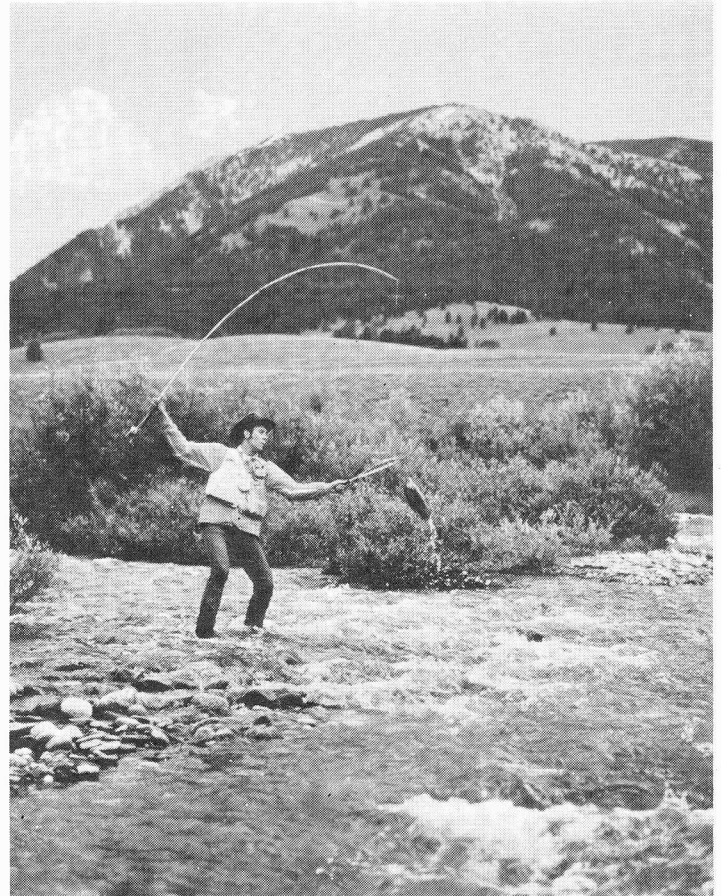


14th ANNUAL MEETING
SOCIETY FOR INVERTEBRATE PATHOLOGY
MONTANA STATE UNIVERSITY, BOZEMAN, MONTANA
August 17 - 21, 1981

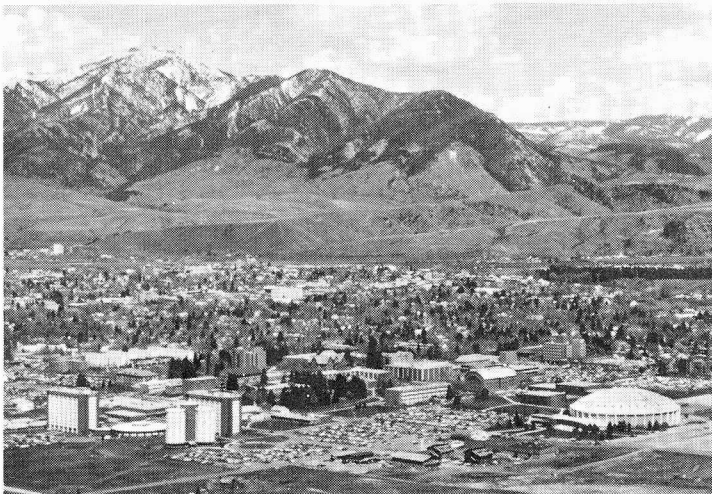
Bozeman Background

Upon descending into the Gallatin Valley you will be entering a part of the Big Sky Country that is rich in history. Long before the coming of the white man, Native Americans came to the valley to hunt buffalo, elk, deer and to gather fish from the numerous streams. Lewis and Clark passed through the valley on the way to and from the Pacific. Mountain men came searching for beaver and other prized fur bearing animals. They trapped the Tetons, the upper Yellowstone (now Yellowstone National Park), the Spanish Peaks, etc. using the Missouri River, which headwaters in the Gallatin Valley, as their highway of commerce with St. Louis on the Mississippi. The discovery of gold in Alder Gulch (Virginia City) brought the miners, prospectors, saloon keepers, highwaymen, and vigilantes along trails blazed from the Oregon Trail by John Bozeman and Jim Bridger. The Army established Fort Ellis, near which the city of Bozeman now stands, to protect the wagon trains and trail herds from displaced natives. Near the Bozeman trail occurred one of the final triumphs of these displaced Americans - the battle of the Little Big Horn, frequently referred to as the Custer Massacre. I prefer to call it "Custer's Folly." As you travel to and around this Big Sky Country be alert for signs and structures that will recall its history and tradition. You will enjoy your trip that much more.

J.E. Henry



Fishing around Bozeman

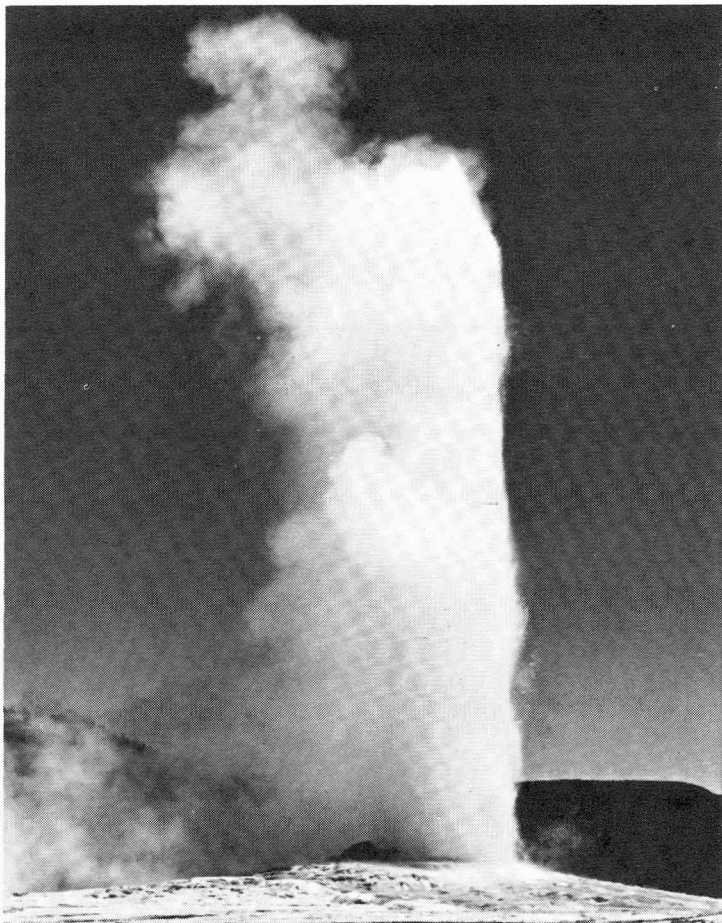


City of Bozeman, Montana

A NEW MICROBIAL INSECTICIDE

A fungal insecticide, *Verticillium lecanii*, is now commercially available in England. It is a wetttable powder and is manufactured by Tate and Lyle Ltd., U.K. under the trade name "VERTALEC". At present it is intended for aphid control in glasshouses, but it is hoped that its use will soon be extended for whitefly control in glasshouses and eventually for general pest control outdoors, most probably in the tropics. So far, it has been approved for use on ornamentals only, but it is hoped that it will soon be approved for food crops as well.

Richard Hall
Glasshouse Crops Res. Inst.
Littlehampton, Sussex
England



Old Faithful, Yellowstone Nationale Park

MEMBERS APPROVE CONSTITUTIONAL AMENDMENTS

Proposed amendments to the Constitution of the Society for Invertebrate Pathology were printed in the February 1981 issue (vol. 13, no. 1, pp. 4-7) of the SIP Newsletter. The Newsletter and ballots were mailed to 662 SIP members in February. Only 52 members returned the ballots by the June 1 deadline. The results are as follows:

No. of members responding	Articles and Sections approved
45	All Articles and Sections
5	All Articles and Sections except Article VII, Sec. 1
1	All Articles and Sections except Article VI, Sec. 1C
1	All Articles and Sections except Article V, Sec. 3

The results show that constitutional amendments have been approved by the membership.

O.N. Morris
Secretary

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NEWS FROM WHO: BIOLOGICAL CONTROL OF VECTORS

The Steering Committee of the Scientific Working Group on Biological Control of Vectors of the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, reminds readers of the availability of funds for research on the development of agents for the biocontrol of the invertebrate vectors of human diseases: Filariasis, Leishmaniasis, Malaria, Schistosomiasis and Trypanosomiasis. Initially the Special Programme considered mainly pathogens, but the range of agents has recently been extended to include predators, parasitoids and competitors. The emphasis is on research of an applied nature which will lead to the implementation of integrated vector control programmes in developing countries, although basic research programmes which facilitate development of appropriate predators, parasites and pathogens are also considered. At present, particular areas of interest include field tests on *Bacillus thuringiensis* variety H-14, tests to explore the recycling of *Bacillus sphaericus* in the environment and projects on the pathogens of vector snails. Research on the safety and effect of promising candidate agents on non-target organisms are also included.

At present, approximately US\$ 600,000 per year is available for existing and new projects, although this amount is expected to increase over the next few years. The amount appropriate for a typical grant is in the range of US\$ 5,000 to US\$ 15,000 per year, with fewer proposals above \$ 15,000 being funded. Proposals involving research and training in developing countries where the target diseases are common receive special consideration.

Proposals for projects are invited. The latest date for consideration at the October meeting of the Steering Committee of the programme is 1 July 1981 and that for the next Steering Committee meeting, 31 December 1981. For further information and application forms contact A. Dubitskij, Secretary, Steering Committee on Biological Control of Vectors, WHO, 1211 Geneva 27, Switzerland.

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FROM YOUR EDITOR

The response from our Regional Correspondents and members to my request for news items has been very gratifying indeed. I would like to thank all those who have contributed in this manner, and would like to urge and encourage others to contribute. Brief and casual reports on new research, new techniques, new microbial control agents or pathogens, epizootics, conferences, international cooperative efforts, professional study tours, personal achievements, queries for information, opinions, ideas, and change of address etc. will be appreciated.

The Newsletter cannot act, however, as a publication for the purpose of establishing scientific priority or for dissemination of research results. That is, it cannot be used as a primary publication source, because it is not

SIP NEWSLETTER

The SIP Newsletter is produced four times a year by the Society for Invertebrate Pathology. Annual dues in the Society are: US members, including A.I.B.S. affiliation, \$12.00; non-US members, \$11.00; and students, \$4.00. Members receive the SIP Newsletter free. Application forms for Membership in the Society may be obtained from the Treasurer, Dr. James D. Harper, Dept. of Zoology-Entomology, Auburn University, Auburn, Alabama 36849 USA. Council Officers of the Society are:

President	Phyllis T. Johnson, USA
Vice President	Wayne M. Brooks, USA
Past President	Jaroslav Weiser, Czechoslovakia
Secretary	Oswald N. Morris, Canada
Treasurer	James D. Harper, USA
Trustees	H. Denis Burges, England
	Michael C. Mix, USA
	Terry L. Couch, USA
	Peter Luthy, Switzerland

Send news items and other contributions to:
Sardar S. Sohi, Editor
SIP Newsletter
Forest Pest Management Inst.
Canadian Forestry Service
P.O. Box 490
Sault Ste. Marie, Ontario Canada P6A 5M7

refereed, is of limited distribution, and has limited space. Cost of printing and mailing a larger newsletter would be prohibitive to our Society.

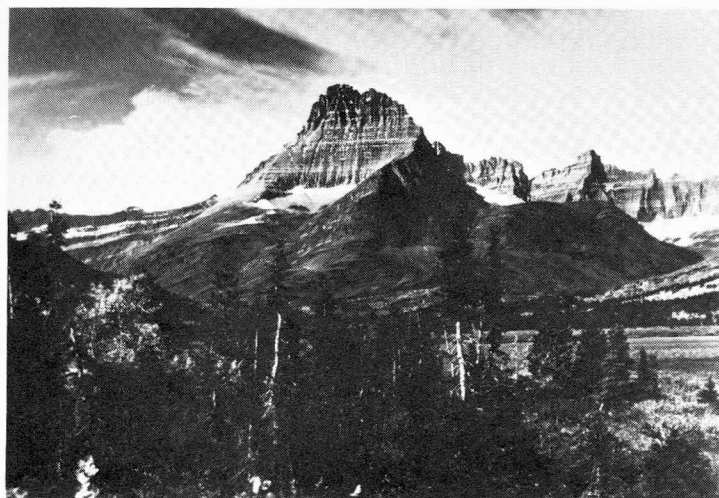
Please check your address on the Newsletter envelope and send the corrected address to me or to Dr. James Harper, SIP Treasurer. Be sure to:

- 1) P-R-I-N-T your corrected address so that we can de-cipher it; and
- 2) Send your old address label from the Newsletter envelope. It is very difficult to locate your address in the computer without it.

The Newsletters are being sent by AIRMAIL to individual members direct from Sault Ste. Marie, Canada. They should reach members in 3-5 days in Canada, 7-10 days in U.S.A., and 1-3 weeks elsewhere depending upon the efficiency of postal service in each country. Please check the time your copy of the Newsletter takes and let me know if there is unreasonable deviation in delivery period. The date of mailing is generally quite clearly shown in the metered stamp on the envelope. As of this writing, however, the Canadian postal workers are on strike. Therefore, I do not know how and when you are going to get this issue of the Newsletter.

Sardar S. Sohi, Editor
SIP Newsletter

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Glacier National Park

AUSTRALIAN INSECT PATHOLOGIST MEET

Insect Pathologists in Australia gathered with other Entomologists (155 in all) for the Annual Meeting of the Australian Entomological Society at the Surfair Motel at the seaside 90 miles north of Brisbane, Queensland, on May 8-10, 1981. An Invertebrate Pathology Section was included in the program for the first time, and eight papers and three posters were presented on various aspects of insect pathology. Pleasing features were the number of students presenting papers and the diversity of interests represented. Titles and authors of the eight papers are given below.

1. Studies on the fungus Entomophthora planchoniana infecting the blue-green aphid, Acyrtosiphon kondoi. D. Holdom, Entomol. Dept., Queensland Univ., St. Lucia, Q. 4067.
2. A theory for the mechanism of microsporidan polar filament extrusion. D. Dall, Entomol. Dept., Waite Inst., Glen Osmond, S.A. 5064.

3. Microsporidan parasites of mosquitoes. D.S. Kettle and R.G. Piper, Entomol. Dept., Queensland Univ., St. Lucia, Q. 4067.
4. Flagellates infecting Australian blowflies. D.J. Cooper, Entomol. Dept., Waite Inst., Glen Osmond, S.A. 5064.
5. Investigations on the biological control of Phthorimaea operculella by Bacillus thuringiensis. Aba Eduayah, Entomol. Dept., Waite Inst., Glen Osmond, S.A. 5064.
6. Parasitism of Anopheles annulipes by a mermithid Nematode. C.G. Freebairn and R.G. Piper, Entomol. Dept., Queensland Univ., St. Lucia, Q. 4067.
7. Metarhizium anisopliae - its potential as a biological control agent of the black field cricket Teleogryllus commodus. S.J. Gagen, Plant Res. Inst., Swan St., Buralley, Vic. 3121.
8. Mass-production of potato moth granulosis virus in the laboratory. N. Riding, S. Uren and I.P. Griffith, Victorian College of Pharmacy Ltd., 381 Royal Pde., Parkville, Vic. 3052.

R.E. Teakle
Regional Correspondent

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INTERNATIONAL SOCIETY OF DEVELOPMENTAL AND COMPARATIVE IMMUNOLOGY

First steps to establish an ongoing program for this new organization have affirmed the need for an international arena for the exchange of scientific findings. A first Course/Workshop was held in Verona (Eastern Hemisphere) and there it was agreed that subsequent Course/Workshops would take place annually for 1-2 days. The First Congress was held in Aberdeen (Eastern Hemisphere), and all subsequent congresses will convene every three years for 5-6 days near the time of the World Congress of Immunology (IUIS), which met in Paris in 1980.

Following this pattern, ISDCI has scheduled the 1981 Course/Workshop for the Western Hemisphere to be held in Mexico, and the Second Congress of ISDCI for August 14-19, 1983, just a week before the meetings of the World Congress of Immunology in Kyoto, Japan. Important meetings and dates are given below:

2nd ISDCI Course/Workshop (plans almost firm)
Mexico City, August 6-7, 1981
Professor E.L. Cooper
Department of Anatomy/School of Medicine
University of California
Los Angeles, California 90024, USA

3rd ISDCI Course/Workshop (still in planning stages)
Leipzig, East Germany, Summer, 1982
Professor E.L. Cooper and Professor H. Ambrosius

2nd ISDCI Congress (still in planning stages)
Los Angeles, August 14-19, 1983
Professor E.L. Cooper

For further details contact Dr. E.L. Cooper, Department of Anatomy, University of California, Los Angeles, CA 90024, U.S.A.

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15th PACIFIC SCIENCE CONGRESS

The 15th Congress of the Pacific Science Association will be held in Dunedin at the University of Otago, Dunedin, New Zealand on February 1-11, 1983. The theme will be: Conservation, Development and Utilization of

the Resources of the Pacific. This theme will be introduced in the following four interdisciplinary symposia:

- I. Energy in Agriculture
- II. High Altitude Resources
- III. Resources, Science and the Law of the Sea
- IV. Pacific Island Potential

In addition, there will be other sessions under the following 14 sections:

- A. Ecology, Conservation and Environmental Protection
- B. Solid Earth Sciences
- C. Geography
- D. Museums in Pacific Research
- E. Marine Sciences
- F. Coral Reefs
- G. Botany
- H. Forestry
- I. Freshwater Sciences
- J. Entomology
- K. Social Sciences and Humanities
- L. Public Health and Medical Sciences
- M. Nutrition
- N. Science Education and Communication

A substantial number of other scientific societies have indicated their intention to hold or sponsor meetings in Dunedin as part of the Congress.

Tentative program as proposed by the organizing committee, and by the section conveners is now available. Comments and further suggestions are invited. Sessions proposed under three sections that are of interest to most of the SIP members are given below:

Section E. Marine Sciences

Convener: Assoc. Professor J.B. Jillett
Portobello Marine Laboratory, University of Otago
P.O. Box 8, Portobello
New Zealand

1. Living resources of the Southern Ocean.
2. Aquaculture: current practice and future potential.
3. Marine productivity and trace element cycles.
4. Remote sensing by buoys, satellites and aerial observation.
5. Effects of river inputs in coastal seas.
6. Forecasting and monitoring in physical and biological oceanography.
7. Plankton systematics and biology.
8. Living marine resources: their pollution, protection, exploitation and management.
9. Oceanic fronts: their physical and biological significance.
10. Marine parks and reserves in coastal resource management.
11. Diseases and parasites of marine organisms.
12. Species interactions in marine ecosystems.
13. Mangrove ecosystems.

Section I. Freshwater Sciences

Convener: Dr. S.F. Mitchell
Department of Zoology, University of Otago
Dunedin

1. Changes in lake ecosystems.
2. River ecosystems.
3. Macrophytes.
4. Organic detritus and bacteria.
5. Phytoplankton populations and productivity.
6. Chemical studies of inland waters.
7. Fish populations and ecology, fisheries.
8. Zooplankton systematics and biology.

Section J. Entomology

Convener: Dr. J.S. Pillai
Department of Microbiology, University of Otago
Dunedin

1. Insect vectors of human and animal diseases in the Pacific Basin.
2. Insect pests of agricultural and forest crops in the Pacific Basin.

3. Miscellaneous insect pests in the Pacific Basin.
4. Evolution and distribution of insects in the Pacific Basin.
5. Problems in pesticide usage in rice insect control.
6. Formulation of pest management systems for insects of economic importance in the Pacific Basin.
7. Biocontrol of insects of economic importance.

For further information contact C.F.W. Higham, Secretary General, 15th Pacific Science Congress, University of Otago, Dunedin, New Zealand.

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OTHER MEETINGS

CORN ROOTWORM REARING WORKSHOPS: two-day rearing workshops will be conducted at the Northern Grain Insect Research Lab., Brookings, South Dakota on 9-10 September and 16-17 September 1981. Workshop emphasis will be on procedures for production of eggs from field collected western corn rootworm beetles, techniques of artificially infesting research plots, and current procedures for continuing laboratory colonization of corn rootworm. Participation will be limited. Interested parties should contact G.R. Sutter, NGIRL, Rte. 3, Brookings, SD 57006, (605) 693-3241.

THE 20TH ANNUAL MEETING OF SON will take place at the Edgewater Inn, Pier 67, Seattle, Washington 16-19 August 1981. For further information contact the Society of Nematologists, c/o Neil A. Lapp, Pesticide & Plant Protection Div., N.C. Dept. of Agriculture, Raleigh, NC 27611.

THE 52ND MEETING OF THE ROCKY MOUNTAIN CONFERENCE OF ENTOMOLOGISTS will be held 2-6 August 1981 at the Cameron Pass 4-H Camp, Gould, Colorado. Anyone needing information should contact James Quinlan, Secretary, 1515 College Ave., Manhattan, Kansas, 66502.

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MEMBERS IN THE NEWS

PROF. DR. J.M. FRANZ has retired as Director of:
Institute for Biological Pest Control
Federal Biological Research Centre for
Agriculture and Forestry
Heinrichstrasse 243
D-6100 Darmstadt
Federal Republic of Germany

The new Director of the Institute is PROF. DR. F. KLINGAUF who was formerly at the University in Bonn. Prof. Franz's new address is:

Gundolfstrasse 14
D-6100 Darmstadt
Federal Republic of Germany

DR. BRAD STILES is now a Post Doctoral Associate at:
Insect Pathology Resource Center
Boyce Thompson Institute
Cornell University
Ithaca, N.Y. 14853 U.S.A.

DR. PETER STODDARD has relocated himself as below:
Pest Management Specialist
Department of Food and Agriculture
1220 N Street, Room A-287
Sacramento, CA 95814 U.S.A.

In November 1980 DR. DAVID PERRY presented his doctoral dissertation entitled "Contribution à l'étude de la formation, de la germination et de la conservation des spores durables d'Entomophthorales en vue de la lutte biologique

contre les pucerons" at the Pasteur Institute, Paris, France. The degree was conferred by the Université Pierre et Marie Curie, Paris and the research was supervised by Dr. Jean-Paul Latgé and Dr. Georges Remaudière of the Service de Lutte Biologique Contre les Insectes de L'Institut Pasteur, Dr. Otto Reisinger of the Université de Nancy 1 and Dr. Gilbert Bompeix of the Université Pierre et Marie Curie.

David was awarded a post-doctoral fellowship by the Natural Sciences and Engineering Research Council of Canada effective December, 1980 to work with Dr. David Tyrrell at the Forest Pest Management Institute, Sault Ste. Marie, Ontario, Canada. His current research involves the production and germination of spores of the entomopathogenic fungi *Zoopthora radicans*, *Z. canadensis* and *Entomophthora crustosa*, formation of resting spores and conidia *in vitro* and *in vivo*, and the epizootiology of fungal infections in insect populations. David actively solicits correspondence with other workers studying the ultrastructure of these fungi, and the effect of temperature and light on growth and germination of conidia and resting spores.

David was born in Bridgeport, Conn., U.S.A. and received his B.Sc. degree from the University of Maine at Orono. He is married to the former Dominique Zirah of Villemomble, France.

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NEW BOOKS

HISTOLOGY OF THE BLUE CRAB, *Callinectes sapidus*: A MODEL FOR DECAPODA. Phyllis T. Johnson, U.S. Dept. of Commerce, NOAA, Northeast Fisheries Center, Oxford, MD 21654 U.S.A. Praeger Press, 521 Fifth Ave., New York, N.Y. 10017, 1980, 456 pp, \$49.95.

This work describes the microscopic appearance and known or probable functions of the organs, tissues, and cells of the blue crab, *Callinectes sapidus*, following them through the molt cycle and other changing states that occur during normal function. Normal structure and changes that occur during disease and physiological dysfunction in tissues, organs, and cells are shown in considerable detail using 304 photomicrographs and electron micrographs.

There is comparative discussion of phagocytic systems for all crustaceans and their relationship to similar systems in insects and mollusks, and to specific parts of the vertebrate protein-clearance and cellular defense mechanisms. Ultra-structure and function of the fixed phagocyte (macrophage) systems of decapods, a largely unknown but very important part of defense, are also described.

MICROBIAL CONTROL OF PESTS AND PLANT DISEASES 1970-1980. by H.D. Burges, ed. Glasshouse Crops Research Institute, Littlehampton, Sussex, England, 1981, xiv + 914 pp. + index, £41.40 (UK only)/\$99.50.

With the ever-increasing resistance of pests to pesticides and the growing concern over environmental pollution, it becomes evident that the problem of pest attack on crops cannot be solved by any one system. Separate controls need to be integrated into a complex measure, of which biological control would be one component. A rapidly growing factor in biological control is the harnessing of pathogens. Pathogens, or groups of pathogens, showing particular progress have been selected from the major taxonomic divisions, as subjects for a series of compact chapters about their identification, practical use and toxins. Other chapters investigate the potential of genetic engineering; aspects of technology and integration such as formulation, application machinery, ecology and biostatistical modelling; safety and the insects' defence mechanisms; and impressions of use and research in the People's Republic of China.

Each of the 63 authors and co-authors is a specialist, writing closely around his own field. *Microbial Control of Insects and Mites*, the 1971 forerunner of this book, assessed the subject up to 1970. As a broadly-based reference work, it revealed almost as many problems as solutions, and left inevitable gaps in coverage. This new work is a sequel and a supplement to the now critically-acclaimed initial work and not a revision or new edition. The present work attempts to cover new material appearing since 1970 and to fill some of the gaps. In particular, the scope has been widened to include the use of competitors, inhibitors and diseases of plant pathogens as alternatives to chemical fungicides and bactericides. Although essentially a practical book, it delves deeply into fundamental information when an understanding of the subject is necessary to the reader. Each chapter attempts to probe the future, while the final chapter provides an analysis of the decade's strategy and progress. The work is aimed at a wide readership of pest control practitioners, research workers, students and lecturers seeking new information on advanced topics. It will interest insect pathologists, entomologists, plant pathologists, ecologists, chemists and virologists as well as microbiologists generally. Those who have benefitted from its forerunner will find this an essential complement to that work.

The London Office of Academic Press is offering to SIP members a 20% discount on the joint purchase of this book and its 1971 forerunner, *Microbial Control of Insects and Mites* (£34.00). For further information and special offer order form contact Michael Roodyn, Sales Dept., Academic Press Inc. (London) Ltd., 24-28 Oval Road, London NW1 7DX, England.

BIBLIOGRAPHY ON PATHOGENS OF MEDICALLY IMPORTANT ARTHROPODS: 1980. D.W. Roberts and J.M. Castillo, eds. 1980. Supplement to Vol. 58 of the Bulletin of the World Health Organization. 197 pp.

This is an update of "Pathogens of Medically Important Arthropods" [(D.W. Roberts and M.A. Strand, eds.) 1977. Suppl. No. 1 to Vol. 55 Bull. W.H.O. 419 pp.] which extends the literature coverage into 1978. It is available from the W.H.O. publications representatives in each nation — in the US this is WHO Publications Centre USA, 49 Sheridan Ave., Albany, NY 12210. International headquarters: WHO, Distribution and Sales Service, 1211 Geneva 27, Switzerland. The 1977 volume was distributed without charge to developing-nation scientists, but others were charged. Presumably the same procedure will be used to distribute the 1980 volume. A second update is currently underway, and the editors would welcome reprints, reports, or letters providing information not included in the previous two volumes. Send to Donald W. Roberts or Richard A. Daoust, Insect Pathology Resource Center, Boyce Thompson Institute, Tower Road, Cornell University, Ithaca, NY 14853.

SCIENTIFIC INTEGRITY

Effective January 1982 the US National Association of Biology Teachers (NABT) has started its newsletter SCIENTIFIC INTEGRITY. Dedicated to maintaining the integrity of science and science education, it is distributed bi-monthly by first-class mail and the annual subscription is \$5.00. A gratis issue may be obtained from NABT/INTEGRITY, 11250 Roger Bacon Drive, #19, Reston, Virginia 22090.

SCIENTIFIC INTEGRITY will report activities of both scientists and those who would distort science education, print short articles and comments, cite important articles appearing elsewhere, report pending legislation bearing on science curricula, list meetings, and generally inform its readership on controversies growing out of perceived conflict between scientific knowledge and personal beliefs.

PROGRAM

XIVth Annual Meeting
 Society for Invertebrate Pathology
 Montana State University, Bozeman
 August 16-20, 1981

Sunday, August 16, 1981

9:00-12:00 am and 2:00-6:00 pm. City Center Motel.
 COUNCIL MEETING

9:00-12:00 am and 4:00-8:00 pm. Leigh Lounge, Strand Union.
 REGISTRATION

6:30-8:30 pm. Leigh Lounge, Strand Union. MIXER

Monday, August 17.

8:00-4:00 Leigh Lounge, Strand Union. REGISTRATION

8:30-9:00 Theater, Strand Union. WELCOME AND ANNOUNCEMENTS:
 Opening Remarks. Phyllis T. Johnson, President, Society
 for Invertebrate Pathology.

Welcome. William J. Tietz, President, Montana State
 University.
 Announcements.

9:00-12:30 Theater, Strand Union.

SYMPOSIUM: Bacillus thuringiensis var. israelensis
 (Serotype H14). Convener and Moderator: Peter
 Lüthy (Zurich, Switzerland).

9:00 - Basic Differences Between Bacillus
thuringiensis var. israelensis and the Lepidop-
 terous-Active Varieties. Clayton C. Beegle, USDA,
 Brownsville, Texas.

9:30 - Site of Action and Field Trials of Bacillus
thuringiensis var. israelensis in Mosquito Larvae.
 Brian A. Federici and Mir S. Mulla. University
 of California, Riverside.

10:00 - Asporogenic Mutants of Bacillus thuringiensis
 var. israelensis. Peter Lüthy, J.-L. Cordier,
 I. Konikkara, and H.-S. Ebersold. Mikrobiolo-
 gisches Institut, ETH, Zürich, Switzerland.

10:30 Break

11:00 - The Potential of Bacillus thuringiensis sero-
 type H14 as a Black Fly Larvacide. Daniel Molloy,
 New York State Museum and Science Service,
 Cambridge, New York.

11:30 - Bacillus thuringiensis var. israelensis and
 Nontarget Organisms. Wolfgang Schnetter and J.
 Morawcsik. Institute of Zoology, University of
 Heidelberg, Germany Federal Republic.

12:00 - A Comparison of Bacillus thuringiensis var.
israelensis and Bacillus sphaericus strain 1593.
 Elizabeth W. Davidson. Department of Zoology,
 Arizona State University, Tempe.

2:00-6:00. Session A. Room 105. Reid Hall.

CONTRIBUTED PAPERS: Virus-like and Rickettsia-like
 Organisms and Bacteria. Chair: Lawrence A.
 Lacey (Gainesville, Florida), and Gerry R. Carner
 (Clemson, SC).

2:00 - Pathogens Recently Isolated from Insects in
 Insect Mass Rearing Facilities. J.R. Adams and
 C.C. Beegle, USDA, Insect Pathology Laboratory,
 Beltsville, Maryland 20705, and Cotton Insects
 Research Laboratory, Brownsville, Texas 78520.

2:15 - A New Type of Insect Pathogen Causing Disease in
 Noctuid Larvae. Brian A. Federici, Division of
 Biological Control, University of California,
 Riverside, California 92521.

2:30 - A Systemic Microbial Disease of the Dungeness
 Crab, Cancer magister, in Washington. Albert K.
 Sparks and J. Frank Morado, Environmental Con-
 servation Division, Northwest and Alaska
 Fisheries Center, National Marine Fisheries
 Service, Seattle, Washington 98112.

2:45 - Histopathology of an Unidentified Virus of
Heliothis zea and Heliothis virescens. G.R.
 Carner and J.S. Hudson, Clemson University,
 Clemson, South Carolina 29631.

3:00 - Transformation of Bacillus thuringiensis:
 Transforming Ability of Plasmid DNA in Proto-
 plasts. R.M. Faust, P.A.W. Martin, AND R.S.
 Travers, USDA, Beltsville, Maryland 20705.

3:15 - Activity of the B-exotoxin of Bacillus
thuringiensis var. morrisoni in the Salmonella/
Microsomal Assay for Bacterial Mutagenicity.
 George E. Cantwell and S.E. Kunz, USDA, SEA, AR,
 Insect Pathology Laboratory, Beltsville, Maryland
 20705.

3:30 - Break

4:00 - Improvement of the Insecticidal Activity of
Bacillus thuringiensis by the Addition of
 Chitinolytic Bacteria, a Phagostimulant and a
 UV-Protectant. B. Sneh, S. Schuster and M. Broza
 Institute for Nature Conservation Research, Tel-
 Aviv University, Israel.

4:15 - Large Scale Field Trial of the Sandoz "Teknar"
 Formulation of Bacillus thuringiensis var.
israelensis Against Simulium damnosum s.l. in
 Ivory Coast. Lawrence A. Lacey, Insects Affecting
 Man and Animals Research Laboratory, AR, SEA, USDA,
 P.O. Box 14565, Gainesville, Florida 32604.

4:30 - Effects of Suspended Particulates on the Efficacy
 of Bacillus thuringiensis var. israelensis toward
 mosquito larvae. W.A. Ramoska, R.E. Rodriguez, and
 Sharlene Watts, Kansas State University, Manhattan,
 Kansas 66502.

4:45 - Parasporal Inclusions in the Mosquito Pathogen
Bacillus sphaericus. Elizabeth W. Davidson
 and A.A. Yousten, Department of Zoology,
 Arizona State University, Tempe, Arizona 85281
 and State University, Blacksburg, Virginia 24062.

5:00 - On the specificity and activity of Bacillus thur-
ingiensis var. israelensis. I. Larget and H. De
 Barjac, Institut Pasteur, Paris, France.

5:15 - Extraction of toxic factor from Bacillus sphaericus
 strain 1593-4. C. Bourgouin, J.F. Charles and H.
 De Barjac, Institut Pasteur, Paris, France.

5:30 - An Approach for Deposit Assessment with Dif-
 ferent Bacillus thuringiensis Formulations
 Applied from an Aircraft. W.A. Smirnov,
 Laurentian Forest Research Centre, Environment
 Canada, P.O. Box 3800, Ste. Foy, Quebec.

5:45 - Lethal Dosage of Bacillus thuringiensis for
Choristoneura fumiferana as a Basis for Assuring
 Formulation Efficiency. W.A. Smirnov,
 Laurentian Forest Research Centre, Environment
 Canada, P.O. Box 3800, Ste. Foy, Quebec.

3:30-4:30. Session B. Hallway. Reid Hall.

POSTER SESSION.

1. Bacillus thuringiensis Crystal Toxin: Ultra-
 structural Studies of its Effect on Silkworm Mid-
 gut Cells. Jean Percy and Paul G. Fast, Forest
 Pest Management Institute, Canadian Forestry
 Service, Environment Canada, Sault Ste. Marie,
 Ontario, Canada P6A 5M7.

2. Studies on the Interaction of Bacillus
thuringiensis and the Larvae of Spruce Budworm,
Choristoneura fumiferana. Paul G. Fast, Forest
 Pest Management Institute, Canadian Forestry
 Service, P.O. Box 490, Sault Ste. Marie, Ontario,
 Canada P6A 5M7.

3. Bacillus thuringiensis Crystal Toxin: An Enzyme-
 Linked Immunoassay (ELISA) and Its Application to
 Crystovar K-1 Isolates. Janina Krywięczyk, Paul
 G. Fast, B.A. Mathieson and C.C. Beegle, Forest
 Pest Management Inst., Canadian Forestry Service,
 Environment Canada, Sault Ste. Marie, Ontario,
 Canada; U.S.D.A., Agricultural Res., Cotton

Insects Res., P.O. Box 1033, Brownsville, Texas 78520.

4. Some Idiopathic Lesions in Dungeness Crabs. Albert K. Sparks and Jolly Hibbits, Environmental Conservation Division, Northwest and Alaska Fisheries Center, National Marine Fisheries Service, Seattle, Washington 98112.
5. Pathogenesis of Several Diseases Recently Isolated from Insect Mass Rearing Facilities. J.R. Adams and C.C. Beegle, Insect Pathology Laboratory, Beltsville, Maryland 20705, and Cotton Insects Research Laboratory, Brownsville, Texas 78520
6. Book: Microbial Control of Pests and Plant Diseases 1970-1980. H.D. Burges (ed.), Glass-house Crops Research Institute, Littlehampton, Sussex, England.

8:00 p.m. Room 105. Reid Hall.

WORKSHOP: Working Group on Safety of Microbial Control Agents. Convener and Moderator: Elizabeth W. Davidson (Tempe, Arizona).

Tuesday, August 18

8:30-12:00. Session A. Room 105. Reid Hall.

SYMPOSIUM: Epizootiology of Disease in Marine Invertebrates. Co-conveners: M.C. Mix, J.A. Couch, and A.K. Sparks. Moderator: J.A. Couch (Gulf Breeze, Florida).

- 8:30 - Cellular Proliferation Disorders in Bay Mussels (Mytilus edulis) from Oregon Estuaries. Michael C. Mix. Oregon State University, Corvallis, Oregon 97331.
- 9:00 - Epizootiology of Oyster and Clam Diseases along the Northern Gulf Coast. James Winstead and John A. Couch. EPA, Gulf Breeze, Florida 32561.
- 9:30 - Epizootiology of Crab Diseases of the North Pacific. Albert K. Sparks. National Marine Fisheries Service, Seattle, Washington 98112.
- 10:00 - Epizootiology of Several Important Diseases in High-Density Penaeid Shrimp Cultures. Donald V. Lightner. University of Arizona, Tucson, Arizona 85706.

10:30 - Break

11:00 - Discussion

8:30-12:30 Session B. Room 108. Reid Hall.

CONTRIBUTED PAPERS: Fungi. Chair: John D. Vandenberg, (Corvallis, Oregon), and Steve T. Jaronski (Raleigh, North Carolina).

- 8:30 - Asynchronous Dehiscence of Gametangia as an Allochomous Reproductive Isolating Mechanism in Coelomomyces. Brian F. Federici, Division of Biological Control, University of California, Riverside, California 92521.
- 8:45 - In Vitro Zoospore Production by Lagenidium giganteum. A. Domnas¹, S. Fagan², and S. Jaronski¹, ¹Biochemistry Laboratory, Botany Department, University of North Carolina, Chapel Hill, N.C. 27514, U.S.A.; ²Entomology Department, North Carolina State University, Raleigh, N.C. 27650, U.S.A.
- 9:00 - Effects of Organic Water Pollution on the Infection of Culex quinquefasciatus by Lagenidium giganteum. S.T. Jaronski and R.C. Axtell, North Carolina State University, Raleigh, North Carolina 27650.
- 9:15 - Incidence, Distribution, and Importance of the Naturally-Occurring Fungus (near Zoopthora phytonomi) in Alfalfa Weevil Larvae in Georgia. W.A. Gardner, University of Georgia, Georgia Experiment Station, Griffin, Georgia 30223.
- 9:30 - Infection of Grasshoppers with Entomophaga grylli. W.D. Valovage, D.R. Nelson, and R.D. Frye, Department of Entomology, North Dakota State University, Fargo, ND 58105.

9:45 - Pathotypes of Entomophaga grylli. R.S. Soper¹, B. May² and B. Martinell¹, ¹Insect Pathology Resource Center, USDA-SEA-AR Insect Pathology Research Unit, Boyce Thompson Institute, Ithaca, NY 14853; and ²Dept. of Plant Pathology, The Pennsylvania State Univ., University Park, PA 16802.

10:00 - A Standardized Bioassay System for Erynia radicans Against the Spruce Budworm. R.S. Soper, D. McCabe and H. Beermann, Insect Pathology Resource Center, USDA-SEA-AR Insect Pathology Research Unit, Boyce Thompson Institute, Ithaca, NY 14853.

10:15 - Sporulation of Hirsutella thompsonii Fisher in Submerged Culture. A.J. Van Winkelhoff and C.W. McCoy, University of Florida, IFAS, AREC, Lake Alfred, Florida 33850.

10:30 - Break

11:00 - Viability of Beauveria bassiana Conidia Stored with Formulation Carriers and Diluents. M.G. Ward^{1,2} and D.W. Roberts¹, Insect Pathology Resource Center: Boyce Thompson Institute and USDA-SEA-AR, Insect Pathology Research Unit, Tower Road, Cornell University, Ithaca, NY 14853.

11:15 - Effect of Formulation Carriers on the Viability and Virulence of Metarhizium anisopliae Conidia. Richard A. Daoust¹, Michael G. Ward^{1,2}, and Donald W. Roberts¹, Insect Pathology Resource Center, Boyce Thompson Institute, Tower Road, Cornell University, Ithaca, NY 14853.

11:30 - The Potential of Culicinomyces Fungi for Mosquito Control. A.W. Sweeney, Malaria Research Unit, RAAMC, Ingleburn NSW 2174, Australia.

11:45 - Pathogenicity of Ascospaera Species for Larvae of Megachile rotundata. John D. Vandenberg and W.P. Stephen, Department of Entomology, Oregon State University, Corvallis, OR 97331.

12:00 - "Black Line" Disease in Star Corals (Montastrea annularis, E&S). T. Ramos-Flores, Department of Pathobiology, The Johns Hopkins University, Baltimore, Maryland 21205.

12:15 - Observations on the Pathogenesis of the Imperfect Fungus Fusarium solani in the California Brown Shrimp Penaeus californiensis. D.V. Lightner, R.M. Redman, D.A. Danald¹, and J.E. Hose², The University of Arizona, Environmental Research Laboratory, Tucson International Airport, Tucson, Arizona 85706.

11:00-12:00 Session C. Room 104. Reid Hall.

CONTRIBUTED PAPERS: Viruses. Chair: William H.R. Langridge (Ithaca, NY).

11:00 - A Comparative Study of the Histopathology of Starvation and Chronic Stunt Virus (Calicivirus) infection in Amyelois transitella (Pyrallidae), William R. Kellen and Darlene F. Hoffman, USDA/SEA-AR, WR, SPIRL, Fresno, California 93727.

11:15 - Tissue Response Associated with Chronic Stunt Virus (Calicivirus) Infection in Amyelois transitella (Pyrallidae). Darlene F. Hoffman, USDA/SEA-AR, WR, SPIRL, Fresno, California 93727.

11:30 - An Icosahedral Virus in Soybean Looper Larvae (Pseudoplusia includens). H.A. Scott, S.Y. Young, and K.S. Kim, University of Arkansas, Fayetteville, Arkansas 72701.

11:45 - Nucleotide Sequence Homology in the DNA Isolated From Four Entomopoxviruses and Vaccinia Virus Determined by DNA-DNA Hybridization. W.H.R. Langridge, Boyce Thompson Institute, Cornell University, Tower Road, Ithaca, NY 14853.

2:00-5:15. Session D. Room 108. Reid Hall.

CONTRIBUTED PAPERS: Baculoviruses. Chair: J. Huber (Federal Republic of Germany) and H.F. Evans (United Kingdom).

- 2:00 - In Vitro Assembly of Granulin Around the Enveloped Virion of a Baculovirus. Y. Tanada, T. Yamamoto¹, and R.T. Hess, Department of Entomological Sciences, University of California, Berkeley, CA. 94720, U.S.D.A., S.E.A., A.R., Cotton Insect Research, Brownsville, Texas 78520.
- 2:15 - Characterization of the Viremia of a Granulosis Virus of Trichoplusia ni. E.M. Dougherty and C.F. Reichelderfer, USDA, Insect Pathology Laboratory, Beltsville, Maryland 20705 and University of Maryland, Entomology Department, Symon's Hall, College Park, Maryland 20740.
- 2:30 - Replication of Heliothis zea Baculovirus in an Insect Cell Line. Robert R. Granados, Kathleen A. Lawler, and John P. Burand, Boyce Thompson Institute for Plant Research, Cornell University, Ithaca, NY 14853.
- 2:45 - Multiplication of a Unicapsid Nuclear Polyhedrosis Virus of the White-Marked Tussock Moth, Orgyia leucostigma, in cell cultures. S.S. Sohi, Jean Percy, B.M. Arif and J.C. Cunningham, Forest Pest Management Institute, Canadian Forestry Service, Environment Canada, Sault Ste. Marie, Ontario, Canada P6A 5M7.
- 3:00 - Effect of Tunicamycin on the Infectivity of Autographa californica nuclear polyhedrosis virus. Brad Stiles and H.A. Wood, Insect Pathology Resource Center, Boyce Thompson Institute, Cornell University, Ithaca, New York 14853.
- 3:15 - Aspects of the Epizootiology of the Nuclear Polyhedrosis Virus of Mamestra brassicae. H.F. Evans N.E.R.C. Institute of Virology, 5 South Parks Road, Oxford OX1 3UB, U.K.
- 3:30 - Break
- 4:00 - Epizootiology of a Nuclear Polyhedrosis Virus in Populations of Fall Armyworm, Spodoptera frugiperda, in Southeastern Louisiana. J.R. Fuxa, Louisiana State University, Baton Rouge, Louisiana 70803.
- 4:15 - A Temperature-Dependent Epizootiological Model for the Lawn Armyworm, Spodoptera mauritia acronyctoides Guenée, and Its Nuclear Polyhedrosis Virus. Tae-Soo Chon and Minoru Tamashiro, Department of Entomology, University of Hawaii, Honolulu, Hawaii 96822.
- 4:30 - Field Persistence of the Codling Moth Granulosis Virus on Apple Leaves. Jürg Huber, Biologische Bundesanstalt für Land- und Forstwirtschaft, Institut für biologische Schädlingsbekämpfung, Darmstadt, Germany, F.R.
- 4:45 - Feasibility of Integrating Nucleopolyhedrosis Virus Treatment of Egg Masses With Small Mammal Management for Control of the Gypsy Moth, Lymantria dispar L. J.D. Podgwaite, H.R. Smith, and R.T. Zerillo, USDA Forest Service, Northeastern Forest Experiment Station, Forest Insect & Disease Laboratory, 51 Mill Pond Rd., Hamden, CT 06514.
- 5:00 - An Outstanding Biocontrol Agent: Baculovirus of the Red-headed Pine Sawfly. J.C. Cunningham, P. Degroot and B.M. Arif, Forest Pest Management Institute, Canadian Forestry Service, Sault Ste. Marie, Ontario, Canada.
- 2:00-3:30. Session E. Room 105. Reid Hall.
CONTRIBUTED PAPERS: Protozoa. Chair: J. Frank Morado (Seattle, Washington).
- 2:00 - Observations on the Histopathology of a Systemic Ciliate (Paranophrys sp.?) Disease in the Dungeness Crab, Cancer magister. Albert K. Sparks, Jolly Hibbits, and Julianne C. Fegley, Environmental Conservation Division, Northwest and Alaska Fisheries Center, National Marine Fisheries Service, Seattle, Washington 98112.
- 2:15 - A Coccidian Infection of Native Littleneck Clam (Prototheca staminea) Kidney. J. Frank Morado, Albert K. Sparks and Susan K. Reed, Environmental Conservation Division, Northwest and Alaska Fisheries Center, National Marine Fisheries Service, Seattle, Washington 98112.
- 2:30 - Changes in Sugars During Germination of Nosema algerae Spores. Albert H. Undeen, Robert Vander Meer, and E. Ann Ellis, Insects Affecting Man and Animals Research Laboratory, AR, SEA, USDA, Gainesville, Florida 32601.
- 2:45 - Impact and Significance of Nosema pyrausta Infection on Field Populations of Macrocentrus grandii, an Introduced Parasite of the European Corn Borer, Ostrinia nubilalis. T.G. Andreadis, The Connecticut Agricultural Experiment Station, New Haven, Connecticut 06510.
- 3:00 - A Critical Analysis of the Susceptibility of Grasshoppers to Nosema locustae. Gerald Louis Mussnug, USDA, SEA, AR, Rangeland Insect Laboratory, Montana State University, Bozeman, MT 59715.
- 3:15 - The Potential for Microbial Control of Forest Pest Insects with Pleistophora schubergi. Gary G. Wilson, Canadian Forestry Service, Forest Pest Management Institute, Sault Ste. Marie, Ontario, Canada P6A 5M7.
- 3:30 - Break
- 3:45-5:30. Session F. Room 105. Reid Hall.
WORKSHOP: Convened by Division of Microsporida.
- 2:00-4:00. Session G. Room 104. Reid Hall.
WORKSHOP: Invertebrate-Associated Fungi. Moderator: D.W. Roberts. Opening topic (presented by R.S. Soper): Revolution in Entomophthorales Taxonomy.
- 6:30-7:30 pm. Elks Lodge
NO-HOST MIXER
- 7:30 pm. Elks Lodge
BANQUET
- Wednesday, August 19
- 7:30-8:30. Chap Inn, Strand Union.
BUSINESS MEETING AND BREAKFAST: Division of Microsporida.
- 8:30-10:35. Theater, Strand Union.
SYMPOSIUM: Viruses, Fungi, and Mites Associated with the Hymenoptera. Convener and Moderator: Truman B. Clark (Beltsville, Maryland).
- 8:30 - Some New Viruses of Bees and Wasps. T.B. Clark, USDA-SEA-AR, BARC, Beltsville, Maryland 20705.
- 8:55 - Symbiotic Relationships of Parasitoid Wasps and their Viruses. S.B. Vinson, P.J. Krell, and D.B. Stoltz. Texas A&M University, College Station, Texas 77843, and Department of Microbiology, Dalhousie, Halifax, Nova Scotia, Canada.
- 9:20 - Baculoviruses for Control of Sawflies in Forests. J.C. Cunningham, Peter de Groot and Basil Arif. Forest Pest Management Institute, P.O. Box 490, Sault Ste. Marie, Ontario, Canada P6A-5M7.
- 9:45 - Fungal Pathogens of Hymenoptera. L.P. Kish. University of Idaho, Moscow, Idaho 83843.
- 10:10 - Mites of Bees and Wasps. M. Delfinado-Baker, Department of Entomology, University of Maryland, College Park, Maryland 20742.
- 11:00-12:30. Theater, Strand Union.
BUSINESS MEETING: SIP.
- Afternoon: FREE
- Evening: FREE

Thursday, August 20

- 8:00-11:25. Theater, Strand Union.
SYMPOSIUM: Formulation and Application of Microbial Control Agents. (Symposium sponsored by Division of Microbial Control.) Convener and Moderator: H.D. Burges, Glasshouse Crops Research Institute, Littlehampton BN16 3PU England.
- 8:00 - Research on Controlled Droplet Application and Other Application Methods in Relation to Microbial Pesticides. G.A. Matthews, Imperial College, London.
- 8:35 - The Electrodyne Principle Applied to the Application of Microbial Pesticides. A. St. J. Green, ICI, Bracknell, England.
- 9:10 - Formulation and Application of Microbial Pesticides by Air. R. Lidstone, 5400 Côte de Liesse, Montreal, P.O. H4P 1A1, Canada.
- 9:45 - Break
- 10:15 - Production and Storage Formulations of Entomogenous Fungi. R.A. Hall, Glasshouse Crops Research Institute, England.
- 10:50 - Formulation of Products Containing Pathogens for the Control of Mosquito and Blackfly Larvae. P. Guillet, Institut de Recherches sur d'Onchocercose, Bouake, Ivory Coast.
- 11:30-12:30. Theater, Strand Union.
BUSINESS MEETING: Division of Microbial Control.
- 2:00-3:45. Room 105. Reid Hall.
CONTRIBUTED PAPERS: Immunology. Chair: Robert S. Anderson, Sloan-Kettering Institute, Rye, NY 10580.
- 2:00 - Immunologic Interactions Between the Trematode *Schistosoma mansoni* and the Hemolymph Components of its Intermediate Host Snail *Biomphalaria glabrata*. Eric S. Loker and Christopher J. Bayne, Department of Zoology, Oregon State University, Corvallis, Oregon 97331.
- 2:15 - Bacterial Clearance in the Sea Urchin *Strongylocentrotus purpuratus*. Mary A. Yui and Christopher J. Bayne, Department of Zoology, Oregon State University, Corvallis, Oregon 97331.
- 2:30 - A Novel Antibacterial Protein in the Coelomic Fluid of a Polychaete. B.M. Chain, Sloan-Kettering Institute for Cancer Research, Rye, New York 10580.
- 2:45 - Host Response of an Amphipod, *Parathemisto pacifica*, to Infection by the Ellobiopsid *Thalassomyces marsupii*. Jolly Hibbits, Environmental Conservation Division, Northwest and Alaska Fisheries Center, National Marine Fisheries Service, Mulilteo, Washington 98275.
- 3:00 - Hemagglutinin Activity in Acrididae. K.D. Hapner and R. Jurenka, Departments of Chemistry and Biology, Montana State University, Bozeman, MT 59715.
- 3:15 - The Effect of Non-viable Particles on the Clearance of Injected *Pseudomonas aeruginosa* by *Manduca sexta*. D.W. Horohov and P.E. Dunn, Department of Entomology, Purdue University, West Lafayette, Indiana 47907.
- 3:30 - Serum Lysozyme as an Indicator of Immune Recognition in *Manduca sexta*. M.R. Kanost and P.E. Dunn, Department of Entomology, Purdue University, West Lafayette, Indiana 47907.

POSTER SESSION - BOZEMAN

Space for poster presentations is available for the Monday, August 17 afternoon Poster Session in Bozeman. No previous announcement is needed, but if you wish to utilize space please advise the Registration Desk of your intentions on arrival in Bozeman. Also, please bring 50 copies of an abstract covering your topic, and plan to man your station

at least from 3:30-4:30 pm that day.

INFORMAL DISCUSSION SESSION ON INVERTEBRATE-ASSOCIATED FUNGI

An informal discussion on invertebrate-associated fungi will be held in Bozeman from 2:00-3:30 pm Tuesday, August 18. This is intended as an opportunity to discuss work in progress or to present last-minute findings. A projector and blackboard will be available. Controversial topics are welcome. The session will begin with an attempt by Richard Soper to explain the recent wide-ranging changes in generic names of the fungi we have comfortably considered virtually a monogeneric group for many years, viz. the Entomophthorales. Previous arrangements are not necessary for contributing to this session, but please plan to make your remarks concise - no more than 5-10 minutes. If you have questions, contact Don Roberts or Richard Soper at 607-257-2030 or at the meetings.

SIP MEETING COMMITTEES

Organization of SIP annual meetings is normally managed by two groups: 1. A Local Arrangements Committee (LAC) in charge of registration, housing, banquet, meeting rooms, etc. This group is formed de novo for each meeting. 2. A Program Committee (PC) in charge of arranging the program and symposia, setting themes for meetings, suggesting meeting sites, etc. The life of this unit extends over several meetings. Obviously, for a successful meeting the LAC and PC must work closely together. In the case of meetings held outside North America, the LAC has traditionally assumed a major role in program preparation as well as local arrangements because of communications problems with the PC. In these years, the PC and a second LAC prepare an adjunct meeting in North America, usually with the American Institutes of Biological Sciences (AIBS). (See announcement of 1982 meetings elsewhere in this Newsletter).

LAC Chairpersons for the next three years are: 1981, John E. Henry; 1982, H. Denis Burges (UK meeting), William G. Yendol and William J. McCarthy (USA meeting); and 1983, Robert R. Granados.

Aaron Rosenfield, after many years of dedicated and effective service, recently stepped down as Chairperson of PC. Donald W. Roberts has replaced him, and John C. Harshbarger continues as PC member. Chairs of Divisions (Microsporidia and Microbial Control) are ex officio members. Don and John invite suggestions from SIP members on innovations they would like to see tried in our meetings.

SIP SUPPLEMENTARY MEETING IN USA IN 1982

The official SIP Annual Meeting in 1982 will be held in Brighton, England the week of September 5. As in past years when the official meeting was held outside of North America, the Society will sponsor an adjunct two- to three-day meeting in the USA. This will be held in conjunction with the annual AIBS meeting at Pennsylvania State University, University Park, Pennsylvania August 9-11, 1982. The length of the meeting will depend upon the number of symposia, workshops, and contributed papers. U.S. members are encouraged to attend both the Brighton and University Park meetings, if possible.

The program, as in the past, will be arranged by the SIP Permanent Program Committee. They will issue a call for papers in early 1982. The Society has had the good fortune to have William G. Yendol and William J. McCarthy, two of our members at Penn State, agree to serve as the Local Arrangements Committee for the meeting. They inform us that "The University Park Campus of the Pennsylvania State University is in the Borough of State College, near the geographical center of the state. The campus can be easily reached by several means. State College is on the east/west route of Greyhound and Continental Trailways bus lines. Allegheny Commuter Airlines (US Air) serves central Pennsylvania with 3 direct flights from Harrisburg, PA; 8 direct flights from Pittsburgh, PA; and 2 from Washington, DC, daily."

CALENDAR OF EVENTS FOR SIP MEETING AT BOZEMAN

Time	Sunday August 16	Monday August 17	Tuesday August 18	Wednesday August 19	Thursday August 20
Morning	<p>9:00-12:00 Council Meeting - City Center Motel</p> <p>9:00-12:00 Registration - Leigh Lounge, Strand Union</p>	<p>8:00-12:30 Registration - Leigh Lounge, Strand Union</p> <p>8:30-9:00 Opening Session - Theater, Strand Union</p> <p>9:00-12:30 Symposium: <u>Bacillus</u> <u>thuringiensis</u> var. <u>israelensis</u>. Theater, Strand Union</p>	<p>8:30-12:00 Registration - Leigh Lounge, Strand Union</p> <p>8:30-12:00 Symposium: Epizootiology of Disease in Marine Invertebrates - Rm. 105, Reid Hall</p> <p>8:30-12:30 Fungi-Rm. 108, Reid Hall</p> <p>11:00-12:00 Viruses-Rm. 104, Reid Hall</p>	<p>7:30-8:30 Business Meeting and Breakfast: Division of Microsporida-Chat Inn, Strand Union</p> <p>8:30-10:35 Symposium: Viruses, Fungi, and Mites Associated with Hymenoptera - Theater, Strand Union</p> <p>11:00-12:30 Business Meeting: SIP - Theater, Strand Union</p>	<p>8:00-11:25 Symposium: Formulation and Application of Microbial Control Agents - Theater, Strand Union</p> <p>11:30-12:30 Business Meeting: Division of Microbial Control - Theater, Strand Union</p>
Afternoon	<p>2:00-6:00 Council Meeting- (cont.)</p> <p>4:00-8:00 Registration - (cont.)</p>	<p>1:30-4:00 Registration - Leigh Lounge, Strand Union</p> <p>2:00-6:00 Virus-like, Rickettsia- like, and Bacteria - Rm. 105, Reid Hall</p> <p>3:30-4:30 Poster Session - Hallway, Reid Hall</p>	<p>2:00-5:15 Baculoviruses - Rm. 108, Reid Hall</p> <p>2:00-3:30 Protozoa - Rm. 105, Reid Hall</p> <p>2:00-4:00 Workshop: Fungi - Rm. 104, Reid Hall</p> <p>3:45-5:30 Workshop: Division of Microsporida - Rm. 105, Reid Hall</p>	FREE	<p>2:00-3:45 Immunology - Rm. 105, Reid Hall</p>
Evening	<p>6:30-8:30 Mixer - Leigh Lounge, Strand Union</p>	<p>8:00 Workshop: Working Group on Safety of Microbial Control Agents - Rm. 105, Reid Hall</p>	<p>6:30-7:30 No-Host Mixer - Elks Lodge</p> <p>7:30 - Banquet</p>	FREE	FREE
All Day (extra curricular)	<p>Bus Tour - Yellowstone Park</p>	<p>Local Attractions Big Sky</p>	<p>Virginia & Nevada City Lewis & Clark Caverns</p>	<p>1:00-6:00 pm Madison Float Trip</p> <p>6:00-9:00 pm Kegger (hamburgers & beer)-Madison River</p>	<p>Thursday - Butte (Mining) & Helena (Art Museum) Friday - Yellowstone Park - 1 or 2 days</p>

Further notes on SIP -Bozeman

Don't miss this year's SIP meeting in Montana. Not only are some outstanding symposia and papers being given, but many extracurricular activities are planned so all can enjoy a taste of this scenic and historic area.

Upon arrival at the Bozeman airport commercial service into town will be available for approximately \$7.00 per person. Those staying in campus residence halls should report to North Hedges dormitory at MSU. Dining areas will be open in both North Hedges and the student union building for all meals Monday through Friday. Registration begins at 9:00 AM Sunday August 16th and will continue at various times throughout the meeting.

Final reservations for area activities will close at 5:00 PM Monday August 17th (except for the two day Yellowstone National Park tour for which the deadline has been extended to July 20th). ADVANCE NOTIFICATION BY MAIL WOULD BE GREATLY APPRECIATED TO FACILITATE FOOD SERVICES AND RAFT AND BUS RENTALS. Please use the enclosed form to inform us of your plans. Payment for all the activities will be collected at registration - please do not send money in advance. The activities are:

Monday August 17 - The trip to Big Sky, Montana, has been cancelled as travelers en route to Yellowstone will pass through this area.

Tuesday August 18 - Nevada City, Virginia City, and Lewis and Clark Caverns This is an all day activity (8:00 - 5:00). Participants will first visit Nevada City, a restored mining town, and then go on to Virginia City, famous as the center of the Montana Gold Rush. Last stop is Lewis and Clark Caverns where the famous explorers spent a winter. The tentative price is \$10.00 which includes bus fare and tickets to Nevada City and the Caverns.

Banquet at the Elks Lodge (7:30 PM) Evening dinner banquet to which all are welcome. The cost will be \$5.00 for regular and student members and \$10.00 for guests.

Wednesday August 19 - Madison River Float Trip and Kegger This trip includes a four to five hour float in rubber rafts on the Madison River followed by a hamburger cookout with free beer and soft drinks. Sorry, no white water, folks; but the scenery is superb and spin-cast fishing will be permitted from designated rafts. Foot wear, preferably tennis shoes, is mandatory as the river is shallow with slippery rocks. Hats, long sleeved shirts, long pants, etc. as sun protection are highly advisable. Life jackets are included. The price is \$9.00 per person plus the cost of hamburgers (\$1.00 @). Those who do not wish to float the river, but would like to join the kegger will be transported directly to the cookout site - the cost will be \$6.00 per person, plus hamburger charges.

Thursday August 20 - Butte and Helena Tour Another all day activity. In Butte visit the richest hill on earth and the world famous mining museum. In Helena, capitol of Montana, visit the world famous Montana Art Gallery where works of western artists are on display, including originals by Russell and Remington. Price will be approximately \$12.00 which includes bus fare and tickets to the attractions.

Friday August 21 - One Day Yellowstone National Park Tour (7:00 - 7:00) This tour will visit the major geyser basins, Yellowstone Lake, Mud Pots, with a lunch break at Old Faithful. Wildlife is usually present throughout the drive, such as elk, moose, buffalo, and many birds. The projected cost is \$12.00 per person; food and extras at personal expense.

Friday August 21 and Saturday August 22 - Two Day Yellowstone National Park
 The two day tour will stop at the major geyser basins and Old Faithful then continue south through Grand Teton National Park to Jackson, Wyoming for the night. Saturday the trip continues back to the north with stops along Yellowstone Lake, the Grand Canyon of Yellowstone and Mammoth Hot Springs. The final leg to Bozeman will be through Paradise Valley. The price for this trip will not be known until final vehicle arrangements have been made.

SEND TO: SIP - Bozeman
 c/o Rangeland Insect Lab
 Montana State University
 Bozeman, MT 59717

SIP - BOZEMAN ACTIVITIES

Please indicate below which activities you plan to join. MONEY WILL NOT BE DUE UNTIL YOU REGISTER AT THE MEETING IN BOZEMAN.

Activity	Number of People
Mixer - August 16 at MSU	_____
Nevada City, Virginia City, etc. August 17	_____
Banquet at Elks Lodge August 18	_____
Madison River Float and Kegger August 19	_____
KEGGER ONLY	_____
Butte and Helena Tour August 20	_____
One Day Yellowstone Park Tour August 21	_____
*Two Day Yellowstone Park Tour August 21 and 22	_____

NAME: _____
 SPOUSE AND CHILDREN NAMES: _____
 ADDRESS: _____
 _____ (PHONE) _____

*Those who have indicated wishing to join this trip previously have confirmed reservations and need not indicate intentions again.