International Organization for Biological Control
Nearctic Regional Section
Organisation Internationale de Lutte Biologique
Section de la Region Néarctique

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IOBC-NRS NEWSLETTER

INSIDE THIS ISSUE:

Biodiversity and Biological Control: IOBC Short Course plans detailed

Where: *CIAT, International Center for Tropical Agriculture, Cali, Colombia*
(http://www.ciat.cgiar.org/AboutUs/Paginas/aboutus.aspx)
When: *12-16 September 2011*
Cost: US$ 530 *per student (includes meals and lodging)*

The world faces a biodiversity crisis as it adapts to an ever-increasing human population. Agroecosystems currently comprise 25-40% of the Earth's terrestrial surface, and efforts to conserve biodiversity that don't involve agroecosystems are missing an important opportunity. Biodiversity provides numerous ecosystem services to agroecosystems, and biological control of pests is an important one.

This short course will provide a primer to students in how biodiversity affects biological control of pests. The approach of the course will pair lecture-style introductions to key topics by world experts in particular related fields with hands-on activities to reinforce key concepts. Subject areas that will be discussed in this course include Biodiversity in tropical systems; diversity from landscape to farm level-scales; answering the question of whether biodiversity is a sink or a source for biological control; the importance of diversity and biological control on small-stakeholder farms; the importance of resource diversity to biological control; and the role of vegetational diversity in farms on biological control.

The course will be held in the Valle de Cauca of Colombia, one of the most biodiverse areas of the world. The course will be taught in English.
Please contact Jonathan.Lundgren@ars.usda.gov for more information. The organizers are:

Jon Lundgren, USDA-ARS, Brookings, South Dakota, USA
Kris Wyckhuys, CIAT, Cali, Colombia
Tatyana Rand, USDA-ARS, Sydney, Montana, USA
Inge Armbrecht, Universidad del Valle, Cali, Colombia
Takumasa Kondo, Corpoica, Palmira, Colombia
Maria Manzano, Universidad Nacional, Palmira, Colombia

New IOBC-NRS.com Website Debuts

Facilitates rapid updates, Working Groups

April saw the debut of the updated IOBC-NRS website, **IOBC-NRS.com**. The home page has rotating images representative of the broad range of biological control organisms which members study and employ in their research and practice of biocontrol. The home page features announcements and links of general interest, and links to the other main pages:

- Newsletter which includes 10 years' back issues;
- Awards which describes our 3 annual awards, and offers application instructions and profiles of all past recipients;
- Working Groups which shows off our new Working Group Greenhouse, Nursery and Ornamental Landscape IPM (see also p. 3);
- Education Curriculum which describes and pictures our four previous courses, and provides information on support for proposed courses;
- Links which provides links to IOBC Global, all other IOBC sections, and other societies and websits of interest;
- Membership which provides information on how to join or renew membership, and the purpose and benefits;
- Governing Board showing your very own; and of course,
- Contact us! Really, please do! If you have an announcement, link, or suggestion for the website, please send it to the Corresponding Secretary, Don Weber.

Getting the good news out about Biocontrol!

Message From the President:
Telling Our Stories

As scientists we are often reluctant to talk to the public about our work and when we do, we frequently do not communicate effectively. That's the lesson "scientist turned filmmaker" Randy Olson tells in his recent Island Press book entitled, "Don't be Such a Scientist: Talking Substance in an Age of Style." Dr. Olson, himself a Harvard-trained marine scientist, exposes us for what we frequently are; cerebral, literal-minded, and often proudly nerdy types that frequently fail to connect with our audiences once we step outside the bounds of our professional disciplines. The result is that many of us are quite content to give our scientific talks and publish our papers while actively avoiding the trauma of having to translate our findings for public consumption.

However, in a time of limited financial resources, I am increasingly convinced that we do so at our peril! The narrative coming out of DC is all about creating jobs and saving taxpayer dollars. In this regard, being able to tell our stories effectively is critical to maintaining public support for our science, and we have some great success stories to tell. In addition to "the classics" like biological control of cottony cushion scale and St. John's wort that continue to pay benefits, there are the emerging success stories of; melaleuca, purple loosestrife, fungal control of gypsy moth, and biological control based greenhouse pest management systems.

Each of you has your own stories and I encourage you to tell them. Over the next few issues of the IOBC Newsletter we hope to feature some of these stories. So get out of your ivory towers and tell us what you are doing to save the world! And oh by the way, make sure your stakeholder's know about your good work as well!

Douglas A. Landis
Michigan State University
East Lansing

landisd@msu.edu

Award Nominations, please! See page 4 for details!

IOBC Symposium planned for Reno Entomological Society of America meeting

On Tuesday evening, 15 November 2011, at 6 PM, IOBC-NRS will have our annual business meeting, followed by the symposium titled "Biodiversity and Biological Control". The topic of how biodiversity from the landscape level to the microbial diversity within an insect contributes to the outcomes of biological control programs has received substantial attention from the scientific community in recent years. This symposium will address key developments in this topic, including how landscape structure affects biological control (Mary Gardiner), whether diversity is a source or a sink for biological control programs (Deb Finke), how food diversity influences biological control (Lundgren), and efforts to harness biodiversity within tropical systems to contribute to biological control of pests (Wyckhuys). The symposium was organized by Jonathan Lundgren and Kris Wyckhuys.

New IOBC NRS Working Group: Greenhouse, Nursery and Ornamental Landscape IPM


Spring greenhouse flower crops


Thrips damage to chrysanthemums


Aphidoletes *larvae consume aphids*


Cereal banker plants promote parasitoid establishment

The new Greenhouse, Nursery and Ornamental Landscape IPM Working Group is for IOBC members who work in biological control and IPM of greenhouse crops (ornamental and vegetable), nursery crops and in ornamental landscapes. There is no formal structure to the group; however, its members are often involved in collaborative projects and welcomes new members.

The WG is strongly supportive of initiatives of IOBC-NRS and contributes to the organization of events such as the recent joint conference (with IOBC-NTRS) in Niagara Falls, Ontario, "Biocontrol in the Americas – Past, Present and Future", where the WG organized the greenhouse visits (flower and vegetable greenhouses) associated with the bus tour of the biocontrol activities in the region.

Future plans for the WG include supporting the development of a Greenhouse Biocontrol web site. The objectives of the project are to provide a single location for growers to access information to assist in implementing biocontrol strategies for greenhouse crops. However, such a resource should also be useful for researchers and other biocontrol practitioners.

A template for the site is being built around General IPM Strategies and one key pest, Whitefly. The initial funding for the development of the site is through the Canadian greenhouse ornamental grower's association, Flowers Canada. The 2011 WG funding from IOBC-NRS has also been earmarked to support the project.

The first version of the site will be presented soon for review and comment to WG members. Based on that feedback, further plans for expansion of the site and its longer term future will be developed.

Please contact the Convenors of the Working Group for more information:

Graeme Murphy, Ontario Ministry of Agriculture, Food & Rural Affairs
John Sanderson, Cornell University

Short Courses on Hymenoptera and Spiders

hosted by the Humboldt Institute on the Maine coast


Araneus marmoreus

Parasitic & Predatory Hymenoptera: Identification, Biology, and Curation

(August 14-20)

This course will enable students to confidently identify families of parasitoid and predatory Hymenoptera. The HYM COURSE is intended to serve conservation biologists, ecologists, graduate students, insect identifiers, museum curators, naturalists, and other biologists whose research, training, or teaching responsibilities require a greater understanding of hymenopteran systematics. A more detailed description can be found at > http://www.eaglehill.us/programs/nhs/seminar-flyer-pdfs/Gates.pdf

Spiders: Identification, Diversity, Ecology, and Biology (July 31 - August 6)

Participants will be introduced to the biology of spiders, with an emphasis on the ecological roles of spiders, their incredible diversity, and techniques to identify specimens to species level. Other topics covered include the evolutionary relationships, functional morphology, behavior, and physiology of spiders.

Lectures and discussions will not only cover the basics, but will also highlight current frontiers of research and where research on spiders has been contributing to conceptual advances in biology.

Excursions and labs will provide the opportunity for hands-on exploration of spider diversity and behavior, and various sampling techniques to catch individuals for later identification in the lab sessions. See http://www.eaglehill.us/programs/nhs/seminar-flyer-pdfs/Foellmer.pdf for more information.

Call For Nominations for IOBC-NRS Awards!

Distinguished Scientist Award

The IOBC-NRS solicits nominations for 2011! Nominees must have spent most of their career in the Nearctic Region, and have made significant contributions to biological control., but need not be members of IOBC.

Nomination narratives are limited to one page in length and should contain a thorough but concise summary of the principal contributions of the nominee. The nominator should include the names and current contact information of both nominator and nominee on a separate page. The nominee's CV (no page limit) should also be included that provides the nominee's professional record (employment affiliations), list of prior awards, description of biological control related activities, publications lists, and extramural grant record.

The recognition of those scientists who have made outstanding contributions to the science and implementation of biological control over the course of their careers is an important function of IOBC. Many members have expressed their enjoyment seeing colleagues honored with our Distinguished Scientist Award. Help us honor our deserving colleagues!

Please send nominations or questions electronically by **June 15, 2011** to IOBC NRS President, Doug Landis, LandisD@msu.edu

Graduate Student Awards

The IOBC-NRS sponsors two Graduate Student Awards — The Robert O'Neil Award for Outstanding PhD Student in Biological Control, and a Master's-level award — to be awarded to students whose contributions are likely to shape the future of biological control. The recipients will be recognized at the IOBC-NRS Symposium held at the ESA Annual Meeting in November 2011, Reno, Nevada. Winners will receive cash awards ($300 for PhD, $200 for Master's), and the PhD winner will also give a research presentation during the IOBC Symposium and Meeting.

Eligibility: All students enrolled in a graduate program in Bermuda, Canada, or the U.S., and who are members of the IOBC at the time of the application deadline are eligible.

Application guidelines: Students should send: a letter that details the significance of their research and its relevance to biological control; a CV that includes contact information; and two letters of recommendation. See IOBC NRS website for information on previous winners and specific criteria for assessment of nominations.

Application materials and questions should be sent electronically to Jonathan Lundgren, Jonathan.Lundgren@ars.usda.gov .

Application deadline is June 30, 2011.

Biocontrol Musing:

Biological control by dragonflies

We all know that dragonflies eat mosquitoes, but I'm only aware of a single case in which dragonflies were manipulated to reduce mosquito populations. This was done in Yangon, Myanmar (formerly Rangoon, Burma) in the late 1970s, where *Aedes aegypti* spreads the dengue hemorrhagic fever virus. The mosquitoes breed primarily within water jugs that people keep in and around their homes, and some locals noticed that a particular water jug was free of mosquito larvae and that this jug had a couple of dragonfly naiads in it. This led to a study in which adult females of the libellulid *Crocothemis servilia* were collected in nearby ponds, and induced to lay eggs into bowls of water by holding their abdomens on the water surface. 12,000 eggs were harvested from 15-20 females in this way! The resulting naiads were kept until the third instar, at which point they were released, four at a time, into water jugs within 48 human dwellings in one neighborhood. These releases were made monthly for three months. Mosquito populations were assessed in these houses and also in 12 control sites that didn't receive dragonflies in a different neighborhood. The results: A very dramatic decrease in mosquito populations in the treated area and not the control area! Since the study was not replicated, it must be seen as preliminary, but I find the results exciting nevertheless. Sadly, no follow-up work along these lines has been done, at least as far as I know. This would seem to be a promising line of research to follow up on !

Crocothemis servilia male adult, Scarlet Skimmer, also known as the "red-hot-pepper dragonfly" in parts of its range in east and southeast Asia. Also, It has been accidentally introduced to Florida and Hawaii as well. Photo credit J.M. Garg, Pocahram Lake, Andhra Pradesh, India

Reference: Sebastian, A., M. M. Sein, M. M. Thu, and P. S. Corbet. 1990. Suppression of *Aedes aegypti* (Diptera: Culicidae) using augmentative release of dragonfly larvae (Odonata: Libellulidae) with community participation in Yangon, Myamnar. *Bulletin of Entomological Research* 80:223-232.

George Heimpel
Department of Entomology
University of Minnesota

RESEARCH BRIEFS

Phorid flies: covering the landscape of imported fire ants in the USA

More than 20 species of *Pseudacteon* decapitating flies have been found attacking fire ants in Brazil and Argentina. Fire ant workers come in a range of sizes (2-5 mm). Big species of decapitating flies attack big fire ant workers and little species attack little ones.

March was time for a small celebration in Gainesville, Florida, when Sanford Porter and colleagues at the USDA-ARS Center for Medical, Agricultural and Veterinary Entomology found that *Pseudacteon cultellatus* flies released last September had successfully reproduced and overwintered. This fly is the smallest *Pseudacteon* species released in the United States. If populations of *P. cultellatus* persist, this will give Gainesville two medium-large flies (*P. tricuspis* -1997, *P. obtusus* - 2008), a small fly (*P. curvatus* - 2003), and a very small fly. The hope is that *P. cultellatus* will do especially well in multiple-queen fire ant colonies which have much smaller workers than single-queen colonies.

Impacts of individual fly species on fire ant populations have been difficult to measure with paired tests because of rapid range expansion. Parasitism rates in the Gainesville area currently average about 1%, but some colonies can have as many as 6% of their workers parasitized. Recent studies have shown that *Pseudacteon* flies are carriers of the fire ant pathogen *Kneallhazia solenopsae* and studies are underway to determine if they vector this disease. Historical monitoring of changes in fire ant populations are underway to see if a community of decapitating flies which attacks all sizes of fire ants is associated with lower ant populations.

Pseudacteon cultellatus: with host, Red imported fire ant; in profile; and ovipositor close-up. All photos by Sanford Porter, USDA–ARS.

Could something please swallow the swallow-worts ?

Swallow-worts aren't called dog-strangling vines for nothing. They are viny European milkweeds that have become invasive in the northeastern U.S. and southeastern Canada within the last 30 years. Both species, pale swallow-wort (*Vincetoxicum rossicum*) and black swallow-wort (*V. nigrum*) (Apocynaceae: subfamily Asclepiadoideae) are a serious threat to many sunny to semi-shaded natural areas, pastures, and nurseries. Pale swallow-wort even invades shaded forest understories.

Lindsey Milbrath (USDA-ARS, Ithaca, NY) leads the development of the ARS biocontrol program for swallow-worts, which includes foreign exploration and screening of candidate insects (René Sforza,at the ARS station in Montpelier, France, and colleagues in Russia) and pathogens (Dana Berner, ARS, Fort Detrick, MD) for classical biological control. Stateside studies of the weeds' ecology, and genetic studies in the area of origin, are also ongoing and vital to the understanding of the invasive target weeds.

Nine insect species and one pathogen have been collected from *Vincetoxicum* spp. in Europe, Siberia and the Russian Far East. Preliminary host range tests indicate that *Chrysochus* spp. (leaf beetles with root-feeding larvae, **far right**) unfortunately may present a risk to some native milkweeds and milkvines, whereas *Abrostola* spp. (defoliating noctuid moths, **above**) may be specific to *Vincetoxicum*.

Pale swallow-wort in Clark Reservation State Park, Jamesville, New York . Photo Jeromy Biazzo, ARS

Butterflyweed, Asclepias tuberosa, a charismatic native nontarget plant. Photo, Prairie Moon Nursery, Winona, Minnesota

insect photos, René Sforza, ARS EBCL

Demographic matrix models of swallow-wort populations are being developed to identify life stages that should be targeted for disruption. This will aid the selection of effective biological control agents as well as the development of an integrated weed management program.

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Visit our website: www.iobcnrs.com
Renovations complete and ready for any updates!

The International Organization for Biological Control—Nearctic Regional Section Newsletter is published 3 times a year to provide information and to further communication among members of the Region (Bermuda, Canada, & the United States).

Send items for the IOBC-NRS Newsletter to:

Newsletter Editor, Don Weber

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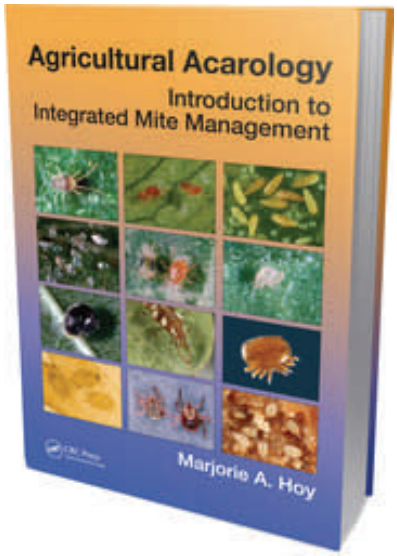

Just published:

by Marjorie A. Hoy of University of Florida

Publisher's summary: The first comprehensive book on pest mites and beneficial mites in agricultural systems, this timely work covers the basic biology, behavior, and ecology of key mite pests and of their important natural enemies. It emphasizes the appropriate use of diverse control tactics for managing pest mites, including biological and other ecologically sound strategies, and discusses their relative advantages and limitations. Written by a globally prominent entomologist, it instructs in taxonomic discrimination between mites and other arthropods and provides the necessary training to effectively work with mites of agricultural importance.

click picture for link to more info

Thank you for renewing your membership! OR. . . .
If you have not renewed your membership for 2011, please take a moment to do so!
Contact Stefan Jaronski (bug@midrivers.com) with questions.

Upcoming Meetings in 2011

7-11 August
Society for Invertebrate Pathology
44th Annual Meeting, Halifax, Nova Scotia
Email Susan.Bjornson@smu.ca
www.sipweb.org/meeting.cfm

7-12 August
Ecological Society of America 96th Annual Meeting, Austin, Texas: "Earth Stewardship: Preserving and enhancing earth's life-support systems"
http://www.esa.org/austin/

11-16 September
13th Int'l Symposium on Biological Control of Weeds
Waikoloa Beach, Hawaii
Email TracyJohnson@fs.fed.us
http://www.uhhconferencecenter.com/xiii_isbcw.html

13-16 November
Entomological Society of America Annual Meeting, Reno, Nevada. Email meet@entsoc.org
http://www.entsoc.org