



newsletter

society for invertebrate pathology

Volume XI, Number 2
May 1979

PROVISIONAL PROGRAM--SIP XIIth ANNUAL MEETING
University of Florida
August 26-30, 1979

Sunday, August 26

10:00-12:00 Council Meeting
Registration
12:00- 2:00 Luncheon
2:00- 4:00 Council Meeting continued
Registration
7:30-10:00 Mixer/Museum Tour

Monday, August 27

8:30- 6:00 Registration
8:30-12:30 Symposium--Mechanisms of Disease
Transmission
12:30- 2:00 Luncheon
2:00- 5:30 Contributed Papers
5:30- 7:30 Editorial/Publication Board Dinner
5:30- 7:30 Dinner
7:30-10:00 Workshop--Safety/Non-Target

Tuesday, August 28

8:30-12:30 Symposium--Invertebrate Circulatory
Systems
12:30- 2:00 Luncheon
2:00- 5:30 Contributed Papers
5:30- 7:30 Barbecue
7:30-10:00 Workshop--Microsporida

Wednesday, August 29

8:30-12:30 Symposium--Epizootiology of Invertebrate
Diseases
12:30- 2:00 Luncheon
2:00- 5:30 Contributed Papers
5:30- 7:30 Dinner
7:30-10:00 Workshop--Environmental Monitoring

Thursday, August 30

8:30-12:30 Symposium--Genetic Manipulation
12:30- 2:00 Luncheon
2:00- 5:30 Contributed Papers
5:30- 7:30 Dinner
7:30-10:00 Workshop--Formulations/Applications

FROM THE TREASURER

Notices for 1979 dues were mailed in late December and early January to 615 members. Through April 27, 1979, 377 members had paid their 1979 dues and 135 had subscribed to the Journal of Invertebrate Pathology. Fifty members are more than two years delinquent in their payment of dues and in accordance with article III-14 of our constitution are being notified by the Secretary that they will be dropped from the Society rolls if dues are not paid.

Members who did not receive or would like another 1979 dues statement should contact the Treasurer. Members having problems (hopefully there will be none) with their individual subscriptions to the Journal of Invertebrate Pathology should also direct these to the Treasurer.

J. V. Maddox

MICROSPORIDIAN WORKSHOP

The microsporidian workshop will be held at the XIIth Annual Meeting on Tuesday, August 28, 7:30-10:00 p.m. Two major topics will be the subject of this year's workshop: (1) The characterization of microsporidia by gel electrophoresis, and (2) The production of microsporidian spores.

Doug Streett and John Briggs will discuss their work on the characterization of a number of microsporidian species by the use of SDS-polyacrylamide gel electrophoresis. They will emphasize the methods used for their study and the taxonomic significance of their findings. Jerry Nordin, John Henry, and others will discuss techniques for producing microsporidian spores.

As usual the workshop will be rather informal and all persons interested in the microsporidia are welcome. Microsporidiologists should bring any items such as electron photomicrographs, light microscope slides, etc. which they would like to share with the people at the workshop.

COOPERATIVE RESEARCH IN SOUTH AMERICA

In December 1976, a Bi-National Study-Seminar on the Current Status of Acridology in the New World was held at San Martin de los Andes in Neuquen Province, Argentina. The meeting was sponsored jointly by the U.S. National Science Foundation and the Consejo Nacional de Investigaciones Cientificas y Tecnicas (CONICET) in Argentina. The primary purpose was to bring together acridologists from Argentina and the United States in order to develop lines of communication and to foster cooperative research projects of mutual interest and benefit. Representatives from a number of other countries also participated, at their own expense, in the meetings.

One project that was initiated after these meetings was on the pathology and microbial control of grasshoppers and locusts. The project was funded again by NSF (Science Development in Latin America) and CONICET with Dr. Ricardo Ronderos, Facultad de Ciencias Naturales y Museo, Universidad Nacional de LaPlata as principal investigator for Argentina and I am serving as principal investigator for this country. In addition, Ing. Leopoldo Esquivel (director of grasshopper and locust control), Servicio Nacional de Sanidad Vegetal, Secretaria de Agricultura y Ganaderia and Ing. Hugo Cordo, Office-in-Charge, U.S. Dept. Agric., Biological Control of Weeds Research Laboratory, Buenos Aires (Hurlingham) participate as cooperators.

During January through March of 1979, studies were initiated in Argentina on the susceptibility of Argentine grasshoppers and locusts to pathogens isolated from grasshoppers in North America, including *Nosema locustae*, *N. acridophagus*, *N. cuneatum*, and an entomopox virus (grasshopper inclusion body virus). Field trials were initiated using *N. locustae* with and without small amounts of a chemical insecticide against both grasshoppers and locusts. Although the results of the field tests are not available, preliminary evidence indicates that they were successful and plans are being developed for expanded tests the following year. The studies also resulted in isolation of an undescribed microsporidian and a different entomopox virus from Argentine grasshoppers which eventually will be tested against grasshoppers in the United States.

My reason for this report in this Newsletter is to point out that there exists numerous other opportunities to initiate similar cooperative projects with Argentine and other South American scientists. For example, I am aware of the great need for invertebrate pathology expertise in cooperative studies of shellfish culture investigations being conducted at the Centro Regional Patagonico, a research station at Puerto Madryn, Chubut Province. Parasitology expertise is needed at the same location for studies of avian parasites that use shellfish as intermediate hosts. Also, there is need for cooperative insect pathology studies with such as black flies, field crop pests, forest insects, etc. In fact, to my knowledge, there are no trained and/or full-time insect pathologists, and probably invertebrate pathologists, working in South America.

I am confident that serious cooperative proposals will be received favorably by both NSF and CONICET, and they will receive the support of the Counselor for Scientific and Technological Affairs at the U.S. Embassy in Buenos Aires.

Anyone wishing more information about this may contact me directly.

J. E. Henry
SIP Secretary

1979 ANNUAL TECHNICAL MEETING OF THE REGIONAL RESEARCH PROJECT S-135 -- DEVELOPMENT OF MICROBIAL AGENTS FOR USE IN INTEGRATED PEST MANAGEMENT

The first meeting of S-135 was held at the Airport Howard Johnson's Motor Lodge in Atlanta, Georgia, on February 19 and 20, 1979. Unfortunately, ice and snow storms on February 18 severely hampered travel to Atlanta due to almost total closure of the Atlanta airport. As a result, participants arrived in scattered numbers on Sunday, February 18 and throughout the day of February 19. Several could not reschedule cancelled flights early enough and were unable to attend at all. Nevertheless, by 1:00 p.m. on Monday, 21 participants were in attendance, and by Tuesday morning, 37 were present as follows:

G. Allen, D. Anthony, M.R. Bell, S. Bilimoria, D. Boucias, T. Blythe, G. Carner, T. Couch, J. Cunningham, B. Federici, J. Hamm, L. Hargett, J. Harper, H. Kaya, C. Keefer, L. Kish, D. Kucera, L. Lewis, J. Maddox, C. McCoy, M. McFadden, W. McLane, G. Nordin, J. Paschke, O. Pavan, W. Ramoska, T. Reed, C. Reichelderfer, M. Rogoff, M. Shapiro, T. Shieh, M. Summers, P. Vail, L. Warren, W. Yearian, W. Yendol, and S. Young.

On the morning of February 20, an informal discussion was held with Dr. L.O. Warren, the S-135 Administrative Advisor and the meeting was formally called to order by Dr. Seth Young at 1:00 p.m. In the initial business meeting, Dr. Young discussed the mechanism of development of the annual report for the project which was due in Washington by March 15, 1979. Dr. Young then asked for informal introductions and stated that S-135 now had 62 members. He appointed Drs. Maddox (Chairman), Lewis, and Summers as a committee to decide on a time and place for the 1980 meeting. Because the S-135 chairman, secretary, sub-committee chairmen, and rep.-at-large were designated to serve a two year term when the project was initiated in 1978, no nominating committee was appointed.

Dr. Warren gave a status report and said that S-135 was currently the largest regional project and that the technical representative system included Federal and private institutions. The structure of regional research projects was explained as well as the allocation of regional research funds.

Since regional projects have little financial support, increase in funding was being sought by Cooperative Research for competitive grants to develop programs in integrated pest management in all regions of the United States. S-135 members should strive to interface with IPM programs in their states or organizations or to develop such programs.

Dr. Martin Rogoff from EPA then discussed the current direction that EPA is moving in handling biological insecticide registration requests. The general program has four parts as follows:

1. Development of a general policy statement regarding registration of biological insecticides.
2. Development of registration guidelines broad enough to satisfactorily cover all biological insecticides.
3. Determination, through cooperative efforts which biological agents will come under EPA jurisdiction and which will be regulated by other agencies.

4. Provision of research support within EPA where needed to answer questions posed by the guidelines relative to registration of biological insecticides.

Dr. Rogoff indicated that aid will be sought from all sectors in developing the guidelines. He stated that guidelines applicable to chemical registration will not simply be modified for biological insecticide registration. At present, guidelines will cover only microbial agents and naturally occurring biochemicals. They will not include biochemicals such as synthesized growth regulators and synthetic pyrethroids. Dr. Rogoff stated that EPA has greatly under-funded research on biologicals, presently giving support only to some aspects of virus research. This should be improved and expanded under the fourth point above.

The timetable for accomplishing the goals outlined above were projected as follows: A revision of general policy and guidelines for Research and Development Section by May 15, 1979; publication of the general policy statement in the Federal Register by July 1979; publication of environmental chemical guidelines in the Federal Register by October 1979; publication of ecological effect guidelines in the Federal Register by November 1979; publication of human safety guidelines in the Federal Register by July 1980; clarification of registration exemptions under Section 25B by December 1, 1979.

In the interim, Dr. Rogoff is expediting registration requests by participating personally in the review processes. Future requests will be expedited by assignment of a product manager from the Registration Division to each request submitted.

Dr. Young stressed the role S-135 would serve in information exchange between EPA and insect pathologists.

The remainder of the afternoon was devoted to reports of 1978 research results on bacteria and viruses. The meeting was adjourned at 5:00 p.m. The group reconvened at 7:00 p.m. and continued the reports on virus research until 9:30 p.m. and then adjourned.

On February 20, Dr. Young called the meeting to order at 8:00 a.m. Dr. Allen, Cooperative Research representative, outlined how IPM research is currently viewed by SEA, showing clearly the place that entomologists occupy relative to other disciplines and their interactions. He explained current levels of Federal funding relative to basic pest control, component pest research, and IPM research. He stressed that this group (S-135) needed to show cohesiveness if insect pathogens are to continue to receive consideration for funding from IPM earmarked funds. Dr. Allen stated that EPA did not have safety testing of pathogens in its projected funds and suggested that S-135 might wish to push for establishment of a safety testing center or centers.

Dr. Maddox then presented his committees' report on site selection for the 1980 meeting. Opryland Hotel in Nashville was suggested with subsequent voice approval by the group. February 25-26 was the recommended date. Some concern was expressed by various participants as to the number of meetings each year that require their participation. Suggestions as to alignment of S-135 with several societal meetings were suggested but were rejected. Dr. Yendol stated that Subsection C of the ESA might be divided and that insect pathology might receive subsection status. Dr. Yendol was appointed to contact ESA and attempt to initiate establishment of a subsection on microbial control.

Discussion on the desirability of a division on microbial control in the Society of Invertebrate Pathology also took place. A committee was appointed to explore the feasibility of such a division. Dr. Young appointed Dr. Maddox as chairman of this committee with Drs. Federici, McCoy, and Yendol as additional members.

The remainder of the morning was devoted to reports of research results with insect pathogenic fungi and protozoa. After lunch the technical committee divided into two groups to discuss plans for 1979 research. The bacterial and virus subcommittees met jointly as did the protozoan and fungus subcommittees.

During the final business session Dr. Kaya requested that a subcommittee be established for nematode research which was favorably received by the members present. Dr. Young instructed Dr. Kaya to write a formal request to Dr. Warren.

Considerable discussion on the meeting format structure ensued but no procedure was selected. The subcommittee chairman and project chairman agreed to consider all points discussed in establishing a format for the 1980 meeting.

Dr. Yendol commented on the potential for S-135 to supply a source of needed expertise for future ESA and other Committees.

The meeting was adjourned at 4:00 p.m. by Dr. Young.

James D. Harper
Secretary, S-135

FIRST JOINT US/USSR CONFERENCE

A joint US/USSR conference was held in Jurmala (Riga), Latvia, SSR, from May 21 to May 26, 1978. The conference was part of the continuing activities of Project V. Microbiological Control of Insect Pests, of the US/USSR Joint Working Group on the Production of Substances by Microbiological Means. The Working Group is under the US/USSR Agreement on Cooperation in Science and Technology. The American Society for Microbiology, through a contract from the NSF, provided financial and administrative support for the conference. The conference dealt with the production, selection, and standardization of entomopathogenic fungi. The objectives of the conference were (1) review past work and determine the current status of use of entomopathogenic fungi for controlling insect pests in both the USA and USSR; (2) define specific research objectives and scientists who will engage in collaborative research; and (3) develop a formal working document to assist in implementing research objectives. Presentations covered both basic and applied research on the feasibility of developing fungi for control of insect pests. Research in the USA and USSR has concentrated on species of Aschersonia, Beauveria, Entomophthora, Hirsutella, Metarhizium and Nomuraea. The foundation for a cooperative program on entomopathogenic fungi with the USSR under Project V (01.0705) Microbiological Control of Agricultural Pests, has now been established.

The proceedings contain 7 USA and 11 USSR papers presented at a joint US/USSR conference on entomopathogenic fungi. This conference was part of the activities of a project under the US/USSR Agreement on Science and Technology and are available from the National Technical Information Service, Springfield, Virginia, 22161, USA.

NEW MEMBERS

SIP welcomes the following new members to our Society:

Dr. Muhammad A. Alikhan
Department of Biology
Laurentian University
Sudbury, Ontario
P3E 2C6 Canada

Mr. Charles Dedryver
Laboratoire de Zoologie
I.N.R.A. École Nationale Supérieure
Agronomique de Rennes
65, rue de Saint-Brieuc
F-35042 Rennes Cédex
France

Mr. Graham Paul Allaway
Glasshouse Crops Res. Inst.
Rustington, Littlehampton
Sussex, BN 163 PU
England

Dr. Theodore G. Andreadis
Department of Entomology
Connecticut Agricultural Exp. Sta.
123 Huntington Street, Box 1106
New Haven, CT 06504

Dr. M. Aslamkhan
Pakistan Medical Research Center
6 Birdwood Road
Lahore - 3, Pakistan

Dr. Anmyl Cooper-Willis
c/o National Marine Fisheries Service
Biological Laboratory
Oxford, MD 21654

Dr. N. E. Crook
Glasshouse Crops Res. Inst.
Rustington, Littlehampton
Sussex, BN 163 PU
England

Dr. Richard A. Daoust
Lakeview Meadows, Apt. 12D
100 Graham Road
Ithaca, NY 14850

Dr. H. F. Evans
Unit of Invertebrate Virology
5, South Parks Road
Oxford OX1 3RB
England

Dr. Armindo R. Filipe
Ave. D. Pedro V-11, 3^o ESQ
2795 Linda-A-Velha
Portugal

Dr. Cara Fries
SLHS - Wolf Hall
University of Delaware
Newark, DE 19711

Dr. Kalpataru Kanungo
Dept. of Biol. & Environmental Science
Western Connecticut State College
Danbury, CT 06810

Mr. J. Thomas McClintock
Department of Entomology
University of Maryland
College Park, MD 20740

Mr. Clyde B. Moore
Department of Economic Entomology
Clemson University
Clemson, SC 29631

Dr. L. M. Sutton
10 Devonshire Drive
Greensboro, NC 27410

Mr. Stephen Wraight
N.Y.S. Science Service
Biological Field Station
Cambridge, NY 12816

Research Interests of New Members:

Dr. Muhammad A. Alikhan - Mechanism of pathogen action in insects and crustaceans

Dr. Graham Paul Allaway - Viruses of lepidopterous pests on cabbage

Dr. Theodore G. Andreadis - Microsporidia; mosquito pathology

Dr. M. Aslamkhan - Mosquito pathology, mosquito systematics and genetics

Dr. Anmyl Cooper-Willis - Cellular defense mechanisms of molluscs and crustaceae

Dr. N. E. Crook - Biochemical studies on insect viruses and their use for pest control

Dr. Richard A. Daoust - Control of mosquitoes with Metarhizium anisopliae

Mr. Charles Dedryver - Epizootiology of Entomophthora on aphids in the west of France; biological control of aphids with Entomophthora

Dr. H. F. Evans - Invertebrate virology

Dr. Armindo R. Filipe - Arthropod-borne virus diseases

Dr. Cara Fries - Comparative immunobiology/pathology; ultrastructure of marine invertebrates and fish

Dr. Kalpataru Kanungo - Invertebrate circulation; tissue culture

Mr. J. Thomas McClintock - Insect viruses: Autographa californica NPV

Mr. Clyde B. Moore - Insect viruses; lepidopteran NPV

Dr. Valerie J. Smith - Infectious diseases and host defense reactions of commercially important shellfish species (Mollusca and Crustacea)

Dr. L. M. Sutton - Entomogenous fungi

Mr. Stephen Wraight - Microbial control of mosquitoes

MEETING ANNOUNCEMENT

Biological Control in Crop Production

The Beltsville Agricultural Research Center will hold Symposium V on Biological Control in Crop Production--Science and Education Administration, Agricultural Research, Beltsville, Maryland, U.S.A., May 18-21, 1980. Contact: E. M. Dougherty, Chairman, Publicity Committee, BARC Symposium V, Building O11A, Beltsville Agricultural Research Center-West, Beltsville, Maryland 20705.

The following companies are sustaining members of the Society for Invertebrate Pathology during 1979:

Hoechst Aktiengesellschaft
Pflanzenschutzforschung Biologie
Postfach 800 320
6230 Frankfurt (M) 80
West Germany

Sandoz, Inc.
P.O. Box 1489
Homestead, Florida 33030
USA

Stauffer Chemical Company
1931 So. First Street
San Jose, California 95112
USA

Sustaining memberships are \$100 per year. We appreciate the interest these companies have shown in our Society.

LETTERS TO THE EDITOR

Over the months that I have been editor of the Newsletter, I have received letters from various people about the Letter or some other facet of the Society. All other societies have a section for letters, and I thought it appropriate to open a column for our people. The only criteria that I insist upon is that the letter be signed, no anonymous letters please, and that it not be vituperative. It is also understood that the opinions expressed by our letter-writers are not those of the Newsletter or the Society officially.

Aris J. Dommas
Editor

To the Editor:



BEATING THE HEATING PROBLEM

From the Editor

LETTER TO THE EDITOR

Last year coverage of Journal of Invertebrate Pathology by Current Contents was transferred from the Life Sciences edition to the Agriculture, Biology and Environmental Sciences edition. Several SIP members contacted the publishers of CC to protest the change and/or inquire as to why the change had been made. One spokesman for CC replied that "The pattern of its citation by related publications did not show it to be a part of the select core literature of the life sciences as a whole." Apparently based on data in "Citation Index" (published by the same company), it was found that papers in JIP were more often cited in journals considered by Citation Index to be in applied fields. Because of the proliferation of journals, CC cannot list all of them in the Life Sciences edition, and except for ones of general interest, does not have a policy of listing a journal in more than one edition of CC.

One may well argue with the method used to determine that JIP is an "applied" journal. Further, it is the only journal devoted to pathobiology of invertebrates, which as we all know, are the most numerous in species and individuals in the animal kingdom. Basic scientists dealing with vertebrate pathology should be aware of related research on invertebrates. Listing of JIP in the Life Sciences edition of CC would benefit them. It also would benefit those who study other aspects of invertebrate biology.

The subscription price of CC is \$150 per year in the US and higher elsewhere. It is impractical for individuals and smaller laboratories to subscribe to both editions, and yet these users are the ones most dependent on CC for information on the most recently published literature. The ideal solution from our standpoint would be to have JIP listed in both the Life Sciences and the Agric. Biol. & Environm. editions. If that is impractical from CC's standpoint, I think that SIP should urge listing in the Life Sciences as being more appropriate and useful.

Personally I see no reason for suppressing the number of applied papers in JIP nor in using the CC decision as a lever to decrease coverage of applied invertebrate pathology in JIP. Application is one proper end result of basic research. Decreased financial support has turned many basic scientists toward more applied projects, but I see no indication that quality of their research has suffered badly. Basic data continue to be produced, and there are few applied papers in JIP that do not add to the fund of basic knowledge. I am old enough to remember the time when some academic scientists shied away from studying economically important invertebrates from any angle--perhaps because their use implied a practical purpose for that research. This tendency is no longer marked. One suspects that the same sea change may occur concerning "applied" versus "basic" research.

If any of the membership have strong feelings about reinstatement of JIP in the Life Sciences edition of CC, I would welcome comments from them. Conversely, I would like to hear from those who feel it is appropriately placed in the Agri. Biol. & Environm. edition. On the other hand, perhaps many of you do not use CC and consider this letter just one more wave in a teapot tempest. Perhaps we should all relax, perusing Biological Abstracts and like journals instead of CC. After all, abstracting journals flesh out a title and they are not so out-of-date as they used to be.

Phyllis T. Johnson
Vice President

SIPeople

This column is a new feature which shows how busy our various members really are between our own Annual Meetings. We would appreciate your assistance. Just drop a little note or card telling us what you have done or propose to do.

Al Undeen of the Research Unit on Vector Pathology has been field testing Bt. var israelensis against Si. damnosum at Bouaké, Ivory Coast. The work shows some very promising results, and a paper will appear shortly.

Brian Federici visited Chapel Hill, but was stalled at the Atlanta Airport for awhile because of the "big snow" that hit the east coast in February. Stayed a day or so, then tried to leave from Raleigh-Durham but couldn't get out again because of snow. Finally left the sunny south (?) by bus. . . . Howard Whisler made a swing through the mid-west and dipped down to chat with us at Chapel Hill to discuss Coelomomyces with J. Couch, now has headed back west. John Henry, our secretary back from Argentina, where he has had occasion to go several times this year. I believe he is off again but not sure. . . . John Briggs off on his many trips back and forth to Geneva for the WHO Benefit. . . . Aaron Rosenfield our indefatigable program committee chairman off somewhere for business. I hope you have some good track shoes Aaron. He attended an ICES (Inter-

national Council for Exploration of the Sea) committee meeting at Conwy, Wales, April 2-6, 1979 and also visited several UK laboratories that are concerned with pathology of marine animals.

MEETING ANNOUNCEMENTS

American Society of Parasitologists, Minneapolis, Minnesota, U.S.A. July 29 - August 3, 1979

Clayton R. Page, Department of Biology,
Tulane University, New Orleans, Louisiana,
70118, U.S.A.

International Symposium on Animal, Plant and
Microbial Toxins (6th), Uppsala, Sweden

D. Eaker, Institute of Biochemistry,
University of Uppsala, Box 576, S-751 23
Uppsala I, Sweden

BOOK REVIEW

Mycotoxic Fungi, Mycotoxins, and Mycotoxicoses:
An Encyclopedia Handbook. Three Volumes.
Edited by Thomas D. Wyllie and Lawrence G.
Morehouse. Marcel Dekker, Inc., New York,
1978, \$156

Reviewed by Charlotte C. Campbell in American
Society for Microbiology News. Vol. 45, #3,
p. 180, March 1979.

SIP NEWSLETTER

Aris J. Domnas, Editor
c/o Department of Botany
Coker Hall 010-A
Biochemistry Laboratory
University of North Carolina
Chapel Hill, North Carolina 27514 USA