



In This Edition

Greetings and welcome to the first digital edition of IOBC-Global newsletter. Please excuse any teething problems, and do take a moment to report if the newsletter does not display properly on your email service/web browser.

In this edition:

- [President's Column](#)
- [Biological Control of *Oebalus insularis*](#)
- [Biological Control of Parthenium Weed](#)
- [Global Working Group Report - MRQA](#)
- [Asia Training Course Report](#)
- [News from the Regions](#)
- [Book Review](#)
- [Upcoming Events](#)
- [BioControl - the Official Journal of IOBC](#)
- [Contacts](#)

Enjoy your reading, and if you are celebrating Christmas then, have a lovely one!

Best wishes,

Ronny

For newsletter contributions, ideas, comments, email secretary-general@iobc-global.org



President's Column

Biological Control in Social Media

A recent analysis by Jacques Brodeur and colleagues utilizing Google trends databases revealed that

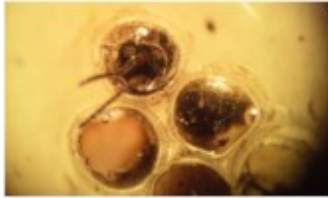
the frequency with which the term 'biological control' is searched for on the internet has declined over the past 12 years. This decline is probably a reflection of a few trends, including concerns about environmental consequences of biological control releases and a decline in academic positions dedicated to biological control in some countries. And while these trends may be real and should concern us, there are plenty of reasons for increased optimism and excitement in biological control as well. These include spectacular advances in augmentative biological control in greenhouse production in Europe, successes in importation biological control over this period some of which should be considered 'high profile', and scientific advances in the area of genomics that have enabled a more directed and predictive science of biological control – particularly in plant pathology. There have also been important advances in conservation biological control of both insect pests and plant diseases. These should all be reasons to see an increase in popularity of biological control. In addition, there is no indication that the public is blind to beneficial insects in general since searches for the term 'pollinators' increased over the same time period. Also of interest is that the discipline of biological control has become more international over the last 25 years – another point brought by the study of Brodeur and colleagues. Given all of this I think that the decrease in popularity of 'biological control' as a Google search term is unexplained and somewhat distressing for our discipline.

I would like to propose a potential contributing reason for the noted decline in interest of biological control – our own ineffectiveness in publicizing and promoting our science. And before I go on I would like to state what I mean by 'promotion' or 'advocacy'. Promotion or advocacy of biological control should not mean uncritical recommendations for use; rather it should be focused on informing other scientists and the public about our discipline and its contributions while noting judicious and safe use of biological control agents. We all know that biological control is not the answer to every pest problem, and the public should not think that we have this attitude.

One way to engage in promotion of any discipline is the use of social media. I admit to not being a particularly savvy consumer or creator of social media but I did bit of poking around on Twitter to see how well we are disseminating information. And as a point of reference I tried to compare the profile of biological control with that of pollinators. Using a hashtag tracking program I found that #biological control had been used (tweeted) 80 times over the past week whereas #pollinators had been tweeted 526 times. I don't know how accurate these tools are, but even if they are just in the ballpark they suggest that we could be tweeting our cool biological control results and insights more – and this might help to educate the public more about our discipline.

Turning the spotlight further inward (to IOBC) I can report that we do have a social media presence but it could be improved. Both IOBC-WPRS and IOBC-NTRS have very nice Facebook pages – both with over 300 likes and lots of great information and pictures. I would certainly encourage everyone reading this to check out these pages and to contribute to them! As far as Twitter goes, IOBC-Global now has a Twitter page. It is relatively new and so only has 56 followers as of this writing – I would encourage all to follow this on page on twitter and also to post to it! This can be done by adding **@IOBC-Global** to your biological control-related tweets.

The stakes for these kinds of activities are high – as a discipline we need to remain relevant and grow. Biological control has always been and remains one of the great solutions to environmental problems – particular as relates to invasive species and sustainable food production. By educating the public and other scientists about its benefits we can hopefully reverse some of the trends uncovered by the Brodeur et al. analysis. This would then presumably lead to more support for biological control science at the University and Governmental levels, and ultimately more solutions to otherwise intractable environmental problems.



Featured Article - Biological Control of *Oebalus insularis* Stal (Heteroptera: Pentatomidae) in Panamá: natural parasitism in weeds provide protection to rice crops.

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Oebalus insularis Stal, commonly known as the "rice stink bug," is one of the most important pests in rice cultivation in Panama and Central America. In addition, it is considered an invasive pest in the state of Florida (USA), where it has been reported in rice fields since 2007. *O. insularis* also inhabits surrounding weeds distributed close to rice fields and pest suppression is commonly practiced by applying herbicides. Literature indicates that the rice stink bug is attacked by a complex of parasitoids and predators in spontaneous vegetation, favoring the natural control of the pest. Among those natural enemies, *Telenomus podisi* Ashmead colonizes commercial rice plots in Panama, reaching high rates of parasitism.

Therefore, research was carried out to determine food and oviposition preference of *O. insularis* and the rate of natural parasitism of eggs in host weeds in areas near plots planted with rice, during 2015 and 2016.

Egg masses of *O. insularis* were collected and transferred to the laboratory, and reared them to register parasitoid species identification.

The *O. insularis* egg parasitism rate was significantly higher ($P < 0.05$) in both species of *Echinochloa* P. Beauv. (Poaceae), with notable parasitism by *Te. podisi* (Table 1; Fig. 1, 2).

Table 1: Rate of parasitism and parasitoid species for *Oebalus insularis* eggs in host plants associated with rice cultivation in Panama (2015-2016)

Species	Family	Rate of parasitism (%)	Rate of parasitism/ <i>Telenomus podisi</i> (%)	Parasitism rate/ <i>Trissolcus basalis</i> (%)
<i>Cyperus iria</i>	Cyperaceae	14.2 e ¹	89.4 b	10.6 c
<i>Cyperus rotundus</i>	Cyperaceae	9.8 f	81.2 c	18.8 b
<i>Echinochloa colona</i>	Poaceae	92.6 a	96.4 a	3.6 e
<i>Echinochloa crus-gavonis</i>	Poaceae	78.3 b	82.4 c	17.6 b
<i>Eleusine indica</i>	Poaceae	23.1 d	78.3 d	21.7 a
<i>Ischaemum rugosum</i>	Poaceae	21.9 d	82.6 c	17.4 b
<i>Paspalum virgatum</i>	Poaceae	38.9 c	86.1 b	13.9 d

¹Means followed by the same letter in each column are not significantly different by Duncan's test ($P < 0.05$).

Regardless of the host plant species, parasitism by *Te. podisi* was significantly greater than that

reported for *Trissolcus basalis* Wollaston ($P < 0.05$) (Table 1). The new biotic associations reported in the present study will help to redesign integrated pest management programs in rice cultivation. The conservation of host weeds for *O. insularis* in areas near rice crops favored the high rate of natural control by *Te. podisi*, a condition that can be considered a sustainable alternative for pest management. Therefore, the role of host plants as reservoirs of the egg parasitoids of this sucking insect species is highlighted during the establishment of production plots of this agricultural item.



Figure 1: *Oebalus insularis* feeding on *Echinochloa colona* in weed plots adjoining the rice crop - Nymph (L), Adult (R)

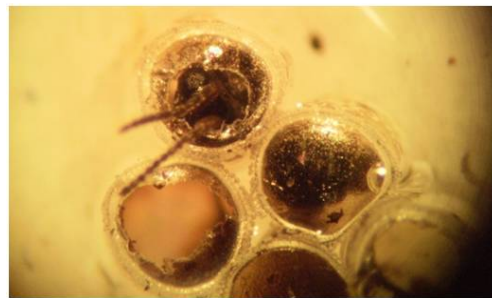
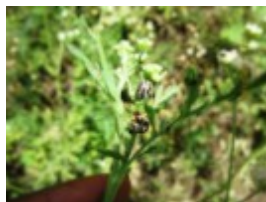


Figure 2: Adult *Telenomus podisi* emerging from an egg of *Oebalus insularis* that was oviposited in *Echinochloa colona* in weed plots adjoining the rice crops

[Back to Top](#)



Featured Article - Biological Control of Parthenium (*Parthenium hysterophorus* L.) in Ethiopia

Wondi Mersie

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The aggressive invasive weed, parthenium (*Parthenium hysterophorus* L.) known by several names in Ethiopia including Kinche Arem in Amharic and Farmasissa (means sign off your land) in Afan Oromiffa has continued to spread in Africa. In 2015, it was detected in Botswana for the first time. Currently, it has invaded 13 African countries. However, according to climatic models much of sub-Saharan region of Africa is suitable for invasion by this weed.

Its presence is dire in many countries. In Ethiopia, it reduces the yield of food crops such as sorghum, replaces valuable grass species as it forms pure stands in pasture lands and aggravates the condition of people with respiratory problems. The pollen and leaves that contain allergenic-causing chemicals seem to particularly affect women when they come into contact with this plant, particularly during repeated exposure. Livestock that dare to graze on parthenium will have their

mouth blistered and their milk soured and meat tainted by the chemical compounds in the leaves and stem. It is also a threat to the tourism industry in many countries as it displaces the vegetation upon which wildlife depend.



The leaf-feeding beetle *Zygogramma bicolorata* on Parthenium near a railroad track at Wollenchiti, Ethiopia on October 27, 2017

The Parthenium Project funded by USAID through the Integrated Pest Management Innovation Lab at Virginia Tech and led by Virginia State University has continued to make progress in abating the spread of this weed in Ethiopia and other east African countries. The project has assessed and reared two approved biocontrol agents, the leaf-feeding beetle *Zygogramma bicolorata* and the stem-boring weevil *Listronotus setosipennis*. The rearing is carried out at Ambo University's site at Guder, at Haramaya University campus and at a Farmers' Association compound at Wollenchiti, for release against Parthenium. Adults of both biocontrol agents were reared in their thousands and released in the Amhara, Oromia and Southern Regional States of Ethiopia to control Parthenium since 2013 (*Zygogramma*) and 2017 (*Listronotus*).



Left: Parthenium at the time of *Zygogramma* release on June 2017 at Finote Selam.

Right: Parthenium after defoliation by *Zygogramma* two months after release. Note the recovery of natural vegetation (Photos by Tesfay Amare)



One of the sites where the biocontrol agents were released in 2017 was around the town of Finote Selam in the Amhara Regional State. A faculty member from the Ambo University along with personnel from the Amhara Agricultural Research Institute released *Zygogramma* and *Listronotus* at two sites around Finote Selam on June 20, 2017. Staff returned to the sites on August 31, 2017 to evaluate the condition of the biocontrol agents. As shown in the pictures, *Zygogramma* had extensively defoliated parthenium and the natural vegetation has started to come back. Finote Selam, with annual precipitation of 1450 mm, presents ideal conditions for both *Zygogramma* and Parthenium propagation. *Listronotus* had also persisted well at Finote Selam but had less dramatic effect on Parthenium compared to *Zygogramma*.



Left: Parthenium damaged by *Zygogramma* at Wollenchiti, September 2016, 3 months after agent release (Photo by Million Abebe). **Right:** Parthenium damaged by *Zygogramma* that emerged from soil, October 2017, over one year since agent release. (Photo by Lidya Alemayehu).



The project has also scored success at Wollenchiti in Central Ethiopia. On June 15, 2016, *Zygogramma* adults were released near a railway track and severely defoliated parthenium, noticeable within seven weeks of the release of this leaf-feeding beetle. On October 20, 2017, the site was visited to evaluate if *Zygogramma* had survived the dry season. Indeed, *Zygogramma* was found to have emerged from the soil, reproduced and fed on parthenium. As shown pictorially, *Zygogramma* had defoliated parthenium and facilitated the recovery of the natural vegetation. This bodes well for the establishment of *Zygogramma* in Ethiopia as the biocontrol agent was able to survive the harsh dry season of Wollenchiti in the soil and emerged to damage parthenium. It is also

worth noting the continuous presence of parthenium after it was severely damaged by the biocontrol agent in 2016. This indicates that it will take some time to exhaust the seed reservoir of parthenium in the soil and prevent it from setting seed.

The encouraging performance of *Zygogramma* against parthenium in Finote Selam and Wollenchiti indicates that biological control of this weed in Ethiopia can be successful under suitable conditions. However, it is a long way before one declares victory against parthenium, there remains a lot to be done. For instance, in India, it took four years for *Zygogramma* to establish while in Australia a full decade passed before the biocontrol agent had significant impact on parthenium. Considering the very different ecological zones of Ethiopia that are invaded by parthenium and separated by mountain ranges and arid environments, the biocontrol agents need to be reared in large numbers and released at many localities before they establish widely and become self-perpetuating. However, once these biocontrol agents are established in each region, it is anticipated that they will be able to assist in the suppression of Parthenium infestations, facilitating the native flora to flourish again.

[Back to Top](#)



Global Working Groups report - Mass Rearing & Quality Assurance

The 14th workshop of the IOBC Global WG on Mass Rearing & Quality Assurance (MRQA) was held in Merida, Yucatán, Mexico in November 2017, on the theme “**Mass Rearing High Quality Invertebrates for Multiple Purposes**”. It was a joint meeting of IOBC-MRQA, the Mexican Society of Biological Control (SMCB), the Association of Natural Bio-control Producers (ANBP), the International Biocontrol Manufacturers Association (IBMA) (Invertebrate Biocontrol Agents Group) and was hosted by SMCB.

About 60 attendees from 18 countries participated in the event. The objective was to explore the opportunities for advancing the rearing of high quality entomophagous and phytophagous insects, mites, and other invertebrates for plant and animal pest management, human and animal food, and a variety of other uses.

Seven symposia, including oral presentations, posters and a Panel discussion, dealt with different aspects of arthropod rearing and quality assurance:

1. **Mass rearing invertebrates for management of arthropod crop pests**
2. **Mass rearing for veterinary and medical applications**
3. **Mass rearing insects for feed and food**
4. **Development & validation of protocols for invertebrate mass rearing and quality assurance**

5. Breeding of beneficial arthropods
6. Networking and instruction on arthropod rearing
7. Legal and ethical issues associated with mass rearing invertebrates

Discussions were aimed at expanding knowledge on the different methods and applications involving the mass rearing of invertebrates and their quality control, promoting worldwide collaboration among scientists and practitioners.

The workshop included a visit to the “ Laboratorio de reproducción masiva de *Tamarixia radiata* del Sureste”, where the parasitoid *Tamarixia radiata*, a major antagonist of the Asian citrus psyllid *Diaphorina citri*, is mass produced. A tour to the Uxmal archaeological site was also organized.

To view pdf-files of presentations and posters, go to: <https://tinyurl.com/MRQA2017>

New convenors for the MRQA Working Group

Prof. Maria Luisa Dindo and Dr Rose Buitenhuis have accepted the role of co-convenors of the MRQA Working Group at the meeting in Mexico, taking on from Patrick De Clercq and Tom Coudron.

Many thanks to Patrick and Tom for their hard work, and a big welcome and well-wishes to Maria and Rose!

[Back to Top](#)



Maximizing Opportunities for Biological Control in Asia's Changing Agro-landscapes A Hands-on Training Course

Asian scientists join hands to develop nature-based solutions for agricultural pest problems

By Kris Wyckhuys

Over the past decade, pesticide use in several Asian countries has escalated. Not only are conventional pesticides increasingly used across Asia's countryside, but even controversial products such as systemic neonicotinoids (which are banned across Europe) have now also gained a firm foothold in various parts of the region. The unguided usage of chemically-synthesized pesticides can have major repercussions for Asia's countryside, its rich and unique biodiversity, its farming population and society as a whole. Pesticide misuse has already led to irreversible damage to the environment, is bringing about a steady degradation of local agro-ecosystems, and immediately threatens farmer and consumer health alike. With a growing health-conscious middle-class in China and several of its Asian neighbors, food safety and environmental preservation are likely to become major concern in the years to come. Business-as-usual approach will no longer be acceptable. Hence, farming practice in certain Asian countries has to be critically examined, redesigned and remediated.



Course participants were spread between two locations - China and Vietnam

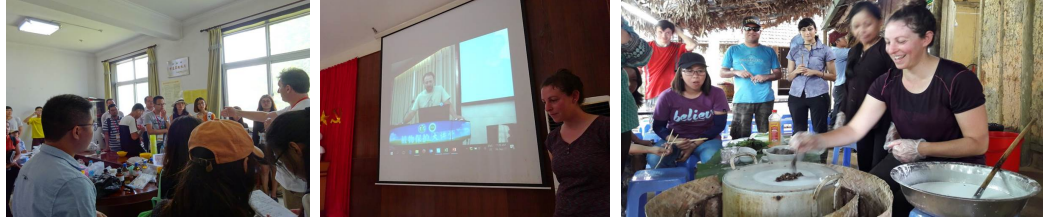
Southeast Asian nations regularly point their finger at their northern neighbor as the suspected source of cheap, generic and easily-accessible pesticides. However, from Sept. 2-9 2017, China became the stage for an ambitious Asia-wide training course on ecologically-based pest management & insecticide reduction programs. Convened by the Institute of Plant Protection (IPP), Chinese Academy of Agricultural Sciences (CAAS), the field course brought together nearly 85 participants from a total of 17 countries. The week-long course was innovative and unique in its design and set-up, linking two training sites (Beijing, China and Hanoi, Vietnam) through a virtual 'digi-hub' and coupling classroom-based theory sessions with hands-on field or laboratory activities. The event mobilized some of the world's prime experts on biological control of insects, hosting eminent entomologists and insect ecologists from Australia, United States, France and New Zealand, among others. While several trainers joined the group live at either location, others connected through web-links from as far as California (US), Los Banos (Philippines) or Malmo (Sweden). Course participants were hand-picked, consisting of advanced-level graduate students or junior faculty from some of Asia's leading agricultural universities, as well as government staff from plant protection units across the region. From countries as far as India, Lao PDR, Thailand or Indonesia, participants brought their own practical knowledge on a range of temperate and tropical cropping systems including macadamia, avocado and mango, as well as rice, corn and cotton.



Training course hands-on

Over the course of one entire week, students learned how naturally-occurring beneficial organisms - from minute parasitic wasps to predatory beetles- can be actively conserved to combat pest problems, and how today's farming systems can be manipulated to enhance the abundance of such natural enemies. They got exposed to novel concepts such as conservation biological control, wildlife-friendly farming and ecological engineering, and learned about how on-farm habitats such as flower strips or grass barriers can greatly boost natural pest control services. In more advanced sessions, participants familiarized themselves with methodological paradigms in chemical ecology, plant-microbe-insect interaction and food web ecology. Under the guidance of Profs. Steve Wratten (Lincoln University) and Geoff Gurr (Fujian Agriculture and Forestry University), course participants shared experiences and insights from their respective countries, jointly worked on various problem sets, and devised their own applied research programs. During the second half of the week, the

course shifted to a well-equipped IPP research station at Langfang, China, and a demonstration farm near BaVi (Vietnam). At both of these locations, students acquired first-hand experience in conducting natural enemy sampling, developing insect diversity metrics, or in quantifying overall 'health' and resilience of farming systems. At the end of the week all participants returned to their respective home base, equipped with new agro-ecological knowledge, insights and a great dose of motivation to tackle pesticide misuse in their respective countries in temperate or tropical cropping systems.



International experts participated face-to-face or via the Internet.

This first regional field course on biological control not only trained Asian scientists on ecologically-based pest management, but equally set up a regional 'community of practice' and working group on agro-ecosystem health and biological control of insect pests. The event planted the seed for further Asia-wide initiatives to counteract pesticide overuse, safeguard the integrity and sustainability of local farming systems, and to actively promote safe, environmentally-friendly pest management alternatives. The 2017 field course on 'Insect Biological Control in Asia's Changing Agro-landscapes' was made possible with financial support from the International Organization for Biological Control (IOBC), and the Food and Agriculture Organization (UN-FAO).

[Back to Top](#)



News from Regional Sections



NTRS

Parasitoids of the Neotropics Regional Working Group Report

Dra. María Gabriela Luna. CEPAVE (CONICET - UNLP). La Plata, Argentina.

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The Working Group (WG) Parasitoids of the Neotropics (PARANEOTROP), belonging to the International Organization for Biological Control, Neotropical Region Section (IOBC-NTRS) co-organized the Round Table entitled: *Importation of parasitic insects as Biological Control Agents of Pests in Argentina and other countries of the Neotropical Region*, held in the VI Argentinian Parasitoidologists Meeting (VI Reunión Argentina de Parasitoidólogos, VI RAP) during September 18-20, 2017, in La Plata, Argentina.

The aim of this Round Table was to discuss along with researchers, technicians and policy-makers about biological control programs implemented in Argentina, Brazil and Uruguay, based in the introduction of exotic parasitoid species. Other entomophagous and entomopathogenic organisms

were also mentioned. The meeting was intended to promote sound procedures for the implementation of classical biological control in Argentina and other Neotropical countries.



From left to right: Lic. Karina Punschke (Uruguay), Dr. Luiz A. Nogueira de Sá (Brazil), Eng. Marcelo Sánchez (Argentina), Dra. Norma E. Sánchez and Dra. M. Gabriela Luna (Argentina, Round Table coordinators), and Dr. Eric Wajnberg (France)

The lecturers were:

- Eng. Marcelo Sánchez (Servicio Nacional de Sanidad Animal y Vegetal, SENASA, Argentina), who addressed the list of biocontrol species approved for introduction in the last 15 years in Argentina, and the legislation concerning the preparation of dossiers and permit procedures for importation in this country.
- Dr. Luiz Nogueira de Sá (Empresa EMBRAPA Brazil), who provided information related to the exchange of over 700 species of beneficial organisms among Brazil and many countries, carried out by 18 Brazilian states. He also presented the work made by the South American Committee for Joint Plant Protection Programs (COSAVE), and the quarantines involved from the participant countries.
- Lic. Karina Punschke (Ministerio de Ganadería, Agricultura y Pesca MGAP, Uruguay), who provided a list of microorganisms and entomophagous arthropods to control plant pests and diseases introduced in Uruguay, and also addressed the legal procedures to import them to that country.
- Dr. Eric Wajnberg (INRA, France), who coped with the risks involved in introducing exotic biocontrol agents, based on examples in Europe, and the need for deepening intensive scientific work as a basis for the correct implementation of BC.

About 100 people, most of them entomologists, researchers, technicians, graduate students and teachers, actively attended the meeting, coming from Argentina, Brazil, Chile, France, Italy and Uruguay. IOBC supported invited speakers' traveling and lodging to attend this Round Table. The meeting undoubtedly contributed to the successful development of future classical biological control in the Neotropics.

Events in Peru

Maria Manzano Universidad Nacional de Colombia, Palmira, mrmanzanom@unal.edu.co

The "LIX National Convention of Entomology Dr. Pedro Aguilar Fernández" took place at the Universidad Nacional de Trujillo, Peru, between October 23 and 26, 2017. The convention was organized by the Entomological Society of Peru. There were many talks about biological control of weeds and pests in Latin America especially from Brazil, Peru, Chile and Colombia. The most mentioned crops were sugar cane, potato, cacao and quinoa. The event was attended by several researchers and students from various Latin American countries. I presented a talk about Biological Control in Colombia.



Left to right: LIX National Convention of Entomology abstract book cover; Fernando Diaz explains the damage caused by *P. longifila* in asparagus crops at Chavimochic camp, La Libertad, Peru; *Prodiplosis longifila* International Symposium participants. Sitting from left to right Oswaldo Valarezo (Ecuador), Fernando Diaz (Peru), Maria Manzano (Colombia), Gaspar Ayquipa (Peru) and Javier Franco (Peru)

Following on, the “First International Symposium: Present situation and integrated management of *Prodiplosis longifila* in Colombia, Ecuador and Peru” took place between October 26 and 28 at the President Hotel in Trujillo, organized by Fernando Diaz, of Proyecto Especial Chavimochic, Peru. The bud midge *Prodiplosis longifila* (Diptera: Cecidomyiidae) is a key pest mainly of tomato in Colombia, Peru and Ecuador and chiefly of asparagus crops in Peru. The event was attended by around 30 participants most of them involved in tomato and asparagus production. I presented a talk about *P. longifila* situation in Colombia and concerning biological control of this pest we have identified several *Synopeas* parasitoids (Hymenoptera: Platygasteridae). Due to the economic damage caused by *P. longifila* the role of these parasitoids in the control of *P. longifila* should be further studied.

NRS

News from Canada’s Biological Control Community

Peter G. Mason, Agriculture and Agri-Food Canada

The *Guide for the first-time importation and release of arthropod biological control agents in Canada* is now published. It is intended to provide guidance to individuals/organizations planning to submit petitions for release of biological control agents in Canada. The *Guide* outlines regulatory requirements, information needed in a submission, resources that can be consulted and example petitions for phytophagous (classical), entomophagous (classical and augmentative) agents are provided. The work is an output of Agriculture and Agri-Food Canada’s Biological Control Working Group and is an update of an earlier version published in 2006.

The *Guide* can be downloaded from the Government of Canada Publications website:

English <http://www.publications.gc.ca/site/eng/9.843006/publication.html>;

French <http://www.publications.gc.ca/site/fra/9.843008/publication.html>



GUIDE
for the Importation and Release of
ARTHROPOD BIOLOGICAL
CONTROL AGENTS

148 978-0-962000-00-0 Catalogue

News from the North American Plant Protection Organization (NAPPO)

Peter G. Mason, Agriculture and Agri-Food Canada

A training module *Preparation of a Petition for First-time Release of a Non-indigenous Entomophagous Biological Control Agent* has been developed by the North American Plant Protection Organization (NAPPO) Biological Control Expert Group. The module is based on a workshop held in 2015 in Ottawa, Ontario, Canada to provide training on preparing a Petition for first release of an entomophagous biological control agent according to requirements outlined in NAPPO RSPM 12. Understanding by individuals/companies of the information required for a petition to release an exotic biological control agent is important to the regulatory process in all NAPPO countries to

ensure that fair and thorough risk assessment can be made. Petitioners are frequently not aware of the appropriate level of detail that is required, nor of the type of work that is required to generate this information. Addressing these aspects is essential to improvement in the quality of submissions, enabling regulators in Canada, Mexico and the United States to make approval decisions that are highly informed and based on harmonized information.

The training module can be accessed from the NAPPO website:

https://www.nappo.org/RSPM_12/story.html

WPRS

New council for IOBC-WPRS

Gerben Messelink

The West Palearctic Regional Section of the IOBC has a new council! The elections by members took place in summer this year and the new elected council was officially confirmed at the General Assembly in the beautiful Riva del Garda in Italy in October 2017. Five of the executive council members continue their job for the upcoming 4 years in the council and 4 keep the same position. New for the executive council is Giselher Grabenweger, who will be the new treasurer. Furthermore, nine “common” council members have been elected (see www.iobc-wprs.org/people/index.html), which have an important role as liaison officer for the 20 working groups of the IOBC/WPRS.



The new executive council of the IOBC/WPRS: from right to left; Philippe Nicot (president, France), Ilaria Pertot (vice-president, Italy), Sylvia Blümel (vice-president, Austria), and on the back from right to left; Andrea Lucchi (vice-president and deputy treasurer, Italy), Giselher Grabenweger (treasurer, Switzerland) and Gerben Messelink (general secretary, the Netherlands).

And further from WPRS: you are welcome to enjoy this 5 minutes [video](#) of mealybug biocontrol in action, produced by Prof Andrea Lucchi from the University of Pisa, Italy.

[Back to Top](#)



Book Review

Environmental pest management: Challenges for agronomists, ecologists, economists and policymakers

Edited by Moshe Coll & Eric Wajnberg. Wiley

Reviewed by Geoff Gurr

It is often said that you cannot judge a book by its cover. In the case of this book, it is hard – indeed misleading – to judge it by its title. “Environmental Pest Management” conjures up two kinds of meanings, either pests of built structures or pests in natural systems. This book is about neither of these. The environmental slant of the book is twofold. First, the influence of pest management practices on the environment (e.g., pesticide pollution, possible effects of transgenic plants and rogue biocontrol agents) and, second, the influence of the environment on pests and their management (e.g., non-crop vegetation as source habitat for natural enemies). It will be apparent from the forgoing description, then, that the scope of this volume is wide. Reflecting this, Moshe Coll and Eric Wajnberg have recruited a large team of contributing authors from 13 countries to contribute 18 chapters. These are neatly arranged into seven parts that deal with background, impacts of pest management practices on the environment, the influence of unmanaged habitats on pest management, the effects of climate change, public health, policy, and conclusion.

At a more strategic level this book has an important and ambitious mission in calling to arms the many workers in different fields related to pest management to bring about a radical change from the current way of ‘doing business’. In the concluding chapter, Coll and Wajnberg draw-together key messages from the earlier, contributed chapters to argue for a longer-term, top-down approach in which goal-based agri-environmental schemes are established along with policies to account for the true, full costs of current reliance on pesticides. These measures are recommended to be complemented by a reinvigoration of public sector extension services (to lessen the influence of private sector advisory services with their vested interests), and the filling of information gaps by goal-specific research to fine tune policy settings. This is reflected in the book’s sub title, “Challenges for Agronomists, Ecologists, Economists and Policymakers”. The argument will resonate with many who work in the field but potentially would have been more persuasive for those on the fringes had the term “challenges” been used in some section and chapter titles (and appeared in the index) in order to weave a more unified argument. Certainly Donald Trump will be no fan of this “big government”, “anti-business” approach and the recent rise of his type of philosophy in global politics suggests that this book might struggle to gain immediate policy momentum in all but the most enlightened jurisdictions. Notwithstanding that observation, there is plenty of excellent content here to interest a readership ranging from advanced undergraduate to seasoned scholar and professional. It is rare for a volume such as this to include contributions from diverse fields so Coll and Wajnberg’s book will be a valuable resource for anyone seeking to widen their understanding of the Gordian knot of pests and their management.

Readers of this newsletter will find a good deal of information relevant to biological control. David Jennings and co-authors cover the environmental impacts of biological control, a theme revisited later in the book in the chapter by Barbara Barratt and Clark Ehlers; Stefano Colanizza and team deal extensively with biological control in the more broadly titled chapter on ecosystem services, while Mark Gillespie and Steve Wratten also focus largely on biological control in their chapter on ecosystem dis-services.

If there is a gap in this wide ranging volume it is that, whilst developed countries are amply represented by authors from North America, Europe, Australasia, there is much less here for the reader interested in other parts of the world. There seem to be no chapter authors from Asia, South and Central America, Africa or the Pacific. Arguably it is in these less developed areas where there is the most need for steps to be taken to begin applying the book’s message. Maybe a second volume could broaden the reach to these regions where cultural, economic and other factors differ – sometimes radically – to the situations found in more developed nations. This is an important book with a clear mission – I hope it can succeed!

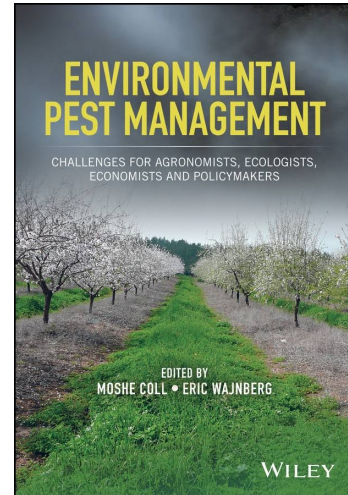
Environmental pest management: Challenges for agronomists, ecologists, economists and policymakers

Edited by Moshe Coll & Eric Wajnberg.

[Wiley](#), 2017, 448 pp.

Hard cover \$US150

E-Book \$US120.99



If you would like to review a book or recommend a book for review please get in touch: secretary-general@iobc-global.org

[Back to Top](#)



Upcoming Events



1st International Congress of Biological Control

Beijing, 14-16 May 2018. This is a particularly exciting meeting because the focus will be on integration of biological control science across the discipline. That means integration across targets –

arthropod pests, weeds, plant diseases and invasive vertebrate animals, and integration across approaches – importation, augmentation and conservation. The congress will also include session on the basic biology of biological control interactions including evolutionary, molecular and ecological dynamics. Please have a look at the newly updated website and consider attending!

IOBC-Global is a major partner supporting this congress along with the Chinese Academy of Agricultural Sciences and the Chinese Society of Plant Protection.

Find out more about [session topics & organizers](#). More details [here](#).



European Congress of Entomology

Naples, July 2-6th, 2018. Deadline for abstracts: 28th February 2018.

More details at: www.ece2018.com



International Symposium on Biological Control of Weeds

XV ISBCW, 26-31 August 2018, Engelberg, Switzerland. Deadline for abstracts: 15th March 2018.

Confirmed keynote speakers include:

- Karen Bailey
- Elizabete Marchante
- Peter Mason
- Louise Morin
- Rangaswamy (Muni) Muniappan
- Heinz Müller-Schärer
- Quentin Paynter
- Brian van Wilgen
- Greg Wheeler

More about the keynote speakers at: <http://www.isbcw-2018.com/index.php?cat=keynotes>



Brazilian Congress of Entomology

02-06 September 2018 Organised by the Brazilian Entomological society.

IOBC NTRS together with the Working Group on Parasitoids of the

Neotropical Region will be holding a Biological Control Round Table



1st International Conference on Biological Control & 3rd IOBC International Workshop on Biological Control and Management of *Parthenium hysterophorus*

ICBC2018, **27-29 September 2018**, Bengaluru, India. Organised by ICAR-National Bureau of Agricultural Insect Resources. Deadline for abstracts: 31st April 2018.

ICBC2018 themes include:

- Biodiversity and Biosecurity
- Conservation Strategies
- Biotechnological Approaches in Biocontrol
- Production and Utilization of Macrobiols for Insect Pest Management
- Production and Utilization of Microbiols for Insect Pest and Disease Management
- Biological Control Compatible Approaches
- Biological Control of Invasive Pests and Weeds
- Biological Control: Industrial Perspective and Policy Issues
- IOBC Parthenium Working Group Workshop
- IAPPS Tuta Working Group Workshop

More details at: <http://www.icbc2018bengaluru.com/>

The 3rd IOBC Working Group (WG) International Workshop on Biological Control and Management of *Parthenium hysterophorus* will be held in conjunction with ICBC 2018. The workshop will review and discuss the recent developments on the biological control and management of parthenium weed around the world, and discuss the future course of action. Presentations related to the biological control as well as other aspects of management of parthenium weed are encouraged. Participants will have an opportunity to visit field sites around Bengaluru to view biological control of parthenium weed in action.

Background: The IOBC Global WG on the Biological Control and Management of Parthenium Weed (*Parthenium hysterophorus*) was formed in 2009. The 1st IOBC WG International Workshop on Biological Control and Management of *Parthenium hysterophorus* was held in 2010 in Nairobi, Kenya,

and the 2nd Workshop was held in 2014 in Addis Ababa, Ethiopia. A set of recommendations was developed at each of these workshops. These workshops bring together researchers working on parthenium weed around the world to disseminate information on the weed and its management, to increase collaboration amongst researchers regionally and globally, and to optimise resources for the control of this invasive plant.

Limited funds will be available for IOBC travel grant awards for young scientists who wish to attend the 3rd IOBC International Workshop on Biological Control and Management of Parthenium Weed, on condition that they: (i) are an IOBC member, (ii) are aged 35 years or younger; grant awards are for students, not for established researchers and keynote speakers, and (iii) present a communication on biological control during the meeting. Grants of up to 400 € for local students and up to 800 € for overseas students are available; not limited by the country of origin. Application instructions will be provided in a future circular.



Colombian Congress of Entomology

11-13 July 2018, organised by the Colombian Society of Entomology. IOBC NTRS is organizing a Round Table bringing specialists from the LAC region. Some of the Committee members will deliver oral presentations, including an invited talk by Yelitza Colmenarez.

More information at: <http://www.socolen.org.co/>

In addition, a **training course** is planned for the two days preceding the conference. Suggested dates: **9-10th July 2018**. More details to come.



9th International Congress of Dipterology

Windhoek, Namibia, **25th to 30th November 2018**. Deadline for abstracts: 1st September 2018.

More information at: <https://icd9.co.za/>



14th International Symposium Ecology of Aphidophaga

Montreal (Quebec) Canada, **16-20 September 2019**

Aims & Topics

The purpose of Ecology of Aphidophaga conferences is to provide an international forum for the presentation and discussion of research on the biology, ecology and behaviour of organisms contributing to mortality of aphids (Hemiptera: Aphididae). Acceptable topics include the following:

- Life cycle, voltinism and diapause
- Food relations (including non-aphid food of aphidophaga)
- Behaviour
- Systematics and morphology
- Phylogeny
- Population dynamics
- Modelling
- Distribution and seasonal adaptation

- Parasitoids and pathogens of aphidophaga
- Parasitoids and pathogens of aphids
- Tritrophic interactions
- Intraguild interactions
- Invasive aphidophaga
- Chemical ecology
- Integrated pest management
- Climatic changes

Contact: aphidophaga14@uqam.ca More information at: <http://www.aphidophaga14.uqam.ca/>



International Congress of Entomology

XXVI ICE, Helsinki , 19-24 July 2020.

Detailed information about the congress theme, Entomology for our planet, can be found [here](#). More information at: www.ice2020helsinki.fi

IOBC has organised a large number of symposia in past ICE events, and ICE2020 organizers are keen to see this involvement continued. **Please send symposia ideas** to secretary-general@iobc-global.org

[Back to Top](#)



BioControl, the Official Journal of IOBC

Recent article of interest

BioControl
DOI 10.1007/s10526-017-9852-6



REVIEW

Theoretical contributions to biological control success

Peter B. McEvoy

Trends in biological control: public interest, international networking and research direction

Jacques Brodeur · Paul K. Abram · George E. Heimpel · Russell H. Messing

Weed biological control in the European Union: from serendipity to strategy

Richard H. Shaw · Carol A. Ellison · Helia Marchante · Corin F. Pratt ·
Urs Schaffner · René F. H. Sforza · Vicente Deltoro

[Back to Top](#)



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Ecology of Aphidophaga

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Wolfgang Weisser, GERMANY

Biological Control and Management of Eupatorieae Weeds

<http://www.arc.agric.za/home.asp?pid=5229>

Contact: Michael Day, AUSTRALIA: michael.day@daf.qld.gov.au

Biological Control of Diamondback Moth & other Crucifer Insects

<http://web.entomology.cornell.edu/shelton/diamondback-moth/>

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Management of Cactus Species

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Commission on Biological Control and Access & Benefit Sharing

www.iobc-global.org/download/659ABSinBiCoAddMat2009.pdf

Contact: Dr Peter Mason, CANADA: peter.mason@agr.gc.ca

Using Managed Pollinators to Disseminate Biological Control Agents

Contact: Dr Peter Kevan, CANADA: pkevan@uoguelph.ca



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Membership in IOBC is open to all individuals and all organizations, public or private, who desire to promote the objectives of biological control. There are four categories of membership:

- Individual Membership is open to all individuals engaged or interested in biological control.
- Institutional Membership is open to any institution, including government departments, academies of science, universities, institutes and societies participating in biocontrol activities.
- Supporting Membership is open to any person or institution interested in promoting the objectives of the Organization.
- Honorary Membership may be conferred by the Council to anyone who has made outstanding contributions to biological control.

For more information and application forms:

<http://www.iobc-global.org/membership.html>

[Back to Top](#)

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