Society for Invertebrate Pathology Newsletter

Volume 43 Issue 2 June, 2010

43rd Annual Meeting of the Society for Invertebrate Pathology,
10th International Colloquium on Invertebrate Pathology and Microbial Control, and
The Final Meeting of COST862: Bacterial Toxins for Insect Control
July 11-15, 2010, Karadeniz Technical University, Trabzon, Turkey
www.sip2010.org

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From the President

Congratulations to the newly elected Council who will assume their duties at the Society's Annual Business Meeting in Trabzon on July 14. I thank all of the candidates for having put forth their names for the opportunity to serve the Society. As our newly elected Vice-President, Jorgen Eilenberg, points out, the position of Vice-President starts a 6-year commitment, 2 years as Vice-President, 2 as President followed by 2 as Past-President. It is this latter position that I shall be sliding into in Trabzon and I look forward to continuing serving the Society in the best of my capacity as Past-President for the next 2 years.

The last 2 years have been difficult ones for the Society. For the last 10 years or so, our healthy treasury was drawn down intentionally, allowing for deficit budgeting. During these years, members have grown accustomed to many perks such as travel grants and registration waivers for guest speakers at our Annual Meetings. Unfortunately, as the treasury was finally drawn down to a more reasonable level, the global recession hit. The unprecedented low interest rates, reduction in membership, and lower than expected attendance at our annual meetings in Park City, have kept us in a deficit mode which is still depleting the treasury, but now at unsustainable levels. The Society is no longer in a position to afford deficit budgeting. Council will need to make some difficult decisions in Trabzon and for years to come while we replenish the treasury. Thankfully, under the Chairmanship of Kelly Hoover, the Endowment & Financial Support Committee has been able to solicit significant contributions from our sponsors. And the Membership Committee, under the Chairmanship of Helen Roy has worked diligently to increase our Memberships. At the same time, Zihni Demirbag and his Local Organizing Committee are keeping a close eye on the Trabzon budget, making every effort to break even, if not produce a surplus. Enough of doom and gloom. The Society has a vibrant and dedicated membership, and under the leadership of our next President, Lee Solter, I'm sure we'll pull through these difficult times.

On a brighter note, planning for the Trabzon meetings is progressing well with over 400 abstracts submitted and nearly 300 registrants to date. I can't wait for yet another exciting SIP meeting at a very interesting venue. I am taking this opportunity to celebrate my "semi-retirement" from Agriculture & Agri-Food Canada, which took effect on 30 April. After the Trabzon meetings, I shall reconnoiter with my family in Maramaris to embark on a week-long cruise on the Mediterranean in a Turkish Gullet.

As this is my last "From the President" I would like to thank members of Council, Committee and Division Chairs, our Newsletter Editors, Executive Secretary and all SIP Members for their help and dedication to the Society during my tenure. Special thanks to all of our Corporate Sponsors for keeping us afloat during these difficult financial times for all.

Cheers,
Mark

From the President-Elect

Like many scientific societies, SIP must deal with difficult issues that a global recession has brought, but SIP also has a strong, committed membership, one that will roll up its collective sleeves and make the most of good times as well as tough times. Under Mark Goettel's leadership, SIP has shown that it can brace itself to 'weather the storm' and we are ready to deal with what the future brings. All of us in the new Council are invested in the future success of SIP and are set to carry on the SIP tradition of excellent science, interesting meetings, successful collaborations and, of course, having great times together.

See you in Trabzon.
Lee Solter

SIP Annual Meeting

July 11-15, 2010, Karadeniz Technical University, Trabzon-Turkey.

Mixer

We cordially invite you for the mixer on July 11, 2010 at 7:00 pm on the terraces of Congress Center overlooking the Black Sea and city center. It will be a wonderful opportunity to taste unforgettable Turkish food and drinks and enjoy the while watching the sunset over the Black Sea.

Scientific program

The scientific meeting sessions will be held in modern facilities of the Osman Turan Congress Center, which is part of the Karadeniz Technical University. So far, 441 abstracts have been submitted covering all seven Divisions. The meeting will start with an all-day hands-on workshop on bioinformatics entitled: “8000 Genomes at your Fingertips: Comparative Genomics using CoGe”. It has been scheduled at 9:00 am on Sunday, July 11. The fee to participate in this workshop is €110 for students and €170 for others.

The Founders’ Lecture will honor the esteemed late insect virologist, Dr. Mauro Martignoni. The Martignoni Student Travel Award was established in his memory. The Plenary session on Monday morning features internationally renowned scientists discussing “The Biology of the tsetse fly and interactions with parasites, pathogens and symbionts”. There are 10 scheduled symposia, two of which are cross-divisional. Posters will be exhibited in a large hall flooded with natural light from floor to ceiling windows. Space for 100 posters is available and therefore, the Microsporidia, Nematode, Microbial Control and Diseases of Beneficial Invertebrate Divisions will exhibit their posters on Monday and Tuesday, while the Virus, Fungus and Bacterial Divisions will exhibit posters on Wednesday and Thursday. Between-session

coffee breaks will be enjoyed on terraces overlooking the Black Sea.

Excursion and BBQ

The excursion will take you through mountain passes to Sumela Monastery nestled on a mountain cliff with a magnificent view of the surrounding area. The drive will take approximately one hour. The monastery was founded in 386 AD by two Greek monks and reached its present structure in the 13th century. Buses will take you to the foot of the mountain and you will have approximately 25 minutes of a gentle climb. It is possible to take people much closer to the monastery if some wish to avoid the climb. The BBQ will be held below the monastery along a mountain stream.

Banquet

The Banquet will be held on the Seaside Complex of Karadeniz Technical University on July 15, 2010 starting at 7:00 pm. The complex was built on the coast of Black Sea with modern indoor and outdor facilities. The poolside is considered one of the best places to have such a significant event. Be ready to spent the entire evening with delicious Turkish food and entertainment.

Founders Lecture Award

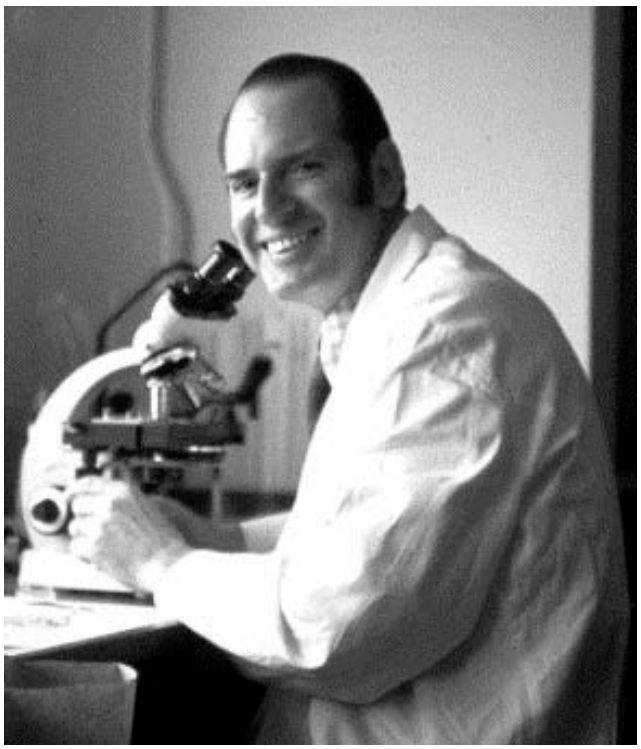
Dr. Basil Arif, Founders' Lecturer

Dr. Basil Arif obtained his initial education in microbiology and immunology at the Queen's University of Belfast (UK) and moved to Canada for his graduate studies at Queen's University in Kingston, Ontario. Both his Masters and Doctoral theses were on the molecular biology of viruses and, after a brief post doctoral period, he joined the Insect Pathology Research Institute of Canadian Forest Service in the early seventies as a Virologist working on the characterization of insect viruses. The aim at that time was to register viruses as biological control agents against forest insect pests. He became interested in the interactions between insects and their viral pathogens and concentrated his research on the replication of both baculoviruses and entomopoxviruses in larvae and realized that molecular skills offered much to the deciphering of these intricate interactions. He spent two sabbaticals as a visiting scientist at the Institute of Genetics, University of Cologne, Germany (1981-1983, with Prof. Walter Doerfler) and at the Department of Virology, Wangeningen University, The Netherlands (1995-1996, with Prof. Just Vlak).

His current interests are:

- Biology and molecular biology of insect baculoviruses and entomopoxviruses.
- Strategies of virus replication in larvae.
- Development of enhanced and environmentally safe biological control agents against economically important forest insect pests
- Sequencing and gene organization.
- Structural and functional genomics of insect viruses.
- Proteomics of insect viruses.
- Evolution of insect viruses and co-evolution with the natural larval hosts.

Dr. Arif is a long standing member of the SIP, served as a Trustee for four year, a member of the organizing committee that held the Annual SIP meeting in Sault Ste. Marie, Ontario, Canada, member of the scientific programme committee for the SIP meeting in Quebec City, Canada and is presently the Chair of the Scientific Programme Committee for the upcoming SIP meeting in Trabzon, Turkey. He is presently the project and team leader at the Great Lakes Forestry Centre on the biological and molecular interactions between insect and their viral parasites. He is also the associate editor in chief of Virologica Sinica published by the Wuhan Institute of Virology, with whom he has considerable collaborations and is a member of the International Committee on the Taxonomy of Viruses working groups on Baculoviruses and Entomopoxviruses.



2010 Founders' Honoree

In memory of Dr. Mauro Martignoni

Dr. Arif's Lecture which will highlight Dr. Martignoni's career and accomplishments will be published in a Special SIP Symposium Issue of the Journal of Invertebrate Pathology.

Jørgen Eilenberg
Vice-President

"Being elected as the vice-president means a 6 year commitment. I will do my very best to serve SIP for this period. SIP has the potential to maintain itself in a good condition by being on one hand a high profile scientific community always searching for the best science, and on the other hand being a friendly and socially approachable society in which new (and old !) members always feel welcome. Look forward to seeing many of you in Trabzon."

Judith Pell
Secretary

"I am delighted to have been elected to this post and look forward to taking on my new role in due course."

Kelly Hoover
Treasurer

"I am looking forward to serving as treasurer and finding ways to help the Society improve our financial security as much as possible."

Congratulations! New SIP Council for 2010-12

Juan Luis Jurat-Fuentes
Trustee

"I am very happy and deeply honored by the confidence that SIP members have placed in me. My heartfelt gratitude to all the members that voted in the election. I intend to serve the SIP to the best of my abilities and I will strive to help the Society grow as a vibrant, productive, and collegial community for invertebrate pathologists worldwide. In these demanding times I am sure the Society will be faced with new and exigent challenges that will require all our help to get them resolved. I intend to work closely with the Council to address these needs as they emerge. I look forward to serve you and to see you all in Trabzon!"

Regina Kleespies
Trustee

"Thank you for your vote of confidence for my new function as a trustee in the Council of the Society for Invertebrate Pathology. I am very happy for the opportunity to contribute to the formation of our new Division of Diseases of Beneficial Invertebrates. I will continue my contribution to SIP in whichever way possible."

Announcements

The S-1024 Regional Research Project (Discovery of Entomopathogens and their Integration and Safety in Pest Management Systems) met in Orlando, Florida Feb. 21-22, 2010. The group, which includes state, federal and university scientists, meets to foster collaborative research and welcomes attendance of all insect pathologists and other interested researchers working in U.S. institutions. The 2011 meeting (potentially under a new project title and number) is currently being planned for late winter or early spring 2011.

Fifty five years of diagnostic investigation and research results on dead, diseased, or living arthropods has been compiled into a Database on Arthropod Diseases, founded based on the work conducted at the Institute for Biological Control, Darmstadt, Germany, an agency of the Federal Biological Research Centre for Agriculture and Forestry, now part of the Julius Kuhn-Institut. The extensive compilation, in both German and English versions, is accessible online at http://tinyurl.com/yg5lbt4 and comprises about 450 arthropod species, mainly insects, from 21 arthropod orders, the diagnosed arthropod pathogens and causative agents, and the origin of the accession. All scientific nomenclature is kept current, along with important synonyms. The diagnosed pathogens belong to five groups: viruses; bacteria including rickettsiae; fungi (now including microsporidia); protists; and nematodes. Contact Regina Kleespies with your comments or questions at regina.kleespies@jki.bund.de.

A Research Coordination Network for the Study of Nematode-Bacterium Symbioses

Dear Colleagues,

We are pleased to announce the Second NEMASYM-Research Coordination Network Workshop to be held in Tucson, Arizona from November 11 to 14, 2010 at the University of Arizona. The theme of this workshop is "Theme: "Contributions of bacterial symbionts to nematode pathogenesis". The meeting agenda includes presentations by three keynote speakers, a round table, and oral presentations. Additional activities during this workshop will include discussion on future meetings themes, research needs and collaborations, and the review of available web-base information on nematode bacterium symbioses.

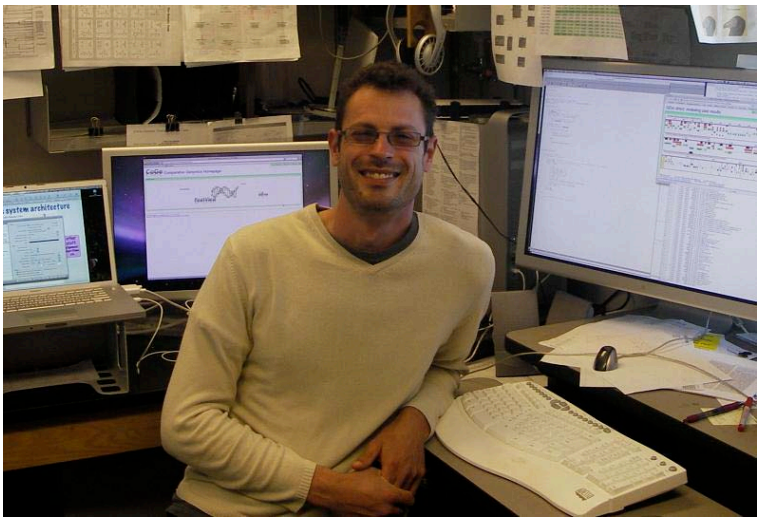
As in the previous year, NENASYM will support core participants for their travel expenses. Funding to a maximum of US $1,200 will be given to help defray costs. The funding total is for up to 25 participants. For international core-participants, NEMASYM-RCN will be able to provide support for expenses incurred in the US, including *per diem* and accommodations, as well as the US portion of your travel. Foreign applicants will be reimbursed for expenses incurred in US. Participants will be reimbursed in the form of a stipend upon attendance to the meeting. Information regarding datelines for registration, abstract submission, accommodations and Tucson attractions can be found at http://www.pngg.org/nemasym/

Please feel free to distribute information regarding this meeting at your respective institutions and encourage those who are not core participants and are interested in attending the meeting and/or participating in other NEMASYM activities to do so. Please contact Patricia Stock (spstock@email.arizona.edu) for addition information.

We look forward to continue building a strong nematode-bacterium symbiosis research community with you.

Symbiotically yours,
S. Patricia Stock (NemaSym RCN Director, U Arizona)
David Bird (NCSU)
Elodie Ghedin (U Pittsburgh)
Heidi Goodrich-Blair (UW-Madison)

Bioinformatics Workshop
8000 Genomes At Your Fingertips: Comparative Genomics using CoGe



Conducted by Dr. Eric Lyons, Department of Plant and Microbial Biology at UC Berkeley

When: Sunday, July 11, 2010 from 9:00 am to 4:00 pm
Registration deadline passed, but there are still some spots available
Registration fee: €170.00. **Students:** €110.00
Full details of the workshop can be found at:
http://www.sip2010.org/index.php/Bioinformatics-Workshop.html

Biography of Dr. Donald W. Roberts

Alene Alder-Rangel, wife of Dr. Drauzio Rangel, is writing a book about the life and work of Dr. Donald W. Roberts and is looking for information about him. If you have any stories about Don, or would just like to share what you think his contribution to insect pathology has been, please contact Alene at alderangel@gmail.com.

First Brazilian Symposium about the Effects of Increased UV Radiation on Agriculture

São José dos Campos, October 4 to 7, 2010

First Brazilian symposium about the effects of increased UV radiation on agriculture will be organized from 4-7 October, 2010 at Universidade do Vale do Paraiba in São José dos Campos, São Paulo. Visit www.univap.br/uvrag/ for additional information or contact Drauzio Eduardo Naretto Rangel (drauzio@pq.cnpq.br).

Position Needed

Andrea Torres-Barragan has a fellowship and is looking for a sponsor. She is interested on improving her skills in insect pathology and learning new methodologies for pest control. Her personal interest is to conduct research using entomopathogenic fungi and develop a project that may lead to innovative management strategies for economically important arthropod pests.

She is also interested on developing international collaborations between US and Mexican scientists and involvement of students from underrepresented groups.

The fellowship supports a research and training in the sponsor's laboratory. It also includes the stipend and some funds for the research. The objective is that the fellow will have the skills and training to become an independent researcher after two years.

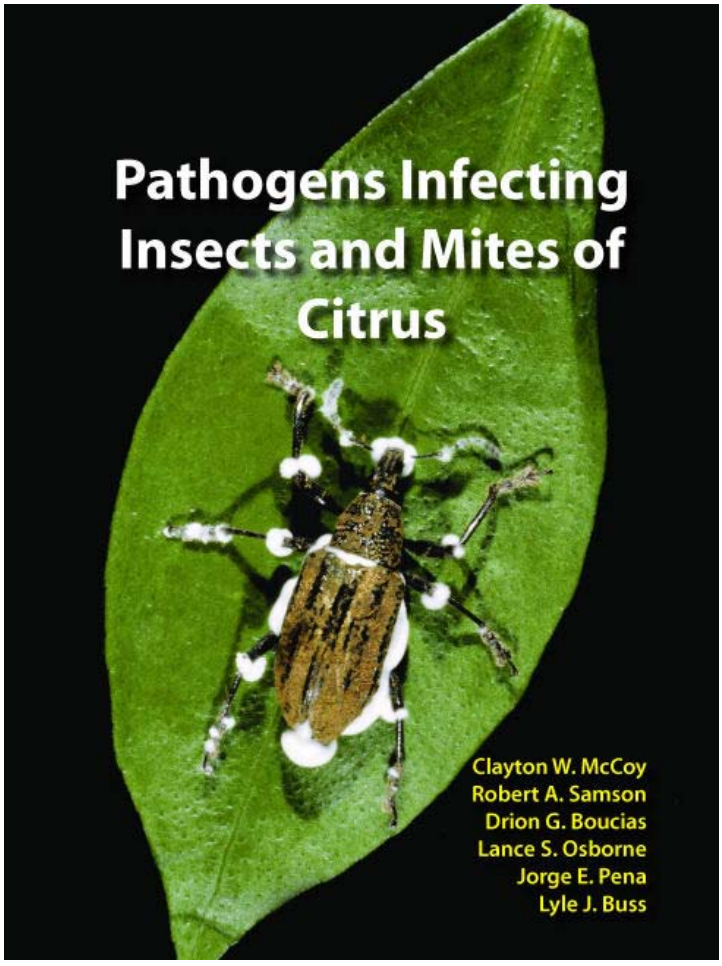
Please contact Andrea at atorresb73@gmail.com or atorres@ncsu.edu.

SIP Auction at Trabzon Meetings

Once again, we will hold a lively auction of goods and services during the barbecue event. Michael Brownbridge, our *Auctioneer Extraordinaire*, will cajole you to loosen your wallets and somehow have a good time doing it. And chances are, you will get something unique and valuable out of the deal. Proceeds from the auction will benefit the Society, but all of the fun will be yours. If you wish to donate an item or a service, or have ideas for these, please contact Kelli Hoover at kxh25@psu.edu.

Book Review

If you have authored or edited a book and would like a review published in the newsletter, please contact the Book Review Editor, Harry Kaya (hkkaya@ucdavis.edu).



Pathogens Infecting Insects and Mites of Citrus. Clay W. McCoy, Robert A. Samson, Drion G. Boucias, Lance S. Osborne, Jorge Peña and Lyle J. Buss. 2009. Published by LLC Friends of Microbes, Winter Park, FL, USA. ISBN $70.00, 193 pp.

Pathogens Infecting Insects and Mites of Citrus provides a colorful guide to entomopathogens of a wide range insect and mite pests of citrus. It also presents background in the text and photographs on the numerous citrus pests and the damage they cause. The authors include those with expertise in entomology, insect pathology, mycology and citriculture. The 19 chapters present a broad range of topics on insect and mite pests of citrus with focus on their entomopathogens and their roles in natural and augmentative control.

The Introduction provides background on the benefits of an integrated approach to insect and mite management (IPM) in citrus and the role natural enemies play in IPM. Along with other biological control agents of citrus pests, entomopathogens offer significant control of pest populations

Chapter 1. An entomological perspective on the history of citriculture covers production of citrus in Florida and the concomitant evolution of phytophagous arthropods and their natural enemies. A synopsis on the success of classical biological in Florida citrus concludes the chapter.

Chapter 2. Natural control of insects and mites of citrus. Defines natural control and the biotic and abiotic factors that influence the ways in which natural enemies function. A significant portion of the chapter is devoted to the effect of weather on natural control.

Chapter 3. Pathology of insect mycopathogens comprises seven sections that cover: detection and diagnosis of the disease causing microbes; the cuticle as a barrier to disease; attachment, adhesion, and germ tube formation; penetration of the cuticle; vegetative development and post-mortem events and host mummification. The authors point out one of the major benefits of fungi: the ability to penetrate the cuticle of sucking insects such as aphids and psyllids that are not infected by other pathogen groups.

Subsequent chapters cover individual groups of citrus pests and their pathogens with emphasis on fungi. Chapters 4 through 17 provide descriptions, biologies, and plant injury caused by several species of insect and mite pests of citrus and their respective entomopathogenic fungi. Although special attention is given to Florida citrus, the information will be useful for students, teachers, researchers, integrated control specialists, and others concerned with pest insects and mites of other crops and their entomopathogenic fungi. The insect groups include: armored scales; soft scales and mealybugs; whiteflies and citrus blackfly; aphids; citrus psyllids; true bugs and sharpshooters; Lepidoptera; social insects (ants and termites); citrus root weevils; fruit flies; citrus thrips; and grasshoppers. Chapters 16 and 17 present information on descriptions, biologies and plant injury caused by eriophyoid and tetranychid mites, respectively.

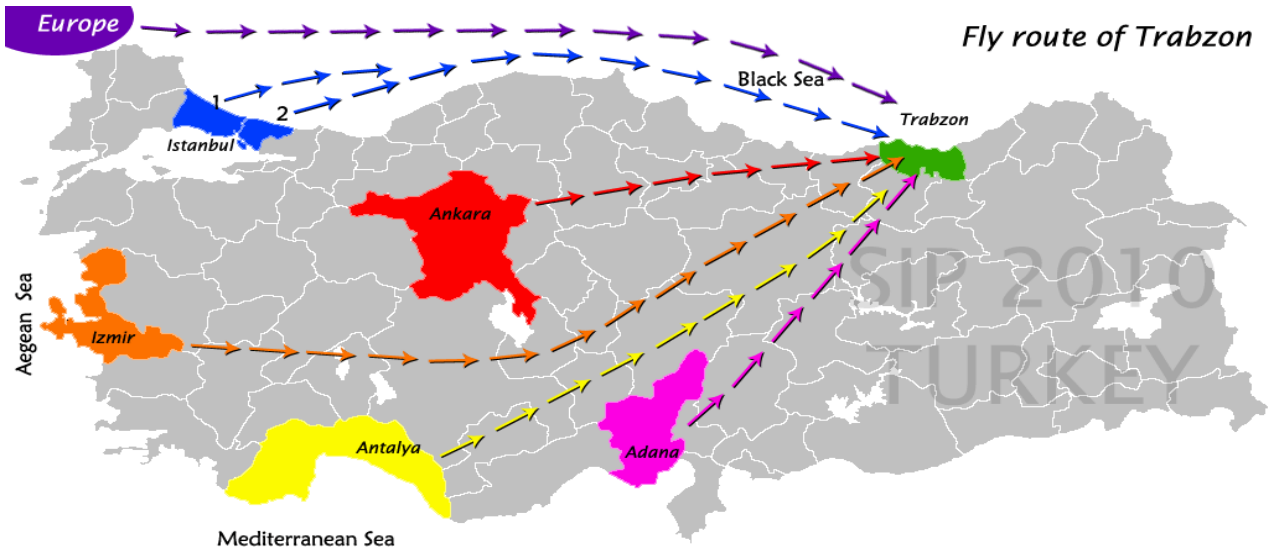
Each of the chapters provide color photographs that vividly depict the pests and the degree of damage they cause. Depending on the insect or mite species this could include debilitation of trees through root, trunk, stem, foliar or blossom damage or direct fruit damage. Most of the chapters also include micrographs of the fungal pathogens. In addition to fungi, Chapter 12 also presents general information on entomopathogenic nematodes (*Steinernema* and *Heterorhabditis* species) Protozoa (gregarines) and bacteria (*Bacillus thuringiensis*) found in or used against citrus root weevils.

Chapter 18. Perspectives on microbial control of citrus pests. Commercialization of the fungal pathogen, *Hirsutella thompsonii* (Mycar[tm]), for use against the citrus rust mite, *Phyllocoptruta oleivora*, is highlighted and covers strain selection, safety testing, mass production and storage, field trials and corporate participation. The chapter also covers the use of fungi and entomopathogenic nematodes for control of citrus root weevils.

Chapter 19. A synopsis of arthropods and their impact on citrus pest management is an overview of the more important pests of citrus and their control with entomopathogenic fungi. The chapter includes sections on: geographical distribution of entomopathogens in citrus-growing regions; pathogenic fungi as biotic factors of citrus arthropods in nature; and the role of different biotic factors in natural control. The two page table in the appendix compliments chapter 19 by providing a list of mite and insect hosts and their respective pathogens. The book is concluded with a useful bibliography and glossary of terms that pertain to mycology and entomology.

This book will truly be an asset for researchers, students and other individuals working with citrus arthropod pests. Also, anyone working with of aphids, scales, whiteflies, psyllids and mites will benefit from this richly illustrated and colorful guide to entomopathogenic fungi attacking these pests. I recommend the purchase of this very reasonably priced book.

Lerry Lacey,
Research Entomologist and Insect Pathologist, USDA-ARS, Wapato, WA, USA



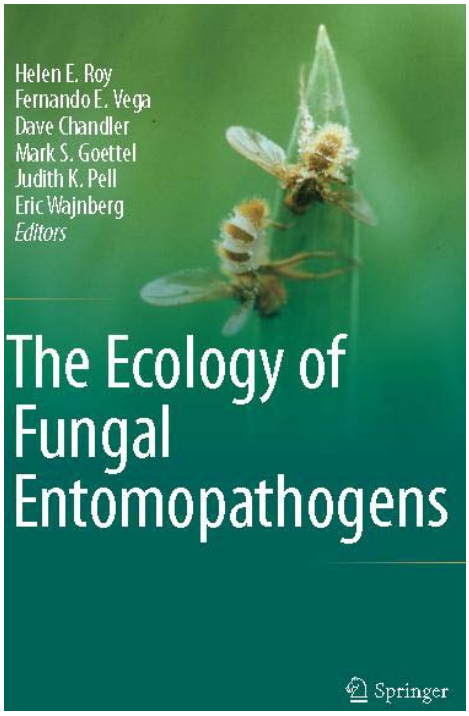
New Books

Insect Virology

Publisher: Caister Academic Press
Editors: Sassan Asgari and Karyn N. Johnson *School of Biological Sciences, The University of Queensland, St Lucia QLD 4072, Australia*
Publication date: September 2010
ISBN: 978-1-904455-71-4
Price: GB £180 or US $350 (hardback).
Pages: 448

Virus groups covered include: Ascoviruses, Baculoviruses, Densoviruses, Entomopoxviruses, Hytrosaviruses, Iridoviruses, Nudiviruses, Polydnaviruses, Dicistroviruses, Iflaviruses, Nodaviruses, Tetraviruses and Cypoviruses. Several special topics chapters review current developments in insect virology including RNAi, insect antiviral responses, structural comparison of insect RNA viruses. Details can be found at http://www.horizonpress.com/insect-virology.

The ecology of fungal entomopathogens



Publisher: Springer
Editors: Helen Roy, Fernando Vega, Dave Chandler, Mark Goettel, Judith Pell and Eric Wajnberg
Publication date: February, 2010
ISBN: 978-90-481-3965-1
Price: US $180 (hardback).
Pages: 280

Understanding of the ecology of fungal entomopathogens has vastly increased since the early 1800's, but remains challenging. The often complex interactions between pathogen and host are being unravelled through eloquent research and the importance of the often subtle interactions, in determining the success or failure of biological control, cannot be underplayed. The realm of ecology is vast and deciphering insect-fungal pathogen interactions within an ecological context will take us on voyages beyond our imagination. This book brings together the work of renowned scientists to provide a synthesis of recent research on the ecology of fungal entomopathogens exploring host-pathogen dynamics from the context of biological control and beyond.

The 200-page, February 2010 issue, 55(1), of BioControl is a special issue, "The Ecology of Fungal Entomopathogens." Editors H.E. Roy, *et al*, have selected 13 articles with a lead-off paper entitled "Deep Space and Hidden Depths: Understanding the Evolution and Ecology of Fungal Entomopathogens."

Information about biopesticides The Biopesticides Market in Latin America, Africa and the Middle East has just been published with a directory of 242 companies, 245 pages, 103 tables and 50 figures.

The Biopesticides Market in North America was published on 15 January 2010 with a directory of 167 companies, 240 pages, 31 tables and 50 figures. Both volumes are available immediately for €1500 per volume. Web site: www.cplsearch.co.uk.