sip

NEWSLETTER

society for invertebrate pathology

VOLUME 23, NUMBER 3
November 1991

THE SOCIETY FOR INVERTEBRATE PATHOLOGY HAS CONTRACTED FOR HOME OFFICE SERVICES

The increasingly burdensome duties of the Treasurer led Council in 1989 to approve opening negotiations with organizations which could provide home office services to SIP. The necessity for assistance with financial management was rendered more urgent by the death of our newly elected Treasurer, Charles Reichelderfer, in Australia in 1990. Several organizations were contacted, and the selection was finally narrowed to the Federation of American Societies for Experimental Biology (FASEB), located in Bethesda, Maryland, close to Washington, DC. FASEB Headquarters are near the National Institutes of Health campus, where a staff of 125 employees is maintained. FASEB is a 501C non-for-profit organization dedicated to providing services to life science associations. FASEB was founded in 1912, and currently consists of seven member societies (including such large societies as the American Society for Biochemistry and Molecular Biology and the American Society for Cell Biology), and ca. 15 client associations. FASEB offers its affiliated societies services such as publication, membership fulfillment, financial services, placement services, etc. A Board of Directors serves as its policy making body, while management is provided through the Director's office. SIP applied to FASEB as a client organization.

Initial discussions with FASEB were undertaken by Elizabeth Davidson, with John Harshbarger acting as our Washington-based representative. All negotiations were actively discussed also with Donald Roberts, our acting Treasurer and Past President. Two ballots of Council were taken during 1991. The first ballot asked Council whether the initial offer of services and estimated costs were acceptable. This ballot was in favor of further negotiations, with reservations on the costs to the Society. Following further negotiations during which secretarial services were eliminated, a second ballot was taken on the final offer of services. This ballot was fully in favor of contracting for services with FASEB. A contract for association management services was examined by E. Davidson, D. Roberts and C. Payne, and was approved and signed by E. Davidson on behalf of Council on July 15, 1991. The Executive Director of FASEB, Dr. Michael Jackson, attended the 1991 Council meeting in Flagstaff for detailed discussions with the SIP Council.

Briefly, the contract between SIP and FASEB includes coordination of Membership Services (dues notices, dues collection and deposit, maintenance of the membership data base, follow-up on memberships, production of a Directory, mailing labels, etc.) and Financial Management (cash management, bill payment, receipt deposit, audit, budget assistance, and some investment). Under our present contract, the cost for membership services will be $2.80 per member. Financial management services will cost $225 per month ($2700 per year). Postage, printing, etc. are additional.

Because David Tyrrell has resigned his post as Newsletter Editor with the Abstracts Issue of 1991, the Society has also contracted with FASEB for publication and distribution of the Newsletter. E. Davidson will become Editor of the Newsletter with the current issue; Mark Goettel has agreed to become Assistant Editor. FASEB has estimated costs of printing and distribution of the Newsletter and abstract volume at ca. $7700, which includes mailing but not costs incurred by the Editor.

The Society should realize several benefits from this contract. These will include:

-on-time dues collection with prompt notices to those in arrears;
-mailing lists on demand for a small fee;
-financial advice from organization managers with many years' experience, particularly on investment to maximize income while maintaining the security of our accounts;
-up-to-date information on finances and an annual financial statement to the membership;
-assistance to the Treasurer in preparation of the budget;
-production of a Society Directory every two years;
-coordination of an aggressive effort to increase membership, in collaboration with the Membership Chair, Wendy Gelernter;

-a change in the membership form to provide us with more pertinent information on our members, which can be used to generate lists of persons with specific interests;

-printing and mailing of the Newsletters using the services of a large publication and bulk mailing shop, freeing the Editor to gather news.

Of particular interest to our members outside the USA, we are exploring the payment of dues by credit card. Such payments are a definite benefit to the member, as foreign exchange is automatic and cost-free. However, there is a charge to the Society of ca. $1.35 for each such transaction which cannot be recovered from the membership fee. For this reason we cannot offer this service at this time, but will investigate it further if an increase in dues is approved.

It will be obvious to everyone that the total cost of these services is more than our current membership fee. For at least the past two years, our $15 annual dues have not covered the services received by our members, mainly the publication and mailing of the Newsletters. Publication and distribution of the Proceedings of the 1990 International Colloquium was an additional large expense. The Society has depended upon profit from the Annual Meetings for the day-to-day running of its affairs. In other words, the Annual Meetings have supported the Society. In this situation, the failure of a single Annual Meeting to return a profit will have a significant impact on the Society's finances.

This dangerous financial situation must be alleviated by increasing our annual dues to cover the regular and necessary costs of the Society. A motion to this effect will appear on the next ballot. Additional information is given below.

DUES INCREASE IS REQUESTED ON THE NEXT BALLOT

The current SIP membership is around 900 members. Based upon 900 members, the per-member cost of membership services and financial management from FASEB will be ca. $5.80 per member per year. Cost of the Newsletter printing and distribution will be an estimated additional $13 per member per year. Postage, printing for dues notices, mailing label runs, Editor and other officers' expenses, etc. will be additional, for a total cost of over $20 per member per year. Since some of these costs are fixed and not dependant on the number of members, increasing our membership is financially beneficial to us, whereas loss in membership will raise the cost to each of us.

An examination of the Treasurer's and Newsletter Editor's reports from 1990-91 will reveal that our current costs are close to those proposed by FASEB. We have relied upon volunteers for financial and mailing list management, as well as for production and mailing of the Newsletter, which services will now be conducted professionally by FASEB. The Treasurer will now be left free for financial planning on behalf of the Society, rather than being burdened by the day-to-day mechanics of the office. And above all, capable members who have in the past refused to stand for election to Treasurer because of the burdens of this office can now feel confident that this position will not require an excessive amount of their professional time.

At the 1991 Council meeting in Flagstaff, Council approved a motion to place a dues increase on the next ballot, which will be mailed to all paid-up members before April, 1992. **The proposed dues will be $30 per year for full members, $15 for student members.** Student members, as well as Emeritus and Honorary Members, receive full benefits and all publications of the Society.

QUESTIONS YOU HAVE ASKED:

Is the proposed increase in dues because we have a contract with FASEB?

- No, the operations of the Society before our contract with FASEB cost more than $15 per year. It is clear that we would have been forced to raise our dues in any case.

What will we get for doubling our dues?

-We expect to provide more professional services to the membership, including the items outlined above. Like all costs today, the cost of doing Society business has risen. We also hope to increase the number and quality of services we provide to you and provide on-time mailings of all items from the Society.

When will the dues increase take effect, if approved?

-The dues increase will appear on the 1992 ballot, and therefore cannot take effect until the 1993 dues year.

Will we address mail to SIP at the FASEB address?

-No, we have not contracted for secretarial services. Enquiries should be addressed to the Council officers as before.

Will we send news for the Newsletter to FASEB?

-No, the Newsletter Editor will provide FASEB printing office with camera-ready copy for the Newsletter. Send your news to the Newsletter Editor or Assistant Editor.

The Federation Meetings are very large; will SIP be obliged to take part in these meetings?

-No, our meetings will be held independently as they always have.

Is SIP now a member of FASEB?

-No, we are simply a "client" organization contracting for some, but not all, services they offer.

What happens if we do not like the services FASEB provides, or they turn out to be too expensive?

-Either party can cancel the contract at any time. Our contract is for three years with renewal option.

One of my colleagues wants to join SIP. Do I contact the Treasurer or FASEB?

-The Treasurer (Don Roberts), the Membership Chair (Wendy Gelernter) or FASEB can provide you with a membership form. However dues collection will be taken over by FASEB.

I plan to move soon. Where do I send the change of address?

-In order to assure that your Newsletter follows you promptly, you should send your change of address to FASEB. Your Newsletter Editor would also be pleased to publish information about your move in the Newsletter; send this information to the Editor or Assistant Editor.

IMPORTANT ADDRESSES AND TELEPHONE NUMBERS

FASEB:
Federation of American Societies for Experimental Biology
9650 Rockville Pike
Bethesda, MD 20814
Attn: Debbie Stoutamire
Phone: 301-530-7120
FAX: 301-530-7049

Membership Chair:
Dr. Wendy Gelernter
Mycogen Corporation
5451 Oberlin Dr.
San Diego, CA 92121
Phone: 619-453-8030
FAX: 619-453-0613

Treasurer:
Dr. Donald W. Roberts
Insect Pathology Resource Center
Boyce Thompson Institute
Tower Road
Cornell University
Ithaca, NY 14853
Phone: 607-254-1352
FAX: 607-254-1242

Secretary:
Dr. L.A. Lacey
European Biocontrol Laboratory
USDA-ARS
B.P. 4168 - Agropolis
34092, Montpellier Cedex 5
FRANCE
Phone: 33-67-61-2659
FAX: 33-67-61-2660

President and Newsletter Editor:
Dr. Elizabeth W. Davidson
Department of Zoology
Arizona State University
Tempe, AZ 85287-1501
Phone: 602-965-7560
FAX: 602-965-2012
Bitnet: ATEWD @ ASUACAD

Vice President:
Dr. C.C. Payne
BSHR, AFRC,
Institute of Horticultural Research
Wellesbourne
Warwick CV35 9EF ENGLAND
Phone: 0789-470382
FAX: 0789-470363

Assistant Newsletter Editor:
Dr. Mark Goettel
Agriculture Canada Research Station
Box 3000, Main
Lethbridge, Alberta
T1J 4B1 CANADA
Phone: 403-327-4561
FAX: 403-382-3156

HIGHLIGHTS OF THE SIP ANNUAL MEETING FLAGSTAFF, ARIZONA AUGUST 8, 1991

(Most committee reports will appear in the next issue)

MINUTES OF THE 24TH ANNUAL SIP BUSINESS MEETING NORTHERN ARIZONA UNIVERSITY, FLAGSTAFF, ARIZONA August 8, 1991

The 24th Annual SIP business meeting was called to order by President Elizabeth Davidson at 10:40 A.M. on August 8, 1991. Forty-eight members were present. It was moved by David Tyrrell and seconded by John Vandenberg to accept the minutes of the last SIP business meeting held in Adelaide, Australia. The motion passed unanimously.

President Davidson reviewed the topics covered in the SIP Executive Council meeting with particular detail given to the arrangements with the Federation of American Societies for Experimental Biology (FASEB) and the administrative services they will provide to SIP. More detail on FASEB is given in the report on selection of a home office.

President Davidson presented recent statistics indicating the Society is spending approximately $25/member/year. An increase in annual dues to $30 for regular members and $15 for student members was proposed by the Executive Council. The dues increase will be included in the ballot for approval by the membership.

Annual reports of the Treasurer, Newsletter Editor, SIP Divisions and Committees were presented and will be published in the Newsletter in conjunction with the minutes. The minutes will, therefore, be reported in condensed format.

The acting Treasurer, Don Roberts, reported that the Treasurer's books are now consolidated at Boyce Thompson Institute and are not yet audited. Consolidation of records and the assistance of FASEB will result in earlier mailing of dues notices than was the case last year. Full financial details follow in the Treasurer's published report.

President Davidson supplemented the report on local arrangements with the statistics on attendance at the Flagstaff meeting. There were approximately 220 participants representing 21 countries. On behalf of the Society, President Davidson expressed her gratitude for the financial support of the various commercial contributors for the Flagstaff meeting.

The Nominating Committee Chair, Jim Harper, reported that the Nominating Committee would be finalizing their business before the close of the meeting.

Mark Goettel, past Chair of the Microbial Control Division, supplemented the Division's annual report with the following information. The new Chair of the Division is Mickey McGuire, the new Chair-elect is Mike Klein, and new Members-at-Large are Jane Drummond and Ramon Georgis. Richard Daoust and Mark Goettel will continue as Members-at-Large and Ann Hajek will continue as Secretary. Work of the color slide atlas of "Microbial Control: Bioassay, Production and Application" will be finalized this year. Executive council approved an advance of $7000 to begin printing slides. Work of the Directory of industries involved in the development of microbial control products is continuing. The workshop and symposium sponsored by the division were well attended. An increase in division dues to $2/annum was proposed. Potential symposium topics for next year and future meetings was also discussed at the meeting. A general consensus of the division members was that workshops that provided hands-on experience would be desirable. Pathogen bioassay and statistical analysis of results and the effects of sunlight on pathogens, its simulation and measurement were two of the topics proposed for workshops.

From the floor Brian Federici added that specialized meetings within our meetings would be desirable in the future to prevent reduction of attendance due to symposia occurring during the same general time frame.

Tony Sweeney reported that the Microsporida workshop was well attended. Dr. Issi's monograph is now available and well be free to division members. During the business meeting new officers and a logo were selected and a division dues increase to $2/annum was proposed.

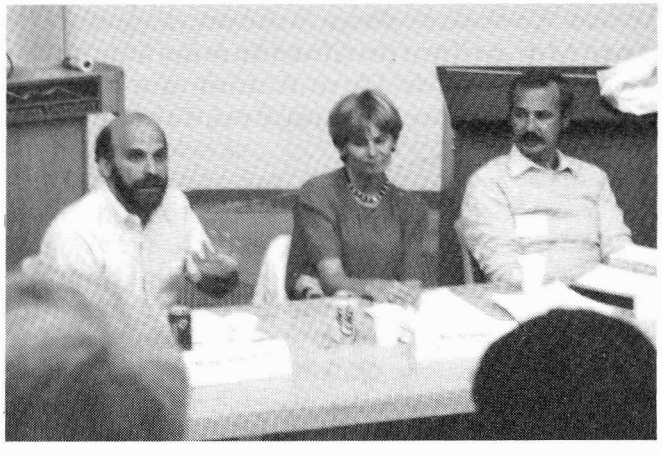
Clay McCoy, the new Chair of the Founder's Lecture Committee, requested that ideas for lecture topics be submitted to him or to other committee members, Carlo Ignoffo or Tony Sweeney.

David Tyrrell, outgoing Editor of the SIP Newsletter, presented his final report and expressed his gratitude to those who have helped with the publication and distribution of the Newsletter. He proposed that in the future, preparation and mailing of the abstracts for the annual meetings should be tied to the annual meeting rather than the Newsletter Editor. During the Executive Council meeting Elizabeth Davidson was nominated as Editor of the Newsletter. Mark Goettel will serve as Assistant Editor. Dr. Davidson thanked Dr. Tyrrell for his contribution. She noted that the Forest Pest Management Institute has been responsible for the Newsletter for the past 11 years.

The final segment of the business meeting was the report by Jurg Huber on the 1992 meeting. In addition to presenting the report published in the Newsletter, Dr. Huber showed a number of attractive slides of the city of Heidelberg, Heidelberg University and vicinity.

MICROBIAL CONTROL DIVISION WORKSHOP/PANEL DISCUSSION

A workshop/panel discussion sponsored by the Microbial Control Division at the 1991 SIP annual meeting was entitled "Evaluation of risks and regulatory constraints in the commercialization and importation of microbial control agents."



(M. Schechtman, A. Sorensen, and T. Green
Photo by T. Iizaka)

This workshop brought together representatives from industry, state and federal governments, user groups, and regulatory agencies in an effort to examine the relative risks versus regulatory constraints of developing and using microbial agents for pest control. The panel was convened and moderated by Dr. Mark Goettel and included: Dr. Michael Schechtman, Animal and Plant Health Inspection Service, USDA; Dr. Ann Sorensen, American Farm Bureau Federation; Dr. Tony Green, Ecoscience; Dr. Joe Maddox, Illinois Natural History Survey; Dr. Richard Parry, Agricultural Research Service, USDA; Dr. Don Koehler, California Department of Pesticide Regulation; and Dr. Suzan Woodhead, Ricerca, Inc.

After an introduction of the subject and panelists by the moderator, each panel member made a brief presentation. The main points made were as follows: There is an all time high in the desire by farmers as well as the general public for biological control agents. Farmers are aware of the detrimental effects of chemical pesticides and that 25-50% of pesticide use may be lost in the near future. There is a general public feeling that what is "natural" is safe and what is "non-natural" is not safe. There has never been a better climate nor time to introduce microbial control agents onto the market.

On the other hand, it is realized that there are possible dangers in use or introduction of microbials and that they therefore must in some way be regulated. Any situation whereby an approved microbial control agent proves to be unsafe or causes even relatively minimal environmental damage may spark a disastrous public backlash against microbial pest control. Most countries have chosen to treat microbial insecticides under existing legislation designed largely for chemical pesticides. This has placed regulatory agencies in a dilemma; how can they develop meaningful and reasonable protocols using existing laws written for a different purpose? This has caused much turmoil in attempts to regulate microbial control agents. There are no established guidelines for importation and release of pathogens in classical biological control, for instance. It was also revealed that there were no established protocols available to answer some of the questions demanded by regulators. The situation has led to frustration among regulators and companies attempting to register products, the delay of product registration and a reluctance by industry and researchers to get involved in the area of microbial control. It was suggested that there are 3 options: 1) force regulatory agencies to make more logical and meaningful requirements for regulation and registration of microbial control agents; 2) change laws so that they are specifically tailored to deal with microbials in a logical way; or 3) abandon attempts at developing microbial control.

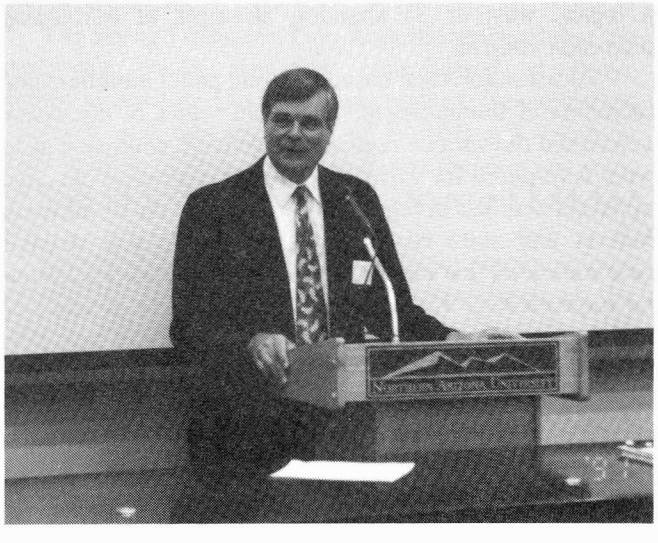
A discussion then ensued among panel members and members of the audience. The main topics of discussion concerned the various regulatory agencies, confusion as to what is required for various permits, registration etc., and apparent conflicts in registration requirements by different federal and state regulatory agencies. It was strongly recommended that one set of standard federal regulations be implemented. It was noted that attempts at enacting new legislation would open up a pandora's box; new laws my be worse than present ones. Although understaffed and with no set guidelines, regulatory agencies were very supportive of microbial control. New guidelines are under consideration and review, and the agencies are asking researchers for their input. In the meantime, scientists and companies will be dealt with on a case by case basis.

Another topic of discussion was who should support research necessary for obtaining certain permits. Many times companies are not interested in a novel microbial control agent until field tests can demonstrate their utility. Industry is rarely interested in classical control. In order to get meaningful field tests, several permits may be necessary which may require extensive and expensive safety testing data. Most scientists do not have the resources necessary for such an undertaking, nor are they aware of the requirements.

Finally, discussion centered on what role SIP members should take in interacting with the various government agencies to push forward a more comprehensive, acceptable and understandable set of guidelines. It was brought out that an ESCOP subcommittee on biological control was established to set policy for the experiment station system. This committee has been very active in interacting with EPA, USDA/APHIS and other agencies to provide input into this process. Several SIP members are active on the committee. It was suggested that regulatory agencies make more use of scientists involved in microbial control research when drafting guidelines or evaluating submissions. It was stated that SIP take a more proactive role in this area; SIP should work with user groups to put pressure on governments to move things along and should become more involved in establishing regulatory guidelines and requirements.

Mark S. Goettel, Convener/moderator
Michael R. McGuire, Rapporteur

1991 FOUNDERS LECTURE HIGHLIGHTS THE WORK OF RUDOLPH W. GLASER ON INSECT NEMATODES



(G.O. Poinar, Jr. Photo by T. Iizaka)

The 1991 Founders Lecture was presented by George O. Poinar, Jr., and honored Rudolph W. Glaser (1888-1947). Glaser was a pioneer in the discovery and development of insect parasitic nematodes. In 1929, Glaser discovered Japanese Beetle larvae filled with nematodes, which were described as Neoaplectana (now Steinernema) glaseri by G. Steiner. The exciting story of the development of these and related nematodes for microbial control of insects, and the current status of products based on these nematodes, was the topic of Dr. Poinar's lecture. Dr. Poinar concluded the lecture with highlights of his own recent work on pathogens of insects entrapped in ancient amber, which has received attention in the national press. The complete text of Dr. Poinar's talk has been submitted for publication in the Journal of Invertebrate Pathology.

The Founders Lecture is the highlight of the opening session of each SIP meeting. Lecturers, and honorees if living, are presented with a handsome hand-lettered certificate commemorating the occasion. The Founders Lecture Committee always welcomes suggestions of honorees or speakers; the Chairman is Dr. Clay McCoy, University of Florida Citrus Research and Education Center, 700 Experiment Station Road, Lake Alfred, FL 33850.

NOMINATING COMMITTEE REPORT 1990-92

The Nominating Committee interacted by mail and phone correspondence and met on two different occasions during the SIP meetings in Flagstaff. Input was solicited from many members and a slate of officers has been finalized. The constitutional charge to the Committee is to provide one nomination for President who shall be the current Vice President and one or more nominations for the offices of Vice President, Secretary, and Treasurer all of which have two year terms. In addition, two Trustees are to be elected each biennium for four year terms and two or more nominations are required. Because of regulations governing the incorporation of the Society in the United States, the Treasurer must be a U.S. citizen. Duties of each office are clearly specified in the SIP Constitution.The slate of nominees prepared by the Nominating Committee as follows:

President	Dr. Christopher C. Payne
Vice President	Dr. Terry L. Couch Dr. Robert R. Granados
Secretary	Dr. Richard A Daoust Dr. Mark S. Goettel

Treasurer	Dr. Harry K. Kaya Dr. Clayton W. McCoy
Trustee	Dr. Robert S. Anderson Dr. Jürg Huber Dr. Lawrence A. Lacey Dr. Anthony W. Sweeney

James Harper, Chair
Donald Roberts
James Becknel
Dudley Pinnock

SIP NEWSLETTER 1990-1991

Two issues of the Newsletter have been prepared and mailed to members during the period August 1990-July 1991. These two issues (Volume 23, numbers 1 and 2) together comprised 24 pages. In addition the Abstracts for the Annual Meeting in Flagstaff are in the process of being printed and mailed to Society members. Printing and mailing costs for these issues, and for Volume 22, number 2 which were not available at the time of my last report are given in Table 1.

I would like to thank all the correspondents for their contributions over the past year, and also my technicians Mary Welton and Kathy Humphries for the sterling work over the past four years of my editorship in preparing and mailing the Newsletters.

As noted in the last Newsletter, Volume 23 number 2 will be my last issue as Editor, and I would like to wish the next Editor well, and thank all those who have helped to produce the Newsletter at FPMI over the last ten years.

David Tyrrell

Table 1

	# Printed	Printing Costs	Mailing Costs	Total
Volume 22(2)	1100	747.07	983.06	1730.13
Volume 23(1)	1100	957.78	1241.37	2199.15
Volume 23 (2)	1100	432.69	a	432.69
Abstracts	1200	5147.29	2906.23	8053.52
Stationary, envelopes, etc.		241.82		
Miscellaneous		5.25		
				12662.56

a=Mailing costs for this issue are included with those for the Abstracts.

SIP TREASURER'S REPORT 1990-91

The tragic and untimely death in August 1990 of Charles Reichelderfer, our elected SIP Treasurer for 1990-92, necessitated the appointment by Council of two Acting Treasurers. Firstly, Fred Kern, the Treasurer for 1988-90 was asked to continue in his position until the end of 1990; and secondly, Donald Roberts was appointed to serve from January 1991 through August 1992. Accordingly, this year's report will include the activities of both Acting Treasurers. An additional difference from previous years revolves around the transfer of many of the clerical duties of the Treasurer to FASEB (see President's Letter in this Newsletter). The transfer of SIP funds to FASEB was made September 12, 1991; so September 10 (rather than the usual July or August date) was taken as the appropriate final date for the Treasurer to report on the 1990-1991 financial year.

Past policy has been to include people up to two years in arrears in their membership dues as still members of SIP. To reduce costs associated with FASEB services, active membership has been redefined in 1991 to include only those who have paid for 1990 and/or 1991. Using this system, memberships for 1991 were 923 as of September 10. There were 165 members in arrears, some of whom have paid since September 10. The Microsporida Division had 78 paid up members, and the Microbial Control Division 310. For the first time, the Divisions expended part of their funds this year. The Microsporida Division ended the reporting period with $198.50, and the Microbial Control Division with $1,758.24. Both Divisions will have items (see reports of Divisions) for sale in 1992 which should increase their funds.

The Endowment Fund is used to provide memberships for selected invertebrate pathologists where, for a variety of reasons, self support is inordinately difficult. The fund increased this past year through contributions ($678.00) and interest ($276.29) to a current total of $5,111.99. Unrestricted contributions to the Society totalled $382.00 for the 1990-91 financial year.

Two items related to past International Colloquia replenished the Society's general fund. For each of the past two Colloquia (Veldhoven: 1986--organized by Just Vlak and Dick Peters; and Adelaide: 1990--organized by Dudley Pinnock) the organizers were advanced U.S. $5,000 prior to the meeting for organizational needs. In August 1991, the 1990 organizer returned $6,900, which is more than the advance. The 1986 organizers in 1991 returned the $5,000 advance; and they report they have on hand an additional several thousands (the exact amount depends on a forthcoming tax assessment). This is expected to be

transferred to SIP by late 1991 or early 1992. The 1991 meeting in Flagstaff was advanced $4,200. The organizers, Betty Davidson and Martha Gilliam, who are still awaiting some sizeable bills, expect to return considerably more than this amount to SIP--possibly enough to almost offset the cost of printing and mailing the Meeting Abstracts. These meetings-related monies help maintain the SIP basic fund, a fund which has been considered by Council as too small in recent years. Unfortunately, income from meetings is not a reliable future source of funds. Our current expenses, even without the new cost of paying FASEB for management duties, exceed the amount brought in by membership dues. It is for this reason that an increase in dues for 1993 has been proposed by Council and will be submitted to the full membership by ballot for approval in 1992. Dues, however, would not increase until 1993.

FINANCIAL STATEMENT OF SIP FOR THE PERIOD
15 August 1990-10 September 1991

BALANCE ON HAND 15 AUG 1990		$39,727.33
INCOME		$25,880.44
Membership Dues	$11,015.00	
Regular	$9,929.00	
Student	386.00	
Back dues	252.00	
Div. Microsporida	94.00	
Div. Microbial Control	354.00	
Interest	$1,884.82	
Regular	$1,608.53	
Endowment Fund	276.29	
Contributions	$12,980.62	
Endowment Fund	678.00	
Regular	382.00	
1986 Colloquium	5,000.00	
1990 Colloquium	6,920.62	
TOTAL		$61,450.07
Disbursements		($25,866.84)
Founders Lecture (90-91)	$1,000.00	
Print Fee	1,020.31	
Student Paper Awards	300.00	
1 SIP Newsletter (advance)	10,000.00	
2 SIP Newsletter (advance)	1,000.00	
1991 mtg. (advance)	4,200.00	
Mailing '90 Proc.	2,755.46	
Mic. Cont. Div. expenses	426.76	
Microsp. Div. expenses (translation)	1,124.50	
Treasurer Office Expenses		
Printing	$442.29	
Secretarial	2,719.80	
Postage, telephone	644.50	
Bank Fees/Returned Items	233.22	
BALANCE ON HAND 10 SEPTEMBER 1991		$39,755.12

Marine Midland Bank

Savings/Checking Account	$34,643.13
Endowment Fund Savings Account	5,111.99

SOCIETY FOR INVERTEBRATE PATHOLOGY PROPOSED BUDGET

September 1991

	PROPOSED 1990-91	ACTUAL 1990-91	PROPOSED 1991-92
INCOME			
Dues			
Regular	$9,000	$9,929	$10,500
Student	250	386	400
Sustaining	1,000	00	500
Microsporida	85	94	90
Microbial Control	260	354	350
Interest	2,000	1,885	2,000
Contributions	300	1,060	600
Miscellaneous	100	11,921[a]	9,000[b]
TOTAL INCOME	$12,995	$25,629	$23,440

EXPENDITURES			
Newsletter/ meeting abstracts	$9,000	$11,000	$8,200
Directory	$00	$00	$1,000
Meeting Advance	00	4,200	1,000
Founders Lect. Award	1,000	2,200	1,000
Student Paper Award	500	300	300
Division Expenses	00	1,551	8,500[c]
Miscellaneous	100	442	500
Office Expenses			
Postage	$1,000	$3,399	$2,000
Office Supplies	200	00	50
Bank Fees	75	233	100
Secr. or FASEB	2,000	2,720	6,000
TOTAL EXPENDITURES	$13,875	$26,045	$28,650

[a]Money from 1986 and 1990 Meetings.
[b]Money from 1986 and 1991 Meetings
[c]Includes $7,000 advance to Microbial Control Divison for publication costs.

Donald W. Roberts, Acting Treasurer

(More Highlights and Photographs from the meetings will appear in the next Newsletter)

COLOR SLIDE ATLAS OF MICROBIAL CONTROL

The Microbial Control Division of the Society for Invertebrate Pathology is putting together an atlas on microbial control. Such an atlas will attempt to cover basic techniques as well as milestones. Once completed, the atlas will be offered to those interested at cost price.

In order for this venture to be a success, we need contributions of material from those working in microbial control. Selected slides will be duplicated and all submissions will be returned; however, to reduce duplicating the postage costs, if at all possible, please send duplicate slides rather than originals.

Please include the following information 1) a short description of slide including scientific names of pathogen, host and crop (as the case may be), 2) place and year, 3) reference citation if slide is associated with a publication (authors, year, journal, volume #, pages) 4) Name, address and telephone number of submitter.

Once all slides have been received, they will be culled so that the final Atlas will consist of 200-300 slides. We hope to offer these at less than $50/set.

Please send all submissions to: Mark Goettel, Agriculture Canada Research Station, P.O. Box 3000 Main, Lethbridge, AB, CANADA T1J 4B1.

If you have any questions, please call me at 403-327-4561.

MEMBERS ON THE MOVE

Lawrence A. Lacey, who is currently working on Japanese Beetle at the US Department of Agriculture laboratory in the Azores, will move on October 15, 1991. His new address will be:
European Biocontrol Laboratory
USDA-ARS
B.P. 4168 - Agropolis
34092, Montpellier Cedex 5
FRANCE
Phone: 33-67-61-2659
FAX: 33-67-61-2660.
Lerry is currently the SIP Secretary. He and Cindy, and their children Mariah, Eric and Alexander are looking forward to their new home.

Michael Brownbridge has recently undergone a complete change of habitat. Mike held posts at Ben Gurion University of the Negev in Beer Sheva, Israel, and most recently at the International Center for Insect Physiology and Ecology in Nairobi, Kenya. Now, however, he has joined the University of Vermont group as Assistant Research Professor investigating fungal pathogens for the control of thrips in forest and greenhouse environments, and fungal and bacterial pathogens for forest pests. His new address is:

University of Vermont
Entomology Research Laboratory
655B Spear St.
South Burlington, VT 05403 USA
Phone: 802-658-4453
FAX: 802-656-0285
Bitnet: MBROWNBRIDG@UVMVAX

Raymond I. Carruthers has recently assumed the position of Research Ecologist/Research Leader at the Biological Control of Pests Research Unit at the USDA laboratory in Weslaco, Texas. Ray was previously with the USDA

laboratory at the Boyce Thompson Institute at Cornell University in New York. His new address is:

USDA-ARS
Biological Control Research Unit
2413 Hwy 83
Weslaco, TX 78596
Phone: 512-968-7546
FAX: 512-565-6133.

RETIREMENTS

John Aronson retired in June, 1990, after 25 years in the Department of Chemistry at the State University of New York at Albany, where he worked on the Bacillus thuringiensis toxin. From 1959 to 1965, John was a member of the faculty at Arizona State University. John received the BA degree from Rice University and the MS and PhD degrees from the University of Wisconsin. In 1977, John received the Chancellor's Outstanding Teacher Award from SUNY-Albany. He continues to serve on the Editorial Board of the Journal of Invertebrate Pathology through 1993. John and his wife, Florence, plan a very active retirement in Tucson, Arizona, where John is Coordinator of Interdisciplinary Biology Teaching Labs at the University of Arizona. This year he has revised the laboratory manual, is coordinating two lecture and 42 lab sections, and teaching four lab sections. He also continues to run, completing a 50-mile race in the Santa Rita Mountains in March (ahead of two horses and their riders!). John and Florence can be reached at:

4871 N. Via Serenidad
Tucson, AZ 85718-5715
Phone: 602-577-3283.

Keio Aizawa retired on March 31, 1990 from Kyushu University in Japan, where he was a Professor of Insect Pathology for 26 years. While at Kyushu University, he was the Director of the Institute of Biological Control, Faculty of Agriculture from 1971-1975 and again from 1977-1989. From 1950 to 1955, Keio Aizawa was a silkworm pathologist, and in 1955 became chief of the Virus Laboratory of the Sericultural Experiment Station, Ministry of Agriculture and Forestry, Tokyo, Japan, holding this position until 1964. While in this position, he received his Ph.D. from the University of Tokyo in 1959. He received an award from the Japanese Society of Agricultural Sciences in 1968, and the Louis Pasteur Prize in 1990. From 1968 to 1972 he was a Trustee in the Society for Invertebrate Pathology. During his retirement he will hold an advisory position and teach courses in insect pathology, microbial control and microbial insecticides at Teikyo University. He will continue to research documents on the history of silkworm pathology and sericulture before 1900. Keio can be reached at his residence:

Aoba 3-23-5
Higashi-ku
Fukuoka 813
JAPAN

OBITUARY

Anna W. Chittick, 82, founder and operator with her husband of the Fairfax Biological Laboratory in Clinton Corners, New York, died Saturday, August 24, 1991, at Montgomery General Hospital in Olney, Maryland.
She was an expert in biological insect controls and was widely recognized for her knowledge in the field. She continued to work at the laboratory until her death. She was born in Coral Gables, Florida. In 1931, she graduated as a registered nurse from the Emergency Hospital Nursing School in Washington, D.C. In 1932, she married Howard A. Chittick who survives. In 1948, they relocated to Stanfordville. Survivors include three sons, Peter J. Chittick of Middleburg, Va., Richard T. Chittick of Olney, Md., and David A. Chittick of Staatsburg; a brother, Peter H. Wester of Reedville, Va.; nine grandchildren; and two great-grandchildren.

INDUSTRIAL PROFILES

(This new column is dedicated to informing our membership about new developments in industrial companies involved with various aspects of invertebrate pathology. The impact of industry on our field has greatly increased recently; your Editors hope that this column will enable our members to get to know these corporations better. It is our intent to feature a limited number of large and small corporations in each issue. If you wish to have your corporation featured here, please contact the Editors.)

Entotech is a division of Novo Nordisk A/S of Denmark. Entotech has recently established a new research and development facility in Davis, California. The corporation produces four products based on natural strains of Bacillus thuringiensis, designed for specific agricultural and forestry uses. **Biobit**, intended for use against lepidopteran pests of agricultural crops, is based on B. thuringiensis subsp. kurstaki. **Foray**, also based on subsp. kurstaki, is intended for use on forestry pests. Bacillus thuringiensis subsp. israelensis is the basis for the mosquito-larvicidal **Skeetal** product, while the subsp. tenebrionis is the active ingredient in **Novodor**, for use against Colorado potato beetle. In 1991, Novo acquired the B. thuringiensis product

lines manufactured by Duphar of Holland, a subsidiary of Solvay. Duphar products to be added to the Entotech line include **Bactospein**, **Futura** and **Bactimos**, as well as a precommercial product against mosquitoes based on Bacillus sphaericus.

Entotech's President, Pamela G. Marrone, is a familiar face at SIP. A regular attendant at SIP meetings, Pam has been director of the BT Management Working Group, and has been heavily involved in concerns over the development of resistance to BT. Pam received the BS degree from Cornell University and the PhD from North Carolina State University. From 1983-1990 she established and ran Monsanto's insect control program, investigating genetically controlled microbials, microbial natural products and genetically engineered plants for insect control. During this period, Pam directed development of recombinant Pseudomonas fluorescens, one of the first genetically engineered microorganisms to go before the EPA. In 1990, she joined Entotech as its President. As a woman at the age of 33, Pam is unusual in her rapid progress in corporate management, and was featured in recent articles in AgBiotechnology News, Fortune Magazine, Genetic Engineering News, and the San Francisco Examiner.

Other SIP members at Entotech include Robert L. Starnes (Manager of Biochemistry), Chi-Li Liu (Manager of Microbiology), David Sternberg (Staff Scientist), Dennis Edwards (Manager of Entomology), Gary Kirfman (Manager of Product Development) and Susan MacIntosh (Staff Scientist).

With the acquisition of the Duphar products, Novo will become among the largest BT producers. The address is:

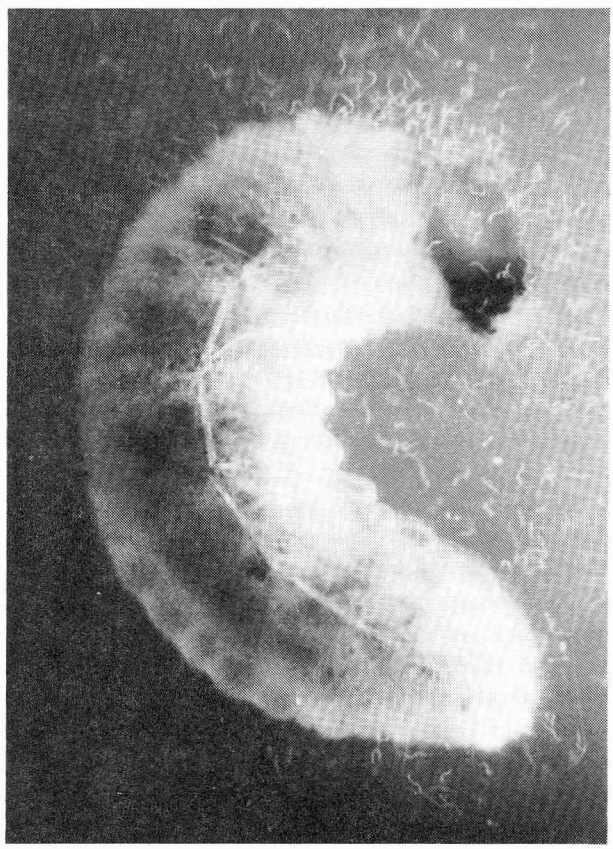
Entotech, Inc.
1497 Drew Avenue
Davis, CA 95616.

BioLogic Company is a small family company specializing in products based upon beneficial insect parasitic nematodes. These products currently include **Scanmask**, a product designed to control root maggots, fungus gnats, cutworms, etc. in soil and cryptic habitats at 10- 30°C, which is aimed at lawn and garden customers. A horticultural formulation of Scanmask is also available. **Ecomask** is a commercial product based on a nematode strain which is easier to grow, however is less useful than Scanmask for Scarabs and diptera larvae. Other experimental products are under development. Currently, no EPA registration is required for beneficial nematodes, which is a major factor permitting a small company like BioLogic to conduct business.

BioLogic Company is owned and operated by Albert Pye and his wife, Naomi, with assistance of their children. Albert received the BS and MS degrees from Pennsylvania State University and the PhD from Ohio State University. He worked in Umea University, Sweden, on biochemistry of insect immunity and on beneficial insect parasitic nematodes from 1974 through 1985, when the family returned to the United States. The address is:

BioLogic Company
Springtown Road
P.O. Box 177
Willow Hill, PA 17271
Phone/FAX: 717-349-2789.

(Photo: swarm of infective nematodes, Steinernema carpocapsae, aggregated around a weevil larva. The infective nematodes have migrated across the agar in a petri dish, then penetrated through the agar in response to chemical stimuli to aggregate. Photo courtesy of A. Pye.)



LABORATORY PROFILES

(This new column will feature research at invertebrate pathology laboratories world-wide. If you would like to contribute information to this column, please contact the Editors.)

The International Centre of Insect Physiology and Ecology (ICIPE) was established in 1970 in Nairobi, Kenya. An article was published in **Science** in 1967 by Thomas R. Odhiambo advocating the establishment of centers for advanced, multidisciplinary research in tropical developing countries to help solve science-based problems and increase scientific capacity of the countries. This article stimulated the interest of the international scientific community, leading to the initial meetings which finally culminated in the establishment of ICIPE with Professor Odhiambo as its Director. ICIPE is one of the few international research centers founded and directed by scientists from the developing world themselves. ICIPE is primarily concerned with research on integrated control of crop and livestock insect pests and related arthropods, and insects which are vectors of tropical diseases.

The ICIPE facilities include the headquarters in Nairobi (photo) and a research station at Mbita Point on the shores of Lake Victoria about 500 km from Nairobi, as well as field research sites in other parts of the country. Field research also takes place in Zambia, Ethiopia, Somalia and Rwanda. ICIPE employs over 60 scientists and postdoctoral fellows, and a staff of ca. 750. Training for graduate and undergraduate students includes PhD courses and research, as well as short courses in specific pest management techniques.

Research at ICIPE seeks to integrate parasites and predators with microbials. In the Crop Pests Program, concerned mainly with cereal stem borers, the pathogens Nosema, BT and fungi are studied. Fungi and bacteria for control of tsetse fly are the topic of another program. The Locust Research Program includes studies of Malamoeba, virus and fungi. Potentially useful control organisms for livestock ticks include fungi, while the vector program includes development of BT and fungi for mosquito and sand fly control. The major emphasis of the laboratory is on isolation of pathogens, laboratory bioassay for pathogenicity, culture techniques, screenhouse tests, and field evaluation.

Among the SIP members employed at ICIPE are Godwin Kaaya, Wellington Otieno, and Maurice Odindo. Informative reports of the activities of ICIPE and a Profile brochure are available from ICIPE Headquarters, P.O. Box 30772, Nairobi, Kenya.

MEETING ANNOUNCEMENTS

PREVIEW
1992
XXV ANNUAL MEETING
UNIVERSITY OF HEIDELBERG
HEIDELBERG, GERMANY
AUGUST 16-21, 1992

In 1992, the XXV Annual Meeting of the Society for Invertebrate Pathology will be held at the University of Heidelberg in Germany. It will be organized jointly by the Federal Biological Research Centre for Agriculture and Forestry, Institute for Biological Control (Jürg Huber, Gisbert Zimmermann), the University of Heidelberg, Institute of Zoology (Wolfgang Schnetter) and the German Mosquito Control Association (KABS) (Norbert Becker). This is the first time that an annual meeting of the SIP will be held outside North America. Heidelberg is a beautiful old University town at the river Neckar and is one of the most famous tourist sites in Germany. It is situated about 80 km south of Frankfurt and can easily by reached from Frankfurt by bus or train. It is also not far away from the river Rhine with its old castles, old towns and tasty white wine.

The sessions will be held in rooms of the University while lodging will be in hotels located in the old town nearby. Tentative symposium topics for the scientific program include Bacillus thuringiensis, B. sphaericus, pathogens and biological control of scarabaeids, pathogens and biological control of locusts, entomopathogenic nematodes, genetic engineering of viruses, marine invertebrate pathology, and advances on formulation and

application technology. Comments and further suggestions are welcome.

Social highlights of the meeting will be a boat trip on the river Neckar on Wednesday and the famous banquet on Thursday.

We are sure that, besides the North American members of SIP, many European scientists will also join the meeting. Since the political situation has changed positively in Europe, we are expecting many colleagues from eastern Europe to take the opportunity to come to Heidelberg.

For more information, please contact the organizers:

Jürg Huber, Gisbert Zimmermann, Wolfgang Schnetter, Norbert Becker
Federal Biological Research Center for Agriculture and Forestry,
Institute for Biological Control
Heinrichstr. 243
D-6100 Darmstadt, GERMANY

PLANNING AHEAD
LOCATIONS FOR THE
1993 AND 1994 SIP MEETINGS

The 1993 Annual Meeting will be held in Asheville, North Carolina on August 1-5. Hosts for the meeting are Wayne Brooks and James Harper. This represents a change from an earlier announcement; the meeting will be held at Ithaca, New York at a later time. The 1994 meeting will be an International Colloquium, and will be held in Montpellier, France. Our host for the 1994 meeting will be Max Bergoin.

1991 WORLD CONGRESS
ON CELL AND TISSUE CULTURE
Washington, DC
June 20-25, 1992
"Genetic Applications of Tissue Culture"

The Invertebrate Division of the Tissue Culture Association and the Society for Invertebrate Pathology will co-sponsor several workshops, contributed paper, and poster sessions as part of the World Congress on Cell and Tissue Culture to be held in Washington, DC, June 20-25, 1992. Among the joint proceedings will be a workshop on "Invertebrate Cellular Immunity: In-vitro Aspects", to be followed by a contributed paper session on mechanisms of invertebrate cellular immunity. Chair of the workshop will be Dr. Robert Anderson, Chesapeake Biological Laboratory, Center for Environmental and Estuarine Studies, P.O. Box 38, Solomons, MD 20688-0038 (301-326-4281). A workshop-contributed paper session is also being organized that will address the topic of "Invertebrate Neoplasia: Initiation and Promotion Mechanisms", to be chaired by Dr. Carol Reinisch, Chair, Department of Comparative Medicine, Tufts University School of Veterinary Medicine, 200 Westboro Rd, North Grafton, MA 01536-1895 (508-839-7949) and Dr. Ralph Elston, Center for Marine Disease Control, Battelle Marine Sciences Laboratory, 439 West Sequim Bay Rd., Sequim, WA 98382 (206-683-4151). A special evening workshop covering "Marine Plant and Animal Cell, Tissue and Organ Culture: Applications to Biotechnology" is in the planning stages and will be chaired by Dr. David Attaway (R/0R1), USDC/OAR, National Sea Grant College Program, 1335 East-West Highway, Fifth Floor, Silver Spring, MD 20910 (301- 427-2451). In a joint Invertebrate/Plant session, a symposium entitled "Identification and Expression of Insecticidal Proteins" is planned, convened by Dr. David Fishoff, Monsanto Corp., St. Louis, MO (314-537-6401). As is the usual custom, other contributed papers and poster sessions that cover many important aspects of invertebrate cell, tissue and organ culture will also constitute vital components of the jointly sponsored proceedings of the Congress.

The 1992 World Congress is expected to attract several hundred participants and will provide a large and important international forum for exchange of scientific ideas over a broad spectrum of fields involving in-vitro cell, tissue and organ culture of both plants and animals. Those interested in participating or contributing to the jointly-sponsored programs or in learning more about the Congress should write to the address below. For more specific information on the individual sessions outlined above, please contact the session organizers. The deadline for abstracts will be January 10, 1992.
(Submitted by Aaron Rosenfield).
Contact: 1992 World Congress on Cell
and Tissue Culture
8815 Centre Park Drive, Suite 210
Columbia, Maryland 21045 USA
301-992-0946.

THE JOURNAL OF INVERTEBRATE PATHOLOGY
NAMES A NEW EDITOR

Thomas C. Cheng will step down after more than 20 years as Editor of the Journal of Invertebrate Pathology. The new Editor, Dr. Carol Reinisch, studies leukemia in clams in the Veterinary School of Tufts University. Dr. Reinisch is interested in revising and updating the Editorial Board and Editorial Policies of the Journal, and seeks input from

our members in this process. Specifically, she seeks names and addresses of people whom you feel are well respected and whom you would like to see serve on the Editorial Board. Please send these names, and any other input which you may have concerning the Journal, to Dr. Reinisch as soon as possible. The JIP is owned by Academic Press, and the Society has no direct input on its policies; however SIP members do receive a discount on the subscription price.

Dr. Carol Reinisch
Chair, Comparative Medicine
Tufts Veterinary School
200 Westboro Road
North Grafton, MA 01536-1895
Phone: 508-839-7949
FAX: 508-839-7948.

OFF THE PRESS

Atlas of Invertebrate Viruses
Jean R. Adams, Ph.D.
J.R. Bonami, Ph.D.

The Atlas of Invertebrate Viruses presents detailed information about the virus families that attack invertebrates and features nearly 300 excellent micrographs that reveal the fine ultrastructural detail of many of these viruses. Several chapters on unclassified invertebrate viruses are included, and the morphology of the invertebrate viruses, biochemical data on viral genomes, and the cytopathology of viral infections in invertebrate tissues are illustrated. The book features techniques for diagnosing invertebrate viral infections, isolating and purifying invertebrate viruses, and step-by-step preparative techniques for light and electron microscopic examination are provided in an appendix.
$295 U.S.; $360 outside U.S.
CRC Press, Inc.
2000 Corporate Blvd. N.W.
Boca Raton, FL 33431.

Entomopathogenic Nematodes in Biological Control
Randy Gaugler, Ph.D.
Harry K. Kaya, Ph.D.

Examines entomopathogenic nematode biology, ecology, behavior, immunity, and genetics. Provides previously unpublished information regarding technological developments in mass production, storage, application, formulation, and field effectiveness. Features nematode taxonomy and anhydrobiosis. Emphasizes the potential of entomopathogenic nematodes for biological control purposes. Discusses mutually associated bacteria.
$49.95 U.S.; $59.95 outside U.S.: CRC Press

The Invertebrates: An Illustrated Glossary
Michael Stachowitsch

This is a unique work that allows users to rapidly and accurately identify or describe particular specimens. Covering 77 living invertebrate taxa, this glossary contains more than 10,000 entries, with 1,100 figures complied in 79 full-page illustrations. The book will be available in hardcover form for libraries and in a softcover edition for students and field researchers.
Hardcover: $125; Soft cover $59.90
Wiley-Liss
605 Third Ave.
New York, NY 10158-0012

Bacillus thuringiensis (In Chinese)
Yu Ziniu, Editor
This book contains 24 chapters and an appendix, covering theory, application techniques and research methods for BT.
$U.S. 50, plus $10 air mail, $2 sea mail.
Ms. Luo Xixia, Dept. of Soils and Agrochemistry
Huazhong Agricultural University
Wuhan, Hubei 430070, PRC

WELCOME NEW MEMBERS

Over 90 new members have joined SIP this year! The remainder of the new members will appear in subsequent issues.

Lui Ai-Ying
Lab. of Entomogenous Mycology
Guizhou Agricultural College
Huaxi District-Guiyang City
Guizhou Province 550025 PRC

Hisanori Bando
Faulty of Agriculture
Hokkaido University
Sapporo 060 JAPAN

Matthew Blowers
Dept. of Biology
Univ. of Southhampton
Southampton Hampshire S09 3TU
UK

Michael Boots
Dept of Environ & Evol Biology
Univ. of Liverpool
PO Box 147
Liverpool UK

Carol Charlton
Dept. of Entomology
Univ. of California
Berkeley, CA 94720

Subrata Chowdhury
Insect Pathology
Horticulture Res International
Worthing Road - Littlehampton
West Sussex BN17 6LP UK

Jin Daochao
Lab. Insect Ecol-Dept Plant Pro.
Guizhou Agricultural College
Huaxi Dist. - Guiyang City
Guizhou Province 550025 PRC

Thomas Dunn
Dept. of Entomology
University of Maine
Orono, ME 04469

Dennis Edwards
Entotech Inc.
1497 Drew Ave.
Davis, CA 95616

Meizheng Fan
Dept. of Forest Protection
Northwestern Col. of Forestry
Yangling
Shanxi 712100 PRC

Jin Fang
Wuhan Inst. of Biology
Academia Sinica
Wuhan
Hubei 4430071 PRC

Jeremy Gillespie
Applied Microbiology
University of Saskatchewan
Saskatoon, Sask. S7N 0W0 CAN.

Sally Gladstone
3020 G Walnut Creek Pkwy
Raleigh, NC 27606

Kar Gordon
Division of Entomology
CSIRO; GPO Box 1700
Canberra, ACT 2601
AUSTRALIA

Peter Ham
Dept. Med. Entomol-Vector Imm. Gr.
Liverpool School of Tropical Med.
Pembroke Place
Liverpool L3 5QA UK

Edgar M. Hood III
Product Development Mgr.
Bactec Corp
9601 Katy Fwy, Ste 350
Houston, TX 77024

Holly Horton
Dept. of Microbiology
Univ. of Massachusetts
Morrill Hall
Amherst, MA 01003

Penelope James
School of Biological Sciences
Claverton Down
Bath BA2 7AY UK

Rosalind James
Environ. Research Lab.
US EPA
200 SW 25th St.
Corvallis, OR 97333

Lokesh Joshi
Sch. of Biological Sciences
Claverton Down
Bath BA2 7AY UK

Zhan Keqin
Dept. of Plant Protection
Guizhou Agricultural College
Huaxi Dist - Guiyang City
Guizhou Province 550025 PRC

George Khachatourians
Dept. Applied Micro and Food Sci.
Univ. of Saskatchewan
Bioinsecticide Research Lab.
Saskatoon Sask S7N OW3 CANADA

Brian LeBlanc
Gulf Coast Research Lab.
PO Box 7000
Ocean Springs, MS 39564

Xixia Luo
Dept. of Soils and Agrochemistry
Huazhong Agricultural Univ.
Wuhan Hubei PRC

Chenzhu Ma
Inst. of Plant Protection
Shanghai Academy of Agric. Sci.
Shanghai 201106 PRC

Pamela Marrone
Entotech, Inc.
1497 Drew Ave.
Davis, CA 95616-4880

W. Randy Martin, Jr.
BioSys, Inc.
1 Progress Blvd., Box 26
Alachua, FL 32615

Antonia Martins
Dept. de Biologia
Univ. dos Acores
Sec Microbiol Parasitol & Imm.
Ponta Delgada 9502 PORTUGAL

Artur Mandonca
UFAL Campus Rio Largo
CX. Postal 672
Maceio, Alagoas 57001 BRAZIL
Marnix Peteroen
Plant Genetic Systems NV
J. Plateaustraat 22
Gent 9000 BELGIUM

Suresh Kuma Raina
ICIPE
PO Box 30772
Nairobi KENYA

Mark Ramus
Soil, Plant & Nutrition Lab.
USDA; Tower Road
Ithaca, NY 14853

David Rhodes
ICI Agrochemicals
Jealott's Hill Res. Station
Bracknell Berks RG12 6EY
UK

Gail Richards
Dept. of Entomology
University of Georgia
Athens, GA 30602

Fabienne Saade
Dep. of Entomology
McDonald Col. of McGill Univ.
Ste-Anne-de-Belle Que H9X 1C0
CANADA

Richard Seyler
Dept. of Biology
Virginia Polytech
Blacksburg, VA 24061-0406

Donald Stahly
Dept. of Microbiology
University of Iowa
Iowa City, IA 52242

Xie Tianen
Wuhan Inst. of Virology
Academia Sinica
Wuhan, Hubei 420071 PRC

Jan Tippett
c/o Garst Research
Box 500, Highway 210 West
Slater, IA 50244

Guoguan Tu
Dept. of Agronomy
Jiangxi Agricultural Univ.
Nacahng Jiangxi Province PRC

Paulo de Tarso Vilarinhos
CENARGEN-EMBRAPA
S.A.I.N.-Parque Rural
Brasilia, DF 70.000 BRAZIL

Thomas Webster
Community Research Service
Kentucky State University
Frankfort, KY 40601

Gu Zhenrong
Inst. of Plant Protection
Shanghai Acad. of Agriculture
Shanghai 201106 PRC

Yongmei Zhong
Wuhan Inst. of Virology
Academia Sinica
Wuhan, Hubei 430071 PRC

Ying Zhu
Dept. of Virology
Wuhan Univ.
Wuhan, Hubei 430073 PRC

Liang Zong-Qi
Lab. of Entomogenous Mycology
Guizhou Agricultural College
Huaxi Dis. Guiyang City
Guizhou Province PRC

Newsletter Editor:
Dr. Elizabeth W. Davidson
Department of Zoology
Arizona State University
Tempe, AZ 85287-1501
Phone: 602-965-7560
FAX: 602-965-2012
Bitnet: ATEWD @ ASUACAD

Assistant Newsletter Editor:
Dr. Mark Goettel
Agriculture Canada Research Station
Box 3000, Main
Lethbridge, Alberta
T1J 4B1 CANADA
Phone: 403-327-4561
FAX: 403-382-3156

Address Changes:
Society for Invertebrate Pathology
9650 Rockville Pike
Bethesda, MD 20814
Attn: Debbie Stoutamire
Phone: 301-530-7120
FAX: 301-530-7049

CANDIDATES FOR SIP OFFICES

*Please note: Because L.A. Lacey, the current Secretary, is a candidate for Trustee, ballots will be received by the Chair of the Nominating Committee, James Harper. You will receive your ballot soon. Please keep this information until your ballot arrives.

PRESIDENT

Chris C. Payne

Education: B.A., 1968, D. Phil. 1971, M.A. 1973, University of Oxford.
Born: 1946
Experience: Postdoctoral Fellow, University of Otago, New Zealand, 1972-73; Senior Scientific Officer, NERC Unit of Invertebrate Pathology, Oxford, U.K. 1973-77; Head of Insect Virus Section and later Head of Entomology and Insect Pathology Department, Glasshouse Crops Research Institute, Littlehampton, U.K. 1977-87; Foundation Fellow, International Centre for Insect Physiology and Ecology, Kenya, 1982; Head of Crop and Environment Protection Division and Head of Station (East Mailing), AFRC Institute of Horticultural Research, 1987-90. Chief Executive of Horticulture Research International, 1990-present. Honorary Professor, Warwick University, U.K.
Membership: Member of Society of Invertebrate Pathology since 1977; Joint organizer of IIIrd International Colloquium of Invertebrate Pathology, Brighton, U.K., 1982; Chair Microbial Control Division 1983-84; Trustee, 1986-90; Fellow of Institute of Horticulture; Member of the Association of Applied Biologists, Society for General Microbiology and Institute of Biology. Member, Invertebrate Virus Subcommittee of International Committee for Taxonomy of Viruses 1978-90 (Chair, 1984-87); Founder and Convenor, IOBC/WPRS Study of Group on Insect Pathogens and Insect-parasitic Nematodes 1985-89. Member Editorial Board of Intervirology (1977-85), Journal of Invertebrate Pathology (1979-82), Virology (1983-85), Entomophaga (1986-present), Journal of General Virology 1979-present (Editor 1983-86). Founding editor-in-chief of Biocontrol Science and Technology.
Interests: Microbial pathogens of insects, particularly insect viruses. Biological control of arthropod pests in horticultural ecosystems.

VICE PRESIDENT

Terry L. Couch

Education: A.B 1965, Franklin and Marshall College; M.S. 1967, Penn State; Ph.D. 1970, Penn State.
Experience: President of Becker Microbial Products, Inc., 1986-present; Director of Pet Chemicals, Inc. (Division of Colgate-Palmolive), 1983-86; Senior Research Entomologist, Section Head Entomology, Associate Research Fellow, Manager of Agricultural Research (in order) of Abbott Laboratories, 1970-1983.
Memberships: SIP, since 1970; Entomological Society of America; Sigma Xi; American Registry of Professional Entomologists; American Association for the Advancement of Science; Florida Entomology Society; Phi Chi Omega (Honor Society of the Professional Pest Control Association).
Interests: Research and development of microbial control agents, large scale production and formulation of entomopathogens - particularly Bacillus thuringiensis, registration, quality assurance and safety of microbial insecticides.

VICE PRESIDENT

Robert R. Granados

Education: B.S. 1960, University of California, Davis: M.S. 1962, University of Wisconsin, Madison; Ph.D. 1964, University of Wisconsin, Madison.
Experience: Assistant Entomologist, Boyce Thompson Institute, 1964: Associate Virologist, Boyce Thompson Institute, 1969; Virologist, Boyce Thompson Institute, 1974; Virologist, and Director of Biological Control Program, Boyce Thompson Institute, 1977; Adjunct Professor of Entomology, Cornell University Department of Entomology, 1988-present; Virologist and Director of Plant Protection Program, Boyce Thompson Institute, 1988-present; Visiting Professor, University of Wisconsin, Madison, 1976; Visiting Professor, University of California, Riverside, 1987.
Membership: Charter Member, Society for Invertebrate Pathology, 1968; Member, Program Committee, Society for Invertebrate Pathology, 1983-present; Member, Founders Lectureship Committee, Society for Invertebrate Pathology, 1983-1991; Member, Endowment Committee, Society for Invertebrate Pathology, 1986-present; Member, Publications Committee, Society for Invertebrate Pathology, 1986-89; Secretary, Division of Microbial Control, Society for Invertebrate Pathology, 1985-87; Treasurer, Society for Invertebrate Pathology, 1986-88; Member of the Entomological Society of America; Member, American Society for Microbiology; Charter Member, Society for Virology; Member, American Association for the Advancement of Science; Member, Scientific Advisory Board - Ecogen, Inc.; Member, Competitive Research Grants Office, Biological Stress on Plants Review Panel, 1982; Member, Executive Committee of the International Committee on Taxonomy of Viruses, 1987-1990; Chairman, Subsection Cc on Insects in Relation to Plant Diseases, Entomological Society of America, 1970; Chairman, Subsection Ce on Insect Pathology and Microbial Control, Entomological Society of America, 1983; Secretary, Section C, Entomological Society of America, 1988; Chairman, Section C, Entomological Society of America, 1990; Editorial Board, J. of Invertebr. Pathology, 1978-80; Editorial Board, Biological Control-Theory and Application in Pest Management, 1990-93.
Interests: Microbial pathogens of invertebrates, particularly insect viruses. The molecular basis of viral pathogenesis. Insect cell culture applications in invertebrate pathology.

SECRETARY

Richard A. Daoust

Education: B.S. (Entomology) 1970; M.S. (Public Health Microbiology) 1974; Ph.D.(with Honors - Environmental Microbiology and Insect Pathology) 1978, University of Massachusetts, Amherst, MA.
Experience: Entomologist, U.S. Peace Corps, Ministry of Agriculture, Gaborone, Botswana, 1970-72; Postdoctoral Fellow and later Research Associate, Boyce Thompson Institute for Plant Research, Cornell University, Ithaca, NY, 1978-1985 (stationed at the National Rice and Bean Research Center, Goiania, Goias, Brazil on a U.S. Agency for International Development Grant through the Boyce Thompson Inst., 1981-84); Manager, Field Evaluation, Ecogen, Inc., Langhorne, PA, 1985-present.
Memberships: Society for Invertebrate Pathology, since 1978; Member-at-Large, Division of Microbial Control, 1989-present; Founders Lecture Committee, 1990-present; Entomological Society of America; Sociedade Entomologica do Brazil; Phi Kappa Phi; Sigma Xi (Cornell and University of Massachusetts chapters); Nature Conservancy.
Interests: Biotechnology and its application to the development of microbial pesticides, research on and commercialization of Bacillus thuringiensis-based insecticides and entomopathogenic fungi, commercialization of biofungicides and bioherbicides.

SECRETARY

Mark S. Goettel

Education: B.Sc. 1975, Concordia University; M.Sc. 1977, University of Ottawa; Ph.D. 1987, University of Alberta.
Born: 1954.

Experience: Research Entomologist, Dept. of Health, Suva, Fiji, CIDA Fellowship for Canadians and WHO/United Nations Volunteer programs, 1978-1981; NSERC Postdoctoral Fellow, Insect Pathology Resource Center, Boyce Thompson Institute, Ithaca, NY, 1987-88; Research Scientist, Insect Pathology, Agriculture Canada, Research Branch, Lethbridge, Alberta, 1988-present.
Membership: Entomological Society of Canada, since 1975; Entomological Society of Ontario, 1976-78; Entomological Society of Alberta, since 1983 (Secretary, 1991-92); American Mosquito Control Association, 1978-1988; Society for Invertebrate Pathology, since 1983 (New Initiatives Committee, 1985-86; Chairman, Division of Microbial Control, 1989-1991; Past chair, 1991-93; SIP Newsletter Assistant Editor, 1991-92); International Organization for Biological Control, since 1987; Mycological Society of America, since 1989.
Interests: Microbial control of insects, diseases of beneficial insects, regulation and safety of microbial control agents.

TREASURER
Harry K. Kaya
Education: B.Sc. 1962; M.Sc. 1966, University of Hawaii; Ph.D. 1970, University of California, Berkeley.
Experience: Research Assistant, University of Hawaii, 1964-66; NIH Predoctoral Fellow, University of California, Berkeley, 1966-1970; Assistant Entomologist, then Associate Entomologist, Connecticut Agricultural Experiment Station, New Haven, 1971-76; Assistant Professor, Associate Professor, and Professor of Entomology and Nematology, University of California, Davis.
Memberships: SIP member, since 1970; Chairperson, Local Arrangements Committee for Davis meeting, 1984; member, Journal Committee, 1982; Chairperson, New Initiatives Committee, 1984-86; ad-hoc member, Local Arrangements Committee for San Diego meeting, 1988; Editorial Board, Journal of Invertebrate Pathology 1985-87; member, Microbial Control Division, 1984-present. Entomological Society of America, National Organization: Membership Committee, 1979; Secretary (1984), Chairperson-elect (1985), Chairperson (1986) of subsection Ce (Insect Pathology); Judge, Student Papers, Section C, 1990; Entomological Society of America, Pacific Branch: Membership Committee, 1983-87; Auditing Committee, 1985, 1987. Society of Nematologists: Education Committee, 1980-83; member, 1985-86; Chairman, Membership Committee, 1989; Local Arrangements Committee, 1989. Associate Editor, Journal of Nematology 1984-85; Editorial Board, Journal of Nematology 1987-89. Member, Southeastern Regional project S-135, 1979-90; Secretary, 1984-85, Chairperson elect, 1985-86, Chairperson 1986-88; S-135 Regional Project, 1980-85, 1988-89; member, Southeastern Regional Project S-240, 1990-present; Co-organizer (with R. Gaugler), First International Conference on Entomopathogenic Nematology 1989; member, Hawaiian Entomological Society; Consultant to Environmental Projection Agency, 1983; Consultant to Stanford Research Institute, 1985-88; Consultant to Plant Genetics 1986-87; Consultant to Biosys, 1985-present; Gypsy Moth Science Advisory Panel for the State of California 1981-85; Editor (w/ R. Charudattan, W.J. Lewis, C.E. Rogers) of Biological Control, Theory and Application in Pest Management, 1990-present (first issue, 1991).
Interests: Insect parasitic nematodes with emphasis in soil ecology and microbial control; general insect pathology.

TREASURER
Clayton William McCoy
Education: B.S. 1960, Gustavus Adolphus College; M.Sc. 1963, University of Nebraska: Ph.D. 1967, University of California, Riverside.
Born: 1938.
Experience: Assistant to the Curator, University of Nebraska Museum, Department of Entomology, Lincoln, NB, 1960-61; Biological Aid, USDA, ARS, Insects Affecting Man and Animals Branch, Lincoln NB, 1961-63; Research Assistant, University of California, Riverside, Division of Biological Control, 1963-67; Research Entomologist, USDA, ARS Entomology Research Division, Fruit Insects Branch, Orlando Fl, 1967-1972; Associate Professor, University of Florida, IFAS, Citrus Research and Education Center, Lake Alfred, 1972-79; Professor, University of Florida, IFAS, Citrus Research and Education Center, Lake Alfred, 1979-present.
Membership: Society for Invertebrate Pathology, since 1968 (Local Arrangements, 1986; Microbial Control Division, 1984-present; New Initiatives Committee, 1984-86; Founders Lectures Award Committee, 1989-present; Chairman, 1991-92); Entomological Society of America (Secretary, Section Ce); International Organization for Biological Control; International Society of Citriculture; Florida Entomological Society (President, 1984); Caribbean Food Crops Society; Florida State Horticultural Society, AAAS; Sigma Xi; Gamma Sigma Delta; Southeastern Regional Research Project S-240; U.S. Southeastern Regional Biological Control Working Group (Advisor, Invertebrate Pathology).
Interests: Utilization of Pathogens as functional components of IPM systems. Germplasm selection and characterizations of natural and genetically altered entomopathogenic fungi. Pathobiology of entomopathogenic fungi in nature. Of special interest, the development of pathogens, particularly fungi and their secondary metabolites, in concert with industry, as biopesticides of acarine pests and/or soil insects worldwide.

TRUSTEE (Two to be elected)
Robert S. Anderson
Education: B.S. (Biological Sciences) Drexel University, 1961; M.S. (Physiology) Hahnemann Medical University, 1968; Ph.D. (Biological Sciences) University of Delaware, 1971.
Born: 1939
Experience: NIH post doctoral fellowship, University of Minnesota (1970-1973); Head, Laboratory for the Study of the Phylogeny of Cancer and Immunity, Sloan-Kettering Institute for Cancer Research, N.Y. (1973-1982); Assistant Professor, Cornell University Graduate School of Medical Sciences, N.Y. (1975-1982); Research Biologist/Immunologist at Chemical Research, Development and Engineering Center, U.S. Army Aberdeen Proving Ground, MD (1982-1986); Professor, University of Maryland, Chesapeake Biological Laboratory (1986-present).
Membership: Society for Invertebrate Pathology (1971- present), Chair of Membership Committee (1986-1988), Secretary (1988-1990); American Society of Zoologists, Committee on Public Affairs (1991-1993), ASZ Division of Comparative Immunology, Nominating Committee (1978, 81), Program Officer (1981-1983), Local Organizing Committee for 1985 Annual Meeting; American Association of Immunologists; American Entomological Society; New York Academy of Sciences; International Society of Developmental And Comparative Immunology; Society of Sigma Xi; Society of Toxicology, Immunotoxicology Specialty Section. Editorial Boards: Journal of Invertebrate Pathology (1976-1983, 1987-1990), Acting Editor-in-Chief (1986-1987); Journal of Developmental and Comparative Immunology (1977-1983); Reviews in Aquatic Sciences, Founding Editor-Chief (1986-present). NIH Tropical Medicine and Parasitology Study Section (AHR). University of Maryland: Executive Committee of University-Wide Toxicology Program (1986-present), Faculty Senate (1988-1991).
Interests: Comparative immunology and immunotoxicology in insects, molluscs and fish. Recent emphasis centers on hemocyte-mediated defense mechanisms, such as the production of cytotoxic reactive oxygen intermediates. Studies are also underway to quantify the effects of chronic exposure of invertebrates to xenobiotics on immunocompetency and the resultant alterations in host resistance to infectious disease.

TRUSTEE

Juerg Huber

Education: M.S. (Biology) 1967, Swiss Federal Institute of Technology, Zurich (ETHZ); Ph.D. (Insect Pathology) 1973, Department of Entomology, ETHZ.

Born: 1944.

Experience: Research Scientist, Federal Biological Research Centre for Agriculture and Forestry, Institute of Biological Control, Darmstadt, F.R. Germany, 1973-present; Director of Institute of Biological Control, Darmstadt, F.R. Germany, since 1991.

Membership: Society for Invertebrate Pathology; Swiss Entomological Society; Treasurer, International Organization for Biological Control/West Palaearctic Regional Section (IOBC/WPRS), since 1989; Convener, IOBC/WPRS Working Group on Insect Pathogens and Insect Parasitic Nematodes, 1989-1991.

Interests: Practical use of viruses for control of insect pests in agriculture and forestry; production, registration and commercialization of microbial and viral pesticides.

TRUSTEE

Lawrence A. Lacey

Education: B.A. (1973) Biology, California State University, Turlock, California; M.S. (1975) Medical Entomology, University of California, Riverside; Ph.D. (1978) Medical Entomology, Insect Pathology, University of California, Riverside. Certificate of Merit (USDA, ARS, 1983) H.S. Smith Award in Biological Control (Biological Control division, University of California, Riverside, 1977.

Born: 1946.

Experience: Research Entomologist, USDA, ARS, European Biocontrol Lab, Montpellier, France, (Oct. 1991-present); Research Entomologist, USDA, ARS, Japanese Beetle Control Program, Terceira, Azores, Portugal, (1989-1991); Vector Biologist, Vector Biology and Control Project (USAID), Medical Services Corporation International, Arlington, VA, (1986-1989); Research Entomologist, Insects Affecting Man and Animals Research Laboratory, USDA, ARS, Gainesville, FL, (1981-1986); Consultant, World Health Organization, Onchocerciasis Control Program, Volta Basin, West Africa. (July-Nov. 1980); Assistant Professor, Instituto Nacional de Pesquisas da Amazonia, Manaus, Brazil, (1978-1980); Research Assistant, Department of Entomology, University of California, Riverside, (1973-1977).

Membership: American Mosquito Control Association; American Society of Tropical Medicine and Hygiene; Entomological Society of America (Microbial Control Division, chair-elect (1984), chair (1985); rep. of Section C to the Editorial Board of the Journal of Medical Entomology (1989-present); Pacific Coast Entomological Society; Society for Invertebrate Pathology [SIP Secretary (1990-present); Membership committee, chair (1984-1986) and member (1984-present); Endowment committee chair (1991-present) and member (1991-present); Safety committee, chair (1984-1987) Microbial Control Division, secretary (1984-1986); member at large (1989-1991)]. Society of Vector Ecologists; Sigma Xi; S-135 working group in microbial control participant since 1982.

Interests: Foreign exploration for effective parasites and pathogens of introduced insect pests and their development as microbial control agents. Factors that limit or enhance activity and persistence of insect pathogens and parasites.

TRUSTEE

Anthony William Sweeney

Education: B.Sc.Agr. (Hons) 1963, University of Sydney; M.Sc.Agr. 1967, University of Sydney; Ph.D (Med) 1977, University of Sydney.

Born: 1941.

Experience: Entomologist, Malaria Service, P.N.G. Health Department, Rabaul, Papua New Guinea, 1963-69; Research Officer, Army Malaria Research Unit, Ingleburn, New South Wales, Australia, 1970-1986; Commanding Officer, Army Malaria Research Unit, 1987-present; Research Affiliate, University of Sydney, 1980-81; Honorary Associate, University of Sydney, 1982-1990; Principal Research Fellow, University of Sydney, 1991-present.

Membership: Member, Australian Entomological Society; Member, American Mosquito Control Association; Member, Society for Invertebrate Pathology; Vice Chairman, Division of Microsporidia, Society for Invertebrate Pathology, 1988-1990; Chairman, Division of Microsporidia, Society for Invertebrate Pathology, 1990-93; Member, Founder's Lecture Committee, Society for Invertebrate Pathology, 1990-93; Member, Editorial Board, Journal of Invertebrate Pathology, 1991-93.

Interests: Microbial control of disease vectors with microsporidia and fungi.

CANDIDATES FOR HONORARY MEMBER

(Honorary membership is the highest honor the Society can bestow. Persons are nominated by petition containing signatures of at least 10 members in good standing. These petitions, along with documentation of the accomplishments of the member and his or her contributions to the Society, are presented to Council for approval. If approved, they are presented to the membership for vote. No more than two honorary members may appear on each ballot.)

PROFESSOR KEIO AIZAWA received the PhD degree from the University of Tokyo in 1959. Professor Aizawa was Silkworm Pathologist (1950-1955) and Chief of the Virus Laboratory (1955-1964) at the Sericulture Experiment Station, Tokyo. He then accepted the positions of Professor of Insect Pathology at the Institute of Biological Control, Faculty of Agriculture, Kyushu University, from 1964 through 1990, and Director of the Institute of Biological Control from 1971-1975 and 1977-1989. Professor Aizawa retired in 1990 to the status of Professor Emeritus.

Prof. Aizawa's publications span 38 years, and include 88 papers on insect pathogenic viruses, bacteria and fungi and insect cell culture, as well as chapters in several books.

Professor Aizawa has served many scientific organizations during his career. This service has included:
Trustee: Society for Invertebrate Pathology (1968-1972); Member: Subcommittee on Invertebrate Viruses, International Committee on Taxonomy of Viruses (1959-1978); Member: Subcommittee of the Genus Bacillus, International Committee of Systematic Bacteriology (1973-1978); Member: Scientific Committee, International Organization for Biological Control (1960-1970); Member: WHO Steering Committee on Biological Control of Vectors (1984-1987); Member: Editorial Board, Journal of Insect Pathology (1959-1962); Member: Editorial Board, Entomophaga (1969-1985); Member: Editorial Board, Intervirology (1973-1985); President: Society of Japanese Virologists (1986).

He has received the Prize of the Japanese Society of Agricultural Sciences in 1968 and the Louis Pasteur Prize in 1990.

The nomination of Prof. Aizawa was supported by letters from 23 SIP members, each attesting to his status and vigor in science and his influence on the development of the field of invertebrate pathology.

PHYLLIS T. JOHNSON was born in Salem Oregon on 8 August, 1926. Her A.B., in zoology (1948), and Ph.D., in parasitology (1954), were from the University of California, Berkeley. Her thesis, "A Classification of the Siphonaptera of South America," was published as a Memoir of the Entomological Society of Washington in 1957.

Until 1964, she engaged in research on various aspects of medical and systematic entomology: the systematics of fleas and sucking lice; epizootiology, transmission and culture of rickettsiae; mainly those of scrub typhus; and epidemiology and transmission of leishmaniasis. These researches were carried out at Walter Reed Army Medical Center, Washington D.C., National Museum of Natural History, Washington, D.C., and Gorgas Memorial Institute, Panama.

In 1964 she accepted a position at the University of California, Irvine, in E.A. Steinhaus's Pathobiology unit, which became the Center for Pathobiology in 1969. The remainder of her career dealt with research on the pathobiology of various marine invertebrates, although she continued studies of sucking lice as an avocation until 1972, when lack of time put an end to those investigations. While at U.C. Irvine she authored "An Annotated Bibliography of Pathology in Invertebrates other than Insects" (Burgess, 1968) and did research on comparative aspects of defense reactions in species representing several phyla of invertebrates. She also worked extensively on the morphology and function of echinoderm coelomocytes.

From 1972 until her retirement in 1987, she was at the National Marine Fisheries Service Laboratory in Oxford, Maryland. There her research concerned pathobiology of crustaceans, particularly the blue crab, Callinectes sapidus. She discovered and studied seven viruses in the blue crab, a record yet to be surpassed by any other decapod crustacean! Much of her research concerned transmission, distribution and pathology and viruses, bacteria and protozoans in crabs and lobsters, and histological examination was often used. Unavailability of information on normal histology of the blue crab, with which to compare her diseased animals, led to the writing of "Histology of the Blue Crab" (Praeger, 1980).

Dr. Johnson is author, singly or with others, of 100 scientific publications. The great majority are reports on her research, but also included are four books, several chapters in edited volumes such as "The Biology of Crustacea" (Academic Press), and various book reviews. She is or has been member of several scientific societies. She is a Fellow of the Washington Academy of Sciences, Sigma Xi, and the American Association for the Advancement of Science. She has served on Ph.D. and M.A. advisory committees at the Universities of Delaware and Maryland, was a member of the Committee on Animal Models and Genetic Stocks of the National Academy of Sciences, and has received various honors and awards, including the U.S. Department of Commerce Bronze Medal and a medal from the City of Montpellier, France. She has presented papers at various scientific meetings, and given seminars and lectured in courses at several universities and research institutes.

She is a charter member of the Society for Invertebrate Pathology. For this Society she organized and chaired various symposia and contributed paper sessions at the Annual Meetings and International Colloquia. She served on the Glossary Committee (1974-84), Journal Advisory Committee (1987), Founders Lectureship Committee (1983-90), Constitutional Revision Committee (1978-80), and the Membership Retention Committee (1982-83). She served as Vice President and President of SIP (1978-82). During her administration, a revised Constitution and Bylaws was adopted, the Founders Lectureship was established, and a plan was devised whereby members in several countries send their dues to a Central Dues collector in their own currency, which are then submitted to the SIP Treasurer, as a pooled sum, in U.S. currency.