

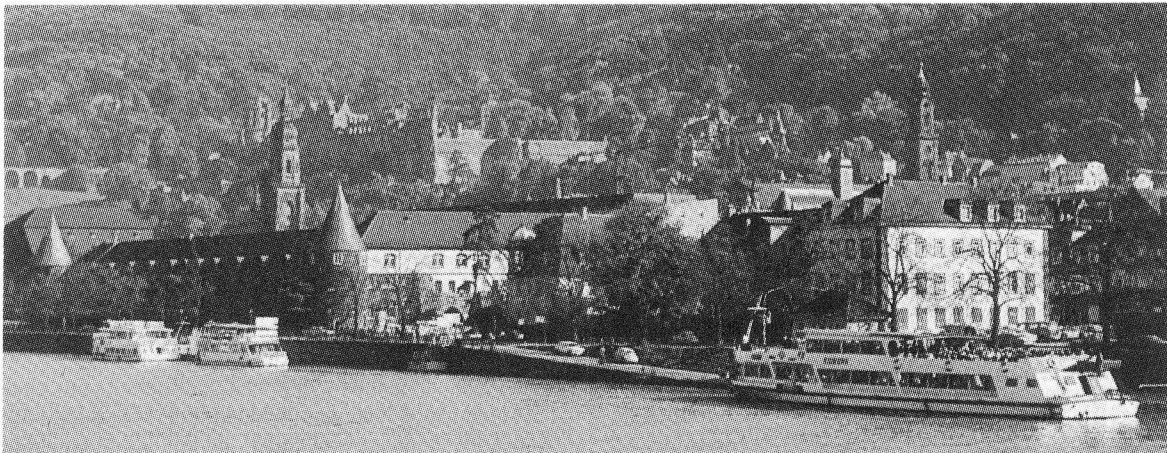
Donald W. Roberts

NEWSLETTER

society for invertebrate pathology

VOLUME 24, NUMBER 2

June 1992



**XXV ANNUAL MEETING
SOCIETY FOR INVERTEBRATE PATHOLOGY
AUGUST 16 -21, 1992
HEIDELBERG, GERMANY**

LAST MINUTE INFORMATION

Travel

Participants travelling by air are most likely to arrive at Frankfurt Airport, which is situated only 50 miles north of Heidelberg. From the airport, there is a direct Lufthansa Airport Bus connection to the Penta Hotel at Heidelberg. The bus to Heidelberg departs directly outside the baggage claim area in the basement of Terminal B at least ever hour. One-way fare is DM 33 (return ticket DM 55). For those needing assistance, Sunday, August 16, a member of the organizing team will be at your service in the airport at the "Meeting Point." The "Meeting Point" is signposted all over the airport and is located in front of the baggage claim area in Terminal B. If you leave the airport through the exit at the Meeting Point, you will find the bus station for the airport bus to Heidelberg directly to your left.

Heidelberg can be reached easily by train, also from the airport via Frankfurt or Mannheim. Bus number 11 takes you from the railway station into the old part of

SIP OFFICERS ELECTED DUES INCREASE APPROVED

The Teller's Committee counted 351 valid ballots and have certified the election of the following officers for 1992-1994:

President: **Chris C. Payne**
Vice-President **Robert Granados**
Secretary: **Richard A. Daoust**
Treasurer: **Harry Kaya**
Trustees: **Lawrence A. Lacey**
(serve 1992-96) **Robert S. Anderson**

Keio Aizawa and **Phyllis T. Johnson** were elected to Honorary Membership.

Congratulations to these new officers! Standing for election to a Society office demonstrates a high level of commitment to SIP. We thank all those who agreed to run in this election.

An increase in annual dues for full members to \$30 per year was approved.

Heidelberg, where most of your hotels are located. The Penta Hotel, where most of the SIP activities on Sunday are taking place, is situated within a ten minute walking distance from the railway station.

For those arriving by car, there is ample parking space available at the University. In the town of Heidelberg itself, parking space is limited, but most hotels have their own reserved parking lots. The Penta Hotel has a public parking garage.

Registration

A registration desk will be set up on Sunday at the Penta Hotel from 9 am until 7 pm. On Sunday evening, a social gathering with free drinks and snacks will be held in the same hotel. On Monday, registration will take place from 8 am to 5 pm in the foyer of the Chemistry Building, outside the auditorium where the plenary sessions take place. For late arrivals, registration will still be possible, Tuesday to Friday at the Secretariat in the Zoology Building from 9 am to 3 pm.

Accommodation

We are well aware that the absence of on-campus housing facilities has created some problems for many of you and apologize for it. Therefore, most of the participants will be staying in hotels one or two miles away from the lecture rooms. This should not cause too much of a problem since tramway number 1 and bus number 12 provide excellent connections to the university campus. For orientation, please use the map in the program of the meeting.

Meals

Breakfast should be taken in the individual hotels. Breakfast is usually included in the price of the rooms. For lunch, it is recommended to use the students' mensa. Unfortunately, there are very few restaurants in the direct neighborhood of the University and the short break between the sessions does not allow us to go to one of the restaurants downtown. At least you should have sufficient time to enjoy their excellent cuisine during dinner in the evening.

Scientific Program

With more than 300 contributions, we are expecting the Heidelberg Meeting to be extremely well attended. In order to cope with the large number of papers, up to six sessions will run in parallel. Nevertheless, we have done our best to prevent overlapping of related topics. In addition, we will start every morning with a plenary

session. This gives the possibility to meet with colleagues from other fields of research, before they disappear into their sections.

Social Program

The social program is open to all meeting participants and their registered accompanying persons. The program includes the mixer on Sunday evening in the Penta Hotel, the jubilee speech in the Aula of the Old University in the center of the town on Tuesday evening, the boat trip on the Neckar on Wednesday, and, not to miss, the famous banquet on Thursday evening. The banquet, for which we have to request a fee equivalent to US \$35, will take place in the restaurant Molkenkur, high above Heidelberg. The restaurant can be reached by cable-car, as well as by road, directly from the center of the Old Town.

Post conference excursions for half a day, or a full day, will be offered at the meeting. In addition to this, many longer or shorter sightseeing trips can be booked through the reception of your hotel.

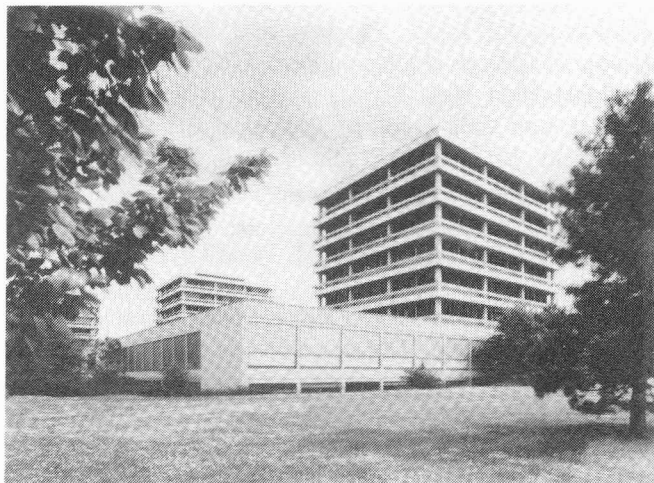
Late Submission of Posters

We realized that some members who may have wished to submit a paper, did not do so, because approval for travel arrangements was not forthcoming by the April 1 deadline. We, therefore, will accept a limited number of late poster presentations. Since these will not appear in the official program, presenters should also bring fifty copies of their abstract for distribution to interested persons. If you intend to submit a poster under these arrangements, please inform the organizing committee as soon as possible.

For further details about the meeting, surrounding area, expected weather, etc., please refer to the announcements in the preceding SIP Newsletter, or contact the Secretariat of the Heidelberg meeting by phone: 49-621-5909 288 or FAX 49-621- 5909-500.

PLEASE BRING YOUR PROGRAM AND A COPY OF YOUR ABSTRACTS TO THE MEETING. EXTRA COPIES OF THE ABSTRACTS ARE INTENDED FOR NON-MEMBER REGISTRANTS WHO DO NOT RECEIVE AN ADVANCE COPY.

We wish you a safe trip to Heidelberg.



Zoologisches Institut der Universität Heidelberg, Neuenheimer Feld, site of the 1992 Annual Meeting of the Society for Invertebrate Pathology.

Dr. Erwin Müller-Kögler and Dr. Alain Vey Are Recognized as Founders Lecture Award Honoree and Lecturer, Respectively, For 1992

In 1982, the Society for Invertebrate Pathology (SIP) initiated an annual recognition of individuals who, in the opinion of the Society, have contributed to the genesis and development of scientific efforts and accomplishments identified as invertebrate pathology. In celebration of the recognition of an Honoree, the Society sponsors a Founders Lecture. As a highlight of our opening session during this year's meeting in Heidelberg, Germany, Dr. Erwin Müller-Kögler and Dr. Alain Vey will be recognized as Honoree and Lecturer, respectively, for 1992.

Dr. Erwin Müller-Kögler



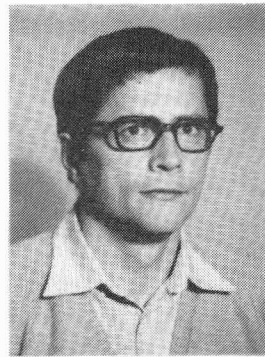
As our Honoree, Dr. Müller-Kögler currently pursues his artistic interests in retirement at the proud age of 83 in Darmstadt, Germany. Scientists around the world remember Dr. Müller-Kögler for his many contributions to the study of insect mycoses and their potential as microbial control agents. For 40 years, Dr. Müller-Kögler addressed both basic and applied research in the area of plant protection with

particular interest in biological pest control. His work at the Institut für Biologisches Schädlingsbekämpfung der Biologischen Bundesanstalt für Land-und Forstwirtschaft in Darmstadt for almost 25 years was highlighted by his textbook, Pilzkrankheiten bei Insekten-Anwendung für Grundlagen der Insektenmykologie (Fungal Diseases of Insects), published in 1965. Although published in German only, this unique book has had a profound impact on insect pathologists worldwide. Coincidentally, the career of our President, Elizabeth W. Davidson, was "sparked" by Dr. Müller-Kögler and his book.

Dr Müller-Kögler is best remembered by his associates for his desire to cooperate and help others. This willingness to cooperate resulted in contacts and publications with many German and international scientists. He worked for the WHO in the identification of entomopathogenic fungi. He served on the editorial board of JIP for several years. He was very active in the International Organization of Biological Control (IOBC) where he served for 15 years as one of three chairmen of the Insect Pathology and Microbial Control Working Group.

Dr. Müller-Kögler was born February 14, 1909 in Limburg-Lahn, Germany, the son of a senior official of the Ministry of Agriculture. Consequently, an interest in biology was "spawned" that influenced his educational training at all levels. Dr. Müller-Kögler studied Biology and Chemistry at the Universities of Tübingen, Munich, Frankfurt, Bonn and Kiel. He received his Ph.D. in Phytopathology at the University of Bonn under Professor Blunck. In 1938, he accepted a position with Professor Schwerdtfeger studying the fungal diseases of forest insects in Eberswalde, thus beginning a long and distinguished career involving insect mycosis.

Dr. Alain Vey



Our lecturer for 1992, Dr. Alain Vey, is a highly respected insect pathologist who is well-known for his high quality research on the isolation and characterization of toxins of fungal pathogens, their effect on the mode of action at both the cellular and molecular level, and various aspects of insect mycosis. His mycological research on mode of infection, cellular response to fungal

invasion and immunology is well-documented and recognized internationally by his peers.

Dr. Vey was born in Mars, France. He received his Doctorat d'Etat in Biological Sciences from the University of Toulouse, France. He began his career in 1966 as Agent Contractuel Scientifique with the Institut National de la Recherche Agronomique (INRA). Since that time, he has progressed within the agency to Directeur de Recherches, Mycologie at the Station de Recherches de Pathologie Comparée, INRA, in Saint Christol lez Alés, France. Dr. Vey is an active member of the Société Française de Microbiologie and the Society for Invertebrate Pathology. Dr. Vey has cooperated with numerous scientists such as Vago, Ferron, Farques and Müller-Kögler. The Society for Invertebrate Pathology is honored to have Dr. Alain Vey as our 1992 Founders Lecturer. Dr. Vey is grateful to Dr. Pierre Ferron for his assistance in the preparation of the lecture.

Founders Lecture Committee:

Richard Daoust

Carlo M. Ignoffo

Anthony Sweeney

Clayton W. McCoy, Chair

ANNOUNCEMENTS

ECOLOGICAL INTERACTIONS AND BIOLOGICAL CONTROL SYMPOSIUM

OCTOBER 25-27, 1992

MINNEAPOLIS, MINNESOTA

Sunday, October 25,

1:00pm-4:30pm **Legislative Commission on Minnesota
Resources (LCMR) Program**

Monday, October 26

8:00am-11:30am **Resource Competition**

1:30pm-5:00pm **Parasitism and Antibiosis**

Tuesday, October 27

8:00am-9:00am **Parasitism and Antibiosis (cont.)**

9:05am-11:30am **Herbivory and Predation**

12:30pm-4:00pm **Disease**

For registration information, contact:

Nancy Harvey, Program Coordinator

612-625-8215 (24 hour voice mail)

800-367-5363 (USA only)

612-625-2207 (FAX)

MICROSPORIDIA DIVISION NEWS

The Microsporidia Division Workshop in Heidelberg will highlight European research. Ronny Larsson (University of Lund, Sweden) and Elizabeth Canning (Imperial College at Silwood Park, UK) have been invited to discuss their work. Anyone wishing to contribute should contact Ann Cali, Dept. of Biological Sciences, Rutgers University, 101 Warren St., Smith Hall, Newark, NJ 07102 USA (201-648-5364).

POSTDOCTORAL POSITION

Applications are invited for a Postdoctoral Research Associate opening. The current emphasis of the lab includes physiological ecology, host-parasite interactions, and genetics of entomopathogenic nematodes. Preference given to candidates with research experience in the above general areas but all applications are welcome. Please contact: Randy Gaugler, Department of Entomology, Rutgers University, P.O. Box 231, New Brunswick, NJ 08903, USA. Tel: 908-932-9459. FAX: 908-932-7229. BITNET: 2680001@RUTVM1.

JIP WILL POST FREE ANNOUNCEMENTS

The *Journal of Invertebrate Pathology* will run announcements of meetings, conferences, workshops, courses, and seminars free of charge. For more information, contact Carol Reinisch, Editor-in-Chief, *Journal of Invertebrate Pathology*, 200 Westboro Road, North Grafton, Massachusetts 01536, USA. Tel: 508-839-7949; FAX: 508-839-7948.

FASEB PLACEMENT SERVICE AVAILABLE TO SIP MEMBERS

FASEB offers a placement service year-round and at selected meetings of member societies, matching candidates seeking permanent positions or postdoctoral training with recruiting employers from academia, government, industry and elsewhere. Most candidates are at doctoral level and in disciplines represented by member societies, but individuals holding degrees below doctorate are not excluded. Candidates may register with the service at any time at the address listed. Registrations received between September 5 and November 1 each year will be recorded as of November 1. Candidates participating in Placement Service activities at any FASEB-organized meeting must register for attendance at that meeting.

Registration is for one year from receipt of completed registration materials and \$20.00 registration fee. During that year, the candidate is entitled to:

- Inclusion of registration, if received by mid-January, in annual *Candidates*, a bound collection of current registrations published and distributed in February to about 300 registered employers
- Publication of Position Desired advertisement, composed by candidate, in one issue of *The FASEB Journal* (resulting in referral of more than 1000 registrants each year)
- Use of interviewing facilities at FASEB-organized meetings, including review of posted position vacancy descriptions, distribution of registration to each participating employer, and interview scheduling services. Candidates must report in person to Placement Service at the meeting to initiate this activity. (Note: FASEB placement will NOT be available at the 1992 SIP Meeting).
- Availability of registration for review by employers visiting FASEB campus in Bethesda, Maryland, and by FASEB staff members conducting searches on behalf of employers (several hundred referrals per year).

For registration materials contact FASEB Placement Service, 9650 Rockville Pike, Bethesda, MD 20814. Tel: 301-530-7020.

A NEW GROUP OF INSECT PATHOLOGISTS

A Working Group on Insect Pathology/Microbial Control has recently been established within the framework and under the auspices of the Italian Society of Entomology. Surprisingly, in view of the important contributions to the development of insect pathology made in the past by Italian scientists (Bassi, Balbiani, Cornalia, Maestri, and Masera) this science has not enjoyed much popularity in Italy in the last century. This is clearly shown by the limited number of scientists presently involved in this field and by the fact that insect pathology has not as yet an official status, particularly at the academic level. It is hoped that the establishment of such a Working Group will help gather together the few resources available at present and develop insect pathology in Italy, gaining it the status it deserves as an important and innovative science.

For information on the activities of the Group and possible suggestions for cooperation, contact:

Dr. Luciano Rovesti, Group coordinator
Centro di Studio per gli Antiparassitari
via Filippo Re, 8
40126 Bologna, Italy

EDITORIAL

Mark Goettel, Assistant Newsletter Editor
Whatever Happened to the "I" in "IPM"?

Integrated Pest Management (IPM) has been generally accepted over the last 15 years or so as an answer to the difficulties encountered with chemical pest control. IPM would provide an environmentally acceptable form of pest control which would incorporate all possible means to "manage" pest insect populations. "Biological" methods, which of course include microbial control, would be of paramount importance.

Our Society and its members have been in the forefront in developing, registering, producing and marketing a "wonder microbial control agent," *Bacillus thuringiensis*. Here was a microbial control agent that is easily produced, acts quickly and effectively, and yet leaves most NTO's unscathed. This was the almost perfect microbial control that could be incorporated into many IPM programs. However, this is not what has happened. Instead, Bt became only a replacement to the chemicals previously used. But to many, this *was* IPM.

A lot of us were shocked when it was demonstrated several years ago that flour moths had developed resistance to Bt. To some scientists this was inevitable; when one places too much pressure on a population with a single measure, whatever the measure, the target population either develops resistance to that measure or it becomes extinct. Several more insects, including the diamondback moth, have since developed resistance to Bt. It seems that we are quickly losing the best thing that we've ever had as far as a microbial control is concerned. But have we learned our lesson? I'm afraid not. All of a sudden, biological control is being touted as the pest control method of choice for a "sustainable agriculture." But what happened to IPM?

Many of us are working on developing a microbial agent that will just be bottled and used solely to replace a chemical rather than be incorporated into an IPM program. What are the solutions? What can we do as a

Society to ensure that the results of our research will be used in a responsible manner? Is IPM the answer?

An alternative to the "insecticidal approach" is to use pathogens in "classical" biocontrol. However, the use of exotic pathogens against endemic pests is presently a controversial subject. In this issue we introduce a section in the Newsletter entitled "Forum." In the first Forum article we present an invited article by Jeffrey Lockwood which addresses this subject. We invite responses to this article and this editorial either through letters to the editor or through other articles to be published in the Forum section.

FORUM

Neoclassical Biological Control: A Double-Edged Sword

Jeffrey A. Lockwood, Dept. of Plant, Soil & Insect Sciences, University of Wyoming, Laramie.

Background. An unusual form of biological control is the neoclassical approach, in which an exotic agent is used to control a native pest. In 1991, the United States Department of Agriculture (USDA) expressed their intention to release an unidentified parasitic scelionid wasp from Australia (later identified as *Scelio parvicornis*) to control rangeland grasshoppers. There are also plans for release of parasites from Africa and Asia (USDA 1991). In 1989 and 1990, the USDA released an Australian fungal pathogen of grasshoppers, *Entomophaga praxibuli*, at two locations. The permit for release was based on a "scoping document;" there was no Environmental Assessment, Decision of Record, or Finding of No Significant Impact, as seemingly required by the National Environmental Policy Act. The fungal release program in Alaska did not result in establishment, but in North Dakota the parasite is established and much larger field releases are planned. A preliminary analysis of these programs (Bomar et al. 1991) led to the decision to halt the work until vital biological and procedural questions could be addressed (Schwalbe 1991).

Rangelands of the western US are valuable due to their vast area and diverse properties. Because their direct economic contribution is small (these lands provide only 1% of the food consumed by cattle and sheep [Mosley et al. 1990]), the greatest value of rangelands to agriculture is their long-term sustainability. Assuming that grasshopper outbreaks are not important to ecological processes or nonagricultural uses, then benefits of pest suppression are a function of extracting the protected

forage. Although outbreaks may occur, in part, because parasitoids and predators are overwhelmed by grasshoppers, some native parasitoids can reduce high grasshopper densities (Bomar et al. 1991), and exotic agents may have the same potential (Hokkanen and Pimentel 1989).

Likelihood of Failure. Attempting neoclassical biological control seems contrary to the principles of competitive exclusion and community resistance. Invasion ecology (Mooney and Drake 1986) demonstrates that exotic organisms usually fail to establish, particularly under ecologically asynchronous conditions (e.g., transferring the entomophagous fungus from Australia to Alaska [USDA 1990]). Mitigating a low probability of establishment is the "ecological shotgun" approach in which the exotic is introduced into a complex of taxonomically related species hoping to "hit" the pest species. Unfortunately, this approach increases the probability of establishment, not necessarily the chances of successful biological control of target species.

Nontarget Impacts. The central concern over neoclassical biological control of rangeland grasshoppers is the potential impact to nontarget organisms. Although *Scelio* and *Entomophaga* may be restricted to acridids, they readily move between species (USDA 1990, 1991). Currently, no grasshopper species has been considered as a nontarget or beneficial organism in environmental documents (Carruthers et al. 1989, USDA 1990).

There are native species of both *Scelio* and *Entomophaga*, so competitive displacement is possible. Although Carruthers et al. (1989) suggested that exotic agents would have an additive affect with endemic species, Rees and Onsager (1982) found that parasitoids and predators of grasshoppers may be antagonistic. Indeed, exotic predators and parasites have displaced native species (Howarth 1991). Thus, exotics may disrupt the factors which keep grasshoppers from becoming pests on the majority of western rangelands (e.g., native predators, parasites, and pathogens [Joern and Gaines 1990]).

If an exotic organism is capable of suppressing pest species, it may also suppress related beneficial species. Although it is common for weeds to host several herbivores, such that the suppression of one species may not cause a release from passive biological control, there are cases in which exotics have led to secondary pest outbreaks (Howarth 1991). While the extent to which an exotic would impact large-scale weed distributions is not entirely evident, at least localized impacts could be

expected. There are some 24 cases of potential biological control of weeds by grasshoppers (Lockwood, in press). Only 5% of the rangeland grasshopper species in the western US are significant pests, 10% are occasional pests, 10% are beneficial, and the remaining 75% are economically harmless or beneficial. As such, neoclassical control of grasshoppers is more likely to suppress a nontarget species than a pest.

Costs of neoclassical biological control include the potential loss of nontarget orthopteran species and genetic diversity. The distribution of many species suggests rarity (Wyoming Grasshopper Information System 1992), and parasites and predators have their greatest impact on grasshoppers at low densities (Joern and Gaines 1990). Indeed, the extinction of native hosts by exotics demonstrates that rarity confers no protection (Howarth 1991).

The final set of costs associated with neoclassical biological control is derived from ecological functions of grasshoppers. First, although interspecific competition is not generally an important regulatory factor, there are exceptions. For example, feeding by one of the earliest hatching species, *Melanoplus confusus*, may suppress the densities of later, pestiferous species (USDA 1990). Next, the role of grasshoppers in structuring grasslands can be inferred from dietary studies (e.g., Pfadt and Lavigne 1962). A third function of grasshoppers is the vectoring of microbial agents. For example, *M. gladstone* is not known to damage rangelands, but it appears to be a reservoir for parasites (Przybyszewski and Capinera 1991). Also in this regard, grasshoppers are carriers of mycorrhizal spores (MacMahon and Warner 1984), and these symbionts are essential to many rangeland plants (Paul and Clark 1989). Finally, grasshoppers are important to nutrient cycling (Paul and Clark 1989), and these insects also impact higher trophic interactions. Several species of prairie birds depend on them to feed their young (Patterson 1952).

Irreversibility of Neoclassical Control. The potentially serious impacts of neoclassical biological control arise from the agent's capacity to spread uncontrollably. Once the exotic is established, all grasshopper species are at risk of being permanently affected. While the goal of the USDA program is to establish exotic agents across the rangelands of North America (USDA 1990) (presumably including our National Parks and wilderness areas), it is not evident that relevant federal agencies and other nations have been explicitly informed of this intention.

Comparative Benefits of Alternative Strategies. Indiscriminate control (by chemical or biological agents) is ecologically unacceptable. Thus, the benefits of neoclassical biological control must be considered in context of other management options. First, the viability of doing nothing to control rangeland grasshoppers is evidenced by economic analyses, showing that the current treatment threshold is inappropriate for a great deal of western rangeland (USDA 1991). The second option is augmenting native biological agents. Although the only such product for grasshoppers is *Nosema locustae*, there are other organisms under development (USDA 1991). Next, target-specificity of chemical control can be enhanced (e.g., bait formulation and delivery). Finally, the possibility of managing grasshoppers through cultural controls such as strategic grazing and augmentation of bird habitats has received inadequate attention.

Summary. If the USDA is sincere in stating that, "APHIS [Animal and Plant Health Inspection Service] will not participate in distribution of these [exotic] agents until satisfactory biological assessments are performed that ensure that no unacceptable ecological, societal, and agricultural impacts will result" (Schwalbe 1991), then such releases will not take place in the near future. The claim of the USDA that exotics must "pass rigorous research trials", prior to release is a false assurance (Quattro 1991), given that it is legal to release an exotic entomophagous agent without a host range study. While absolute assurance of ecological safety with importation of exotic organisms is impossible, defensible decisions require reasonable knowledge (e.g., herbivorous biological control agents must undergo host range studies to prevent damage to nontarget plants). I believe that scientists in the biological control community wish to protect the ecological integrity that has characterized this field. In so doing we must recognize that neoclassical control of isolated target species within a complex of nontarget organisms is ethically and ecologically unacceptable at this time.

Bomar, C.R. and J.A. Lockwood, eds. 1991. Wyoming Agr. Exp. Stn. Bull. B-958.

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Howarth, F.G. 1991. Annu. Rev. Entomol. 36:485-509.

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- United States Department of Agriculture. 1990. Cooperative grasshopper integrated pest management annual report, Boise.
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MICROBIAL CONTROL NEWS

EPA REGISTERS *LAGENIDIUM GIGANTEUM* FOR MOSQUITO CONTROL

On August 8, 1991, the US Environmental Protection Agency granted unconditional registration for three formulations of the mosquito parasitic fungus *Lagenidium giganteum* (Oomycetes: Lagenidiales). These formulations and their EPA Registration Numbers are:

Lagenidium giganteum Mycelium & Oospores - 56984-1

Lagenidium giganteum Mycelium - 56984-2

Lagenidium giganteum Oospores - 56984-3

Since no commercial company is currently engaged in research and development of this microbial control agent, the Environmental Management Branch, Department of Health Services, Sacramento, California, is serving as registrant for these products. Don Womeldorf, Chief, Environmental Management Branch, is the administrative liaison for this part of the registration process. The production site is currently the Department of Entomology, University of California, Davis, under the supervision of Robert Washino, professor of Entomology and Associate Dean of Academic Affairs. This production site will be shifted in the near future to fermentation facilities associated with the University of Washington, Seattle, under the supervision of James Kerwin.

Use of the fungus is currently permitted on nonfood crops. Petitions for an exemption from requirements for a tolerance have been drafted for the first two formulations listed above. This has been done by William L. Biehn, Associate Coordinator, Office of IR-4, Cook College, New

Brunswick, New Jersey. The petition will be submitted to the USEPA within the next several weeks. A separate petition for the third formulation, the oospore formulation, will be submitted following modification of formulation and storage protocols in accordance with agreements reached with the USEPA. We anticipated clearance for use of the fungus on rice, soybeans, and pastures by spring of 1992.

Lagenidium giganteum is an aquatic fungus which parasitizes mosquito larvae breeding in fresh water habitats. The infective stages of the fungus are motile zoospores, produced by the fungus by either a sexual or asexual process. These zoospores selectively attach to the cuticle of mosquito larvae, penetrate the cuticle and proliferate throughout the immature mosquito. Death of the host from starvation typically occurs in 24-72 hours, although temperatures below 18° C can result in delayed larval mortality. Fungal activity is limited by temperature extremes (below 18° C or above ca. 32° C), and water with high organic loads or high salinity.

Small scale field trials have been carried out in a variety of areas, including North Carolina, primarily by Dr. Richard Axtell and colleagues at North Carolina State University, and in the Northern Sacramento Valley of California by Dr. Washino. Larger scale aerial applications supervised by Dr. Kerwin in cooperation with the Sutter Yuba Mosquito Abatement District have been performed in the Sacramento Valley. Details of the multi-hectare aerial applications and the smaller ground applications have been presented in a number of publications, including:

Mosquito News 43 (1983) 332-337.

J. Am. Mosq. Control Assoc. 2 (1986) 182-189.

J. Am. Mosq. Control Assoc. 3 (1987) 211-218.

J. Med. Entomol. 25 (1988) 452-460.

We are currently pursuing registration of *L. giganteum* in California, again under the auspices of Environmental Management Branch, Department of Health Services. All safety, efficacy and production data generated to date is information available to the public. If there is interest in pursuing registration in other states, it is likely that the California Department of Health Services will permit access to data submitted to the USEPA for these purposes by all legitimate public agencies. A limited amount of technical assistance is available, but all processing fees and administrative matters will have to be handled by interested parties.

If you are interested in clarifying details concerning registration, obtaining cultures of the fungus for experimental purposes, or know of commercial companies potentially interested in pursuing research and production of the fungus, contact:

James L. Kerwin
Botany Department, KB-15
University of Washington
Seattle, WA 98195
Tel: 206-543-2028/8254
FAX: 206-658-1728 or 206-543-3262

Division on Microbial Control News

The ballots from the issue suggesting a change in the bylaws have been tallied. A simple majority of ballots received was required to effect a change in the Bylaws. A total of 78 ballots were received with 77 approving of the change. Therefore, the affected Bylaw (Article IV, number 3) will read as follows:

The Executive Committee shall consist of the Chairperson, Chairperson-Elect, Secretary-Treasurer plus three other Division Members-at-Large to be elected in like manner. However, to provide continuity in leadership, one of the Members-at-Large of the first slate of officers shall be elected for a one year term only and that office will be refilled for a two-year term after the first year. Thereafter, two Members-at-Large will be selected for a two-year term at each annual session where the Chairperson, Chairperson-Elect, and Secretary-Treasurer are elected and one Member-at-Large will be elected in alternate years. To provide further continuity in leadership, the Chairperson and Secretary-Treasurer immediately retiring shall be ex-officio members of the Executive Committee for a two-year term.

Therefore, we will be electing a new member to the Executive Committee at the meetings in Heidelberg.

The current Executive Committee is composed of Michael McGuire, Chair; Michael Klein, Chair-Elect; Ann Hajek, Secretary-Treasurer; Jane Drummond, Ramon Georgis, and Richard Daoust, Members-at-Large; and Mark Goettel, ex-officio. Daoust's seat will be filled in Heidelberg and all others will be filled in 1993. Please forward your nominations to Ann Hajek, Boyce Thompson Institute, Tower Road, Ithaca, New York, 14853.

The Directory of Industries Involved in the Development of Microbial Control Products has been

completed and mailed to all 1991 Division on Microbial Control members in good standing. The Directory contains 35 pages of information with indexes of pathogens, target hosts, crops and habitats, companies and addresses, and trade names. Over 40 companies and 60 trade names are listed. Since its distribution in February 1992, several additions and changes have been received. These will be included as a addendum to the Directory in the next mailing of the Newsletter. Therefore, if you have any changes or additions to make, or know of a company that should be included, please write to Mark Goettel, Agriculture Canada Research Station, PO Box 3000, Lethbridge, AB Canada, T1J 4B1 or FAX at 403-382-3156 as soon as possible so that we avoid having to publish numerous updates unnecessarily.

If you believe you should have received a copy and did not, please contact Michael McGuire, USDA-ARS, 1815 North University, Peoria, Illinois, USA, 61604. Non-Division members may purchase the Directory at a cost of US \$5.00 (this includes postage) by contacting Dr. McGuire at the address above.

A Slide Atlas on various aspects of microbial control, bioassay, production, formulation, and application is nearing completion. This atlas should be of value to anyone involved in the education of students or the general public. The atlas will consist of 200 slides with accompanying legends. A limited number of copies will be available for purchase at the Annual Meeting in Heidelberg for a cost of \$50.00. If you would like to order a copy, please send a check or money order payable to "The Society for Invertebrate Pathology" in the amount of \$US 50.00 (add \$5.00 for overseas air mail) to Dr. Ann Hajek, Secretary/Treasurer, SIP Division on Microbial Control, Boyce Thompson Institute, Tower Road, Ithaca, New York 14853, USA. Please contact Ann if you require an invoice prior to payment.

Be sure to attend the **symposium and workshop** sponsored by the Division on Microbial Control at the Heidelberg meetings. The Symposium entitled "Assay and Standardization of Microbial Insecticides" is organized by Wendy Gelernter. The workshop entitled "The Effect of Artificial and Natural Light on Entomopathogens" is organized by Michael McGuire and will be held Monday evening during the meeting starting about 7:00 PM. Please see the abstract of the workshop.

Division on Microbial Control Workshop
Monday, Aug. 17, 1992, 7:00 PM
Heidelberg

The Effect of Artificial Light and Natural Light on Entomopathogens. (Abstract)

It is widely held that sunlight, especially that portion in the ultraviolet (UV) range, adversely affects survival of microorganisms. This presents a problem concerning application of entomopathogens to control insect pests, especially when the pests may infest a field over a period of time. Unfortunately, controlled experiments aimed at identifying the mechanisms responsible for this inactivation are difficult to conduct under field conditions. Therefore, procedures to counteract or prevent these effects are largely unsuccessful. With the availability of artificial light sources, machines that produce light closely related in quantity and quality to sunlight, controlled experiments on the effect of light on microbial insecticides may be done. The purpose of this workshop is to explore the effects of artificial and natural sunlight on selected microbial insecticides and how these two sources of light may differ with respect to spectrum, total energy, and consequently, in their effects on the microbe. Speakers will discuss molecular mechanisms of inactivation, equipment used in the measurement and simulation of sunlight, and observational data on loss of activity under the two light sources. Scheduled speakers include Marianne Pusztai (National Research Council, Ottawa, Canada), Donald Roberts (Boyce Thompson Institute, Ithaca, New York), Mr. Clifford Bradley (Mycotech Corporation, Butte, Montana), David Moore (International Institute of Biological Control, Ascot, Berkshire, UK), and Michael McGuire (USDA-ARS, Peoria, Illinois).

LABORATORY PROFILE

The Laboratory of Bioinsecticides at the Center for Research and Advanced Studies located in Irapuato, Guanajuato, Mexico, emphasizes research in the isolation and characterization of native *Bacillus thuringiensis* strains toxic to lepidopterans, coleopterans and mosquitoes. Jorge Ibarra (Ph.D., Entomology, University of California, Riverside) directs the Laboratory, assisted by Laura Aguilar-Henonin (B.S., Biology, Universidad Autonoma de Guadalajara), and Teresa de Leon (M.S., Entomology, Colegio de Postgraduados, Chapingo).

The first Latin American Workshop on Insect Microbial Control was sponsored by The Laboratory and co-sponsored by the Colegio de Postgraduados, Chapingo, Mexico. The Workshop was held 11-22 November, 1991 at the Universidad de Celaya, Celaya, Guanajuato, Mexico.

Thirty-nine attendants from six Latin-American countries and six lecturers from the United States and Mexico participated. Each session's lecture was fully translated, and the attendants left satisfied with their own achievements and with a clear idea about future work.



Dr. Jorge Ibarra and the members of the Insect Pathology Laboratory at the University of Irapuato, Mexico.

(L-R) Jorge Ibarra, Jose Luis Hernandez, Veronica Espinoza, Juan Cisneros, Guadalupe Mireles, Joel Lopez, Cristina del Rincon, Victor Juarez, Laura Aguilar, Ana Maria Maciel, Teresa de Leon.

INDUSTRIAL PROFILES

Ecogen, Inc.

Ecogen, established in 1983 and located in Langhorne, Pennsylvania, is a developer of approximately 8500 strains of *Bacillus thuringiensis*. **Ecogen** manufactures and markets Collego®, a rice bioherbicide, Cutlass®, a bioinsecticide for vegetables, field crops and fruit trees, Condor®, a bioinsecticide for forestry, soybeans, cotton and vegetables, and Foil®, a bioinsecticide for potatoes. The company has also begun trials on an insecticide to control European corn borer caterpillars.

In December, 1991, **Ecogen**, together with **ChemLawn** of Columbus, Ohio, reported on the activity of a strain of *Bacillus thuringiensis* against the Japanese beetle and the northern masked chafer grub. Testing of *Bt* against 1st and 3rd instar Japanese beetles was conducted in laboratory assays by incorporating freeze-dried powders of *Bt* strains

into diet and then fed to the larvae. One strain, containing an insecticidal crystal protein (ICP), designated CryIIIB3, was found to be highly active against the Japanese beetle larvae. Amy Downing of ChemLawn reported 80-90 percent effectiveness against the Japanese beetle and up to 70 percent effectiveness against the northern masked chafer.

Ecogen received U.S. patents in 1991 for 1) the *Bacillus thuringiensis* toxin gene that produces the protein CryIIB which will be used to control caterpillar insects such as the corn earworm, gypsy moth and cabbage looper, 2) "Foil" potato bioinsecticide currently used to control Colorado potato beetles and European corn borers, and 3) a method of screening *Bt* proteins for relative insecticidal potency. The company also received a 2-year grant from the Israel-U.S. Binational Industrial Research and Development Foundation to develop, in association with Ecogen Israel Partnership (EIP) of Jerusalem, Israel, a biological fungicide for the control of powdery mildew disease on agricultural crops. EIP's development efforts also focus on a yeast formulation which protects fruit from post harvest rot, and a bacterial pesticide for control of nematodes.

Ecogen has recently acquired the assets of Bioenterprises Pty Ltd. of Australia, which produces nematode-based products, and Scentry, Inc., which produces products based on pheromones.

Ecogen has also signed agreements to distribute its products in international markets: Taiwan (through Jia Non Enterprises), Germany (Urania Pflanzenschutz GmbH), Italy, Spain and Portugal (Intrachem S.A, Geneva, Switzerland), Europe, Africa, Middle East, P.R. China, and Latin America (Roussel-Uclaf), and Mexico (ISK Biotech). Ecogen will also distribute products in Malaysia, Indonesia and Singapore.

John R. Reilly is President and Chief Operating Officer of Ecogen. Bruce C. Carlton (Ph.D. Plant Breeding, Michigan State University) is Executive Vice-President and plays a key role in the development of Ecogen's biopesticide products. John McIntyre (Ph.D., Plant Pathology and Biochemistry, Purdue) is Vice-President for Commercial Development. Other senior staff members include Cynthia Gawron-Burke (Ph.D., Microbiology, University of Rochester), Director of Research; Richard Daoust (Ph.D., Soil Microbiology/Insect Pathology, U. of Massachusetts), Manager of Field Evaluation; Barbara Brown (M.S., Microbiology, U. of Michigan), Laboratory Manager; and Timothy Johnson (Ph.D., Entomology, Purdue), Group Leader, Bioassay.

ChemLawn

The ChemLawn Research and Development Center, located in Columbus, Ohio, is the primary research arm of ChemLawn Services Corporation, the nation's largest lawn and landscape care company. Six full-time professional scientists are employed to conduct research in the areas of turfgrass insect, weed, and disease control as well as in turfgrass fertility, agronomy, and application technology. The facility has 50 acres of various cool season turfgrass varieties as well as laboratory and green house facilities for research purposes. Chemlawn Services Corporation is a wholly owned subsidiary of Ecolab, Inc. of St. Paul, MN.

The Insect Control program, headed by Dr. Amy Downing (Ph.D. North Carolina State University), has an active program in biological/biorational control of insect pests of turf and ornamentals. A licensing and co-development agreement with Ecogen, Inc. has recently resulted in documented activity of an insecticidal crystal protein from *Bacillus thuringiensis* against northern masked chafer (*Cyclocephala borealis*) and Japanese beetle (*Popillia japonica*) larvae. Other projects include a long-standing, aggressive field program with entomopathogenic nematodes, research with such biological/biorational insecticides as azadirachtin, grass endophytes, and *Metarhizium anisopliae*, and evaluation of several *Bacillus thuringiensis* strains from a variety of sources against such pests as black cutworm, sod webworm, eastern tent caterpillar, and white marked tussock moth. It is the goal of the Insect Control program to offer environmentally-compatible insect control products for use in ChemLawn's landscape care programs.

SPECIAL FEATURE

In honor of SIP's 25th "Birthday," Albert K. Sparks has written a description of the founding meeting and early days of the Society. Dr. Sparks was the second President of SIP. Other stories of Society history will follow in future issues.

SIP: FROM CONCEPTION TO BIRTH

Subsequent to an informal discussion with several oyster pathologists in early 1967 relative to the current status and future potential of oyster pathology in particular and invertebrate pathology in general, I called Edward A. Steinhaus and asked him if he thought there was any interest on the part of insect pathologists in forming a society of invertebrate pathology combining the disciplines of insect pathology and oyster pathology.

I knew Ed Steinhaus because he had appointed me, along with Fred Bang, to the Editorial Board of the Journal of Invertebrate Pathology when its name was changed from the Journal of Insect Pathology in 1965. I'm sure he did so because I had published several papers in the journal prior to the name change. Although I had not met Steinhaus in person, we had had numerous telephone conversations in addition to written correspondence on JIP editorial business.

Ed Steinhaus was almost exuberant at my question. "I've been trying to do this for years" he said, "but I've been talking to the wrong people. I've been talking to the insect pathologists and most of them are contented with things just the way they are. I even proposed forming such a society at the 8th International Congress of Comparative Pathology last year in Beirut."

Excerpts from that talk were published a few weeks later as an editorial in the Journal of Invertebrate Pathology.¹ Near the end of that editorial was this statement:

"The insect pathologists, currently the most active group of invertebrate pathologists, should join with other invertebrate pathologists to form a truly international society or organization of invertebrate pathology. Such an international society is hereby proposed."

Thus, through pure serendipity, we oyster pathologists had come up with the precise idea that Ed Steinhaus had proposed at the 8th International Congress of Pathology and in an editorial that was in press at the time of our discussion.

Steinhaus said: "I know personally every insect pathologist in the world and you must know all the oyster pathologists. I'll work up a questionnaire, send it to you for your approval, and you return it with the name and address of every noninsect invertebrate pathologist you know. I'll combine our lists and we'll send them the questionnaire over both our names."

Ed Steinhaus mailed the questionnaire to 560 individuals, approximately 400 insect pathologists and 160 with interest in the pathology of invertebrates other than insects. The questions asked were:

1. Are you in favor of a truly international society of invertebrate pathology?

2. Should such a society assume the responsibility for holding regular international congresses?

3. As an official organ of the society would you favor:

[a] Journal of Invertebrate Pathology?

[b] Publishing in English with summaries in other languages?

[c] Publishing entire articles in one of several languages?

[d] Some journal other than [a]?

[e] Which "other" journal?

[f] An entirely new journal?

[g] No journal of any type?

4. Whom would you nominate as members of an organizing committee?

When Steinhaus had received 248 of the returned questionnaires, 44% of those sent out, I flew to Irvine for the opening and tabulating of the returns. The response was overwhelmingly favorable, 229 in favor and 19 not in favor [12 of which were from the same laboratory]. As an official organ of the society, 202 favored the Journal of Invertebrate Pathology and only 3 voted no, 3 favored some journal other than JIP, 6 were in favor of an entirely new journal and 4 favored no journal of any type. A total of 98 individuals were nominated and 15 received 10 or more votes for the organizing committee.

We decided to form an Organizing Committee composed of the seven individuals with the most nominations. Steinhaus, because of his preeminent status in insect pathology, received the most votes; the six others receiving the largest number of nominations were Thomas A. Angus, Arthur M. Heimpel, Mauro E. Martignoni, Carl J. Sindermann, Albert K. Sparks and Victor Sprague.

Because I was hosting an Oyster Pathology Conference at the University of Washington's College of Fisheries in early May, at which Carl Sindermann and Victor Sprague would also be present, it was decided to hold the organizing meeting in Seattle concurrent with the oyster pathology meeting.

Steinhaus and I drafted a report on the results of the questionnaire, but before it was published in June, the Organizing Committee met on May 9, 1967 in the University of Washington College of Fisheries. All members of the Organizing Committee were present and Thomas C. Cheng attended as a non-voting observer. With Ed serving as chairman, the committee, by unanimous

vote, created the Society for Invertebrate Pathology. The Organizing Committee then elected Edward A. Steinhaus president, Albert K. Sparks vice-president, and Art Heimpel secretary-treasurer.

An EDITORIAL REPORT: "A Proposed Society for Invertebrate Pathology," reporting the results of the questionnaire, appeared in the June issue of *The Journal of Invertebrate Pathology*.² The actions of the Organizing Committee were published as an ADDENDUM to the editorial report.

The Addendum reported that a new association of invertebrate pathologists, to be known as the Society for Invertebrate Pathology, had been established and listed the officers and the remainder of the Organizing Committee. The addendum further stated that beginning January 1, 1968 the *Journal of Invertebrate Pathology* would be the official publishing organ of the society. All persons interested in the promotion of invertebrate pathology [i.e. the diseases-infectious and noninfectious-of invertebrate animals] were invited to apply for membership by communicating with the Secretary-Treasurer, Arthur M. Heimpel. Three other items were included: "announcement of the Society's first general meeting, to be held sometime during 1968, will be made at a later date"; "ratification of a constitution, now being drawn, will be accomplished by mail ballot"; and "the possibility of periodically distributing a mimeographed newsletter is being considered"

The Society was launched but just barely afloat. Ed, Art, and I chipped in something like \$50.00 each for letterhead stationary and other expenses until the Society became solvent from dues. There were originally four types of membership: Founding Members, Charter Members, Regular Members, and Student Members. Ed Steinhaus had asked Mauro Martignoni to draft a constitution and by-laws and all members of the Organizing Committee received several drafts from Mauro for comment. Heimpel was busily mailing out membership applications and Steinhaus and I were frequently on the telephone with a variety of organizing problems. Ed had the correct answer for every question and problem, most of which he had anticipated.

The Society really became viable at the first general meeting held, as promised, in 1968. We decided we were too small to meet independently, so we affiliated with the American Institute of Biological Sciences and joined 22 other societies at the 19th Annual American Institute of Biological Societies Meeting at Ohio State University in early September.

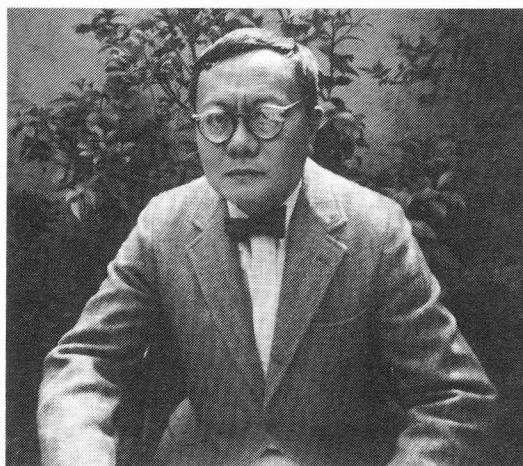
All members of the Organizing Committee, acting as the Council until Trustees could be elected, spent most of the weekend, including late Saturday and Sunday nights in John Briggs' home methodically covering each item on Ed Steinhaus' long agenda.

We finished it up at a scheduled Council Meeting on Monday afternoon prior to the opening session of the first Annual Meeting on Tuesday afternoon, which opened with a Presidential Address.

President Steinhaus' title was **Be Favorable to Bold Beginnings**.

¹On the Importance of Invertebrate Pathology in Comparative Pathology. *Journal of Invertebrate Pathology*. Vol. 9, No. 1, pp. i-v, March 1967.

²EDITORIAL REPORT. A Proposed Society for Invertebrate Pathology. *Journal of Invertebrate Pathology* Volume 9, Number 2, pp.iii. June, 1967.



Dr. Thomas Cheng

TOM CHENG RECEIVES INTERNATIONAL AWARD

Dr. Thomas C. Cheng, Professor of Cell Biology at the Medical University of South Carolina, Charleston, was presented with the City of Montpellier, France, Medal during the fifth Colloquium of the International Marine Pathology Association which met in that city on April 2-4 1992. The medal was presented at a special ceremony by Professor C. Vago, a member of the French Institute of Science. The mayor of Montpellier also conferred the title of Honorary Citizen on Dr. Cheng.

Dr. Cheng was cited for his over 350 scientific publications and 22 books and his many contributions to international cooperation among marine parasitologists, pathologists, and immunologists. He was also cited for his 23-year service as the Editor of the *Journal of Invertebrate Pathology* and 20-year service as Co-Editor of *Experimental Parasitology*.

**INVITED COMMENTARY:
SOME MEMORABLE EVENTS DURING MY TENURE
AS EDITOR OF *JIP***

**Thomas C. Cheng, Dept. of Anatomy and Cell Biology,
Medical University of South Carolina, Charleston, South
Carolina**

In late summer of 1969 I had just returned to the east coast of the US from Hawaii to commence my duties as Professor of Biology at Lehigh University when a phone call beckoned me to Washington, DC to meet with David R. Lincicome, Founder and Editor of *Experimental Parasitology*, W.H.R. Lumsden, the European Editor, and George Jackson, a member of the Board. The meeting was called as an attempt to resolve differences of opinion pertaining to the policies of that journal. Shortly thereafter, Jackson succeeded Lincicome as the Editor and I was appointed as the Associate Editor.

Some time later, I was working with my crew setting up our new laboratory at Lehigh when the telephone rang. It was Ed Steinhaus's administrative assistant at the University of California-Irvine. She informed me that Steinhaus had died. Also, it was his wish that I succeed him as the Editor of the *Journal of Invertebrate Pathology*. I recalled a conversation with Steinhaus during the previous year while we both were attending a scientific meeting. We discussed the role of *JIP*, how it should emphasize basic research and have a Board consisting primarily of university faculty. I guess he was sufficiently impressed with my ideas that he, being the meticulous planner that he was, left instructions that I should succeed him.

The following Monday a call was received from Jim Barsky, the then Senior Vice President of Academic Press. He invited me to meet with him and Roselle Coviello, the then Vice President in charge of journals at AP, in New York. During that meeting, the Editorship of *JIP* was formally offered to me.

Upon my return to Bethlehem, Pennsylvania, I sought the advice of the late Eugene Landis, the former chairman of Physiology at Harvard Medical School, who had retired to Pennsylvania. Landis had served with distinction as an officer of several professional societies and had been the Editor of the *American Journal of Physiology*. I followed his advice and accepted the editorship. The last months of 1969 and the first part of 1970 were extremely busy as I did my best to keep both journals running smoothly.

In those days, I edited every sentence of every manuscript, did all of the mark-up for the printer, and even rewrote some manuscripts. Jackson, although the Editor-in-Chief of *EP*, was leaving Rockefeller University and was searching for a new position. Consequently, in reality, I carried both loads until he got settled at the Food and Drug Administration. My working day then consisted of at least 15 hours per day and all of Saturday and part of Sunday. I also had teaching, research, and administrative duties.

Journal manuscripts kept coming in the mail and phone calls and letters from authors punctuated stretches at the laboratory bench and in the classroom. Recently, while incidents crossed my mind. Having become Editor Emeritus, and at the invitation of the *SIP Newsletter* Editor, I am sharing a few journal-related events with the membership.

Event 1. Many years ago a manuscript was received from a graduate student who stated in the covering letter that he did not have a lettering set and would I see to it that his graphs were inked in and properly lettered. While I was at it, would I check his data for statistical significance. He received his manuscript back by return mail.

Event 2. A manuscript was received from abroad in which the author stated that the protein concentration of a fluid was determined by shaking the tube and estimating the amount of foam. As expected, both reviewers rejected the manuscript and it was returned. A subsequent letter from the author stated that western scientists fail to understand the primitive conditions under which he toiled and the manuscript should be accepted. It was not.

Event 3. The postman delivered a well-packed jar containing a fish with an abnormal cranial growth. The enclosed note stated that I should describe the neoplasm with the sender as the co-author and publish the manuscript in *JIP*! He knew it would be published because I was the Editor. The rotting specimen was finally discarded when I moved to South Carolina in 1980.

Event 4. An officious telephone call from a dean many years ago informed me that a member of his faculty was being considered for promotion and tenure. In the submitted C.V. were listed two manuscripts as being "in press" in *JIP*. A search revealed that the manuscripts had been submitted three years previously and both had been rejected. I don't know whether the author was promoted.

Event 5. Another frantic phone call informed me that the caller had learned that he was co-author on a manuscript he had never seen. Furthermore, he disagreed totally with the information submitted for publication. Naturally, his name was removed. As it turned out, the manuscript was rejected.

Event 6. I was invited to a well-known university to present a seminar. This by itself was nothing unusual except I was "wined and dined" way beyond the customary style. A couple of months later I ran into a friend who informed me that he had been a member of a NIH site visit team that visited that university. During their stay the team was informed that I was coming to head up the unit that had applied for a million dollar grant (a huge sum in those days) and was bringing *JIP* with me. The original PI had died. Nothing ever happened because members of the team smelled a mouse.

Event 7. During the era when several microbes intended for biological control of certain insects were being developed, EPA regulations required that each potential control agent be tested for possible pathogenicity on nontarget organisms and the result had to be published in a refereed journal. *JIP* was placed under tremendous pressure to publish such data, almost all negative. The telephone at the Editorial Office rang off the proverbial "hook" carrying messages amounting to bribes and threats. But we resisted and *JIP* remained a respectable journal.

Event 8. No one who has ever submitted a grant proposal likes to receive a turn-down letter. Many years ago an entrepreneurial invertebrate pathologist was in the process of building an empire. Proposals were submitted to several agencies. A major proposal was rejected. In frustration he wrote a very political and critical editorial and wanted it published in *JIP*. I decided it was inappropriate for a scholarly journal. The author must have owed a small fortune to the telephone company as a result of repeatedly trying to convince me that the article should be published. I resisted.

Landis warned me back in 1969 that an editor does not make friends. My tenure did not constitute a Dale

Carnegie course. There are numerous events I could relate but the few selected ones serve as examples of the "quiet life" of a journal editor. When I retired on December 31, 1991, after nearly 23 years of editing *JIP*, a heavy weight was lifted from my shoulders. I may have lost a few friends and never made a cent; but I gained a great deal of experience. Wait for my autobiography!

MEMBERS ON THE MOVE

P. Kanagaratnam (Kanags) has joined the Lethbridge Research Station in May as a Research Associate working with Dan Johnson and Mark Goettel on a microbial control of grasshoppers project. Kanags is coming from the Winnipeg Research Station where he was a Research Associate working with O.N. Morris on an IDRC sponsored project: "Microbial control of pests of oilseed crops with special reference to the use of *Bacillus thuringiensis* against lepidopterous pests of cruciferous crops." Kanags received his doctorate in 1980 from Imperial College, University of London where he conducted research on the development of *Verticillium lecanii* as a microbial control agent of whiteflies under the supervision of Denis Burges. Until his immigration to Canada in 1988, Kanags was head of crop protection at the Coconut Research Institute in Sri Lanka. His new address is: Agriculture Canada Research Station, PO Box 3000, Main, Lethbridge, Alberta Canada T1J 4B1. Tel: 403-327-4561. FAX: 403-382-3156.

Stephen Krueger has moved in January to start a new position as Assistant in Entomology working on research on the use of entomopathogenic fungi for control of a complex of weevils that feed on the roots of citrus trees. His new address is: University of Florida, Citrus Research and Education Center, 700 Experiment Station Road, Lake Alfred, FL 33850. Tel: 813-956-1151. FAX: 813-956-4631.

Peggy Dixon has joined the St. John's Research Station in January. Peggy was previously a Research Scientist at Kentville, working on IPM of berry crop pests with emphasis on blueberry pests. She spent the last year on secondment as Special Advisor on Bioresources with Research Coordination in Ottawa. She worked in Newfoundland for 2 years on biological control of forest insects at Forestry, Canada. Peggy has also worked at the University of Edinburgh, Royal Scottish Museum, University of Guelph and the Memorial University of Newfoundland. She will continue her research on IPM for berries and vegetables and has a keen interest in integrating microbial controls. Her new address is: Agriculture Canada Research Station, PO Box 7098, St.

John's, Newfoundland, Canada A1E 3Y3. Tel: 709-772-4763. FAX: 709-772-6064.

Pam Marrone has been appointed as the entomology representative to the U.S. Department of Agriculture's Agricultural Biotechnology Research Advisory Committee. This committee advises the Department of Agriculture on policies, programs, operations, and activities associated with the conduct of agricultural biotechnology research.

Max D. Summers, chair of the Agricultural Biotechnology Department at Texas A&M University, was named a 1992 Distinguished Agricultural Alumnus at Purdue University.

RETIREMENTS

Ozzie Morris retired on June 30, 1991, after 10 years at Agriculture Canada Research Station in Winnipeg where he worked on *Bacillus thuringiensis*. From 1960 to 1982, Ozzie worked at the Canada Department of Forestry and Environment. He was an Adjunct Professor at the University of Manitoba and Advisor on microbial control to the International Development Research Centre in Ottawa. He received the BS degree from Tufts University, MA from Boston University, and Ph.D. from Rutgers. He continued with post-doctoral studies at the Institut Nationale de la Recherche Agronomie in France and the University Libre de Bruxelles in Belgium. In 1974, Ozzie spent time at the Czechoslovakia Academy of Science as an exchange scientist. He received a Certificate of Appreciation from the USDA for contribution to the Canada-US spruce budworm program, was chairperson (Canada) of the Bt forestry applications - CANUSA and chairperson, Special Committee on Microbial Insecticides in Canada - Science Policy Committee of the Entomological Society of Canada. Ozzie served as the Secretary of SIP, 1978- 1980. He is currently part-time consulting to Agriculture Canada Research Station and the International Development Research Centre. He plans to continue consulting in microbial control of pests of agriculture, forestry, and animal and human health. He is committed to develop a Canadian Bt product based on recent isolations from Canadian soils of strains that are highly toxic to *Mamestra* spp. He is also committed to Bt technology transfer to developing countries, an undertaking which is already taking much of his available time. His new address is: 30 Sunbury Place, Winnipeg, Manitoba, Canada R3T 5B1. Tel: 204-261-1265.

Bob Jaques retired June, 1991, after a 37-year career as an insect pathologist with Agriculture Canada, where he worked on microbial control of insect pests of horticultural crops. From 1954 to 1967 he was stationed at Kentville, Nova Scotia, and then at Harrow until his retirement. Bob received the B.S.A. in 1952 and M.S.A. in 1954 from the University of Toronto and the Ph.D. from Cornell in 1960.

He was a member of the Editorial Board of the *Journal of Invertebrate Pathology* (1975-77), Associate Editor of *The Canadian Entomologist* (1976-84), President of the Entomological Society of Ontario (1988), and member, Board of Governors, Entomological Society of Canada (1987-89). Bob was also a member of numerous committees involved with entomology and pest control. Bob continues his work as a Research Scientist Emeritus at Harrow mainly to complete manuscripts. He is also interested in pursuing some consulting work. Bob can be reached at: 153 Kael Crescent, Harrow, Ontario, Canada N0R 1G0. Tel: 519-738-6654.

CHANGES OF ADDRESS AND/OR POSITION

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OBITUARY

(From the Washington Post; Tues. May 12, 1992)

Martin H. Rogoff, 66, a microbiologist and strategic planner with the United States Department of Agriculture's Agricultural Research Service, died of cancer May 8, 1992 at his home.

He joined the USDA in 1979. From 1985 to 1990, he was director of the Research Service's western regional research office in Albany, California. He then became a strategic planner in charge of long-range planning.

Dr. Rogoff received the Doctorate in Microbiology from Pennsylvania State University and served in the Navy in the Pacific during World War II. From 1954 to 1961, he was a microbiologist with organic chemistry laboratories of the U.S. Bureau of Mines in Pittsburgh. From 1961 to 1973, he worked for International Minerals and Chemical Corp. in California, where he helped develop microbial insecticides.

Dr. Rogoff joined the Environmental Protection Agency in 1973, where he was Associate Director for Science in the Pesticide Registration Division. He worked for the EPA until transferring to Agriculture in 1979.

Survivors include his wife, Renee; two daughters, Deborah Rogoff-Ezra and Ivy Rogoff-Barnes; and a granddaughter.

CORRECTION

Members of the Entomopathogenic Bacteria Unit at Institut Pasteur were incorrectly labeled in the photo included in the last (January 1992) SIP Newsletter. See new photo below for correction.



THE ENTOMOPATHOGENIC BACTERIA UNIT
AT INSTITUT PASTEUR

Seated: Ph. Laurent

Standing (L-R): J-F Charles, M-F Blanc, L. Nicolas, I. Thiery, H. de Barjac, E. Frachon, H. Ripouteau, V. Cosmao Dumanior, V. Patricio, S. Hamon, V. Cadet.

SEND US YOUR NEWS!!!

We should not need to read the news of our members in other societies' newsletters!

When you have an announcement or news release, think of SIP.

Your friends in SIP will be pleased to know your news.

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UNWANTED JOURNALS??

Do you receive a journal in microbiology or parasitology, or the *JIP* which you do not wish to keep? We have a request for these journals from a Brazilian University. Please contact:

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WELCOME NEW MEMBERS

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	Laura W. Morgan AFRC - IARC Rothamsted Harpندن Herts, UK		