

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

# **IOBC NEWSLETTER 66**

ORGANISATION INTERNATIONALE DE LUTTE BIOLOGIQUE CONTRE LES ANIMAUX ET LES PLANTES NUISIBLES (OILB)

#### **WINTER 1997**

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

### EDITORIAL

#### lobc:

#### its role in policy development

All IOBC Regional Sections have Working Groups whose principal function is to facilitate collaboration between scientists in different countries, thereby improving the efficiency of everyone's research and the speed of scientific progress. But Working Groups have another important potential function, that of policy development and promotion.

Around the world today, a variety of international and regional institutions are seeking imparauthoritative, scientific advice on policy relating to pest management. Many are developing guidelines or protocols for governments in such areas as integrated pest management, pesticide use, biotechnology and biological control. They include institutions of the UN system such as FAO, the European Union, the Organization for Economic Cooperation and Development (OECD), the World Bank and other international lending banks. nongovernmental organizations and

regional plant protection organizations.

For these organizations, the independence and professional-ism of IoBC is attractive, as is its capacity to provide a « one-stop shop » for regional or global advice on biological control. A recent example of this policy support role is the adoption by the EU of guidelines developed by the IoBC/WPRS Working Group on Pesticides and Beneficials, which will now require that pesticides registered in EU countries be tested on selected natural enemies.

But IOBC's influence on pest management policy need not be confined to the public sector. IOBC/WPRS's Commission on Integrated Production has been working since 1991 to develop principles for integrated production (IP) in European crops which gives preference to ecologically safe methods and minimizes the undesirable side effects and use of agrochemicals. This has led to cropspecific guidelines for pome fruits, stone fruits, viticulture and arable crops. These guidelines, developed by specific President: Dr. J.K. Waage, CABI BIOSCIENCE UK Centre (Ascot), Silwood Park, Buckhurst Road, Ascot, Berkshire, SL5 7TA UK.

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Working Groups, have now attracted considerable interest from growers, both within and outside WPRS countries, who wish to use IOBC IP Guidelines as certifiable standards for their production. In this issue, we report the establishment of a new Working Group initiative to develop similar IP guidelines for banana production in IOBC/NTRS.

These examples illustrate some of the opportunities which IOBC Sections, Commissions and Working Groups have to help guide the future development of biological control and IPM in the public and private sector. Other opportunities may exist in such areas as quality control for biological control products (where IOBC Working Groups are already active), in the use of

transgenic crops for pest control and in the sharing and movement of biological control agents between countries. Please let us know if you need information for your Sections on the initiatives above, or if you would like to initiate new areas of IOBC activity towards policy development and promotion in biological control.

J.K. Waage, President IOBC Global

## BIOCONTROL

Since the last Newsletter has been distributed, a contract has been negotiated and signed with the publisher Kluwer (NL). This contract, at least for a period of 10 years, covers the publication of the new official journal of our organization « BioControl ». journal replaces This new ENTOMOPHAGA. The first issue (i.e., issue 1 of Volume 43), should appear in spring 1998. Besides the main title, the cover of the journal will also carry the subtitle « Journal of the International Organization of Biological Control ». For the first year, the cover will also carry the « Formerly notation ENTOMOPHAGA ». Under the contract, Kluwer will provide all of the technical support needed to handle manuscripts (from the reviewing up to the printing and distributing process). The process will be far more effective ultimately cost-effective and than what we have had for ENTOMOPHAGA with the French publisher Lavoisier.

In the meantime, ENTO-MOPHAGA will continue and finish its publication up to the end of the last Volume 42 (1997). The first issues (i.e., issues number 1 / 2 and 3) have already been sent out last summer and during Christmas, respectively. All subscribers should have received them. The last issue (#4) is now at the proof-reading step. It should thus be distributed soon (likely around March 1998).

As stated in the previous Newsletter, an Editor-in chief has been chosen: Dr. H. Hokkanen, Professor. Department of Applied Zoology, University of Helsinki, Finland. Dr. H. Hokkanen is currently the Head of Co-operative Research Programme on Biological Resource Management at OECD Directorate for Agriculture (Paris, France). He will be assisted by eight Associate Editors, each responsible for a subject matter specialty, as follows:

 Parasitoids: Prof. J. Brodeur, Université Laval, Quebec, Canada.
 Tel: 00.1.418 656 21.31

Tel: 00-1-418-656-21-31 ext. 2518,

Fax: 00-1-418-656-7856 e-mail:

Jaques Brodeur@plgulaval.ca.

 Predators: Dr. K.D. Sunderland, Horticulture Research International, Wellesbourne, UK.

Tel: 00-44-17-89-47-03-82 Fax: 00-44-17-89-47-05-52 e-mail:

Keith Sunderland@HRLAC.UK

- Insect pathogens: Dr. A. Hajek, Department of Entomology, Cornell University, Ithaca, New York 14853-0901, USA. Tel: 00-1-607-254-4902/4992
  - Fax: 00-1-607-255-0939
  - e-mail: aeh4@cornell.edu
- Nematodes: Dr. Ralf-Udo Ehlers, Christian-Albrechts-University of Kiel, Raisdorf, Germany.

Tel: 00-49-43-07-74-98 Fax:00-49-43-07-74-99 e-mail:

- ehlers@biotec.uni-kiel.de
- Weeds: Prof, H. Müller-Scharer, Université de Fribourg, Fribourg, Switzerland.
- Tel: 00-41-26-300-88-35
   Fax:00-41-26-300-97-40
   e-mail: heinz.mueller@unifr.ch

- Plant diseases: Prof. Dr. L. Orlikowski, Research Institute of Pomology and Floriculture, Skiernewice, Poland. Tel: 00-48-46-33-20-41
   Fax: 00-48-46-33-20-87.
- Semiochemicals: Dr. P. Witzgall, Swedish University of Agricultural Sciences, Alnarp, Sweden.

Tel: 00-46-40-41-53-07 Fax: 00-46-40-46-21-66

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Peter.Witzgall@vsv.slu.se

 Integrated control: Prof. J.M. Trumble, University of California, Riverside, CA, USA. Tel: 00-1-909-787-56-24
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 e-mail: john@ucracl.ucr.edu

This strong international team, representing major areas in biological control, was carefully selected to address the expanded scope of the journal. This team, with « BioControl », will undoubtedly bring a new dimension and visibility to global activity in biological control all over the world. The journal already has its home page on the Internet. A specific web site is indeed now available at the following address http://www.kap.nl/journalhm.ht m/1386-6141

You will find there all the information necessary for publication: aims and scope, submission information, instructions for contributors, etc.

#### E. Wajnberg

#### A letter from our President and the editor in Chief of BioControl

Dear Colleague,

We want to take a moment to welcome you personally to Bio-Control, a new journal published by the International Organization for Biological Control. BioControl is the international continuation of EN-TOMOPHAGA and publishes basic and applied research on all aspects of biological control of invertebrate. vertebrate and weed pests, and plant diseases. To expand the journal's scientific area, we have rewritten the aims and scope, and invited several highly qualified scientists to join the editorial board.

Attractive features of this new journal will be: exciting science, rapid publication, free on-line searching across all articles, no page charges, 75 free off prints, wide circulation, and inclusion in all major indexing and abstracting services.

We would welcome your contributions to its development in the form of research papers, reviews, ideas for subjects to investigate, or constructive criticism. Please send your high quality submissions to the editorial office:

Kluwer Academic Publishers Journals Editorial Office Bio-Control - P.O. Box 990 - 3300 AZ Dordrecht The Netherlands Fax: (31) (0) 78 63 92 555 For Author Instructions check the Kluwer Homepages at: http://www.wkap.nl/journals

Our aim with your support is to make BioControl the place to publish high quality research and the medium to read about the newest developments in biological control. We hope that you will choose to make Bio-Control a regular part of your research communication.

Yours sincerely,

H. Hokkanen, Editor in Chief J.K. Waage, President IOBC Global

# A NEW LOGO FOR OUR ORGANIZATION

Thanks to the work done by the Promotions and Extension



Commission of the IOBC/WPRS, our Organization has now a new logo. This logo can be

used on all printed material and electronic media. This will permit a streamlined image of IOBC Global and each of the Regional Sections and facilitate clear continuous corporate identification world-wide.

This new logo has already been adopted and is currently used for all printed material (e.g., letterheads, etc.) by the IOBC Global. Regional Sections are actively encouraged to adopt it as soon as possible. For this, an electronic version of the logo can now easily be obtained as an attached file by sending an e-

mail request to the General Secretary (see electronic address on first page). A diskette, with the logo on it, can also be sent using regular mail on simple request. Examples of letterhead presentation can also be proposed if needed.

E. Wajnberg

## REGIONAL SECTIONS

SOUTH EAST ASIAN REGIONAL SECTION (SEARS)



Share your information: Activities and events within IOBC Regional Sections do interest your colleagues outside the Sections as well. They will most probably not be informed if you do not tell them. You may share information by sending any kind of news to the Secretary General (address on first page).

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Vice Presidents: Dr. R. Wang (China) and Dr. Md.Y. Hussein (Malaysia).

Secretary/Treasurer: Dr. D. Holdom, Department of Ento-mology University of Queensland, Qld 4072, Australia. Tel 00-61-7-3896 9575 (Office) Tel 00 61-7-3896 9397 (Lab) Fax: 00-61-7-3896 9446 e-mail: d.holdom@mailbox.uq.edu.au.

Past President: R. Muniappan, Agricultural Experimental Station, University of Guam, Mangilao, Guam 96923 USA. Fax: 00-1-671-734-6842 e-mail: rmuni@uog9.uog.edu.

#### International meeting on biological control held within the IOBC/SEARS

An International Symposium on Biological Control of Insect Pests was held in Suwon, Korea, November 13-14, 1997. This meeting was organized by the Korean Society of Applied Entomology. In the meeting, 15 papers were presented by all invited speakers from six countries (number of papers from each country in parentheses), Canada (1), China (5), Korea (4), Japan (2), The Netherlands (1), Taiwan (1), and USA (1). Participants in the meeting were over one hundred, most of which were Korean.

#### Sixth Australasian Applied Entomological Research Conference « Pest Management -Future Challenges »

29 September - 2 October 1998, Brisbane, Australia.

This scientific event will be the largest applied entomological research conference in Australasia. A range of symposia and keynote speakers has been arranged that will address the major issues in the management of insect pests, stimulate discussion and set the tone for research and development in applied entomology into the future.

#### Conference Keynote Address

 « Applied Entomology: prospects, pitfalls and challenges for the next millennium ». G. Rothschild, Former Director, International Rice Research Institute.

#### Symposia

« IPM - has it delivered? ».
 Keynote address: Prof. F.
 Zalom (University of California, Usa) and P. Merriman (Ag Victoria).

- « Managing the new transgenics - just another pesticide or a revolution for IPM ». Keynote address: Prof. B. Tabashnik (University of Arizona, USA).
- « Alternative technologies other than transgenics gazing at the long sunrise ».
   Keynote address: P. Kirsch (IPM Technologies, USA).
- « Morphological and molecular systematics: complementary approaches for pest management ». Keynote address: Dr. M. Schauff (United States Dept. of Ag) and J. LaSalle CABI BIOSCIENCE UK).
- « Is classical biological control safe or much ado about nothing? ». Keynote address:
   K. Hopper (United States Department of Agriculture, USA).
- « Pest management in a global free trade village: prospects and pitfalls ».
   Keynote address: B. Ikin (Australian Quarantine and Inspection Service).
- « Predicting and managing key outbreak species - putting the cart before the horse? ». Keynote address:
   Dr. A. Drake (Australian Defence Force Academy-Physics, Canberra).

- « Pesticides/Resistance: will they have a role in the new millennium ». Keynote address: Tom Sparks (Dow Elanco, USA) and I. Denholm (Rothamstead, UK).
- « Conservation and pest management: irresolvable clash or complementary fields of research ». Keynote address: (to be arranged).
- « Education for pest management in the IT (Information Technology) age, CAL, WWW and other acronyms ». Keynote address: Prof. G. Gordh (The University of Queensland).

For details of the Conference, visit the Home Page at: http://www.ctpm.uq.edu.au/Edu cation/AppliedEnto.html.

For further information, please contact: Conference Secretariat (Sally Brown), ICTE Conferences, The University of Queensland, Brisbane Queensland Australia 4072.

Tel: 00-61-7-3365-6360 Fax: 00-61-7-3365-7099

e-mail:

sally.brown@mailbox.uq.edu.au http://www.ctpm.uq.edu.au.

### Meeting of SEARS/IOBC Working Group on IPM in Glasshouse/ Protected Crops

« Natural Enemy to Biological Control Agent: Evaluating the Process ». 25-28 January 1999, Sydney, Australia. For further information, contact: Dr. S. Goodwin, NSW Agriculture, PO Box 581, Gosford NSW 2250, Australia.

Tel: 00-61-43-481900 Fax: 00-61-43-481910

email:

goodwis@agric.nsw.gov.au.

#### Training Courses from the CRC for Tropical Pest Management

- « Biological Control of-Tropical Weeds ». 23 March
   - 3 April 1998.
- « Applied Acarology ». 13 -17 July 1998

All courses held in Brisbane, Australia, For further information, contact: CRC for Tropical Pest Management, Gehrmann Laboratories, University of Queensland 4072 Australia

Tel: 00-61-7-3365-1851

Fax:00-61-7-3365-1855

e.mail:Courses@ctpm.uq.edu.au

http://www.ctpm.uqedu.au/homepage

AFROTROPICAL REGIONAL SECTION (ATRS)



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Treasurer: Dr. A. Paraiso, B.P.

12625, Niamey, Niger Fax: 00-227-73-22-37.

IOBC membership (individual and institutional) in the African region remains very low and this is the main cause for the lack of a Newsletter and other IOBC activities within this Regional Section. Discussions with the President of IOBC Global were held recently to find means to boost the membership numbers and, in particular, to find ways to encourage institutional membership through sponsorships.

#### Activity of the Entomological Society of Southern Africa

« AFRICAN ENTOMOLOGY » is the new journal of the Entomological Society of Southern Africa and has become an important outlet for African researches to publish their results. 35 pages on biological control have appeared in the four volumes published so far. Besides this, the Entomological Society of Southern Africa and the African Association of Insect Scientists held their first joint congress in Stellenbosch (South Africa) from 30 June to 4 July 1997. Biological and integrated pest control received wide coverage and more than 51 papers and posters out of more than 200 covered these topics.

#### Workshop on IPM

An IPM Information Partnership, a working group of international organizations with an interest in fostering global IPM, will organize an IPM Communications Workshop for Eastern and Southern Africa (ICWESA), from 1 to 6 March 1998. The aim of this workshop is to strengthen links between existing IPM-relevant networking initiatives in sub-Saharan Africa and to develop plans of action and follow-up mechanisms for IPM information sharing and dissemination in the region. The venue will be in ICIPE, near Nairobi, Kenya.

H.G. Zimmermann, President IOBC/ATRS

NEARCTIC REGIONAL SECTION (NRS)



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President Elect: Dr. L. Charlet, USDA-ARS, Northern Crop Science Laboratory, Box 5677, State University Station, Fargo, ND 58105-5677, USA. e.mail:

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Past President: Dr. J. Obrycki, Department of Entomology, 10 Insectary Building, Iowa State University, Ames, IA 50011-3140, USA.

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The IOBC/NRS Governing Board Meeting was held on Sunday, Dec. 14, 1997 in Nashville, TN, USA, in conjunction with the annual meeting of the Entomological Society of America. The Annual Meeting of IOBC/NRS was held on Dec. 14th at the same location. The NRS Distinguished Achievement Award was presented to Dr. V. Stern, University of California, Riverside, USA, for his outstanding contributions to the advancement of biological control within the broader confines of the integrated control concept. The award presentation was followed by a highly successful symposium on « Educational & Outreach Needs in Biological Control » organized by Vice-President R. O'Neil. Symposium presenters were: D. Landis, Michigan State University. USA: M. Hoffman, Cornell University, USA; J.S. Yaninek, Int. Institute of Tropical Agriculture at Benin Africa, and G. Zolnerowich, Texas A&M University, USA. At the business meeting following the symposium, Dr. J.K. Waage, President Global IOBC, informed the membership of the many positive changes within our organization, particularly the new Journal BioControl, the Permanent Secretariat in Montpellier, France, and the new logo. NRS voted to adopt the logo, and will make use of it in future section business. The Corresponding Secretary reported that although 60 members favoured movement to an all-electronic version of the NRS newsletter, the move would actually cost money because we would lose the cost reduction afforded by bulk mailing (200 minimum, ca. 140 members would still receive paper copies). The Board decided to revisit this issues in future years. A decline in membership was attributed to lack of membership solicitation, interest in the section. A membership committee was appointed by President Kring to address the issue. The NRS working group on Biological Control of Weeds provided a report to the Board and developed a web site for group activities

(http://gnv.ifas.ufl.edu/~iobcwee d/). The group also developed an association with the Weed Science Society of America and will meet jointly with this group (2000) and the Entomological Society of America on alternate years. The group also sponsored an informal conference at this year's annual meeting.

T. Kring, President IOBC/NRS

#### Pink Hibiscus Mealybug

The pink hibiscus mealybug, Maconellicoccus hirsutus, has invaded the US Virgin Islands, Puerto Rico, St. Kitts, Trinidad, Tobago, Grenada and several other Caribbean islands. It feeds on about 215 genera of crops and other plants in Asia, Australia, Africa, India and Egypt, where it is native. In the Caribbean, it is attacking coffee, cotton, soybeans and other crops including fruits such as citrus. The mealybug injects toxic saliva as it feeds. This causes stunted or malformed stems and leaves and can kill the plant.

The USDA-Agricultural Research Service (ARS) is searching for parasitic wasps in the Canary Islands, India, Pakistan, Malaysia, Egypt and the Arabian Peninsula. Last summer, the Encyrtid wasp Gyranusoidea indica, native to the Middle East and India, was released on St. Kitts. Besides using traditional identification methods to confirm the insect's identity prior to release, researchers at ARS' Systematic Entomology Laboratory used a digital camera to capture images of the wasp. They sent the images via the Internet to collaborators at The Natural History Museum in London, UK. The trans-Atlantic team compared the images with specimens in collections in London and the Smithsonian's Natural History Museum in Washington, DC, USA.

L. Charlet (ARS News Service, July 10, 1997), reprinted from IOBC/NRS Newsletter #19/3

NEOTROPICAL REGIONAL SECTION (NTRS)



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Treasurer: Dr. Vanda Paes Bueno, Departemento de Fitossanidade, Escola Superior de Agricultura de Lavras, Caixa Postal 37, CEP 37200-000, Lavras, MG, Brazil.

Fax: 00-55-35-829-1100.

#### Course on rearing entomophagous insects

This course was held from 27 to 29 August 1997 in the city of Tecoman (Colima, Mexico). It was organized by the « Centro Nacional de Referencia de Control Biologico » and « Secretaria de Agricultura, Ganaderia y Desarrollo Rural, Comision de Sanidad Agropecuaria » of Mexico. Several Latin American Institutions contributed with conferences, and a total of 70 participants were present. A summary of the main topics was published. For information. contact: M.C. Hugo Cesar Arredondo Bernal, Subdirector del Centro Nacional de Referencia de Control Biologico, Km 1.5, Carretera Tecoman, Estacion del FFCC, Apdo. Postal 133. Tecoman, Colima, C.P. 28130, Mexico. Tel: 00-52-332-40745

Fax: 00-52-332-40745

#### First International Workshop on Biological Control and Integrated Pest Management on Banana

This workshop was held in Costa Rica, from 16 to 19 November 1997. It was organized by the IOBC/NTRS, the Rainforest Alliance and the Ambio 24 Foundation. conferences were presented in the area of Integrated Production, Phytopathology, Nematology, Entomology, Biotechnology Weed control. A Working Group entitled « IPM in Banana » was proposed. Dr. Panfilo Tabora was proposed as a chairman. For more information, contact: Dr. Panfilo Tabora, Prof. Tropical Crops, EARTH, Apartado 4442-1000. San José, Costa Rica. Fax: 00-506-255-2726.

#### Workshops to be organized

« Biological Control and Ecological Pest Management and Perspectives for its Development in Latin America » and « First Latin American Congress on Integrated Pest Management and Biological Control of the Neotropical Regional Section (NTRS) of the lobc » These two meetings will be held in Lima, Peru, from 18 to 22 May, 1998. They are supported by the NOVIB and Pan for the world (PPM), and are organized by the Action Network on Alternatives to the use of Pesticides (RAAA), and by the Ministry of Agriculture of Peru. Several representatives of Latin American countries will be invited. On this occasion, the new Council Members for IOBC/NTRS will be elected. Among the proposed goals of this event is the participation of more than 500 persons, including scientists, professionals, farmers, technicians, students, and company representatives. For more information, contact: Gomero, Coordinator. Luis Mariscal Miller 2622, Lince, Apartado Postal 11-0581, Lima, Peru.

Tel: 00-511-421-0826 Fax: 00-511-440-4359

e-mail:

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F. Ferrer, President IOBC/NTRS

EAST PALAEARCTIC REGIONAL SECTION (EPRS)

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140150, Russia.

Vice President: Dr. S. Pruszynski, Plant Protection Institute, 60-138 Poznan, Miczurina Str. 20, Poland.

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General Secretary: Dr. A. Orlinski, Present address: EPPO, 1, rue Lenotre, 75016 Paris, France.

WEST
PALAEARCTIC
REGIONAL
SECTION
(WPRS)



This Regional Section has now a new Council.

President: Dr. P. Esbjerg, Royal Veterinary and Agricultural University, Department of Zoology, Bulowsvej 13, 1870 Frederiksberg C., Danemark. e-mail: pter.esbjerg@eccl.kvl.dk.

Vice Presidents: Dr. J. Huber, Institute for Biological Pest Control, Heinrichstr. 243, 62287 Darmstadt, Germany. Fax:00-61-51-40-7290 e.mail:jhuber.biocontrol.bba@tonline.de, and Dr. A.M.P. Lavadinho, Instituto de Protecçao da Produção Agroalimentar, Centro Nacional de Protecção da Produção agricola, Quinta do Marquês, 2780 Oeiras, Portugal.

Tel: 00-351-01-443-05-27 Fax: 00-351-01-442-06-16.

Secretary General: Dr. C. Alabouvette. INRA, Laboratoire de recherches sur la Flore pathogène du Sol, 17, rue Sully, BP 1540, 21034 Dijon Cedex, France.

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Treasurer: Dr. C. Gessler, Ecole Polytechnique Fédérale de Zurich, Phytomedizin-Pathologie, ETH Zentrum/LFW, Universitätstr. 2, 8092 Zurich, Switzerland.

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The IOBC/WPRS had its last General Assembly in Vienna, Austria, September 30 and October 1 & 2, 1997. It was organized by Dr. H.K. Berger, and was located within the buildings of the «Bundesamt und Forschungszentrum für Landwirtschaft » (BFL). Several sessions were organized. During the first one, three scientific communications were presented:

- « Relevant biological control methods in Austria », S. Blumel (Vienna, Austria).
- « Molecular approaches in the biological control of plant diseases », F. O'Gara (Cork, Ireland)
- « Molecular approaches in the biological control of invertebrate pests » P. Abad (Antibes, France).

The text of these three talks will be published within the next IOBC/WPRS Newsletter.

The second session was devoted to the presentation of the activities of the previous council. Reports were presented by D.J. Royle (past President), S. Poitout (past General Secretary). and J. Huber (past Treasurer). The following sessions were devoted to the presentation of the activities of the different working commissions and groups of the Regional Section. The last session was used for discussing and adopting the programme of the new council that was elected during this General Assembly. A detailed summary of the different points that were discussed during this General Assembly will be pubwithin the lished IOBC/WPRS Newsletter.

At the end of the General Assembly, all the participants were invited to a reception offered by the Federal Ministry of Agriculture and Forestry, within the marvellous tropical hothouse of the Schoenbrunn palace.

In order to improve the activity of the different commissions and working groups, the new council has decided to organize a three-days meeting, next February. This meeting will clarify the goals of the different commissions and working groups, for the four coming years.

IOBC welcomes the new officers of WPRS. We hope that the new duties will give you satisfaction and success.

# WORKING GROUPS (WG)

#### WG QUALITY CONTROL OF MASS-REARED ARTHROPODS

Chairman: Dr. N.C. Leppla, University of Florida, Institute of Food and Agricultural Sciences, 2807 Binion Road, Apopka FL 32703, USA. Tel: 00-01-407-884-2034 Fax:00-01-352-392-9359 e-mail: NCL@icon.apk.ufl.edu.

Co-chairman: Dr. M. Benuzzi, INTRACHEM Italia SRL., Via XXV Aprile 44, 24050 Grassobio (Bergamo), Italy. Fax: 00-39-35-33-53-34.

As was announced in the previous Newsletter, the next International meeting will be held in Cali, Colombia, March 1-4, 1998. This will be a joint meeting with the 5<sup>th</sup> International symposium on «Egg Parasitoids» (see WG on Egg Parasitoids, below). For more information, contact: Dr. N.C. Leppla.

# WG BIOLOGICAL CONTROL of PLUTELLA

Co-chairman: Dr. A.M. Shelton, Department of Entomology, Cornell University, New York State Agricultural Experimental Station, Geneva, NY 14456, USA. Fax: 00-1-315-787-2453, e-mail: ams5@cornell.edu.

Co-chairman: Dr. A. Sivapragasam, Strategic, Environment and Natural Resources Centre, MARDI, GPO Box 12301, 50774, Kuala Lumpur, Malaysia. Fax: 00-60-3-948-7639, email: sivasam@mardi.my. Co-chairman: Dr. D.J. Wright, Department of Biology, Imperial College at Silwood Park, Ascot, Berkshire SL5 7PY, UK. Fax: 00-441-34-429-4339, e-mail d.wright@ic.ac.uk.

The WG is in the process of developing a network of contacts for people actively working on biological control of the diamondback moth (DBM). Since no such network presently exists, we asked that people on two list servers (biocontrol-1@bdt.org.br.and\_phatella@uidaho.edu) let us know about developments. In addition, we searched the Entomology Society of America's (ESA) annual meeting web site (http://www.entsoc.org/) for additional information.

From the Esa site we noted a paper by Hill & Foster (Purdue Univ., USA) in which they evaluated effects of pesticides on DBM, Plutella xylostella (Linnaeus), and on parasitism Diadegma insulare (Cresson). Insecticides applied for DBM caused variations in parasitism by D. ranging from 20-84%. DBM mortality and parasitism by D. insulare were significantly different among treatments. Permethrin applications were highly toxic to DBM and D. insulare populations. Spinosad applications also resulted in low DBM levels, however parasitism was higher than in untreated plots and over 4 times higher than permethrin-treated plots. Selective materials which conserve D. insulare and reduce DBM levels can be used which may reduce application frequency, thus prolonging field efficacy.

Two papers on entomopathogenic fungi were presented. Pell & Furlong (Rothamsted, UK) noted that combined use of entomopathogenic fungi and pheromones in autodissemination strategies provided an alternative management tool for the DBM. Male moths are attracted into traps in synthetic response to pheromone. Inside the trap, they become contaminated with a lethal dose of the pathogen before leaving the trap and dispersing to the crop. Contaminated moths vector the pathogen passively to susceptible larvae and establish new infected foci on the crop when they succumb to disease. Shelton & Vandenberg (Cornell and USDA/AR, USA) conducted studies over a three year period which indicated that commercial formulations of Beauveria bassiana can be as effective as presently available products in reducing populations on transplants in screenhouses as well as insects which occur in open fields. This fungus, primarily used for other crop/insect systems, can offer an alternative management option.

In laboratory studies, Baur et al. (Louisiana State Univ., UsA) screened steinernematid and heterorhabditid nematodes and found Steinernema carpocapsae, the most effective against 3<sup>rd</sup> instar DBM. In the field, formulated S. carpocapsae provided 41.4% control compared to 43.5% control obtained using Bacillus thuringiensis subsp. aizawai. Combined applications

of nematodes and *B. thuringien*sis, in the field, provided 58.1% control.

Additional presentations focused on Bt transgenic canola (Ramachandran, Univ. of Georgia, USA), delaying resistance to Bt by the use of refuges (Liu, Univ. of Arizona, USA) and on the genetic basis of resistance to Bt (Tabashnik, Univ. of Arizona, USA).

In response to our listserve request, Idris Bin Abd. Ghani (Univ. of Malaysia) noted he is working on a ubiquitous weed (Cleome rutidosperma) in Malaysia which could serve as an alternate host to DBM. DBM seem to spend more time on the weed as opposed to brassicas. Dr. Idris Bin Abd. Ghani is currently testing the possibility of the weed as an integrated DBM management strategy for brassicas. cultivated McCully (Pillsbury Company, USA) is working in Mexico and noted that, over the years, they have tried releases of Trichogramma and Trichogrammatoidea and Cotesia but were never able to demonstrate effectiveness of these. For that reason, the various Bt products are the mainstays of the control programme. Diadegma insulare is the most obvious beneficial.

S.D. Eigenbrode (Univ. of Idaho, USA) continues his studies on surface waxblooms on B. oleracea which have effects on the behaviour of Chrysoperla plorabunda and its effectiveness as a predator of DBM. In tests conducted by S.D. Eigenbrode & N. Kabalo, more DBM larvae were destroyed on plants without waxbloom, the least on plants with normal waxblooms and their effectiveness was intermediate on intermediate

blooms. At CATIE, Carballo is working on incorporating Bt and Beauveria bassiana into the crucifer production system in Costa Rica. Throughout the world, similar efforts are being conducted with Bt in hopes of conserving the natural enemies of DBM.

A.M. Shelton

#### WG FRUIT FLIES OF ECONOMIC IMPORTANCE

Chairman: Dr. M. Aluja, Instituto de Ecologia, A.C., Departamento de Ecologia y Comportamiento Animal, Apartado Postal 63, Xalapa, Veracruz, Mexico 91000.

Tel: 00-52-28-186000 Fax: 00-52-28-121897

e-mail:

alujam@sun.ieco.conacyt.mx.

Co-chairman: J. Piedade-Guerreiro, Div. Luta Biol., Inst. Invest. Cient. Trop., Junquiera 14, 1300 Lisboa, Portugal.

Fax: 00-351-364-20-08.

Co-chairman: B.A. McPherson, Dept. Entomology, Pennsylvania State University, Univ. Park, PA 16802, USA. Fax: 00-1-814-856-30.

#### Meetings to be organized:

« Evolution of Fruit Fly (Diptera: Tephritidae) Behavior ». Xalapa, Veracruz, Mexico, February 16-21, 1998. 27 invited speakers coming from 14 countries will discuss on recent advances on fruit fly classification, phylogeny, evolution and behaviour.

M. Aluja

#### WG ECOLOGY of APHID-OPHAGA

Chairman: Dr. D. Horn, Department of Entomology, Ohio State University, 1735 Neil Ave., Columbus OH 43210-1220, USA.

Fax: 00-1-614-292-2180.

Co-chairman; Dr. R. Chambers, Entom., AFRC Inst. Hort. Res., Worthing Road, Little-hampton, W. Sussex BN 17 6 LP, UK.

Co-chairman: Dr. I. Hodek, Inst. of Entomology, Czech Academy of Sciences, Branisovska 31, 37005, Ceské Budejovice, Czech Republic.

#### WG CHROMOLAENA ODORATA

Chairman: Dr. R. Muniappan, Agricultural Experimental Station, University of Guam, Mangilao, Guam 96923 USA. Fax: 00-1-671-734-6842, e-mail: rmuni@uog9.uog.edu.

#### WG EGG PARASITOIDS

Chairman: Dr. F. Bin, Agricultural Entomology Institute, University of Perugia, Borgo XX Giugno, 06121 Perugia, Italy. Tel: 00-39-75-585-6030, Fax: 00-39-75-585-6039, e-mail: fbin@egeo.unipg.it.

Co-Chairman: Dr. E. Wajnberg, INRA, Unité de Biologie des Populations, 37 Blvd. du Cap, 06600 Antibes, France. Tel: 00-33-04-93-67-88-92 Fax: 00-33-04-93-67-88-97 e-mail: wajnberg@artibes.inra.fr.

Co-Chairman: Dr. S.A. Hassan, Institute for Biological Pest Control, Heinrichstr. 243, 64287 Darmstadt, Germany. Tel: 00-49-6151-407223 Fax: 00-49-6151-407290 e-mail:biocontrolbba@t-online.de In order to develop the activity of this WG, I am please to announce the nomination of a new chairman: Dr. F. Bin (Perugia University, Italy). Dr. Bin is a well-known scientist who did a lot of work on several egg para-(Trichogrammatidae, sitoids Scelionidae, etc.). He is specialized in egg parasitoid systematics, behaviour and their use in biological control programmes against several pests on several crops. I am sure that inviting him to take this new responsibility will definitely promote the activities of the WG. From now on, Dr. Bin will be involved (and consulted) for any kind of decision relating to the activities of the WG, including the preparation of the scientific programme of the next International Symposium (see below), and any points concerning the activities of the WG and the way it is presented in different meetings. Please now contact him for any information you may need concerning the activity of the WG.

#### E. Wajnberg

### 5<sup>th</sup> International symposium on « Egg Parasitoids »

The symposium will be held at the «Centro Internacional de Agricultura – CIAT» in Cali, Colombia in March 4 to 7, 1998. The meeting will be held in conjunction with the WG «Quality Control of mass reared arthropods», overlapping sessions are planned for March 4, 1998. One problem faced by the WG is that traveling cost for members coming

from different parts of the world, and especially from developing countries, is high. Symposia are therefore held in different continents every four years. Colombia is one of the leading countries for the mass rearing and utilization of Trichogramma. The Symposium includes visits to Trichogramma producers. Topics of interest: (1) Biosystematics and genetics, (2) Host relation and biology, (3) Physiology and behavior, (4) Ecology and population dynamics, (5) Rearing (in vivo & in vitro). production and release, (6) Compatibility (environmental, biological, chemical), (7) Effectiveness and assessment. For any information and registration please contact Dr. S.A. Hassan.

#### Trichogramma News

Due to the recent change of the name of the WG (see previous Global Newsletter), this WG Newsletter will now be called « Egg Parasitoids News ». A « Questionnaire » asking for contributions to members is included in each issue of the Newsletter. Colleagues returning the completed Questionnaire will be listed as members. Regular items of the «Egg Parasitoids News » are: events. address list of members, abstract of current research, list of recent publications, news in 30 words. scientific problems. commercial use and natural distribution of Parasitoids. The 9th issue was sent out to the members late in 1996, Copies are still available, ask S.A. Hassan if needed. The 10th issue is under preparation, please send your contributions as soon as possible. It will include a table on the commercial use of egg

parasitoids in the different countries: treated surface area, crops, target pests and parasite species, etc.

#### S.A. Hassan

#### WG IWGO - OSTRINIA AND OTHER MAIZE PESTS

Chairman: Dr. H.K. Berger, Federal Office and Research Center for Agriculture, Institute for Phytomedicine, Spargel feldstr 191, P.O.B. 400, 1226 Vienna, Austria.

Tel: 00-43-1-288-16-2109 Fax: 00-43-1-288-16-5225 e-mail: hberger@bfl.at.

After having just a selected number of members and several « associate » and « guest members », the International Working Group on Ostrinia (IWGO) is now open to all scientists dealing with pests in maize. The European Corn Borer (Ostrinia nubilalis Hbn.) is not only the main task but also any other pests occurring in maize.

#### Meetings held within the activity of the WG

- November 1995: Meeting of the IWGO Subgroup « Diabrotica » in Goedoelloe, Hungary.
- October 1996: Meeting of the IWGO Subgroup « Diabrotica » in Zagreb, Croatia (together with FAO and EPPO).
- September 1997: XIX IWGO Meeting in Braga (Guimaraes), Portugal.
- October 1997: Meeting of the IWGO Subgroup « Diabrotica » in Goedoelloe, Hungary (together with FAO and EPPO)

#### **Publications:**

The Working Group released several publications, partly with the support of Global IOBC:

The following issues of the IWGO Newsletter (a scientific journal edited by H.K. Berger since 1981) were released: Vol. 16, number 2, October 1996, 34 pages; Vol. 17, number 1/2, October 1997, 41 pages: the next one (Vol. 18, number 1) will appear in Spring 1998.

Some abstracts and proceedings were also edited: abstracts of the XIX IWGO Meeting in Braga (Guimaraes). Portugal; abstracts of the Sub-Group Meeting « Diabrotica » in Zagreb, Croatia; abstracts of the Sub-Group Meeting « Diabrotica » in Goedoelloe, Hungary. The proceedings of the XIX IWGO Meeting in Braga (Guimaraes), Portugal is in press.

Ask Dr. H.K. Berger for copies.

# Major results, progress achieved:

The most important event in IWOO is certainly the appearance of Diabrotica virgifera virgifera in Europe. A large amount of meetings (Subgroup « Diabrotica » - Convenor Prof. R. Edwards, University of Purdue, Lafayette, Indiana, USA)

took place. A FAO research programme together with Hungary, Croatia, Bosnia & Herzegowina and Romania was established and will last until the end of 1998. The goal of this programme is a wide spread monitoring in infested (Serbia, Croatia, Bosnia & Herzegowina, Hungary, Romania & Bulgaria) and threatened countries (Austria, Slovakia, Moldavia, Ukraine & Poland) as well as different control trials in heavily infested countries. In the meantime, also Western European countries reacted on this appearance and sent participants to meetings and contributed interesting papers about the possibility of a spread out of this pest westward. Together with IIBC, biological possibilities of control will be checked and evaluated.

The next meetings of IWGO will take place in fall 1998 in Ljublana (Slovenia) (Subgroup Meeting « Diabrotica ») and in 1999 in Turkey or USA.

H.K. Berger

#### WG WATER HYACINTH

Chairman: Dr. H.G. Zimmermann, Agricultural Research Council, Plant Protection Research Centre, Weeds Research Division, Private Bag X134, Pretoria 0001, South Africa. Tel: 00-27-12329-3276

Fax: 00-27-12329-3278

e-mail: riethgz@plant2.agric.za.

The IOBC Global decided to create the Water Hyacinth WG and to choose Dr. H.G. Zimmermann as chairman (see previous Global Newsletter for more information). The first meeting on «Biological and Integrated Control of Water Hyacinth » will be held in South Africa, from 17 to 20 November 1998. Details on the event will be announced in review journals, newsletters, and on the Internet during early 1998. Contact H.G. Zimmermann for more information.

Besides this. the IDCR: Development (International Research Centre) sponsored a workshop on improving reaction to water hyacinth in affected countries across Africa and the Middle East. The workshop was held from 17 to 19 November 1997, in Nairobi, Kenya. The main objectives were to identify research and implementation strategies for improving control and to examine the possibility of establishing a water hyacinth information clearing house.

H.G. Zimmermann

## SCIENTIFIC EVENTS

« Transnational Conference on Biological, Integrated and Supervised controls ». January 21-23, 1998. Lille, France. The conference is organized on the initiative of the Research Station on Biological Control, the Plant Protection Service of Nord Pas-de-Calais Region (Loos-en-Gohelle, France) and the horticultural high school of Lomme which represents NYMPHEA (New Youth Monitoring Program in Horticulture and Environment Areas). This conference will promote idea exchanges between researches and technicians, contacts with professionals, and will also foster the training and the information diffusion to an awarded audience (elected representatives, teachers, associations). For information, contact: Secrétariat du colloque, Station d'Etudes sur la Lutte Biologique, 21, rue Becquerel, BP 47, 62750 Loosen-Gohelle, France.

Tel: 00-33-3-21-08-62-92 Fax: 00-33-3-21-43-97-72

« Jubilee 50th International Symposium on Crop Protection ». May 5, 1998. Gent, Belgium. Organized by the University of Gent, Faculty of Agricultural & Applied Biological Sciences. The Symposium will highlight the history of Crop Protection as reflected in a survey of 50 years Symposium and will be, as every year, a unique occasion for scientists from different fields to meet each other and to present and discuss new developments in the complex field of Crop Protection. Plenary sessions are planned, and a set of eight parallel sessions will be organized, including one on Biological and Integrated Control. For information, contact: Symposium Secretariat, S. Drieghe, Faculty of Agricultural & Applied Biological Sciences, University Gent, Coupure Links 653, B-9000 Gent, Belgium. Tel: 00-32-9-264-60-12 Fax: 00-32-9-264-62-49 e-mail:sabine.drieghe@nug.ac.be http://allserv.rug.ac.be/~hvanbo

« Alternative Paradigms for Commercialization of Biological Control Workshop ». May 31 - June 2, 1998. Hyatt Regency Hotel, New Brunswick, New Jersey, USA. The workshop will focus attention on creating a new mindset for developing and using biological control, and fostering closer cooperation among industry, researchers, and extension personnel interested in biocontrol.

st/symposium.

It is organized by Rutgers University Experiment Station on Policy-Biological Control Working Group (ESCOPWGBC). For information, contact: Biocontrol Workshop, Department of Entomology, JB Smith Hall, Rutgers, the State University of New Jersey, New Brunswick, NJ 08903 USA, Tely 00, 1, 732, 932, 9459

Tel: 00-1-732-932-9459 Fax: 00-1-732-932-7229 http://wwwrci.rutgers.edu/insect s/biopesticides.htm.

« 5th International Symposium on Fruit Flies of Economic Importance ». June 1-5, 1998. Penang, Malaysia. Among the topics to be discussed: Biosystematics and biodiversity, semiochemicals and behavior, molecular biology, genetics and biotechnology, natural enemies. postharvest and quarantine, control and management, ecology, biochemistry and physiology, beneficial fruit flies. Deadline for registration: March 1, 1998. For information, contact: Prof. Tan Keng Hong, School of Biological Sciences, University Sains Malaysia, 11800 Penang, Malaysia.

Tel: 00-60-4-8603961 or 00-60-4-6575076 Fax: 00-60-4-6565125 e-mail: fruitfly@usm.my http://www.bio.usm.my/bix/fruitfly/.

« 2<sup>nd</sup> International Conference on Bemisia and Geminiviral Diseases ». June 7-12, 1998. San Juan, Puerto Rico. The goal of the conference is (1) to improve scientific understanding of whitefly vectors and geminiviruses, (2) to improve scientific understanding of vectorpathogen-host plant interactions, (3) to simulate interaction between scientists, regulatory officials, industry, growers and other interested parties, (4) to share advances in whitefly and disease management strategies, (5) to support global food security and environmental protection, and (6) to discuss new emerging problems associated with Bemisia and geminiviral diseases. For information, contact: Mrs. D. Guy, Secretary-2<sup>nd</sup> Treasurer, International Workshop on Bemisia and Geminiviral Diseases, 2120 Manden Road, Orlando, FL 32803-1419, USA.

Tel: 00-1-407-897-7304 Fax: 00-1-407-987-7337 e-mail: rmayer@ix.netcom.com.

« International Conference of Integrated Pest Management (IPM) - Theory & Practice, Developing Sustainable Agriculture ». June 15-20, 1998, Guangzhou, China. This conference will be devoted to recent achievements and developments in the integrated pest management (IPM) for developing sustainable agriculture. The conference will emphasize exchange of experience in both theoretical research and technological implementation. This will be addressed within the general frame of IPM, to include noxious animals, plants, microorganisms of agriculture, horticulture forestry. For information, contact: Organizing Secretariat, Wu Xiuqiang, Guangdong Science & Technology Exchange Centre with Foreign Countries, Guangdong Science Hall, DongFeng, Middle Road, Guangzhou 510033. Dongfeng Middle Road, Guangdong Science Hall, China.

Tel: 00-86-20-83332289 Fax: 00-86-20-83349454 Scientific Secretary: Guo Mingfang, Guangdong Entomological Institute, Xingang West Road 105, Guangzhou 510260, China.

Tel: 00-86-20-84199129 Fax: 00-86-20-84191709 e-mail: gzgcii@publicl.guangzhou.gd.cn.

« 10th International Symposium on Insect-Plant Relationships ». July 4-11, 1998, Oxford, UK. Traditionally, the emphasis of the Symposium has been on mechanistic aspects of insect-plant relationships. The symposium will continue this custom but will seek to integrate mechanistic studies with the ontogeny, ecology and evolution of insect-plant associations. To encourage such integration, all sessions will include invited keynote speakers, as well as selected oral and poster presentations. For information, contact: The conference secretariat SIP 10. Oxford International, Summertown Pavilion, Middle Way, Oxford OX2 7LG, UK.

« IV Conférence Internationale Francophone d'Entomologie». July, 5-9, 1998. Saint-Malo, Bretagne, France. For information. contact: Prof. J.P. Nénon, Laboratoire d'Ecobiologie des insectes parasitoïdes, Campus de Beaulieu, Avenue du Général Leclerc, 35042 Rennes Cedex, France.

Tel: 00-02-99-28-61-58 Fax: 00-02-99-28-16-23 e-mail: entenno@univ-rennes1.fr.

« 10<sup>th</sup> International Congress of Acarology ». 5-10 July 1998, Canberra, Australia. For further information, contact: 10<sup>th</sup> Int. Cong. of Acarology, Australian Convention & Travel Services Pty Ltd., GPO Box 2200, Canberra ACT 2601, Australia.

Tel: 00-61-6-257-3299 Fax: 00-61-6-257-3256

e-mail:

acarcogy@ads.ccmail.compuserve.com

« XXV International Horticultural Congress ». 2-7 August 1998, Brussels, Belgium, Organized by the International Society for Horticultural Science (ISHS) and the Benelux. Four major themes will be treated: (1) Cultural techniques, with emphasis on environmental implications (with sub-themes: « Sustainable disease and pest control » and « Integrated and biological production methods »), (2) Quality of horticultural products, (3) computer and automation, and (4) Application of biotechnology and molecular biology. For information, contact: Mr. H. Wilcox, Secretary 25th IHC, c/o Ministry of SME and Agriculture, Bolwerklaan 21, 15th floor, B-1210 Brussels, Belgium.

Fax: 00-32-2-206-7209 e-mail: 25ihc@tornado.be.

« IV International Bioherbicide Workshop ». August 6-7, 1998. University of Strathclyde. Glasgow, Scotland, UK, Organized as a satellite meeting to the 7th International Congress of Plant Pathology in Edinburgh (9-16 August 1998, see below). The workshop will be held at the campus of the University of Strathelyde in Glasgow. For information, contact: Dr. M. Burge, Department of Bioscience & Biotechnology, University of Strathclyde, The Todd Centre, Taylor Street, Glasgow G4 ONR, UK,

Tel: 00-44-141-548-3626

Fax: 00-44-141-553-4115 e-mail: m.n.burge@strath.ac.uk.

« 7th International Congress of Plant Pathology ». August 9-16, 1998. Edinburgh, UK. The radical new programme structure has been designed to match new perception of modern plant pathology. It has just five themes: (1) understanding plantpathogen interactions, (2) population biology, ecology and epidemiology (including ecological basis of biological control), (3) plant pathology in practice (including molecular approach to biological control strategies), (4) global perspectives, and (5) new control options (including biological control, genetic manipulation and novel approaches to the use of pesticides). Deadline for registration: April 30, 1998. For information, contact: C. Goff, S. Ure, Congress Secretariat, 7th International Congress of Plant Pathology, c/o Meeting Makers Ltd, 50 George Street, Glasgow G1 IQE, Scotland, UK.

Tel: 00-44-141-553-1930 Fax: 00-44-141-552-0511 e-mail: iccp98@meetingmakers.co.uk, http://www.bspp.org.uk/icpp98.

« 6<sup>th</sup> International Mycological Congress ». August, 23-28, 1998. Jerusalem, Israel. For information, contact: Sixth International Mycological Congress, Secretariat, PO Box 50006, Tel Aviv, 61500, Israel.

« Regional Symposium for Applied Biological Control in Mediterranean Countries ». October 1998. Organized by the Center of Biological Control, Faculty of Agriculture, Cairo University, and by the Ministry of Agriculture in Egypt. For information, contact: Prof. M.F.S. Tawfik or Dr. S.A. El Arnaourty, Center of Biological Control, Faculty of Agriculture, Cairo University, Giza, Egypt. Tel: 00-20-2-5695686

Fax: 00-20-2-5695686

e-mail: lec@brainy1.ie-eg.com.

« XIV<sup>th</sup> International Plant Protection Congress ». July 25-30, 1999, Jerusalem, Israel. Plant protection towards the third millennium - Where chemistry meets ecology. The congress will be dedicated to the memory of Prof. D. Rosen. For information, contact: XIV<sup>th</sup> International Plant Protection Congress, Congress secretariat,, P.O. Box 50006, Tel Aviv 61500, Israel.

Tel: 00-972-3-514-0000 Fax: 00-972-3-514-0077 e-mail: IPPC@ Kenes.com.

« XXI International Congress of Entomology, 2000 ». Foz do Iguaçu, Brazil. For further information, contact: c/o Dr. D.L. Gazzoni, Caixa Postal 231, 86001-970 Londrina-PR, Brazil Tel: 00-55-43-3716213 Fax: 00-55-43-3716100 e-mail:gzzoni@cnpsocmbrapa.br.

« Vedalia II » meeting is being planned and will try to coincide with the Western Hemisphere Biological Control meeting. Meeting tentatively planned for 2000 in Bozeman, MT, Usa. Contact: Dr. T. Kring, President of the IOBC/NRS, for more information.

# BOOKS

« Biological Control of Forest Arthropods in the Northeastern and North Central United States: A Review and Recommendations ». Van Driesche, Healy & Reardon, 1997. This 257 page book summarizes information on 94 selected pest arthropods affecting forests in the Northeastern and North Central regions of the US. Each pest's section follows a standard set of subheadings: Origin, Range in North America, Resident Natural Enemies, Biological Control Attempts, Reasons for Pest Status and Possibilities for Biological Control, and Recommendations. Approximately 2000 references are cited. Free copies may be requested by contacting Lisa Cress at the US Forest Service, Forest Health Technology Enterprise Team, 180 Canfield St., Morgantown, West Virginia, 26505:

Tel: 00-1-304-285-1563 Fax: 00-1-304-285-1505 e-mail: lcress@mserv.fsl.wvnet.edu. « Classical Biological Control of Pest Insects of Trees in the Southern United States: Review and Recommendations », J.H. Frank & J.L. Foltz. 1997. USDA Forest Service, Forest Health Technology Enterprise Team-96-20. 78 pp. Free copies may be obtained from J.L. Foltz, Entomology & Nematology Dept., Univ. of Florida, Gainesville, FL 32611-0630, USA, or from R.C. Reardon, USDA Forest Service, 180 Canfield Street, Morgantown, WV 26505, USA.

« Complete Guide to Pest Control, With and Without Chemicals ». Dr. G.W. Ware. 3rd edition. 388 pages. This book is unique in that it gives the reader a choice whether to use pesticides or other means of pest control. It goes into the identification of the pests with illustrations, the damage caused, and their control either with or without pesticides. The book is designed to be used by

homeowners, gardeners, farmers, nurserymen, pest control operators, extension service personnel and others, as well as an introductory text for undergraduate pest control courses. US\$ 29.95. For ordering information, contact: Thomson Publications, P.O. Box 9335, Fresno, CA, USA.

Tel: 00-1-209-435-2163 Fax: 00-1-209-435-8319.

« Spanish-English / EnglishSpanish Illustrated Agriculture Dictionary ». Dr. R.P.
Price, Jr. 160 pages. This is a
hands-on book of English to
Spanish and Spanish to English
devoted strictly to agricultural
terms. Agricultural, botanical,
horticultural, livestock, equipment, tools, weeds, diseases,
insects, etc. are all listed in
both languages. US\$ 29.95. For
ordering information, contact:
Thomson Publications, P.O.
Box 9335, Fresno, CA, USA.
Tel: 00-1-209-435-2163

Tel: 00-1-209-435-2163 Fax: 00-1-209-435-8319

## MISCELLANEOUS

#### International Biocontrol Manufacturers Association (IBMA)

While commercial biological control is a growing activity worldwide, it constitutes still less than 1% of global sales of pest control products. Further, it is largely undertaken today by small, local or regional companies lacking substantial R&D. information-gathering and promotional capacity. These companies now face, along with growing markets, many new regulatory challenges. To address these problems of size and dispersion, a number of companies established in November 1995 an International Biocontrol Manufacturers Association (IBMA). Over the past two years, membership of IBMA has grown steadily. Besides being an association of member com panies, IBMA intends to offer a forum for cooperation and harmonization of views of all involved in biological control. Research organizations, private consultants, producers and even interested individuals are encouraged to join IBMA as associated members. IBMA activities are organized in four professional groups dealing with macro-organisms, microorganisms, semio-chemicals natural extracts. Major future activities of these groups will include regulatory issues, quality/standards/certification, and biocontrol promotion. If you are interested in more information about IBMA, please contact: Dr. B.J. Blum, Chairman, IBMA, 5. quai Voltaire, 5007 Paris, France.

J.K. Waage, President IOBC Global Proceedings of the «IOBC Conference dealing with Technology Transfer in Biocontrol: from Research to Practice» which was held in Montpellier in September 1996, are available at the IOBC Permanent Secretariat:

AGROPOLIS, avenue Agropolis 34384 Montpellier cedex 5 France.

Tel: 33 04 67 04 75 30 Fax: 33 04 67 04 75 99 e-mail: IOBC@agropolis.fr Price: FF 100 postal charges not included

We would like to express our grateful thanks to Ms Annette Greathead at CABI BIOSCIENCE UK Centre (Ascot) for rereading this issue.

Newsletter contributions: I would like to thank all those members who are taking time to send items for this long. Newsletter. If you have not previously sent anything, please consider doing so. Remember, this is your opportunity to let others know what is going on in biological control. Take a few minutes and mail fax or (even better) e-mail items on biological control to E. Wajnberg (address on first page), so they can be included in the next issue. Deadline for submitting items for the Summer 1998 issue of long Newsletter is 15 June 1998.

Any comments or remarks on this Newsletter are welcomed. Do not hesitate to contact me if there is some information you would like to see here on biological control.

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