



INTERNATIONAL ORGANIZATION FOR BIOLOGICAL CONTROL
OF NOXIOUS ANIMALS AND PLANTS (IOBC)

IOBC NEWSLETTER 76

NEW: WWW.IOBC-GLOBAL.ORG

IOBC is affiliated with the International Council of Scientific Unions (ICSU)
as the Section of Biological Control of the International Union of Biological Sciences (IUBS)

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PDF files of previous newsletters can be found at www.iobc-global.org

1. EDITORIAL: RISKS OF RELEASING EXOTIC NATURAL ENEMIES

In this newsletter I have summarized some of the current developments regarding regulation of the import and release of exotic natural enemies. For some time now, biological control workers are not only considered to provide the most sustainable and environmentally friendly way of pest management, but also sometimes blamed for introducing unwanted organisms. Some of this criticism is extremely emotional, based on very poor reasoning and not supported by data, but there are publications that correctly point at (potential) problems resulting from releases of exotic natural enemies (see e.g. Louda et al., Annual Review of Entomology, 2003). As a result of these concerns, an increasing number of countries is now regulating the import of beneficial organisms. IOBC Global is of the opinion that all these different regulation systems are frustrating the use of safe forms of biological control. Therefore, we try to collaborate with regions, organizations and countries that are working on these regulations.

Particularly in Europe many of such developments take place at this moment, and this work is shortly described elsewhere in this newsletter. The main aims of IOBC's effort are (1) to harmonize the various regulations, (2) to include a procedure for exchange and use of information between countries to reduce dossier costs, (3) to realize supernational Expert Groups that will advise on permits for release or not, and (4) to develop regional lists of biological control agents that have shown to be reliable without causing negative effects ("positive lists"). We would appreciate your reactions and information about similar developments elsewhere.

Due to many developments concerning IOBC global during the past months, we decided to have another newsletter out before the end of 2004. This issue contains many items related to (1) what we have discussed at the Executive Committee (EC) Meeting of end October 2004, (2) a meeting of IOBC Global and WPRS representatives and (3) a meeting of the Managing Board of BioControl. These meetings were all very productive; we could solve a number of problems, were able to work on several new ideas such as the new membership fee system and the writing partnership. Also, we made a new website for IOBC Global. Further, activities of all Regional Sections and Working Groups were evaluated and several regions / working groups were contacted in the hope to improve activities.

After sending out "our" first newsletter, we have received a number of very positive reactions and also some critical remarks about the length of newsletter 75, and we agree that it was a rather "baroque" piece. The summaries of PhD theses that we added as a new service was appreciated, and quite a number of readers asked for the complete PDF version of the theses at the author. We would like you to send us these abstracts for future issues. It is our plan to send out a newsletter in March/April 2005 or as soon as we have enough material, so we will not stick to a fixed publication schedule.

Might you need specific information about topics in this newsletter or do you have suggestions for us, please contact the Secretary General at Colazza@unipa.it.

Joop C. van Lenteren, President IOBC Global

2. NEW WEBSITE: WWW.IOBC-GLOBAL.ORG

In collaboration with Madeleine Bühler (Switzerland), we have developed a new website. Madeleine earlier developed the WPRS site, and we have attempted to make the Global site similar to the WPRS site. The site allows you on each page to move to any Regional Section or Working Group. The site provides, among others, information about:

- IOBC-Global (statutes, membership, regions and working groups)
- The new membership fee system
- Recent newsletters
- The writing partnership
- The internet biocontrol book with regular updates
- Links to meetings

Try the site and tell us what we should do to improve it!

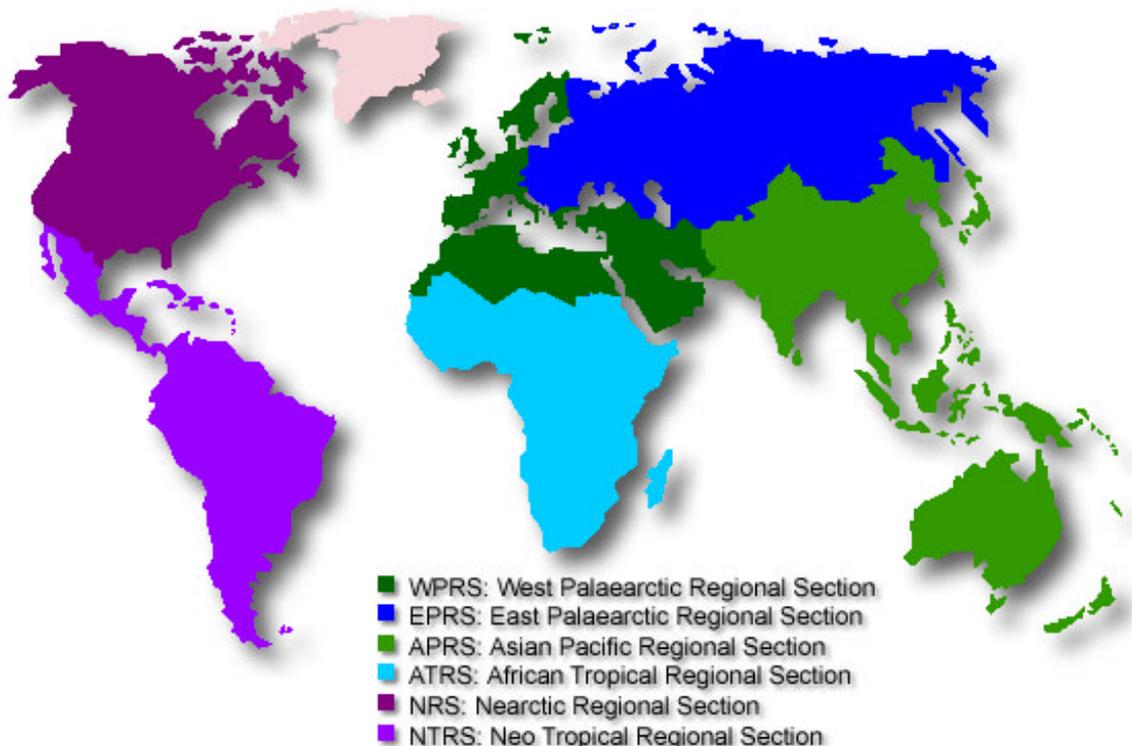
3. FINANCIAL SITUATION IOBC-GLOBAL

The financial situation of IOBC Global needs to be improved after several years with decreasing assets. We propose several measures. The first measure is a slight increase in membership fees, and payment of fees in Euro to the treasurer of IOBC Global with credit card (this strongly reduces transfer costs for members, but does increase costs for IOBC Global). The second measure is an annual appraisal of costs to be paid for a subscription to BioControl, and this information will be published annually on our website. Due to an increase in value of the Euro, all subscriptions paid in dollars resulted in a loss for IOBC Global during the past years, and with about 400 subscriptions this meant quite a large sum. The third measure is to renegotiate the contract of BioControl with the publisher and we expect to obtain a more profitable situation for our members. You can help us to improve the financial situation by paying on time and by obtaining new members: see information on the website.

4. NEW MEMBERSHIP FEE SYSTEM AND PAYMENT OF FEES*

1. Individual membership fee (country listing can be found on www.iobc-global.org)*:
 - Group C countries: 20 Euro (50% for Region, 50% for Global)
 - Group B countries: 8 Euro (50% for Region, 50% for Global)
 - Group A countries: no fee to be paid
 - Student membership (upon proof of student status): 12 Euro (33% for Region, 67% for Global)
 2. Individual membership + Journal of BioControl (normal price 190 Euro/year)
 - Group C countries: 114 Euro (94 Euro for BioControl)
 - Group B countries: 102 Euro (94 Euro for BioControl)
 - Group A countries: 94 Euro (94 Euro for BioControl)
 - Student membership: 106 Euro (94 Euro for BioControl)
 3. Supporting and institutional membership; we propose to keep the various regional systems as they are used now, in case of doubt contact Joop.vanLenteren@wur.nl
 4. Note that subscription for BioControl has increased due to a change in exchange rate between Euro and US dollars. We needed to implement this increase to reduce the losses that IOBC Global has been making for several years on BioControl.
 5. Fees will be adjusted annually according to changes in exchange rate. IOBC Global will propose adjusted fees to the regional sections each year in November and publish this information on internet.
 6. Payments can soon be made by credit card (Visa and Mastercard) to the treasurer of IOBC Global. We propose that from now on all payments are made directly to IOBC Global. Forms for payment can be found on www.iobc-global.org. **ON THESE FORMS, THE FEES ARE MENTIONED IN EURO.**
 7. The treasurer will transfer the contribution for regions to each regional treasurer. The global treasurer will contact the regional treasurers in due time to discuss details of checking membership, BioControl subscriptions and transfers of money; the treasurer will provide the regions with a clear schedule defining actions of Global and the Regions.
 8. The above proposal does not conflict in anyway with IOBC Global statutes and by-laws
- * This proposal does not concern the Regional Sections WPRS and NRS as these sections apply higher fees

5. STATE OF AFFAIRS OF REGIONAL SECTIONS OF IOBC



Short information of all the Regional Sections, with a link to their websites, can be found on www.IOBC-Global.org. The activities of the 6 Regional Sections were discussed at the recent EC meeting:

- several regions function very well (NRS and WPRS)
- one section (EPRS) was very active in the past, but the situation became problematic after political changes at the end of the 1980s, hopefully a new Executive Committee will be appointed at the General Assembly of EPRS in 2005, we welcome ideas and members from this region!!
- one section (NTRS) was active in the past, was quiet for several years, but is now reactivated by both a new Regional Executive Committee and IOBC Global
- one section (ATRS) has not been very active since its creation, IOBC Global together with the Regional officers will try to develop a plan on how to stimulate participation in this region
- one section (APRS) is very active in some areas (e.g. Japan), but less so in other areas, initiatives have been taken by IOBC members in this region to develop more activities

6. STATE OF AFFAIRS WORKING GROUPS IOBC-GLOBAL

Short information of all the Global Working Groups, with a link to their websites, can be found on www.IOBC-Global.org. IOBC Global currently has 10 working groups. Eight groups are active, organize regular workshops and publish proceedings and newsletters. Two groups are inactive and might be terminated soon. For future meetings and other information about the working groups, see IOBC-Global.org. We have received several proposals for new working groups, and these will be discussed during our next EC meeting. Proposals include starting groups on: (1) Environmental benefits and costs of releasing exotic natural enemies, (2) Designing agroecosystems that nurture biological control, (3) Unisex (pure female lines) and biological control. We invite you to send other proposals to the Secretary General.

Because of our currently poor financial situation, we had to reduce the support for working groups. However, if a group succeeds in making a good number of new IOBC members, we will be able to support them with the full amount. Most working groups are very active and attract many participants to their meetings, but a rather low percentage of the participants is member of IOBC. We would appreciate working groups to motivate participants to apply for membership!

7. IOBC-GLOBAL SCIENTIFIC MEETINGS AND CELEBRATION OF 50TH ANNIVERSARY

Fifty Years IOBC in the New World: Montreal, Canada, 8-12 May 2005.



In collaboration with IOBC-NRS and the Canadian BioControl Network, we organize a combined meeting on various aspects of biological control. During the “IOBC day” the history, current situation and future developments will be sketched by IOBC members from Europe and North America. This will be followed by two day symposium on “Trophic and Guild Interactions in Biological Control”. The symposium will provide critical review of current knowledge and propose fresh

perspectives on trophic and guild interactions in the specific context of biological control.

For more information: www.biocontrol.canada, or via IOBC-Global.org to Region NRS

Fifty Years IOBC in Latin America: Summer 2006.

IOBC-Global has started discussions with members of the Latin American Region (NTRS) to organize a symposium in the summer of 2006 concurrent with another Latin American meeting that is attended by many biocontrol workers. The aims of this symposium will be (1) to discuss successful cases of biological control in this region, (2) to evaluate the current situation, and (3) to develop a strategy for improvement of research collaboration. News about this symposium will be reported in the newsletter and on the IOBC-Global website.

Fifty Years of IOBC in West Europe and the Mediterranean: Dijon, France, 17-21 September 2005.

The region where IOBC was founded, West Europe, will organize an anniversary meeting in conjunction with the General Assembly of WPRS in Dijon, France from 17-21 September 2005. The programme of this meeting can be found on www.iobc-wprs.org, or via IOBC-Global.org to Region WPRS.

Fifty Years IOBC in Africa and Worldwide: Summer 2008.

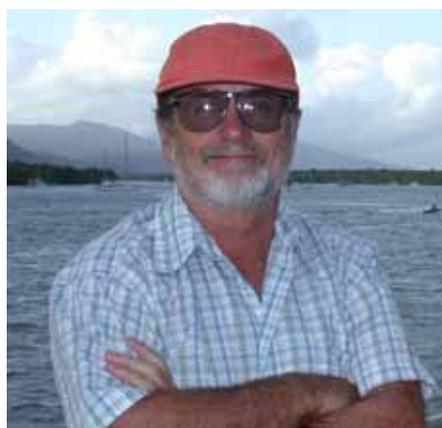
In collaboration with the Organization Committee of the 22nd International Congress of Entomology, IOBC-Global will organize a one or more day symposium. The aims of this symposium will be: (1) to give an overview of successful cases of biological control in Africa, (2) to discuss scientific and applied aspects of biological control research.

Fifty Years of IOBC in Central Europe and Asia

IOBC-Global is discussing opportunities for celebrating its 50 years anniversary in these regions with representatives of the regions. Progress will be reported in the newsletter and on the IOBC-Global website.

Ideas for honorary members

In 2005 - 2008 several festivities are organized to commemorate the start of IOBC 50 years ago. We intend to select and appoint an honorary member for each Regional Section. If you have a good suggestion, please mail the name of the person with a short motivation to the Secretary General (colazza@unipa.it). We prefer to honour “older” persons that have done much work for IOBC and biological control.

8. IN MEMORY OF DAN SMITH (1944-2004), AUSTRALIA

Dan Smith drowned in tragic circumstances on Wednesday 22 September 2004. He will be remembered for his enormous contribution in working towards a sustainable IPM program for the Queensland citrus industry wrote Dan Papacek and Geoff Waite to us.

Dan was a product of one of the best university Entomology Departments in the world at the time, and emerged with a broad knowledge of that subject and an enthusiasm to put that knowledge to work for the good of Queensland’s horticultural industries. In an era when chemical pest control ruled, and critics looked sceptically at biological control and declared it would never work, Dan embarked on what turned out to be a revealing, often turbulent, but

eventually triumphant journey of development, demonstration and implementation of an IPM system for Queensland citrus that is regarded as a spectacular success throughout the world. In this he was fortunate that in those days, our management was by managers who had done their time in the field as entomologists, and knew what was possible, and what was required to do the job. This story would not be what it is if today’s ‘corporate’ attitudes and organisational structure were in place back then. While Dan became involved in many different projects, he is most famous for his work in citrus. The statistics

and achievements of that citrus IPM research speak for themselves; they are best demonstrated by a brief description of how it all began, and its evolution.

Citrus IPM is based on biological control in Queensland. Seventy-five percent of Queensland's citrus pests are exotic, many of them scale insects that are an excellent target for classical biological control, each being attacked by specific parasitoids. Over 30 years, Dan conducted an innovative and vigorous programme, locating, introducing and host testing at least 34 natural enemies from overseas. In spite of the proven safe track record of arthropod biocontrol agents, opposition to 'classical biocontrol' and the parasitoid introductions required to achieve that, increased after the 1970s, and the increasing demands for expensive host testing were a constant threat to Dan's progress. Nevertheless, his determination and persistence usually won out in the end, with many of his introductions benefiting not only the citrus industry, but also growers of back-yard fruit trees and ornamentals.

Dan's expertise in the area of IPM and biocontrol was well recognized. He undertook six consultancies to Southeast Asia, advising on pest management in crops such as citrus, longan, mango, durian and coffee, and also participated in national and international symposia in Australia, Israel, Chile, Brazil and Florida. Such exposure led to many entomologists from around the world visiting his laboratory to learn, discuss and often procure relevant parasitoids for use in their own programmes. The Australian citrus leafhopper, *Empoasca smithi*, was named in his honour. Fortunately, much of Dan's vast knowledge and experience was recorded in the landmark publication of 1997, 'Citrus pests and their natural enemies: Integrated pest management in Australia', published in collaboration with his many local and interstate colleagues. Dan did not confine his crop research to citrus. Over the years he contributed significantly to pest management in other crops such as bananas, custard apples, passion fruit, papaws and mangoes. His achievements have resulted in recognition through promotion, and also in the award in 2000, of the Graham Gregory Medal, sponsored by Horticulture Australia Limited.

Dan Smith was generous with his time and knowledge and was always ready to assist anyone who needed him. He will be remembered by many colleagues worldwide, as a tireless campaigner for biological control and IPM. The citrus industry in Australia and indeed the world has lost a tireless researcher.

9. IOBC GLOBAL JOURNAL BIOCONTROL



Over the past years *BioControl* has firmly established itself among the top scientific journals in our discipline. This has been achieved through a team effort involving biocontrol scientists submitting excellent manuscripts to their own journal – the IOBC official journal – and the superb devotion of our Associate Editors and all the reviewers in assuring the quality of published papers, as well as a highly professional and supportive publisher. The number of manuscripts offered to the journal has increased, and even with a high rejection rate we have accumulated a severe backlog in printing all the accepted papers. This situation is frustrating, particularly for the authors.

The IOBC President (Joop van Lenteren), chair of the *BioControl* Managing Board (Jürg Huber), and the Editor-in-Chief (Heikki Hokkanen) met with Springer representatives to agree on a comprehensive package to resolve these backlog problems, and to further improve the service we can offer to the biological control community. The improvements include:

1. Clearing the backlog: all accumulated papers, which are ready for printing will be printed in the next 2-3 issues. These issues will be significantly thicker than our usual 120 pp, and they will be printed in advance to speed up the publication.
2. Fast track on-line publishing: during the second part of 2005, *BioControl* will start publishing all accepted papers in the on-line version of the journal as soon as the proofs have been corrected. The volume, issue, page numbers and DOI-information will be allocated to each paper as soon as it is ready to go on-line, making the paper fully citable immediately.
3. Color pictures and supportive material: these can be made available in the on-line version of each article without charge. Pictures in the print version will be black-and-white (at no cost) or in color (at a cost to the author).

The fast track on-line publishing will be a significant improvement in the history of *BioControl*, because it will allow the rapid dissemination of scientific information as soon as it has been peer-reviewed, corrected, and accepted. Scientists will thus be able to publish their results as quickly as the review process allows. The editorial team will further do its utmost to speed up also the review process, so that scientists submitting to *BioControl* can feel confident that their articles will be published within a very competitive time-scale. I encourage all of you working in the area of biological control to submit your best results in our own journal.

Heikki M. T. Hokkanen, Editor-in-Chief

10. RECENT DEVELOPMENTS CONCERNING REGULATION IMPORT BIOCONTROL AGENTS

The developments in risk assessment of exotic natural enemies during the past 3 years have been very fast. An increasing number of countries is applying some form of regulation concerning the import and release of biological control agents. For Europe IOBC-WPRS together with other organizations is trying to design a harmonized regulation system. Also the EU/EC is aiming at a harmonized and relatively simple regulation for natural enemies and microbial control agents. Strong collaboration among all stakeholders will be essential to prevent the development of regulation systems that are too complicated and time-consuming, resulting in hampering instead of stimulating the use of biological control. I will describe the major developments by summarizing 6 activities in this area.

1. OECD document “Guidance for Regulation of Invertebrates as Biological Control Agents (IBCA)”. This document has been developed to serve as guidance for the regulation of Invertebrates as Biological Control Agents (IBCA) within Organization for Economic Cooperation and Development (OECD) countries. It incorporates harmonized information requirements from a number of different OECD countries for the regulation of IBCA, including insects, mites and nematodes. In developing this regulatory approach for IBCA, the inherent differences between these products and chemical plant protection products were taken into consideration. IBCA are usually more target pest specific than chemical plant protection products and generally pose lower risks to human health and the environment. IBCA have been used successfully for many years in many OECD countries without significant harm to plants or native arthropod species. To facilitate the use of biological control in some of these countries a number of lists of have been prepared and updated by government agencies of the IBCA that have been used for many years (5 or more) without undesirable side-effects (see Appendix 2). *The guidance document provides relevant references about current regulations and risk assessment. The full text of this document is available at www.oecd.org, OECD series on Pesticides, Number 21, 2004, 22 pages.*

2. EU-financed project “Evaluating Environmental Risks of Biological Control Introductions into Europe [ERBIC]” paper “Environmental Risk Assessment of Exotic Natural Enemies used in Inundative Biological Control”. A methodology for risk assessment has been developed within the EU-financed project “Evaluating Environmental Risks of Biological Control Introductions into Europe [ERBIC]” as a basis for regulation of import and release of exotic natural enemies used in inundative forms of biological control. This paper proposes a general framework of a risk assessment methodology for biological control agents, integrating information on the potential of an agent to establish, its abilities to disperse, its host range, and its direct and indirect effects on non-targets. Of these parameters, estimating indirect effects on non-targets will be most difficult, as myriads of indirect effects may occur when generalist natural enemies are introduced. The parameter ‘host range’ forms a central element in the whole risk evaluation process, because lack of host specificity might lead to unacceptable risk if the agent establishes and disperses widely, whereas, in contrast, a monophagous biological control agent is not expected to create serious risk even when it establishes and disperses well. Drawing on published information and expert opinion, the proposed risk assessment methodology is applied to a number of biological control agents currently in use. These illustrative case histories indicate that the risk assessment methodology can discriminate between agents, with some species attaining low ‘risk indices’ and others scoring moderate or high. Risk indices should, however, not be

seen as absolute values, but as indicators to which a judgement can be connected by biological control experts for granting permission to release or not. *The full text of this document is available at www.kluwer.nl, Journal of Biocontrol, Lenteren, J.C. van, Babendreier, D., Bigler, F., Burgio, G., Hokkanen, H.M.T., Kuske, S., Loomans, A.J.M., Menzler-Hokkanen, I., Rijn, P.C.J. van, Thomas, M.B., Tommasini, M.C., Zeng, Q.Q., 2003. Environmental risk assessment of exotic natural enemies used in inundative biological control. *Biocontrol* 48: 3-38.*

3. Writing of book on “Environmental Impact of Invertebrates for Biological Control of Arthropods: Methods and Risk Assessment”. When the projects mentioned under 1 and 2 were finished, some of us realized that there were no initiatives for further development of risk assessments for natural enemies. We then decided to embark upon two new activities. Franz Bigler and colleagues took the initiative to edit a book containing methods for risk assessment, so we would not end up in a vacuum like with the registration of microbials where methods were not available at the moment that they had to be registered. The other initiative is described under point 4.

This book will contain chapters in which many aspects of risk assessment are discussed. The first group of chapters deals with measurement of risk, like the current status and problems in assessing non-target effects, the selection of non-target species for host specificity tests, host specificity as prime indicator of non-target risk of biological control agents, factors that determine establishment of natural enemies and evaluation methods, the significance of dispersal and assessment in environmental risk evaluations, and measuring and predicting indirect impacts of biological control: competition, displacement and secondary interactions. The following group of chapters discusses the risks of interbreeding between species introduced for biocontrol and native species. Next, the topic of risk assessment is dealt with in several chapters, including a full risk assessment and a quick scan for biological control agents. Tools for species and strain identification and statistics are also discussed.

F. Bigler, U. Kuhlmann, D. Babendreier, 2005. Environmental Impact of Invertebrates for Biological Control of Arthropods: Methods and Risk Assessment. *This book will be published in the course of 2005 by CABI. See www.cabi.org for information on date of publication.*

4. An IOBC-WPRS commission on harmonization. The other initiative after finishing project 1 and 2 was to propose IOBC-WPRS to start a Commission on Harmonisation of Regulation of Invertebrate Biological Control Agents (acronym CHIBCA). The board of IOBC-WPRS followed this advice and established this commission with the objectives to (1) collect information on regulation of IBCAs in WPRS countries and compile an overview, (2) organise a Workshop with WPRS member countries that have participated in the data compilation together with the Biocontrol Industry in which data requirements are discussed and harmonised, (3) produce a document that gives detailed guidance on regulation procedures for release of (a) exotic biocontrol agents (new or already in use), (b) indigenous biocontrol agents, and (c) up-date EPPO's positive list of biocontrol agents in WPRS, (4) propose a consultation procedure that will allow exchange and use of information and data on biocontrol agents between European (or WPRS) countries, and (5) propose an European Expert/Advisory Group for IBCAs.

The first meeting of this Commission was held from 8-10 July 2004 in Zürich and resulted in realization of objectives 1 – 3. The document that gives detailed guidance on regulation procedures will appear in 2005 (contact franz.bigler@fal.admin.ch for information). The next workshop of this group is planned for the summer of 2005 to work on objective 4 and 5. Work started by this Commission might be continued by the group that will apply for a Specific Support Action Grant to develop regulation for biological control agents (see next point).

5. EU grant application for harmonization of regulation of biocontrol agents. The EU has sent out a call for offers under Specific Support Action to develop Regulation Biological Control Agents. The task is titled: Biological Control Agents – Developing a balanced system for registration, including Macroorganisms, Microbial Biopesticides, Plant Extracts (= plant derived substances) and Semiochemicals. Biological Control Agents - Developing a balanced system for registration, including Macroorganisms, Microbial Biopesticides, Plant Extracts and Semiochemicals.

The call for offers specifies the following: Despite considerable research efforts on biological and natural control agents (macroorganisms, microbial plant protection products, plant derived substances and semiochemicals) the number of such products on the market in Europe is currently still extremely low, compared to other countries, e.g. the USA and Canada. Due to their nature and specificity of action, as well as dependence on environmental factors, these agents and substances generally called biopesticides cannot be treated like synthetic chemicals and therefore they need a different approach for registration purposes. The aim of the task is to review current legislation, guidelines and guidance documents at Member State and EU level and compare this with similar legislation in other countries where the introduction of new biopesticides has proven to be more successful. Based on specific input by researchers and involved product developers, proposals for appropriate and balanced regulatory testing of new biopesticides should be designed, provided that no compromises are made to the level of safety. A coordination action should yield a proposal for a balanced regulatory environment which could lead to better access to biopesticides for growers and farmers and therefore to further reductions in the use of chemical pesticides. The results could serve as a scientific basis for reviewing current legislation and guidance for biopesticides. The project has strong relevance to SMEs as the end-users.

A grant application will be sent in by the end of February 2005. Many biocontrol researcher, the industry, regulators and other stakeholders are involved in the grant proposal.

6. International Standards for Phytosanitary Measures, Number 3. Guidelines for the export, shipment, import and release of biological control agents and beneficial organisms. In the 1990s FAO developed a code of conduct for the import and release of biological control agents. Countries or organizations could use this code of conduct, but it was not compulsory. Also, the code of conduct was not very specific about procedures and methodology. The code of conduct has now been revised and resulted in a more detailed document, and countries will have to apply this standard when importing biological control agents. The current draft standard (ISPM No. 3) provides guidelines for risk management related to the export, shipment, import and release of biological control agents and beneficial organisms. It lists the related responsibilities of contracting parties, National Plant Protection Organizations, importers and exporters. The standard addresses the importation of biological control agents capable of self-replication (including parasitoids, predators, parasites, nematodes, phytophagous organisms and pathogens), as well as sterile insects and beneficial organisms, and includes those packaged or formulated as commercial products (i.e. biopesticides). It covers import for purposes including research in quarantine facilities and release into the environment.

ISPM No. 3 is seen as an element of the International Plant Protection Convention (IPPC) and biological control agents are dealt with as potentially harmful organisms for which a pest risk assessment approach is followed. The scope of the IPPC is based on securing common and effective action to prevent the spread and introduction of pests of plants and plant products, and to promote appropriate measures for their control (Article I of the IPPC, 1997). In this context, the provisions of the IPPC extend to any organism capable of harbouring or spreading plant pests, particularly where international transportation is involved (Article I of the IPPC, 1997). Section 4.1 of ISPM No. 20 (*Guidelines for a phytosanitary import regulatory system*), contains a reference to the regulation of biological control agents; it states: "Imported commodities that may be regulated include articles that may be infested or contaminated with regulated pests. ... The following are examples of regulated articles: ... pests and biological control agents."

The structure of the revised standard broadly follows the same structure of the original ISPM No. 3, and its content is based primarily on risk management relating to the use of biological control agents and beneficial organisms. It is recognized that the existing standards on pest risk analysis (ISPM No. 2: *Guidelines for pest risk analysis* and ISPM No. 11: *Pest Risk Analysis for quarantine pests including analysis of environmental risks and living modified organisms*) provide the appropriate processes for carrying out pest risk assessments for biological control agents and beneficial organisms. In particular, ISPM No. 11 includes provisions for pest risk assessment in relation to environmental risks, and this aspect covers environmental concerns related to the use of biological control agents.

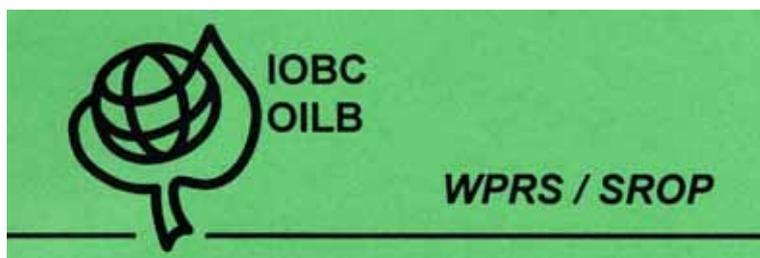
Most of this standard is based on the premise that a biological control agent or beneficial organism may be a potential pest, and in this sense Article VII.1c of the IPPC (1997) applies because

contracting parties may prohibit or restrict the movement of regulated pests into their territories. However, it should be recognized that in some situations, biological control agents and beneficial organisms may act as a carrier or pathway for plant pests. In this sense only, biological control agents and beneficial organisms may be considered to be regulated articles as described in Article VII.1 of the IPPC (1997) and ISPM No. 20: *Guidelines for a phytosanitary import regulatory system*. Therefore, certain provisions of this standard are based on that premise.

It is expected that ISPM No. 3 will be in force by mid 2005 (www.fao.org).

7. What next? As ISPM No. 3 does not include methodology for risk assessment, the writing of the book mentioned under point 3 is important to help applicants and regulators with the evaluation of benefits and risks of importing a certain biocontrol agent. Further, the activities mentioned under point 4 and 5 are essential to prevent each (European) country from developing its own regulations. National expertise in the field of risk assessment of biocontrol agents is often very limited. Therefore the IOBC-WPRS Commission / EU grant applicants will work on (1) a proposal for a consultation procedure that will allow exchange and use of information and data on biocontrol agents between (European) countries, and on (2) a proposal for a European Expert Group which will decide about the use of new biocontrol agents. These activities should, of course, be in accordance with ISPM No. 3.

11. AVAILABILITY OF PROCEEDINGS/BULLETINS IOBC-WPRS WORKING GROUPS



The working groups of WPRS are producing 10-20 bulletins containing the proceedings of their meetings. Bulletins that have appeared since 1993 are listed on the WPRS website, and copies of these bulletins can be ordered with a form available on this website (via www.IOBC-Global.org to WPRS, go to publications etc.). Below is a list of recent titles.

IOBC-WPRS Bulletins, Vol. 26(1–11), 2003

- 26(1) 2003. Working Group „Insect Pathogens and Insect Parasitic Nematodes“, Proceedings of the 8th European Meeting “Entomopathogens and Insect Parasitic Nematodes: Current Research and Perspectives in Pest Biocontrol” at Athens (Greece), 29 May - 2 June 2001. Edited by: Bernard Papierok. ISBN 92-9067-149-8 [xviii + 278 pp.].
- 26(2) 2003. Working Group „Integrated Plant Protection in Orchards”, Subgroup “Soft Fruits“, Proceedings of the Meeting at Dundee (Scotland), 18-21 September 2001. Edited by: Stuart C. Gordon & Jerry V. Cross. ISBN 92-9067-150-3 [viii + 202 pp.].
- 26(3) 2003. Working Group „Integrated Protection in Field Vegetable Crops“, Proceedings of the Meetings at Gödöllő (Hungary), 31.10. - 3.11.1999 and Krakow (Poland) 15. - 17.10.2001. Edited by: Stefan Vidal. ISBN 92-9067-151-1 [xiv + 379 pp.].
- 26(4) 2003. Study Group „Landscape management for Functional Biodiversity”, Proceedings of the 1st Meeting at Bologna (Italy), 11-14 May, 2003. Edited by: Walter A.H. Rossing, Hans-Michael Poehling & Giovanni Burgio. ISBN 92-9067-152-X [vi + 220 pp.].
- 26(5) 2003. Working Group „Pesticides and Beneficial Organisms“, Proceedings of the meeting at Avignon (France), 8-11 October, 2002. Edited by: Heidrun Vogt, Udo Heimbach & Elisa Vinuela. ISBN 92-9067-153-8 [x + 127 pp.].
- 26(6) 2003. Working Group „Integrated Control in Citrus Fruit Crops“, Proceedings of the meeting at Valencia (Spain), 6-8 November, 2002. Edited by: Ferran Garcia-Mari. ISBN 92-9067-154-6 [xii + 225 pp.].
- 26(7) 2003. Working Group „Integrated Protection of Fruit Crops”, Sub Group „Integrated Production of Stone Fruits“, Guidelines for Integrated Production of Stone Fruits. IOBC Technical Guideline III, 2nd Edition. Edited by: C. Malavolta, Jerry V. Cross, Piero Cravedi & Erich Jörg. ISBN 92-9067-155-4 [iv + 71 pp.].

- 26(8) 2003. Working Group „Integrated Protection and Production in Viticulture”,. Proceedings of a Meeting at Volos (Hellas), 18-22 March, 2003. Edited by: Carlo Lozzia. ISBN 92-9067-156-2 [xvi + 330 pp.]
- 26(9) 2003. 9th General Assembly and Scientific Meeting “Biocontrol, Strategy of the Future” at Ascona (Switzerland), 14-19 September 2001. Edited by: C. Gessler. ISBN 92-9067-157-0 [x + 147 pp.]
- 26(10) 2003. Working Group „Integrated Control in Protected Crops, Mediterranean Climate”. Proceedings of a Meeting at Agadir (Morocco), 30 November - 4 December 2003. Edited by: Cristina Castañé & Abdelhaq Hanafi. ISBN 92-9067-158-9 [vi + 192 pp.]
- 26(11) 2003. Working Group „Integrated Plant Protection in Fruit Crops”, Sub Group „Arthropod Pests”, Proceedings of a Workshop on arthropod pest problems in pome fruit production. Vienna (Austria), 10-14 March 2002. Edited by: Jerry V. Cross & M.G. Solomon. ISBN 92-9067-159-7 [x + 119 pp.].

IOBC-WPRS Bulletins, Vol. 27, 2004

- 27(1) 2004. Working Group „Multitrophic Interactions in Soil and Integrated Control”. Proceedings of a Meeting at Bad Honnef (Germany), June 1-4, 2003 combined with selected papers from the meetings “Thinking in Lines – From Research to Market Products” in Einsiedeln (Switzerland), November 2-4, 2000 and “Biological Mechanisms Affecting Nematode Management” in Reading (England), September 5-6, 2001. Edited by: Richard A. Sikora, Simon Gowen, Rüdiger Hauschild and Sebastian Kiewnick. ISBN 92-9067-162-7 [x + 302 pp.]
- 27(2) 2004. Commission on "IP Guidelines and Endorsement". Integrated Production - Principles and Technical Guidelines. 3rd edition 2004. Edited by: E.F. Boller, J. Avilla, E. Joerg, C. Malavolta, F.G. Wijnands & P. Esbjerg. ISBN 92-9067-163-5 [vi + 49 pp.].
- 27(3) 2004. Working Group “GMOs in Integrated Production”. Proceedings of the Meeting “Ecological Impact of Genetically Modified Organisms” at Prague (Czech Republic), 26-29 November 2003. Edited by: Jörg Romeis & Franz Bigler. ISBN 92-9067-164-3 [xv + 215 pp.].
- 27(4) 2004. Working Group “Integrated Plant Protection in Fruit Crops” Subgroup “Soft Fruits”. Workshop on “Integrated Soft Fruit Production” at Conthey (Switzerland), 14-16 October 2003. Edited by: Ch. Linder & J. V. Cross. ISBN 92-9067-165-1 [x + 176 pp.].
- 27(5) 2004. Working Group “Integrated plant protection in stone fruit”. Proceedings of the Meeting at Opatjia (Croatia), 14-16 October 2002. Edited by: Piero Cravedi & Emanuele Mazzoni. ISBN 92-9067-167-8 [vi + 142 pp.].
- 27(6) 2004: not ready
- 27(7) 2004. Working Group “Breeding for Plant Resistance to Pests and Diseases”. Proceedings of the Meeting “Breeding for Resistance to Insects and Mites” at Rostanga (Sweden), 8-12 December 2001. Edited by: Nicholas Birch. ISBN 92-9067- [x + 58 pp.].
- 27(8) 2004. Working Groups “Biological Control of Fungal and Bacterial Plant Pathogens”, “Integrated Control in Protected Crops, Temperate Climate” and “Integrated Control in Protected Crops, Mediterranean Climate”. Proceedings of the Meeting “Management of Plant Diseases and Arthropod Pests by BCAs and Their Integration in Agricultural Systems” at S. Michele all’Adige (Trentino, Italy), 9-13 June 2004. Edited by: Yigal Elad, Ilaria Pertot and Annie Enkegaard. ISBN 92-9067-170-8 [xxiv + 429 pp.].
- 27(9) 2004. Working Group “Integrated Protection in Stored Products”. Proceedings of the Meeting at Kusadasi (Turkey), September 16-19, 2003. Edited by: Shlomo Navarro, Cornel Adler, Matthias Schöller, Mevlüt Emekçi, Ahmet Güray Ferizli, Lise Stengård Hansen. ISBN 92-9067-171-6 [xxiv + 295 pp.].

12. IOBC-GLOBAL WRITING PARTNERSHIP

In the previous newsletter we already announced the plan to develop writing partnerships. The reactions to this proposal were very positive, and several persons have told us that they are willing to assist in preparing a research paper for an international journal dealing with articles in the field of biological control. Also the first application for a writing partnership was received and resulted in a

positive decision to start the partnership. You can apply for a writing partnership if you are from a non-English speaking developing country and member of IOBC. See our website, IOBC-Global.org, for more details and an application form.

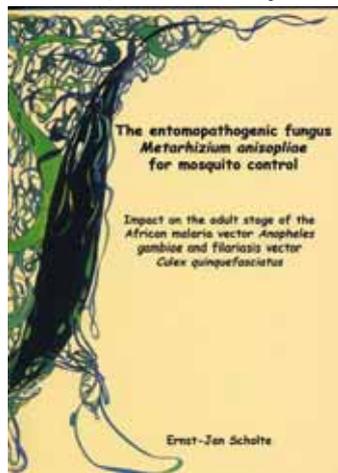
13. NEXT MEETINGS OF EXECUTIVE COMMITTEE IOBC-GLOBAL

- 3-4-5 June 2005, Kopenhagen, Denmark
- 9-10 or 17-18 October 2005, Palermo, Italy

The agenda for the meeting will be published on our website IOBC-Global.org, we appreciate any input from members!

14. SUMMARIES OF PHD THESES

The entomopathogenic fungus *Metarhizium anisopliae* for mosquito control, PhD thesis E-J. Scholte, Laboratory of Entomology, Wageningen University, The Netherlands, November 2004.



Malaria ranks among the world's most important parasitic diseases, affecting millions of people in tropical and subtropical regions. Drug resistance is of major concern to health authorities. Prevention rather than cure is therefore of utmost importance if the limited drugs available are to serve rural resource-poor communities in the years to come. To date, the vector control tools to prevent malaria are few. For Africa, the World Health Organization (WHO) has largely adopted the use of insecticide-impregnated bed nets. Notwithstanding their efficacy in preventing premature death due to malaria in children <5 yrs of age, this strategy suffers from a variety of technical and operational problems. Additional novel control methods are urgently required. This PhD research project focused on an entirely new method for adult mosquito control, based on the use of an entomopathogenic Hyphomycete. Unlike other mosquitocidal

biological control agents such as entomopathogenic bacteria, viruses, nematodes or protozoa, these fungi do not need to be ingested by the target insect for infection. Instead, physical contact of fungal conidia and the cuticle of the insect are enough: the conidium penetrates the cuticle and produces toxins which kill the mosquito within days after contamination. This characteristic forms the basis of this new vector control method, and the underlying idea is to apply conidia of this fungus in a similar way that residual insecticides are used for current vector control in Africa.

In Western Kenya, 5 different insect-pathogenic Hyphomycetes were screened on their virulence on *Anopheles gambiae*, Africa's most important malaria vector. From these, *Metarhizium anisopliae* isolate IC30 proved to be the fungus with the highest infection and pathogenicity. A standard inoculation method was developed and optimized to infect mosquitoes. A laboratory study showed that conidia, impregnated on paper and netting material, remained viable for one month. The shelf life of dry conidia and of conidia suspended in 0.05% Tween 80 was more than 6 months. In a study where the objective was to study whether the fungus could be spread through the mosquito population by means of horizontal transmission it was found that this does occur under laboratory circumstances. Apart from killing mosquitoes, it was found that infection of the fungus has an effect on blood feeding: infected females displayed reduced feeding propensity. Moreover, infected females had reduced fecundity. These findings have implications for epidemiological considerations, since reduced life-spans and reduced feeding have a considerable impact on malaria transmission. This was confirmed by the predictions of a malaria transmission model based on the findings of a field study in which this 'fungus vector control method' was tested. These results of these studies are very encouraging, and may form the basis of an entirely new, environmentally safe methodology to control malaria mosquitoes in Africa.

A pdf version of this thesis can be obtained from ErnstJan.Scholte@wur.nl

Biological control of plant bugs, *Lygus* spp., PhD thesis T. Haye, Department of Zoology, Christian-Albrechts University, Kiel, Germany



Information of the host specificity of *Lygus* parasitoids belonging to the genus *Pteristenus* is provided in this study, in an effort to assess potential risks for introducing these European parasitoids as biological control agents of native *Lygus* species in Canada. First, the distribution, seasonal abundance and synchronization of *Lygus* spp. and their associated nymphal parasitoids was studied in the field. Next, the physiological host range of the parasitoids was defined in the laboratory. The lab results were compared with the ecological host range of the parasitoids. Finally, host specificity, fecundity and cold hardiness of parasitoids was discussed in the context of biological control of *Lygus*

populations native to Canada.

The full version of this thesis can be obtained at: http://e-diss.uni-kiel.de/diss_1133

For information about the following PhD theses, see Global Newsletter 75 (pdf file on website):

Semiochemicals used by scale insects and their parasitoids: behavioral and chemical ecology investigations. PhD thesis Paolo Lo Bue, Palermo University, Italy; February 2004. *A pdf version of this thesis can be obtained from paololobue@hotmail.com*

Tailoring complexity: Multitrophic interactions in simple and diversified habitats. PhD thesis T. Bukovinszky (Hungary), Wageningen University, Laboratory of Entomology, The Netherlands; June 2004. *A pdf-version of this thesis can be obtained at: Tibor.Bukovinszky@wur.nl*

Semiochemical relationships in the tritrophic system Leguminous plants, *Nezara viridula* (L.) and *Trissolcus basalis* (Woll.). PhD thesis Alessandro Fucarino, Palermo University, Italy; February 2004. *A pdf version of this thesis can be obtained from elfucaro@hotmail.com*

Parasitoids as Biological Control Agents of Thrips Pests. PhD thesis A.J.M. Loomans (The Netherlands), Wageningen University, Laboratory of Entomology, The Netherlands; September 2003. *A pdf version of this thesis can be obtained from a.j.m.loomans@minlnv.nl*

Evaluation of *Orius* species for biological control of *Frankliniella occidentalis* (Pergande) (Thysanoptera: Thripidae). PhD thesis M.G. Tommasini (Italy), Wageningen University, Laboratory of Entomology, The Netherlands; September 2003. *A pdf version of this thesis can be obtained from tommasini@crpv.it*

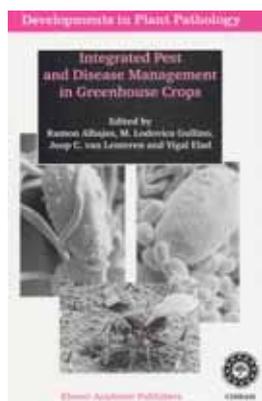
15. RECENT PUBLICATIONS AND BOOKS ON BIOLOGICAL CONTROL AND IPM

If you miss important and recent books on biological control or IPM, send us (colazza@unipa.it) a jpeg picture of the front page, a short summary and information on how and where the book can be ordered. Also, please send us pdf files or reprints of important new biocontrol publications and they will be mentioned in the next issue of our newsletter.

Papers

Parra, J.R.P.P. & R.A. Zucchi. *Trichogramma* in Brazil: feasibility and use after twenty years of research. *Neotropical Entomology* 33: 271-281. Results of *Trichogramma* studies during the past 20 years in Brazil are summarized, as well as perspectives for biological control of pests in cotton, sugarcane, stored grain, vegetables, corn, soybean and tomato.

Briese, D.T., 2004. Weed biological control : applying science to solve seemingly intractable problems. *Australian Journal of Entomology* 43 : 304-317. Australia has developed a leading centre of research on weed biological control, with over 60 weeds the targets of past and current projects and substantial contributions to control claimed in over 40% of the projects. Discusses agent exploration, agent selection, host specificity testing, release and evaluation of agents.

Integrated Pest and Disease Management and Biological control in protected cultivation

Integrated Pest and Disease Management in Greenhouse Crops. Editors: Ramon Albajes, M. Lodovica Gullino, Joop C. van Lenteren and Yigal Elad. Kluwer Academic Publishers, Dordrecht, Hardbound, ISBN 0-7923-5631-4, 568 pp.

This book is mainly directed towards postgraduate students and professionals in the field of research and implementation of integrated pest and disease management programmes in greenhouse crops. After presenting the major pests and diseases that affect greenhouse vegetable and ornamental crops, several chapters deal with the tools for designing and implementing IP&DM in protected cultivation particular emphasis on biological control. Current implementation and the future of IP&DM in the important protected crops world-wide are presented in the concluding chapters.

Protected cultivation is practised in many hundreds of thousands of hectares throughout the world under different social, economic and technical conditions. Contributions to the book reflect such a diversity of situations: from the high-technology glasshouses of northern Europe and America to the simple plastic tunnels of the Mediterranean area and temperate eastern Asia. Furthermore, the editors have entrusted each chapter to authors whose activity and perspectives could be complementary: pathologists and entomologists, from private and public sectors, and from differentiated geographical regions. Probably no book published to date has offered such a diverse yet integrated approach to pest and disease control in greenhouse crops.

The authors are specialists from universities, research institutions and companies in Europe, America, Asia, Africa and Oceania. Many IOBC/WPRS working group members have contributed to this first book combining biological and integrated control of pests and diseases.

Biological Control in Protected Culture

Biological Control in Protected Culture. Editors: Kevin M. Heinz, Roy G. Van Driesche and Michael P. Parrella. Ball Publishing, Batavia, Illinois, Hardbound, ISBN 1-883052-39-4, 552 pp. There are over 140 species of insects and mites that are considered to be pests in greenhouses. With introduction, augmentation and preservation of natural enemies as a foundational principle, other compatible techniques may be integrated to develop economic, effective and sustainable management strategies for these arthropod pests. This book gives an overview of the challenges encountered in developing practical biological control solutions to arthropod pest problems. It also provides a menu of biological control options for a diverse array of pest problems occurring on various crops.

Crop protection in biological agriculture in Italy

Dr. M. Benuzzi and Prof.dr. V. Vacante wrote a book in Italian on crop protection in biological agriculture. First, they summarize the technical methods and crop protection products available for biological production (natural enemies, microbial products, plant produced pesticides, pheromones and other chemical products). Then they describe pest and disease management methods for all major Italian crops (e.g. apples, pear, peach, grape, vegetables, olive, potatoes, strawberries). Information about this book can be obtained from M. Benuzzi (benuzzi@intrachem.it).

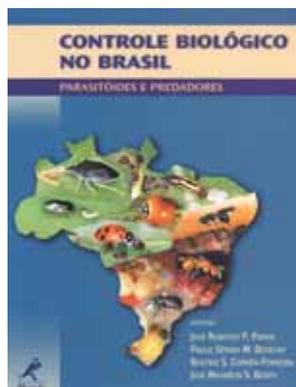
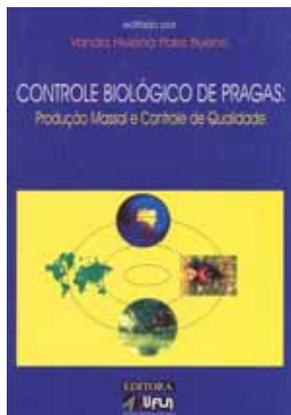
Biological control in Brazil

Recently, two books about biological control and written in Portuguese have appeared in Brazil.

One book deals mainly with Quality Control and Mass Production of Natural Enemies, but also provides information about several large biological control programmes in Brazil. Information about this book can be obtained from the editor, Prof.dr. Vanda H.P. Bueno (vhpbueno@ufla.br).

The other book is a textbook of 600 pages on biological control. It has a general introduction into biological control, information about taxonomy, various groups of natural enemies, quarantine,

mass rearing, shipment and release of natural enemies, side effects of pesticides on natural enemies, IPM, and a number of chapters illustrating important successes obtained with biological control in Brazil. Information about this book can be obtained from the senior editor, Prof. dr. J.R.P. Parra (jrpparra@esalq.usp.br).



More than biological control: IOBC Ideabook on Ecological Infrastructures



Ecological Infrastructures: Ideabook on Functional Biodiversity at the Farm Level. Boller, E., Häni, F. & Poehling, H.-M., 2004. ISBN 3-906776-07-7. 230 pp. EURO 25.-

Multifunctional agriculture, functional biodiversity, conservation biological control and ecological infrastructure are recent terms reflecting a change to a new philosophy in agricultural production. The IOBC Commission on Integrated Production Guidelines and Endorsement prepared this practical ideabook. Under the guidance of Dr. Ernst Boller, this Ideabook that contains a wealth of until now unavailable information, and may fill important gaps in common knowledge about Integrated Production. With tools like provided in this ideabook, IOBC pursues as international scientific organisation the traditional objective to make new, field-tested and sustainable knowledge available to the farmers' community. The book can be obtained via an order form at www.iobc.ch,

where also a preview of part of the book is available.

For information on the books below: see IOBC Global Newsletter 75 (pdf file on website).

Genetics, Evolution and Biological Control. L.E. Ehler, R. Sforza and T. Mateille (eds.). CABI, UK, Wallingford, UK, Hardback, 288 pp., ISBN 0 85199 735 X

Natural Enemies: An Introduction to Biological Control. Ann Hajek. Cambridge University Press, Cambridge, UK, Hardback and Paperback, 378 pp., ISBN 0 521 65295 2

Quality Control and Production of Biological Control Agents: Theory and Testing Procedures. J C van Lenteren (ed.), CABI, Wallingford, UK, Hardback, 327 pp., ISBN 0 85199 688 4

Biological Control in IPM Systems in Africa. P. Neuenschwander, C. Borgemeister and J. Langewald (eds.), CABI, Wallingford, UK, Hardback, 448 pp., ISBN 0 85199 639 6

16. REGIONAL SECTIONS OF IOBC

ASIA AND THE PACIFIC REGIONAL SECTION (APRS)

President: Dr. Eizi Yano, National Agricultural Research Center for Western Region, Fukuyama, Hiroshima, 721-8514, Japan. Email: yano@affrc.go.jp

Vice Presidents: Dr. Fang-Hao Wan, Biological Control Institute,

Chinese Academy of Agricultural Sciences, Beijing, P.R. China. Email: [wanfh@cjac.org.cn](mailto:wanf@cjac.org.cn)



Dr. Suasa-Ard, Director of the National Biological Control Research Center (NBCRC), Central Regional Center (CRC) at Kasetsart University, Nakhon Pathom, Thailand. Email: agrwis@ku.ac.th

Secretary/Treasurer: Dr. Takeshi Shimoda, Insect Biocontrol Lab., National Agricultural Research Center, 3-1-1, Kannondai, Tsukuba, Ibaraki, 305-8666 Japan. Tel:+81-29-838-8846, Fax:+81-29 838-8837. Email: oligota@affrc.go.jp

Past President: Dr. Rachel McFadyen, Australia. Email: Rachel.mcfadyen@dnr.qld.gov.au

International Symposium on Biological Control of Aphids and Coccids, Tsuruoka, Japan, September 24-28, 2005. For the full programme, see newsletter 74 or 75 on www.iobc-global.org. To receive further announcements and information regarding the symposium, please contact Dr. Hironori Yasuda (hyasuda@tds1.tr.yamagata-u.ac.jp)

AFROTROPICAL REGIONAL SECTION (ATRS)

President: Dr. James A. Ogwang, Biological Control Unit, Namulonge Agricultural Research Institute, Kampala, Uganda. Email: jamesogwang@hotmail.com

Past President: Dr. H.G. Zimmermann, Agricultural Research Council, Plant Protection Research Centre, Weeds Research Division, Pretoria, South Africa. Email: riethgz@plant2.agric.za

Vice-President: Dr. Charles O. Omwega, International Centre of Insect Physiology and Ecology, Nairobi, Kenya. Email: comwega@icipe.org

General Secretary: Dr. M.P. Hill, ARC PPRI, Private Bag X 134, Pretoria 001, South Africa. Email: riethgz@plant2.agric.za

Treasurer: Dr. J. Ambrose Agona, Post Harvest Program, Kawanda Agricultural Research Institute, Kampala, Uganda. Email: karihave@starcom.co.ug



EAST PALEARCTIC REGIONAL SECTION (EPRS)

President: vacant

Vice Presidents: Dr. S. Pruszyński, Plant Protection Institute, 60-138 Poznań, Mieczurina Str. 20, Poland. Tel:+48-61-679-222. Fax:+48-61-676-301. Email: margot@ior.poznan.pl

Dr. I. Eke, Hungary

General Secretary:

Dr. E. Sodomov, Russia



For news about this region, see newsletter 75 on www.iobc-global.org. A General Assembly of this Region will take place during the spring/summer of 2005 in Hungary.

NEARCTIC REGIONAL SECTION (NRS)

President: Robert N. Wiedenmann, Center for Economic Entomology, Illinois Natural History Survey, 607 East Peabody, Champaign IL 61820, USA. Email: r-wiede@uiuc.edu

Vice-President: Nick Mills, University of California, Berkeley, CA 94720, USA. Email: nmills@nature.berkeley.edu

Secretary-treasurer : Stefan T. Jaronski, USDA ARS NPARL, 1500 N. Central Ave., Sidney, MT 59270 USA. Email: sjaronski@sidney.ars.usda.gov

Corresponding Secretary: Susan Mahr, Dept. of Entomology, University of Wisconsin, Madison WI 53706, USA. Email: smahr@entomology.wisc.edu

Past-President: Molly S. Hunter, Department of Entomology, University of Arizona, Tucson AZ, USA. Email: mhunter@ag.arizona.edu

Members-At-Large: Jacques Brodeur, Dept de Phytologie, Université Laval, Sainte-Foy, Quebec, Canada. Email: jacques.brodeur@plg.ulaval.ca; George Heimpel, Department of Entomology, St. Paul, MN 55108, USA. Email: heimp001@tc.umn.edu; Sujaya Rao Department of Entomology, Oregon State University, Corvallis, USA. Email: sujaya@science.oregonstate.edu



The 2004 IOBC/NRS meeting was held in conjunction with the annual ESA meeting 14-17 November, 2005 in Salt Lake City, Utah.

The NRS Greenhouse Working Group will meet jointly with the WPRS IPM in Glasshouses Working Group in Turku, Finland, 10-14 April 2005 (for details see iobc-wprs.org and go to greenhouse working group).

The Biocontrol Network (a Canadian organization - Jean-Louis Schwartz, Chair, e-mail: jean-louis.schwartz@umontreal.ca) has proposed collaborating with the IOBC/NRS to host a 2005 joint conference in eastern Canada in early May 2005 that would provide an opportunity to celebrate the 50th anniversary of IOBC Global. See elsewhere in this newsletter.

NEOTROPICAL REGIONAL SECTION (NTRS)

President: Dra Orietta Fernandez-LarreaVega. Instituto de Investigaciones de Sanidd Vegetal. Calle110 #514 E/5ta E y 5ta F Playa, Ciudad La Habana, Cuba. Email: oflarrea@inisav.cu

Secretary: Dr.Luis Vazquez Moreno; same address, Cuba. Email: lvazquez@inisav.cu

Treasurer: Dra Esperanza Rijo Camacho; same address, Cuba. Email: erijo@inisav.cu



After a long period of silence, IOBC Global was recently informed that a new Executive Committee was formed. The first contacts have been made and both, IOBC-NTRS and IOBC Global will do their best to revive this once so active section with about 300 members.

WEST PALEARCTIC REGIONAL SECTION (WPRS)

President: Dr. P. Esbjerg, Zoology Section Royal Veterinary and Agricultural University, Frederiksberg, Denmark. Email: peter.esbjerg@ecol.kvl.dk

Vice Presidents: Prof. Dr. R. Albajes, Universita de Lleida, Centre UdI-IRTA, Lleida, Spain. Email: ramon.albajes@irta.es

Dr. J. Huber, Institute for Biological Control, BBA, Darmstadt, Germany. Email: j.huber@bba.de

Prof. Dr. L Tirry, University of Gent, Laboratory of Agrozoology, Department of Crop Protection, Gent, Belgium. Email: luc.tirry@ugent.be

Secretary General: Dr. C. Alabouvette. INRA, Laboratoire de recherches sur la flore pathogène du sol, 17, rue Sully BP 86510, F-21065 Dijon CEDEX, France. Email: ala@dijon.inra.fr

Treasurer: Dr. C. Gessler, Ecole Polytechnique Fédérale de Zurich, Phytomedizin-Pathologie, ETH Zentrum / LFW, Universitätstr. 2, 8092 Zurich, Switzerland. Email: cesare.gessler@ipw.agrl.ethz.ch



This Section of IOBC has always been one of the most active and has an excellent website with all information on working groups, meetings and bulletins. Please consult this website www.iobc-wprs.org for any information about IOBC-WPRS. In addition to many working group meetings which will hold this and next year (see website), WPRS will organize its General Assembly in September 2005.

17. WORKING GROUPS OF IOBC GLOBAL

WG ARTHROPOD MASS-REARING AND QUALITY CONTROL

Co-chairman: Dr. S. Grenier, UMR INRA/INSA de Lyon, Biologie Fonctionnelle, Insectes et Interactions (BF2I), INSA, Bâtiment Louis Pasteur, 20 av. A. Einstein, 69621 Villeurbanne Cedex, France. Tel: +33 (0)4 72 43 79 88. Fax: +33 (0)4 72 43 85 34. Email: sgrenier@jouy.inra.fr

Co-chairman: Dr. N.C. Leppla, University of Florida, Institute of Food and Agricultural Sciences, Department of Entomology and Nematology, Gainesville, Florida, USA. Email: ncl@gnv.ifas.ufl.edu

Co-chairman: Dr. P. De Clercq, Laboratory of Agrozoology, Department of Crop Protection, Faculty of Agricultural & Applied Biological Sciences, Ghent, Belgium. Email: Patrick.DeClercq@rug.ac.be

The organization's renewed mission is to facilitate and advance cost-effective rearing of high-quality arthropods in support of biological control and integrated pest management. Membership Application download the form in PDF or Word format from the AMRQC website: (<http://www.amrqc.org>) and send or mail it to: P. De Clercq, Laboratory of Agrozoology, Department of Crop Protection, Ghent University, Coupure Links 653, B-9000 Ghent, Belgium. Fax: +32-9-264-62-39. Email: see above.

- latest meeting: Montpellier, France, 2003
- next meeting: provisional plan October 2006, Montreal
- proceedings of AMRQC available via website

WG BIOLOGICAL CONTROL OF APHIDS AND COCCIDS

Chairman: Prof. J.-L. Hemptinne, Laboratoire d'Agroécologie, Ecole nationale de Formation agronomique, BP 87, 31326 Castanet-Tolosan, France. Email: jean-louis.hemptinne@educagri.fr

The Working Group will meet in 2005 at the University of Yamagata (Japan) from September the 25th to the 29th. Full details as well as first announcement are at the following address :

<http://www.bf.jcu.cz/tix/strita/aphidophaga/tsurprog.html>

- latest meeting: Azores, Portugal, 2002
- next meeting Japan September 2005

WG BIOLOGICAL CONTROL OF CHROMOLAENA ODORATA (SIAM WEED)

Chairman: Dr. R. Muniappan, Agricultural Experimental Station, University of Guam, Mangilao, Guam 96923 USA. Fax: +1-671-734-6842. Email: rmuni@uog9.uog.edu
<http://www.ehs.cdu.edu.au/chromolaena/siamhome.html>

The latest meeting of this working group was held in May 2003, in Cairns, Australia. The proceedings were published by the Australian Centre for International Agricultural Research (eds. M.D. Day and R. R. McFadyen) and are available as PDF file on the working groups website. Topics discussed at the meeting were the *Chromolaena* problem in Australia and East Timor; information on South African biotype of *Chromolaena*; allelochemicals; and biological control programs for *Chromolaena* in Micronesia, Papua New Guinea, Indonesia, China and South Africa. Several natural enemies have been released against this weed in various parts of the world, but releases could be made in quite a number of new countries where the weed is a problem. This weed biological control programme is being assisted by CABI, European Union, ACIAR, USDA, The Secretariat of the Pacific Community (SPC) and 7 national projects. Several recommendations were formulated to improve research on, communication about and application of biological control of this weed.

- latest meeting: 6th IOBC working group meeting Cairns, May 2003
- next WG meeting planned in 2006/2007
- Proceedings previous meetings available via website working group
- 16th *Chromolaena odorata* newsletter in preparation

WG BIOLOGICAL CONTROL OF PLUTELLA

Co-chairman: Dr. A.M. Shelton, Department of Entomology, Cornell University, New York State Agricultural Experimenta Station, 416 Barton Lab Geneva, NY 14456, USA. Tel: +1-315-787-2352. Fax: +1-315-787-2326. Email: ams5@cornell.edu

Co-chairman: Dr. A. Sivapragasam, Strategic, Environment and Natural Resources Centre, MARDI, Kuala Lumpur, Malaysia. Email: sivasam@mardi.my.

Co-chairman: Dr. D.J. Wright, Department of Biology, Imperial College at Silwood Park, Ascot, Berkshire, UK. Email: d.wright@ic.ac.uk

- See website for future activities: <http://www.nysaes.cornell.edu/ent/dbm/>

WG BIOLOGICAL CONTROL OF WATER HYACINTH

Chairman: Dr Martin Hill, Agricultural Research Council, Plant Protection Research Centre, Weeds research Division, Private bag X134, Pretoria 0001, South Africa. Tel:+27 12329-5743. Fax:+27 12329-3278. Email: rietmh@plant2.agric.za

- latest meeting: Beijing, China, 2000

WG EGG PARASITIDS

Chairman: Prof.dr. F. Bin, Department of Arboriculture and Plant Protection, University of Perugia, Borgo XX Giugno, 06121 Perugia, Italy. Tel: +39-075-585-6030. Fax: +39-075-585-6039. Email: fbin@unipg.it

Co-Chairman: Dr. E. Wajnberg, Ecologie Comportementale, I.N.R.A., Sophia Antipolis, France
Email : wajnberg@antibes.inra.fr

Co-Chairman: Dr Guy Boivin, Research Station, Agriculture Canada, St-Jean-sur-Richelieu, Québec, Canada. Email: boiving@agr.gc.ca



This working group organizes, every four years, an International Symposium on egg parasitoids for biocontrol of insect pests. The last symposium was held in Perugia, Italy, in 2002. We also organized a symposium on egg parasitoids at the 21st International Congress of Entomology on 17 August 2004 at Brisbane in Australia. Seven invited speakers presented papers on several aspects of host location and development of egg parasitoids. Another 11 scientific communications completed this symposium that ran throughout the day. A total of about 125 persons attended the various presentations.

The next International Symposium on Egg Parasitoids will be held in 2006 in Brazil, local organization: Dr J. R. P. Parra of ESALQ/USP, Department of Entomology, Plant Pathology and Agricultural Zoology, Piracicaba (jrpparra@esalq.usp.br) (*summary by van Lenteren based on material provided by Dr. Boivin*).

- latest meeting: Perugia, Italy, 2002 & Brisbane, Australie Ent Congress, 2004: active
- next WG meeting planned in 2006 in Piracicaba, Brazil

WG FRUIT FLIES OF ECONOMIC IMPORTANCE

Chairman: Dr. B.A. McPherson, Dept. Entomology, 501 ASI Bldg., Pennsylvania State University, Univ. Park, PA 16802, USA. Tel: +1-814-865-3088. Fax: +1-814-856-3048. Email: bam10@psu.edu

- latest meeting: 5th Symposium Malaysia, 1998

WG IWGO – OSTRINIA AND OTHER MAIZE PESTS (BY H. BERGER)

President: Harald K. Berger; AGES, Spargelfeldstraße 191; 1226 Wien; Austria; Tel.: # 43 /664/56-42-885. Fax: # 43/1/732-16-2106. Email: harald.berger@ages.at

Co-Convenor: Ulrich Kuhlmann; CABI-BioScience; Head Agricultural Pest Research CABI Bioscience Switzerland Centre, Delémont; Switzerland, Email: u.kuhlmann@cabi-bioscience.ch

Co-Convenor: C. Richard Edwards; Purdue University; Dep. of Entomology; Indiana; USA; Email: richedwards@entm.purdue.edu

All relevant data, reports and future meetings are published on the IWGO website:

<http://www.iwgo.org>

- annual working group meetings
- next meeting: 14-17 February 2005, Bratislava, Slovak Republic (see website)

GLOBAL WG ON TRANSGENIC ORGANISMS IN IPM AND BIOCONTROL

Chairwoman: Dr. Angelika Hilbeck, Swiss Fed. Inst. of Technology, Geobotanical Institute, Zurichbergstr. 38, CH-8044, Zurich. Tel: +41 (0) 1 632 4322. Fax:+ 41 (0) 1 632 1215. Email: angelika.hilbeck@env.ethz.ch

This Working Group just published its 9th Newsletter on the GMO Guidelines Project. For more information about this working group goto: www.gmo-guidelines.info or contact evelyn.underwood@env.ethz.ch.

- latest meeting: Vietnam 2004
- annual working group meetings, see website

18. MEETINGS ON BIOLOGICAL CONTROL AND IPM

Please consult the IOBC-WPRS website (www.iobc-wprs.org) for future meetings on biological control. The IOBC-WPRS newsletter PROFILE can also be found at this website and contains a lot of information about working group activities and meetings.

Newsletter contributions: We would like to thank all members who provided items for this edition of the IOBC Newsletter. If you have not previously sent anything, please consider doing so. Remember that this is your opportunity to let others know what is going on in biological control. Take a few minutes and email items concerning biological control to Stefano Colazza (Colazza@unipa.it), so they can be included in the next issue.

Any comments on this newsletter are welcome. Do not hesitate to contact us if there is any further information on biological control that you would like to see here.

IOBC-GLOBAL WISHES ALL MEMBERS A PRODUCTIVE 2005



Editors: Joop C. van Lenteren and Stefano Colazza, IOBC Global, December 2004