



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

IOBC NEWSLETTER 70

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

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IOBC/OILB 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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IOBC EXECUTIVE MEETING

The Executive Committee of the IOBC Global had a meeting in Montpellier, France, October 21-22, 1999. It was organised within the framework of the last IOBC International Symposium

(see below). All the members of the Executive Council (or their representative) were present, along with the Permanent Secretary, Ms M. Montes de Oca. As this was announced in the

previous IOBC Global Newsletter, all the issues concerning the activities of the IOBC Global were discussed. A summary of these discussions is presented here. The detailed minutes of

this council meeting can be obtained on simple request to the IOBC Permanent Secretariat.

Global IOBC budget

The balance for 1998 is positive and is approximately reaching 102,958.72 SFR (1 USD is approx. 1.8 SFR). For 1999, the balance is also positive and is approximately reaching 113,777,61 SFR. For 1999, the total payment to Kluwer (for BioControl) is currently being made. Some incomes from Regional Sections were not received when the council meeting was organised. They are thus not taken into account here.

Permanent Secretariat

The IOBC Permanent Secretariat started its activity in summer 1997. It is hosted by Agropolis International, in Montpellier, France. Its main goal is to be the contact point for everyone in the world interested in the activity of our Organisation. Agropolis International offers each year 10,000 FF (*i.e.*, 1,900 USD) for covering the cost of producing and distributing the IOBC Global Newsletter.

Website

As stated in the previous issue of the IOBC Global Newsletter, an agreement has been signed recently with Agropolis International to host our Global IOBC Website. This Website should be ready before our next General Assembly in Brazil, summer 2000. The content of this Website has been discussed. It should include (1) a front page with appropriate logo and heading, directing readers to Regional Section Websites, (2) descriptions of each Regional Section and Global Working Groups, (3) addresses of institutional members, (4) links existing and presenting the activity of the IOBC, (5) room for Regional Sections (and

Regional Sections can set their own fees on top of this for regional activities (Working

Global Working Groups) that do not have their own Website yet, and (6) a softcopy of the IOBC Global Newsletter, with a possibility to download it.

Our relationship with Kluwer for BioControl

A meeting of the Management Board of BioControl was organised Sunday, 17 October 1999, in the IOBC Permanent Secretariat, Montpellier, France. A summary of this meeting will be given below (section dealing with our International journal BioControl).

IOBC Symposium on Evaluating Indirect Ecological Effects of Biological Control

An international IOBC symposium was recently organised in Montpellier, 17-20 October 1999. Approx. 150 participants came from 22 countries. The Symposium raised the profile of IOBC Global, and addressed well a problem of international importance in line with IOBC's mission. This was the first known international meeting where specialists on insect biocontrol and on weed biocontrol had a chance to meet, to present their results, and to develop fruitful discussions. It was agreed that IOBC Symposia in Montpellier should be continued at three-year intervals on subjects of critical importance to biological control, and aimed at attracting small, specialised and multi-disciplinary audiences, in consultation with Regional Sections. Conflict with other major biological control meetings in the same year should be avoided. A summary of this symposium is given below.

Individual members without BioControl	10 US\$
Individual members with BioControl (one copy)	100 US\$
Supporting members (including one copy of BioControl)	150 US\$
Institutional members (including one copy of BioControl)	200 US\$

Groups, etc.). Executive agreed to investigate implications of different options and to put these

IOBC Global Newsletter

The Newsletter is produced twice a year, the circulation number is about 2,000. This is the main way to provide information to all of our members (and also non-members) all over the world. The information provided within the Newsletter can be used by everyone providing that a clear acknowledgement to the IOBC is made.

Reports from Regional Sections

A report has been made for each Regional Section (RS) of our Organisation. In each case, detailed information was given on (1) general policy, (2) next RS General Assembly, (3) RS Working Groups, (4) publications (Newsletters, journals, etc.), (5) workshops, symposia, (6) number of members, and (7) budget.

Financial and Membership issues

The high cost of membership in Regional Sections that include many developing countries is preventing the growth of membership and the creation of a critical mass of regional participation in a number of Regional Sections. Council reaffirmed its views that it was important that members of IOBC pay for their membership and that participation of all scientists, including those from poor countries, needs to be encouraged. On this basis, financial options for improving membership from developing countries were discussed. Currently (*i.e.*, both for 1999 & 2000), Regional Sections have to contribute to Global according to the following table:

before Council members for their views. The result of this process would be a change in

membership arrangements to be ratified by the IOBC General Assembly in 2000.

Co-operation between Regional Sections

A recent extension of WPRS "Integrated Production" Guidelines to commercial producers in the US created an opportunity for consultation between two Regional Sections (NRS and WPRS) on activities which crossed their boundaries. This worked very well, and Council endorsed the plan that Regional Sections would consult other Regional Sections and Global before initiating any IOBC activities in the other's region. Also, a relationship is growing between WPRS and EPRS. There are some requests from EPRS members to become WPRS members and this is being accommodated in a way that benefits both sections. Finally, there is also a possibility to develop closer relationships between the NRS and the NTRS.

Name of the former SEARS

Dr. R. McFadyen and her Regional Section proposed to change the former name of the SEARS (*i.e.*, South East Asia Regional Section) into "Asia and the Pacific Regional Section", *i.e.*, APRS. The Council unanimously approved this modification. From now on, the name of this Regional Section is Asia and the Pacific Regional Section (APRS).

Duration of Executive Terms

Because of the difficulty in finding good candidates willing to serve on the IOBC Global Executive, Council approved a proposal to create an option for the President, Secretary General and Treasurer to be elected for a second term of four years. Presently, this option exists for the Secretary General. Regional Sections are invited to examine their Statutes in this regard. This will be put to the General Assembly in 2000 for ratification.

Geographical boundaries of Regional Sections

For the sake of clarification, it was confirmed that EPRS includes countries of Central Asia, which were formerly part of the USSR, that Afghanistan was part of APRS, and that States of the Arabian Peninsula were part of WPRS.

Next IOBC General Assembly: Brazil, 2000

The next IOBC General Assembly will be organised during the next International Congress of Entomology (ICE) to be held in Brazil. This will be organised the afternoon of Thursday, 24 August, from 2:00 PM onwards. This marks a return to this venue for IOBC General Assemblies and Council expressed concern that this meeting covers only a part of the IOBC members' interests and may therefore exclude participation by plant pathologists, insect pathologists, etc. It was agreed that ICE was the venue most likely to attract most of the IOBC members to a General Assembly, but that Council should actively seek other venues with which to alternate ICE in future.

Election for next Global IOBC council

The term of the current Executive Committee will end in summer 2000. It is now time to find new candidates for preparing the voting documents that should be distributed by postal ballot. According to point #7 in the by-laws of the Global IOBC, a list of candidates shall be proposed by the Council to the Executive Committee. Individual IOBC members may also promote themselves as candidates, providing that they are supported by 10 regular members. In this case, they must contact the Secretary General using regular postal mail (or fax) indicating that they are willing to stand as candidates.

The following time schedule has

been decided: (1) all candidates should be presented to the Executive by end of March 2000, (2) voting papers (list of candidates + CV, etc.) will be sent by end of April/beginning of May 2000, (3) all voting documents will be collected back no later than end of June beginning of July 2000.

Council agreed that Regional Sections will inform their members as soon as possible about the search for candidates for President, Secretary General, Vice President and Treasurer. Candidates must be fluent in English, and, particularly for the Secretary General, should be willing to invest at least 20% of his time in IOBC matters. The President, Secretary General and Treasurer should be prepared to travel to Montpellier at least one or two times a year at their own expense.

Global Working Groups

The status of the current ten Global Working Groups was reviewed and all appear to be active and dynamic. Most have set dates for future meetings and many are providing newsletters and Websites. Global Working Groups are eligible to receive 1,000-1,100 USD per year. In turn, the Global IOBC is expecting from them: (1) to maintain a directory/list of all of their members (these are not necessarily all IOBC members but Working Groups should encourage non-members to join), (2) to hold International conferences or symposia on a regular basis (and/or, if appropriate, conferences on the Internet), (3) to publish and distribute on a regular basis an internal newsletter or bulletin, (4) to develop, where appropriate, a Website and a logo, (5) to provide twice yearly information on their activity for the Global IOBC Newsletter, and (6) To distribute the Global IOBC Newsletter to all of their members.

E. Wajnberg

A meeting of the Management Board of BioControl was organised Sunday, 17 October 1999, in the IOBC Permanent Secretariat, Montpellier, France. Two Kluwer representatives were present: Dr. A. Plaizier, and Ms. R. van Leeuwen. During this meeting, the editor in chief of the journal (Dr. H.M.T. Hokkanen) gave a full report of the current status of our scientific journal. The production schedule will be on time by June 2000. Total submissions of MS to date is 205, with an even inflow (*i.e.*, 8.5 / month in 1998; 8.0 / month in 1999). Up to now, 64 papers were accepted, 77 papers were rejected (9 papers were withdrawn). The remaining MS are in process. As only 10-13 papers (depending on their length) can be published per issue per 3 months, a high rejection rate (\pm 60%) has to be maintained. There is now nearly enough publishing material available to fill next year's issues.

So far, not much balance has been reached in the number of submitted papers in the various sub-disciplines. As for the previous journal *Entomophaga*, "parasites" is still by far the dominant topic, down to 2% on semiochemicals. It will probably take several more years before this will change.

In practice, the associate editors control the scientific quality in the first place. There is a risk that they may each follow a different, personal policy because the situation in each subject area is different. Of course, the editor-in-chief is the person of primary responsibility to maintain this quality in the first place by adequate co-ordination, and he reads all accepted papers in the final stage of the reviewing process. So far, the quality remains at a high level, in part due to the high rejection rate.

The time between submission and publication of a manuscript is now approx. 18 months. This is

much too long, but is mainly due to the limited number of pages that is available for publication each year. The editor-in-chief can influence this to a certain extent by following a flexible policy with regard to the quantity of submitted publishing material and has three possibilities at his disposal, namely: (1) increasing the rejection rate (already very high), (2) regulating the maximum length of the papers (more feasible) and, (3) a (temporary) allocation of more pages per issue.

The name "Entomophaga" that is still printed on the cover of BioControl is not useful anymore and will be deleted from volume 45 (*i.e.*, next year) onwards.

A long and detailed discussion was also conducted in order to solve the problem related with the fact that an important proportion of our members are still not receiving their copies of BioControl, despite their having already paid. Part of the problem comes from IOBC. In 1999, we were not able to provide Kluwer with the list of IOBC subscribers before mid October 1999. This problem has been discussed and should now be solved rapidly: in future, lists of subscribers will be sent to Kluwer no later than end of February/beginning of March. The major part of the problem comes from Kluwer. They wish to receive simultaneously the list of IOBC subscribers and payment. This is not possible since IOBC needs invoices before it can pay. Kluwer accepted this and agreed to resolve this problem on their side. Kluwer also promised that all issues already produced will be distributed soon to our subscribers. Copies that were sent, but that were lost in the mail, will also be re-sent soon. It was also decided that all invoices will now be sent directly by Kluwer to our Global Treasurer, Dr. H.K. Berger, with copies to each Regional Section.

Neither invoices nor reminders will be sent any longer to our individual subscribers.

A letter, written by Dr. J.K. Waage (President, IOBC Global) & Dr. E. Wajnberg (Secretary General, IOBC Global) was sent to all IOBC subscribers (through their Regional Sections) to explain the situation and to restore confidence. A copy of this letter is given below:

Dear Members of IOBC and Subscribers to BioControl,

A number of you have been inconvenienced by delays in receiving issues of BioControl. We very much regret this, and we are writing now to explain why this has happened and what is being done about it.

There have been two sources of delay in distributing Volumes 43 and 44 of BioControl. One delay was due to the changeover from *Entomophaga* to BioControl, which *in the beginning* slowed the rate of submission and processing of new manuscripts. We now have a large and impressive portfolio of submitted papers and we are implementing an accelerated production schedule which will *catch up completely so issue 45(2) will appear on schedule in mid-2000*.

The other source of delay was due to administrative and distribution problems *at the IOBC as well as* at our new publisher, Kluwer. On 17 October, 1999, the BioControl Management Board met with Kluwer at the IOBC Permanent Secretariat in Montpellier and obtained from Kluwer an assurance that all outstanding copies of issues up to Volume 44(2) will be dispatched to subscribers by November 1999.

In order to monitor this process and to ensure the satisfaction of our member-subscribers worldwide, we request that *if you have*

still not received your copies up to Volume 44(2) by the end of 1999, you inform your Regional Section. They will provide this information to the IOBC Permanent Secretariat who will take up any remaining problems immediately with Kluwer.

Once more we deeply regret any inconvenience which this transition period has caused you. We hope you agree that BioControl is a high quality journal and an improvement on

Entomophaga, and we hope that we can count on your continued support to IOBC.

Yours sincerely,

Finally, We remind you that BioControl has its home page on the Internet at the following address: <http://www.wkap.nl/journal/home.htm/1386-6141>. You will find there all the information necessary for publication: aims and scope, submission information, instruc-

tions for contributors, etc. Since the subscription rate for BioControl is much lower for our members than for non-members, and this subscription rate is low compared to other journals in the same fields, we strongly recommend all of you to subscribe to the journal if you had not already decided to do so. Finally, IOBC members, and Working Group participants are strongly encouraged to submit their contributions in the form of research papers or reviews.

E. Wajnberg

IOBC INTERNATIONAL SYMPOSIUM

A very successful symposium on the indirect or non-target effects of biological control was held at Agropolis International, Montpellier, in October 1999, and attended by 154 participants from all over the world. The symposium was organised by IOBC and CILBA (Complexe International de Lutte Biologique Agropolis / International Complex for Biological Control Agropolis). Participants were housed in hotels near the centre of Montpellier and taken to the modern amphitheatre complex of Agropolis International by buses each day.

On the first day, the following invited speakers gave talks on various aspects of the evaluation of indirect or non-target effects in classical and inundative biocontrol:

- Dr. J.K. Waage, Opening address: Indirect ecological effects in biological control – the challenge and the opportunity.
- Dr. D. Strong: Ecological perspectives on the promise of biological control and the need for reform.
- Dr. P. McEvoy: How reliable is host specificity as a measure of safety in weed biocontrol?
- Dr. B. Holt: Non-target effects in biological

control – community interactions and the contribution of ecological modelling.

- Dr. M. Hochberg: The (theoretical) evolution of agent-target-non-target interactions in biological control.
- Dr. M. Lonsdale & D.T. Briese: Evaluation of impact in weed biological control.
- Dr. M.S. Goettel & A.E. Hajek: Experience and evaluation of non-target effects of pathogens used for management of arthropods.
- Dr. G. Defago, B. Duffy, C. Hase, F. Mascher & Y. Moenne-Loccoz: Ecological aspects of using microorganisms to control plant diseases, and possible non-target effects.
- Dr. H.M.T. Hokkanen: Indirect effects in the biological control of arthropods with arthropods.
- Dr. P. Neuenschwander & R. Markham: Biological control in Africa and its possible effect on biodiversity.
- Dr. S. Fowler, J. Memmott, Q. Paynter, A. Sheppard and P. Syrett: The comparison of pests and natural enemies in

their areas of origin and introduction: the scope and value of extensive ecological studies in the broom biocontrol program.

- Dr. R.L. Sheley: Incorporating biological control into ecologically-based weed management.
- Dr. E. Delfosse: Expanding and documenting ecological research in classical Biological control programmes.

These were followed by 26 contributed papers and 33 posters reporting on actual examples of non-target effects and their impact. Most of the last day was taken up by a Workshop led by Dr. K. Hopper and R. Huettel, discussing the research needed to evaluate indirect impacts. Abstracts of all papers and posters are published in IOBC/WPRS Bulletin vol. 22(2) 1999, which is available from the IOBC secretariat at Montpellier.

A book will be produced from the keynote presentations. It will be entitled "Evaluating Indirect Ecological Effects of Biological Control". The chapters of this book will be the contributions of the different keynote speakers. The book will be published by the publishing company "CABI

Publishing" located in the UK. The editors of the book will be Dr. E. Wajnberg (INRA, Antibes, France), Dr. J.K. Scott (CSIRO, Montpellier) and Dr. P.C. Quimby (USDA, Montpellier). The book will be released on the market during

the year 2000 (likely in summer) at a price of about 100 USD. However, participants to the symposium were able to purchase the book in advance at a reduced price of 75 USD (including postage).

The list of the chapters with their authors will be provided within the next issue of the IOBC Newsletter.

Dr. R.E. McFadyen and E. Wajnberg

REGIONAL SECTION

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).

ASIA AND THE PACIFIC REGIONAL SECTION (APRS)



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Name Change to the Asia and the Pacific Regional Section

The name of the RS was originally South East Asian

Regional Section (SEARS). However, membership in this Region extends from India and South-East Asia to Japan, and also includes Australia, New Zealand, and the Pacific island countries. The geographical spread of the Regional Section is therefore more accurately described by "Asia and the Pacific Regional Section". The name follows the UN system of names for geographical regions, e.g., the "Economic and Social Commission for Asia and the Pacific" (ESCAP). The change of name was supported by the present Regional Executive, by the past Presidents Dr. Y. Hirose, Dr. R. Muniappan and by Dr. Napompeth, who first proposed the new name. It was also endorsed by members at the Regional meeting in Malaysia in March 1999, and approved by members in a postal vote subsequently (with only one dissenting vote). The proposed name change was then formally approved by the Global Council at the meeting in Montpellier in October (see above), and the RS is now officially called the Asia and the Pacific Regional Section (APRS).

Award for the President of the RS

The President of the APRS, Rachel McFadyen of Brisbane Australia, was awarded the Council of the Australian Weed Science Societies Medal for Leadership, in recognition of her outstanding contributions to weed management in Australia. The citation recognised her work in programmes for the biological control of harrisia cactus, rubbervine, parthenium weed

and siam weed (*Chromolaena odorata*), as well as her involvement in undergraduate and post graduate teaching in biological control of weeds at the University of Queensland and in the international course on Biological Control of Tropical Weeds. The award was announced at the 12th Australian Weeds Conference at Hobart in October 1999.

Current situation of the RS

The APRS was formed in 1977. From 1989 to 1992 the President was Dr. Y. Hirose of Kyushu University, Japan; from 1993 to 1996 the President was Dr. R. Muniappan of the University of Guam, USA; and currently the President is Dr. R. McFadyen of the Queensland Department of Natural Resources, Australia. APRS has between 100 and 150 members, of which 45 are in Japan, 35 in China, and the rest scattered across the region.

Because of problems obtaining foreign currency, some countries in the region operate through regional representatives. Members pay subscriptions in local currency to the regional representative, who then forwards the total to the Treasurer as a single amount. This system is followed in Japan and China, and may be used in other countries in the future. Currently there are few Institutional and no Supporting memberships in APRS but there is a need for government institutions and other organisations to support IOBC/APRS in this way.

The wide geographic spread of members has prevented frequent meetings. Individuals meet

during other conferences in the region, or national meetings may be held in key countries such as Japan. There is only one Working Group in the Region, on IPM in Glasshouses and Protected Crops. For further information contact Dr. S. Goodwin at :
goodwis@agric.nsw.gov.au.

New book on “Host Specificity Testing in Australasia; towards improved assays for biological control”

After the 6th Australasian Applied Entomological Research Conference held in Brisbane, Australia, in October 1998, the Cooperative Research Centre for Tropical Pest Management held a one-day Workshop entitled “Introduction of exotic biocontrol agents – recommendations on host specificity testing procedures in Australasia.” Over 60 participants, most actively involved in biological control of weeds and arthropod pests in Australia and New Zealand, attended the Workshop.

Presentations from this Workshop have now been published as a book, edited by Dr. T. Withers, L. Barton Browne, and J. Stanley. The first seven papers, by Dr. R. Hill, M.D. Day, W.A. Palmer, T.A. Heard, P.B. Edwards, D.T. Briese, and A.W. Sheppard, focus on the various methodologies used in host specificity testing of candidate agents for biological control of weeds. The following two papers, by Dr. B.I.P. Barratt, C.M. Ferguson, M.R. McNeill, and S.L. Goldson, and Dr. M.A. Keller, discuss methodologies used in host specificity testing of parasitoids for biological control of arthropod pests. The final chapter, by Dr. T. Withers, provides a synthesis of group discussions both before and during the Workshop, and discusses prospects for developing an integrated approach to host specificity testing to improve the accuracy of predicting field host range.

The book is a very useful

summary of current practice and theory of host testing in biological control, and will be of considerable interest to scientists, regulatory authorities, primary producers and students. It can be purchased for Aus\$30 (plus Aus\$4 for postage and packing in Australia, \$16 outside Australia). Orders should be faxed to: +61-7-3896-9672 or sent by e-mail to: Tanya.M.Brown@dnr.qld.gov.au. Payment can be made by cheque or money order or on Visa, Mastercard or Amex card.

Biological Control of tropical weeds, an international short course in Brisbane, Australia

This course will be held, 13-27 March, 2000. It is organised by CSIRO Entomology, Queensland Department of Natural Resources, and The University of Queensland. For further information contact: Short Course Coordinator, CPIT, UQ Brisbane Q 4072 Australia. Tel: + 61-7-3365-1851; Fax: + 61-7-3365-1855; e-mail: Courses@cpitt.uq.edu.au.

Dr. R.E. McFadyen, President of the IOBC/APRS

9th meeting of the group of use of biological control agents in Japan

This meeting was held in Fukuoka, Japan on 2-3 December 1999. There were 190 participants and 24 presentations of a variety of topics, such as the biological control of red tide by virus in the sea, database of biological control in Japan, and obtaining patents for biological control agents.

Dr. Y. Hirose

International workshop on bioactive chemicals in communication

This workshop was held at National Institute of Agro-Environmental Sciences, Tsukuba, Japan, 8-10 November 1999. There were 22 papers on

insect infochemicals, plant and fungus allelochemicals. Eight speakers were invited from UK, USA, Spain, Canada, and Germany. Eight papers were about fundamental or applied studies of infochemicals used by natural enemies. It has been demonstrated in studies in Japan that pheromones of lepidopteran or hemipteran insects are used by their parasitoids to locate their hosts. Field experiments to attract parasitoids were carried out with synthetic pheromones of host insects or their components. Although attraction of parasitoids was successful in some studies, enhancement of parasitization efficiency was not easy.

Iguazu, Brazil. Please forward all nominations to the acting president of the ATRS or to the Secretary General of the IOBC. It is advisable that at least the president and the secretary reside in one single country.

Dr. M. Tamor from the IITA, Benin reports that a new promising biological control agent, an eulophid (*Ceranisus femoratus*) was found in Cameroon for the biological control of the bean flower thrips (*Megalurothrips sjostedti*). It is now widely established around Yaounde in West Africa and apparent parasitism on both wild and cultivated legumes averages over 20%. Further releases are planned for Benin and Ghana. The parasitoid is now further tested and evaluated at the IITA Research Station in Benin.

The dramatic success of the weevil, *Stenopelmus rufinasus* in the biological control of the red water fern weed (*Azolla filiculoides*) in South Africa is further proof of the potential and powers of biological control. After only three years, the weed was brought under total biological control and no resurgence of the plant has been recorded. The progress with the biological control of water hyacinth on Lake Victoria is less dramatic but nevertheless most encouraging. The two weevil species, *Neochetina echhorniae*

Dr. E. Yano

**AFROTROPICAL
REGIONAL
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and *N. bruchi* have established well in all areas and are already exerting considerable pressure on water hyacinth populations causing them to sink which results in the break-up of the large mats. It is of absolute importance that the dynamics of this weevil/water hyacinth interaction during the following few years is properly monitored as this unique event can never be repeated.



Dr. H.G. Zimmermann, Acting President of the ATRS

Vice-President: Dr. Ouyagode-Bakary, DPR, MESRS, B.P. V151, Abidjan, Ivory Coast.

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Nominations for the new president, secretary and treasurer of the ATRS are invited for election at the forthcoming IOBC General Assembly scheduled for August 2000 during the forthcoming XXI International Entomological Congress, Foz de

**NEARCTIC
REGIONAL
SECTION
(NRS)**

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The IOBC/NRS Annual meeting and symposium was held at the National Meeting of the Entomological Society of America (ESA), in Atlanta, Georgia, USA, 13 December, 1999. The NRS Distinguished Scientist Award was presented to Dr. J. Maddox, retired insect pathologist from the Illinois Natural History Survey.

At the ESA Meeting, IOBC/NRS sponsored an informal conference, entitled "Coherence in Complexity: Beyond Pairwise Interactions in Biological Control". Papers included:

- "The combinatorial ecology of biological weed control", Dr. P. McEvoy, Oregon State University, USA.
- "Selective attraction of parasitoids by herbivore-infested plants", Dr. C.M. de Moraes, USDA-ARS.
- "When augmentative and conservation biological control meet multiple predator interactions and their influence on spider mite biological control", Dr. R.G. Colfer, University of California-Davis, USA.
- "Ecological factors affecting the interactions between introduced opiine braconids and their tephritid hosts", Dr. J.J. Duan, University of Hawaii, USA.
- "Vegetation complexity and high-order interactions among predators: implications for biological control". Dr. R.F. Denno, University of Maryland, USA.

Two US regional biological control committees, NCR-125 and W-185, held a joint meeting in Albuquerque, New Mexico, USA, October 25-26, 1999. In addition to discussing research and outreach interests in

common, discussions included developing collaborative research projects.

The 1999 Midwest Institute for Biological Control held its summer short course entitled, "Importation Biological Control of Midwestern Pests" held at the USDA-ARS European Biological Control Lab (EBCL), in Montpellier, France. Fifteen students from the US attended this week-long course. Primary instructors for 1999 were: Dr. R. O'Neil, Purdue University, USA; Dr. J. Obrycki, Iowa State University, USA; and Dr. R. Wiedenmann, Illinois Natural History Survey, USA. In addition, lectures and field site visits were provided by EBCL staff: Dr. A. Kirk, K. Hoelmer, D. Coutinot, F. Herard, and R. Sobhian; Dr. J. Scott from CSIRO, and Dr. M. LeCoq from CIRAD. The class also visited Dr. E. Wajnberg and A. Ferran at the INRA Laboratory at Antibes.

The 2000 Midwest Institute for Biological Control will be held on the campus of the University of Illinois, USA, in July, 2000. The topic will be "Insect Pathogens". Contact Dr. L. Solter, Illinois Natural History Survey, 607 E. Peabody, Champaign, IL, 61820, USA. E-mail: l-solter@uiuc.edu.

Dr. R. Wiedenmann, Secretary-Treasurer of the IOBC/NRS

ROBO database now online



The ROBO database (Releases of Beneficial Organisms in the United States and Territories) documents the importation, field release and recolonization of exotic natural enemies (both invertebrate and microbial) of invertebrate pests and weeds in the U.S. and territories, and the shipment of such organisms to foreign countries. To date, ROBO contains records only for the years 1981-1985, a total of more than 19,700 records. The database has now been moved

from its origin on a Wang computer system to operate on the Unix Sun computer of the USDA's Germplasm Resources Information Network (GRIN), through which it is now searchable via the Web. It is still very much in the developmental stage, and there are many corrections to data and refinements of search capabilities to be made. Also, an online system for use by USDA and cooperating biological control facilities for remote data entry of current shipment and release data is being developed. This will permit the Biological Control Documentation Center (BCDC) to begin to "catch up" by entering data in its files from 1986 to the present. The data entry systems have been developed with the help of scientists from several selected U.S. biological control facilities (entomological and microbial). Though the data entry systems are quite detailed, it is not intended that all items need be completed. The URL for ROBO is www.ars-grin.gov/nigrp/robo.html. The BCDC would appreciate notification of inaccurate data found in ROBO, suggestions for improvement of the search capabilities or data entry systems, or any other comments.

Reprint from IOBC/NRS Newsletter # 21/3

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The last IOBC/NTRS Newsletter was released last summer. It contains 20 Spanish-written pages of news and announcements dealing with all aspects of biological control in the RS. Among other things, the reader will find relevant information concerning: (1) laws for importing and releasing biocontrol agents in Mexico, (2) Several case studies of biological control programmes in Mexico and Bolivia, (3) Announcements of more than 20 national and international congresses, symposia and courses on different aspects of biological control, and (4) the different activities of the RS and their Working Groups. For more information, contact the editor of this Newsletter: Dr. C.H. Arredondo Bernal, Secretary of the RS.

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International Conference on Integrated Stored Product Protection at the BBA Berlin

From August 22-24, 1999, the RS Working Group "Integrated Protection of Stored Products" met at the Federal Biological Research Centre for Agriculture and Forestry (BBA) in Berlin (Dahlem), Germany. This meeting attracted scientists from 16 countries of which quite a number were from countries outside the WPRS like Turkey, Bangladesh, Ghana, Ethiopia, Cameroon, Sri Lanka and Brazil. This is the result of the intensive international exchange of the "Institute for Stored Product Protection" that has hosted for many years students and scholars for periods of a few months to several years. Dr. C. Adler is deputy director of this institute and convenor of the working group.

Compared to the last meeting that was held in Zurich,

Switzerland, in August 1997, the number of participants nearly doubled from 36 to 64. Most of the participants were scientists from governmental or international institutes, universities, or organisations for technical cooperation, a number also work for private industry.

A total of 36 oral presentations were given on topics like (1) traditional stored product protection in various tropical

countries, (2) the biology of pest organisms, (3) biological control techniques, and (4) the use of phytochemicals and traps as well as physical and other control methods. Costs and the feasibility of certain methods in comparison to conventional pest control were discussed. Of course, the feasibility of a technique depends also on the question whether this method is used in a food producing plant in

an industrialised country, or by a subsistence farmer who has little other choice than the use of local plants and traditional techniques. The next meeting should take place in 2001 in Portugal which will mean a welcome trip for Northern Europeans and less travel costs for Mediterranean colleagues.

From Dr. C. Adler, convenor

WORKING GROUPS (WG)

WG ARTHROPOD MASS REARING AND QUALITY CONTROL

Co-chairman: Dr. P. Greany, USDA-ARS, 1700 SW 23rd Dr, Gainesville, FL 32608, USA, Tel:+1-904-374-5763, e-mail pgreany@gainesville.usda.ufl.edu.

Co-chairman: Dr. S. Grenier, INSA/INRA, Biologie 406, 20 Av. A. Einstein, 69621 Villeurbanne Cedex, France, Tel: +33-04-72-43-79-88, Fax: +33-04-72-43-85-34, e-mail: sgrenier@jouy.inra.fr.

Co-chairman: Dr. D. Nordlund, USDA-ARS Biological Control and Mass

Rearing Research Unit, P.O. Box 5367, Mississippi State, Mississippi 39762, USA, Tel: +1-601-323-2230 ext. 248, Fax: +1-601-323-0478, e-mail: donn@ra.msstate.edu.

The WG on Arthropod Mass Rearing & Quality Control (AMRQC) has had a successful year and is looking forward to the New Millennium! As ever more emphasis is being placed upon the use of mass-reared insects and in augmentative biological control, the WG is gaining considerable recognition and importance. We also are developing better links with the commercial producers of insect natural

enemies in North America and Europe, as well as governmentally sponsored

arthropod rearing organizations. The following remarks address some of the WG's recent activities and highlight upcoming meetings and events affecting our field.

AMRQC Website Update

One of the means by which the WG facilitates improvements in arthropod mass rearing is through its Website, located at www.amrqc.org. This site incorporates a number of features that should be of considerable value to WG members, including (1) a searchable member database, (2) a searchable literature database for rearing-oriented publications, and (3) a section announcing meetings of interest (you are encouraged to submit information pertaining to meetings you would like to have announced on this site). The Website also will soon provide online access to all issues of FRASS and of the Proceedings of this WG and its predecessor (the WG on Quality Control of Mass-Reared Arthropods). In order to help defray the costs of hosting the Website, we have begun to accept banner ads from companies providing services to the insect rearing industry. Please contact Dr. P. Greany, a co-chairman of the WG if you would like to place a banner ad on the Website, or if you would like to make a donation. Banner ads are hosted at the cost of \$300 per year (including the cost for preparing a simple ad). We would appreciate any

suggestions you care to make on ways to improve the Website.

International Congress of Entomology (ICE) Update

It is hoped that an informal AMRQC WG meeting can be held during the next (*i.e.*, XXIth) ICE, Brazil, August 20-26, 2000. Please check the AMRQC website for the time and place for the intended meeting. Three important rearing-oriented symposia will be held:

- *"Rearing Entomophagous Insects on Artificial Diets: Laboratory Production to Field Evaluation"* (Session 8 - Entomophagous Insects and Biological Control) organised by Dr. S. Grenier, co-chairman of the WG, Dr. N. Leppla (Univ. Florida, Gainesville, FL, USA), and Dr. P. Greany, co-chairman of the WG. While all oral presentation speakers have been identified, there still is an opportunity to present a poster in conjunction with this symposium.
- *"Technology for Automation of Insect Mass Rearing for Management and Research"* organised by Dr. D. Nordlund, co-chairman of the WG, and Dr. I.P. Starchevsky, Ukraine (Session 8 - Entomophagous Insects and Biological Control).
- *"Insect Nutrition: Rearing for Research, Production and Release"* organised by Dr. T. Coudron and Dr. R. Wagner (USDA ARS, Columbia, Missouri, USA),

and Dr. F.L. Consoli, Brazil (Session 13 - Insect Physiology, Neurosciences, Immunity and Cell Biology).

Other news

- **Commercial opportunity:** The University of Florida is seeking a company to immediately produce *Steinernema scapterisci* *in vitro* for mole cricket control. A market has been established for this nematode in Florida, USA, but there is currently no source in the US. Please contact Dr. N. Leppla at ncl@gnv.ifas.ufl.edu for further information.
- **Rearing Workshop:** The Dept. of Entomology & Plant Pathology at Mississippi State University, USA, in co-operation with the USDA ARS Biological Control and Mass Rearing Research Unit, is sponsoring a 5-day Workshop for Insectary Managers and Insect Rearing Specialists, to be held during the Fall of 2000. For further information, contact bperrigin@entomology.mssstate.edu or visit their Website at: www.msstate.edu/entomology/rearingwksp.html.
- WG Member database corrections needed: We believe that the AMRQC WG mailing list contains numerous errors, and we would appreciate your e-mailing Dr. P. Greany with your correct mailing address, phone and fax numbers, and e-mail address so that we can update our membership database.

Dr. P. Greany, S. Grenier, D. Nordlund, co-Chairmen of the WG; and Dr. Norman Leppla, Advisor

WG BIOLOGICAL CONTROL of *PLUTELLA*

Co-chairman: Dr. A.M. Shelton, Department of

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Co-chairman: Dr. A. Sivapragasam, Strategic, Environment and Natural Resources Centre, MARDI, GPO Box 12301, 50774, Kuala Lumpur, Malaysia.

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Co-chairman: Dr. D.J. Wright, Department of Biology, Imperial College at Silwood Park, Ascot, Berkshire SL5 7PY, UK. Fax: + 441-34-429-4339, e-mail d.wright@ic.ac.uk.

To enhance communication within the WG, Dr. A.M. Shelton, at Cornell University (see address above) is currently creating a Website on Diamondback Moth (DBM) which will be up by the middle of 2000. This site will list individuals working on biological control and IPM of DBM, recent articles and proposed meetings and other useful information for the working group. This site will be supported, in part, by IOBC.

WG FRUIT FLIES of ECONOMIC IMPORTANCE

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WG ECOLOGY of APHIDOPHAGA

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

Co-chairman: Pr. D. Coderre, Département des Sciences Biologiques, Université du Québec à Montréal, CP 8888, Succursale du Centre ville,

Montréal, Québec, Canada H3C 3P8. E-mail: coderre.daniel@uqam.ca.

A new executive committee of the WG has been recently elected because of P. Wellings and D. Horn's resignation. P. Wellings was co-chairman and resigned because he is now holding functions at CSIRO which are not connected any more to the ecology of Aphidophaga. He sat on the committee from 1993 when he was elected at the end of the conference held at La-Colle-sur-Loup (France). His clear ideas have always been of great value. Dr. D. Horn was chairman of the Working Group since 1993. Following new orientations of his scientific works he has decided to let the chairmanship to colleagues fully centred on the ecology of Aphidophaga. The new committee would like to thank them for their contributions to the WG. As a consequence, Dr. J.-L. Hemptinne and D. Coderre were elected in September 1999, at the end of the conference in Bromont (Québec, Canada).

The main activity of the WG is the organisation of an international conference every three years. The last venue took place in Bromont as you will read below. The next venue will be in September 2002 at the University of the Azores, at Ponta Delgada. At the moment, the local team in charge of the organisation is composed of Pr. V. Garcia, Dr. J. Tavares and Dr. A.O. Soares. The main issues of the conference will be presented on a Website in early 2000. All the explanations on how to connect to the Website will be made available in the next issue of the IOBC Global Newsletter.

The new committee is planning to maintain several activities between two successive international conferences, such as discussion workshops on the Internet to prepare sessions for the next conferences with the help of leading scientists. Once again, all the details will be

presented in the next issue of the IOBC Global Newsletter.

Last but not least, the committee is considering the idea that it could extend its work to the ecology of coccid natural enemies. In many respects, biological control against coccids has been more successful than against aphids. Wouldn't it be useful to invite experts of natural enemies of aphids and coccids at our conferences to improve our understanding by comparing both kinds of natural enemies? We are looking forward to hearing and reading comments on this question from the readers of this Newsletter.

J.-L. Hemptinne, chairman of the WG

The 7th International meeting of Aphidophaga was held at Bromont, Canada, from the 31st of August to the 4th of September 1999. It was the first time that the meeting occurred outside of Europe. The meeting was organised by Pr. D. Coderre from Université du Québec à Montréal. Over 110 entomologists specialised in the understanding and utilisation of aphid predators and parasitoids participated in the meeting. Two symposia were held, one in honour of Pr. M. Mackauer on the functional ecology of aphid parasitoids, and a second on the ecology of aphid predators. Eight invited conferences, 39 oral communications and 25 scientific posters were presented. During this meeting we honoured four colleagues, Dr. A.F.G. Dixon, Dr. I. Hodek, Dr. M. Mackauer and Dr. G. Iperti, who had a tremendous input to our group and have retired or will retire in the near future. The group gratefully acknowledges the financial support of Université du Québec à Montréal and IOBC, and the efforts of a dedicated group of people who contributed to what was a very successful and stimulating scientific meeting. The proceedings of Aphidophaga VII will be published

as a special issue of the European Journal of Entomology, under the editorship of Dr. C. Vincent, D. Coderre and I. Hodek and the proceedings of the symposium on the functional ecology of aphid parasitoids as a special issue of Entomologia Experimentalis et Applicata under the editorship of J. Brodeur and W. Völkl.

D. Coderre, co-chairman of the WG

WG CHROMOLAENA ODORATA

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

The Global Working Group on the weed *Chromolaena odorata* operates chiefly in the APRS region. There have been 4 International Workshops on the Biological Control and Management of *Chromolaena odorata*, in Thailand, Indonesia, Ivory Coast, and India respectively, and the next will be held in Durban, South Africa, from 23-25 October 2000. The purpose of this workshop is to facilitate the dissemination of information on the management and control of *Chromolaena*, to identify areas in which new research is needed, and to foster global co-operation on managing and controlling this plant. For more information, contact: L. Strathie-Korrübel, ARC-PPRI, Private Bag X6006, Hilton, 3245 South Africa. Tel: +27-331-355-9419/3; Fax: +27-331-355-9423; e-mail: ntlws@natal1.agric.za. Or visit the *Chromolaena* Website: www.ctpm.uq.edu.au/chromolaena/siamhome.html. *Chromolaena odorata* Newsletter #13 is now available for distribution. For information, contact Dr. R. Muniappan, chairman of the WG.

WG EGG PARASITIDS

Chairman: Dr. F. Bin, Agricultural Entomology Institute, University of Perugia, Borgo XX Giugno, 06121 Perugia, Italy. Tel: +39-075-585-6030, Fax: +39-075-585-6039, e-mail: fbin@unipg.it.

Co-Chairman: Dr. E. Wajnberg, INRA, Parasitoids Ecology, 37 Blvd. du Cap, 06600 Antibes, France. Tel: +33-04-93-67-88-92, Fax: +33-04-93-67-88-97, e-mail: wajnberg@antibes.inra.fr.

Co-Chairman: Dr. S.A. Hassan, Institute for Biological Pest Control, Heinrichstr. 243, 64287 Darmstadt, Germany. Tel: +49-6151-407223, Fax: +49-6151-407290, e-mail: s.hassan.biocontrol.bba@t-online.de.

Next International Symposium on "Egg Parasitoids" in 2000 in Brazil

The call for papers for the XXI International Congress of Entomology, Brazil 2000, was announced at the end of 1998 and was open until the end of 1999. The proposal submitted for a symposium of our WG (listed in Session 8: Entomophagous Insects and Biological Control) under the title "Utilisation methods of egg parasitoids" has been officially approved. While waiting for time assignment, we can start thinking how to use this opportunity for further improvements.

Dr. F. Bin, Co-chairman of the WG

WG IWGO - OSTRINIA AND OTHER MAIZE PESTS

Chairman: Dr. H.K. Berger, BFL, Spargelfeldstraße 191, 1226 Wien, Austria Tel: +43-1-732-16-2002. Fax: +43-1-732-16-2108, e-mail: hberger@bfl.at.

Co-chairman: Dr. L.C. Lewis, USDA-ARS, Corn Ins. Research Unit, Genetics Laboratory, c/o Insectary Bldg., Iowa State

University, Ames, Iowa 50011, USA.

E-mail: leslewis@iastate.edu.

Meetings, workshops

The last (*i.e.*, the XXth) meeting of IWGO took place in Adana, Turkey. The proceedings are available either at the convenor or at the local organizer: Pr. S. Kornosor, University of Çukurova, Faculty of Agriculture, Plant Prot. Department, 01330 Adana, Turkey. The VIth International Workshop on *Diabrotica virgifera* was organised in Paris, France (together with 4th FAO/TCP Meeting and 5th EPP0 ad hoc Panel). The next meetings are planned for (1) 2000 at Stuttgart (Germany), VIIth International Workshop on *Diabrotica virgifera* (together, with 6th EPP0 ad hoc Panel) and (2) 2001: Usa XXIst IWGO Meeting.

Publications

The WG released several publications, partly with the support of Global IOBC: (1) Volume XIX/1 (released in March 1999) and Volume XIX/2 (released in October 1999) of the IWGO-Newsletter, (a scientific magazine edited since 1981 by H.K. Berger, chairman of the WG), and (2) The proceedings of the XIXth IWGO Meeting (1997) in Guimarães, Portugal (341 pp). A copy of all these documents can be obtained from the chairman of the WG.

Major results, progress achieved

The most important event in IWGO is certainly the appearance of *Diabrotica virgifera virgifera* in Europe since 1992. Many meetings (Subgroup “*Diabrotica*” – Convenor Pr. R. Edwards, University of Purdue, Lafayette, Indiana, USA) took place. The FAO research program together with Hungary, Croatia, Bosnia & Herzegovina and Romania was finished by beginning 1999. Since the appearance of *Diabrotica* in Italy the European Union also

showed more interest in this problem.

In the 5th Framework Program of the European Community for Research, Technical Development and Demonstration Activities Dr. S. Vidal, (Justus Liebig – University Giessen, Germany) as Coordinator together with Dr. P. Baufeld (BBA – Berlin, Germany), Dr. S. Derridj, (INRA, Versailles, France), Dr. L. Furlan, (University of Padova, Italy), Dr. H. Hummel (Justus Liebig - University Giessen, Germany), Dr. J. Kiss (Agricultural University, Gödöllő, Hungary), Dr. U. Kuhlmann (CABI – Bioscience, Delemont, Switzerland) and the chairman of the IWGO (Dr. H.K. Berger) were successful in getting funds for a research project “The threat to maize production in the EU by the exotic corn rootworm pest *Diabrotica virgifera virgifera*: sustainable pest management approaches and ecological background”. The project will start in 2000.

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: +27-12329-3276, Fax: +27-12329-3278, e-mail: RIETHGZ@PLANT2.AGRIC.Z A.

The first global WG meeting for the biological and integrated control of water hyacinth was held in Harare, Zimbabwe from 16-19 November 1998. The meeting was attended by 47 delegates from 20 countries. The proceedings will be available in early January 2000 and are entitled “Proceedings of the First IOBC Global Working Group Meeting for the Biological and Integrated Control of Water Hyacinth”, Dr. M.P. Hill, M.H. Julien & T.D. Center (Eds.), 16-19 November 1998, Harare, Zimbabwe. 208 pp. It contains 27 refereed papers and 3

abstracts. Topics covered in the proceedings include (1) implementation and post release evaluation of natural enemies, (2) research into new natural enemies for water hyacinth and (3) the need for an integrated approach to the control of the weed. The proceedings will be available from Dr. M. Hill (Plant Protection Research Institute, Private Bag X134, Pretoria 0001, South Africa) (e-mail: rietmh@plant2.agric.za) at a cost of US\$ 15 including postage.

WG TRANSGENIC ORGANISMS IN IPM AND BIOLOGICAL CONTROL

Chairwoman: Dr. A. Hilbeck, Swiss Federal Institute of Technology, Geobotanical Institute, Zurichbergstr. 38, 8044 Zurich, Switzerland. Tel: +41-1-632-4322, Fax: +41-1-632-1215, e-mail: hilbeck@cirsiium.ethz.ch.

Since summer 1999, the WG's first newsletter is out. It provides (1) the full length founding document on scope and objectives of the WG, (2) the summaries of talks presented at the symposium on “Transgenic Plants in Agriculture: Agro-ecological Implications” at the annual meeting of the Entomological Society of America in Las Vegas, 8-12 December 1998, and (3) a section on GM crops world-wide with contributions by members from Brazil and Asia providing an update on the current status of GM plants in the respective areas of the world. Furthermore, the newsletter contains the membership directory of the WG. During the 1999 meeting of the Entomological Society of America in Atlanta, Georgia, an ad-hoc meeting of WG members attending that meeting was organised. Most important discussion point on the agenda was the proposed first international workshop that will be organised by our WG in

2000. This meeting went very well and was very constructive. The agenda of the workshop should be developed soon. However, the location of the meeting had to be changed from Zamorano, Honduras to Asia under the umbrella of the International Rice Research Institute (IRRI) in the Philippines with Dr. M. Cohen being the representative member involved in the organisation of this workshop. The date of the workshop has yet to be defined but it will take place during the second part of the year 2000. Aside of the organisation of the international workshop, we are beginning with the production of our second newsletter.

WG ON COFFEE BERRY BORER

Chairman: Dr. J.F. Barrera Gaytan, Division de Tecnología Agropecuaria, El Colegio de la Frontera Sur, Carretera Antiguo Aeropuerto, Km 2.5, Apartado Postal 36, 30700 Tapachula, Chiapas, Mexico.
Tel: +52-962-81103.
Fax: +52-962-81015. e-mail: jbarrera@tap-ecosur.edu.mx,
Website: www.tap-ecosur.edu.mx/broca.

During the meeting of the IOBC Global Executive Committee that was held 18 September 1998 at Montpellier, France, the creation of a new WG on « Coffee Berry Borer » was decided. The idea to formalise this WG came from the 2nd

Intercontinental Conference on Coffee Berry Borer, held from March 29 to April 2, 1998, in Tapachula, Chiapas, Mexico. In this meeting, 132 people participated and 66 institutions and organisations representing the following 24 countries: Brazil, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Ethiopia, France, Germany, Guatemala, Honduras, India, Ivory Coast, Jamaica, Kenya, Malaysia, Mexico, The Netherlands, Nicaragua, Philippines, Uganda, United Kingdom, and the USA. The main objective of the meeting was the exchange of experiences on research and technology transfer on the management of the coffee berry borer, *Hypothenemus hampei* (Ferrari) (Coleoptera: Scolytidae), an insect considered to be the most important pest of coffee in the world. In the first part of the meeting, 29 communications were presented, dealing with different aspects of the pest. It included (1) the status of the pest, (2) its biology and ecology, (3) new species of natural enemies, (4) ecological and decision making models, (5) mass production of its parasitoids and pathogens, (6) strategies and tactics of pest management, and (7) direct experiences with coffee growers. In the second part, six working groups were created to discuss on: (1) Nutrition, artificial diets and mass production of the borer and its natural enemies, (2) evaluation of control methods in the field, (3) analysis and

modelling systems of coffee, the borer and its natural enemies, (4) IPM: definitions and strategies, (5) the farmer: participatory research and technology transfer, and (6) information systems, co-ordination and networks. The abstract of the communications and the conclusions with recommendations of the working groups (and also several other relevant information) can be found in English and Spanish in the home page of the Working Group on Coffee Berry Borer: www.tap-ecosur.edu.mx/broca.

During the meeting, it was agreed to invite all participants to publish articles concerning the borer in a special edition of the journal of the Mexican Entomological Society, "Folia Entomologica Mexicana". Any interested party may submit a manuscript even if they did not participate in the Tapachula meeting. The manuscripts could be accepted as standard formatted papers, short communications, technical papers, and monographs or essays. Authors should follow the guidelines laid out in Folia Entomologica Mexicana, which can also be found in the WG's home page. Manuscripts should be sent to: Dr. A.A. Guerra, Subtropical Agricultural Research Center, ARS USDA, 2301 South International Blvd., Weslaco, Texas, 78596, USA. The 3rd Intercontinental Conference on Coffee Berry Borer will be held in London in the year 2000.

SCIENTIFIC EVENTS

"52nd International Symposium on Crop Protection", May 9, 2000, Gent, Belgium. This symposium will be held at the Faculty of Agricultural and Applied Biological Sciences, University of Gent. It will focus on new developments in all aspects of crop protection. The programme will include a plenary session with two invited

papers and parallel sessions with submitted papers related to the following subjects: (1) Agricultural Entomology, Nematology and Acarology, (2) Phytopathology, Phytovirology, Phytobacteriology, (3) Herbolology, (4) Biological and Integrated Control of Pests, Diseases and Weeds, (5) Pesticide Residues, Toxicology

and Ecotoxicology. For more information, contact: Pr. P. De Clercq, Faculty of Agricultural and Applied Biological Sciences, University of Gent, Coupure Links 653, 9000 Gent, Belgium.
Tel: +32-9-264-61-58,
Fax: +32-9-264-62-39, e-mail: Patrick.DeClerck@rug.ac.be,
Website:

allserv.rug.ac.be/~hvanbost/symposium.

“International Symposium on Plant Health in Urban Horticulture”. May 22-24, 2000, Braunschweig, Germany. In the next century, a large portion of the human population will live and work in urban areas. The structure and sustainable preservation and development of Urban Horticulture is an important instrument to determine air quality of urban areas and the quality of life for the inhabitants. The International Symposium will present a scientific platform to discuss and summarise the basic and applied scientific work concerning plant health in urban horticulture and its impact on the life of human beings and the environment. The symposium is organised by the Federal Biological Research Centre for Agriculture and Forestry, Institute for Plant Protection in Horticulture, and by the Plant Protection Services of Berlin, Germany. For more information, contact: Dr. G.F. Backhaus, Federal Biological Research Centre for Agriculture and Forestry, Institute for Plant Protection in Horticulture, and by the Plant Protection Services of Berlin, Germany. For more information, contact: Aphid Symposium Committee, INRA, Laboratoire de Zoologie, Domaine de la Motte, 35653 Le Rheu Cedex, France. Fax: +33-2-23-48-51-50, e-mail: aphid@rennes.inra.fr.

“4th European Workshop on Invertebrate Ecophysiology”. St. Petersburg, Russia, 9-14 September 2001. The Workshop will continue the sequence of the three previous meetings held in Paimpont, France (1992), Ceske Budejovice, Czech Republic (1995) and Birmingham, UK (1998). It will be dedicated to the memory of the late Pr. A. Danilevsky (1911-1969), the former head of the Department of Entomology, on the occasion of his 90th anniversary and of the 40th year since the appearance of his famous book “Photoperiodism and Seasonal Development of Insects” first printed in Russian in 1961. The workshop will cover all aspects

Centre for Agriculture and Forestry, Institute for Plant Protection in Horticulture, Messeweg 11/12, 38104 Braunschweig, Germany. Tel: +49-531-2994400, Fax: +49-531-2993009, e-mail: g.f.backhaus@bba.de.

“Second California Biological Control Conference”. July 11-12, 2000, Riverside California, USA. The purpose of the conference is to promote biological control and facilitate contact between biological control practitioners and researchers in California, USA. Meeting topics will include: (1) Biological Control as a Component of Integrated Pest Management Systems, (2) Ecological Benefits and Risks of Classical Biological Control, (3) Plant Biodiversity and the Enhancement of Biological Control Agents, (4) Mass Production of Natural Enemies: Taxonomy, Quality Control, Release Strategies, and Issues Relating to Genetics. For more information, contact: Dr. M.S. Hoddle, Applied Biological Control Research, Department of ecophysiology of terrestrial invertebrates (mainly arthropods), the main themes for

of Entomology, University of California, Riverside CA 92521-0314, USA. Tel: +1-909-787-4714, or +1-909-787-4360, Fax: +1-909-787-3086, e-mail: mark.hoddle@ucr.edu, Website of the conference: www.biocontrol.ucr.edu/CCBCI1.html.

“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: +55-43-3716213, Fax: +55-43-3716100, e-mail: gazzoni@cnpso.embrapa.br.

“6th International Symposium on Aphids – Aphids in a New Millennium”. Rennes, France, 3-8 September 2001. The symposium will take place at the High School of Agronomy, ENSAR, and will be organised by the research team in Aphid population biology, with staff from both INRA and ENSAR. Contributed papers will be published in a book, after referee assessment by a scientific committee. For more information, separate sessions being as follows: (1) life cycles and phenological strategies, (2) temperature requirements of development, (3) overwintering and cold hardiness, (4) water relations and respiration, and (5) impacts and responses to climate change. Other sessions will also be added to the programme if there are a substantial number of oral presentations that lie outside of the main themes. The official language of the Workshop will be English. The main form of presentation will be oral papers, but a poster session will be also arranged. The “European Journal of Entomology” is expected to continue a tradition of publishing a special issue of

papers presented at the Workshop, subject to the normal refereeing procedures of the journal. There will be a participation fee of around 100 USD to cover the costs of publicity, production of the Workshop materials including

the book of abstracts, welcome party, coffee breaks, and social programme. For more information, contact Pr. V.E. Kipyatkov, Department of Entomology, Faculty of Biology St. Petersburg, State University

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BOOKS

“**Biological Invasions of Ecosystem by Pests and Beneficial Organisms**”. Edited by Dr. E. Yano *et al.*, this book is published by National Institute of Agro-Environmental Sciences, in June 1999. It is published as proceedings of an International Workshop which was held in Tsukuba, Japan, on February 22-27, 1997 (see IOBC Global Newsletter #67). A total of 20 papers written in English is published in the book

covering 232 pages, and at least five of these papers are involved in biological control. The abbreviated titles and authors (in parentheses) of the five chapters are: (1) Invasion genetics and classical biological control (Dr. G.K. Roderick & Dr. F.G. Howarth), (2) Interactions between introduced *Encarsia formosa* and native parasitoids (Dr. H. Kajita), (3) Classical biological control of the chestnut gall wasp (Dr. M. Shiga), (4)

Exotic weeds and their biocontrol agents in U.S. aquatic ecosystems (Dr. G.R. Buckingham), and (5) Evaluation of environmental impacts of introduced natural enemies (Dr. Y. Hirose). The price of the book is 6,000 yens. It can be purchased at the National Institute of Agro-Environmental Sciences, 3-1-1, Kannondai, Tsukuba, Ibaraki, 305-8604, Japan. Free copies of the book are also available for Libraries.

Newsletter contributions: I would like to thank all those members who are taking time to send items for this 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 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 2000 issue of IOBC Newsletter is 1st June 2000.

We would like to express our grateful thanks to *Annette Greathead* at CABI BIOSCIENCE UK Centre (Ascot) for re-reading this issue.

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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Editor: *E. Wajnberg*, General Secretary of the IOBC, with assistance of *M. Montes de Oca*.

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