



ENTOMOLOGICAL SOCIETY OF CANADA

Bulletin



VOLUME 3

NUMBER



ENTOMOLOGICAL SOCIETY OF CANADA
1970 - 1971

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

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Contributions and correspondence should be sent to: D. C. Eide, Editor, Bulletin of the Entomological Society of Canada, P.O. Box 4000, Fredericton, New Brunswick. Inquiries about subscriptions and back issues should be referred to E. C. Becker, Treasurer, Entomological Society of Canada, K. W. Neatby Building, Central Experimental Farm, Ottawa, Ontario.

THIS ISSUE

Society Officers	inside front cover
Editorial	1
Letter to the Editor	2
Government Austerity and Entomology	2
Gold Medal to Distinguished Educator	3
A Word From the Archivist	4
1971 Annual Meeting, Announcement	5
Population Limitation and Resource Use	6
Population Brief	7
Government Reply	9
Actions of the Governing Board	10
N. A. Patterson 1901-1970	11
Integrated Control of Greenhouse Pests	12
Book Review	13
Common Names for Pesticides	14
Forest Entomologists in the Prairies Region	15
Employment Committee	15
Personalia	16
Regional Society Officers (Sask. and Alta.)	inside back cover

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Cover Design: M. A. Bydor, bio.Graphic Unit

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

Editorial

The Bulletin is pleased to carry the announcement that Jake Rempel is to receive the Achievement Award of the Society in 1971. Prof. Rempel is probably the greatest among an elite group of entomology teachers in this country. Few of us have not felt his influence, directly or indirectly, knowingly or unknowingly.

SUPPLEMENTS

This issue contains the second supplement to the Bulletin; the first was the membership list of 1969. This one, the Society's Pesticide Policy statement, is printed on colored paper with independent pagination and bound in the centre of the issue so that readers may remove it and file it separately if desired. Separates are available.

GOVERNMENT AUSTERITY AND ENTOMOLOGY

Through a regrettable case of "I thought he did it", nobody sent the reply of the Minister of Health and Welfare on this important topic to the Bulletin. We're sorry it appears so late. This reminds us that there still has been no reply from the Minister of Fisheries and Forestry. The reply is even more important now that the Canadian Forestry Service, which employs many entomologists, will be a proportionately smaller part of a larger Department of the Environment.

BIOGRAPHIES

Biographies of entomologists usually appear in the Bulletin whenever one of our colleagues retires or dies. These articles are usually not solicited, but are volunteered by readers. One reader feels they could be improved, and writes:

... what they did — the actual discoveries and developments they made — is more important than the appointments they held or the function they played in their laboratories. I feel that it is their scientific work that should be stressed, and indeed specifically described, in the articles published. I would also like to go a step further, and suggest that in these and similar cases the article should contain a bibliography of scientific publications. This is not only, perhaps, the best tribute we could give a colleague, it is also a valuable resource for other entomologists and a timely way of making a sustained body of work available and fruitful.

CORRESPONDENTS

It would be appreciated if contributors would attempt to have their material of manuscript quality (8½ x 11, double-spaced, 2 copies and all that), and don't forget the pictures. It would lighten the work load here considerably. The deadline for the next issue, Vol. 3, No. 1 for June 1971, the last before the Annual Meeting, is 14 May 1971.

LETTER TO THE EDITOR

Sir:

The December issue carries an article (Bulletin 2(4): 96-97) attributing to C. R. Harris the statement that "The man who discovered DDT was awarded a Nobel Prize." He wasn't. O. Zeidler was the chemist who first synthesised this compound. His resultant paper appeared in 1874, just a quarter of a century before the birth of Paul Hermann Müller, who was awarded his Nobel Prize (medicine and physiology) in 1948 for discovering "the high efficacy of DDT as a contact poison against several arthropods".

Marshall Laird
St. John's, Nfld.

Professor Laird is quite correct . . . That particular sentence would have been more accurately expressed if I had said that "The man who discovered the insecticidal properties of DDT was awarded the Nobel Prize". — C. R. Harris

GOVERNMENT AUSTERITY AND ENTOMOLOGY

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

August 26, 1970

Dr. E. J. LeRoux
President
Entomological Society of Canada

Dear Dr. LeRoux:

The Honourable John Munro has requested that I acknowledge receipt of a copy of your letter of 28 July 1970 forwarded from the Office of the Prime Minister and to inform you as follows.

The programs undertaken by this Department in the past have required hiring very few entomologists. It is realized that this is in contrast with the practice of many other countries. The reason for this is that in Canada entomological studies traditionally have been conducted by the Canada Department of Agriculture with problems of a strictly public health nature being carried out on a cooperative basis between the two Departments.

While we anticipate that this kind of cooperation will continue in the future, it is appreciated that changes in emphasis may make it necessary for this Department to assume a more active role in public health entomology.

Thus, if there is any change in this Department's hiring pattern, it will be towards employing more entomologists rather than fewer in order to deal with some of the problems referred to in your letter of July 28 addressed to the Prime Minister.

Yours sincerely,
Ian C. Inglis
Chief
Minister's Secretariat
Department of Health and Welfare

ENTOMOLOGICAL SOCIETY OF CANADA GOLD MEDAL
AWARDED TO DISTINGUISHED EDUCATOR



Professor J. G. Rempel

The Entomological Society of Canada Gold Medal for Outstanding Achievement in Canadian Entomology has been awarded to Professor J. G. Rempel who retired last year as Rawson Professor of Biology at the University of Saskatchewan, Saskatoon. The formal presentation will be made when the Society holds its annual meeting at Victoria, B. C. in August.

Professor Rempel, who was born in the Ukraine and came to Canada as a young man, has been teaching biology at the University of Saskatchewan for more than 30 years. During a distinguished career as an educator and scientist, he has inspired a large number of students many of whom have since made worthy contributions to entomology in Canada. Dr. Rempel's research has been varied; of particular note are his studies on the Prairie mosquitoes and their role in the transmission of western equine encephalitis. Dr. Rempel is a Fellow of the Royal Society of Canada. We were elected an Honorary Member of the Entomological Society of Canada in 1970.

The Society has awarded its Gold Medal annually since 1962. The recipient is a scientist who is considered to have made an outstanding contribution to the science of entomology in Canada.

A WORD FROM THE ARCHIVIST

The Archives of the Entomological Society of Canada are presently located in Sherbrooke, P. Que., the "Département de Biologie de l'Université de Sherbrooke" being the present repository of this material. It was shortly after the Centennial Meeting of the E.S.C. in 1963 that the Executive Committee endeavoured to create and locate an Archives, the nucleus of the collection being some of the material assembled and displayed in Ottawa on the occasion of the Centennial. The proposal to accommodate the Archives at Sherbrooke and maintain and enlarge the collection here, was first made in writing to the Secretary, Mr. I. S. Lindsay, following the 1965 annual meeting of the Society at Fredericton. In the early summer of 1967, the E.S.C. acted favorably upon this proposal, and transfer of the material from Ottawa to Sherbrooke was completed in the spring of 1968.

To date, very little has been added to the initial collections save for occasional contributions, mainly photographs, from the Secretary of the Society. This has allowed time to sort the material, and to identify and catalogue it to some extent. However, much remains to be done, since it is felt that to be of any historical value, dates as well as locale and subject identifications are needed for these visual documents.

The time has now come to enlarge upon the initial nucleus, considering that the Archives should reflect the life of the E.S.C., long past and recent, and also the entomological history of our country. Accordingly, items of interest are hereby solicited from the membership-at-large and from the regional societies, keeping in mind the necessity of providing, inasmuch as possible, all relevant details. The Archives will "actually live" only if they are continuously enriched with contemporary material, which is the history of the future.

I will gladly welcome any suggestions conducive to an enlargement and a betterment of the Archives, and their evolution toward their becoming a definite asset of the E.S.C.

Louis-C. O'Neil

CANADIAN ENTOMOLOGIST 100 YEARS AGO

ON THE SWARMING OF *DANAIS ARCHIPPUS*. — On the first day of September, while driving along the Lake Shore Road, on the borders of Lake Erie, a mile or two south of Port Stanley, I was favoured with a sight which will not soon be forgotten. . . . It was about nine o'clock in the morning when, passing a group of trees forming a rude semicircle on the edge of a wood facing the lake, the leaves attracted attention: they seemed possessed of unusual motion, and displayed fitful patches of brilliant red. On alighting, a nearer approach revealed the presence of vast numbers — I might safely say millions — of these butterflies clustering everywhere. I counted a small space, about the size of my two hands, on one of the trees, and there were thirty-two butterflies suspended on it, and the whole group of trees was hung in a similar manner. . . . I apprehended that many of the individuals must have travelled some distance to be present at this gathering. . . . — W. Saunders

21st Annual Meeting
**ENTOMOLOGICAL SOCIETY
OF CANADA**

70th Annual Meeting
**ENTOMOLOGICAL SOCIETY
OF BRITISH COLUMBIA**

UNIVERSITY OF VICTORIA

24, 25, 26 August 1971

Symposia

One in the general area of chemical attractants
chaired by R. W. Stark, U. of Idaho.

Another on recent advances in taxonomy and evolution
chaired by G. G. E. Scudder, U.B.C.

Submitted Papers

A formal call will go out in April.

2nd Annual Insect Photo Salon

This successful innovation begun at Winnipeg last year will
be continued.

Social Events

Banquet, barbecue, luncheons and a post-conference tour.

Activities for ladies and children.

Make your visit to Victoria, The Garden City, a family holiday.

Plan now to help celebrate the 100th Anniversary of the Province of
British Columbia.

Further details will be sent to members of both Societies.
Queries may be addressed to:

Richard A. Ring
Chairman, Program Committee
Department of Biology,
University of Victoria, B.C.

POPULATION LIMITATION AND RESOURCE USE

The resolution of the 20th General Meeting on this subject was brought to the attention of the Government of Canada through the letter and accompanying brief published below. Copies of the brief were also sent to Canadian Press, Science Council of Canada, Entomological Society of America, Biological Council of Canada, SCITEC, New Scientist, Ecology, Science, Bioscience, WHO, Planned Parenthood Federation, Family Planning Federation of Canada, and the Commons' Committee on Environmental Pollution.

10 September 1970

The Right Honourable The Prime Minister of Canada:

Members of the Entomological Society of Canada have asked that I acquaint you and your Government of their concern regarding the urgent need for a national policy that will relate human demands on the environment to the resources that will be needed by future generations of Canadians.

The members' concern was expressed in a resolution passed by the Governing Board of the Society on 23 August 1970 and endorsed (by a large majority) at the succeeding Annual General Meeting on 26 August 1970. It was resolved:

That the Entomological Society of Canada, through its President, actively support and encourage the development of a national policy for the limitation of Canada's human population and the stabilization of that population at an ecologically acceptable level, namely a level at which a reasonable standard of living can be sustained for future generations with the resources available.

The brief that accompanies this letter outlines the main points offered in support of the resolution, and also the reasons for the Society's decision to act in this manner and at this time. It would, however, be appropriate to enlarge on one matter here.

When the resolution was introduced, attention was directed to the fact that, although the existence and urgency of this need (as it relates to North America) have been remarked upon frequently by many of the continent's leading scientists, the problem has not so far received overt recognition by policy makers, and as a result its eventual solution is becoming progressively more difficult and less likely. Recent statements by Dr. O. M. Solandt, Chairman of the Science Council of Canada, and by Dr. Lee DuBridge, until recently President Nixon's chief scientific adviser, have explicitly recognized the need for a population policy in Canada and the United States of America respectively. Our Society therefore felt that to express its opinion now might make it easier for others to acknowledge the validity and importance of the problem to which these two scientists have drawn attention.

It is my earnest hope that this letter and the accompanying brief may, to some degree, facilitate the recognition of a problem that has so far received little evident attention. That I have been commissioned by members of our Society to write to you on a subject not primarily entomological in nature is to be seen as a measure of their deep and continuing concern on this fundamental issue.

We count among our membership some of Canada's most able and distinguished ecologists. Be assured, Mr. Prime Minister, of our Society's willingness to provide assistance or support towards the development of a national policy on population limitation and resource use.

I have the honour to submit, on behalf of my colleagues the members of the Entomological Society of Canada, the above points and the accompanying brief for your consideration.

I have the honour to be, Sir,

Your obedient servant,
W. F. Baldwin
President
Entomological Society of Canada

THE NEED TO ADJUST CANADA'S HUMAN POPULATION TO THE RESOURCES AVAILABLE FOR FUTURE GENERATIONS

(Brief prepared for the Entomological Society of Canada for communication by its President, September 1970)

During the last hundred years human populations and man's standard of living have risen extremely rapidly. Human populations have increased in most countries, but particularly in the less industrialized ones (the "developing" nations); a major factor contributing to this growth has been the control of disease. On a world scale the increase continues to be geometric. Man's standard of living has also risen, but particularly in the more industrialized ("developed") nations, due largely to the heavy utilization of minerals and fossil fuels.

The intensive cultivation of arable land, and the consumption of minerals and fuels that makes this cultivation possible, have thus greatly increased the world's apparent carrying capacity, so that human populations and man's standard of living now depend for their continuation on heavy consumption of certain resources. These resources are finite; that is to say, sooner or later they will run out. For example, a recent authoritative review of this question^{*} states that, at present rates of consumption, "it will take only another 50 years or so to use up the world's initial supply of recoverable petroleum liquids and natural gas". Whereas authorities may debate the estimated duration of these fuels, they do not deny that the supply is finite and therefore destined to eventual exhaustion. Were this depletion to occur without adequate preparation, the effect on human communities, particularly in industrialized nations, would be serious enough to imperil social organization and due legislative process. What would then make orderly adjustment especially difficult would be the large number of consumers and the relatively small amount of usable arable land remaining near centres of high population density.

Those who have questioned similar projections in the past have done so on the grounds that substitutes for conventional fuels exist, or can be developed in time. Nuclear power, for example, is considered by some authorities to offer an economical and feasible alternative source of energy. Whereas this may prove to be so, uncertainty exists concerning the environmental side effects of generating enough power to replace fossil fuels, even at the level that present energy demands would require. The problems of safe disposal of radioactive wastes (on the greatly increased scale that would be needed were fossil fuels to become unavailable) may be susceptible of solution; but this has yet to be demonstrated. Under these circumstances many scientists find that simply to make the assumption that a solution will be found in time is an

* *Resources and Man*, Freeman and Co., San Francisco, 1969. A study and recommendations by the Committee on Resources and Man of the Division of Earth Sciences, National Academy of Sciences - National Research Council, with the cooperation of the Division of Biology and Agriculture. Chairman: Preston Cloud.

insufficient assurance for those of future generations who will have to face the consequences of present consumption patterns. At best it cannot be regarded as a sound basis on which to develop programs for resource management. Accordingly the report cited above records that "the inescapable central conclusion is that both population control and better resource management are mandatory and should be effected with as little delay as possible". Since the adjustments (in attitude, economic structure, consumption patterns and population size) that are required will take years to achieve, it is clearly imperative that appropriate measures be begun as soon as possible. Otherwise all our other endeavours are likely to be nullified.

To the ecologist, the phenomenon of rapid increase in response to temporary availability of a new resource is a familiar one. Certain organisms achieve pest status because they are able to multiply and spread rapidly when a rich new food supply becomes available. After a pest outbreak, when the resource is exhausted or withdrawn, pest numbers typically drop, abruptly, to a level at which the population can be sustained on resources that are continuously available. The analogy with modern industrialized man is close. Now in the outbreak phase, characterized by geometric increase of population and consumption, man faces the almost inevitable prospect of a fall in numbers. This being so, succeeding generations will be better served if the reduction (in numbers and demands) is begun now, consciously, so that it can be accomplished in the least disruptive way, rather than being left until it is imposed by circumstances beyond man's effective control.

Looking beyond the North American or Canadian environment, we see another reason why the development of an explicit national policy could be useful. From a global viewpoint, the need for population limitation is acute, and probably greatest in developing countries. The developed countries, such as Canada, are more likely to have their advice heeded and their assistance accepted by developing nations if these developed nations have already adopted a similar policy themselves.

No reference has been made so far to the effects of population density and present consumption patterns on human health, or on environmental quality as measured by pollution of the air, soil or water. It is rapidly becoming evident, however, that on these grounds alone there is a need to limit human numbers and to adjust present methods of resource utilization.

The responsibility of the Entomological Society of Canada

The problem of population limitation does not seem to fall within the responsibility of an existing government department, and so is unlikely to receive attention in proportion to its urgency or importance. It is primarily an ecological problem, involving the interaction of an organism — man — with the environment; furthermore, as mentioned above, it has much in common with problems encountered in applied entomology. The expertise that the Entomological Society of Canada can draw upon in both these fields is considerable, and it is perhaps not surprising that several of its most distinguished members have already publicly expressed their concern about man's prodigal exploitation of resources. The Society is therefore well equipped to perceive this problem, and to offer a reasoned analysis of it. That the Society has taken the unusual step of stating its position on a subject not primarily entomological is to be regarded as a measure of its deep concern on a matter regarded as fundamental to all other human ventures.

The need for the Society to state its position at this time

Although the world's, and Canada's leading scientists have been drawing attention to the general need for population limitation with increasing emphasis during the last 25 years, there has been little practical recognition of their recommendations at the national policy level. Recently, however, some individuals with responsibility for advising on national science policy, in Canada and the United States, have been publicly expressing their concern on this matter. Since time for effective action is very short, the Entomological Society of Canada considers it necessary that these scientists should receive overt and unambiguous support at this time.

MINISTER OF NATIONAL HEALTH AND WELFARE REPLIES

Le 8 décembre 1970.

Docteur W. F. Baldwin, President,
Société entomologique du Canada,

Monsieur,

Au nom du Ministre, j'accuse réception de votre lettre du 8 octobre, transmise au Ministère par le Premier Ministre.

D'autre part, j'aimerais transmettre à la Société entomologique ainsi qu'à vous-même mes plus sincères remerciements pour l'intérêt que vous portez à la limitation de la population du Canada, que vous expliquez clairement dans le mémoire et la documentation accompagnant votre lettre.

Le mémoire de votre société et la documentation ont été examinés par les fonctionnaires du Ministère chargés du programme de planification familiale et je puis vous assurer que les idées qui y sont exprimées seront retenues lors des éventuelles modifications de la politique du Ministère concernant la planification familiale.

Vous reconnaîtrez certainement qu'il faudra beaucoup de temps pour mettre au point une politique de planification familiale au Canada. Au Ministère, nous sommes satisfaits des progrès accomplis jusqu'à maintenant et nous croyons que les dernières réalisations sont des plus encourageantes. Je pense à l'annonce faite par le Ministre, le 18 septembre, concernant le programme fédéral de planification familiale, à la décision du gouvernement du Canada d'envisager une aide aux pays en voie de développement dans ce domaine et, naturellement, à l'abrogation, en 1969, de mesures affectant la planification des naissances au Canada.

Voilà pourquoi il est encourageant d'apprendre que votre société a entrepris de faire campagne. Pour que la planification familiale soit considérée d'un point de vue écologique, ce qui, croyons-nous, est fondamental.

Veuillez agréer, Monsieur, l'expression de mes meilleurs sentiments.

Le Chef du Secrétariat du Ministre,
Ian C. Inglis
Ministère de la Santé Nationale et du
Bien Etre Social

ACTIONS OF THE GOVERNING BOARD

28-29 January 1971

The following actions were taken by the Board at its meeting in Ottawa on 28-29 January 1971:

- | | |
|---------------------|---|
| Appointments | 1. Noted the President's appointment of D. G. Finlayson and S. E. Dixon to the Editorial Board; of S. R. Coschiavo, (Chairman), S. C. Jay and L. A. O. Roadhouse to the Employment Committee; and of M. Mailoux as Chairman of the Election Committee, vice B. Parent. |
| Pesticide Policy | 2. Instructed the Bulletin Editor to provide the Secretary with 5000 reprints of the pesticide policy statement that is to be printed in the March issue, for distribution to selected officials and agencies, and in reply to requests. |
| Editorial Board | 3. Instructed the Editorial Board (I) to develop a policy and management system for granting the privilege of publishing papers in the Canadian Entomologist without the payment of page charges. (II) to develop a policy on the acceptance of papers from non-members. (III) to recommend on whether book reviews should be published in The Canadian Entomologist or the Bulletin. |
| Finance Committee | 4. Instructed the Finance Committee (I) to explore and cost alternative, less-expensive methods of printing The Canadian Entomologist and the Memoirs; (II) to recommend a policy for the charge, if any, for supplementary publications in the Bulletin, e.g. List of Insect Colonies. |
| Common Names | 5. Instructed the Bulletin Editor to advise the members of the E.S.A. List of Common Names, when that list is revised. |
| Gift Subscriptions | 6. Authorized the Chairman, Gift Subscription Committee, to ship to selected recipients, at the Society's expense, the back issues that had been donated by members. |
| Emeritus Membership | 7. Resolved that, subject to the approval of the members, the By-Laws be amended to establish Emeritus Memberships. |
| Fellowships | 8. Appointed P. S. Corbet and E. J. LeRoux to the preparation of a recommendation on the establishment of Fellowships in the Society. |
| General Meetings | 9. Resolved that the Society, through its Program Chairman, participate actively in the choice of theme and in the overall organization of general meetings of the Society. |

- T.I.E.C. 10. Authorized a grant of \$100 to the Teen International Entomology Group, and directed the Student Encouragement Committee to establish contact with the Group in order to encourage its development in Canada.
- Advertisements II. Resolved that commercial advertisements should not be published in the Bulletin but that appropriate, classified-type advertisements submitted by members may be published there without charge.
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NELSON AMOS PATTERSON 1901-1970



The death of Nelson Amos Patterson occurred in Kentville on June 8, 1970. Pat was born at Wilmot, N. S. on July 10, 1901. He attended Wilmot and Middleton Schools and graduated from the Nova Scotia Agricultural College in 1923 and Macdonald College in 1927. He became an Insect Pest Investigator in May 1921 and during the summers worked at the Entomological Laboratory at Annapolis Royal. In 1927 he joined the permanent staff of the laboratory and sought the best chemical controls for the major apple pests. Later he was one of the pioneers in evolving integration of chemical and biological control. He has thirteen research papers to his credit. Pat retired in July 1966 but accepted interim positions in extension for the Nova Scotia Department of Agriculture and Marketing.

Pat was a keen sportsman with hunting, fishing, boating, and wilderness camping his main interests. He loved the great outdoors, winter and summer, and was a keen observer of wildlife. He was an active participant in fraternal, wildlife, and professional organizations. He was President of the Acadian Entomological Society in 1966 and 1967 and at the time of his death was a Regional Director of the Entomological Society of Canada.

He is survived by his wife Emma, who resides in New Minas, N. S. and one son, James, in British Columbia.

E. R. MacLellan

FUTURE MEETING

Entomological Society of America - 29 November - 2 December 1971, Biltmore Hotel, Los Angeles, California.

CANADIAN ENTOMOLOGIST 100 YEARS AGO

Though our progress has been satisfactory since we timidly put forth a first number in August, 1868, we still hope to continue to prosper and increase, and we trust that all our friends will not deem it too much trouble to give us a helping hand, and introduce us to their neighbours and correspondents.

INTEGRATED CONTROL OF GREENHOUSE PESTS

Naaldwijk, Holland. 28 - 30 Sept. 1970

A small group of entomologists, representing seven countries, met at Naaldwijk on the invitation of Dr. Ir. L. Bravenboer, Study Group Chairman, and under the auspices of the Organization Internationale de Lutte Biologique (O.I.L.B.).

The Director of the Naaldwijk "Experimental Station for Vegetables and Fruit-Growing under Glass", Dr. Jacobs, welcomed the group and briefly described the development and the work of the station. Naaldwijk is not far from Rotterdam, in an area of about 600 sq. km where 22% of the world's greenhouse space is concentrated. Much of the area is a solid landscape of glass. Some of the greenhouses are old, but the main period of expansion was from 1959 to 1965. The largest acreage is in flowers (still increasing), followed by vegetables, then fruit (decreasing). A levy on the sale of glasshouse crops provides half the operating costs of the Naaldwijk Station. The growers are well represented on a Management Board and can exert considerable influence on the direction of the research.

The Vice-President of O.I.L.B., Dr. J. de Wilde, explained the fields of activity and aims of that organization. An integrated control section had been initiated by the late Dr. H. J. de Fluiter in 1959. One of the aims of O.I.L.B. is to concert the efforts of widely scattered entomologists working on specific areas of biological control. This meeting was held at Naaldwijk because it was a centre of greenhouse farming, and Dr. Bravenboer had been actively working on biological control of greenhouse pests since 1959.

Five of the twelve presented papers dealt with *Phytoseiulus persimilis*, Phytoseiidae, a predacious mite which has been used quite successfully to control the two-spotted spider mite, *Tetranychus urticae*, in greenhouses. O. Berendt (Denmark) had prepared a literature review on the toxicity of acaricides to phytoseiid mites. The specific toxicity of acaricides to *P. persimilis* was described by R. J. McClanahan who found in laboratory spray tower tests that 12 acaricides had fair to excellent selectivity in favour of the predator.

H. Boehm (Austria) had found that a number of these selective acaricides were safe for *P. persimilis*, but that the two-spotted mite had developed resistance to them from previous continued use. Other materials of fair selectivity were ineffective against a second species of phytophagous mites, or were harmful to whitefly parasites. *P. persimilis* was used in Austria without a supporting selective acaricide, but this biological control only worked well in the southern parts of the country where warmer temperatures favoured development and oviposition of the predator.

The two-spotted spider mite was the main target of integrated control measures in English greenhouses. I. Wyatt described a method whereby spider mites were released on cucumbers to produce a uniform infestation, followed later by *P. persimilis*. This worked well in trials but growers were understandably reluctant to introduce the host mite.

The major pest of greenhouse cucumbers in North America was reported to be the greenhouse whitefly, *Trialeurodes vaporariorum*. R. J. McClanahan reported the successful use of the parasite *Encarsia formosa*, along with several sprays of the selective insecticide oxythioquinox, in an integrated control program. The control of whiteflies in the U. S. A. is mainly chemical, and F. F. Smith reported on new equipment designed for good dispersal of insecticidal mists.

In England, the use of *E. formosa* was being encouraged since it was about the only control measure that was compatible with the biological control of the two-spotted spider mite (called red spider mites there). This was also the use pattern in Austria. Oxythioquinox had been found fairly phytotoxic to European seedless cucumbers and did not control whiteflies very well. The possibility of a more tolerant European strain of whitefly was discussed.

There was a different complex of greenhouse pests in southern France, with *Myzus persicae* the major problem. J. P. Lyon described the use of aphid parasites and predators and one complication was the presence of a hyperparasite. Methods of culture assumed a greater importance in this hot dry climate and P. Jourdeuil explained how they were used at Antibes, France, to take full advantage of naturally occurring parasites.

The Study Group was particularly enlightening on mass rearing and distribution. Much discussion centered on this topic, and agreement was reached on the better methods. — R. J. McClanahan

REVIEW

Réactions des Microarthropodes aux variations de l'état hydrique du sol. Techniques relatives à l'extraction des Arthropodes du sol. By Guy Vannier, with a preamble by C. Delamare DeBoutteville. Recherche coopérative sur programme du C.N.R.S. No 40 Ecologie du Sol. Editions du Centre de la Recherche Scientifique, 15, quai Anatole-France, Paris VIIe. 1970. 319 pp. 4°. Boards. Price 62.35 F.

This work, undertaken as part of the International Biological Programme, falls into three parts: 21 pages of explanatory matter; the greater part devoted to the subject matter referred to in the first part of the title; and from p. 259 onwards to extraction techniques for soil arthropods.

The reaction of micro-arthropods to variations in soil moisture is considered under three main headings: (1) A study of a natural population during an annual cycle, (2) laboratory studies of the reactions to evaporation, and (3) a study *in situ* of reactions to progressive desiccation of a forest soil. Part 1 deals with methods in general, and studies of a rendzina and a podsol from the point of view of pedological, floristic and climatic characteristics, sampling, the fauna and the interrelations between humidity and the presence of micro-arthropods. Part 2 considers methods (including those of extraction), the thermodynamics of extraction processes, an analysis of escape behaviour of micro-arthropods and experimental results of extraction at different temperatures, from dry soil and from guano from caves. Part 3 begins with an account of variations in soil water and the parameters used, experimental planning and methods, faunal relationships (numbers of different groups of microarthropods, relative frequency of species of Oribatei and Isotomidae), relationships between humidity of the soil and the presence of microarthropods, vertical distribution and migration of the latter as related to desiccation, particularly in respect of the two groups mentioned above. Summaries are given in French, German and English and there is an extensive bibliography.

In the techniques section of the work, a thorough account of most of the known methods for the extraction of arthropods from soil is given under two main headings: "selective" and "mechanical" methods. The former is largely a review of "funnel" methods and their modifications (although early apparatus such as that for catching ants, illustrated by Hupsch in 1780, is included). The mechanical methods include washing, sieving and flotation devices, as well as the grease-film method of Aucamp and Ryke. There is also a useful résumé of the development of the different methods and a good bibliography. — D. K. McE. Kevan

COMMON NAMES FOR PESTICIDES

The list of approved common names for insects and related arthropods, published periodically by the Entomological Society of America, is well-known to, and accepted by most entomologists in Canada. A less known, but equally important list for many Canadian entomologists is Standard Z143: *Common Names for Pest Control Chemicals*, published by the Canadian Standards Association.

Shortly after the Second World War, a group of officers of the Canada Department of Agriculture, recognizing the growing confusion arising out of the use of the trade name and one or more other names to describe a pesticide, formed an informal committee to adopt common names for chemicals used in agriculture. In 1955, the Canadian Standards Association accepted this responsibility and established the Committee on Common Names for Pest Control Chemicals. The Association published its first list in 1956. CSA Standard Z143-1969 is the most recent list. The Standard is revised every five years and Addenda are published at mid-term.

Canada, through an advisory committee appointed by the C.S.A., is a Participating Member Country on the International Standards Organization, Technical Committee 81: *Common Names for Pesticides*. As such, Canada supports, in principle, the policy that countries should not adopt a common name for a pesticide until ISO has acted in regard to that pesticide, and should not adopt a common name that is different from that adopted by ISO for the same pesticide. Canada cannot always abide by the latter condition, especially when the ISO name is too similar to a trade name registered in Canada.

National committees, as well as ISO/TC-81, seldom coin common names on their own initiative. The manufacturer of a pesticide is given prior rights in this regard. Having coined a name, the manufacturer submits it to his national committee which in turn proposes it to ISO/TC-81. The latter may reject the proposal, suggest modifications and alternatives, or accept the proposal for a mail ballot by all Member Countries. If approved by a majority, the common name is added to those in ISO Recommendation: *Common Names for Pesticides*.

D. C. Peterson and H. S. Thompson, Research Branch, C.D.A., Ottawa, are Chairman and Secretary respectively, of both the CSA Committee on Common Names and the Canadian Advisory Committee on ISO/TC-81. They would welcome the comments of members of the Society concerning CSA Standard Z143-1969 or the activities of the Committees.

CSA Standard Z143-1969 is available from the Canadian Standards Association, Administration Division, 178 Rexdale Blvd., Rexdale 603, Ontario. Price \$3.00.

NOTICE

We would like to draw attention to the fact that supplies of *The Insect Collector's Guide* by R. D. McMullen, a useful booklet for amateur entomologists published by the Entomological Society of Alberta, are available at \$10.00 per 50 copies or \$20.00 per hundred copies. Single copies are available at \$0.25. Make cheques payable to June Routledge. Order from: Department of Entomology, University of Alberta, Edmonton 7, Alberta. Smaller stocks are also held by Gordon Fritchard, Department of Biology, University of Calgary, Calgary, Alberta; J. Shemanchuk, Research Branch, Canada Dept. of Agriculture, Lethbridge, Alberta; and H. F. Cerezke, Forest Research Laboratory, 5320-122 St., Edmonton 70, Alberta.

FOREST ENTOMOLOGISTS IN THE PRAIRIES REGION

The Prairies Region of the Canadian Forestry Service, with headquarters at Edmonton, Alberta, was created by the amalgamation of the Manitoba-Saskatchewan and the Alberta-Territories Regions. Most of the staff of the two former regions, located at Winnipeg, Manitoba and Calgary, Alberta, were consolidated in 1970 and housed in a recently completed building with excellent laboratory facilities, modern greenhouses and controlled temperature rooms on former University of Alberta property south of the main campus. Three forest entomologists were transferred from Winnipeg; Mr. W. C. H. Ives, head of the Forest Insect and Disease Survey; Mr. J. A. Muldrew, biological control studies of the larch sawfly, centered in the Whiteshell Field Station in Manitoba; and Dr. H. R. Wong, systematic studies on sawflies and other insects in the Prairies Region. Four forest entomologists were transferred from Calgary: Dr. R. W. Reid, Program Manager, Forest Protection Research of the Edmonton Laboratory; Dr. L. Safranyik, discipline adviser in entomology and head of an integrated study on the relation between lodgepole pine, the mountain pine beetle and its associated microorganisms; Dr. H. F. Cerezke, spruce budworm research, applied studies on wood borer control and silvicultural control of *Hyllobius* root weevil; and Mr. R. E. Stevenson, now associated with forest appraisal surveys.

With Dr. Reid and Mr. Stevenson assuming new responsibilities, five persons are now actively engaged in forest entomology research in the Prairies Region. Some forest entomologists formerly with the Forest Research Laboratories at Winnipeg and Calgary were transferred to other establishments. These included Dr. R. J. Heron and Mr. H. A. Tripp, Forest Research Laboratory, Sault Ste. Marie, Ontario; Dr. C. A. Bradley, Entomology Research Institute, Ottawa, Ontario; Dr. R. F. De Boo, Chemical Control Research Institute, Ottawa, Ontario; Dr. R. F. Shepherd, Forest Research Laboratory, Victoria, British Columbia; and Dr. A. Raske, Forest Research Laboratory, Saint John's, Newfoundland. Dr. C. N. Lanier, had been transferred to the Entomology Research Institute but chose to join the staff of the School of Forestry, University of Syracuse, Syracuse, New York. Dr. W. J. Turnock was appointed a science advisor to the Privy Council office, Science Secretariat, Ottawa, Ontario. Mr. N. R. Braodt went to the Board of Grain Commissioners for Canada, Winnipeg, Manitoba. Mr. J. A. Garland, temporarily with Manitoba Museum of Man and Nature, Winnipeg, Manitoba, plans to continue post-graduate studies.

The scientific staff of the Prairies Region extends a cordial invitation to colleagues and other interested persons to visit their new laboratory when they are in the Edmonton area. An official opening of the new laboratory is planned for the near future at which time brochures will be available for distribution to interested parties.

H. R. Wong

EMPLOYMENT COMMITTEE

This new committee is chaired by Dr. S. R. Loschiavo, C.D.A., 25 Dafoe Rd., Winnipeg 19, Manitoba, and includes Dr. S. C. Jay, Winnipeg and Mr. L. A. O. Roadhouse, Ottawa. Besides studying the employment situation, the committee is considering the establishment of a job placement service. Watch for further announcements in the Bulletin.

PERSONALIA

Dr. Peter W. Price, Forest Research Laboratory, Ste.-Foy, Quebec, has accepted a teaching appointment in economic entomology at the University of Illinois, Urbana.

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Dr. Yvan Hardy recently joined the Department of Forestry, Laval University, to teach forest entomology.

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Dr. Philip S. Corbet, C.D.A. Research Institute, Belleville, has been made a member of the FAO Expert Panel on the Integrated Control of Agricultural Pests. He is also serving on the Steering Committee of the United States' project, "Pest Management for Major Crop ecosystems", for the International Biological Programme.

OBITUARY

Dr. John N. Sandness, Assistant Professor of Agricultural Entomology, University of British Columbia, died 27 September 1970. A graduate of Walla Walla College, and the University of California at Riverside, he was appointed at U.B.C. in July 1969. He is survived by his wife and two daughters.

HENRY HURTIG HONORED

Dr. Henry Hurtig received two awards from the Seventh International Congress of Plant Protection in Paris, France. At the opening ceremonies, he was presented with a Congress Medal for his outstanding contributions to pesticide research, both nationally and internationally. Later during the meetings he was made an "Officier du Mérite Agricole" by the French Minister of Agriculture.

As pesticide research coordinator and research advisor in the Canada Department of Agriculture, Entomology Division, Dr. Hurtig began a program to study the effectiveness, methods of use and environmental aspects of pesticides. He proposed, organized and chairs the Canada Committee on Pesticide Use in Agriculture, which brought specialists studying pesticides together for the first time.

Dr. Hurtig was the first Canadian contributor to international study of the pesticide residue problem. He has worked closely with the Food and Agriculture Organization, the World Health Organization and other international organizations. Dr. Hurtig is chairman of the Second International Congress of Pesticide Chemistry which will be held in Tel-Aviv, Israel, in 1971. He has been a member of the permanent committee of the International Congress of Plant Protection since its formation in 1967.

GEORGE J. SPENCER MEMORIAL LECTURE

Each year a prominent biologist is asked to deliver a lecture in memory of the late Professor G. J. Spencer. This year the fifth lecture will be given by Professor Th. Dobzhansky of the Rockefeller University on "Genetics of behavior in *Drosophila*". Readers are invited to attend at 8 p.m., 28 April 1971 in Room 2000, Biological Sciences Building, University of British Columbia, Vancouver.

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