. Conroy moved, P.S. Barker seconded, that the Standing Rules of the Society, as approved by the Governing Board, be adopted. Carried.

10. **Auditor's report**

The Treasurer, E.C. Becker, reported that the auditor's report will be published in the Bulletin, 9 (3) (September 1977).

D.H. Herne moved, E.C. Becker seconded, that the auditor's report be received. Carried.

11. **Report of Election Committee**

Secretary Gerber reported that R.J. Finnegan, Chairman, Elections Committee, wrote on 19 July 1977 indicating (i) that the successful candidates were F.L. McEwen, President-Elect; and H.F. Madsen and R.F. Morris, Directors-at-Large; (ii) that J.R. Blais and M.D. Proverbs were elected members of the Fellowship Selection Committee, and (iii) that L. Daviault was elected as an Honorary Member of the Society.

12. **Installation of new Officers**

M.E. MacGillivray passed the gavel to President W.G. Wellington. President Wellington requested Past-President G.S. Cooper to escort President-Elect F.L. McEwen to the dais.

President Wellington noted that the new Directors-at-Large, H.F. Madsen and R.F. Morris, were unable to be present.

13. **Presentation of Service Award Shield**

President Wellington paid tribute and presented a Service Award Shield to Past-President MacGillivray.

14. **Appointments, Committee Chairmen and Representatives**

President Wellington announced the members of the Executive Council, Standing Committees, Continuing Committees and Ad Hoc Committees, and the names of the Trustees and Representatives (see pages 157-159), which would be submitted for approval to the Governing Board.

15. **Election of Auditors**

P.W. Riegert moved, A.D. Tomlin seconded, that the Society appoint Geo. A. Welch and Co., Ottawa, as auditors for 1977. Carried.

16. **Resolutions**

P.W. Riegert moved, W.A. Charnetski seconded, that the following resolutions prepared by the Resolutions Committee (B.J.R. Philogène, Chairman, and W.A. Charnetski), be adopted. Carried.

Whereas the success of the 27th Annual Meeting of the Entomological Society of Canada and the 33rd Annual Meeting of the Entomological Society of Manitoba can to a large extent be attributed to the following, be it resolved that letters of appreciation be sent to:

(a) The President of the University of Manitoba for excellent facilities provided in terms of accommodations, food services, scientific and other facilities;

(b) The Manitoba Department of Agriculture for their financial support towards the boat cruise;

(c) The City of Winnipeg for the memorabilia;

(d) Miss A. Criddle for her enlightening presentation;

(e) Mr. R. King for being our banquet speaker.

Be it further resolved that a vote of thanks be extended to the Executive and Committees of the Entomological Society of Manitoba for the organization and hosting of the 27th Annual Meeting of the Entomological Society of Canada.

17. **Notice of Twenty-Eighth Annual General Meeting (1978)**

Secretary Gerber announced that the 28th Annual Meeting will be held in Ottawa, Ontario, on 20-24 August 1978.

18. **Other business**

There was none.

B.J.R. Philogène moved, J.C. Conroy seconded, that the meeting be adjourned. Carried.

The meeting adjourned at 17:30 hours.

COMMITTEE REPORTS

Scientific Editor

This fifth Editor's report summarizes the activities of the Editor from September 1, 1976 to May 31, 1977, a nine-month period.

Three tables in this report present a breakdown, by month, of the manuscripts processed, the handling of manuscripts by the Associate Editors and a summary of present activities with earlier periods.

TABLE I lists the number of manuscripts processed each month with tabulations of their acceptance or rejection and other considerations. The number of manuscripts received each month averages 13.9, compared to 12.1 in the February 1977 report.

One hundred and twenty-seven (127) manuscripts were accepted for publication; 65 of these were received and accepted for publication during the period of this report.

Twelve (12) manuscripts were rejected; 8 of these were received and rejected during this nine-month period. The percentage of rejections, 6.4% (8 of 125), is higher than in previous reports: 5.4% (Feb./77) and 3.5% (Oct./76).

Of the 125 manuscripts, only one was withdrawn, and this because the authors wished to add data from the coming season. Three older manuscripts were also withdrawn.

TABLE II presents the work of the Associate Editors for the Society. Again, Mr. C. Miller is the most active, handling between 4 and 5 manuscripts (in duplicate) each month.

TABLE III makes comparisons with last year's report.

Approximately one-third of the manuscripts (40 of 125) were submitted for publication from members outside Canada, of these 35 were from the United States. The introduction of Scientific Notes appears to have been accepted by the members of the Society. Over the period of this report, seven (7) Notes were published.

P.E. Morrison
Scientific Editor

MANUSCRIPTS RECEIVED FROM SEPTEMBER 1/76 TO MAY 31/77 AND THEIR STATUS AS OF MAY 31ST, 1977

TABLE I

Month	Total MSS Received	Accepted	Rejected	Under Review	Under Revision	Withdrawn
Sept/76	16	15	1			
Oct/76	13	11			2	
Nov/76	16	12	1		2	1
Dec/76	7	5			2	
Jan/77	11	7	1		3	
Feb/77	15	8	3	1	3	
Mar/77	19	6	2	3	8	
Apr/77	14	1		8	5	
May/77	14			14		
Total	**125**	**65**	**8**	**26**	**25**	**1**

TABLE II

Reviews for the 125 Manuscripts were handled as Follows:

Associate Editor	Number of MSS Processed
Miller	40
Jaques	17
Morris	16
Syme	11
Steele	7
Shewell	6
McNeil	5
Finlayson	4
Sent directly to referees by Editor, PEM	19

TABLE III

Dates	No. of MSS submitted	French	English	Accepted	Re-jected	Under Review	Under Revision	With-drawn	Total Journal Pages
Sept. 1/75-Aug. 31/76 (12 months)	230	6	224	150	8	29	37	6	1331
Sept. 1/76-May 31/77 (9 months)	125	5	120	65	8	26	25	1	1311

Bulletin Editor

Volume 8 of the *Bulletin* had a total of 114 pages plus a supplement. With Volume 9 the Bulletin was given a bilingual cover as recommended by the Publication committee. The first two issues for 1977 (Vol. 9 — No. 1, 2) were both ready by the expected date of mailing, i.e. the 15th of the month. The membership is unfortunately denied quick delivery by the mailing system, this resulting in important information being unduly withheld, e.g. nominations, "action requested". Vol. 9, No. 1 had one supplement "A pilot study for a biological survey of the insects of Canada" and No. 2 had two supplements: a) By-Laws in English and French; b) a catalogue prepared by the Public Education Committee. Additional reprints of these supplements are available.

Recent requests for reprints for book reviews and articles indicate that the Society should consider a reprint charge policy for the Bulletin. This would generate more funds for the Bulletin.

B.J.R. Philogène
Bulletin Editor

Publications Committee

The Committee supported the request of several members of E.S.C. that the masthead and appropriate parts of The Bulletin be bilingual.

After years of devoted service, G.E. Shewell resigned as associate editor for taxonomic papers for The Canadian Entomologist. P.D. Syme agreed to assume these duties.

To facilitate review of manuscripts for The Canadian Entomologist, parts of the Instruction to Authors were rewritten. Check recent issues for changes.

Various ways, such as, smaller print, double columns, and quality paper, to reduce the cost of printing of The Canadian Entomologist were discussed with the printers, Runge Press. It was decided that the journal is being printed as economically as possible for the level of desired quality.

S.H. Gage, H.R. MacCarthy, S.B. McIver (Chairman), G. Pritchard, E.H. Salkeld, C.R. Vickery

Program Committee (1978)

The program for the Annual Meeting of the E.S.C. to be held at the University of Ottawa, August 20-23, 1978 will cover three separate topics: 1) International endeavours in entomology; 2) Entomology — the science — in review; 3) Temporal and Spatial changes in the Canadian Insect Fauna. Invited speakers will discuss (i) the Canadian contribution to entomology overseas and our responsibility in this area; (ii) the current status of entomological research in Canada in fields such as environmental dynamics and insect nutrition and (iii) the

Biological Survey and its impact on Canadian faunal studies. A special effort is being made to involve entomologists from all parts of Canada and to secure participation of francophone speakers.

The local arrangements committee is putting together a social program which should appeal to both the scientific-minded and the social-minded participants. Scientific tours will hopefully include the National Research Council and the Central Experimental Farm. Ottawa is rich in the symbols of Canada as a nation and there will be plenty of opportunity to visit such places as the Parliament Buildings, the National Arts Centre, and various museums.

B.J.R. Philogène
Chairman

Program Committee (1979)

The 1979 Annual Meeting of the Entomological Society of Canada will be held jointly with the Entomological Society of British Columbia in Vancouver, at a date between September 15 and October 31. An Organizing Committee has been formed; its members are A.L. Turnbull (Committee Chairman and President E.S.B.C.), P. Belton and J. Myers representing the Entomological Society of British Columbia and M. Mackauer representing the Entomological Society of Canada.

J.P.M. Mackauer
Chairman

Insect Photo Salon Committee

The Photo Salon Committee (1977) invited photographers to submit black and white prints, color prints and slides of insects, related arthropods, insect damage, etc.

Entries are to be in the hands of the Chairman, postmarked no later than 1 July, 1977. Award certificates and ribbons will be presented to the winner in each category and the winners of the "Best Overall Entry".

Letters were sent to the Argus, the Bulletin of the Entomological Society and the Natural History Society, British Museum asking if the entry form could be published in these sources. No replies were received.

K.H. Sanford, C.R. MacLellan, H. June Herbert (Chairman)

Science Policy Committee

The discipline of Entomology is at present suffering from the same malaise as all aspects of science. Consequently we have spent a great deal of our time pondering possible methods of reversing the erosion of support for research in entomology and avoiding the gloomy prognosis of the recent Manpower Study Report.

Relations with BCC

In the last year there has been a rapprochement between ESC and BCC and Dr. W.G. Wellington of our own Society has been appointed to the BCC Executive. They have been active in lobbying parliamentarians with respect to the need for support of science, and the Science Policy Committee recommends that the Executive consider seriously the possibility of re-joining BCC and appointing an official representative to this body.

Biological Survey

This project is now under way and is no longer considered a Sub-Committee of the Science Policy Committee, however, the Science Policy Committee has been requested by the Biological Survey participants to keep a friendly watching brief.

Research Extension Survey Committee

Richard J. Whitman is now Chairing this Committee with the objectives as follows:

1) To describe the ways in which responsibilities and activities for the production and transfer of information have been developed in the various provinces;

2) To identify effective means of solving the problems of developing and transmitting information within the research/extension area systems;

3) To identify areas of information where organizational perception of responsibilities or development of programmes does not adequately meet requirements.

To reach these objectives, the Committee has been preparing a questionnaire and at the time of writing (June, 1977), the questionnaire is in the final draft form.

Committee on the Funding of Research in Universities

Dr. Mackauer and his Committee have circulated a questionnaire referring to this and have also investigated aspects of funding, such as, NRC policy and procedures, Federal funding other than NRC, and Provincial funding. The Sub-Committee would hope to have a report to present to the Executive Council by August, 1977.

Committee on the Present Status of Entomology in Government

The Science Policy Committee has agreed that a study of this aspect should be undertaken, and at present, we are deliberating over a Chairman for this Committee. We have also informed the President of BCC who have undertaken a study on the status of biologists in government, that we will look forward to co-operating with them as soon as we have a Chairman of our own Sub-Committee.

International Co-operation in Entomology

The Committee feels that the Society could do much towards aiding Canadian Government agencies in recruiting suitable expertise for international projects. The committee looks forward to discussion of international entomology at the August, 1978 meeting of the Society. In the interim the President has been requested to write to appropriate agencies, such as CIDA, IDRC, FAO, EPA and WHO offering the co-operation of the Society, for instance, in providing qualified entomologists to sit on selection committees. She has also been asked to point out the type of expertise that entomologists do command, as the impression of the Committee was that many of the agencies were unaware of the broad range of capabilities of many entomologists.

Manpower Study

The follow-up of this survey has in part been handled by the activities of some of the above Sub-Committees. In addition, the Science Policy Committee recommends that the Society direct every effort to talking to the public and to politicians outside the Society. The message from other sectors of science is that there is a great need to let the public know what is going on within the science disciplines. Perhaps the Public Education Committee could prepare a list of entomologists who are prepared to, and are able to, talk to the public on request about aspects of Entomology. The recent activities of the Society with respect to the publication of Society statements on current happenings in Entomology is considered well worthwhile. There may be drawbacks in that individuals in the Society may not necessarily align themselves with such statements but it is felt that these individuals will have the liberty to respond and disagree. Individuals within the Society could also inform their members of Parliament and/or Senators of their concern for the future of Entomology in Canada. We have tended to look on the activities of BCC and SCITEC as somewhat badgering in that we have to respond to their initiative. We should take full advantage of these umbrella organizations to advance our own discipline, as in the co-operation on the Status of Biologists in

Government study. We could also take advantage of such things as the Revised Science Forum. (See SCITEC's proposal to form a Canadian Association to promote public understanding of science and technology.)

R.K. Stewart, Chairman, E.G. Munroe, G.S. Cooper, J.A. Downes

Representative to SCITEC

This has been one of SCITEC's best years and their activities have given me the impression of being less preoccupied with self-preservation.

Forums and Symposia

Mini-forum on "Science and the Media" was held at the University of Western Ontario on November 4th, 1976. The three key speakers were Dr. David Suzuki, John Hollobon and Denise Bombardier. The Forum is recorded in the SCITEC Bulletin, Volume 7, Number 1, January 1977, Page 4.

Forum "The Critical Points in the Decision Making Process" was held at the University of Toronto on May 11-13, 1977. We were represented at this Forum which featured a number of speakers, by Dr. Stuart Hill.

HOSTE

Having been convinced that the Government is not prepared to subsidize the establishment of a centre which would house the offices of a number of scientific societies, SCITEC has approved a proposal to proceed with the project on a co-operative non-profit basis. It is planned that this centre would be incorporated by June, 1977. It would be called the Centre for Scientific Engineering and Learned Societies. It is my impression that our own Executive Council are not interested in having our Society participate in such a centre.

Parliamentary Liaison

SCITEC has been very active in the past year in this area and established in November, 1976 a Parliamentary and Scientific Committee. This is an unofficial group of members of both Houses of Parliament and representatives of certain scientific and technical institutions. This Committee had two meetings, the first on November 16th, 1976, dealt with the Nuclear Option for Canada. (See SCITEC Bulletin, Volume 7, Number 1, Pages 2 and 16.) The second meeting of the Committee was held on February 15th, 1977 and dealt with Renewable Energy Resources. This Committee proposes to continue meeting and they will be discussing the Impending Food Crisis in the near future.

Science Policy Committee

This is the first year of the Science Policy Committee of SCITEC which has the following priorities:

1) Building a case for Canada having a strong research effort;

2) Identifying the mechanisms for providing optimal conditions for creative science;

3) Developing a conceptual framework for science policy in Canada.

The Committee has been in touch with the Science Council Task Force on Research. It is very concerned with projects on the development of science indicators, conversion factors to determine the effect of inflation on research funds, and the maintenance and development of research manpower. The Committee also participated in the two lobbies on Science Policy which were organized by a consortium of scientific societies on the initiative of the Canadian Federation of Biological Societies. The Committee is in the process of initiating a Science Policy Newsletter. This Newsletter will be distributed to member associations.

Association to Increase Public Awareness of Science in Canada

At the time of writing this report, SCITEC has a proposal under discussion which would establish a new association whose objectives would be the improvement of public awareness of science and technology in Canada. This is envisaged as an Anglophone equivalent of ACFAS (Association Canadienne Française Pour l'Avancement des Sciences). They would also propose to revise the format of the Science Forum to make this more of a public interest magazine with a much wider circulation. The Science Policy Committee would hope to report on the development of this Association at the August meeting of the Entomological Society of Canada.

R.K. Stewart
Representative to SCITEC

Research/Extension Survey Committee

The chairmanship of this Committee changed in March, 1977. Since that time the survey form has been revised again to reflect, as much as possible, comments of Committee members regarding the last revision. The revised survey has been submitted to Committee members for final comments. It will then be mailed to appropriate individuals in each province. Regional Directors will be requested by mail to submit a mailing list.

W.J. Turnock, R.F. DeBoo, M.G. Dolinski, R.J. Whitman (Chairman)

Subcommittee on Funding of University Research in Entomology

Following the 1976 Annual Meeting, the Subcommittee was reconstituted and new members were appointed by the President. The new members were R. Brust, M. Mackauer, J. McNeil, and B. Philogène; M. Mackauer agreed to chair the Subcommittee.

It was agreed that available information was inadequate for assessing the current status and the future needs of entomological research at Canadian universities. Specifically information was needed on expenditures of research funds by major budget items and on changes in funding levels during the last five years. The Subcommittee members surveyed the following aspects: survey of university entomologists, by questionnaire, concerning National Research Council of Canada operating grants and budget allocation (M. Mackauer); analysis of NRC operating grant statistics and funding procedures (R. Brust); survey of research support programs by the Federal Government (B. Philogène) and by Provincial Governments (J. McNeil).

The Subcommittee met once with the President of the Society, Dr. M.E. MacGillivray, and with the chairman of the Science Policy Committee, Dr. R.K. Stewart, at Macdonald College, on April 19, 1977. The purpose of the meeting was to discuss preliminary findings and the implications of these findings for Science Policy.

A draft report has been completed and circulated to the President, and President Elect, and members of the Science Policy Committee for their information and comments. A revised report together with the Subcommittee's recommendations will be submitted later for approval and possible action by the Governing Board of the Entomological Society of Canada.

R. Brust, J. McNeil, B.J.R. Philogène, J.P.M. Mackauer, Chairman

By-Laws Committee

The revised By-Laws were approved by the Minister of Consumer and Corporate Affairs on 9 November 1976, and they have been in force from that date. French translations of the By-Laws and the Letters Patent were prepared by Mr. Martineau with volunteer assistance of Society members and a friend of the Society, M. André Cloutier, Président, Ordre des Agronomes du Québec.

At the request of the Board the Committee drafted a revision of Article VIII of the By-Laws to provide for a fourth Officer. A French translation was prepared by Dr. Philogène, who published in the Bulletin, the required two notices of proposal to amend.

Compilations and updating of the Standing Rules and Committee Guidelines were completed and approved by the Board. It remains for the Annual General Meeting to approve the Standing Rules. The Committee Guidelines have been given to the Executive Council who have passed them on to the Committees for use and testing.

N.V. Tonks, R. Martineau, R.W. Fisher, D.C. Eidt, Chairman

Membership Committee

The long-awaited Membership List, which was given top priority by the Committee in 1977, was completed on June 30, 1977. Computerization of the list was begun as a class project for the students in a Computer Science course at the University of Regina. Final refinements of the computer program, and all operational procedures were completed by student Francis Chang. The list contains the names, addresses, and affiliation of 1,538 individuals, most of whom were members of an affiliated Society. Numbers of members included the following: ESC — 1,025; ESBC — 194; ESA — 94; ESS — 48; ESM — 100; ESO — 272; ESQ — 214; and AES — 77. All the regional Societies have received a copy of their membership list so that corrections, additions and deletions can be made by October in preparation for an up-dated version to be issued in December.

Jeremy McNeil and Pat Gardiner have remained as members of the Committee and have actively endeavoured to solicit Sustaining Memberships from commercial organizations. Larry Jacobson of Lethbridge has undertaken the task of keeping in touch with retired entomologists. His initial concern will be to gain personal information, entomological achievements, and life stories of former western federal entomologists. It is hoped that these 'Personalia' compilations will eventually appear in the Bulletin.

Recommendation: That the present Membership Computer Input Information (data cards, program, etc.), required for the compilation of the computerized Membership List, remain at the University of Regina and under the auspices of P.W. Riegert, for another year. This will provide and insure continuity of service and permit changes to be made with the least amount of effort and confusion.

P.W. Riegert, Chairman, J. McNeil, P. Gardiner, L. Jacobson

Honorary Membership Committee

Following is a brief statement of the activities of the Honorary Membership Committee during 1976-77.

Early submissions to the Committee indicated two candidates for the Honor. The sad and untimely death of one, Dr. Hobbs, unfortunately cancelled his candidacy. We expressed our deep regrets and sympathies to his family.

The remaining candidate, Dr. Lionel Daviault, was submitted to the Society with the unanimous support of the Committee.

R.D. McMullen — ESBC, W.A. Charnetski — ESA, A.P. Arthur — ESS, J.C. Conroy — ESM, R.W. Fisher — ESO, R. Martineau — ESQ, J.B. Adams — AES, Chairman

Public Education Committee

In November 1976 a new committee was formed to set up mechanisms to publicize Entomology in Canada. Selected members from southern Ontario met monthly to develop plans

of action for the ESC. Seven objectives were set for 1977; as a result the committee has undertaken to:

1) initiate the publication of a catalogue containing information on insect slides, films, materials which are currently available from government agencies or industry. The first edition has been published in the June Bulletin.

2) prepare a brochure on Career in Entomology to be made available to ESC regional societies. In consultation with J.D. Shorthouse a leaflet was drawn up which will be printed before too long.

3) assemble a recipient mailing list for news releases to the mass media. A mechanism has been set up to disseminate entomological news across Canada to more than 2,500 news media. It will be up to the members of the Society to write their news releases and submit them for dissemination. Regular announcements will be made in the Bulletin.

4) assemble a contributor mailing list. Resource people have been asked to submit articles for press releases, slides, talks to Clubs, Schools, etc. Announcements in the Bulletin have been made and will be continued.

   So far we have had little response from the memberships. Where are all the Entomologists in Canada? Are they all too busy writing scientific papers?

5) make the ESC Board of Directors aware that the regional societies need more seed money for amateur projects. The Board approved at their mid-term meeting that $100/year/society will be made available with the provision to be able to accumulate funds to a maximum of 3 years. This has been announced in the Bulletin.

6) encourage the distribution of news-letters directed to students and amateur entomologists. The TIEG Newsletter continued to be supported. It is hoped however, that a Canadian version such as FABRERIES published by the Association des Entomologistes Amateurs du Québec could be developed in 1978.

7) recognize student encouragement enthusiasts promoting entomology in Canada. Suggestions have been made at the mid-term board meeting to present at the annual banquet an award to a recipient selected by the hosting Affiliate Society. If arrangements can be made the award should be presented by the President of the Society.

The Public Education Committee needs your PARTICIPATION today if the ESC is still going to be alive tomorrow.

In 1978, let us use the mass media. In each and every region in Canada we must demonstrate to all Canadians, the importance of Entomology. May we have your continued support in 1977-78?

Robert Trottier (Chairman), Alan Tomlin, John George, John Laing, Mark Sears, Gordon Surgeoner

Nominating Committee

With the additional need for nominations for the Fellowship Committee, the Chairman of the Nominating Committee held a meeting with the Chairman of the Fellowship Committee and requested a list of possible candidates for nomination. Following discussions were held by telephone, when necessary.

The Nominating Committee relied upon correspondence and telephone at the beginning, then held a final meeting and is very pleased to put forth the following candidates for the Governing Board's approval for the 1977 elections of the Society.

For President-Elect	F.L. McEwen, R.K. Stewart
For Directors-at-Large	A. Hikichi, H.F. Madsen, R.F. Morris
For Fellowship Committee	Jean B. Adams, J.R. Blais, M.D. Proverbs

All of the above nominees have been contacted and have agreed to let their names stand in nomination.

Additional nominations from the membership were invited through an announcement published in the December, 1976 Bulletin.

J.E. Laing, A.J. McGinnis, G.S. Cooper (Chairman)

Elections Committee

The Election Committee of the Entomological Society of Canada met in Quebec City on July 18 to open and count those ballots received by the Chairman before midnight, July 15, 1977. A total of 927 ballots were mailed to members by the Secretary, and 454 were returned. The following results were recorded:

For President-Elect	(2 ballots spoiled)	McEwen, F.L.
For Directors-at-Large	(1 ballot spoiled)	Madsen, H.F.
	(2 ballots spoiled)	Morris, R.F.
For Fellowship Selection Committee	(2 ballots spoiled)	Blais, J.R.
	(2 ballots spoiled)	Proverbs, M.D.
For Honorary Member	The great majority voted "yes" for Dr. L. Daviault.	

I hereby certify that the Election Committee counted accurately all ballots received, as indicated above.

R.J. Finnegan, Chairman, J.A. Doyle, W.B. Smirnoff

Scholarship Awards Committee

The 1976-77 Scholarship Awards Committee sent out Announcements to all members of the Canadian Committee of University Biology Chairmen. At the same time, arrangements were made for the Announcement to appear in the Bulletin.

It is the recommendation of the Committee that the 1978 Scholarship be awarded to Béla A.L. Nagy.

As the applications were so few, the Committee wishes to make the following recommendations for the future:

1. That a second follow-up letter be sent to the members of the Canadian Committee of University Biology Chairmen.

2. That a letter of request to add the ESC Scholarship Award notice to the Graduate Calendars be sent to the Deans of the Departments involved. In this way, we would be certain that the students would be aware of the ESC Scholarship.

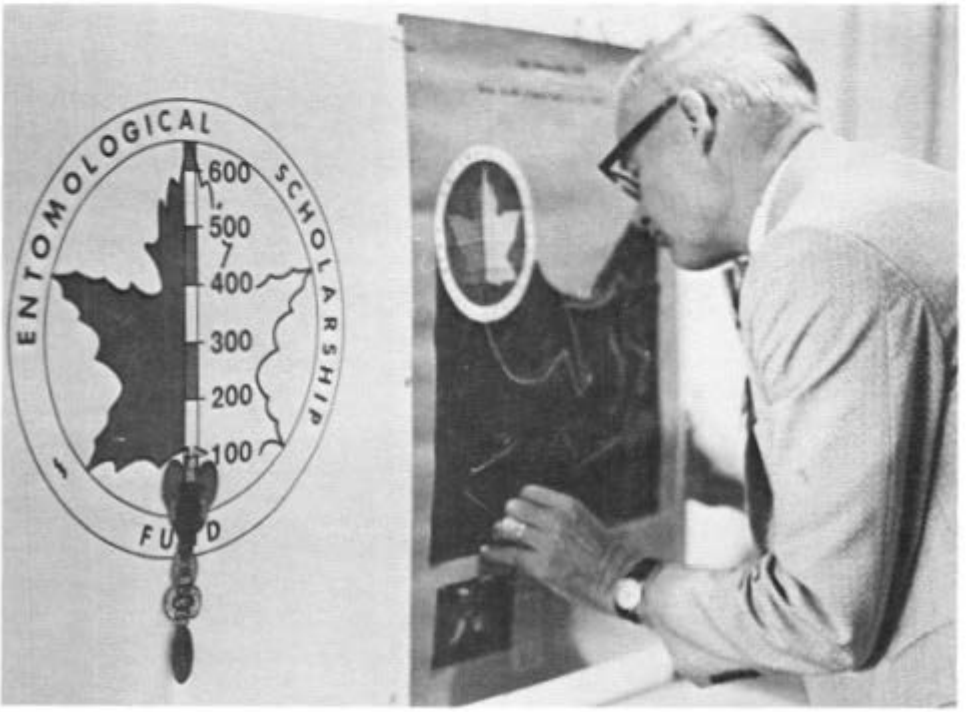
A. Hikichi, J.E. Laing, G.S. Cooper (Chairman)

Scholarship Fund Raising Committee

The Entomological Society of Canada Scholarship Fund Raising Committee prepared and circulated to all members a form letter soliciting contributions to the Scholarship Fund.

The response to this letter was disappointing. Contributors to the Scholarship Fund are represented as follows:

Members	— 37
Non-members	— 9
Societies, industries, etc.	— 4



The scholarship booth at the Winnipeg meeting appropriately attended by E.C. Becker.

The total funds raised as of March 16, 1977, which includes earned interest, is $4,023.93. Perhaps the treasurer could present an up-dated statement at the annual meeting of the Governing Board.

In view of the poor response to the form letter, the Committee feels that a follow-up letter to members would not be worthwhile at this time. The Committee recommends a personal contact approach, where a representative or representatives be appointed for each region who would approach members either personally or collectively at annual meetings of the Regional Societies. These representatives should be well known and interested in the project. These representatives should have official receipts and be prepared to take donations on the spot.

The Fund Raising Campaign to date has been very conservative and perhaps reflects the poor response. A bold and more sophisticated approach is recommended and for this an adequate budget should be made available.

It is recommended that at least one member of the Committee, preferably the chairman, be from the Governing Board. This member would maintain a direct liaison between the Committee members and the Governing Board. As it stands now, there is no direct contact with the Decision Making Board. It all has to be done by correspondence, which is slow.

The Committee recommends that the names of the contributors to date be published in the Bulletin. Future up-dated lists should be prepared and published at the discretion of the Committee.

J.A. Shemanchuk (Chairman), J.S. Fox, J.F. Stewart

Committee on Common Names of Insects and Insect Cultures

The Committee consists of J.S. Kelleher, C.C. Loan, J.E.H. Martin, Ottawa, Ont.; D.C. Herne, Vineland Station, Ont.; C.J.S. Fox, Kentville, N.S.; A.G. Robinson, Winnipeg, Man.; F.J.H. Fredeen, Saskatoon, Sask.; G.E. Ball, Edmonton, Alta.; A.F. Hedlin, Victoria, B.C. and R.O. Paradis, St. Jean, P.Q.

During 1977 the Committee has balloted on and approved ten submissions to be forwarded to the E.S.A. Committee for consideration.

Dr. J.S. Kelleher has revised the list of Laboratory Colonies of Insects and Other Arthropods and it will be available for distribution in September. An announcement will be made in the *Bulletin*.

J.S. Kelleher, Co-chairman, J.E.H. Martin, Co-chairman

Employment Committee

The Employment Committee established procedures enabling it to operate as a clearing house for entomologists desiring employment and employers who required entomologists. This Committee supplies employers with the curriculum vitae of prospective candidates. These submissions are confidential and the candidates are not informed of where the curricula vitae have been sent. This system prevents the candidates from hounding the prospective employer or the committee as to progress being made.

The Employment Committee has attained a measure of success during the year: seven individuals submitted curricula vitae; five of these were submitted to three employers. Two of these candidates were successfully placed.

The Committee has severe reservations as to the real value of this service. Many of the larger employers of entomologists in Canada do not advertise vacant positions; they prefer to "hand-pick" future employees rather than be deluged by applications. Nevertheless, the Committee is willing to contact prospective employers and educational institutions advertising the service available for one more year. The governing board must decide whether or not the energies expended in this activity are being properly used.

The expenses of this Committee have been borne by the chairman to date. However, next year's operation would require monies of up to $100 to cover the cost of mailing and photocopying.

D.A. Craig, L.A. Miller, W.A. Charnetski (Chairman)

Fellowship Selection Committee

1. The Committee was pleased to learn that the Governing Board, at its meeting in February, 1977, had ratified the Committee's selection of 21 members as Fellows of the Society.

2. In consultation with the President, it was agreed that the annual meeting of the Society in Winnipeg, August 22-24, 1977, would be an appropriate occasion for the presentation of the certificates of fellowship in the Society. The Treasurer arranged for the preparation of the certificates.

3. Arrangements were completed for the President to present certificates to seven of the new Fellows who would be attending the annual meeting in Winnipeg, and to proxies who would accept certificates on behalf of ten of the new Fellows and deliver their certificates to these Fellows. Certificates will be mailed to the remaining four new Fellows with a letter from the President.

4. The Committee expresses its appreciation for the assistance it received from the Governing Board and members of the Society in meeting its responsibilities.

D.G. Peterson (Chairman), B.P. Beirne, J.A. Downes, F.L. McEwen, J.L. Auclair, D.A. Chant

Gift Subscription Committee

One subscription of The Canadian Entomologist and The Memoirs was donated by a Society Member to a recipient in Indonesia. At present, the total number of gifts in the Gift Subscription Program is sixteen.

Since the 1976 Annual Report, one subscription of The Canadian Entomologist and The Memoirs has been donated for the use of the Gift Subscription Program. The Society thanks those who have generously donated their subscriptions.

Members of the Society are again reminded that it is primarily through you that the Gift Subscription Program learns of potential recipients. Keep this program in mind while you are making international contacts, as there are several subscriptions on hand waiting a suitable recipient.

George H. Gerber, Chairman

Heritage Committee

A letter of March 1975 from Doyen, Faculté of Sciences of Sherbrooke University, Louis-C O'Neil, to the Society's Secretary, Dr. Church, shows a list of archival material which is held in Public Archives of Canada. One additional item, display panels, are held on loan by the Chemical Control Research Institute and also certain early issues of Canadian Entomologist, ESC memoirs and ESC bulletins are held by Dr. E.C. Becker of Biosystematics Research Institute.

Mr. Wally of Ottawa and Doug Pond of Fredericton, are willing to help the Heritage Committee on an informal basis but do not wish to be members of the committee. Two other Society members, one from B.C. and one from Quebec have been contacted to participate as members.

I have asked all regional Societies for (1) a history of their organization to be prepared for the archives, (2) a copy of proceedings of annual or other meetings, and (3) a record of archival material or of a library of entomological publications they hold if available. Lists of bibliographies are being collected particularly those in the bulletin and the "Entomology Newsletter" up to 1969.

A number of decisions will be made when the committee is completed, such as contact with colleges and with institutions teaching entomology, and whether it is necessary to keep copies of publications which are already deposited in the National Library. I anticipate the committee will ask certain entomologists who have been in the mainstream of entomological teaching, research or organization for brief autobiographies. If so, we will be required to pay for typing costs.

A.W. MacPhee, Chairman

DIRECTORY AVAILABLE FREE

The 1961 Directory of Zoological Taxonomists of the World is offered without charge to all interested persons. It is an attractively bound volume of over 400 pages, listing 9,000 taxonomists with their specialties. Send a mailing label and 15¢ in stamps to: R.E. Blackwelder, Box 500, Makanda, Ill. 62958.

HONORARY MEMBERS

The Honorary Members of the Society are R.E. Balch, J.S.L. Daviault, E.M. Duporte, R. Glen, G.P. Holland, W.N. Keenan, G.F. Manson, A.D. Pickett, and H.H. Ross.

The By-Laws permit the election of one more Honorary Member by the next mail ballot. Any five active members may submit, for consideration by the Membership Committee, the name of a member who has made an outstanding contribution to the advancement of entomology. The Committee may nominate members for election to Honorary Membership.

Submissions, accompanied by supporting statements, should be sent to the undersigned by 15 February 1978 *at the latest,* for forwarding to the Committee. Previous submissions will not be considered by the Committee unless they are resubmitted.

MEMBRES HONORAIRES

Les Membres Honoraires de la Société sont R.E. Balch, J.S.L. Daviault, E.M. Duporte, R. Glen, G.P. Holland, W.N. Keenan, G.F. Manson, A.D. Pickett, et H.H. Ross.

Les statuts permettent l'élection d'un autre Membre Honoraire au prochain scrutin par courrier. Tout groupe de cinq membres actifs peut soumettre au comité responsable le nom d'un sociétaire qui a fait une contribution exceptionelle à l'avancement de l'entomologie. Le Comité des Membres peut nommer des sociétaires pour élection comme Membre Honoraire.

Les nominations, accompagnées des documents pertinents doivent parvenir au sous-signé *au plus tard* le 15 février 1978, pour soumission éventuelle au Comité des Membres. Les nominations antécédentes ne seront pas considérées par le Comité s'il n'y a pas resoumission.

George H. Gerber, Secretary
Research Station, Agriculture Canada
195 Dafoe Road
Winnipeg, Manitoba R3T 2M9

ELECTION 1978

The Nominating Committee (M.E. MacGillivray, Chairman) will prepare the usual slate of nominations for First Vice-President, Second Vice-President and two Directors-at-Large.

Nominations from the membership may be submitted in writing over the signatures of at least three active members of the Society, with a signed statement from the nominee indicating his willingness to accept office if elected. Such nominations shall be submitted to the Secretary, Dr. G.H. Gerber, Research Station, Agriculture Canada, 195 Dafoe Road, Winnipeg, Manitoba T3T 2M9, *not later than 31 March 1978.*

Les nominations pour les postes de 1er Vice-Président, 2ème Vice-Président et deux Administrateurs-libres devront parvenir au Secrétaire de la Société à l'adresse ci-dessus, sous la signature d'au moins trois membres actifs de la Société, en plus d'une déclaration du candidat exprimant son acceptation d'une telle nomination, et le poste s'il est élu.

RECENT DEATHS

BROWN, Brian E. London, Ont. On 22 June 1977, age 47. Research scientist, Canada Department of Agriculture.

SHARP, John F. Ottawa, Ont. On 22 September 1977, age 70. Emeritus member, ESC. Retired, Canada Department of Agriculture.

EIGHTH ANNUAL INSECT PHOTOSALON
ENTOMOLOGICAL SOCIETY OF CANADA

20-23 August 1978

Members of the Entomological Society of Canada and biological photographers are invited to submit black and white prints and color prints of insects, related arthropods, insect damage, nests, tracks, etc. for exhibit at the Ottawa, Ontario, meeting.

Award certificates and ribbons will be presented to the winners in each category. The best overall entry will be awarded a best in salon certificate. There will be a public showing of all submitted photos and a slide show during the meetings. The names of the winners will be announced in a future issue of the Bulletin of the Entomological Society of Canada.

Conditions of Entry

1. Subject: Entomology in the broad sense.
2. The competition is open to amateur and professional photographers.
3. Three categories: a) Black and White Prints; b) Color Prints; and c) photomicrographs.
4. Prints must be 8" x 10" maximum, mounted on 11" x 14" cards.
5. Entries may not exceed 4 photos per person, including all categories.
6. All photos should be titled on the subject identified. Sender's name should be on the reverse side.
7. Judging will be completed before the meeting.
8. A completed entry form or a facsimile must accompany each entry and be sent to the Program Committee c/o Ms. Suzanne Allyson, Biosystematics Research Institute, Agriculture Canada, Ottawa, Ontario K1A 0C6.
9. Entries must be postmarked 1 July or earlier.
10. Entry fee is $1.50 per person.
11. Entries will be returned only if accompanied by a self-addressed envelope and return postage. Foreign entries should be identified to clear Canadian customs. It should be stated on the parcel that the photographs are not for sale, but only for exhibition before a scientific society, the Entomological Society of Canada, and are to be returned to the sender. Make Cheques or money orders payable to the Entomological Society of Canada. Foreign entrants should send 50¢ to cover return postage.
12. Entries will receive every possible care but neither the Entomological Society of Canada nor the Insect PhotoSalon committee will be responsible for loss or damage.

ENTRY FORM

EIGHTH ANNUAL INSECT PHOTOSALON

Name .....

Street .....

City ..... Province/State .....

Postal Code ..... Member Ent. Soc. Canada .....

Fee enclosed ..... + return postage .....

POSTER SALON

20-23 August 1978

Scientific diagrams, posters or demonstrations are invited for the coming Ottawa meeting of the Entomological Society of Canada for all students and regular members of the Society and any other persons seriously interested in the study of Entomology. These may vary from single pictorial charts and diagrams 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.

JUNIOR DEVELOPMENT AWARD

The Junior Development Award was presented for the first time by the Entomological Society of Canada at the Joint Meeting with the Entomological Society of Manitoba from August 22-24, 1977. The award is given to a member of the local Society in recognition of their contributions to the promotion of Entomology among the junior set.

"In Manitoba we have a very active and successful Junior Development Committee coordinated by the Graduate Students of the Department of Entomology, University of Manitoba. The success of their efforts has been evident from the high attendances at the laboratory workshops and field trips, by the interest generated by their displays at School Science Fairs, at shopping malls and at this meeting. In the past four years we have witnessed the growth of the Junior Development Group to the present registration of just under 100 youngsters and others. The executive of the ESM is justifiably proud of the fine achievements of all our Junior Development Committee members. It has been a difficult task to single out one individual. The first recipient of this award has over the past 4 years, by his enthusiasm for Entomology, by his patience, concern and general knowledge of insects, been a major factor in the present success of our Junior Programme. It is with great pleasure that I present Dr. Terry Galloway.

J.C. Conroy

MEMOIRS OF THE ENTOMOLOGICAL SOCIETY OF CANADA

No. 102. "A revision of the Nearctic species of Orthocladius (Orthocladius) van der Wulp (Diptera: Chironomidae)." Annelle R. Soponis. 187 pp. Issued 29 September 1977.

No. 103. "A revised classification of the Piophilidae, including 'Neottiophilidae' and 'Thyreophoridae' (Diptera: Schizophora)" by J.F. McAlpine. 66 pp. Issued 3 November 1977.

PILOT STUDY FOR A BIOLOGICAL SURVEY OF THE INSECTS OF CANADA

This is the third in a series of contributions intended to keep members informed of Pilot Study developments. (See *Bull. ent. Soc. Can.* 9 (2): 72-74; 9 (3): 102-104.)

Second meeting of the Scientific Committee

The second meeting of the full Scientific Committee for the Pilot Study took place in Ottawa on September 22-23, 1977. A progress report on the Pilot Study had been prepared by the Secretariat as a basis for the Committee's work.

1. *Interim proposal*

The final report of the Pilot Study is due at the end of the project in June, 1978. Funding based on reaction to that report could not be available immediately because of federal fiscal deadlines that would not allow continuing funding until April 1980. Therefore it was decided to prepare an interim proposal for the period July 1978 to March 1980, when hopefully a firmer basis for continuation would be possible. The channels for such a submission had been explored by a subcommittee (K.G. Davey, J.A. Downes, G.B. Wiggins) of the study group on the continuing survey. A group to draft such a proposal (G.E. Ball, J.A. Downes, A.D. Tomlin) and a group to provide input on possible field operations (J.V. Matthews, R.F. Morris, E.G. Munroe, D.M. Rosenberg) were selected at the meeting. The interim proposal is to be submitted on December 1.

2. *Committee Discussions*

The main work of the committee at the September meeting was preliminary discussion of the draft recommendations that were emerging from Pilot Study findings. These recommendations, of course, cannot be finalised until analysis of data has been completed and the final reports of the various study groups have been submitted.

Matters considered included:

(i) Regional operating centres: Such centres, based on useful regional collections but able to serve also as regional foci for identification, research, reference and education, were considered desirable for a continuing Biological Survey in addition to the national centre.

(ii) Manpower: The need for expertise, especially in systematics, for a continuing Biological Survey of the Insects of Canada was discussed, together with the need of students for biosystematic background, involvement of amateurs and youth in survey work, and related matters.

(iii) Need for a continuing survey organisation: The Secretariat and Scientific Committee as at present was recognised as a viable form of coordination:

— maintaining up to date registers of personnel, programs and facilities for systematic and faunistic work.

— as a clearing house for information on current operations.

— for discussion and review of programs, facilities and policy in systematic and faunistic work.

It was felt that the survey might also usefully administer selected projects, intended to stimulate a broad response in the entomological community.

(iv) Form of future survey publications: Publication through existing channels was considered desirable at present. The Survey would lend its name to publications that are contributions to a Biological Survey. The compilation of a bibliography

of definitive antecedent literature was recommended, to form part of the interim proposal.

Several other matters, such as the possible scope and form of a continuing survey, and the format of Pilot Study publications, were also discussed at the meeting.

3. *Study group on publicity*

A study group of the Scientific Committee was set up to consider publicity, composed of E.L. Bousfield (Chairman), K.G. Davey, A. Francoeur, R.F. Morris, D.M. Rosenberg, G.G.E. Scudder, and A.D. Tomlin.

Review of resources and needs

1. *Questionnaires*

Over 80% of entomologists known to have some interest in systematic and faunistic entomology returned their questionnaires. Most of the questionnaires from establishments with entomology programs (82) have been returned. Detailed data on 65 collections of Canadian arthropods in Canada have been received. Over 80 users of entomological information have responded from among the potential users canvassed. The return of questionnaires is considered to have finished. The initial extraction of information from the questionnaires has been completed and final analyses are in progress (and see Publications below).

2. *Visits to entomological establishments*

Members of the Secretariat (and Scientific Committee for some locations) have begun a series of visits to major entomological centres in Canada in order:

(i) to disseminate information about the progress of the Pilot Study;

(ii) to expose for discussion the form of some draft recommendations that have emerged from the project;

(iii) to discuss ideas, developed from the Pilot Study, for field projects in 1978.

Up to the time of writing (early November), Winnipeg, Man.; Saskatoon and Regina, Sask.; Calgary and Edmonton, Alta.; and Vancouver and Victoria, B.C.; have been visited.

Cooperative ventures

1. *General efforts in 1977*

There have been several responses to the list of requests for material for use in national or regional revisions or associated studies. Material in selected groups in most of the major orders has been collected. Although the 1977 efforts were made on a small scale, the usefulness of such cooperation was demonstrated.

2. *Regional ventures*

Several hundred specimens were collected by the combined efforts of participants in the project on Newfoundland Elateridae. Several hundred specimens were collected, and a larger number examined, by participants in the B.C. Carabid project. Identifications for both projects are proceeding. The project on aquatic insects of Newfoundland has resulted in small amounts of quality (reared) material in addition to larger general collections from various sources that are currently being identified.

3. *General ideas for 1978*

In addition to small scale ventures as in 1977, the Pilot Study hopes to facilitate some larger projects for the summer of 1978. Some of those to be given special emphasis involve areas of particular interest, such as the Yukon Territory, which is interesting not only because it contains unglaciated areas, and has a fauna that is poorly known, but also because pipeline

construction is planned there; and Newfoundland which has a restricted fauna. Other ventures being considered involve certain taxa (e.g. Mallophaga where a study would be facilitated by the large amount of existing material in collections), or more general projects of particular interest (e.g. cutworms, insects of *Vaccinium,* where existing studies might profit for example from additional exchange of information and discussion).

"List of entomologists" publication

An *Annotated list of workers on systematics and faunistics of Canadian insects and certain related groups* is in the final stages of production and should appear before the end of 1977. It will contain approximately 400 entries, together with indices to the locations, and the taxa or ecological groups of interest, of the entomologists listed. The list, to be published by the Pilot Study, will be widely circulated.

"Scientific baseline" publication

Contents and authorship for this document, entitled *Canada and its Insect Fauna,* have been established. Over 35 authors are involved. Contributions are now being received, and the completed manuscript will be submitted (for publication in the *Memoirs*) before the end of the Pilot Study.

"List of Collections" publication

It has been decided to publish the data on collections of Canadian arthropods obtained from the questionnaires. The publication, entitled *Collections of Canadian Insects and certain related groups* is in preparation and will appear in the *Bulletin.*

Can we help you?

The Secretariat is now in a good position to respond to requests for information and assistance. (We would also be pleased to hear of potential entomological expeditions for 1978 that are not yet known to us.)

We shall respond where possible to relev nt notes included with earlier questionnaire returns. We can answer queries on the whereabouts of entomologists with similar interests until the "List of Entomologists" appears, and on the location of material in collections until the "List of Collections" appears.

In addition, please contact the Secretariat if you would like:

— To secure particular material from s pecific areas of Canada.

— To know facilities for entomological work exist in an area.

— To join in an existing expedition to a particular area planned for 1978.

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Laboratory Colonies of Insects and Other Arthropods in Canada

The 1977 revision of the above list is now available for distribution. It will be sent automatically to those listed as holding cultures. Others may obtain a copy from:

J.S. Kelleher
Room 1141
K.W. Neatby Building
Research Branch, Agriculture Canada
Ottawa, Ontario
K1A 0C6

BOOK REVIEWS

"INSEKTEN IN DER BILDENDEN KUNST im Wandel der Zeiten in psychogenetischer Sicht." By Erwin SCHIMITSCHEK, Naturhistorischen Museum in Wien (Veröffentlichen, Neue Folge, *14)*, 1977: 119 pp., 90 + 1 figures (5 coloured) excluding front (coloured) and rear covers. Available from the publisher (Natural History Museum, Vienna), Postfach 417, 1-1014, Wien, Österreich (Austria), price öS100 (Austrian Shillings).

It is unfortunate for those who do not read German, that the non-scientific, cultural aspects of entomology have been so little covered in the literature, either specialist or general, in any other language (particularly during the present century), for the field is not only vast, but the subject can be fascinating beyond measure. Apart from a few works dealing with limited aspects, such as insects as human food or the impact of pests and insect-borne diseases on human history, almost nothing in English of a general nature has appeared in recent years, other than a couple of essays relating to earlier times, in *The History of Entomology,* published as a supplement to Volume 18 of the *Annual Review of Entomology,* 1973.

In this booklet, by Emeritus Professor Schimitschek, on "Insects in Graphic and Plastic Art in the course of time from a psychogenetic viewpoint", we have an admirable and well-illustrated review of these aspects of the subject by a man who has spent many years in their study. After a short foreword by the Director of the Natural History Museum in Vienna, Dr. F. Bachmayer, the author gives us short chapters on the spiritual development of man in the development of art, the oldest known art forms and the oldest known representations of insects (from the Magdalenian culture of over 20,000 years ago onwards). He follows this with a chapter on representations of insects, firstly under the heading of beneficial and useful insects (honey-bees and their products, manna, insects as food, silk, dying and tanning materials and for medicinal purposes) and secondly as pests and nuisances (locusts, nuisances and disease vectors, fleas and plague, lice, biting flies). A short chapter is devoted to insects in heraldic designs (more could have been made of this chapter), and a longer one on insects as symbols (demonology, cicadas, flies, locusts and grasshoppers, mantids, beetles, especially scarabs, Lepidoptera, bees) and the meaning of insects in Christian art. The seventh chapter deals with representations of insects mostly originating from the artists' own imaginations or living conditions (Bosch, Breughel, Merian, Callot, Dürer, Brant, Dosso-Dossi and Cranach) book illustrations; insects in still-life. The eighth chapter deals with insect illustrations having high scientific and artistic merit; and the final chapter, before the Conclusion, deals with art in the 19th and 20th Centuries. There is a reference list of 96 titles — though I fear three of the references given that I wished to check were not among them. All but a couple are in German.

The booklet covers much of the same ground as the author's earlier contribution, "Insekten als Nahrung, in Brauchtum, Kult und Kultur", *Kükenthal's Handbuch der Zoologie* (2nd Ed.), *4*(2) (1(10)): 62pp. (1968) — indeed nearly half of the illustrations in the earlier work (a quarter of those in the present booklet) are repeated, though slightly enlarged — but the material is differently arranged and somewhat updated. The title is to some extent misleading as a good deal of the text is related to insects and culture generally, not merely to the subject matter. In fact, two pages in double column are given up to a quotation in Mediaeval Oberdeutsch, from the Chronicle of Ottokar of Styria, dealing with a somewhat macabre story of a locust invasion in Styria at the beginning of the 14th Century — presumably by way of introducing the subject of the famous mural by T. von Villach, 1480 A.D., in Graz cathedral, which depicts locusts among the disasters that befel the region in the latter Middle Ages. Another page is given up to H. Schönwälder's prose translation into Hochdeutsh. (The original is perhaps more akin to Middle English than to modern German. My own English verse translation has not been published to date, so I append it herewith. Various other German verse, includes a longish translation of the Arabic of Muhamad Iqbal's poem on the glow-worm. The author also gives the full text of A.E. Fröhlich's "Heuschreckenpredigt", occupying another full page by way of introduction to the aquatints of M. Disteli (I have an English version of this ready for publication also, so the author's verse, though exclusively German, is not altogether unknown!).

The booklet is, one assumes, designed to appeal to visitors to the Natural History Museum in Vienna, and one feels that there has been some bias in the selection of the

material, particularly where more recent artists are concerned. There is no mention of M.C. Escher, for example, and virtually nothing about illustrations for children's books (E. Kreidolf is particularly deserving of mention for his pioneering a new style for such work). One could also point to the omission of whole cultures, such as that of the Navajo Indians of the S.W. United States whose ritual dry-paintings include many insect motifs (not always readily recognizable to the untrained), but the subject is so vast that a line has to be drawn somewhere, and the author is to be commended for encompassing so much in such a small book.

Although one might not always agree with some of the points made in the booklet, I noticed only one important error. At the bottom of p. 25 and in the caption to Fig. 13b the word "Inca" is used, when "Aztec" is intended. This is carried forward from F.S. Bodenheimer's *Insects as Human Food,* 1951, in which the mistake occurs (once only — presumably just a slip of the pen!). As an able introduction to the enormous field of "insects and the arts", I strongly recommend this little book. It is worthy of purchase just for the illustrations, so reasonable is the price in this day and age. Also it should serve to enliven any entomologist's visit to an art gallery, whether or not he be of an "arty" disposition!

D.K. McE. Kevan

New Zealand Insect Pests. D.N. Ferro (Ed.). 1976. Lincoln University College of Agriculture, Christchurch, New Zealand. 311pp.

This book consists of 16 chapters and is written by 13 contributors one of whom, D.N. Ferro, is the editor. All but four of these authors are faculty members at Lincoln University College, Christchurch, N.Z. The text includes chapters on pests of the following: 1. Berry fruits, 2. Deciduous tree fruits, 3. Subtropical tree fruits, 4. Glasshouse and ornamentals, 5. Vegetable crops, 6. Pastures, 7. Forage and seed crops, 8. Cereal crops, 9. Stored products, 10. Rangeland, 11. Forest and Timber, 12. Household, 13. Medical Importance, 14. Livestock, and 15. a chapter on Insecticides.

At the beginning of each chapter appears a list of the pests discussed in that chapter, in order of occurrence. I like this convenient arrangement of material which indicates the chapter content at a glance. In each chapter there is also a general introduction to the particular group of pests. Then for each pest there is a description of its life history, structural characters necessary for identification. There is also mention of economic importance, symptoms of damage, and recommendations on control. For many of the pests not only chemical control is given but also biological control and cultural practices are indicated. Illustrations are in black and white, showing mature and immature stages as well as damage in many instances. Colored illustrations and indication scale on the drawings would have added to the value of the book and to the ease of pest identification to the layman.

The coverage of each species is not comprehensive, however, the book does provide the reader with a list and essential information of important pests of New Zealand.

The book was written primarily for the undergraduate students in agriculture and horticulture, but it contains valuable information for the beginning entomologist and even for the home gardener. Essential literature references are given at the end of each chapter. The section on insecticides contains useful basic information on insecticides and also photographs of some equipment used in control.

At the end of this section is a list of tables listing chemicals and control procedures for each group of pests. This is a handy list which makes quick reference possible, but in a relatively short time it will become outdated as new chemicals are added and different control procedures are developed.

On the whole, this book is a valuable contribution to economic entomology.

A. Pucat

Insect Control in The People's Republic of China. A trip Report of The American Insect Control Delegation. Committee on Scholarly Communication with the People's Republic of China. Report No. 2. 1977. 218pp. National Academy of Sciences, Washington, D.C., $11.25 (U.S.).

Historically plagues of locusts and outbreaks of other insect pests have been one of the prime factors limiting agricultural development in China. Yet in the last 25 years China has progressed to the stage of agricultural self-sufficiency. This remarkable achievement would not have been possible unless damage from insect pests had been reduced to an acceptable level. Entomologists elsewhere have long been intrigued with the approaches to insect control being developed by the Chinese but information available was fragmentary. As scientific delegations containing entomologists began to visit China in the 1970's it became apparent that the Chinese have developed an interesting philosophy toward insect control and that they have, indeed, made remarkable progress in controlling insect pests.

Earlier reports prepared by Canadian delegations containing entomologists were never published. This book, to my knowledge, the first published report on the current status of entomology in China, incorporates the report of the American Control Delegation, comprising eleven people (nine entomologists). The delegation travelled extensively through eastern China for four weeks in August, 1975. No pretense is made that the report represents a totally comprehensive picture of the current state of entomology in China. The visit was limited in time and itinerary and, in some ways, restricted (requests for information, special meetings, or exchange material were sometimes refused). With such limitations there are bound to be gaps in the information presented (wherever possible this weakness is overcome by reference to other information). Nevertheless, the delegation appears to have received a broadly representative picture of the current state of insect control in China.

The book comprises three chapters and several appendices. The first chapter gives an overview of: the importance and state of agriculture; organization and approaches to entomological research; agricultural extension (popularization) programs; teaching programs; insect taxonomy and collections; and entomological literature and libraries. Information given in this chapter tends to be sketchy but, in view of the paucity of information on scientific organization in China, is of interest. Chapter 2 provides more specific information on insect problems on rice, cotton, grain, soyabeans, peanuts, citrus fruits, deciduous fruits, vegetables, man and animals, stored grains and structures, and on control measures used. The third chapter provides an overview of insect control strategies; insecticide use, biological control; host resistance; sex pheromones, hormones, and trapping; and integrated control. There are several appendices including a list of common pests (insects and mites) found in China and a list of books on agriculture and entomology in China collected by the delegation.

In some ways Chinese entomologists are in a unique position; crop protection research (in contrast to the situation in North America) has high priority; extension programs have an even higher priority; the state owns the land; and manpower is plentiful and inexpensive. Thus Chinese entomologists have a degree of flexibility when developing insect control programs which would be impractical elsewhere. Cultural control is widely and successfully used. Crop rotation, flooding of fields, intensive weeding to eliminate transitional hosts for insect pests, etc. are common practices. On a massive scale the environment of relatively large areas has been deliberately modified through water management, reforestation, and modification of agricultural practices to reduce major insect problems, e.g. elimination of locust breeding sites. Pest monitoring and forecasting techniques (usually relatively primitive but effective) have been developed to a high degree at local, regional and even the national (armyworm forecasting) level. Control measures, when required, may involve one or a combination of physical, chemical, or biological methods of control. Trapping techniques are widely used not only for monitoring but also as a control measure. Isolated insect infestations are removed manually. Chemicals are heavily used, but only as a last resort. Wherever possible emphasis is placed on use of chemical insecticides with a moderate to high degree of selectivity and safety. Techniques of biological control involving use of entomopathogens, parasitic insects, and predatory animals have been developed for control of several important species of insect pests. Often the biological control method is supplemented with use of a selective insecticide. It is apparent from information given in this report (and from personal

observations made during a similar visit to China in 1974) that the Chinese have made some remarkable advances toward development, in the broadest sense, of practical measures of integrated control of insect pests.

This does not mean that entomology in China does not have areas of weakness. Considering the importance of crop protection to Chinese agriculture, entomological training at universities is hardly adequate. Emphasis on research leans heavily to the applied aspect. While this approach will provide short term benefits, many other insect control problems will be solved only through greater support for basic research as well. Within the area of applied research the delegation noted some weaknesses, e.g. dependence on local rather than exotic species of beneficial insects; limited interest in the use of the sterile male technique; and apparently little emphasis on development of breeding programs for host-plant resistance.

While our Chinese colleagues are, in some ways, in an advantageous position considering the priority assigned to crop protection research in China, it was interesting to note that they may also have some problems in common with North American entomologists. In the section of the book devoted to "Regulation of Insecticide Use" one statement is worth quoting: "The understanding of our scientific colleagues in China about them (federal agencies controlling pesticide regulation) was evidently equivalent to U.S. scientists understanding of the complexities of our FDA and EPA regulations."

This report makes interesting reading not only for entomologists, but for agriculturalists and others interested in China as well.

C.R. Harris
Research Institute
Agriculture Canada
London, Ontario

FORTHCOMING MEETINGS

Eleventh Annual Northeastern Forest Insect Work Conference. New England Center, University of New Hampshire, Durham, N.H. April 19-21, 1978. Suggested topics: Spruce Budworm; Seed and cone insects. Send comments on the preceding or suggestions for additional topics to: Dr. R. Marcel Reeves, Dept. of Entomology, Nesmith Hall, University of New Hampshire, Durham, N.H. 03824, USA.

The **26th Annual meeting of the North American Benthological Society** (NABS) will be held for the first time in Canada on the campus of the University of Manitoba, May 10-12, 1978. The meeting will be hosted by the Freshwater Institute and the Departments of Zoology and Entomology, University of Manitoba. The N.A.B.S. '78 Organizing Committee is looking forward to a large Canada-wide representation.

Address inquiries regarding presentation of papers (before January 15) to:

The Program Committee, N.A.B.S. '78
Dr. David Rosenberg
Freshwater Institute
501 University Crescent
Winnipeg 19, Manitoba
R3T 2N6

Information regarding pre-registration may be obtained (before April 1) from:

N.A.B.S. '78
Heather D. Maciorowski
Freshwater Institute
501 University Crescent
Winnipeg 19, Manitoba
R3T 2N6

Second International Working Conference on Stored-Product Entomology. Ibadan, Nigeria, 10-16 September 1978, Conference Centre, University of Ibadan. Inquiries to: Organizers, World Conference on Stored-Product Entomology, c/o Director Institute of Agricultural Research and Training, P.M.B. 5029, Moor Plantation, Ibadan, Nigeria.

NOMS FRANCAIS D'INSECTES AU CANADA
FRENCH NAMES OF INSECTS IN CANADA

2ième liste de corrections et amendements, sept. 1977

p. 21, 32, 152: corrigez *Abbottana clematoria* J.E. Smith à *Abbotana clematoria* (J.E. Smith) (genre et auteur).

p. 23 (centre): corrigez aeschne à tache jaunes à aeschne à taches jaunes.

p. 25 (gauche): changez alder woolly sawfly* à red-backed sawfly.

p. 25 (droite): changez *Brachyrhinus ligustici* (L.) à *Otiorhynchus ligustici* (L.).

p. 26 (gauche), p. 51 (centre), p. 173 (centre): changez altise de l'igname* à altise de la patate douce.

p. 39 (droite): changez *Brachyrhinus sulcatus* (F.) à *Otiorhynchus sulcatus* (F.).

p. 40 (gauche): corrigez *Bolitotherus cormutus (Panz.)* à *Bolitotherus cornutus* (Panz.).

p. 41 (gauche): changez, *Brachyrhinus ligustici* (L.) à *Otiorhynchus ligustici* (L.); *Brachyrhinus ovatus* (L.) à *Otiorhynchus ovatus (L.); Brachyrhinus rugosostriatus* (Goeze) à *Otiorhynchus rugosostriatus* (Goeze); *Brachyrhinus singularis* (L.) à *Otiorhynchus singularis* (L.); *Brachyrhinus sulcatus* (F.) à *Otiorhynchus sulcatus* (F.); et reportez-les à la page 131.

p. 41 (droite): corrigez rough strawverry weevil à rough strawberry root weevil.

p. 45 (gauche): corrigez *Cadra figulilella* (Greg.). L'auteur entre parenthèses.

p. 46 (centre): changez *Calosoma frigidum* Kby. à calosome froid (m.).

p. 48, 80, 109: changez catocale du robinier (m.) à fausse-likenée du robinier (f.).

p. 49 (gauche): corrigez cécidomyie résineuse de pin gris à cécidomyie résineuse du pin gris.

p. 52 (centre): changez, *Brachyrhinus rugosostriatus* (Goeze) à *Otiorhynchus rugosostriatus* (Goeze); *Brachyrhinus ligustici* (L.) à *Otiorhynchus ligustici* (L.); *Brachyrhinus ovatus* (L.) à *Otiorhynchus ovatus* (L.).

p. 53 (centre): changez, *Brachyrhinus singularis* (L.) à *Otiorhynchus singularis* (L.); *Brachyrhinus sulcatus* (F.) à *Otiorhynchus sulcatus* (F.).

p. 54, 70, 140: *Dasychira plagiata* (Wlk.) est changé à *Dasychira pinicola* (Dyar.).

p. 54, 142, 172: striped garden caterpillar. Biffez le "r" en trop dans "carterpillar".

p. 60 (droite): changez *Brachyrhinus singularis* (L.) à *Otiorhynchus singularis* (L.).

p. 62 (gauche): corrigez *Coenonumpha inornata* Edw. à *Coenonympha inornata* Edw.

p. 78: biffez toute la ligne où apparaît, enrouleuse des bouleaux *Epinotia solandriana* L.

p. 78 (gauche): corrigez enrouleuse du bouleau blanc* (f.) à enrouleuse du bouleau à papier* (f.).

p. 79 (centre): corrigez enrouleuse des bouleaux* (f.) à enrouleuse du bouleau à papier* (f.).

p. 79 (droite): changez alder woolly sawfly* à red-backed sawfly.

p. 82 (gauche): corrigez *Evodinus Monticola* (Rand.) à *Evodinus monticola (Rand.)*.

p. 83 (gauche): insérez dans l'ordre alphabétique, fausse-likenée du robinier (f.) *Euparthenos nubilis* (Hbn.) locust underwing.

p. 83 (gauche): corrigez fausse likenée à fausse-likenée.

p. 85, 88, 124: corrigez (genre et espèce) *Glishrochilus quadrasignatus* à *Glischrochilus quadrisignatus*.

p. 90 (centre): corrigez phylloxera de la vigne à phylloxère de la vigne.

p. 96 (droite): *Lygocoris caryae* (Knight) est changé à *Neolygus caryae* (Knight).

p. 102 (centre): dermeste des grains est changé à trogoderme des grains.

p. 103: insérez dans l'ordre alphabétique, larger cabinet beetle trogoderme des denrées *Trogoderma inclusum* Lec.

p. 116 (droite): corrigez gloden tortoise beetle à golden tortoise beetle.

p. 119: insérez dans l'ordre alphabétique, mottled dermestid trogoderme des denrées *Trogoderma inclusum* Lec.

p. 122 (gauche): changez nécrophore tomate* à nécrophore tomenteux*.

p. 122 (gauche et centre): corrigez *Necrodes surimamensis*F. à *Necrodes surinamensis* F.

p. 123, 151: *Neolygus caryae* (Knight). L'auteur entre parenthèses.

p. 124 (centre): changez nécrophore tomate* à nécrophore tomenteux*.

p. 135 (centre) et 145 (gauche): corrigez *Proteoteras mottatiana* Fern. à *Proteoteras moffatiana* Fern.

p. 138 (gauche et centre): corrigez phylloxera de la vigne à phylloxère de la vigne.

p. 146, 179, 213: corrigez le genre de *Pseudothyatire cymatophoroides* Guen. à *Pseudothyatira cymatophoroides* Guen.

p. 156: insérez dans l'ordre alphabétique, red-backed sawfly tenthrède lanigère de l'aulne* (f.) *Eriocampa ovata* (L.).

p. 156 (droite): changez l'auteur de *Cadra figulilella* (Clem.) à *Cadra figulilella* (Greg.).

p. 159 (droite): changez *Brachyrhinus rugosostriatus* (Goeze) à *Otiorhynchus rugosostriatus* (Goeze).

p. 161 (gauche): corrigez, saturnide de mélèze à saturnide du mélèze; *Satyrium acadia* (Edw.) à *Satyrium acadica* (Edw.).

p. 170: biffez toute la ligne, squeletteuse de l'érable *Epinotia aceriella* (Clem.) maple trumpet skeletonizer.

p. 172 (droite): changez *Brachyrhinus ovatus* (L.) à *Otiorhynchus ovatus* (L.).

p. 175: biffez toute la ligne, taupin oculé (m.) *Alaus oculatus* (L.) eyed click beetle.

p. 175 (gauche): *Tenebroides mauritanicus* (L.). Ajoutez l'auteur.

p. 183: insérez dans l'ordre alphabétique, trogoderme des grains *Trogoderma granarium* Lec. khapra beetle.

p. 183 (gauche): changez *Trogoderma parabile* Beal à *Trogoderma variabile* Ballion; trogoderme des grains à trogoderme des entrepôts.

p. 183 (centre): changez, dermeste des grains à trogoderme des grains; trogoderme des grains à trogoderme des entrepôts; *Trogoderma parabile* Beal à *Trogoderma variabile* Ballion.

p. 183 (droite): changez (2 fois), warehouse beetle à larger cabinet beetle or mottled dermestid; grain dermestid à warehouse beetle.

p. 204 (2e colonne): vis-à-vis *Asclera, corrigez Oedemiridae* à *Oedemeridae.*

p. 205 (1e colonne): corrigez *Mulsantia* à *Mulsantina.*

p. 206 (3e colonne): corrigez *Enumerus* à *Eumerus.*

p. 207 (1e colonne): corrigez, *Oetrus* à *Oestrus; Pegomya* à *Pegomyia; Ceutophilus* à *Ceuthophilus.*

p. 207 (3e colonne): corrigez *Gloenocorisa* à *Glaenocorisa.*

p. 208 (1e colonne): corrigez *Posidus* à *Podisus; Peocilocapsus* à *Poecilocapsus.*

p. 208 (3e colonne): corrigez *Noeceruraphis* à *Neoceruraphis.*

p. 209 (1e colonne): corrigez *Schyaphis* à *Schyzaphis; Symybodius* à *Symydobius.*

p. 210 (1e colonne): *Abbottana.* Biffez un "*t*": *Abbotana.*

p. 211 (1e colonne): corrigez *Erona* à *Erora.*

p. 213 (1e colonne): corrigez *Pseudothyatire* à *Pseudothyatira.*

p. 214 (1e colonne): corrigez *Stetophyma* à *Stethophyma.*

p. 214 (3e colonne): corrigez *Trimorotropis* à *Trimerotropis.*

Paul Benoit, secrétaire,
Comité des Noms français d'insectes au Canada
C.P. 3800,
Sainte-Foy G1V 4C7
Tél.: 694-3920

Dr. Lionel Daviault recevant son parchemin de Membre Honoraire de la Société Entomologique du Canada, des mains du Président, M. Ellen MacGillivray, à Winnipeg, lors du banquet annuel.

EDITOR: *THE CANADIAN ENTOMOLOGIST*

The present Editor of *The Canadian Entomologist,* Dr. Paul E. Morrison, will retire from the post in 1978, and the Entomological Society of Canada is seeking a worthy successor. The Editor must be a member of the Society, and should have an established reputation as a scientist and author.

The Search Committee invites applications and nominations for the position of Editor. Each should be accompanied by a curriculum vitae, a statement of the candidate's experience in and views on editorial matters, and the names and addresses of three referees, who need not be members of the Society. Applications and nominations must reach the Committee by January 15, 1978, to be considered.

ESC Search Committee
c/o Institute of Animal Resource Ecology
The University of British Columbia
Vancouver, B.C. V6T 1W5.

EMPLOYMENT FILE

Your ESC employment committee has now established a clearing house for those seeking employment with employers who do not wish to openly advertise positions. Employers are encouraged to list positions with the committee. The committee would then search their files and send the employer any appropriate curricula vitae on a strictly confidential basis. Those ESC members seeking employment are urged to file their curricula vitae with the committee, detailing specific areas of employment desired. All transactions would be kept confidential.

This space in the bulletin would be used to advertise, at a nominal cost, any positions submitted by employers who want to take advantage of an open competition, or for any individual who wishes to advertise to obtain employment.

All correspondence should be directed to:

Dr. W.A. Charnetski, Chairman,
ESC Employment Committee,
c/o Research Station, Agriculture Canada,
LETHBRIDGE, Alberta T1J 4B1.

POSITION AVAILABLE

UNIVERSITY OF GUELPH
ENTOMOLOGY TEACHING AND RESEARCH

The Department of Environmental Biology, University of Guelph, has an opening for an environmental toxicologist effective September 1, 1978. The appointment will be probationary, at the assistant professor level and will include the following responsibilities:

Teaching

The incumbent will be expected to offer, initially, two courses at the undergraduate level:

1. *Pesticides in the Environment* — a course offered to students in the biological and agricultural sciences that presents the role and use of pesticides and their effects on biological activities in the environment. Enrolment approximately 125.

2. *Biological Activity of Pesticides* — a course that investigates the fate and mode of action of pesticides. Enrolment approximately 30.

Research

To investigate the mode of action of pesticides, especially insecticides; to study their effects on target and non-target species, and to determine their fate in the environment.

Qualifications

A Ph.D. degree, with a strong background in basic entomology, specializing in insect and environmental toxicology. Applicant should have training and experience in biochemistry, organic and analytical chemistry. A desire to teach and an interest in applied research are also necessary.

Send résumé to Professor F.L. McEwen, Chairman, Department of Environmental Biology, University of Guelph, Guelph, Ontario N1G 2W1.
Closing Date — January 15, 1978.

UNIVERSITY OF MANITOBA

Position: Assistant or Associate Professor

Qualifications: Ph.D. specializing in Insect Physiology. Preference given to Canadian citizens or landed immigrants.

Responsibilities: Teaching duties to include undergraduate and graduate courses in Anatomy and Physiology of Insects, and in Pesticide Toxicology. Incumbent will be expected to develop a postgraduate research program in some aspect of insect physiology. The Department would favor research programs in insect cold hardiness and/or electrophysiology.

Salary: Commensurate with qualifications and experience.

Apply to: Dr. A.G. Robinson,
Head, Department of Entomology,
University of Manitoba,
Winnipeg, Manitoba R3T 2N2.

PERSONALIA

Marcel Hudon, Research Entomologist at St-Jean, attended the 9th annual work planning 4-day symposium of the International Working Group on *Ostrinia* (IWGO), a cooperative project on the European corn borer, in Wroclaw, southwestern Poland, last September. Marcel spoke on the maize breeding program carried out at St-Jean, the 1977 mass production of more than 260,000 corn borer egg masses, part of this serving the Canadian seed corn industry. Marcel also visited the Plant Breeding Institute in Cambridge, U.K. and discussed with the authorities the possibility of a Canadian cooperation with this Institute in maize breeding.

ANNOUNCEMENTS

G.J. Spencer Memorial Lecture. The 1978 lecture will be given by Professor T.R.E. Southwood, F.R.S., (Imperial College, London). Title "Some Patterns of Nature". Wednesday, March 8, 1978 at 8.00 p.m. in Room 2000, Biological Sciences Building, University of British Columbia, Vancouver.

New publication series under the editorship of Dr. Graham C.D. Griffiths entitled the "Flies of the Nearctic Region". This series, to be produced in English, will be a counterpart of the famous Palearctic series "Die Fliegen der paläarktischen Region" produced by Schweizerbart, Stuttgart, and now nearing completion. Publication of the first issue may be expected towards the end of 1978 or shortly thereafter. There will be an introductory handbook and a series of family monographs, as in the Palearctic series.

Proposals for contributions to the new series should be directed to: Dr. G. C. D. Griffiths, Department of Entomology, University of Alberta, Edmonton, Alberta T6G 2E3

For sale: A nearly complete collection, including many duplicates, of Dr. C.P. Alexander's publications, mainly of crane-flies, from 1910 to 1965. Interested persons should contact Mrs. R.E. Bellamy, LL 202, 275 John Knox Rd., Tallahassee, Fla. 32303, USA.

A SPECIAL COLLECTION FOR LETHBRIDGE

The Library at the Lethbridge Research Station (LRS), which is the only establishment in Canada where research on ticks is being conducted, has recently acquired a major collection on ticks. Named after its establisher, John D. Gregson, a research scientist at the Kamploops Research Station until his retirement in 1971, the Gregson Collection is the largest of its kind in Canada, containing more than 5000 monographic and serial publications in many languages.

The new acquisition will enable veterinary-medical entomologists and other researchers with related interests within and outside Agriculture Canada to gain access to the vast amount of information incorporated in the Gregson Collection.

The collection covers all the major aspects of tick research including *systematics* (more than 1,500 publications); *morphology* (about 600 references) covering anatomical observations, studies on behaviour and physiology, reproduction, and feeding; *tick-borne diseases* (more than 2,000 publications) with emphasis upon Texas fever, Rocky Mountain spotted fever, tularaemia, Q fever, relapsing fever, tick paralysis, and Colorado tick fever, all of which occur in North America; *control* (about 500 publications) mainly by sprays and dips of arsenicals and chlorinated hydrocarbons. Most of the non-English language publications are of Russian origin and relate to control of ticks on vegetation by smokes, dusts, and sprays. The collection on tick-borne diseases contains a wealth of information on the practical aspects of this topic as well as on the vectors and their hosts.

The Gregson Collection is set up according to the filing system developed by Mr. Gregson, which is a subject arrangement. Since many of the publications relate to more than one subject, priority was given to the first subject covered. Publications on specific ticks are filed under their respective genera. Those including several genera are filed under a "grouped" heading. As Mr. Gregson made no attempt to cross index the references, the library will, in due course, establish a cross reference file. It is also hoped that the bibliographic data relating to the collection will be converted to a computerized indexing system for efficient updating and retrieval purposes.

The LRS Library has some other special collections such as the "Hall Library", which is the most complete reprint collection in Canada pertaining to the veterinary-medical entomology program throughout the world; a comprehensive collection on irrigation; and a slide library relating to agriculture of the Lehtbridge area and the prairie region including agricultural problems such as soil drifting and salinity.

The Gregson Collection will be greatly expanded by incorporating a continuing collection with similar indexing kept by Dr. P.R. Wilkinson, a specialist on tick research at the Lethbridge Research Station.

John Miska
Library Area Coordinator, Alberta

FIRST NOTICE

Annual Meeting

ENTOMOLOGICAL SOCIETY OF CANADA

August 20-23, 1978

University of Ottawa
Ottawa, Ontario

SYMPOSIUM I, 21 August
"International Endeavours in Entomology"
Chairman: E. Munroe

SUBMITTED PAPERS, 21, 22 August
Contributors must complete the "Submitted Paper" reply form and send as indicated on page 155, *not later than April 1, 1978.*

SYMPOSIUM II, 22 August
"Entomology in Review"
A series of special interest groups including
Urban Entomology, Environmental Toxicology
and Spruce Budworm

SYMPOSIUM III, 23 August
"Temporal and spatial changes in Canadian insect fauna"
Chairman: J.A. Downes

SPECIAL INTEREST GROUPS
In addition to those of Symposium II, informal conferences may be arranged on request. Please fill the appropriate form on page 155.

PHOTO SALON AND POSTER SESSION
See announcement on pages 139-140.

SPECIAL INTEREST GROUPS REPLY FORM
(Deadline — 1 April 1978)

RETURN TO:
Dr. D.R. Oliver
Biosystematics Research Institute
Agriculture Canada
K.W. Neatby Building
Ottawa, Ontario K1A 0C6

Participant's (Leader's) Name _____

Address _____

_____

_____

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SUBMITTED PAPER REPLY FORM
(Deadline — 1 April 1978)

RETURN TO:
Dr. D.R. Oliver
Biosystematics Research Institute
Agriculture Canada
K.W. Neatby Building
Ottawa, Ontario K1A 0C6

Author's Name (Please Type) _____

Institution and Address _____

_____

_____

_____

PLEASE TURN OVER

SUBMITTED PAPER REPLY FORM (Continued)

Title of Paper (not to exceed 15 words) _____

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To be read by _____

PLEASE TURN OVER

ENTOMOLOGICAL SOCIETY OF CANADA
1977-1978

Executive Council

W.G. Wellington (President), F.L. McEwen (President-Elect) and M.E. MacGillivray (Past President).

Trustees

E.C. Becker (Treasurer), G.H. Gerber (Secretary), P.E. Morrison (Scientific Editor) and B.J.R. Philogène (Bulletin Editor).

Committees

Achievement Awards Committee

F.L. McEwen (Chairman).

Annual Meeting Committee

B.J.R. Philogène (Chairman, 1978), R.F. DeBoo (Co-Chairman, 1978), W. Preston (1978); J.P.M. Mackauer (1979); J.N. McNeil (1980).

Elections

R.J. Finnegan (Chairman), J.A. Doyle, W.B. Smirnoff.

Employment

W.A. Charnetski (Chairman).

Fellowship

J.L. Auclair (Chairman, 1979), J.A. Downes (1978), F.L. McEwen (1978), D.A. Chant (1979), J.R. Blais (1980), and M.D. Proverbs (1980).

Finance Committee

R.F. DeBoo (Chairman), D.R. Macdonald, J.S. Kelleher, G. Howse, W.H. Forrest, P. Fast, J.C. Edwards, and J. Cunningham.

Heritage Committee

A.W. McPhee (Chairman), C.V. Morgan and R. Paradis.

Insect Common Names and Cultures Committee

W.Y. Watson (Co-Chairman), J.S. Kelleher (Co-Chairman).

Membership Committee

H.F. Madsen (Chairman), R.D. McMullen, P.W. Riegert, J.C. Conroy, A.P. Arthur, R. Martineau, L. Jacobsen, C.R. MacLellan.

Nominating Committee

M.E. MacGillivray (Chairman), T.A. Angus and L. Jobin.

Public Education Committee

R. Trottier (Chairman), J. George, J.E. Laing, M. Sears, G. Surgeoner, and A. Tomlin.

Publications Committee

S.B. McIver (Chairman), S.H. Gage, G. Pritchard, H.R. McCarthy, J.M. McLeod, and R.J. Lamb.

The 1977-78 ESC Board. From left to right: P.E. Morrison, G.H. Gerber, R. Brust, F.L. McEwen (President-Elect), W.A. Charnetski, M.E. MacGillivray (Past President), J.N. McNeil, W.G. Wellington (President), R.F. De Boo, P. Riegert, E.C. Becker, B.J.R. Philogène, W.Y. Watson. Absent: H.F. Madsen, R.F. Morris, M. Mackauer.

Scholarships Committee

R.F. Morris (Chairman), B.S. Heming, A. Tomlin, J.H. Myers.

Science Policy Committee

R.K. Stewart (Chairman), J.A. Downes, J.N. McNeil, and J.G. Pilon.

Scientific Committee for Pilot Study of a Biological Survey of Insects of Canada

G.E. Ball (Chairman), J.A. Downes (Vice-chairman).

Ad Hoc Committees

Committee on Entomology in Government

D.E. Bright (Chairman).

Committee on Funding University Research

J.P.M. Mackauer (Chairman), R. Brust, J.N. McNeil, and B.J.R. Philogène.

Extension Study Committee

R.J. Whitman (Chairman), R.F. DeBoo, H.G. Philip, and W.J. Turnock.

By-Laws, Rules and Regulations Committee

D.C. Eidt (Chairman), M.E. MacGillivray, R. Martineau, and N.V. Tonks.

Representatives

SCITEC

S.A. Hill, W.N. Yule (Alternate).

Canadian Committee on Water Pollution

D.M. Rosenberg.

Canadian Committee on Animal Care

A.E.R. Downe.

CSA Committee on Common Names for Pest Control Chemicals

L.R. Roadhouse.

Biological Council of Canada

W.G. Wellington.

A LABORATORY BIOLOGY TEACHING LIBRARY

A laboratory biology teaching library is being established at The University of Calgary in order to improve communication among persons actively involved in undergraduate biology laboratory instruction.

Jon Glase (Cornell University), Don Igelsrud (University of Calgary), Patricia Paulus (Texas Christian University), and Ruth Von Blum (University of California, Berkeley) have formed a committee to establish the library and are sending a letter requesting written materials to 3500 institutions in the U.S. and Canada. The committee will identify a group of individuals actively concerned with problems of teaching biology in the laboratory so an organization can be established.

The main function of the library will be to collect in one place descriptions of biological systems and supporting materials that the contributor believes are reliable and effective in biology laboratory instruction. The committee is most interested in acquiring information about reliable, possible unique, biological systems for teaching undergraduates in a laboratory setting.

Contributors are being asked to send their current laboratory manuals and preparatory information for undergraduate laboratory courses indicating the authors of each exercise and annotating those materials which are particularly reliable and effective. Authors may send only their best materials if they wish. The materials will be used in the following ways depending on the contributor's preference:

1. For identification to help establish an organization and then held in confidence.
2. Available for study by visitors to the library.
3. Released for copying with the author's written permission.
4. Available for copying without permission of the author.

Unless otherwise stated the library will assume the contributor wishes the materials be used only to the first extend. With good participation, the library expects to obtain sufficient outside funding to produce a detailed index so persons with specific interests can communicate with each other. An index would be sent to each contributor.

A conference on laboratory instruction is planned for one of the national meetings in 1978 and will be organized in conjunction with the formation of the new organization. By establishing communication among laboratory instructors the group hopes to begin to solve some of the common problems confronted in the laboratory: finding and maintaining *reliable* living materials, producing modern laboratory exercises involving living materials and investigative inquiry, training others involved in the teaching of and preparation for laboratory classes, developing fair and relevant methods of examination, and so on.

The library was suggested by Don Igelsrud to identify persons actively working in biology laboratory instruction so that communication could be facilitated. The biology departments of The University of Calgary and Cornell University will fund the initial costs of the library. It will be located in The University of Calgary Biology Department which has a strong commitment to laboratory teaching, offers laboratories with appropriate courses, and has eight full time laboratory instructors, marine and freshwater aquarium facilities, greenhouses, and a large support staff. The facilities and faculty are available during the summer months (May through August) and Calgary's close proximity to Banff and the Canadian Rockies make it ideal for winter as well as summer visits.

The group recognizes a need for an organization that addresses itself to the problems of biology laboratory teachers. Most papers on biological education are philosophical rather than practical in nature. Commercial laboratory manuals are often based on traditional procedures and materials that are unreliable. The methods, materials and experience required to greatly improve laboratory instruction do exist, however. For example, many reliable living organisms are available but have not been widely used in teaching because of poor communication. An organization of biology laboratory teachers would encourage the discussion of common problems and facilitate the improvement of laboratory programs.

Biologists who do not see a copy of the letter but are actively involved in laboratory instruction and are interested in participating should write to: Laboratory Biology Teaching Library, Department of Biology, The University of Calgary, Calgary, Alberta, Canada T2N 1N4, (403) 284-6127.

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1977-1978

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