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IOBC - NRS Newsletter

*International Organization for Biological Control
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Distinguished Scientist Award 2005



Bill Murdoch

Dr. William W. Murdoch was selected as the winner of the IOBC-NRS's Distinguished Scientist Award for 2005 to honor his achievements in biological control. The award was presented at the IOBC-NRS annual

meeting and symposium held with the Entomological Society of America meeting in Fort Lauderdale Florida in December 2005. Dr. Murdoch, who is the Charles A. Storke II Professor in the Department of Biological Sciences at the University of California at Santa Barbara, was introduced by his former student, Dr. Tim Collier.

Bill is a native of Scotland, receiving his B. Sc. Degree from the University of Glasgow. He then received a D. Phil. in Population Ecology at Oxford, where he was a student of Charles Elton, and studied the biology of carabids. After a post-doctoral stay at the University of Michigan, Bill went to the University of California at Santa Barbara, where he has been since 1965. Bill is the recipient of numerous honors and awards, including a Guggenheim Fellowship, the Robert H. MacArthur Award (Ecological Society of America), the Huffaker Medal in

Population Ecology (UC-Berkeley) and the President's Award (American Society of Naturalists). Dr. Murdoch has authored some of the more-influential papers in ecology over the past forty years, including analyses of theories associated with predator-prey interactions, population stability and biological control. He also has been an excellent teacher and mentor to a cadre of the next generation of biological control scientists. Although Bill maintains he is not a biological control practitioner, all of us have benefited from Bill's careful thought and analysis of the theory and practice of biological control.



Tim Collier, Bill Murdoch and IOBC-NRS President Rob Wiedenmann at the awards presentation.

IOBC-NRS Student Award 2005



Renée Prasad

Dr. Renée Priya Prasad was presented the IOBC-NRS Outstanding Graduate Student Award for 2005. Dr. Prasad received her Ph.D. in 2005 from Washington State University, where she worked on integrating

community ecology — specifically the biological control tactic of the use of beetle banks — into cole crop production, with Dr. William Snyder.

Dr. Prasad has been active in outreach to growers, complementing her research. Prior to receiving her degree at Washington State, she received a M.S. at Simon Fraser, and also worked for an IPM consulting company. Dr. Prasad is the author of at least a half-dozen papers and book chapters, has given numerous talks at professional meetings and extension meetings, and was PI or co-PI on a number of grants to support her research. Dr. Prasad is currently working for E.S. Cropconsult, Ltd., in Canada. IOBC-NRS is proud to have such an accomplished student as our Outstanding Student Award winner.



FROM the PRESIDENT

Wintery Musings

After a January in which I was thinking of spring, a dash of winter weather has brought me back to reality. Time for the Winter IOBC-NRS Newsletter! In this issue are a few items we hope are of interest to you, and a few actions we hope you will take. Highlighting the two award winners – Bill Murdoch as the IOBC Distinguished Scientist and Renée Priya Prasad as Outstanding Graduate Student – was a pleasure at the Annual Meeting, and now is a pleasure again to see them acknowledged in print. There was a certain symmetry to recognizing both of them at the meeting – Bill started his career over 40 years ago working on carabids in agroecosystems, and it was the Carabidae that Renée worked on for her dissertation work. Both of our award winners are highly productive – Bill having produced several extremely influential papers throughout his career, and Renée already very active for one so early in her career. Both join the ranks of other outstanding award winners that make all of us in IOBC proud.

As an action to take, I ask you to consider nominating your colleagues for the 2006 Distinguished Scientist Award, to join in the line of past award winners. Please also consider having your students (or yourself if you are a student) apply for the two graduate student awards. We recognized the difficulty in comparing MS and PhD students, so we created a second award for the first time this year. The suggestion for the MS

award came from one of our members, Mark Schwarzlaender of the University of Idaho. Thanks, Mark.

The second action I ask you to take is to volunteer to run for one of the offices in the upcoming election. We need nominees for President-elect, Corresponding Secretary and Members-at-large for the Governing Board. President-elect and Governing Board slots come up every two years, but the position as Corresponding Secretary has been held by Susan Mahr for the past six years. I want to acknowledge the work Susan has done over that time – continuity in the office has ensured the newsletter was filled with news and was completed and sent in a timely manner. Susan's shoes will be tough to fill, but we need to do so. Please consider volunteering for this rewarding job – bringing important and interesting information to members through both the newsletter and website.

Finally, I bring to your attention two ideas discussed at the recent Governing Board meeting, as we considered the question, "What do our members get from being a member of IOBC?" A little introspection is good for any organization but, as we saw membership decline, it was even more critical to ask that of ourselves. We are pleased that we helped (with the Biocontrol Network of Canada) sponsor the very successful IOBC Symposium held in Quebec last May; we awarded 9 graduate scholarships to help NRS student-members attend the symposium and short course. Making available the funds for our students was a benefit we saw to your membership and

support. Along that line, the Governing Board decided to develop a joint meeting with the Neotropical Regional Section to be held in 2007. The venue and theme of the program are still being discussed – but the meeting is likely to be held in Mexico or Central America. We welcome any input and participation in the planning, and hope you will consider participating to help ensure the success of the meeting and relevance of IOBC.

The second idea discussed was to expand the scope of the newsletter by making it available as a pdf and delivered electronically. Currently, four of you receive the newsletter electronically. We'd like to increase that number and make available an expanded version, such as including pdf versions of posters from recent meetings, high-resolution color photos of natural enemies, target pests or weeds, or even photos from research projects. Please contact Susan (semahr@wisc.edu) to ask that your newsletter be delivered electronically – if there is adequate interest, we will develop the expanded version.

Membership in IOBC shows support for biological control. Further, we hope that the ideas mentioned above will provide you the "value added" from being an IOBC member. And I hope that "value" to you includes our recognition of those that have served biological control throughout their careers or those just at the beginning of their careers. We look forward to having you help recruit new members as well, and see you as either the next award winner or officer to lead the Organization. Thanks for your membership and support.

— Rob Wiedenmann

FROM IOBC-Global

Message from the IOBC President

The following message was sent by email from IOBC-Global President Joop van Lenteren to the IOBC-NRS Board in December 2005:

"At the end of this year, the Executive Committee of IOBC Global would like to thank you for your support. We have had a rather difficult year in many respects, but we are now harvesting the fruit of hard work of all of you. There are

still a few problems to solve with unclear memberships and subscriptions to BioControl and with some of our regions, but we experience a positive attitude and that motivates us to continue with old and new activities. The website has been restyled and is regularly updated, the newsletter is appearing regularly and with a lot of new information, **the first edition of the IOBC Internet Book of**

Biological Control is available on our website, we helped a number of members with the preparation of their papers, we have improved our financial situation considerably, and we have signed a new and good agreement with Springer, the publisher of BioControl.

Please be so kind to also support us next year. We wish you a happy holiday season and a successful 2006!"



Apply or Encourage Students to Apply for TWO Awards for Outstanding Graduate Student in Biological Control (MS and PhD)

The IOBC-NRS is sponsoring two Outstanding Graduate Student Awards for students whose contributions are likely to shape the future of the discipline of biological control – one each for PhD and MS students. The recipients will be recognized at the IOBC-NRS Informal Conference held at the Annual Entomological Society of America meeting and each will receive a cash award of \$250. The PhD winner will also give the lead talk in the IOBC-NRS symposium. See the IOBC-NRS web site (www.entomology.wisc.edu/iobc/awards.htm) for information on previous award winners.

Award Eligibility

All individuals who are enrolled in a graduate program in North America or Bermuda, and are members of IOBC NRS at the time of the application deadline are eligible. We note that students may join the society at the time of submitting their application (membership details available at the website www.entomology.wisc.edu/iobc/nrs.htm).

Please indicate whether you plan to attend the ESA meeting in December; students who are *not* planning to attend the Entomological Society of America Meetings would ordinarily be less likely to be considered for the award. Although all students are welcome to apply, experience has shown that more advanced students have tended to rank higher than students just beginning a project; this is most relevant for the PhD award, though we recognize MS students will not have a significant record at the time of application. Students should be enrolled in the appropriate category (MS or PhD) at the time of application.

Deadlines and Application Procedures

The deadline for the application is April 20, 2006. Students should send: a letter that details the significance of their research and its relevance to biological control; a 2-page CV that includes contact information; and the names of two referees who will provide letters of support. Criteria by which applications

will be judged include: publications, presentations, outreach, activities, grantsmanship, current and future contributions to biological control, and letters of support. We recognize that not all applicants will have a demonstrated record in each area. Letters from referees should be sent directly to Marshall Johnson, President-Elect IOBC-NRS (email address below).

We also ask that you confirm your plans to attend the Entomological Society of America Meeting in Indianapolis in December 2006 in the letter. To facilitate sharing of applications among the Student Award committee members, we ask that you send all of the documents as Microsoft Word attachments to mjohnson@uckac.edu. A decision will be made and the recipients notified in time for the talk title to be entered in the ESA online submission system. Contact Marshall Johnson if you have questions.

Distinguished Scientist Award Nominations Requested

The IOBC-NRS is soliciting nominations for the 2006 Award. Nominees must have spent most of their career in the Nearctic Region (essentially Canada and the U.S.), and have made significant contributions to biological control, but need not be members of IOBC. Nominations are restricted to one page in length and should include the name and current contact information of both nominator

and nominee, as well as a thorough but concise summary of the principle contributions of the nominee.

This is our organization's main way of telling people how much their work is appreciated. The recognition of those scientists who have made outstanding contributions to the science and implementation of biological control over extended and illustrious careers is an im-

portant function of IOBC. Many members have expressed their enjoyment of seeing colleagues honored with our Distinguished Scientist Award. Help us honor our deserving colleagues!

Please send nominations by **April 20, 2006** to the IOBC-NRS President, Rob Wiedenmann at rwieden@uark.edu.

Receive the Newsletter Electronically!

This newsletter is available in electronic format to any member who requests it, but very few have taken advantage of this opportunity.

The electronic newsletter is identical to the printed version, but is sent as a Portable Document File (pdf) by email when the newsletter is sent to the printer — meaning you should receive it sooner

than if you wait for the Post Office to deliver your paper copy!

Electronic subscriptions helps save the environment by using fewer trees, and reduces our printing and mailing costs so membership dues can be used for other activities, such as meetings and symposia. And just think what this can do for the clutter in your office!

If you would like to receive the IOBC-NRS newsletter electronically **instead** of a printed copy beginning with the summer issue, please send an email request to:

Susan Mahr
semahr@facstaff.wisc.edu

[You must still be a paid member to receive the newsletter electronically!]



Minutes of the IOBC-NRS Governing Board Meeting

The Annual Meeting of the Nearctic Regional Section Governing Board was held December 2005 in Fort Lauderdale, Florida in conjunction with the Annual Meeting of the Entomological Society of America. Those present included George Heimpel, Marshall Johnson, Megha Parajulee, Les Shipp and Rob Wiedenmann. [Many Board members were unable to attend when the ESA meetings were rescheduled from November to December because of hurricane damage.] The following is a condensed version of the minutes of the GB meeting.

Membership Report (Stefan Jaronski, *in absentia*). IOBC-NRS had only 151 paid individual members plus 4 institutional members for 2005. As a result of the student award and other promotions, student membership increased to 27. A total of 71 NRS members in arrears from 04 and 05 were dropped from the rolls. It was suggested that North American authors publishing in Biocontrol, Biological Control and Biocontrol Science and Technology be contacted and encouraged to become IOBC members. Trying to link formally with those members of the Biocontrol Network of Canada will be pursued, but there is some concern because the funding for the BCN is due to cease in 2006.

Corresponding Secretary Report (Susan Mahr, *in absentia*). The three issues of the newsletter totaled 28 pages (winter 10, summer 8, fall 10). Newsletter expenses for 2005 were \$842.32. Only four subscribers received the newsletter electronically. Contributions to the newsletter are welcomed. The web site was updated several times in 2005. Discussion about the newsletter focused on possibly developing an expanded electronic newsletter to include links, pdfs of posters from meetings and other items not in the paper version. The board will solicit opinions from the membership about this option.

Financial Report (Stefan Jaronski). – Current assets \$20,196.97; income \$4,848.41 and expenses \$9,655.41. Ex-

penses exceeded income due to awarding of \$4,050 in scholarships (9) for students to attend the meeting in Magog, Quebec in May. Dues reconciliation with Global amounted to \$2564.62, the largest share being \$1692 in unrenewed BioControl subscriptions for which we were charged by Global. We stopped delivery to these former subscribers, but Wiedenmann and Jaronski decided we must pay the cost. A budget of \$3700 for 2006 was proposed by Stefan. Two suggested amendments were made: \$250 for the Working Group (proposed by Les Shipp) and increasing the commitment for Graduate Student Awards from \$250 to \$500, per the discussions at the 2004 GB mtg. The modified budget for 2006 was \$4200.

Vice President Report (George Heimpel). Because of changes with scheduling imposed by ESA, the Business Meeting and program started at 7:00p.m. with the program on Biological Control in Support of Conservation Biology. Two speakers (Strong and Kuris) cancelled due to the changed meeting date. Symposium ideas were proposed for 2006. Wiedenmann brought an idea from S. Raghu (Illinois) on “Using Risk-Benefit Models for Biocontrol in Natural Areas.” But the Board supported Heimpel pursuing “Best Management Practices,” to be preceded by the Governing Board drafting a position paper; after the symposium, the Governing Board would then finalize the paper to be put forth on the web and in the Newsletter.

Student Awards Committee Report (Marshall Johnson). Call for applications went to the membership, regional biocontrol committees, Departments of Entomology in North America (CEDA list) and four applications were received. The committee developed criteria to evaluate students’ accomplishments and activities. Renee Priya Prasad (Washington State) was the consensus winner. It was proposed to include the evaluation criteria in the call for applications. Beginning in 2006, we will offer two

awards – one each for PhD and MS students. The PhD student will give the first paper preceding the symposium; no presentation will be made by the MS student. Call for applications should go to membership, CEDA, regional committees in March. Wiedenmann proposed sending an email to all those students entered in the paper/poster competitions in subsections Ca and Ce.

Report from Greenhouse Working Group (Les Shipp). Funds from NRS were used to support a meeting in Turku, Finland in April, 2005. The meeting had 120 participants and proceedings was distributed. John Sanderson and Graeme Murphy are the new chairs of the Greenhouse, Nursery and Ornamental Working Group. They will be contacted about how they wish to use the \$250 added to the budget to support future meetings.

Global news. Global president Joop van Lenteren has proposed offering honorary and posthumous memberships. Bob Luck was already granted honorary membership in 2005. Several names proposed from NRS included Peter Harris and (posthumous) Paul Debach, Ken Hagen and Carl Huffaker. We are to provide names and some justification for their inclusion. Wiedenmann has been in contact with van Lenteren about how poorly the payment to Global has been working, as well as the difficulties with the currency exchange. Although there previously was general support for electronic payment, we felt the difficulties were at least partly responsible for drop in membership.

New Business. Distinguished Scientist Award winner Bill Murdoch was able to attend the meeting because of the changed date. ESA granted a “guest registration” to allow Bill to attend for one day. Wiedenmann is to give the GB a list of previous award winners; same list to go to van Lenteren. Names need to be solicited from the membership and from the GB for the 06 award.

Wiedenmann proposed a meeting to occur in 2007 in conjunction with the NTRS, likely in Mexico. Wiedenmann will contact Joop van Lenteren to solicit Global support for the idea. Luis Rodriguez, INIFAP in Mexico, will be the NTRS contact and local organizer.



IOBC-NRS BUSINESS

Elections for IOBC-NRS Officers Coming Soon — Nominations Needed

Nominations for the different offices of the Nearctic Regional Section Governing Board for 2007-2008 are open and should be submitted by **April 20**. The duties of the various offices are outlined below. You may submit the name of someone you feel would be qualified or your own name if you have an interest in serving the Section. Please contact nominees in advance to determine their willingness to serve. **Note: all officers serve a term of two years.**

Please submit names to the IOBC-NRS President, Rob Wiedenmann, by email ONLY to rwieden@uark.edu.

President-Elect. The President-Elect serves two years as President-Elect, the following two years as President, and the following two years as Past President. The President-Elect assumes the office of President at the close of the annual meeting held at the end of the term of the incumbent President. A vacancy in the office of the President-Elect is filled as soon as practical

by written ballot. The President-Elect is the chair of the membership committee.

President. The President provides leadership for the Region, ensures that the goals and objectives of both the Regional Section and the global organization are carried out, and presides at annual meetings. The President shall also serve as the chair at the Governing Board meetings and has the authority to appoint members to committees or groups in order to meet the objectives and functions of the Regional Section and global organization. (nominations not required)

Past-President. The Past-President serves as an advisor and consultant to the President, in order to provide continuity in the development and implementation of the long-term policies of the Section. (nominations not required)

Vice-President. The Vice-President serves as the program chair for the Regional Section. In case of the inability of the President to serve, the Vice-President becomes President for the remain-

der of the current term of office.

Secretary-Treasurer. The Secretary-Treasurer has custody of all accounts, securities, property, and records of the Region. The Secretary-Treasurer prepares an annual budget, maintains membership and fee records, and pays the annual global membership fee and subscriptions to *BioControl*.

Corresponding Secretary. The Corresponding Secretary is responsible for publication of the Regional Newsletter; acts as a liaison for Regional information to be included in the global newsletter; and maintains the society's official website. The Corresponding Secretary also keeps minutes of annual meetings and meetings of the Governing Board. (nomination needed)

Members-at-Large. The Members-at-Large serve as chairs of special committees or projects established by the membership or the Governing Board to facilitate meeting the objectives of the Regional Section and global organization. (nominations required for 3 members at large)

NEWSLETTER INFO

Always Looking for Articles

Do you ever wonder where all the information in this newsletter comes from? Only a very small part is submitted from the membership; I have to make up the rest (just kidding). Even though the biocontrol community is relatively small and closely connected, are you sure that everyone in that group knows what you're doing?

Everyone these days has to produce an annual report of some sort, and likely it contains something about what you've accomplished in biocontrol. Every year several M.S. and Ph.D. students complete their degrees. Nearly every grant received requires a report on the progress of that project. All of these are examples of already existing documents you can easily cut and paste from to create an interesting and informative article for your fellow biocontrol workers to read and learn about your (or your stu-

dents') accomplishments. Please take the time to share some of this and increase the value of this newsletter!

I would like to thank all those who have contributed articles or ideas for the newsletter and made my job easier. I only have two more issues to produce, and then I will pass the baton to another member of this group. I hope for that person's sake you will make their job easier and will inundate them with quality articles in a timely manner.

Although a deadline is set for the editor's sake, please submit items for future newsletters at any time (address on the back page). There are plenty of possibilities:

- Items in the news affecting biological control
- Taxonomy (revisions or studies impacting biocontrol)
- Reports of Working Groups
- Announcements

- New research projects
- Thesis or dissertation topics
- Open Forum type letters
- Biocontrol position announcements
- New appointments or people moving around
- Awards or honors received by members
- Meetings or workshops related to biological control
- New publications

Items for the Summer Newsletter are due by 15 May 2006

If you move, please send your new address to the Secretary/Treasurer or Corresponding Secretary so this newsletter will continue to reach you.



APHIS-PPQ Organism Permitting Review — Findings and Recommendations

In early FY 2006, APHIS-PPQ concluded an evaluation of the Agency's organism permitting function. The review was designed to identify and implement improvements in permitting policies, procedures and communications.

The review resulted in several major findings and recommendations, outlined below. As a result of this review, PPQ is updating its organism permitting system as follows:

1. Hand-Carrying of Permitted Organisms. To better account for and track organisms entering and transiting the US in the aftermath of the events of 9/11, PPQ instituted a policy requiring that such organisms only move by commercial (bonded) carriers. PPQ also required further inspection of some shipments at its Plant Inspection Station in Beltsville, MD. Certain types of organisms are especially vulnerable to the delays inherent in the process. Improved Federal label and tracking procedures could allow for the option to hand-carry permitted organisms when desired.

Update: PPQ has reestablished the policy allowing permit holders the option to hand-carry organisms into approved facilities and to do so without the need to use commercial carriers or divert shipments to the PPQ Plant Inspection Station in Beltsville.

2. Permitting Board of Advisors. PPQ permitting activities impact American agriculture, affecting safety as well as research and commerce. Balanced and sustained improvements to the permitting process are best accomplished with the help of a diverse Board of Advisors beyond just PPQ staff to provide both insights and support to this function.

Update: PPQ is instituting a Permitting Board of Advisors composed of Federal and State stakeholders to counsel and support the Agency in continued improvements to its permitting policies and procedures.

3. Customer Service. A significant number of suggestions on improvements

to permitting deal with issues of customer service and communication. Permitting policies, procedures and protocols are complex, and there has been a significant increase in permit applications. The need for rigorous review has resulted in customer complaints regarding delays in processing permit applications, heightened need for procedural assistance, increased requests to solve problems, and a need for more frequent communication and issues updates.

Update: Communication is central to PPQ's efforts to improve its permitting activities. PPQ is establishing a Permitting Customer Service Center to help stakeholders with services ranging from permit applications and inquiries through obtaining information on policies and procedures. Additionally, PPQ is also looking at other process improvements such as workload prioritization based on risk and seeking to improve internal and external collaborative networks.

4. Regulatory Reforms. Regulations governing the movement of organisms have not been substantially modified since the passage of the Plant Protection Act in 2000. The events of 9/11 further compelled the Agency to focus on addressing the possibility that its permitting system could be used for purposes of agro-terrorism. This, coupled with subsequent delays to updated regulations, has resulted in some imperfect or unclear policies and procedures.

Update: PPQ is now re-engaging in a comprehensive update of its organism permitting regulations (Title 7 CFR 330, Sections 200-212) to ensure that they are based on sound science, are transparent, and have the benefit of public involvement.

Hand-Carry Policy, Procedures

A specific authorization on a valid USDA APHIS-PPQ permit (PPQ Form 526) is required for persons to move any living organisms in personal baggage

(i.e. "hand-carry") into the US, including biological control agents. Some of the conditions that apply to this policy include:

- Permits (new or amendments) authorizing hand-carrying will only be issued to persons transporting organisms to facilities currently approved to receive and contain them.
- Hand-carry authorization will be issued only to US citizens/resident with a valid Passport or Permanent Visa.
- Applications must specifically request a hand-carry option and identify all individuals seeking authorization.
- Authorization is non-transferable.
- Requests to hand-carry are authorized based on risk of the organism to US agriculture and the environment, country of origin of the shipment and source of the organisms.
- Hand-carry authorization can be denied for good cause (containment facility capabilities are likely to be exceeded, substantial risk of diversion of organisms from reaching containment, etc.) and may factor in applicant's prior compliance with prior permits or supporting information.
- Hand-carry request denial shall not prejudice issuance of a permit for receipt of the organism by other means.
- Permit holders must notify the Permit Compliance Officer by email 10-20 days prior to each hand-carry incident.
- These policies and procedures **become effective on March 1, 2006.**

Contact the PPQ Organism Permitting Unit for more information on the Agency's policies and procedures and for added details on the status of recommendations and actions mentioned here. The Unit can be reached toll-free at 1-877-5990 or by email at Pest.Permits@aphis.usda.gov. Regular updates to organism permitting policies may be found on PPQ's permitting website at www.aphis.usda.gov/ppq/permits.

Editor's note: this article was compiled from information provided by APHIS.



IOBC-NRS MIXER



Dan Mahr explains something REALLY important to Steve Yanineck and Dave Ragsdale.



John Obrycki and Del Delfosse enjoying a beverage.



Bill Murdoch listens patiently to Bob O'Neil explaining how great Podisus is.



Paul Ode and Bill Murdoch



Megha Parajulee and Bill Murdoch



Mixing it up at the mixer.

— Photographs provided by Rob Wiedenmann.



RESEARCH BRIEFS

Old World Hunter Fly Hunts Down Greenhouse Pests

There's a new predator with considerable potential for biological control of insect pests in North American greenhouses. Cornell graduate student Emily Sensenbach, under the direction of USDA-ARS' ecologist Steve Wraight and associate professor John Sanderson, confirmed the presence of the Old World hunter fly, *Coenosia attenuata*, for the first time on this continent.

This fly was first noticed in the United States in 1999 in Onondaga County, N.Y. Exactly how it got to the



New World is unknown, but it is suspected that the horticulture industry played a role inadvertently transporting it in soil or plant material. The fly was seen in South America, southern Asia, Africa, the Canary Islands, New Guinea and Australia before being identified here.

Originally from Europe, where it's also known as the "killer fly," this muscid fly preys upon many important greenhouse pests, including fungus gnats, shore flies, leafminers, fruit flies, moth flies and some leafhoppers. This particu-

lar fly lives up to its name — and not just because it preys upon other flying insects. Apparently, it enjoys a challenge. It sits, waits and only pursues prey that is in flight. When it catches its target, the fly punctures it with daggerlike mouthparts and consumes the liquid inside. Its soil-dwelling larvae are also predatory, feeding mainly on larvae of other insects.

— adapted from an October 6, 2005 ARS Press Release by Luis Pons at www.ars.usda.gov/is/pr/2005/051006.htm

Long-Term Survival of an Entomopathogenic Nematode

Entomopathogenic nematodes are important biological control agents for a variety of soil- and litter-dwelling insect pests. A major drawback to their use against pest species is their low level of persistence in many agricultural systems. While a number of studies have examined their persistence over periods of days and/or weeks, the longer-term survival of these nematodes has received less attention.

A year-long field test determined the survival of infective juveniles (IJs) of the

entomopathogenic nematode *Heterorhabditis marelatus*, under a range of initial densities, in a coastal prairie containing naturally occurring populations of this nematode.

H. marelatus IJs lived a surprisingly long time in the absence of prey: some nematodes from the initial cohort were viable after a year in the field. Survival over the year-long course of the experiment was independent of the starting density, suggesting that *H. marelatus* does not aggregate at high densities to

reduce desiccation risk. These results highlight the fact that IJs vary greatly in their long-term survival; selecting entomopathogenic nematode isolates for persistence as well as virulence could enhance this biological control agent's long-term effectiveness in agricultural systems.

— Preisser, E. L., C. J. Dugaw, B. Dennis and D. R. Strong. 2005. Long-Term Survival of the Entomopathogenic Nematode *Heterorhabditis marelatus*. *Environ. Entomol.* 34(6): 1501 - 1506.

Amassing Wasps Against Sharpshooters

Wasp releases are part of a multipronged approach California has taken to keep glassy-winged sharpshooters from spreading the bacterium *Xylella fastidiosa*, which causes Pierce's disease in grapevines and other host plants.

Gonatocerus wasps lay their eggs inside those of sharpshooters. After hatching, *Gonatocerus* larvae develop and emerge 10 to 12 days later as adult wasps, killing the sharpshooter eggs. In California, *Gonatocerus*' spring emergence lags behind sharpshooters', so few are around to parasitize the pests' eggs. Fall parasitization, though, can inflict sharpshooter losses of up to 90%.

Releasing insectary-reared wasps can help close that gap, but the practice is expensive and time-consuming since live plants and sharpshooter eggs must be used. Refrigerated storage could cut production costs and furnish more time to amass the wasps for spring releases.

Now, an experimental method of refrigerating parasitized sharpshooter eggs for up to 60 days may improve the artificial rearing of *Gonatocerus* wasps for field release as biological control agents. USDS-ARS entomologist Roger



Leopold is investigating the insect-storage method along with Marion Harris and Wenlong Chen, both with North Dakota State University in Fargo.

In studies with *G. asmeadi* and *G. triguttatus* wasps, parasitized sharpshooter eggs were stored for 30 to 60 days under different, changing temperature conditions. Under one such regimen — starting and ending with 4.5 and 7.5 degrees Celsius, respectively — wasp emergence rate was 60%. Importantly, health and longevity were unaffected.

— adapted from a September 28, 2005 ARS Press Release by Jan Suszkiw at <http://www.ars.usda.gov/is/pr/2005/050928.htm>



RESEARCH BRIEFS

Integrating Biological Control with Transgenic Insecticidal Crops

Transgenic crops are changing the way that pests are managed in agriculture, and it will be important to determine how biological control integrates with this new pest management technology. Two research programs are currently underway that pertain to non-target risk assessment of transgenic crops to insect predators. Together with Jian Duan at Monsanto Company and Robert Wiedenmann at the University of Arkansas, we have developed a protocol for evaluating the toxicity of diet-incorporated proteins on the non-target predator *Poecilus chalcites* (Carabidae) in the laboratory. Using the rearing protocol we developed, we are able to produce this predaceous ground beetle to adulthood on a semi-artificial diet. Furthermore, we are able to stably incorporate

insecticidal proteins (i.e., Cry3Bb1 expressed in anti-rootworm corn, and the protease inhibitor E64) into the diet, and generate dose response curves and LD90s for these toxins. The results of these experiments have shown that Cry3Bb1 poses little toxicity to this ground beetle, and that a fairly high dose of protease inhibitor E64 is required to reduce *P. chalcites* fitness.

In non-target risk assessments, it is important to substantiate whether fitness reductions in beneficial insects stem from the toxicity of insecticidal proteins or nutritional deprivations in transgenic vs. non-transgenic corn pollen. In work on *Coleomegilla maculata* (Coccinellidae), Robert Wiedenmann and I were able to determine that various nutrients in corn pollen vary con-

siderably among field corn hybrids, and that these nutritional differences are correlated with adult mortality. These results were incorporated into a laboratory-based toxicity assay for determining the risk of transgenic hybrids to *C. maculata*. I am continuing this work independently on *C. maculata* and *Orius insidiosus* (Anthrenidae), by pursuing the nutritional factors of corn pollen that limit successful development of these predatory insects, and determining the ecological impact of transgenic corn pollen on biological control.

— Jonathan Lundgren, USDA-ARS, Brookings, SD (jlundgren@ngirl.ars.usda.gov) and the *Midwestern Carabidologists Working Group* (www.ars.usda.gov/npa/midwestcarabids).

ANNOUNCEMENTS

2006 Midwest Institute for Biological Control

The Midwest Institute for Biological Control presents the summer short course, “**The Natural History and Taxonomy of the Carabidae.**” The course will be held June 25-28, 2006 at Oak Lake Field Station near Brookings SD (biomicro.sdstate.edu/oaklake/index.htm).

Ground beetles are a diverse and abundant component of many terrestrial ecosystems, and provide numerous services of interest to naturalists and crop producers alike. The goal of

this course is to provide hands-on experiences to participants interested in ground beetle taxonomy and ecology, and explore their ecology as it applies to biological control. Specific course outcomes will be to provide introductory taxonomic skills and to present various aspects related to ground beetle feeding behavior, internal physiology, collection techniques, etc. Participants will also have the opportunity to interact with other like-minded students and scientists from around the region.



The course instructors will be Jonathan Lundgren (USDA-ARS, Brookings, SD), Foster Purrington (Ohio State University), James Harwood (University of Kentucky), and Matt O’Neal (Iowa State University).

Registration is \$130, including meals. Space is limited, so if you or your student is interested, please contact Jonathan Lundgren at (605) 693-5211 or by e-mail at jlundgren@ngirl.ars.usda.gov



New Consulting Service In Biological Control

Dr. Alec McClay is now working as an independent consultant, under the name McClay Ecoscience, providing research and consulting services in biological control, invasive species, and insect/plant ecology. Services available include rearing, release, and monitoring of bio-

logical weed control agents, natural enemy exploration, development of test plant lists, and climate modelling for biological control agents and other organisms.

Alec has over 25 years experience in biological control of weeds, with the

Alberta Research Council, Alberta Environmental Centre, and previously with the Commonwealth Institute of Biological Control (now CABI Bioscience).

For more information, please visit www.mcclay-ecoscience.com.



MEETING CALENDAR

Fifth National IPM Symposium

April 4-6, 2006
St. Louis, MO

“Delivering on a Promise” sessions will address state of the art strategies and technologies to successfully solve pest problems in agricultural, recreational, natural and community settings. For more information see the Symposium website at www.ipmcenters.org/ipmsymposium/

To receive future notices about the symposium, send your e-mail address to ipmsymposium@ad.uiuc.edu.

58th International Symposium on Crop Protection

May 23, 2006
Ghent, Belgium

The Symposium will focus on new developments in all aspects of crop protection. The program will include a Plenary Session with two invited papers and Parallel Sessions with submitted papers related to various subjects including biological and integrated control of pests, diseases and weeds. For more details see the symposium website at www.iscp.ugent.be

IOBC Global Working Group *Transgenic Organisms in IPM and Biological Control* Workshop: Environmental Risk Assessment of GM plants: discussion for consensus

6-9 June 2006
Rotondella, Italy

For more information contact:

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California Conference on Biological Control V

July 25-27, 2006
Riverside, California

The California Conference on Biological Control returns to Riverside, California and will be held at the historic Mission Inn. To help kick-off the celebration the 100th Anniversary of the University of California Citrus Research Center and Agricultural Experiment Station, the opening session will focus on the importance of biological control to the citrus industry in California and will include a special presentation on the history of the Agricultural Experiment Station. Two other areas of critical need for biological control programs will be highlighted: risk assessment for weed biological control agents, and ongoing biological control research for the urban environment. A poster session will compliment the invited speakers, and this year they thank the generous support from the Association of Natural Biocontrol Producers for providing two student awards for best submitted posters.

For more details visit www.cnr.berkeley.edu/biocon/

American Phytopathological Society Annual Meeting

July 29 - Aug 2, 2006
Quebec City, Quebec, Canada

For more information see the APS website at www.apsnet.org.

International Biocontrol Industry Meeting

23-24 October 2006
Lucerne, Switzerland

The new business meeting of the Biocontrol Industry. An opportunity for manufacturers, distributors, consultants, users, also environmentalists, opinion leaders, researchers and students to meet in order to learn about new products, agents, systems, biocontrol solutions, but also discuss on common interest issues. For more information see the IBMA website at www.ibma.ch/events.html#20061023

XIIth International Symposium of Biological Control of Weeds

April 22-27, 2007
Montpellier, France

The return of this International forum, organised by an EU-wide team of biocontrol scientists, accompanies a European public awakening to extent and impacts of alien plant invasions. The XII ISBCW can provide a window to show the public and policy makers in the EU and around the world, that biological control of weeds uses internationally accepted scientific rigour and analysis to provide permanent and non-chemical weed control benefits, far outweighing any risks or costs.

6 October 2006 - Abstracts due

15 December 2006 - Close of registration

Visit the Symposium website www.cilba.agropolis.fr/symposium2007.html for more details.



IOBC Membership Application 2006

Region (please tick where appropriate):

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	group B countries:	8 €
	group A countries:	0 €
__Subscription to BioControl (normal price: 400 €):	add 94 € to membership price	

Institutional and supporting members, please contact the Secretary General of IOBC Global (Prof.dr. S. Colazza; colazza@unipa.it)

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**International Organization for Biological Control of Noxious Animals and Plants
Nearctic Regional Section**

**Organisation Internationale De Lutte Biologique Contre Les Animaux Et Les Plantes Nuisibles
Section De La Region Nearctic**

<http://www.entomology.wisc.edu/iobc/nrs.htm>

IOBC website: <www.unipa.it/iobc/view.php>

Send items for the
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and further communication
among members of the Region
(Bermuda, Canada, and the
United States).

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