
International Organisation for Biological Control (IOBC)

Organisation Internationale de Lutte Biologique (OILB)



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

IOBC Global Newsletter 111 - August 2022

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During the International Congress of Entomology in Helsinki/Finland in July 2022, the Executive Committee and the Council of IOBC met. In this newsletter, we summarize the results of these meetings and provide a status report about the journal BioControl.

Message from the President



It has been a busy six months for IOBC members since my last report. The most notable event was the in-person meeting of entomologists at the XXVI International Congress of Entomology in late July hosted by Heikki Hokkanen and his team in Helsinki, Finland. It was great to meet again in person and to rekindle old friendships and make some new friends. IOBC Global supported 5 symposia at ICE 2022 and they were all well attended with 40 – 120 persons in the audience. An analysis of the programme showed just under half of the talks and posters presented at the meeting involved some aspect of biological control. This is once again an indication of the importance of our discipline and it provides motivation for us to continue to develop young biological control scientists.

The Executive, Council and General Assembly meetings of the IOBC Global were held at ICE 2022 and details of these meetings are presented in this newsletter. I would just like to highlight that I believe IOBC Global is in really good standing. We fairly have consistent membership numbers, we are financially sound, we have an excellent journal and we are supporting an increasing number of working group and training initiatives. It is with a tinge of sadness that this was the last General Assembly to be held during an ICE meeting as the next one will be held during our own conference, ICBC3, to be held in Costa Rica in June 2024 in partnership with CABI, we hope to see you all there.

During the General Assembly it was my pleasure to bestow (unfortunately in absentia) two new Honorary Members of IOBC Global on Prof.dr. Barabara Barratt (New Zealand) and Dr. Philippe Nicot (France). I could think of no two more deserving recipients of this award given their combined contribution to, not only to the IOBC, but more generally to the discipline of biological control.

It is going to be a busy time ahead with four working group meetings planned before the end of 2022 and two others planned for 2023. I wish the organisers of these meetings well and although the Working Group Meeting on Solanaceous Pests is virtual, really hope that people are able to travel to the other three meetings this year as there is really no substitute for meeting in person.

As the northern hemisphere (hot) summer starts to fade and the southern hemisphere starts to warm up I hope that you have been able to get all of the necessary fieldwork underway to show the tremendous value that biological control brings to the world.

Martin Hill

IOBC needs your help

Worldwide education in biological control

IOBC Global often receives questions about education and training possibilities for biological control. With the help of our Regional Sections and Working Groups, we are frequently able to help finding answers, but it is not always an easy and quick procedure. **Therefore, we ask**

you to provide information about education and training opportunities. We will summarize this information and publish it on the Global website. Please present the information to secretary-general@iobc-global.org as follows:

Name of course / training:

Institute / organization providing this course:

Course period and length of course in days:

Costs of course:

Entrance requirements:

Summary Executive Committee and Council meetings Helsinki, Finland, July 2022

The first physical meeting of the Executive Committee of IOBC Global took place in Helsinki, Finland this year with a delay of two years due to the covid pandemic. Four Executive Committee members were present in Helsinki, two members took part in the meeting via internet. The Council also met with representatives from all Regional Sections, except EPRS. Below, I summarize the main issues discussed during the two meetings

1. Achievements of the Executive Committee 2021-2024:

- Archive IOBC: all archive material of IOBC is now at one location in Reckenholz, Switzerland.
- ICBC 2 Davos 2021: meeting: well organized and attended meeting, financially also a success, IOBC provided grants for young career biocontrol researchers to obtain reduced registration. An extensive report about this meeting can be found in the previous IOBC newsletter (issue 110).
- Five symposia presented at ICE2022 were supported by IOBC speakers grants. All supported speakers and symposia mentioned IOBC Global as donor. All symposia were well attended with 40 – 120 persons in the audience.
- Training courses Ecuador (1) / Pakistan (2): three courses have been financially and scientifically supported by IOBC, many enthusiastic responses have been received from participants (see previous newsletter, issue 110). Lesson learned: we need to send proposals for training courses for peer review to colleagues/ institutes in the country/region where the course is organized and that the course is embedded in a local biocontrol setting that might guarantee a longer term effect.
- IOBC supported various biocontrol related meetings (see reports in this and previous newsletter) and meetings of IOBC Global working groups The total number of supported meetings was lower than estimated due to the covid pandemic, but is expected to strongly increase in the coming years.
- English and Spanish versions of the book Biological Control In Latin America and the Caribbean: Its Rich History and Bright Future have been published and are now available as hard copy and ebook.
- Contributions to biological control book Peter Mason CSIRO: many IOBC members contributed to the book Biological Control: Global Impacts, Challenges and Future Directions of Pest Management with excellent summaries about the history and state of affairs of biocontrol per region.

- Activities with International organisations. FAO: several large projects related to Access and Benefit Sharing, IOBC contributed extensively to the FAO Report: Sustainable use and conservation of microbial and invertebrate biological control agents and microbial biostimulants. Communications with the International Union of Biological Sciences (IUBS) about projects related to biocontrol.
- Many communications with organizations and individuals about biocontrol issues, questions to establish contacts and about membership of IOBC.

2. IOBC Global plans for period 2022 - 2024

- ICBC3 meeting in Costa Rica, Summer of 2024. The plan is to meet for 4 days and have a field trip. Accommodation has been found in San José. The Ex Cie discussed several issues related to this meeting: (1) This meeting will be hybrid and those participating via internet will be paying a lower registration fee, (2) As Central and South America is mainly using Spanish for communication, simultaneous translation would be important, (3) Policy makers, politicians and representatives from ministries/institutes active in the field of agriculture and environment should be approached to participate, (4) Maybe IOBC NTRS+Global could organize a training course before or after ICBC3 and profit from the presence of many experts.
- All IOBC meetings and training courses should in the future preferably be hybrid.

What should/can Global EXTRA do in the coming years. A number of ideas were presented, to be further discussed/implemented during the coming years:

- Stress wherever possible the positive effects of biocontrol. Document positive effects related to pest management, reduction of pesticide use, reduction of environmental pollutions, increase of biodiversity
- Collect and publish benefit/cost analyses of biocontrol projects based on proper economic analyses
 - Assist biocontrol workers in dealing with bureaucracy related to import/export of biocontrol agents, ABS/Nagoya protocol, stimulate harmonization of regulations, be pro-active with legislation. Stimulate that IOBC Regional Sections share their experience in areas of registration, legislation and ABS/Nagoya protocol issues to improve progress
- Collect and publish data about improved biodiversity/improved cropping systems as the outcomes of controlling pests and weeds by means of biocontrol
- Integrate indigenous knowledge into biocontrol
- Stimulate collection of information about new invasive organisms and ways how to deal with these organisms without having to resort to pesticides in order not to disrupt presently used biocontrol/IPM systems

3. Financial situation IOBC Global

- Previous period (2017-2020).The accounts showed a positive balance by the end of 2020.
- Current situation. Due to the covid pandemic fewer meetings were organized and we have spent less than estimated. However, spending will now increase as a result of quite a

number of delayed meetings that will be held in 2022-2024. Our financial situation looks healthy.

- IOBC Global, in collaboration with the treasurer of IOBC/WPRS and with professional assistance, will try to obtain an official not-for-profit, non-governmental status for IOBC/Global and WPRS.

4. Regional Sections of IOBC Global

Five out of six Regional Sections function well. One section experiences problems due to development of problematic political situations. Global will follow developments and assist in improving the situation in that region as soon as possibilities appear.

5. IOBC Global Working/Study Groups and Commissions

Due to the covid pandemic, few or none meetings were organized during the past two years, but six meetings are planned for the coming 18 months (see under upcoming meetings elsewhere in this newsletter).

6. IOBC's journal BioControl

Status of journal is good, though more manuscript submission would be appreciated, as well as topics for special issues. A report about state of affairs of BioControl is published elsewhere in this newsletter.

7. Appointment of Honorary Members of IOBC Global

Two new Honorary Members – Prof.dr. Barbara Barratt (New Zealand) and Dr. Philippe Nicot (France) - have been appointed during the meetings in Helsinki.

8. Statutes and By-Laws

After several rounds of review by the previous and current Executive Committee, the Council, the Regional Sections and members, a number of changes have been accepted. One issue is still pending: the definition of biological control as the newly proposed definition was considered unsuitable and we are now working on a new definition. The new statutes and by-laws will be used as from July 2022, although they need to be formally accepted by the General Assembly, which is planned for the summer of 2024. The new versions of the statutes and by-laws can soon be found on the IOBC Global website.

9. Management of biocontrol databases

Concern was expressed about the future management of biocontrol databases, in particular the BIOCAT database, which has been administered by CABI for the last decades, but the person who is responsible for management is in the process of retiring. We contacted CABI and they told us they will continue to maintain, update and make available this database. Further they hope to include the database on the use of microbial biological control agents. We also contacted Dr Mark Schwarzlander of the University of Idaho with regards the weed biological control database/catalogue, who assured us that there was no danger of the catalogue being discontinued.

10. Un-official IOBC Global General Assembly Helsinki 2022

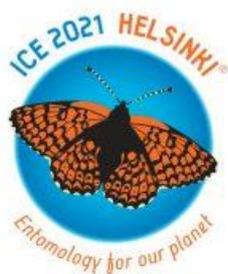
We planned to hold the 18th General Assembly of IOBC Global during the International Congress of Entomology in Helsinki, Finland. During the preparation of this meeting, it appeared that in addition to the members of the Executive Committee and the Council, very few IOBC members would be present, i.e. less than 15. Thus, we decided to ask those IOBC members present in Helsinki to meet in the lobby of the congress location, where the Executive Committee summarized the discussions of the Executive Committee and Council meetings. As there was no quorum for voting by the General Assembly about important issues such as the proposed changes in the Statutes and By-Laws, we concluded that we would use the adopted version of these documents, but vote about the adoptions during the General Assembly meeting in 2024.

11. Dates for next Executive Committee and Council meetings, location and date for next General Assembly

The next physical Executive Committee and Council meeting, and the next General Assembly are planned during ICBC3 in Costa Rica during the summer of 2024.



Dinner with Council members IOBC Global (left to right): Yelitza Colmenarez (NTRS), Martin Hill (Ex Cie and ATRS), Alejandro Tena (Ex Cie), Geoff Gurr (APRS), George Heimpel (Ex Cie), Vanda Bueno (ex Ex Cie and NTRS), Joop van Lenteren (Ex Cie) and Giselher Grabenweger (WPRS).



ICE2022

ICE2022 was held from 17-22 July 2022 in Helsinki, Finland. About 1,000 persons attended the congress.

IOBC-sponsored symposia during ICE2022

The following five symposia were financially supported by IOBC Global. In the next newsletter we will summarize the papers presented at these symposia. All symposia were well attended and had lively discussions.

1. Essential and useless ecological knowledge for applied biological control.

2. Revisiting the biosafety of exotic generalist arthropod biological control agents.
3. Omnivorous predators in augmentative biological control: blessing or nightmare?
4. Access and Benefit Sharing and Biological Control Genetic Resources.
5. Classical biological control of weeds and arthropods: Evaluation of social, economic and ecological benefits.



Audience during one of the IOBC Global supported symposia

Upcoming Events

IOBC Global activities:

Working groups are starting to have physical meetings again. During the coming 18 months, at least SIX meetings are planned, more info is provided at the end of this newsletter under the working group listing



1. 15th meeting of the IOBC Global Working Group on Mass Rearing & Quality Assurance (MRQA) – Bologna, Italy, 5-9 September 2022



International Symposium
Ecology of
Aphidophaga 15
Lleida 2022

2. 15th meeting of the IOBC Global Working Group "Ecology of Aphidophaga" – Lleida, Spain, 19-22 September 2022

3. IOBC Global Cactus working group, next meeting in September 2022 in Namibia.
4. Study Group Biological control of insect pests of Solanaceous Crops (IOBC-BiCoSol): first - virtual - meeting planned for November 2022
5. Study Group Classical Weed Biological Control: next meeting in Argentina in 2023 (7 – 12 May)
6. Study Group Crop Protection and Pollination (IOBC – CROPROPO) will likely have its next meeting in conjunction with the XII International Pollination Symposium in Cape Town, South Africa in September/October 2023

Other biocontrol related events

Please see the complete lists of upcoming events related to biocontrol activities at the website of IOBC Global: www.IOBC-Global.org, and of IOBC-WPRS: <https://www.iobc-wprs.org/events/index.html#20210908>

ICBI 2023

4TH INTERNATIONAL CONGRESS ON BIOLOGICAL INVASIONS



Save the Date:
1-4 May 2023
Christchurch Town Hall
icbi2023.co.nz

Followed by 5th B3 Conference
5 May 2023



scienceevents.co.nz



Science Solutions for
Better Border Biosecurity
AOTEAROA NEW ZEALAND



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Research
Rangahau Ahumāra Kai

The 4th International Congress on Biological Invasions (ICBI2023) will be hosted Christchurch (Ōtautahi), New Zealand (Aotearoa) on 1-4 May 2023. The biennial Better Border Biosecurity (B3) Conference will follow on 5 May 2023. The ICBI congress will provide a forum to explore, share and develop responses to the global challenges and threats that Invasive Alien Species (IAS) present to biodiversity, ecological systems and food production and safety in terrestrial, freshwater and marine ecosystems. Theme and focus for 2023: Innovation. Collaboration. Partnership.

For more information on the congress: <https://www.scienceevents.co.nz/icbi2023>



ICE2024

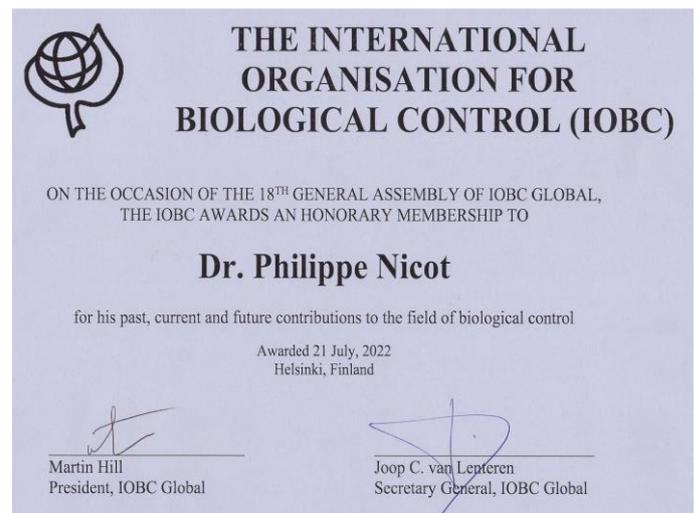
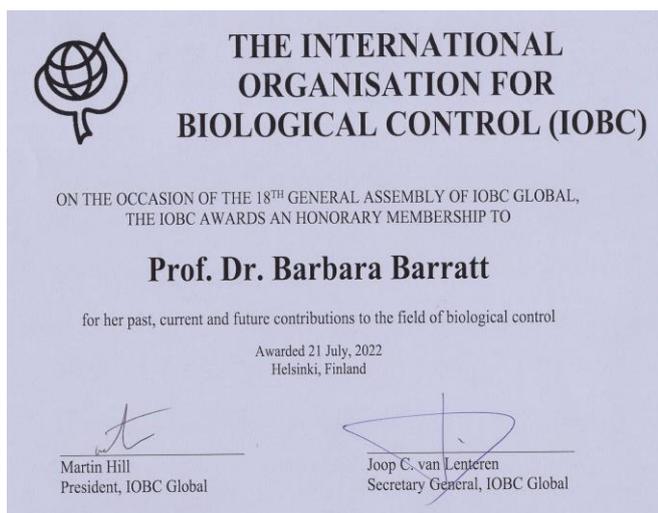
Japan will host the **XXVII International Congress of Entomology** from August 25 – 30 in 2024, in Kyoto, Japan.

For information, see:

<https://ice2024kyoto.jp>

Two new Honorary Members of IOBC Global

It is with great pleasure that we announce that Prof.dr. Barabara Barratt (New Zealand) and Dr. Philippe Nicot (France) were awarded an honorary membership of IOBC Global during our IOBC Executive Committee and Council meeting in Helsinki, Finland this summer. As we did not have an official General Assembly in Helsinki due to a very limited number of members present in Finland, we will formally present the honorary memberships during the next General Assembly in Costa Rica in 2024.



Summary 6th International Symposium on Biological Control of Arthropods (ISBCA) - British Columbia, Canada (Virtually), March 15-17 and 22-24, 2022



This free meeting was held over six days spread out over two weeks to allow attendees to attend to personal and professional responsibilities on non-meeting days. The virtual meeting format with sessions staggered among time zones and a mix of live and on-demand content allowed registered participants from the biological control community around the globe to participate from the comfort of their homes or workplaces, without concerns about travel restrictions. Our sponsors included the International Organization for Biological Control, the Entomological Society of British Columbia and Applied Bionomics.

ISBCA 2022 built upon the 5 previous Symposia. In total, 539 individuals from 56 different countries on all continents except Antarctica were registered (Figure 1), with registrants representing a variety of career stages and types of researchers, students, and other practitioners (Figure 2). Participants presented 68 oral contributions in 13 sessions. Eight of the participants were early career scientists who received an IOBC award which was provided to young researchers who hold an IOBC membership.

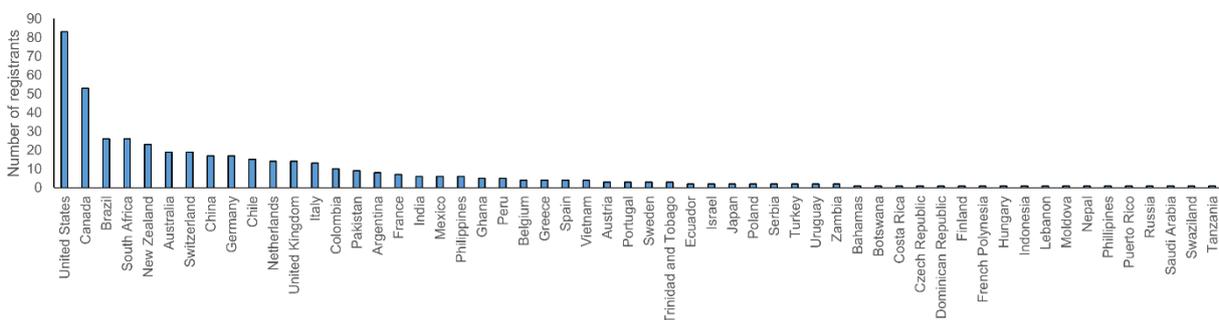


Figure 1. The number of ISBCA 2022 registrants from each country.

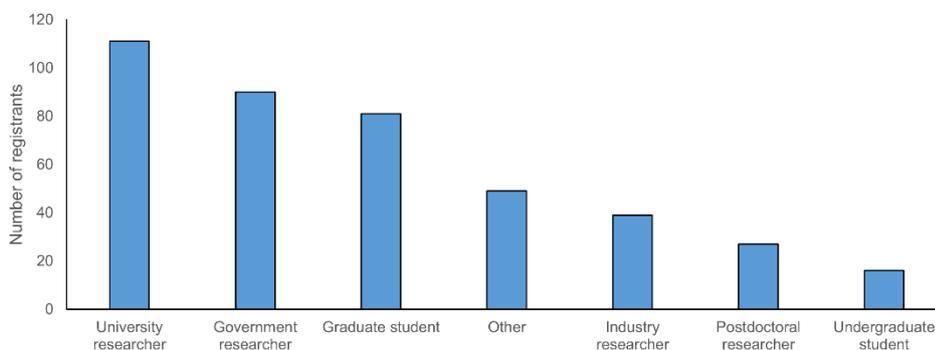


Figure 2. Career stages and institutional affiliations for registrants of ISBCA 2022.

To facilitate viewing by participants in all time zones, each session was recorded live and the recording was made available the following day. The sessions were available for additional

views until one week after the meeting ended. Over this total time period, recorded session videos were viewed more than 700 times.

IOBC Global President Dr. Martin Hill opened the meeting with a plenary address, The current status of biological control of arthropods. Dr. Hill then announced the recipients of the IOBC Awards for Early Career Researchers in Biological Control. A session followed with recipients presenting their work. Eleven scientific sessions covering a range of topics were then presented over the next 5 days of the meetings. Included were sessions on: Challenges and progress in using native and exotic natural enemies for augmentative biological control at field scale; two sessions on Climate change and the disruption of biological control: mitigation strategies for climate smart agriculture; two sessions on the Importance of biological control for the management of invasive species; Underpinning science for the successful use of pathogens in biological control; Sustainable pest regulation in agricultural landscapes in Latin America; Biological control against forest pests: challenges and opportunities; Use of native flower strips in conservation biological control; and Stakeholder knowledge and perceptions of biological control. The first ever Workshop on Biological control of ticks was also presented.

We thank all members of the scientific committee and scientific session organizers who supported the organizing team in a very professional way to ensure a successful delivery of ISBCA 2022. Most importantly, a huge thanks to all the participants for their great understanding, enthusiasm and collaboration to make ISBCA 2022 a success in very difficult times. It was indeed important to catch up and to stay in touch as lots of excellent biological control research is currently being conducted in times of climate change and with an ever more important understanding about the importance of the conservation of biodiversity that agriculture relies upon.

We are looking forward to ISBCA 2026 that will be hosted by Kenya.

Paul K. Abram and Peter G. Mason

Reactions from early career biological control scientists who received an IOBC Global grant to be able to participate in ISBCA 2022

ISBCA 2022 Award Recipients

Nathan Early (Simon Fraser University, Burnaby, British Columbia, CANADA)



My experience joining the ISBCA virtually in the spring of 2022 was exceptional. As a MSc student at a smaller university in Canada, during a global pandemic, I found joining ISBCA 2022 to be truly eye-opening, especially considering the wide scope of biological control research being conducted globally. Hearing from and presenting to a knowledgeable and receptive group of researchers with wide biological control expertise was a thrill and I learned a lot over the two weeks of talks. The open nature of ISBCA (free registration, symposia organized to cover many time zones, etc.) was a breath of fresh air, especially for early career researchers who's progression in science can be hampered by barriers like hefty meeting registration fees. The commitment to fostering the involvement of early career researchers in the ISBCA was so

powerful to me, as having the representation of younger biological control researchers front and centre in the meeting made me feel welcome throughout the weeks. I look forward to the next ISBCA being held in-person, but I would like to see a virtual aspect integrated into the planning of that meeting to help make it more accessible to a wider audience. Over the course of my degree I have joined many a virtual conference and ISBCA 2022 was particularly well executed. I am so glad to have been a part of ISBCA 2022.

Emilie Demard (University of Florida, IRREC, FA, USA)



It was a pleasure and honor to present at the ISBCA. It was my first time attending the ISBCA conference and I enjoyed it for different reasons. First, I appreciated that all sessions were recorded and available online a few days later. Indeed, my work schedule did not allow me to attend some of them, but I could watch them on my own later on. I also enjoyed that a session was dedicated to climate change and biological control. This is an important topic to cover and it will be even more essential in the future. I liked the fact that the research presented came from all around the world (Africa, Europe, Asia, America...). I am originally from France but I never could attend a European meeting due to the pandemic. It

was nice to get an update on the research done there.

Moreover, even though it is nice to have in-person meetings, it is rarely or often impossible for graduate students to attend international conferences due to the high cost of traveling and lodging. In another word, I don't think it would have been possible for me to attend in person if the conference was held abroad. Hence, I am thankful for the opportunity you give me to present at an international conference, this is really helpful for a young researcher's career.

Last but not least, thank you to the organizers and specifically to Paul Abram for the great job communicating with us through emails. The information was really clear and it guided us through the online process. Plus, answers to our questions were always given in a timely manner.

Arash Kheirodin (PhD student, Department of Entomology, University of Georgia, USA)



Firstly, I would like to express my appreciation for organizing such a diverse meeting with participants worldwide. I really enjoyed seeing research projects carried out in different continents and how differently researchers tackle their issues in their home countries. I think this meeting provided an excellent chance (mainly because it was virtual and posed no financial burden) for researchers with different backgrounds to come together and share their research

stories. Unfortunately, I personally did not have the time when some of the talks were live to tune in and watch it online (due to work and to be in the ESA conference at the same time). But, I really appreciated having access to all the recorded sessions, so I got the chance to watch all the presentations that I wanted to see. For that, I really thank the organizer. This is mainly because I participated in the International Congress of Entomology in Orlando (2016). I lost my chance to see many talks that I planned to see, mainly because these were happening simultaneously in different rooms, with no virtual option. So, it is great to have the option to go back and see the presentations and have the chance to do it at your pace,

given the busy schedule. Overall, my experience has been really good, and I appreciate that the organizers selected me to receive one of the early career researcher awards. I am honoured to receive this award.

Once again, I want to express my gratitude to all organizers who did an excellent job just managing such a multi-countries event.

Ryan Paul (Oregon State University/USDA-ARS, Corvallis, Oregon, USA)



It was a pleasure to have the opportunity to present at the ISBCA meeting. Presenting at the virtual conference granted an opportunity to share my research with a wider international audience. Attendance at international conferences is often rare for early career professionals, especially as a presenter. I was surprised to see some presentations so specific to their region and thought connecting them to broader research questions might better match the intended audience to the diversity of the attendees. Overall, though, the meeting was well organized with a pretty good variety in presentations from wide ranging geographies. I am particularly glad that the sessions were recorded and available afterwards as I was unable to attend many of the live presentations. While greater attendance and the ability to view presentations afterwards are nice advantages of the virtual format, I do wish there had been better opportunity to interact with individual speakers and/or organizers. An important aspect of conferences is networking opportunities and I hope to be able to attend a future meeting in person to meet so many prominent biological control researchers from around the world. Overall, I really enjoyed participating in the conference and hope to be able to attend future IOBC organized meetings as well.

Maria Candela Barakat (Centro de Estudios Parasitológicos y de Vectores (CEPAVE)(CONICET-UNLP), Argentina)



It was a great experience for me to have been part of the “Early career researcher awards” session of ISBCA 2022. Even if I was a little nervous, especially since English is not my native language, I think that the opportunity to participate in this event was of great personal benefit to me. The experience of listening so many people who work on such diverse topics, but all with the common goal of improving biological pest control, which is so necessary for the world today, was wonderful.

Finally, I want to thank the great opportunity that the IOCB and the organizers of ISBCA 2022 have given to me. I think it greatly contributed to my personal growth as part of the scientific community. Thanks to the organizers for being patient and helping me with all my queries and concerns. I hope that in the near future I will have another great opportunity like this.

Jeffrey Cleuver (University of Nebraska, Lincoln, Nebraska, USA)



I attended the 2022 ISBCA meeting in March 2022 to give a report on my studies with *Trichogramma ostrinae* and to learn from others about their biological control studies. The opening presentation by Dr. Hill of Rhodes University provided a thorough overview of the benefits of biological control. He also provided

good insights into where the biological control field may improve (e.g., the need to keep people in the field and regional programs to enable the development of programs in less developed countries).

The early career section featured eight talks from researchers across the Americas. This section was interesting as it had a wide range of topics ranging from phytoseiid mites to larval parasitoids. I was particularly fascinated by Emilie Demard's presentation on phytoseiid mites. It was interesting to note that the dominant species have not changed in decades.

Dr. Rose Buitenhuis gave an informative presentation about native biological control agents. I found the comment about the need for generalist predators fascinating. She provided a comprehensive overview of the biological control development process. She made a good point that using native species for biological control may have advantages (i.e., native species are easier to get through regulatory channels and will be more adapted to local conditions).

For the sake of space, I have only given a few examples of what I have taken away from this symposium. My time spent here was informative and worthwhile. Despite being virtual, good, solid connections were easily made.



Pauline Deschodt (Simon Fraser University, Canada)

This year's 6th International Symposium on Biological Control of Arthropods did not disappoint. It is particularly challenging to organize a virtual meeting, even more so an international one. I was impressed by the variety of sessions presented and I enjoyed attending the different live sessions whenever I was able to over the few days dedicated to the symposium. Moreover, the video recordings were a great addition to help deal with the time difference between all the countries involved in the meeting. The diversity of research topics and researchers present was impressive and I am looking forward to the next meeting.

I am also honoured to have been awarded one of the International Organisation for Biological Control (IOBC) Early Career Research awards and I am particularly thankful to have been invited to participate and share my research at the first-ever session on the use of pathogens in biological control at the ISBCA meeting. As a PhD student about to finish my degree, the pandemic has limited my ability to connect with other researchers in my field. Thus, I am very grateful that the ISBCA supported early-career scientists and gave me a platform to share my work.

Honest Machekano (Botswana International University of Science and Technology, Botswana)



I am an active member of IOBC, working on integrated pest management (IPM), particularly on the potential effects of climate change on parasitoid performance in the tropics (mainly southern Africa). I was extremely humbled and excited to be part of the winners of the 6th ISBCA Award for Young Researchers for 2022, I am grateful to IOBC for this award. Thank you.

The 6th ISBCA provided significant insights into research work being done by different established and mid- and early-

career researchers from diverse institutions dotted across the Globe. The presentations were very insightful, informative and provided both new knowledge and updated findings in biological control research. The platform was a conducive, interactive and thought-provoking platform that presented many opportunities to early career researchers like me. I attended most of the presentations, watched some later post presentation and participated in discursive, question and answer sessions that connected me to many new peer researchers. My presentation was well received, and I had a couple of constructive and insightful comments post my presentation that made me think about a whole new dimension that could add value to my current research. The presentations were enriched with new methods, techniques and innovative approaches; all creating a learning opportunity. It was also interesting to learn that the challenges and enablers (whip and carrot) to the uptake of biological control among farmers were generally universal. Landmark success stories of biological control of the Cassava mealybug, cotton-cushion scale, water hyacinth e.t.c., were key eye openers on the potential success of biological control provided researchers are determined. At personal level, participating at the same conference (Global stage) with highly respected, established researchers like Prof. Martin Hill, Prof. Michael Furlong, Prof. Peter Mason (just to mention a few), was very inspiring. The experience encouraged me in so many positive ways. I will never miss an ISBCA conferences again and I will be in Kenya in 2026.

Summary of the International Congress for Invertebrate Pathology and Microbial Control



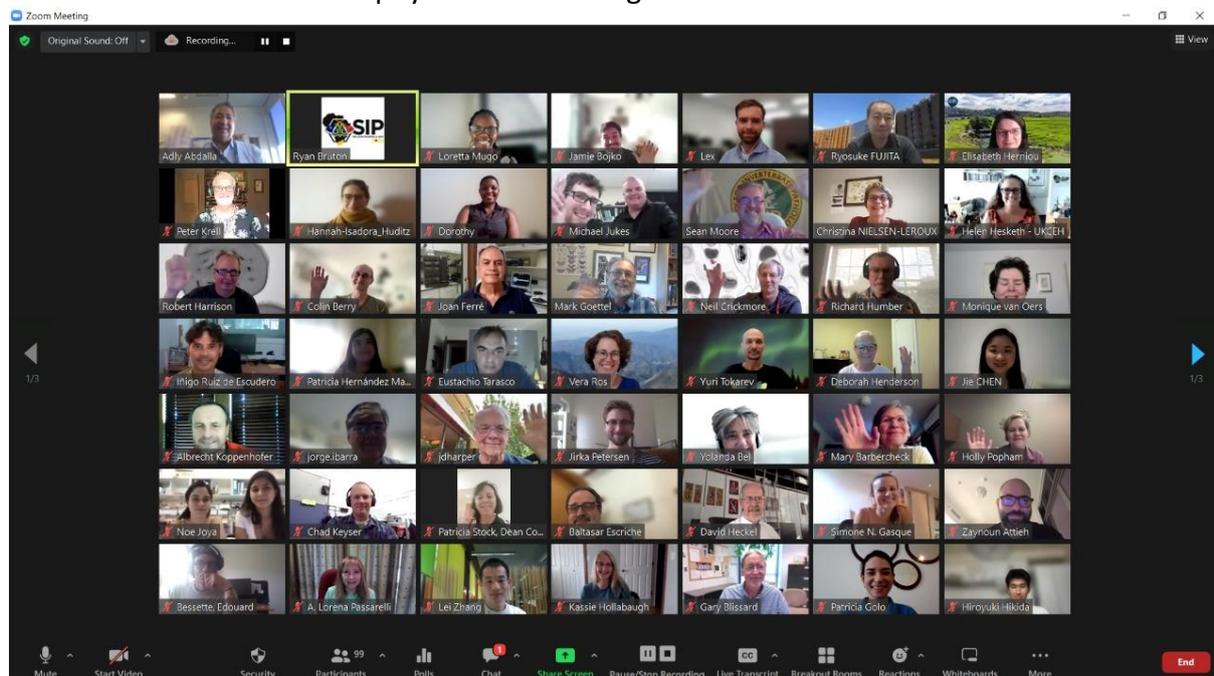
The Society for Invertebrate Pathology (SIP) has been holding yearly congresses for the last 55 years. In July 2019, South Africa successfully presented a bid to hold the meeting in Nelson Mandela Bay in 2021. The global Covid-19 pandemic struck, leading to the cancellation of the 2020 meeting and in 2021 the meeting was held virtually, postponing the South African

meeting to 2022, so that the first SIP meeting hosted by Africa could be held on the continent, in person. Unfortunately, by the end of early-bird registration in April 2022, there was not yet sufficient confidence that the pandemic was over and that global travel could resume as before, indicated by registrations numbers that were well below break-even. Consequently, the difficult decision was once again made to switch the meeting to a virtual format.

This proved to be the right decision, as the International Congress for Invertebrate Pathology and Microbial Control and the 54th Meeting of the Society for Invertebrate Pathology was a tremendous success. It ran from 1-4 August, attracting almost 300 delegates from 33 countries. The meeting began with a Founders lecture, presented by Mark Goettel, honouring the tremendous contribution that the late Lerry Lacey made to insect pathology, microbial control and to the society. A plenary session was then held on the subject of “Microbial biopesticides in lower and middle income countries: success, needs

and challenges”, with speakers covering South and Central America, Asia, South Africa and the rest of Africa.

There were 190 oral and poster presentations at the meeting, including five specialist symposia, organised by society divisions. These were, Virus division: “The insect virome – from sequence detection to classification”; Nematode division: “Entomopathogenic nematodes signalling and behavioural ecology translates into improved sustainable insect management”; Bacteria division: “Bacterial insecticide proteins and fall armyworm control”; Microsporidia division: “Microsporidia diversity and interaction with hosts”; Microbial Control Division: “The future is bright for biocontrol”. The microbial control symposium was particularly thought provoking, challenging all present to embrace the direction in which we need to move globally i.e. towards more bio-intensive integrated pest management. Although, there was natural disappointment at not being able to meet in person, the consensus was that the meeting was an overwhelming success, which ran like a well-oiled machine, showcasing cutting edge science in the relevant disciplines. We hope that in a few years time, some of the younger African invertebrate pathologists will find it within themselves to host the first physical SIP meeting on the continent.



Screen-shot of some of the participants during the SIP business meeting

Research group investigating the application of ecological theory to insect pest control using natural enemies

More than a quarter of overall agricultural yield is lost to insect pests. The main way these losses are curbed is through use of insecticides but these pesticides are harmful to humans and the environment, expensive, and only provide short term protection.

Insect pests can have much larger populations in agricultural settings than in their natural environments. This is often due to their natural enemies, such as predators and parasites, that are less common in agricultural plots.

Biological control is the practice of introducing, augmenting, or supporting naturally occurring enemies to suppress pests. It has been a spectacular success in many cases but not always. Success depends on the selection of the right enemy species, the mode of introduction, enemy compatibility with the environment, and farming practices. For instance, if insecticides are also used then the natural enemy can be killed along with the pest and the pest may soon resurge.

People have benefited from biological control since agriculture began. Designing effective methods is a continuing challenge as new insect pests emerge, agriculture develops and is globalized, climate changes and insects are able to invade new areas.

Biological control is essentially a manifestation of ecological processes in an agricultural setting, so ecological theory, much of which can be expressed using mathematical models, can be used.

Tamar Keasar (University of Haifa, Israel), Michal Segoli (Ben-Gurion University of the Negev, Israel), and Eric Wajnberg (INRAE, France) assembled an international group of a dozen ecologists and entomologists to work together intensively for five months to look for solutions to both theoretical and practical problems in biological control. They formed the research group Mathematical Modelling of Biological Control Interactions to Support Agriculture and Conservation at the Israeli Institute for Advanced Studies. The group is focusing on five important topics that will benefit biological control when considered in an ecological context:

- Predicting the potential success of organisms as natural enemies based on their biological characteristics
- Quantitative accounting of the overall risks and benefits of biological control introductions to native biodiversity
- The role of landscape structure and the movement of pests and enemies in the effectiveness of biological control
- The impact of climate change on the effectiveness of biological control
- The interplay of insecticide application and the performance and persistence of natural enemies

The group is using theory to explore, for instance, if global warming will cause insect communities to become less complex leading to increase or decrease in biological control effectiveness. The group is also working towards practical solutions to specific problems for Israeli farmers, such as devising decision rules for pesticide application in tomatoes based on the presence of natural enemies in the field, guiding biological control of pests in grain storage, and prioritizing locations for effective, area-wide control of orchard pests. The group's tenure at the Israeli Institute for Advanced Studies will culminate in a workshop teaching modeling to graduate students in the fields of agroecology, conservation and plant protection, followed by a three-day 50 delegate international conference on bridging the gap between ecological theory and biological control.

Contact person for this project: Eric Wajnberg - eric.wajnberg@inrae.fr



BioControl, the Official Journal of IOBC

Biocontrol status report 2022

ERIC WAJNBERG

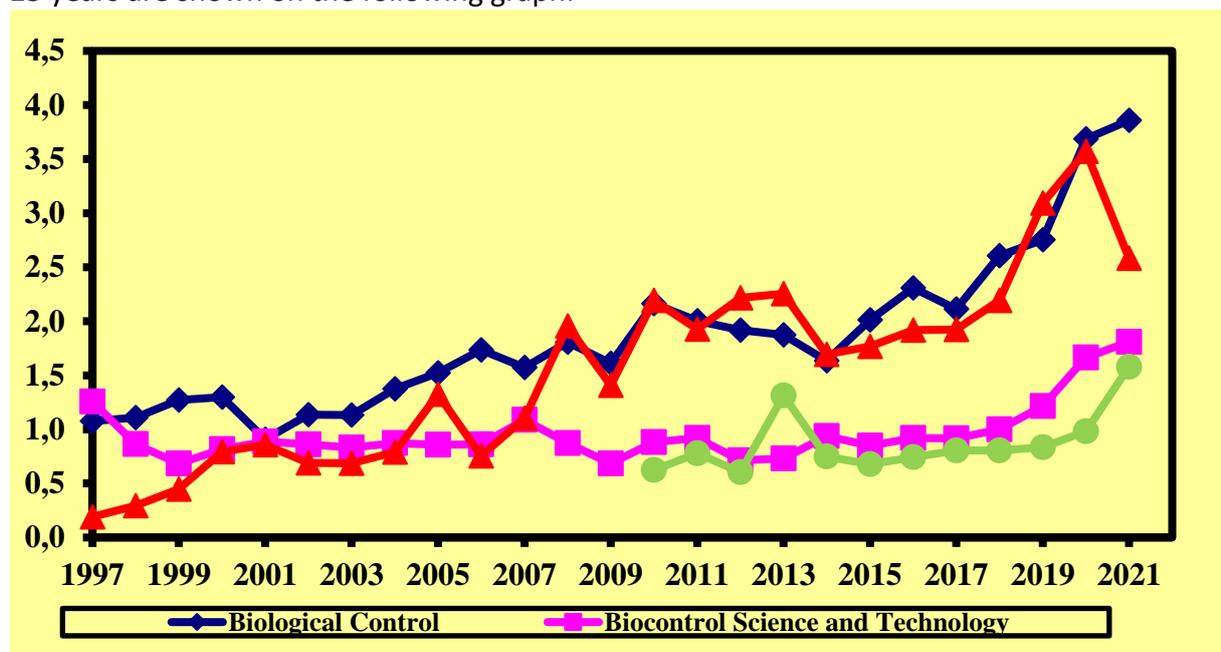
Editor-in-Chief

Sophia Antipolis – France

11 July 2022

Impact Factor

Impact Factors give a relevant, synthetic information about the good health of the journal. Over the last 25 years, the Impact Factor of BioControl regularly increased, except the last one (for 2021) that slightly decreased. The journal remains in the top list of journals dealing with biological control. The evolution of the Impact Factors for these journals over the last 25 years are shown on the following graph:

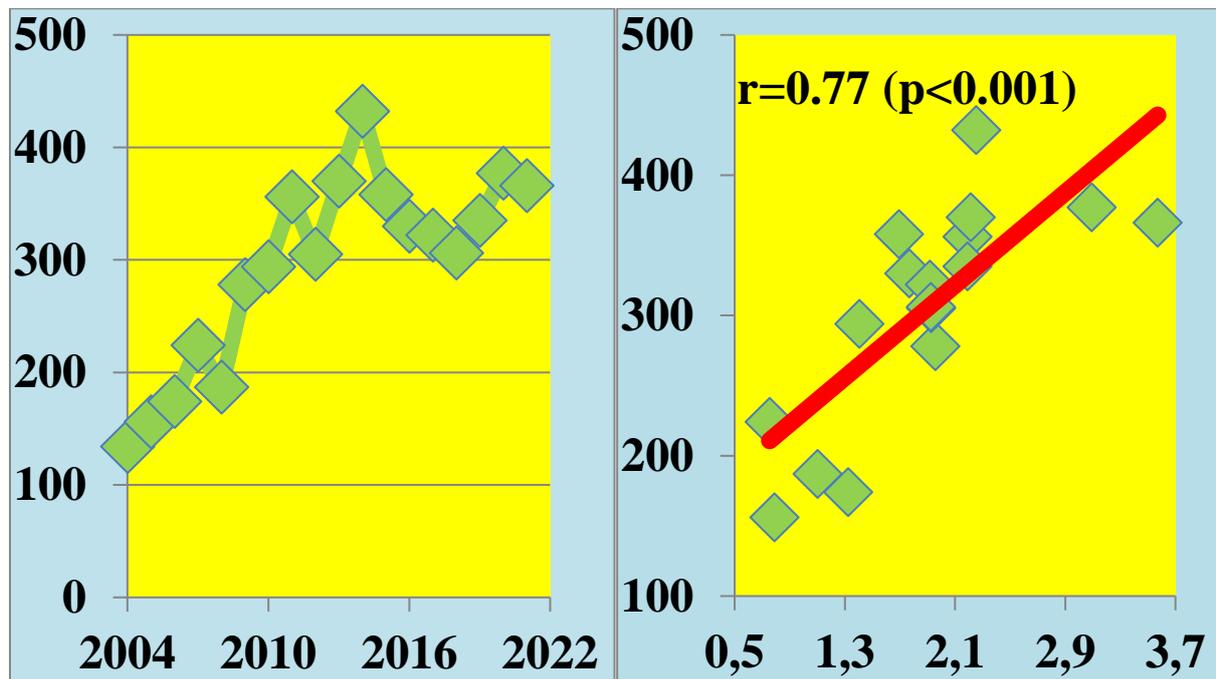


Manuscript flow

BioControl receives an increased number of MS per year from all over the world since 2004 and up to 2014. Then, the number of MS received per year oscillates between 300 and 400, as can be seen in the following graph (left). This also indicates that BioControl remains an important medium attracting authors to submit their original works. Although this look somewhat logical, it is interesting to note that the number of MS received in a given year is positively and linearly correlated with the Impact Factor the journal received in the year just before, as this is shown on the following graph (right).

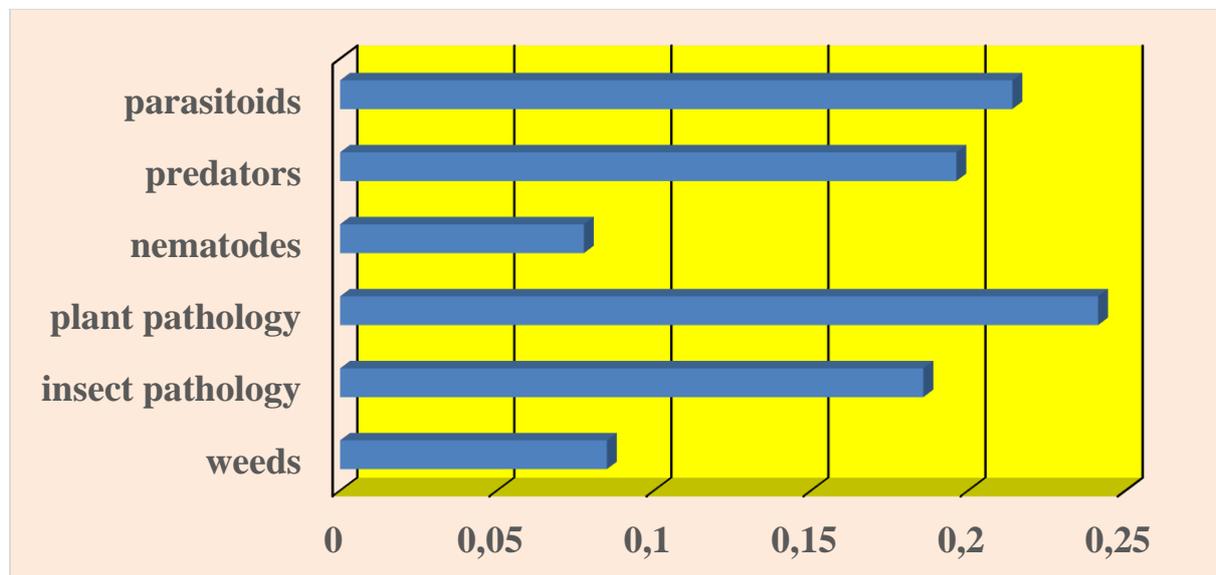
During the last 5 years (2017-2021), BioControl received 1706 manuscripts (MS), leading to more than 28 MS per month (or slightly less than one MS per day), on average.

Although this can still be improved, such a MS submission rate looks really good and provides sufficient material to fill the 6 issues (about 720 pages) published each year.



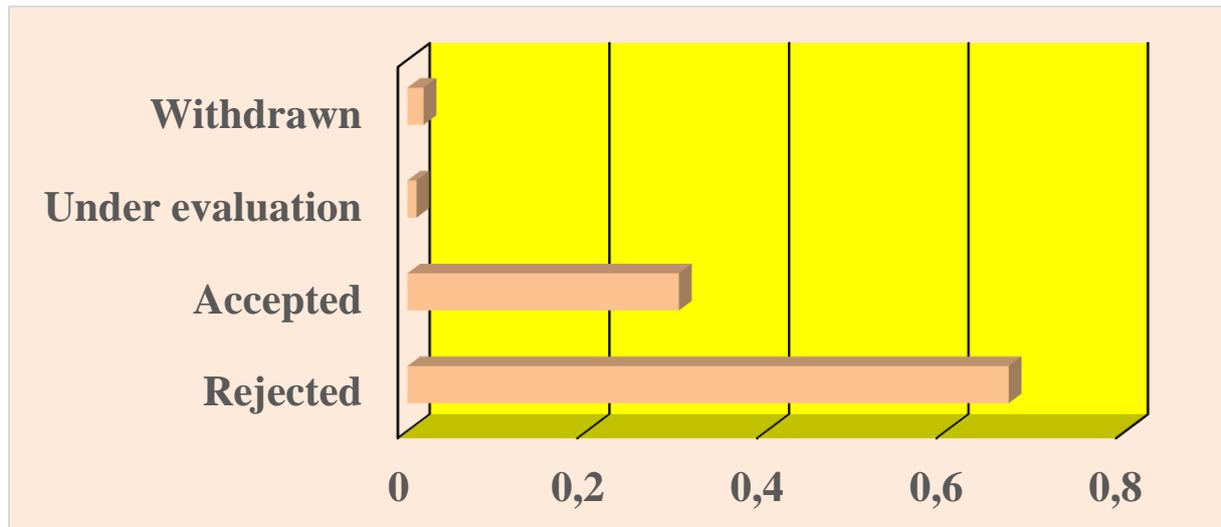
Scientific topics addressed

BioControl publishes original articles on parasitoids, predators, nematodes, plant pathology, insect pathology and weed biological control. The distribution of the MS submitted among these different topics remains stable over the years, and shown on the following graph:



Editorial outputs

The following graphs gives, for the 1706 MS received over the last 5 years, the distribution of the editorial decisions that have been taken:



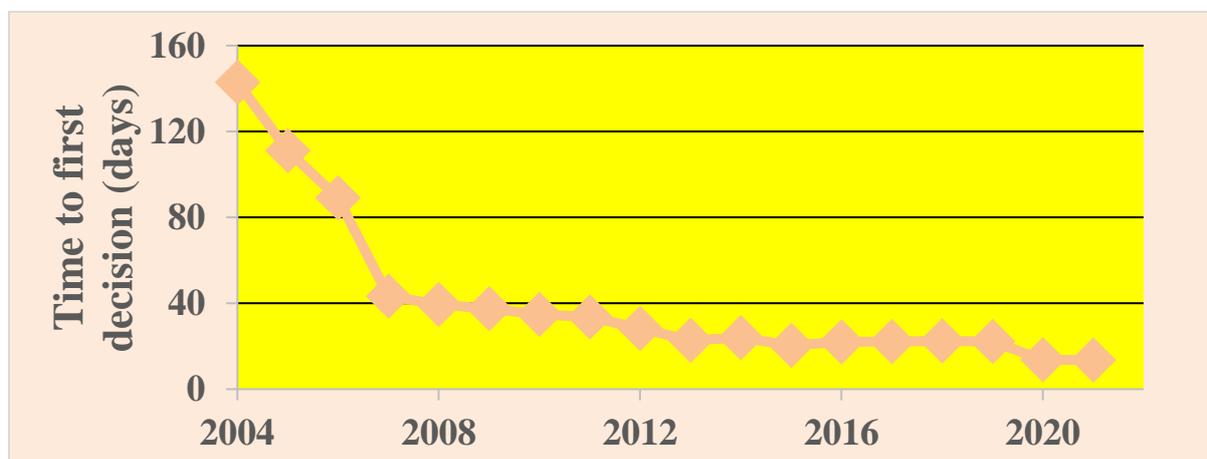
This gives an overall rejection rate of 66.97 %, which remains stable over the years. It has to be noted that an important number of MS are rejected before entering the editorial process. This is due to the fact that BioControl receives a significant number of MS that are either off the scope of the journal, and/or that are poorly prepared and written (e.g., with a poor English use, and/or far to be prepared following the Instructions for Authors).

Editorial Boards

BioControl currently has both a board of 12 Associated Editors, that are in charge of handling the MS submitted to the journal, and an editorial board composed of 21 renown international scientific personalities. A list of associate editors and the editorial board of the journal can be found in a recent issue of BioControl and on the website of the journal (<https://www.springer.com/journal/10526>) The IOBC Global provides some yearly financial compensation for the large amount of work the Associate Editors are doing for the journal.

Main changes done during the previous years

Several improvements were done over the last years to increase the development and international recognition of the journal. First of all, the MS waiting time (i.e., “handling time”) from submission to the first decision was drastically reduced, as can be seen in the following graph:



Special Issues

Since 2008, eight Special Issues were published on a regular basis:

- “From biological control to invasion: The ladybird *Harmonia axyridis* as a model species”. Guest editors: HELEN ROY & ERIC WAJNBERG. Published in issue 1 of volume 53 (2008).
- “Invasive alien arthropod predators and parasitoids: An ecological approach”. Guest editors: HELEN ROY, PATRICK DE CLERCQ, LORI-JAYNE LAWSON HANDLEY, JOHN SLOGGETT, REMY POLAND & ERIC WAJNBERG. Published in issue 4 of volume 56 (2011).
- “Conserving nature with biological control”. Guest editors: ROY VAN DRIESCHE, TED CENTER, KEVIN HEINZ & MARK HODDLE. Published in issue 2 of volume 57 (2012).
- “Biological control of tree diseases”. Guest editors: JESÚS MERCADO-BLANCO & FRANCISCO M. CARZOLA. Published in issue 3 of volume 61 (2016).
- “Unravelling the ecology of an invasive ladybird, *Harmonia axyridis*: From populations to communities”. Guest editors: PETER BROWN, LORI-JAYNE LAWSON-HANDLEY, OLDRICH NEDVED, PaTRICK DE CLERCQ & HELEN ROY. Published in issue 3 of volume 62 (2017).
- “Biological control: Achievements and opportunities”. Guest editors: JACQUES BRODEUR & RUSELL MESSING. Published in issue 1 of volume 63 (2018).
- “Perspectives on progress in classical biological control of weeds”. Guest editors: MARK SCHWARZLÄNDER, CLIFF MORAN & SATHYMURTHY RAGHU. Published in issue 3 of volume 63 (2018).
- “Revisiting the biosafety of exotic generalist arthropod biological control agents”. Guest editors: DAVID ANDOW, BARBARA BARRATT, ROBERT PFANNESTIEL, DÉBORA PIRES PAULA. Published in issue 1 of volume 66 (2021).

Another Special Issue, entitled “Access and Benefit sharing and biological control genetic resources”, is planned (guest editors: PETER MASON and BARBARA BARRATT). It should be published in one of the first issues of 2023. Two other Special Issues have been proposed to the journal and are currently under discussion.

IOBC members are kindly asked to provide their manuscripts to BioControl. The editor in chief is also very interested in ideas for special issues of the journal.

Entomologia Experimentalis et Applicata Special Issue Call for Papers: Biological Control of Weeds – submission deadline September 2022



Invasive alien plants are a major threat to biodiversity, and climate change is predicted to increase their incidence and impact. Biological control entails the intentional release of natural enemies to help control invasive alien plants in the invaded range. This method has been practiced over 100 years worldwide, with hundreds of agents being released against 175 species of target weeds in 90 countries.

To date, releases of weed biocontrol agents have resulted in some level of control for two-thirds of the invasive plants but with large geographic variation. Absence of impact has often been explained by failed establishment (e.g., by climate mismatch or lack of cold-

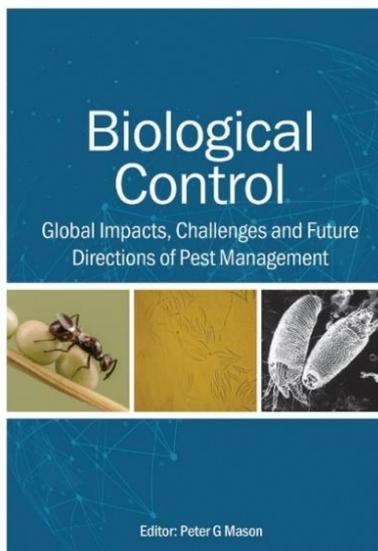
tolerance), whereas minimal impact is sometimes due to predation. Although direct non-target effects are rare in modern practices, evolutionary and climate-driven changes in target–natural enemy interactions, and indirect non-target impacts are still hard to predict. It thus remains a large challenge to improve the frequency and magnitude of biocontrol impact, and assess potential long-term non-target impacts.

Herbivores, including insects and mites, are most often used for biological weed control. More knowledge of the biology of these (candidate or introduced) natural enemies is needed for successful weed biocontrol. This includes study of their genetic variation, effects of the abiotic environment on their performance, and their biotic interactions with the target and non-targets, as well as with their (potential) predators and parasites. Better understanding – and improved prediction – of the geographic variation in biocontrol impact, the post-introduction evolution of biocontrol agents, plant–natural enemy interactions under climate change, and the risks of non-target impacts over time, will further improve weed biocontrol safety and efficacy.

This special issue of *Entomologia Experimentalis et Applicata* on Biological Control of Weeds will reflect the latest achievements in the field. The issue is open to reviews, experimental studies and meta-analyses on biological weed control by arthropod herbivores. Please consult the Journal's Author Guidelines to help you prepare your submission. Submit your article for consideration at <https://mc.manuscriptcentral.com/eea>.

If you are planning to submit a manuscript for this special issue, please contact the Guest Editor, Suzanne Lommen, University of Leiden (s.t.e.lommen@biology.leidenuniv.nl) or the Editor-in-Chief, Dr. Leo Beukeboom, University of Groningen, The Netherlands (l.w.beukeboom@rug.nl)

New Books /Publications on Biological Control and IPM



Biological Control: Global Impacts, Challenges and Future Directions of Pest Management

Edited by Peter G. Mason

The book provides a historical summary of organisms and main strategies used in biological control, as well as the key challenges confronting biological control in the 21st century. Biological control has been implemented for millennia, initially practised by growers moving beneficial species from one local area to another. Today, biological control has evolved into a formal science that provides ecosystem services to protect the environment and the resources used by humanity. With contributions from dedicated scientists and practitioners from around the world, this

comprehensive book highlights important successes, failures and challenges in biological control efforts. It advocates that biological control must be viewed as a global endeavour and provides suggestions to move practices forward in a changing world. *Biological Control* is an invaluable resource for conservation specialists, pest management practitioners and those who research invasive species, as well as students studying pest management science.

For more information and contents of the book, see:
<https://www.publish.csiro.au/book/7821/>



El Control Biológico en América Latina y el Caribe: Su Rica Historia y Su Brillante Futuro

Editado por Joop C van Lenteren, Vanda H P Bueno, María Gabriela Luna and Yelitza C Colmenarez. Editorial Acribia, Zaragoza, España, 542 pp., ISBN: 978-84-200-1265-0

Hard copies (42 Euro + costs of shipping) or eBooks (42 Euro) can be obtained at Acribia (Editorial Acribia <acribia@editorialacribia.com>). The English version of the book (hard copy 175 Euro) can be obtained at CABI (<https://www.cabi.org/bookshop/book/9781789242430/>)

Pocas publicaciones han proporcionado detalles históricos sobre el control biológico de plagas, malezas y enfermedades en América Latina y el Caribe, y los datos han estado fragmentados hasta ahora. Al reunir esta importante información en este libro, se ofrece una visión completa de los avances significativos en control biológico en el Continente suramericano e islas del Caribe. Para cada país, se proporciona una gran cantidad de texto, tablas y referencias sobre la historia de dichos proyectos. Con detalles sobre los éxitos y fracasos, lo cual puede ayudar en la planificación de futuros proyectos de control biológico. El libro proporciona una descripción general de las prácticas actuales de control biológico, revelando un alto nivel de utilización, lo que convierte a la región en la mayor área tratada con control biológico a nivel mundial. En conclusión, el libro describe nuevos desarrollos y especula sobre el futuro del control biológico en América Latina y el Caribe.

Contenido clave:

- Resumen completo y documentado del control biológico en América Latina y el Caribe, junto con registros de plagas invasoras y nativas.
 - Ejemplos únicos de control biológico por conservación, control biológico natural, control biológico clásico y control biológico aumentativo.
 - Treinta capítulos específicos de países redactados por especialistas nacionales.
 - Revela muchos casos de control biológico desconocidos internacionalmente y su investigación histórica.
 - El primer intento serio de estimar cultivos y áreas bajo diferentes tipos de biocontrol.
- Adecuado para estudiantes y profesionales que trabajan en el campo del control biológico, manejo de plagas, biología de invasiones, ecología y comportamiento, MIP y agricultura sustentable.

Call for Biocontrol Training Initiatives

Keen to organise a practical training course in biological control? IOBC-Global may provide financial support

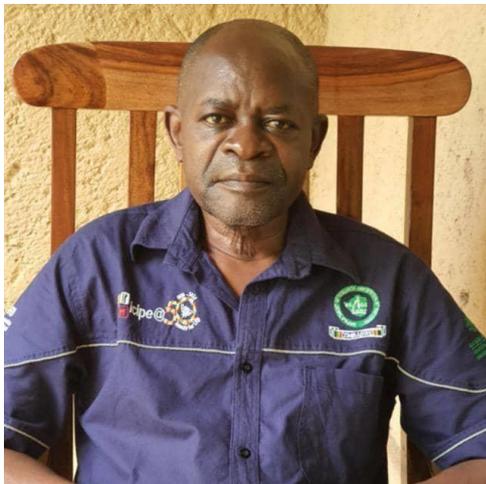
IOBC-Global may financially support participation of young career biological control scientists (< 35 years) who are paying member of one of the Regional Sections of IOBC, so they can take part in a training course. Applications for training courses with participation by young career biocontrol workers should be sent to secretary-general@iobc-global.org who will inform you about guidelines and conditions for funding.

For an example of a recent training course, see the report presented in the previous newsletter about the biocontrol course given in Ecuador in November 2021.

Obituary

Dr Godfrey Pasurayi Chikwenhere

(08 November 1957 – 02 July 2022)



The biological control community has lost a leading figure in invasive weeds' control, Godfrey Pasurayi Chikwenhere. He will be affectionately remembered by his colleagues as a dedicated and passionate entomologist whose love for research knew no bounds. He was a jovial and light hearted character whose demise will forever remain in the hearts of many. During his 36 years as a researcher, he pioneered classical biological control programmes in Zimbabwe particularly on floating invasive aquatic macrophytes. Over these years, Godfrey contributed to the introduction of biological control agents for several aquatic weeds in Zimbabwe, including the

water hyacinth (*Pontederia crassipes*), Kariba weed (*Salvinia molesta*) and water lettuce (*Pistia stratiotes*) on Lakes Chivero and Kariba. He also participated in the inaugural International Organization for Biological Control Working Group Meeting for the Biological and Integrated Control of Water Hyacinth which was held in Zimbabwe in 1998. During these early days, Godfrey also worked with both arthropod and non-arthropod pests including quelea birds, rodents and migratory insects such as locusts and armyworms. In addition, Godfrey also had interests in postharvest entomology and technologies for grain and related products' protection and worked on a diversity of postharvest insect pests of grains, (including wheat, maize and related), tobacco, sugarcane and forestry products. As the deputy focal person for the National Plant Protection Organisation of Zimbabwe, he also worked to prevent the spread of plant pests and diseases through trade.

Godfrey joined the Plant Protection Research Institute in Zimbabwe on 01 October 1986 as a Research Officer. He attained his PhD in Entomology from the Royal Veterinary and Agricultural University, Copenhagen, Denmark in 2000, specialising in the biological control of aquatic weeds. In 2007, he moved to the Lowveld Research Institute in Chiredzi as Head of Station before returning to the Plant Protection Research Institute in 2009. He was later reassigned as Deputy Director in the Research Services Department a position he held until his untimely death. During his career, Godfrey mentored PhD, MSc and BSc students,

published peer and non-peer reviewed articles mainly on biological control of invasive alien plants. Furthermore, he served as an executive member of several bodies including CropLife Zimbabwe, Crop Science Association of Zimbabwe, International Red Locust Control Organization and chaired the Invasive Alien Species National Committee for Zimbabwe.

Godfrey passed away on the 2nd of July 2022. Our thoughts are with his wife, children, and many of his close friends and colleagues.

Regional sections of IOBC Global



APRS

Asia-Pacific Regional Section ([APRS](#))

Contact: Dr. Toni Withers; E-mail:
toni.withers@scionresearch.com



ATRS

Afrotropical Regional Section ([ATRS](#))

Contact: Dr. Désiré Gnanvossou; E-mail:
D.Gnanvossou@cgiar.org



EPRS

East Palearctic Regional Section ([EPRS](#))

Contact: Eduard A. Sadomov, Moscow, Russia; E-mail: o.krivchenko87@yandex.ru



NRS

Nearctic Regional Section ([NRS](#))

Contact: Ricky Lara; E-mail: jlara007@ucr.edu



NTRS

Neotropical Regional Section ([NTRS](#))

Contact: M. Fernanda Cingolani; E-mail: fernandacingolani@cepave.edu.ar



WPRS

West Palearctic Regional Section ([WPRS](#))

Contact: Dr. Paula Baptista
info@iobc-wprs.org

IOBC Global Working Group Contacts and Reports



Mass Rearing and Quality Assurance ([MRQA](#))

Contacts: Maria Luisa Dindo; Email: marialuisa.dindo@unibo.it; Rose Buitenhuis; Email: Rose.Buitenhuis@vinelandresearch.com
Website: <https://www.mrqa.eu>

The workshop, entitled “Delivering on the Increasing Demand for High Quality Invertebrates” will be organized jointly with the Association of Natural Biocontrol Producers (ANBP) and the International Biocontrol Manufacturers’ Association (IBMA). The workshop objective is to explore opportunities for advancing the rearing of high quality entomophagous and phytophagous insects and mites, entomopathogenic nematodes, and other invertebrates for plant and animal pest management, human and animal food, and a variety of other uses. The program will consist of symposia on current “Hot topics,” invited and submitted presentations, and posters on selected aspects of invertebrate rearing and quality assurance

as they relate to production and quality control. Presentations will serve as a basis for discussion and exchange, with the final aim of improving collaboration among scientists and practitioners. For more info, see: <https://www.mrqa.eu/workshop2022/>
 Maria Luisa Dindo and Rose Buitenhuis, Co-convenors of the IOBC Global Mass Rearing and Quality Assurance (MRQA) Working Group



Ecology of Aphidophaga

Contact: J.P. Michaud; Email: jpmi@ksu.edu

We are organizing Ecology of Aphidophaga 15 in Lleida, Catalonia, which will convene September 19-23, 2022. For information, see: <https://aphidophaga15.udl.cat/>

Aphidophaga is a meeting focused on the ecology of arthropods that have evolved feeding relationships with aphids, many of which provide ecological services as biological control agents of pests in agricultural, forest and urban ecosystems. At the Symposium, senior and junior researchers from around the world, graduate students and post-docs, meet to present scientific advances and ideas in a friendly and convivial atmosphere. The Symposium fosters a variety of perspectives on aphid biological control and creates opportunities for multinational collaborations among participants.

Steering Committee, Ecology of Aphidophaga:

J.P Michaud (Chair and IOBC liason), Xavier Pons (Host and local Arrangements Chair, Aphidophaga 15), Kris Giles, Nickolas Kavallieratos, Wolfgang Weisser, Eric Lucas



Biological Control and Management of Eupatorieae Weeds

Contact: Michael Day; Email: Michael.Day@daff.qld.gov.au



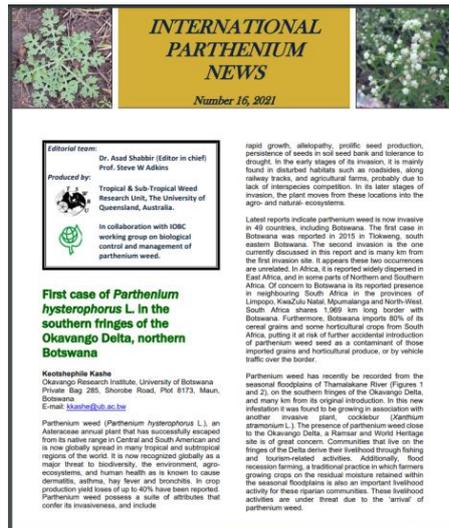
Benefits and Risks Associated with Exotic Biological Control Agents

Contact: George Heimpel; Email: heimp001@umn.edu



International Working Group on *Ostrinia* and other maize pests (IWGO)

Contact: Ulli kuhlmann; Email: u.kuhlmann@cabi.org



Biological Control and Management of Parthenium Weed

Contact: Lorraine Strathie; Email: strathiel@arc.agric.za

International Parthenium News newsletter

The International Parthenium News newsletter was first published in 2010, with the intention to share news, reports, research findings and recent activities on *Parthenium hysterophorus* L. (Asteraceae; parthenium weed) for the International Parthenium Weed Network (IPaWN). This network had been established in 2009, with members from countries around the globe affected by the severe terrestrial invasive herb *Parthenium hys-*

terophorus. An initiative of the Tropical and Sub-tropical Weed Research Unit (TSWRU), at The University of Queensland, Australia, the IPaWN aimed to create awareness about the threat of parthenium weed and to share information on management methods to reduce its adverse impacts.

The IOBC Working Group on Biological Control and Management of Parthenium Weed, which was founded later in 2009, formed a collaboration with the International Parthenium Weed Network to jointly utilise this newsletter for reports on research and activities related to the biological control and management of parthenium weed. This exchange of information has benefitted the IPaWN and the IOBC Working Group on Parthenium Weed. The IOBC Working Group on Parthenium Weed aims to promote the use of sustainable, environmentally safe, economically feasible, and socially acceptable control methods, including biological control, of *Parthenium hysterophorus* in countries where the plant has invaded.

Circulation of news on parthenium weed was maintained through an online discussion group, prior to the formation of the IPaWN, but was strengthened after this network had been launched. Over 100 members from 26 countries initially joined the group, which has grown into a much broader community since 2010. The threat of parthenium weed has urged this community of researchers and implementers to remain active throughout the last decade. During this period, about one hundred articles have been published in the International Parthenium News newsletter since its inception, with contributions from about 30 countries, particularly Pakistan, Australia, South Africa, India, Ethiopia, Nepal, in addition to at least one or more reports from another 23 countries. The biannual publication of the newsletter was maintained until 2015; later it was published annually. Growing attention on parthenium weed in recent journal publications has suggested that it would be beneficial for the newsletter to revert to biannual production again; so, the newly appointed editorial team are working hard to achieve this goal.

All 16 back issues of the International Parthenium News newsletter are available on the Asian-Pacific Weed Science Society website (<http://apwss.org.in/apwss-ipawn.htm>). Requests for addition to the newsletter mailing list can be directed to Prof Steve Adkins (e-mail s.adkins@uq.edu.au).

Editor-in-Chief Dr Rungping Mao; E-mail: r.mao@uq.net.au



Biological Control of Diamondback Moth & other Crucifer Insects

Contact: R. Srinivasan; Email: srini.ramasamy@worldveg.org

The Proceedings of the VIII International Conference on Management of the Diamondback Moth and other Crucifer Insect Pests (held during March 4-8, 2019) has been published. Twenty four articles presented as oral and poster presentations in the conference in seven scientific sessions, viz., Diamondback moth and other crucifer pest: the global challenge in a changing climate, Biology, Ecology and Behavior of Diamondback Moth and Other Crucifer Pests, Biological and non-chemical methods of management of crucifer pests (including organic agriculture), Insect Plant Interactions, Host Plant Resistance, and Chemical Ecology of Crucifer Pests, Insecticide Resistance and Management in Crucifer Pests, Genetic approaches to manage crucifer pests, and At the Farm and Landscape Level: Barriers to and Innovations for Management of Crucifer Pests have been published in the proceedings, which can be accessed at <https://worldveg.tind.io/record/74465/files/eb0521.pdf>



IOBC Global Cactus Working Group

Contact: Iain Paterson; Email: i.paterson@ru.ac.za; website:

www.ru.ac.za/centreforbiologicalcontrol/globalcactusworkinggroupgcwg/nextmeeting

The 2nd International Organization for Biological Control (IOBC) Global Cactus Working Group (GCWG) Meeting will be taking place at the Arebbusch Travel Lodge in Windhoek, Namibia (<https://www.arebbusch.com/>), September 2022.

Aims of the meeting

- Raise awareness about the threat of invasive alien Cactaceae to natural and agricultural ecosystems
- Highlight recent research and developments in cactus biological control
- Encourage collaboration on common problems and the sharing of effective biological control agents with countries that need them
- Developing an early warning network for new species that do not have effective biological control agents
- Increase communication between biocontrol of cactus pests and biocontrol of the pests of cactus crops

<https://www.ru.ac.za/centreforbiologicalcontrol/globalcactusworkinggroupgcwg/nextmeeting/>



CroProPol - Using Managed Pollinators to Disseminate Biological Control Agents & Natural Products

Contact: Peter Kevan; Email: pkevan@uoguelph.ca

The next meeting of this group will likely take place in conjunction with the XII International Pollination Symposium in Cape Town, South Africa in September/October 2023. More news later on the IOBC Global website.



Study Group: Classical Weed Biological Control (CWBC)

Contact: Harriet Hinz (CABI, Switzerland), h.hinz@cabi.org

Website: https://www.iobc-global.org/global_sg_Classical_Weed_BC.html

Upcoming meeting of this group:

XVI International Symposium on Biological Control of Weeds

New date: 7th – 12th of May, 2023; Puerto Iguazú, Misiones, Argentina.

Iguazú Events and Conventions Center (Amérián Hotel): <https://isbcw-iguazu.com/>



Study Group: Biological control of insect pests of Solanaceous Crops (IOBC-BiCoSol)

Contact: Yulin Goa (Institute of Plant Protection, Chinese Academy of Agricultural Sciences) gaoyulin@caas.cn

The first – virtual – meeting of this group is planned for November 2022. Please check the IOBC Global website for dates and access.



IOBC Global Commission on Biological Control and Access and Benefit Sharing

Contact: Peter Mason; Email: peter.mason@agr.gc.ca

2020-2022 Actions: A symposium, *Access and Benefit Sharing and Biological Control Genetic Resources*, was organized by Peter

Mason and Barbara Barratt for the International Congress of Entomology in Helsinki, Finland. A proposal was made to BioControl to publish a special issue that will include full papers based on the symposium presentations plus contributions by others.

Future actions: The IOBC Global Commission on Access and Benefit-Sharing revised the questionnaire, which is now circulated to the wider IOBC community (via IOBC Global newsletter and website). The Commission has also been tasked to document examples of experiences by recipients to access biological control agents from countries with and without ABS legislation. Some of these could be included in the proposed BioControl special issue and Commission members are encouraged to express their interest to contribute.

IOBC Global Executive Committee

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Centre for Biological Control
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Email: m.hill@ru.ac.za



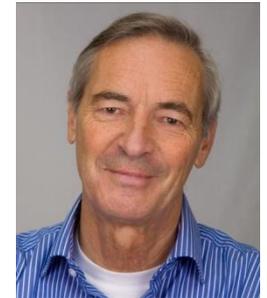
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