



# CABI Science Report

**2020**

Issued May 2021

[www.cabi.org](http://www.cabi.org)

**KNOWLEDGE FOR LIFE**



The copyright holder of this work is CAB International (trading as CABI). It is made available under a Creative Commons Attribution-Non-commercial Licence (CC BY-NC). For further details please refer to <http://creativecommons.org/licenses>.

CABI is an international intergovernmental organization, and we gratefully acknowledge the core financial support from our member countries (and lead agencies) including the United Kingdom (Foreign, Commonwealth & Development Office), China (Chinese Ministry of Agriculture and Rural Affairs), Australia (Australian Centre for International Agricultural Research), Canada (Agriculture and Agri-Food Canada), the Netherlands (Directorate-General for International Cooperation) and Switzerland (Swiss Agency for Development and Cooperation) See <http://www.cabi.org/about-cabi/who-we-work-with/key-donors/> for full details.

CABI (2021) CABI Science Report 2020. CABI, Wallingford, UK, 44 pp.

# Contents

1. Implementing the CABI Science Strategy.....	2
Maintain CABI's annual publication record .....	3
CABI's research published open access .....	3
Support for the preparation of research papers .....	4
CABI scientific publication recognition scheme 2019.....	4
CABI Scientific Outputs Portal (CSOP) further developed and updated.....	5
Effective scientific reporting mechanisms.....	5
Public relations support for CABI's scientific papers published in 2020 .....	5
Research students (MSc, PhD etc.) and interns (summer students).....	5
Strategically important scientific review/synthesis papers published.....	6
The BIOCAT database.....	6
2. Scientific outputs.....	6
2.1. Honours, honorary roles .....	6
2.2. Support to international scientific meetings .....	9
2.3. Journal contributions .....	10
2.4. Publications.....	12
2.4.1. Books, proceedings and manuals (5).....	12
2.4.2. Peer-reviewed papers (133) .....	12
2.4.3. Book chapters and proceedings papers (16).....	22
2.4.4. Not peer-reviewed (7).....	23
2.4.5. Completed theses (15).....	24
2.4.6. Published datasets (2) .....	25
2.4.7. 2019 Publications not previously listed (4) .....	25
2.5. Scientific project reports (69).....	25
2.6. Oral presentations at scientific meetings (64) .....	30
2.7. Poster presentations at scientific meetings (2) .....	33
3. Other outputs .....	34
3.1. Support for introduction of classical biological control agents .....	34
3.2. Plantwise extension material .....	34
3.3. Distribution maps of plant pests/diseases .....	35
4. CABI staff, students and associates.....	35
4.1. Scientific staff .....	35
4.2. CABI staff working towards a research degree.....	40
4.3. Research students.....	40
4.4. Masters of Advanced Studies in Integrated Crop Management.....	41
4.5. CABI Associates .....	42
4.6. Visiting scientists.....	43
4.7. Technical support.....	43
4.8. Temporary research students.....	44

# 1. Implementing the CABI Science Strategy

In this section we present highlights from a number of areas anticipated in the CABI Science Strategy,<sup>1</sup> 2017–2019, much of it supported by the CABI Development Fund (CDF). This includes an external review of CABI's science commissioned in 2020, to report in April 2021. The review team comprised Prof. Christian Borgemeister (chair), Prof. Wanjiku Chiuri, Dr C. André Lévesque, Dr Willem J. Ravensberg, Dr Katherine Warner and Prof. Sileshi Gudeta Weldesemayat, with editorial assistance from Janet Stewart. The terms of reference include a retrospective analysis of CABI's science programme since the last review (2015), addressing questions including:

- Response to and implementation of recommendations from the 2015 Science Review
- Delivery on the CABI Science Strategy 2016–2019
- Scientific publications' quality and impact
- Quality of science/resources/people in key areas
- Science relevance/responsiveness to member country priorities
- The role of strategic scientific institutional partnerships (e.g. joint labs)
- Communication of our science outputs (visibility, website, social media)
- Development of CABI's social and economic science capability
- CABI's response to the Nagoya Protocol (ABS policy, guidelines and progress with implementation)

and analysis and recommendations for the future, including aspects such as:

- What should CABI's focus areas be, building on current areas of actual (or perceived) strength? Specifically include consideration of social and economic science, impact assessment, climate change and gender among other topics
- Based on the identified key areas to build on for the future, how do we optimize our science programme towards achieving CABI's mission and goals?
- What new and emerging technologies, facilities and skillsets should we consider in order to pursue the recommended focus areas?
- Accordingly, identify areas where stronger external links and collaboration including existing and potential joint labs with national agricultural research partners would lead to greater impact in prioritized areas, and suggest good strategic partners
- The future role of young researchers in CABI's science strategy (research studentships; MAS-ICM students; future staff members) and how this could be resourced
- Comment on the need for a CABI ethics review/oversight process, and what form(s) this might take
- The optimum inter-relationship between CABI's science programme and CABI Publishing initiatives (particularly CABI Agriculture and Bioscience, agrXriv, SciDevNet)
- How should we disseminate, monitor and evaluate our science going forwards, including publications, open access and social media? Comment on CABI's current policy, guidelines and future targets with regard to open access of publications and open data

The outputs of the review will be reflected in an update of CABI's Science Strategy to be prepared in 2021.

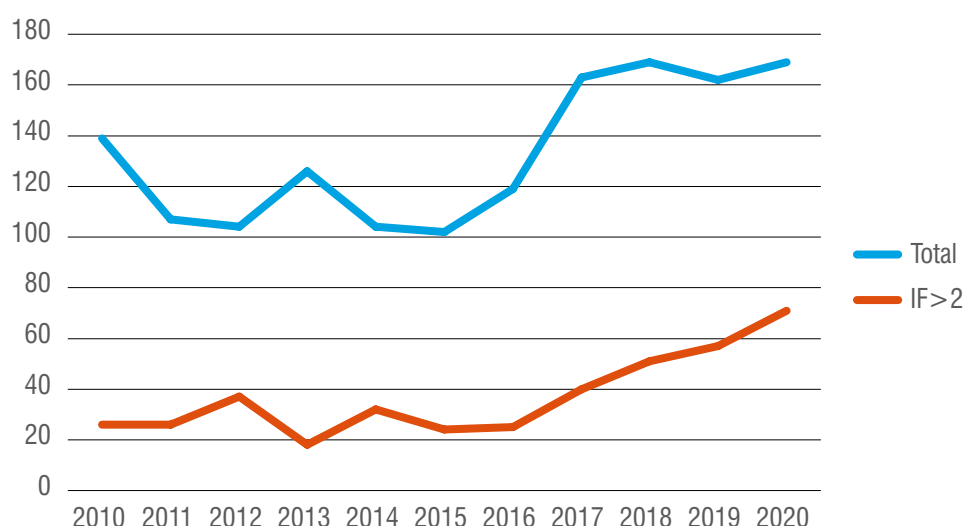
---

<sup>1</sup> <https://www.cabi.org/Uploads/CABI/about-us/4.8.5-other-business-policies-and-strategies/Science%20strategy.pdf>

## Maintain CABI's annual publication record

It is one of CABI's corporate key performance indicators to produce at least 100 scientific publications each year, of which at least 30 are in journals with an impact factor greater than 2.00 that year. The table below summarizes the listings that are shown later in this report (Section 2), while the graph shows the trend since 2010; it can be seen that we significantly exceeded both targets in 2020.

Scientific publications in 2020	Open access	Not open access	Total
Total number of publications	102	67	169
Number of peer-reviewed publications	94	39	133
Number of publications in journals with a 2019 impact factor >2	50	21	71
Papers with a social and economic science focus	23	5	28
Not peer-reviewed	2	13	15
Books, proceedings and manuals	2	3	5
Book chapters and proceedings papers	12	4	16



**Total annual number of publications by CABI staff since 2010, and the number appearing in journals with an impact factor greater than 2.00 (IF>2)**

Since 2018, a second CABI corporate key performance indicator has been that at least 15 of our published papers should have a strong social and/or economic focus. In 2020, 28 publications were considered to meet this criterion.

## CABI's research published open access

In a further CABI corporate key performance indicator, CABI aimed to publish its research open access, depending on the requirements of the sponsors, specifically all of CABI's core research published in peer-reviewed journals with a CABI staff member lead or corresponding author should be open access. In 2020, 43 of 47 such papers (91%) were published open access (section 2.4.2). The costs were met from projects (when appropriate), CDF and centre budgets.

## Support for the preparation of research papers

CABI has used CDF funding to support the publication of selected papers, particularly those arising from completed projects, where resources are not otherwise available. The following papers published in 2020 received support in this way.

**Babendreier, D.**, Hou, M., **Tang, R.**, **Zhang, F.**, Vongsabouth, T., Win, K.K., Kang, M., Peng, H., Song, K., **Annamalai, S.** and Horgan, F.G. (2020) Biological control of lepidopteran pests in rice: a multi-nation case study from Asia. *Journal of Integrated Pest Management* 11(1, 5), 11 pp. <https://doi.org/10.1093/jipm/pmaa002>

**Witt, A.B.R.**, **Nunda, W.**, **Beale, T.** and Kriticos, D.J. (2020) A preliminary assessment of the presence and distribution of invasive and potentially invasive alien plant species in Laikipia County, Kenya, a biodiversity hotspot. *Koedoe* 62(1), a1605, 10 pp. <https://doi.org/10.4102/koedoe.v62i1.1605>

Wyckhuys, K.A.G., Lu, Y., Zhou, W., **Cock, M.J.W.**, Naranjo, S.E., Fereti, A., **Williams, F.E.** and Furlong, M.J. (2020) Ecological pest control fortifies agricultural growth in Asia–Pacific economies. *Nature Ecology and Evolution* 4(11), 1522–1530. <https://doi.org/10.1038/s41559-020-01294-y>

## CABI scientific publication recognition scheme 2019

A Scientific Publication Recognition scheme for CABI's scientists was designed, resourced from the CDF, and piloted across CABI in 2017. In 2020, five awards to recognise achievements in 2019 were made of £2000, each to be spent as the awardee decided in support of CABI's scientific programme.

- **Award 1:** The CABI staff member with the largest number of authored/co-authored papers in journals with 2019 IF>2 in 2019. Marc Kenis – for ten authored/co-authored papers.
- **Award 2:** The CABI staff member who has published a paper as first author in the highest impact factor journal in 2019. René Eschen – for the following paper: **Eschen, R.**, O'Hanlon, R., Santini, A., Vannini, A., Roques, A., Kirichenko, N. and **Kenis, M.** (2019) Safeguarding global plant health: the rise of sentinels. *Journal of Pest Science* 92, 29–36. <https://doi.org/10.1007/s10340-018-1041-6> (Impact factor 5.133).
- **Award 3:** The CABI staff member with a paper (authored/co-authored) published since 1 January 2015 with the largest number of citations on Google scholar, as established on 31 December 2019. René Eschen and Marc Kenis – for the following paper with 173 citations: Roy, H.E. and 55 co-authors including **Eschen, R.** and **Kenis, M.** (2016) The harlequin ladybird, *Harmonia axyridis*: global perspectives on invasion history and ecology. *Biological Invasions* 18(4), 997–1044. <https://doi.org/10.1007/s10530-016-1077-6>
- **Award 4:** The CABI staff member with the first author paper with a social or economic science focus in the journal with the highest impact factor in 2019. Monica Kansime – for the paper: **Kansime, M.K.**, **Mugambi, I.**, **Rwomushana, I.**, **Nunda, W.**, **Lamontagne-Godwin, J.**, **Rware, H.**, **Phiri, N.A.**, Chipabika, G., Ndlovu, M. and **Day, R.** (2019) Farmer perception of fall armyworm (*Spodoptera frugiperda* J.E. Smith) and farm-level management practices in Zambia. *Pest Management Science* 75(10), 28400–2850. <https://doi.org/10.1002/ps.5504>
- **Award 5:** The CABI staff early career scientist (no PhD or PhD held less than three years on 1 January 2020) who has published a paper as first author in the highest impact factor journal in 2019. Muhammad Faheem – for the following paper: **Faheem, M.**, Saeed, S., Sajjad, A., Wang, S. and Ali, A. (2019) Spatio-temporal variations in wheat aphid populations and their natural enemies in four agroecological zones of Pakistan. *PLoS ONE* 14(9):e0222635, 14 pp. <https://doi.org/10.1371/journal.pone.0222635> (Impact factor 2.776)

Although not in recognition of publications as such, a new award in a similar format is being introduced in 2021. Named after our late colleague, the Carol Ellison Science Award will be awarded to a student doing her/his research with CABI, or an early career CABI researcher, with the objective of enriching their research experience with CABI.

## CABI Scientific Outputs Portal (CSOP) further developed and updated

All new scientific papers, articles and reports published by CABI scientists are available on the website [www.cabi.org/cso](http://www.cabi.org/cso). Only new publications were added during 2020, and by the end of the year, the CSOP held 6,585 records, an increase from 6,305 records at the end of 2019.

## Effective scientific reporting mechanisms

The Science Strategy recognized the need for a record of work to monitor publications, reports, talks and posters presented, research students, major scientific contributions, etc. This annual science report provides the primary record of all these scientific outputs (sections 2 and 3). In addition, an internal publications pipeline spreadsheet is in use which enables the progress of all staff publications to be monitored from concept to publication.

## Public relations support for CABI's scientific papers published in 2020

The CABI communications team supports its scientists with a full range of public relations (PR), marketing and design functions including the drafting and issuing of press releases using the EurekAlert! and AlphaGalileo platforms and databases, the writing of blogs for the CABI Blog, Invasives Blog and Plantwise Blog, as well as writing thought leadership articles for placement in external media. Posts are made on CABI's News, Invasives and Plantwise Twitter, Facebook and LinkedIn accounts (linking to the news stories on CABI's website and/or the paper).

During 2020, the CABI communications team provided PR support for 26 papers. These were selected based on CABI's role, the impact of the journal and the perceived newsworthiness of the science published. For these 26 papers, a total of 394 items of media coverage were generated, with a combined estimated audience reach of over 45 million.

The three papers with the most media coverage achieved were:

- **Schaffner, U.**, Steinbach, S., Sun, Y., Skjøth, C.A., Weger, L.A. de, Lommen, S.T., **Augustinus, B.A.**, Bonini, M., Karrer, G., Šikoparija, B., Thibaudon, M. and Müller-Schärer, H. (2020) Biological weed control to relieve millions from *Ambrosia* allergies in Europe. *Nature Communications* 11(1745), 7 pp. <https://doi.org/10.1038/s41467-020-15586-1>  
108 items of coverage and a reach of 23 million.
- **Taylor, P.** and **Reeder, R.** (2020) Antibiotic use on crops in low and middle-income countries based on recommendations made by agricultural advisors. *CABI Agriculture and Bioscience* 1(1), 14 pp. <https://doi.org/10.1186/s43170-020-00001-y>  
83 items of media coverage and a reach of 10 million.
- Pathak, A., Nowell, R.W., Wilson, C.G., **Ryan, M.J.** and Barraclough, T.G. (2020) Comparative genomics of Alexander Fleming's original *Penicillium* isolate (IMI 15378) reveals sequence divergence of penicillin synthesis genes. *Scientific Reports* 10, 15705 [10 pp.]. <https://doi.org/10.1038/s41598-020-72584-5>  
85 pieces of coverage and a reach of 9 million.

## Research students (MSc, PhD etc.) and interns (summer students)

In 2020, we hosted 26 research students (section 4.3, 13 MSc and 11 PhD) and 22 interns, of whom 13 were at the centre in Switzerland (section 4.7).

## Strategically important scientific review/synthesis papers published

The CABI Science Strategy calls for CABI staff to be involved in the publication of strategically important scientific review/synthesis papers. Examples from 2020 in which CABI staff took a lead include:

**Babendreier, D., Agboyi, L.K.**, Beseh, P., Osae, M., Nboyine, J., Ofori, S.E.K., Frimpong, J.O., **Clotey, V.A.** and **Kenis, M.** (2020) The efficacy of alternative, environmentally friendly plant protection measures for control of fall armyworm, *Spodoptera frugiperda*, in maize. *Insects* 11(240), 21 pp. <https://doi.org/10.3390/insects11040240>

**Hinz, H.L.**, Winston, R.L. and Schwarzländer, M. (2020) A global review of target impact and direct nontarget effects of classical weed biological control. *Current Opinion in Insect Science* 38, 48–53. <https://doi.org/10.1016/j.cois.2019.11.006>

**Schaffner, U.**, Hill, M., Dudley, T. and D'Antonio, C. (2020) Post-release monitoring in classical biological control of weeds: assessing impact and testing pre-release hypotheses. *Current Opinion in Insect Science* 38, 99–106. <https://doi.org/10.1016/j.cois.2020.02.008>

## The BIOCAT database

CABI's BIOCAT database is a record of the use of insect biological control agents for the control of insect pests. Work continued to update the database and a start was made in the development of a user interface to allow public access. One paper was published in 2020 that benefited from the use of data extracted from BIOCAT:

Wyckhuys, K.A.G., Lu, Y., Zhou, W., **Cock, M.J.W.**, Naranjo, S.E., Fereti, A., **Williams, F.E.** and Furlong, M.J. (2020) Ecological pest control fortifies agricultural growth in Asia–Pacific economies. *Nature Ecology and Evolution* 4(11), 1522–1530. <https://doi.org/10.1038/s41559-020-01294-y>

## 2. Scientific outputs

### 2.1. Honours, honorary roles

Location	Name	Honour / role	Date(s)
Brazil	Colmenarez, Yelitza	Member, Advisory Panel, International Organisation for Biological Control – Neotropical Regional Section (IOBC – NRS)	From 2010
Brazil	Colmenarez, Yelitza	Coordinator, Working Group Conservation Biocontrol, working group of the IOBC – NRS	From 2019
Brazil	Colmenarez, Yelitza	Member, Working Group on Parasitoids of Neotropical Region, working group of the IOBC – NRS	From 2014
China	Li, Hongmei	Adjunct Professor, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2019
China	Li, Hongmei	Postgraduate Supervisor, Beijing University of Agriculture	From 2019
China	Zhang, Feng	Adjunct Professor, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2013
China	Zhang, Jinping	Adjunct Professor, Jilin Agricultural University	From 2018
Hungary	Toepfer, Stefan	Adjunct Professor, Faculty of Agricultural and Environmental Sciences, Szent Istvan University, Godollo, Hungary	From 2012
Hungary	Toepfer, Stefan	Visiting Professorship, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2015



Kenya	Kansiime, Monica; Karanja, Daniel; Migiro, Lorna; Oduor, George; Oronje, Mary Lucy	Member of multi-institutional Production Committee of the National Horticulture Transformation Technical Working Group (NHTTWG), Horticultural Division, State Department of Crop Development and Agricultural Research, Ministry of Agriculture Livestock Fisheries and Cooperatives (MoALF&C)	From 2019
Kenya	Mulema, Joseph	Member of Platform for Agricultural Risk Management (PARM) Advisory Committee	From 2020
Kenya	Mulema, Joseph	Member of Steering Committee for Intersectoral Forum on Agrobiodiversity and Agroecology in Kenya	From 2020
Kenya	Oduor, George	Standards and Trade Development Facility Working Group	From 2018
Kenya	Rwomushana, Ivan	Member of the Emergency Locust Response Programme National Project Steering Committee	From 2020
Kenya	Rwomushana, Ivan	Member of the FAO Africa Regional Fall Armyworm Steering Group	From 2020
Kenya	Witt, Arne	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	From 2014
Malaysia	Annamalai, Sivapragasam	Member, Advisory Panel for Coconut R&D projects in MARDI	Ongoing
Malaysia	Annamalai, Sivapragasam	Member, Editorial Board, Vietnam Academy of Agricultural Sciences	Ongoing
Switzerland	Babendreier, Dirk	Visiting Professorship, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2018
Switzerland	Eschen, René	Member of the International Forest Quarantine Research Group	From 2010
Switzerland	Eschen, René	Coordinator, Working Group 7.03.12 – Alien invasive species and international trade, International Union of Forest Research Organizations	From 2014
Switzerland	Eschen, René	Member of the International Union of Forest Research Organizations Task Force Forests and Biological Invasions	From 2015
Switzerland	Haye, Tim	Member of Swiss Committee for Biosafety	From 2015
Switzerland	Haye, Tim	Member of the PhD Council in Agri-Food Sciences, Technologies and Bio-Technologies (STEBA), University of Modena und Reggio Emilia, Italy	From 2019
Switzerland	Hinz, Hariet	Affiliated Professor, Department of Plant, Soil and Entomological Sciences, University of Idaho, USA	From 2002
Switzerland	Hinz, Hariet	Co-convenor, IOBC Study Group on Classical Weed Biological Control	From 2020
Switzerland	Kenis, Marc	Member of the Scientific Committee of the Swiss Biological Records Center	From 2012
Switzerland	Kenis, Marc	Coordinator of the Fall Army Worm sub-group of the IOBC-IWGO	From 2020
Switzerland	Kenis, Marc	Co-chair of the FAO technical working group for biological control	From 2020
Switzerland	Kuhlmann, Ulrich	Adjunct Professor, Department of Entomology, University of Manitoba, Canada	From 2000
Switzerland	Kuhlmann, Ulrich	Convenor, International Working Group of <i>Ostrinia</i> and other maize pests – a global working group of the International Organization of Biological Control	From 2005
Switzerland	Kuhlmann, Ulrich	Member, International Advisory Board of IPP-CAAS, China	From 2018
Switzerland	Kuhlmann, Ulrich	Visiting Professorship, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2013
Switzerland	Schaffner, Urs	Affiliated Professor, Department of Plant, Soil and Entomological Sciences, University of Idaho, USA	From 2008

Switzerland	Seehausen, Lukas	Deputy Coordinator, Working Group 7.03.13 – Biological control of forest insects and pathogens, International Union of Forest Research Organizations	From 2020
Switzerland	Weyl, Philip	Affiliated Professor, Department of Plant, Soil and Entomological Sciences, University of Idaho, USA	From 2020
Switzerland	Weyl, Philip	North American Invasive Species Management Association (NAISMA) biological control committee member	From 2020
Uganda	Alokit, Christine	Member of National Sanitary and Phytosanitary Task Force of the Uganda (Ministry of Agriculture, Animal Industry and Fisheries) MAAIF	From November 2020
Uganda	Alokit, Christine	Member of Uganda Forum for Agricultural Advisory Services (UFAAS)	From 2017
UK	Cock, Matthew	Honorary Life Member of the International Organisation for Biological Control (IOBC)	From 2015
UK	Cock, Matthew	Member, IOBC Global Commission on Access and Benefit Sharing	Ongoing
UK	Cock, Matthew	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	Ongoing
UK	Day, Roger	Member of the Commission on Phytosanitary Measures Focus Group for Strengthening Outbreak Alert and Response Systems	From 2020
UK	Djeddour, Djami	Honorary Lecturer in the School of Biological Sciences, Royal Holloway, University of London	2019–2022
UK	Edgington, Steve	Visiting Research Fellow, University of Reading	2016–2020
UK	Edgington, Steve	Convenor for the Association of Applied Biologists, Nematology division	2020–2023
UK	Flood, Julie	Honorary Member of the British Society of Plant Pathology	From 2018
UK	Gonzalez-Moreno, Pablo	Lecturer, University of Cordoba, Spain	From April 2019
UK	Murphy, Sean	Honorary Lecturer in the School of Biological Sciences, Royal Holloway, University of London	2019–2022
UK	Murphy, Sean	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	Ongoing
UK	Ryan, Matthew	Working Group UK Plant Microbiome Initiative (with Rothamsted Research)	From 2017
UK	Ryan, Matthew	Board of Directors. International Alliance for Phytobiomes Research	From 2019
UK	Ryan, Matthew	Member of KTN Microbiome Steering Advisory Group	From 2019
UK	Ryan, Matthew	United States Culture Collection Network – steering committee – International representative	From 2020
UK	Shaw, Richard	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	From 2014
UK	Shaw, Richard	Member of the European Commission Expert Working Group on Invasive Alien Species	From 2014
UK	Shaw, Richard	Science Advisory Board Member for the UK Animal and Plant Health Agency	From 2019

## 2.2. Support to international scientific meetings

CABI staff played significant roles in the organization of several scientific meetings in 2020:

Meeting	Staff member	Role
Advances in Nematology (Association of Applied Biologists)	Edgington, Steve	Chaired organizing committee and overall meeting
ASEAN Fall armyworm Action Plan Biocontrol Webinar series, GrowAsia, Singapore, 10 September, 24 September, 8 October	Day, Roger	Co-organizer
Asia-Pacific Regional Programme on agrometeorological services, pest and disease alerts and early warning systems for farmers December 20, 2020 FAO regional office for Asia and Pacific, Bangkok	Chaudhary, Malvika	Resource person
CABI side event 'A plague during a pandemic: how to increase resilience against the desert locust outbreak' at the World Food Prize/2020 International Borlaug, 12–16, Des Moines, Iowa USA	Rwomushana, Ivan	Moderator
Can genetic engineering improve crop production In India?, 4th Agri Biotech Summit, Singapore	Chaudhary, Malvika	Panelist
ESOF 2020, Invasive species and climate change: Africa's 21st century challenge, 2–6 September 2020 Trieste, Italy	Rwomushana, Ivan	Panelist
Healthier plants with the help of Biologicals?, 19 May 2020, Alnarp, Sweden	Rwomushana, Ivan	Organizer and panelist
International conference on Issues and Challenges on Agricultural and Aquatic Sectors along with Human Health in the present scenario of COVID-19, 7–8 September 2020	Pandit, Vinod	Chairperson for the session on Agriculture sector and COVID19
International Symposium on Biological Control of Weeds (ISBCW) (to be held May 2022)	Djedbour, Djami	Member of Scientific Committee and moderator for the session on target and agent selection
Managing Fall Armyworm (FAW) in Corn Production in Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) Sub-Region on the 20th January 2021 (Webinar)	Annamalai, Sivapragasam	Co-organizer
National Seminar on Organic Farming (SKOr) 2020	Thanarajoo, Sathis Sri	Co-organizer
Pesticide and biopesticide in fall armyworm control: Protecting Health of Plants, People and the Planet, 11 June, FAO, Rome, Italy	Rwomushana, Ivan	Panelist
Series of meetings on Developing a Guide to support the implementation of ISPM 15, initiative by IPPC Rome	Pandit, Vinod	International Working Group member
Technical Consultation on Pest and Disease Data Collection Protocols for Climate Risk Analysis and Early Warning, November 2020, FAO Regional Office for Asia and the Pacific	Chaudhary, Malvika	Expert

## 2.3. Journal contributions

CABI staff acted on the editorial/advisory boards of the following journals in 2020:

- *Asian Journal of Agricultural Extension, Economics & Sociology* (H. Rware)
- *BioControl* (D. Babendreier)
- *BioInvasions Records* (A. Witt)
- *Biology Methods and Protocols* (M.Reeve)
- *Brazilian Journal of Forestry and Environment* (N. Corniani)
- *CAB Reviews* (M.J.W. Cock)
- *CABI Agriculture and Bioscience* (R. Eschen, J. Tambo, F. Zhang)
- *Chilean Journal of Agricultural Research* (S. Edgington)
- *Entomologia Experimentalis et Applicata* (G. Oduor)
- *Frontiers in Insect Science* (T. Haye, launched in Jan. 2021)
- *Journal of Applied Entomology* (S. Toepfer)
- *Journal of Asia Pacific Entomology* (A. Sivapragasam)
- *Journal of Insects as Food and Feed* (M. Kenis)
- *Journal of Oil Palm Research* (J. Flood)
- *Journal of Pest Science* (T. Haye)
- *Journal of Plant Protection Society, Nepal* (V. Pandit)
- *Journal of Tropical Agriculture and Food Science* (J. Flood, A. Sivapragasam)
- *Neobiota* (R.H. Shaw)
- *New Disease Reports* (R. Reeder, P. Taylor)
- *Redia* (T. Haye)
- *The Planter* (A. Sivapragasam)
- *Turkish Journal of Weed Science* (P. Gonzalez-Moreno)

CABI staff were also involved in reviewing papers for journals as follows (but note this list is probably incomplete):

- *African Entomology* (1)
- *African Journal of Ecology* (1)
- *Agroecology and Sustainable Food Systems* (2)
- *Agronomy Journal* (1)
- *Biocontrol Science and Technology* (4)
- *BioInvasions Records* (1)
- *Biological Invasions* (2)
- *CABI Agriculture and Bioscience* (1)
- *Cogent Food and Agriculture* (1)

- *Crop Protection* (1)
- *Ecological Indicators* (1)
- *Environmental Monitoring and Assessment* (1)
- *Environmental Science and Policy* (2)
- *Food Additives and Contaminants* (2)
- *Frontiers in Genetics* (1)
- *Frontiers in Pharmacology* (1)
- *Global Ecology and Conservation* (2)
- *International Journal of Clinical Microbiology and Biochemical Technology* (1)
- *International Journal of Pest Management* (1)
- *International Journal of Tropical Insect Science* (2)
- *Entomologia Experimentalis et Applicata* (1)
- *Journal of Economic Entomology* (1)
- *Journal of Environmental Management* (1)
- *Journal of Integrated Pest Management* (1)
- *Journal of Microbiological Methods* (1)
- *Journal of Plant Protection Society Nepal* (1)
- *Letters in Applied Microbiology* (1)
- *Marine Drugs* (2)
- *Micron* (6)
- *Molecular Biology Reports* (2)
- *Neobiota* (1)
- *New Disease Reports* (BSPP) (1)
- *Pest Management Science* (1)
- *Plant Disease* (1)
- *PLOS Neglected Tropical Diseases* (1)
- *PLOS ONE* (1)
- *Urban Forestry and Urban Greening* (1)
- *World Development* (1)
- *Zootaxa* (1)

## 2.4. Publications

CABI authors are shown in **bold**, the corresponding author(s) where designated are underlined, papers in journals with a 2019 impact factor greater than 2.0 are highlighted in gold, and an open access symbol (🔓) is placed at the end of all open access publications. Details of more recent publications and annual lists of publications can be found here: <https://www.cabi.org/about-cabi/our-scientists-output/>

### 2.4.1. Books, proceedings and manuals (5)

Bridge, P., **Smith, D.** and Stackebrandt, E. (eds) (2020) *Trends in the Systematics of Bacteria and Fungi*. CABI, Wallingford, UK, xviii + 346 pp.

**Kansiime, M., Karanja, P., Rware, H.,** Muthaura, C., Macharia, C., **Makale, F., Rwomushana, I.,** Ongoya, G., Klapwijk, J., **Vos, J.** and **Karanja, D.** (2020) *Integrated management of tomato leaf miner (*Tuta absoluta*) and other tomato pests in Kenya. A training manual for extension workers*. CABI and Koppert, 42 pp. 🔓

Niassy, S., Ekesi, S., **Migiro, L., Otieno, W.** (eds) (2020) *Sustainable Management of Invasive Pests in Africa. Sustainability in Plant and Crop Protection*, vol 14. Springer, Cham, Switzerland, xxvi, 303 pp. [https://doi.org/10.1007/978-3-030-41083-4\\_19](https://doi.org/10.1007/978-3-030-41083-4_19)

**Onyango, D.,** Ghebse, M., Niassy, S., Marangu, C., Ong'amo, G., Nderitu, J., Mwendwa, N., Kiteme, R., **Rwomushana, I., Ochilo, W., Karanja D.,** and **Mibei, H.** (2020) *Desert Locust (*Schistocerca gregaria*) Field Pocket Guide- Identification and Management*. First Edition. CABI Africa, Nairobi, Kenya. 32 pp. <https://www.cabi.org/wp-content/uploads/Desert-locust-Pocket-Guide5.pdf> 🔓

Perry, R.N., **Hunt, D.J.** and Subbotin, S.A. (eds) (2020) *Techniques for Work with Plant and Soil Nematodes*. CABI, Wallingford, UK, xix + 290 pp.

### 2.4.2. Peer-reviewed papers (133)

Adhikari, D., Joshi, S.L., Thapa, R.B., **Pandit, V.** and Sharma, D.R. (2020) Fruit fly management in Nepal: A case from plant clinic. *Journal of Biological Control* 34(1), 8–14. <https://doi.org/10.18311/jbc/2020/22833> 🔓

**Agboyi, L.K.,** Goergen, G., Beseh, P., **Mensah, S.A., Clottey, V.A.,** Glikpo, R., **Buddie, A., Cafà, G., Offord, L., Day, R., Rwomushana, I.** and **Kenis, M.** (2020) Parasitoid complex of fall armyworm, *Spodoptera frugiperda*, in Ghana and Benin. *Insects* 11(68), 15 pp. <https://doi.org/10.3390/insects11020068> 🔓

**Agboyi, L.K.,** Ketoh, G.K., Kpindou, O.K.D., Martin, T., Glitho, I.A. and Tamò, M. (2020) Improving the efficiency of *Beauveria bassiana* applications for sustainable management of *Plutella xylostella* (Lepidoptera: Plutellidae) in West Africa. *Biological Control* 144(104233), 9 pp. <https://doi.org/10.1016/j.biocontrol.2020.104233>

Ahmed, S.A., Hoog, S.de, Kim, J., **Crozier, J., Thomas, S.E.,** Stielow, B. and Stevens, D.A. (2020) *Gloeostereum cimri*, a novel shelf fungus isolated from a human pulmonary cyst. *Emerging Microbes & Infections* 9(1), 1114–1122. <https://doi.org/10.1080/22221751.2020.1769499> 🔓

Ajene, I.J., Khamis, F.M., Asch, B. van, Pietersen, G., Seid, N., **Rwomushana, I.,** Ombura, F.L.O., Momanyi, G., Finyange, P., Rasowo, B.A., Tanga, C.M., Mohammed, S. and Ekesi, S. (2020) Distribution of *Candidatus Liberibacter* species in eastern Africa, and the first report of *Candidatus Liberibacter asiaticus* in Kenya. *Scientific Reports* 10:3919, 10 pp. <https://doi.org/10.1038/s41598-020-60712-0>

**Ali, K., Rehman, A., Khan, K.** and **Weyl, P.** (2020) Comparative efficacy of common broad leaf herbicides against an invasive weed: *Parthenium hysterophorus* L. *Agricultural Sciences* 11, 617–626. <https://doi.org/10.4236/as.2020.117039> 🔓

Araújo, J.P.M., **Evans, H.C.,** Fernandes, I.O., Ishler, M.J. and Hughes, D.P. (2020) Zombie-ant fungi cross continents: II. Myrmecophilous hymenostilboid species and a novel zombie lineage. *Mycologia* 112(6), 1138–1170. <https://doi.org/10.1080/00275514.2020.1822093> 🔓

Atta, B., Rizwan, M., Sabir, A.M., Gogi, M.D. and Ali, K. (2020) Damage potential of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae) on wheat grains stored in hermetic and non-hermetic storage bags. *International Journal of Tropical Insect Science* 40, 27–37. <https://doi.org/10.1007/s42690-019-00047-0>

**Augustinus, B., Sun, Y., Beuchat, C., Schaffner, U. and Müller-Schärer, H. (2020) Predicting impact of a biocontrol agent: Integrating distribution modelling with climate-dependent vital rates. *Ecological Applications* 30(1), e02003, 13 pp. <https://doi.org/10.1002/eap.2003>**

**Augustinus, B.A., Gentili, R., Horvath, D., Naderi, R., Sun, Y., Tournet, A.M.T.E., Schaffner, U. and Müller-Schärer, H. (2020) Assessing the risks of non-target feeding by the accidentally introduced ragweed leaf beetle, *Ophraella communa*, to native European plant species. *Biological Control* 150, 104356, 7 pp. <https://doi.org/10.1016/j.biocontrol.2020.104356>**

**Augustinus, B.A., Lommen, S.T.E., Fogliatto, S., Vidotto, F., Smith, T., Horvath, D., Bonini, M., Gentili, R.F., Citterio, S., Müller-Schärer, H. and Schaffner, U. (2020) In-season leaf damage by a biocontrol agent explains reproductive output of an invasive plant species. *Neobiota* 55, 117–146. <https://doi.org/10.3897/neobiota.55.46874>**

Avtzis, D., Lubanga, K.U., Lefoe, K.G., Kwong, M.R., Eleftheriadou, N., Andreadi, A., Shaw, R., and Kenis, M. (2020) Prospects for classical biological control of *Marchalina hellenica* in Australia. *BioControl* 65, 413–423. <https://doi.org/10.1007/s10526-020-10012-3>

**Babendreier, D., Agboyi, L.K., Beseh, P., Osaе, M., Nboiyne, J., Ofori, S.E.K., Frimpong, J.O., Clottey, V.A. and Kenis, M. (2020) The efficacy of alternative, environmentally friendly plant protection measures for control of fall armyworm, *Spodoptera frugiperda*, in maize. *Insects* 11(240), 21 pp. <https://doi.org/10.3390/insects11040240>**

**Babendreier, D., Hou, M., Tang, R., Zhang, F., Vongsabouth, T., Win, K.K., Kang, M., Peng, H., Song, K., Annamalai, S. and Horgan, F.G. (2020) Biological control of lepidopteran pests in rice: a multi-nation case study from Asia. *Journal of Integrated Pest Management* 11(1, 5), 11 pp. <https://doi.org/10.1093/jipm/pmaa002>**

Baldissera, G., Blümel, S., Lopian, R., Teulon, D., Bloem, S., Martínez, C.G., Montoya, C.B., Morales, C.R.U., Dharmapuri, S., Timote, V., Horn, N., Chouibani, M., M'Elia, J.G.M., Herrero, V., Castinel, A., Goletsos, C., Moeller, C., Naumann, I., Stancanelli, G., Bronzwaer, S., Tramontini, S., MacDonald, P., Matheson, L., Anthoine, G., De Jonghe, K., Schenk, M., Steinmüller, S., Rodriguez, E., Cruz, M.L., Luck, J., Fraser, G., Brunel, S., Montuori, M., Fedchock, C., Steel, E., Pennington, H.G., Day, R., Rossi, J.P. and Xia, J. (2020) Science diplomacy for plant health. *Nature Plants* 6, 902–905. <https://doi.org/10.1038/s41477-020-0744-x>

Berg, G., Rybakova, D., Fischer, D., Cernava, T., Champomier Vergès, M-C.C., Charles, T., Chen, X., Cocolin, L., Eversole, K., Corral, G.H., Kazou, M., Kinkel, L., Lange, L., Lima, N., Loy, A., Macklin, J.A., Maguin, E., Mauchline, T., McClure, R., Mitter, B., Ryan, M., Sarand, I., Smidt, H., Schelkle, B., Roume, H., Kiran, S., Selvin, J., Correa de Souza, R.S., Overbeek, L. van, Singh, B.K., Wagner, M., Walsh, A., Sessitsch, A. and Schloter, M. (2020) Microbiome definition re-visited: old concepts and new challenges. *Microbiome* 8(103), 22 pp. <https://doi.org/10.1186/s40168-020-00875-0>

Blossey, B., Endriss, S.B., Casagrande, R., Häfliger, P., Hinz, H.L., Dávalos, A., Brown-Lima, C., Tewksbury, L. and Bouchier, R.S. (2020) When misconceptions impede best practices: evidence supports biological control of invasive *Phragmites*. *Biological Invasions* 22, 873–883. <https://doi.org/10.1007/s10530-019-02166-8>

Bloukounon-Goubalan, A.Y., Saïdou, A., Chrysostome, C.A.A.M., Kenis, M., Amadji, G.M., Igué, A.M. and Mensah, G.A. (2020) Physical and chemical properties of the agro-processing by-products decomposed by larvae of *Musca domestica* and *Hermetia illucens*. *Waste and Biomass Valorization* 11, 2735–2743. <https://doi.org/10.1007/s12649-019-00587-z>

**Booy, O.**, Robertson, P.A., Moore, N., Ward, J., Roy, H., Adriaens, T., **Shaw, D.**, Van Valkenburg, J., Wyn, G., Bertolino, S., Blight, O., Branquart, E., Brundu, G., Caffrey, J., Capizzi, D., Casaer, J., De Clerck, O., Coughlan, P., Davis, P., Dick, J., Essl, F., Fried, G., Genovesi, P., González-Moreno, P., Hysentruyt, F., Jenkins, S., Katsanevakis, S., Kerckhof, F., Lucy, F., Nentwig, W., Newman, J., Rabitsch, W., Roy, S., Starfinger, U., Stebbing, P., Stuyck, J., Sutton-Croft, M., Tricarico, E., Vanderhoeven, S., Verreycken, H. and Mill, A.C. (2020) Using structured eradication feasibility assessment to prioritize the management of new and emerging invasive alien species in Europe. *Global Change Biology* 26(11), 6235–6250. <https://doi.org/10.1111/gcb.15280>

**Brundu, G.**, Pauchard, A., Pyšek, P., Pergl, J., Bindewald, A.J., Brunori, A., Canavan, S., Campagnaro, T., Celesti-Grapow, L., Dechoum, M.S., Dufour-Dror, J.-M., Essl, F., Flory, L.S., Genovesi, P., Guarino, F., Guangzhe, L., Hulme, P.E., Jäger, H., Kettle, C.J., Krumm, F., Langdon, B., Lapin, K., Lozano, V., Le Roux, J.J., Novoa, A., Nuñez, M.A., Porté, A.J., Silva, J.S., **Schaffner, U.**, Sitzia, T., Tanner, R., Tshidada, N., Vítková, M., Westergren, M., Wilson, J.R.U. and Richardson, D.M. (2020) Global guidelines for the sustainable use of non-native trees to prevent tree invasions and mitigate their negative impacts. *Neobiota* 61, 65–116. <https://doi.org/10.3897/neobiota.65.58380>

Bruno, P., Machado, R.A.R., Glauser, G., Köhler, A., Campos-Herrera, R., Bernal, J., **Toepfer, S.**, Erb, M., Robert, C.A.M., **Arce, C.C.M.** and Turlings, T.C.J. (2020) Entomopathogenic nematodes from Mexico that can overcome the resistance mechanisms of the western corn rootworm. *Scientific Reports* 10(8257), 12 pp. <https://doi.org/10.1038/s41598-020-64945-x>

**Cafà, G.**, Bouffleur, T.R., Castro, R.R.L. de, Massola, N.S., Jr. and **Baroncelli, R.** (2020) Genome sequence data of the soybean pathogen *Stagonosporopsis vannaccii*: a resource for studies on Didymellaceae evolution. *Molecular Plant-Microbe Interactions* 33(8), 1022–1024. <https://doi.org/10.1094/MPMI-01-20-0016-A>

**Chege, F., Bundi, M., Likoko, L.**, Kainyu, F., Ringera, E., Otipa, M., **Karanja, P.**, Kimani, M. and **Williams, F.** (2020) Integrating plant clinics into county agricultural advisory services systems: Kenya case study. *CABI Working Paper* 14, 22 pp. <https://dx.doi.org/10.1079/CABICOMM-62-8137>

**Chen, J., Li, W., Mi, Q., Zhang, F.**, Shi, S. and **Zhang, J.** (2020) A newly reported parasitoid, *Pentatomophaga latifascia* (Diptera: Tachinidae), of adult *Halyomorpha halys* in Beijing, China. *Insects* 11:666, 8 pp. <http://dx.doi.org/10.3390/insects11100666>

**Chen, J.-H., Avila, G.A., Zhang, F.**, Guo, L.F., Sandanayaka, M., **Mi, Q.-Q., Shi, S.-S.** and **Zhang J.-P.** (2020) Field cage assessment of feeding damage by *Halyomorpha halys* on kiwifruit orchards in China. *Journal of Pest Science* 93, 953–963. <https://doi.org/10.1007/s10340-020-01216-8>

**Cheng, Y.-M., Li, H.-M.**, Ren, B.-Y., Xie, X.-H., Zhang, X.-J., **Liu, Y.-M.** and Zhang, A.-H. (2020) 东亚飞蝗选择栖息高度影响因素的研究 [Study on factors influencing the selection of the height of plant inhabited by *Locusta migratoria manilensis*]. *Journal of Environmental Entomology* 42(3), 545–552. [In Chinese with English abstract.] <https://doi.org/10.3969/j.issn.1674-0858.2020.03.4>


Chouangthavy, B., Bouttavong, K., Louangphan, J., Phewphanh, P., Sibounnavong, P., Souksavat, S., Pinkaew, N. and **Babendreier, D.** (2020) Beetle biodiversity in forest habitats in Laos depends on the level of human exploitation. *Journal of Insect Conservation* 24(5), 833–840. <https://doi.org/10.1007/s10841-020-00255-x>

**Cock, M.J.W.** (2020) Field identification of caterpillars and adults of bark butterflies *Opsiphanes* spp. (Lepidoptera, Nymphalidae) in Trinidad, W.I. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2020, 89–91. <https://ttfnc.org/livingworld/index.php/lwj/article/view/751>


**Cock, M.J.W.** (2020) Field identification of the postmen *Heliconius erato* and *H. melpomene* (Lepidoptera, Nymphalidae, Heliconiinae), in Trinidad & Tobago. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2020, 92–95. <https://ttfnc.org/livingworld/index.php/lwj/article/view/750>

**Cock, M.J.W.** (2020) Witch moths (Lepidoptera, Erebidae, Erebiinae, Thermesiini) of Trinidad and Tobago. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2020, 7–38. <https://ttfnc.org/livingworld/index.php/lwj/article/view/748>




**Cock, M.J.W.** and Kelly, M. (2020) Forty-five new records of moths (Lepidoptera) from Tobago, West Indies, increase the total species known to 400. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2020, 48–63. <https://ttfnc.org/livingworld/index.php/lwj/article/view/758> 


Colmán, A.A., **Pollard, K.M.**, **Seier, M.K.** and Barreto, R.W. (2020) *Cercospora unguis-cati*, the causal agent of the leaf spot of *Dolichandra unguis-cati*, reported from Paraguay. *New Disease Reports* 42, 18. <http://dx.doi.org/10.5197/j.2044-0588.2020.042.018> 


**Constantine, K.L.**, **Kansiime, M.K.**, **Mugambi, I.**, **Nunda W.**, **Chacha, D.**, **Rware, H.**, **Makale, F.**, **Mulema, J.**, **Lamontaigne-Godwin, J.**, **Williams F.**, **Edgington S.** and **Day, R.** (2020) Why don't smallholder farmers in Kenya use more biopesticides? *Pest Management Science* 76(11), 3615–3625. <https://doi.org/10.1002/ps.5896> 


**Costi, E.**, **Wong, W.**, **Cossentine, J.**, **Acheampong, S.**, **Maistrello, L.**, **Haye, T.**, **Talamas, E.J.** and **Abram, P.K.** (2020) Variation in levels of acceptance, developmental success, and abortion of *Halyomorpha halys* eggs by native North American parasitoids. *Biological Control* 151(104396), 10 pp. <https://doi.org/10.1016/j.biocontrol.2020.104396>


**Currie, A.F.**, **Gange, A.C.**, **Ab Razak, N.**, **Ellison, C.A.**, **Maczey, N.** and **Wood, S.V.** (2020) Endophytic fungi in the invasive weed *Impatiens glandulifera*: a barrier to classical biological control? *Weed Research* 60(1), 50–59. <https://doi.org/10.1111/wre.12396> 


**Dancau, T.**, **Haye, T.**, **Mason, P.G.** and **Cappuccino, N.** (2020) Something old, something new: revisiting the diamondback moth (Lepidoptera: Plutellidae) life table after 65 years. *Canadian Entomologist* 152(1), 70–88. <https://doi.org/10.4039/tce.2019.70>

**Danielsen, S.**, **Mur, R.**, **Kleijn, W.**, **Wan, M.**, **Zhang, Y.**, **Phiri, N.**, **Chulu, B.**, **Zhang, T.** and **Posthumus, H.** (2020) Assessing information sharing from plant clinics in Zambia and China through social network analysis. *Journal of Agricultural Education and Extension* 26(3), 269–289. <https://doi.org/10.1080/1389224X.2019.1699125> 


**Dao, A.N.C.**, **Nacambo, S.**, **Sankara, F.**, **Pousga, S.**, **Coulibaly, K.**, **Nacoulma, J.P.**, **Somda, I.** and **Kenis, M.** (2020) Evaluation des méthodes de piégeage des termites au nord du Burkina Faso. *International Journal of Biological and Chemical Sciences* 14, 2556–2566. 


**Dao, A.N.C.**, **Sankara, F.**, **Pousga, S.**, **Coulibaly, K.**, **Nacoulma, J.F.**, **Ouedraogo, S.**, **Kenis, M.** and **Somda, I.** (2020) Traditional methods of harvesting termites used as poultry feed in Burkina Faso. *International Journal of Tropical Insect Science* 40, 109–118. <https://doi.org/10.1007/s42690-019-00059-w> 


**Day, M.**, **Witt, A.** and **Winston, R.** (2020) Weed biological control in low- and middle-income countries. *Current Opinion in Insect Science* 38, 92–98. <https://doi.org/10.1016/j.cois.2020.02.004> 

**Dempewolf, L.** and **Cock, M.J.W.** (2020) *Microceris dulcinea* (Plötz) (Lepidoptera, HesperIIDae, Pyrrhopyginae) a new skipper butterfly record from Trinidad, W.I. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2020, 96–97. <https://ttfnc.org/livingworld/index.php/lwj/article/view/752> 

**Demissie, A.G.**, **Darge, W.A.** and **Cafà, G.** (2020) *Neofusicoccum parvum* causing *Eucalyptus* canker and die-back diseases in Ethiopia. *International Journal of Plant Pathology* 11(1), 1–5. <https://doi.org/10.3923/ijpp.2020.1.5>

**Deo, R.N.**, **Ali, H.** and **Cock, M.J.W.** (2020) Night walks generate unexpected new observations of moths (Lepidoptera) from Trinidad, West Indies. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2020, 72–79. <https://ttfnc.org/livingworld/index.php/lwj/article/view/760> 

**Eckert, S.**, **Hamad, A.**, **Kilawe, C.J.**, **Linders, T.E.W.**, **Ng, W.-T.**, **Mbaabu, P.R.**, **Shiferaw, H.**, **Witt, A.** and **Schaffner, U.** (2020) Niche change analysis as a tool to inform management of two invasive species in eastern Africa. *Ecosphere* 11(2), e02987, 28 pp. <https://doi.org/10.1002/ecs2.2987> 

**Ellison, C.A.**, **Pollard, K.M.** and **Varia S.** (2020) Potential of a coevolved rust fungus for the management of Himalayan balsam in the British Isles: first field releases. *Weed Research* 60(1), 37–49. <https://doi.org/10.1111/wre.12403> 

**Farooq, M., Baig, S., Honey, S.F., Bajwa, B.E., Fazlullah** and Shah, I.H. (2020) Evaluation of host susceptibility, preference and offspring performance of *Zeugodacus cucurbitae* (Coquillett) (Diptera: Tephritidae) on different hosts. *International Journal of Tropical Insect Science* 40, 93–99. <https://doi.org/10.1007/s42690-019-00056-z>

**Franić, I., Eschen, R., Allan, E., Hartmann, M., Schneider, S. and Prospero, S.** (2020) Drivers of richness and community composition of fungal endophytes of tree seeds. *FEMS Microbiology Ecology* 96(9), fiae166, 10 pp. <https://doi.org/10.1093/femsec/fiae166>

**Ganda H., Abihona A.H., Zannou-Boukari E.T., Kenis M., Chrysostome C.A.A.M. and Mensah G.A.** (2020) Influence of adult diet on biological parameters of the housefly, *Musca domestica* L. (Diptera: Muscidae). *Journal of Basic and Applied Zoology* 81(46), 8 pp. <https://doi.org/10.1186/s41936-020-00181-z>

**Gilligan, T.M., Wright, D.J., Brown, R.L., Augustinus, B.A. and Schaffner, U.** (2020) Taxonomic issues related to biological control prospects for the ragweed borer, *Epiblema strenuana* (Lepidoptera: Tortricidae). *Zootaxa* 4729(3), 347–358. <https://doi.org/10.11646/zootaxa.4729.3.3>

**Gosik, R., Skuhrovec, J., Caldara, R. and Toševski, I.** (2020) Immature stages of Palearctic *Mecinus* species (Coleoptera, Curculionidae, Curculioninae): morphological characters diagnostic at genus and species levels. *ZooKeys* 939, 87–165. <https://doi.org/10.3897/zookeys.939.50612>

**Guo, J., Wu, S., Zhang, F., Huang, C., He, K., Babendreier, D. and Wang, Z.** (2020) Prospects for microbial control of the fall armyworm *Spodoptera frugiperda*: a review. *BioControl* 65, 647–662. <https://doi.org/10.1007/s10526-020-10031-0>

**Gutiérrez-Cánovas, C., Sánchez-Fernández, D., González-Moreno, P., Mateos-Naranjo, E., Castro-Díez, P. and Vilà, M.** (2020) Combined effects of land-use intensification and plant invasion on native communities. *Oecologia* 192, 823–836. <https://doi.org/10.1007/s00442-020-04603-1>

**Haye, T., Moraglio, T., Stahl, J., Visentin, S., Gregorio, T. and Tavella, L.** (2020) Fundamental host range of *Trissolcus japonicus* in Europe. *Journal of Pest Science* 93, 171–182. <https://doi.org/10.1007/s10340-019-01127-3>

**Hinz, H.L., Winston, R.L. and Schwarzländer, M.** (2020) A global review of target impact and direct nontarget effects of classical weed biological control. *Current Opinion in Insect Science* 38, 48–53. <https://doi.org/10.1016/j.cois.2019.11.006>

**Hughes, K.A., Pescott, O.L., Peyton, J., Adriaens, T., Cottier Cook, E.J., Key, G., Rabitsch, W., Tricarico, E., Barnes, D.K.A., Baxter, N., Belchier, M., Blake, D., Convey, P., Dawson, W., Frohlich, D., Gardiner, L.M., González Moreno, P., James, R., Malumphy, C., Martin, S., Martinou, A.F., Minchin, D., Monaco, A., Moore, N., Morley, S.A., Ross, K., Shanklin, J., Turvey, K., Vaughan, D., Vaux, A.G.C., Werenkraut, V., Winfield, I.J. and E. Roy, H.E.** (2020) Invasive non native species likely to threaten biodiversity and ecosystems in the Antarctic Peninsula region. *Global Change Biology* 26(4), 2702–2716. <https://doi.org/10.1111/gcb.14938>

**Iqbal, I.M., Ali, K., Evans, H.C., Rehman, A., Seier, M.K., Shabbir, A., and Weyl, P.** (2020) The first record of *Puccinia abrupta* var. *partheniicola*, on *Parthenium hysterophorus* an invasive alien plant species in Pakistan. *BiolInvasions Records* 9(1), 1–7. <https://doi.org/10.3391/bir.2020.9.1.01>

**Jacobi, J., Llanque, A., Bieri, S., Birachi, E., Cochard, R., Depetris Chauvin, N., Diebold, C., Eschen, R., Frossard, E., Guillaume, T., Jaquet, S., Kämpfen, F., Kenis, M., Kiba, D.I., Komarudin, H., Madrazzo, J., Manoli, G., Mukhovi, S.M., Rügger, C.S., Schneider, F., Tri Ngo, D., van Groote, P., Nguyen, V.T.H., Pomalègni, C., Rügger, S., Schneider, F., TriDung, N., Groote, P. von, Winkler, M.S., Zaehring, J.G., and Robledo-Abad, C.** (2020) Utilisation of research knowledge in sustainable development pathways: Insights from a transdisciplinary research-for-development programme. *Environmental Science and Policy* 103, 21–29. <https://doi.org/10.1016/j.envsci.2019.10.003>

Jactel, H., Desprez-Loustau, M.L., Battisti, A., Brockerhoff, E., Santini, A., Stenlid, J., Bjorkman, C., Branco, M., Dehnen-Schmutz, K., Douma, J.C., Drakulic, J., Drizou, F., **Eschen, R.**, Franco, J.C., Gossner, M.M., Green, S., **Kenis, M.**, Klapwijk, M.J., Liebhold, A.M., Orazio, C., Prospero, S., Robinet, C., Schroeder, M., Slippers, B., Stoev, P., Sun, J., van den Dool, R., Wingfield, M.J. and Zalucki, M.P. (2020) Pathologists and entomologists must join forces against forest pest and pathogen invasions. *NeoBiota* 58, 107–127. <https://doi.org/10.3897/neobiota.58.54389>

Jakovljević, M., Jović, J., Krstić, O., Mitrović, M., Marinković, S., **Toševski, I.**, and **Cvrković, T.** (2020) Diversity of phytoplasmas identified in the polyphagous leafhopper *Euscelis incisus* (Cicadellidae, Deltocephalinae) in Serbia: pathogen inventory, epidemiological significance and vectoring potential. *European Journal of Plant Pathology* 156(1), 201–221. <https://doi.org/10.1007/s10658-019-01878-w>

Jones, I.M., **Seehausen, M.L.**, Bouchier, R.S. and Smith, S.M. (2020) The effects of photoperiod on diapause induction in *Hypena opulenta* (Lepidoptera: Erebididae), a biological control agent against invasive swallow-worts in North America. *Environmental Entomology* 49, 580–585. <https://doi.org/10.1093/ee/nvaa030>

**Kansiime, M.K.**, **Mugambi, I.**, **Migiro, L.**, **Otieno W.** and Ochieng, J. (2020) Farmer participation and motivation for repeat plant clinic use: Implications for delivery of plant health advice in Kenya. *Cogent Environmental Science* 6(1750539), 19 pp. <https://doi.org/10.1080/23311843.2020.1750539>

Katovich, E.J., Becker, R.L., **Gerber, E.**, **Hinz, H.L.** and **Cortat, G.** (2020) Lessons learned: rearing the crown-boring weevil, *Ceutorhynchus scrobicollis* (Coleoptera: Curculionidae), in containment for biological control of garlic mustard (*Alliaria petiolata*). *Great Lakes Entomologist* 52(3–4) (2019), 78–93. <https://scholar.valpo.edu/tgle/vol52/iss2/6>

**Kenis, M.**, **Nacambo, S.**, **Van Vlaenderen J.**, **Zindel, R.** and **Eschen, R.** (2020) Long term monitoring in Switzerland reveals that *Adalia bipunctata* strongly declines in response to *Harmonia axyridis* invasion. *Insects* 11(12), 883, 13 pp. <https://doi.org/10.3390/insects11120883>

Kiswaga, S.A.S., Mbwambo, J.R., Shirima, D., Mndolwa, A.S., **Schaffner, U.** and **Eschen, R.** (2020) More widespread alien tree species do not have larger impacts on regeneration of native tree species in a tropical forest reserve. *Ecology and Evolution* 10(11), 5034–5044. <https://doi.org/10.1002/ece3.6256>


Kudsk, P., Sønderkov, M., Bonin, L., Gonzalez-Andujar, J.L., Jensen, J.E., Melander, B., Moonen, C., Riemens, M., Sattin, M., **Schaffner, U.** and Storkey, J. (2020) IWMPRAISE– an EU Horizon 2020 project providing integrated weed management solutions to European farmers. *Outlooks on Pest Management* 31(4), 152–159. [https://doi.org/10.1564/v31\\_aug\\_02](https://doi.org/10.1564/v31_aug_02)


**Kurose, D.**, **Pollard, K.M.** and **Ellison, C.A.** (2020) Chloroplast DNA analysis of the invasive weed, Himalayan balsam (*Impatiens glandulifera*), in the British Isles. *Scientific Reports* 10(10966), 12 pp. <https://doi.org/10.1038/s41598-020-67871-0>

Leung, K., Ras, E., Ferguson, K.B., Ariëns, S., **Babendreier, D.**, Bijma, P., Bourtzis, K., Brodeur, J., Bruins, M.A., Centurión, A., Chattington, S.R., Chinchilla-Ramírez, M., Dicke, M., Fatouros, N.E., González-Cabrera, J., Groot, T.V.M., **Haye, T.**, Knapp, M., Koskinioti, P., Le Hesran, S., Lyrakis, M., Paspati, A., Pérez-Hedo, M., Plouvier, W.N., Schlötterer, C., Stahl, J.M., Thiel, A., Urbaneja, A., Zande, L., van de, Verhulst, E.C., Vet, L.E.M., Visser, S., Werren, J.H., Xia, S., Zwaan, B.J., Magalhães, S., Beukeboom, L.W. and Pannebakker, B.A. (2020) Next generation biological control: a need for integrating genetics and evolution. *Biological Reviews* 95(6), 1838–1854. <https://doi.org/10.1111/brv.12641>

Li, Q., Zhao, J., Tian, J., Wang, Y., **Zhang, J.** and **Yang, S.** (2020) 茶翅蝽非典型气味受体基因的克隆及其生物信息学特征和组织特异性. [Gene cloning, bioinformatic analysis and tissue-specific expression of the atypical odorant receptor in *Halyomorpha halys* (Hemiptera: Pentatomidae)]. *Journal of Plant Protection* 47(6), 1219–1227. [In Chinese with English abstract]. <https://doi.org/10.13802/j.cnki.zwbhxb.2020.2020056>


Li, W., Gao, Y., Hu, Y., Li, S., Bi, R., **Zhang, J.** and **Shi, S.** (2020) 点蜂缘蝽 (*Riptortus pedestris*) 为害对大豆植株“症青”发生及产量损失的影响. [Effects of the *Riptortus pedestris* on staygreen syndrome and yield of soybean]. *Soybean Science* 39(1), 116–122. [In Chinese with English abstract]. <https://doi.org/10.11861/j.issn.1000-9841.2020.01.0116>, <http://ddkx.haasep.cn/oa/DArticle.aspx?type=view&id=202001015>


Li, W., Li, X., Li, X., Cui, J., Xu, W. **Zhang, J.** and **Shi, S.** (2020) 大豆食心虫成虫性比对寿命和生殖力的影响 [Effects of sex ratio on fecundity and lifetime of *Leguminivora glycinivorella* adults. *Soybean Science* 39(3), 451–457. [In Chinese with English abstract]. <https://doi.org/10.11861/j.issn.1000-9841.2020.03.0451> 


**Linders, T.E.W.**, Bekele, K., **Schaffner, U.**, Allan, E., Alamirew, T., Choge, S.K., Eckert, S., Haji, J., Muturi, G., Mbaabu, P.R., Shiferaw, H. and **Eschen, R.** (2020) The impact of invasive species on social-ecological systems: Relating supply and use of selected provisioning ecosystem services. *Ecosystem Services* 41(101055), 14 pp. <https://doi.org/10.1016/j.ecoser.2019.101055> 


Lisboa, D.O., **Evans, H.C.**, Araújo, J.P.M., Elias, S.G. and **Barreto, R.W.** (2020) *Moniliophthora perniciosa*, the mushroom causing witches' broom disease of cacao: Insights into its taxonomy, ecology and host range in Brazil. *Fungal Biology* 124, 983–10030. <https://doi.org/10.1016/j.funbio.2020.09.001>

Liverpool-Tasie, L.S.O., Pummel, H., **Tambo, J.A.**, Olabisi, L.S. and Osuntade, O. (2020) Perceptions and exposure to climate events along agricultural value chains: Evidence from Nigeria. *Journal of Environmental Management* 264(110430), 11 pp. <https://doi.org/10.1016/j.jenvman.2020.110430>

Liverpool-Tasie, L.S.O., Wineman, A., Young, S., **Tambo, J.**, Vargas, C., Reardon, T., Adjognon, G.S., Porciello, J., Gathoni, N., Bizikova, L., Galiè, A. and Celestin, A. (2020) A scoping review of market links between value chain actors and small-scale producers in developing regions. *Nature Sustainability* 3, 799–808. <https://www.nature.com/articles/s41893-020-00621-2> 

Malembic-Maher, S., Desqué, D., Khalil, D., Salar, P., Bergey, B., Danet, J.-L., Duret, S., Dubrana-Ourabah, M.-P., Beven, L., Ember, I., Acs, Z., Bartola, M.D., Materazzi, A., Filippin, L., Krnjajic, S., Krstić, O., **Toševski, I.**, Lang, F., Jaraus, B., Kölber, M., Jović, J., Angelini, E., Arricau-Bouvery, N., Maixner, M. and **Foissac, X.** (2020) When a Palearctic bacterium meets a Nearctic insect vector: Genetic and ecological insights into the emergence of the grapevine Flavescence dorée epidemics in Europe. *PLoS Pathogens* 16.3:e1007967, 28 pp. <https://doi.org/10.1371/journal.ppat.1007967> 


Mbaabu, P.R., Olago, D., Gichaba, M., Eckert, S., **Eschen, R.**, Oriaso, S., Choge, S.K., Linders, T.E.W. and **Schaffner, U.** (2020) Restoration of degraded grasslands, but not invasion by *Prosopis juliflora*, avoids trade-offs between climate change mitigation and other ecosystem services. *Scientific Reports* 10:20391, 13 pp. <https://doi.org/10.1038/s41598-020-77126-7> 


**Mi, Q.**, **Zhang, J.**, Gould, E., **Chen, J.**, Sun, Z., and **Zhang, F.** (2020) Biology, ecology, and management of *Erthesina fullo* (Hemiptera: Pentatomidae): a review. *Insects* 11(346), 19 pp. <https://doi.org/10.3390/insects11060346> 


Mielke, C.G.C., Gehan, J.R. and **Cock, M.J.W.** (2020) Ghost-moths of Trinidad and Tobago with description of a new genus and a new species (Lepidoptera: Hepialidae). *Zootaxa* 4758(1), 181–190. <http://dx.doi.org/10.11646/zootaxa.4758.1.9>


Misawa, T., **Kurose, D.**, Shishido, K., Toda, T. and Kuninaga, S. (2020) Characterization of a new subgroup of *Rhizoctonia solani* anastomosis group 3 (AG-3 TM) associated with tomato leaf blight. *Journal of General Plant Pathology* 86, 457–467. <https://doi.org/10.1007/s10327-020-00943-1>


Misawa, T., Ueno, R., **Kurose, D.** and Nakahara, K.S. (2020) First report of *Botrytis porri* causing botrytis leaf blight on leek in Japan. *New Disease Reports* 41, 19. <http://dx.doi.org/10.5197/j.2044-0588.2020.041.019>


**Musebe, R.O.**, **Karanja, D.**, Bradford, K.J. and **Day, R.** (2020) Relative costs and benefits of implementing desiccant bead drying/hermetic storage and alternative drying and storage technologies for vegetable seeds in Kenya and Tanzania. *African Journal of Agricultural Research* 16(7), 992–1006. <https://doi.org/10.5897/AJAR2019.14433> 

**Ogunmodede, A.M.**, Ogunsanwo, M.O., Manyong, V. (2020) Unlocking the potential of agribusiness in Africa through youth participation: an impact evaluation of N-Power Agro Empowerment Program in Nigeria. *Sustainability* 12(5737), 18 pp. <https://doi.org/10.3390/su12145737> 


Olazcuaga, L., Loiseau, A., Parrinello, H., Paris, M., Fraimout, A., Guedot, C., Diepenbrock, L.M., **Kenis, M., Zhang, J.**, Chen, X., Borowiec, N., Facon, B., Vogt, H., Price, D.K., Vogel, H., Prud'homme, B., **Estoup, A.** and **Gautier, M.** (2020) A whole-genome scan for association with invasion success in the fruit fly *Drosophila suzukii* using contrasts of allele frequencies corrected for population structure. *Molecular Biology and Evolution* 37(8), 2369–2385. <https://doi.org/10.1093/molbev/msaa098> 

Pathak, A., Nowell, R.W., Wilson, C.G., **Ryan, M.J.** and **Barraclough, T.G.** (2020) Comparative genomics of Alexander Fleming's original *Penicillium* isolate (IMI 15378) reveals sequence divergence of penicillin synthesis genes. *Scientific Reports* 10, 15705, [10 pp.]. <https://doi.org/10.1038/s41598-020-72584-5> 

**Paton, A.**, Antonelli, A., Carine, M., Campostrini Forzza, R., Davies, N., Demyssé, S., Dröge, G., Fulcher, T., Grall, A., Holstein, N., Liu, U., Jones, M., Miller, J., Moat, J., Nicolson, N., **Ryan, M.**, Sharrock, S., **Smith, D.**, Thiers, B., Victor, J., Wilkinson, T. and Dickie, J. (2020) Plant and fungal collections: Current status, future perspectives. *Plants, People, Planet* 2, 499–514. <https://doi.org/10.1002/ppp3.10141> 


**Peyton, J.M.**, Martinou, A.F., Adriaens, T., Chartosia, N., Karachle, P.K., Rabitsch, W., Tricarico, E., Arianoutsou, M., Bacher, S., Ioannis Bazos, I., Brundu, G., Bruno-McClung, E., Charalambidou, I., Demetriou, M., Galanidi, M., Galil, B., Guillem, R., Hadjiafxentis, K., Hadjioannou, L., Hadjistyli, M., Hall-Spencer, J.M., Jimenez, C., Johnstone, G., Kleitou, P., Kletou, D., Koukoularidou, D., Leontiou, S., **Maczey, N.**, Michailidis, N., Mountford, J.O., Papatheodoulou, A., Pescott, O.L., Phanis, C., Preda, C., Rorke, S., **Shaw, R.**, Solarz, W., Taylor, C.D., Trajanovski, S., Tziortzis, I., Tzirkalli, E., Uludag, A., Vimercati, G., Zdraveski, K., Zenetos, A. and Roy, H.E. (2020) Horizon scanning to predict and prioritize invasive alien species with the potential to threaten human health and economies on Cyprus. *Frontiers in Ecology and Evolution* 8(566281), 15 pp. <https://doi.org/10.3389/fevo.2020.566281> 


**Pollard, K., Kurose, D., Varia, S., Evans, H.C.** and **Ellison, C.A.** (2020) First report of the rust *Puccinia komarovii* on *Impatiens parviflora* in the UK. *New Disease Reports* 41(4), 1 p. <http://dx.doi.org/10.5197/j.2044-0588.2020.041.004> 


**Régnière, J., Seehausen, M.L.** and Martel, V. (2020) Modeling climatic influences on three parasitoids of low-density spruce budworm populations. Part 1: *Tranosema rostrale* (Hymenoptera: Ichneumonidae). *Forests* 11(846), 20 pp. <https://doi.org/10.3390/f11080846> 


Roffeis, M., Fitches, E.C., Wakefield, M.E., Almeida, J., Alves Valada, T.R., Devic, E., Koné, N'G., **Kenis, M., Nacambo, S.**, Koko, G.K.D., Mathijs, E., Achten, W.M.J. and **Muys, B.** (2020) Ex-ante life cycle impact assessment of insect based feed production in West Africa. *Agricultural Systems* 178(102710), 21 pp. <https://doi.org/10.1016/j.agsy.2019.102710>

**Roy, S.**, Prasad, A.Km., **Neave, S.**, Bhattacharyya, P.N., **Nagpal, A.**, Borah, K., Rahman, A., Sarmah, M., Sarmah, S.R. and **Pandit, V.** (2020) Nonchemical based integrated management package for live-wood eating termites in tea plantations of north-east India. *International Journal of Tropical Insect Science* 40, 435–440. <https://doi.org/10.1007/s42690-019-00095-6>

**Rware, H., Kansime, K.M., Watiti, J., Opio, J., Alok, C., Kaizzi, C.K., Nansamba, A., Oduor, G.** and **Mibe, H.** (2020) Development and utilization of a decision support tool for the optimization of fertilizer application in smallholder farms in Uganda. *African Journal of Food, Agriculture, Nutrition and Development* 20(4), 16178–16195. <https://doi.org/10.18697/ajfand.92.19140> 

**Schaffner, U.**, Hill, M., Dudley, T. and D'Antonio, C. (2020) Post-release monitoring in classical biological control of weeds: assessing impact and testing pre-release hypotheses. *Current Opinion in Insect Science* 38, 99–106. <https://doi.org/10.1016/j.cois.2020.02.008> 

**Schaffner, U.**, Steinbach, S., Sun, Y., Skjøth, C.A., Weger, L.A. de, Lommen, S.T., **Augustinus, B.A.**, Bonini, M., Karrer, G., Šikoparija, B., Thibaudon, M. and **Müller-Schärer, H.** (2020) Biological weed control to relieve millions from *Ambrosia* allergies in Europe. *Nature Communications* 11(1745), 7 pp. <https://doi.org/10.1038/s41467-020-15586-1> 

**Seehausen, M.L.**, Ris, N., Driss, L., **Racca, A., Girod, P., Warot, S., Borowiec, N., Toševski, I.** and **Kenis, M.** (2020) Evidence for a cryptic parasitoid species reveals its suitability as a biological control agent. *Scientific Reports* 10:19096, 12 pp. <https://doi.org/10.1038/s41598-020-76180-5> 

Shackleton, R.T., Bertzky, B., Wood, L.E., Bunbury, N., Jäger, H., Merm, R., Sevilla, C., Smith, K., Wilson, J.R.U., Witt, A.B.R. and Richardson, D.M. (2020) Biological invasions in World Heritage Sites: current status and a proposed monitoring and reporting framework. *Biodiversity and Conservation* 29, 3327–3347. <https://doi.org/10.1007/s10531-020-02026-1>

Shah, S.H.J., Malik, A.H., Zhang, B., Bao, Y. and Qazi, J. (2020) Metagenomic analysis of relative abundance and diversity of bacterial microbiota in *Bemisia tabaci* infesting cotton crop in Pakistan. *Infection, Genetics and Evolution* 84, 104381. <https://doi.org/10.1016/j.meegid.2020.104381>

Shah, S.H.J., Paredes-Montero, J.R., Malik, A.H., Brown, J.K. and Qazi, J. (2020) Distribution of *Bemisia tabaci* (Gennadius) (Hemiptera: Aleyrodidae) mitotypes in commercial cotton fields in the Punjab province of Pakistan. *Florida Entomologist* 103(1), 41–47. <https://doi.org/10.1653/024.103.0407>

Silvestri, L., Sosa, A., Kay, F.Mc., Vitorino, M.D., Hill, M., Zachariades, C., Hight, S., Weyl, P., Smith, D., Djeddour, D. and Mason, P.G. (2020) Implementation of access and benefit-sharing measures has consequences for classical biological control of weeds. *Biocontrol* 65, 125–141. <https://doi.org/10.1007/s10526-019-09988-4>

Smith, D., Kermode, A., Cafà, G., Buddie, A.G., Caine, T.S. and Ryan, M.J. (2020) Strengthening mycology research through coordinated access to microbial culture collection strains. *CABI Agriculture and Bioscience* 1(2), 17 pp. <https://doi.org/10.1186/s43170-020-00004-9>

Souksavat, S., Pinkaew, N., Ponpinij, S., Babendreier, D. and Sibounavong, P. (2020) Diversity of coleopterous families in Phou Phanang National Biodiversity Conservation Area, Lao PDR. *The Thailand Natural History Museum Journal* 14(1), 85–94.

Spence, E.L., Chandler, D., Edgington, S., Berry, S.D., Martin, G., O'Sullivan, C., Svendsen, C. and Hesketh, H. (2020) A standardised bioassay method using a bench-top spray tower to evaluate entomopathogenic fungi for control of the greenhouse whitefly, *Trialeurodes vaporariorum*. *Pest Management Science* 76(7), 2513–2524. <https://doi.org/10.1002/ps.5794>

Stahl, J., Babendreier, D., Colazza, S., Foti, M.C. and Hays, T. (2020) Intrinsic competition between two European egg parasitoids of the brown marmorated stink bug. *Journal of Applied Entomology* 144(8), 669–677. <https://doi.org/10.1111/jen.12796>

Stoekli, S., Felber, R. and Hays, T. (2020) Current distribution and voltinism of the brown marmorated stink bug, *Halyomorpha halys*, in Switzerland and its response to climate change using a high-resolution CLIMEX model. *International Journal of Biometeorology* 64, 2019–2032. <https://doi.org/10.1007/s00484-020-01992-z>

Stutz, S., Hinz, H.L. and Schaffner, U. (2020) Evaluation of *Cyphocleonus trisulcatus* (Coleoptera: Curculionidae) as a potential biological control agent for *Leucanthemum vulgare* in North America. *Journal of Applied Entomology* 144(1–2), 81–93. <https://doi.org/10.1111/jen.12704>

Sun, D., Huang, Y., Qin, Z., Zhan, H., Zhang, J., Liu, Y. and Yang, S. (2020) Identification of candidate olfactory genes in the antennal transcriptome of the stink bug *Halyomorpha halys*. *Frontiers in Physiology* 11(876), 13 pp. <https://doi.org/10.3389/fphys.2020.00876>

Tambo, J., Uzayisenga, B., Mugambi, I., Bundi, M. and Silvestri, S. (2020) Plant clinics, farm performance and poverty alleviation: panel data evidence from Rwanda. *World Development* 129(104881), 13 pp. <https://doi.org/10.1016/j.worlddev.2020.104881>

Tambo, J.A., Baraké, E., Kouevi, A. and Munthali, G.T. (2020) Copyright or copyleft: An assessment of farmer-innovators' attitudes towards intellectual property rights. *Journal of Rural Studies* 74, 133–141. <https://doi.org/10.1016/j.jrurstud.2020.01.004>

Tambo, J.A., Day, R.K., Lamontagne-Godwin, J., Silvestri, S., Beseh, P.K., Oppong-Mensah, B., Phiri, N.A. and Matimelo, M. (2020) Tackling fall armyworm (*Spodoptera frugiperda*) outbreak in Africa: an analysis of farmers' control actions. *International Journal of Pest Management* 66(4), 298–310. <https://doi.org/10.1080/09670874.2019.1646942>

**Tambo, J.A., Kansime, M.K., Mugambi, I., Rwomushana, I., Kenis, M., Day, R.K. and Lamontagne-Godwin, J.** (2020) Understanding smallholders' responses to fall armyworm (*Spodoptera frugiperda*) invasion: Evidence from five African countries. *Science of the Total Environment* 740(140015), 11 pp. <https://doi.org/10.1016/j.scitotenv.2020.140015>

Tannières, M., Fowler, S.V., Manaargadoo-Catin, L., Lange, L. and **Shaw, R.** (2020) First report of 'Candidatus Liberibacter europaeus' in the United Kingdom. *New Disease Reports* 41(3), 1 p. <http://dx.doi.org/10.5197/j.2044-0588.2020.041.003>

**Taylor, P.** and **Reeder, R.** (2020) Antibiotic use on crops in low and middle-income countries based on recommendations made by agricultural advisors. *CABI Agriculture and Bioscience* 1(1), 14 pp. <https://doi.org/10.1186/s43170-020-00001-y>

**Toepfer, S.,** Zhang, T., Wang, B., Qiao, Y., Peng, H., Luo, H., Wan, X., Gu, R., Zhang, Y., Ji, H. and **Wan, M.** (2020) Sustainable pest management through improved advice in agricultural extension. *Sustainability* 12(6767), 17 pp. <https://doi.org/10.3390/su12176767>

Toth, Sz., Szalai, M., Kiss, J. and **Toepfer, S.** (2020) Missing temporal effects of soil insecticides and entomopathogenic nematodes in reducing the maize pest *Diabrotica virgifera virgifera*. *Journal of Pest Science* 93(2), 767–781. <https://doi.org/10.1007/s10340-019-01185-7>

Traoré, I., Pousga, S., Sankara F., Zongo Z.G., Coulibaly K., Nacoulma J.-P., **Kenis, M.**, Ouédraogo, G.A. (2020) Influence des larves séchées de mouches domestiques (*Musca domestica*, L.) sur la prise alimentaire du poulet local (*Gallus domesticus*, L.) au Burkina Faso. *Journal of Animal & Plant Sciences* 45(2), 7884–7899. <https://doi.org/10.35759/JAnmPISci.v45-2.2>

Traore, I., Pousga, S., Sankara, F., Coulibaly, K., Nacoulma, J.-P., **Kenis, M.**, Mensah, G.A. and Ouédraogo, G.A. (2020) Étude du comportement alimentaire de la pintade locale (*Numida meleagris*, L.) à l'Ouest du Burkina-Faso. *International Journal of Biological and Chemical Sciences* 14(1), 154–169. <https://www.ajol.info/index.php/ijbcs/article/view/194141>, <https://dx.doi.org/10.4314/ijbcs.v14i1.13>

Ullah, M.S., Sharmin, D. and **Chaudhary, M.** (2020) Early preparedness: Bangladesh proactive steps towards desert locust invasion in South Asia. *Fundamental and Applied Agriculture* 5(3), 295–302. <https://doi.org/10.5455/faa.123992>

van Wilgen, B.W., Raghu, S., Sheppard, A.W. and **Schaffner, U.** (2020) Quantifying the social and economic benefits of the biological control of invasive alien plants in natural ecosystems. *Current Opinion in Insect Science* 38, 1–5. <https://doi.org/10.1016/j.cois.2019.12.004>

Veldhuizen, L. van., **Njunge, R., Romney, D.,** Seelmann, L., Smits, E. and **Watiti, J.** (2020) Towards a typology for agribusiness-based advisory services: Model description and analysis. *CABI Working Paper* 15, 35 pp. <http://dx.doi.org/10.1079/CABICOMM-62-8139>

Verkley, G., Perrone, G., Piñ a, M., Scholz, A.H., Overmann, J., Zuzuarregui, A., Perugini, I., Turchetti, B., Hendrickx, M., Stacey, G., Law, S., Russell, J., **Smith, D.** and Lima, N. (2020) New ECCO model documents for material deposit and transfer agreements in compliance with the Nagoya Protocol. *FEMS Microbiology Letters* 367(5), fnaa044, 5 pp. <https://doi.org/10.1093/femsle/fnaa044>

Vettraino, A.M., **Santini, A.,** Nikolov, C., Grégoire, J.-C., Tomov, R., Orlinski, A., Maaten, T., Sverrisson, H., Økland, B. and **Eschen, R.** (2020) A worldwide perspective of the legislation and regulations governing sentinel plants. *Biological Invasions* 22(2), 353–362. <https://doi.org/10.1007/s10530-019-02098-3>

**Weyl, P.,** Asadi, G.A., Cristofaro, M., Vidovic, B., Petanovic, R., Marini, F. and **Schaffner, U.** (2020) The host range and impact of *Aceria angustifoliae* (Eriophyidae), a potential biological control agent against Russian olive, *Elaeagnus angustifoliae* (Elaeagnaceae) in North America. *Biocontrol Science and Technology* 30(1), 85–92. <https://doi.org/10.1080/09583157.2019.1675144>

**Williams, F.** and Taron, A. (2020) Demand-led extension: a gender analysis of attendance and key crops. *Journal of Agricultural Education and Extension* 26(4), 383–400. <https://doi.org/10.1080/1389224X.2020.1726778>

**Witt, A.,** Chandipo, L., **Nunda, W.** and **Beale, T.** (2020) Distribution of *Mimosa diplotricha* in eastern and southern Africa and its socio-ecological impacts in northern Malawi. *Bothalia* 50(1), 13 pp. <http://dx.doi.org/10.38201/btha.abc.v50.i1.9>

**Witt, A.**, Hula, V., Suleiman, A.S. and Van Damme, K. (2020) First record of the red palm weevil *Rhynchophorus ferrugineus* (Olivier) on Socotra Island (Yemen), an exotic pest with high potential for adverse economic impacts. *Rendiconti Lincei. Scienze Fisiche e Naturali* 31(3), 645–654. <https://doi.org/10.1007/s12210-020-00918-6>

**Witt, A., Nunda, W., Makale, F. and Reynolds, K.** (2020) A preliminary analysis of the costs and benefits of the biological control agent *Dactylopius opuntiae* on *Opuntia stricta* in Laikipia County, Kenya. *BioControl* 65, 515–523. <https://doi.org/10.1007/s10526-020-10018-x>

**Witt, A.B.R.**, Floyd, K.S., **Nunda, W., Beale, T.**, Shanungu, G. and Kriticos, D.J. (2020) *Mimosa pigra* in eastern and southern Africa: Distribution and socio-ecological impacts. *Austral Ecology* 45(6), 788–799. <https://doi.org/10.1111/aec.12895>

**Witt, A.B.R., Nunda, W., Beale, T.** and Kriticos, D.J. (2020) A preliminary assessment of the presence and distribution of invasive and potentially invasive alien plant species in Laikipia County, Kenya, a biodiversity hotspot. *Koedoe* 62(1), a1605, 10 pp. <https://doi.org/10.4102/koedoe.v62i1.1605>

**Wyckhuys, K.A.G.**, Lu, Y., Zhou, W., **Cock, M.J.W.**, Naranjo, S.E., Fereti, A., **Williams, F.E.** and Furlong, M.J. (2020) Ecological pest control fortifies agricultural growth in Asia–Pacific economies. *Nature Ecology and Evolution* 4(11), 1522–1530. <https://doi.org/10.1038/s41559-020-01294-y>

Xie, M.H., Zhong, Y.Z., Chen, H.L., Lin, L.L., Zhang, G.L., Xu, L.N., Wang, Z.Y., **Zhang, J.P., Zhang, F.**, and **Su, W.H.** (2020) 草地贪夜蛾在安徽地区越冬能力初探. [Potential overwintering ability of fall armyworm *Spodoptera frugiperda* (J.E. Smith) in Anhui province. *Plant Protection*. 46(3), 236–241. [In Chinese with English abstract.] <https://doi.org/10.16688/j.zwbh.2019707>

**Zhan, H.X., Chen, J.H., Mi, Q.Q., Li, W.J., Zhang, F.** and **Zhang, J.P.** (2020) 茶翅蝽生长发育、繁殖及若虫各龄期形态特征研究. [Development, fecundity and nymph morphology, of the brown marmorated stink bug *Halyomorpha halys* (Stål).] [In Chinese with English abstract.] *Chinese Journal of Applied Entomology*. 57(2), 392–399. <https://doi.org/10.7679/j.issn.2095-1353.2020.043>

**Zhang, J., Zhong, Y., Tang, R.**, Rebijith, K.B., Li, F., Chen, G. and **Zhang, F.** (2020) Olfactory reception of host alarm pheromone component by the odorant-binding proteins in the samurai wasp, *Trissolcus japonicus* (Hymenoptera: Scelionidae). *Frontiers in Physiology* 11(1058), 10 pp. <https://doi.org/10.3389/fphys.2020.01058>

**Zhang, Y., Li, H.-M., Liu, L.-L.**, Wang, G.-J. and Shang, S.-Q. (2020) 不同土壤类型及其含水量对亚洲小车蝗卵孵化的影响 [Effects of different soil types and soil moisture content on egg hatching of *Oedaleus decorus asiaticus*]. *Journal of Environmental Entomology* 42(3), 559–565. [In Chinese with English abstract.] <https://doi.org/10.3969/j.issn.1674-0858.2020.03.6>

#### 2.4.3. Book chapters and proceedings papers (16)

Baroncelli, R. and **Cafà, G.** (2020) Genomic sequences for fungi. In: Bridge, P., **Smith, D.** and Stackebrandt, E. (eds) *Trends in the Systematics of Bacteria and Fungi*. CABI, Wallingford, UK, 231–254.

Bridge, P., Stackebrandt, E. and **Smith, D.** (2020) Where to now? In: Bridge, P., **Smith, D.** and Stackebrandt, E. (eds) *Trends in the Systematics of Bacteria and Fungi*. CABI, Wallingford, UK, 320–333.

Collinge, D.B. and **Taylor, P.** (2020) Mechanisms of pathogenicity. In: Tronsmo, A.M., Collinge, D.B., Djurle, A., Munk, L., Yuen, J. and Tronsmo, A. (eds) *Plant Pathology and Plant Diseases*. CABI, Wallingford, UK, pp. 185–204.

**Colmenarez, Y., Corniani, N.**, Jahnke, S.M., Sampaio, M.V and Vásquez, C. (2020) Use of parasitoids as a biocontrol agent in the Neotropical region: Challenges and potential. In: Baimey, H.K., Hamamouch, N. and Kolombia, Y.A. (eds) *Horticultural Crops*. IntechOpen, London, UK, 23 pp. <https://doi.org/10.5772/intechopen.80720>

**Colmenárez, Y.**, Vásquez, C., Fidelis, E.G. and Corniani, N. (2020) Biological control as a key tool for the management of invasive species in Latin America and the Caribbean. In: Chong, P.A., Newman, D.J. and Steinmacher, D.A. (eds) *Agricultural, Forestry and Bioindustry Biotechnology and Biodiscovery*. Springer, Cham, Switzerland, pp.357–386. [https://doi.org/10.1007/978-3-030-51358-0\\_18](https://doi.org/10.1007/978-3-030-51358-0_18)



**Danielsen, S.**, Schelling, E. and Whittaker, M. (2020) Reaping one health benefits through cross-sectoral services. In: Zinsstag, J., Schelling, E., Crump, L., Whittaker, M., Tanner, M. and Stephen, C. (eds) *One Health: The Theory and Practice of Integrated Health Approaches*. Second Edition. CABI, Wallingford, UK, pp. 170–183.

Eisenback, J.D. and **Hunt, D.J.** (2020) Handling, fixing, staining and mounting nematodes. In: Perry, R.N., **Hunt, D.J.** and Subbotin, S.A. (eds) *Techniques for Work with Plant and Soil Nematodes*. CABI, Wallingford, UK, pp. 71–87. <https://doi.org/10.1079/9781786391759.0005>

Ghosh, S.K., **Chaudhary, M.**, Manjunatha, N. (2020) Endophytes: A potential bio-agent for the plant protection. In: Chakravarthy A. (ed.) *Innovative Pest Management Approaches for the 21st Century*. Springer, Singapore, pp. 273–297. [https://doi.org/10.1007/978-981-15-0794-6\\_14](https://doi.org/10.1007/978-981-15-0794-6_14)

**Jenner, W., Cameron, K. and Reeder, R.** (2020) Plantwise: Monitoring plant pest outbreaks globally. In: Ristaino, J.B. and Records, A. (eds) *Emerging Plant Diseases and Global Food Security*. The American Phytological Society, St. Paul, Minnesota, USA, pp. 201–220. <https://doi.org/10.1094/9780890546383.010>

**Migiro, L. and Otieno, W.** (2020) The role of plantwise in improving detection and action on pest situations. In: Niassy, S., Ekesi, S., **Migiro, L., Otieno, W.** (eds) *Sustainable Management of Invasive Pests in Africa*. Sustainability in Plant and Crop Protection, vol 14. Springer, Cham, Switzerland, pp. 245–251. [https://doi.org/10.1007/978-3-030-41083-4\\_19](https://doi.org/10.1007/978-3-030-41083-4_19)

**Niassy, S., Ekesi, S., Migiro, L. and Otieno, W.** (2020) Introduction: An overview of the impacts of invasive insect species on agriculture. In: Niassy, S., Ekesi, S., **Migiro, L., Otieno, W.** (eds) *Sustainable Management of Invasive Pests in Africa*. Sustainability in Plant and Crop Protection, vol 14. Springer, Cham, Switzerland, pp. 1–9. [https://doi.org/10.1007/978-3-030-41083-4\\_1](https://doi.org/10.1007/978-3-030-41083-4_1)

**Otieno, W., Ochilo, W., Migiro, L., Jenner, W. and Kuhlmann, U.** (2020) Tools for pest and disease management by smallholders: a case study on Plantwise. In: Klauser, D. and Robinson, M. (eds) *The sustainable intensification of smallholder farming systems*. Burleigh Dodds Science Publishing Ltd, Cambridge, UK, 23 pp. <http://dx.doi.org/10.19103/AS.2020.0080.06>

**Ryan, M.J.**, Verkleij, G. and Robert, V. (2020) Data resources: role and services of culture collections. In: Bridge, P., **Smith, D.** and Stackebrandt, E. (eds) *Trends in the Systematics of Bacteria and Fungi*. CABI, Wallingford, UK, 83–92.

**Smith, D.** and Bussas, V. (2020) Preserving the reference strains. In: Bridge, P., **Smith, D.** and Stackebrandt, E. (eds) *Trends in the Systematics of Bacteria and Fungi*. CABI, Wallingford, UK, 55–68.

Vásquez, C. and **Colmenárez, Y.** (2020) Invasive mite species in the Americas: bioecology and impact. In: Haouas, D. and Hufnagel, L. (eds) *Pest Control and Acarology*. IntechOpen, London, UK, 20 pp.. <https://doi.org/10.5772/intechopen.86127>

Ye, W. and **Hunt, D.J.** (2020) Measuring nematodes and preparation of figures. In: Perry, R.N., **Hunt, D.J.** and Subbotin, S.A. (eds) *Techniques for Work with Plant and Soil Nematodes*. CABI, Wallingford, UK, pp. 132–151. <https://doi.org/10.1079/9781786391759.0007>

#### 2.4.4. Not peer-reviewed (7)

Cannon, P.F. and **Minter, D.W.** (2020) Spore ball-forming smut fungi in *Thecaphora* and *Urocystis*. [*Thecaphora affinis*, *T. lathyri*, *T. seminis-convolvuli*, *T. trailii*, *T. ulicis*, *Urocystis avenae-elatoris*, *U. bolivarii*, *U. eranthidis*, *U. filipendulae*, *U. fischeri*]. *IMI Descriptions of Fungi & Bacteria* 223(2221–2230), [40] pp.

**Franić, I.**, Allan, E., Prospero, S. and **Eschen, R.** (2020) Risks of pest and disease movement via plant and seed exchanges. *BGJournal* 17(1), 30–32. <https://www.bgci.org/resources/bgci-tools-and-resources/bgjournal/>

**Haye, T.** (2020) Global pest status of *Halyomorpha halys* and impact of its associated parasitoids. *Atti Accademia Nazionale Italiana di Entomologia* 67, 95–100.

**Kansiime, M.K., Macharia, M., Baars, E., Rutatora, D.F., Silvestri, S. and Njunge, R.** (2020) Evaluating gender differentials in farmers' access to agricultural advice in Tanzania: an intra-household survey. *CABI Working Paper* 16, 16 pp. <https://dx.doi.org/10.1079/CABICOMM-62-8142>

Kryvomaz, T.I., Michaud, A. and **Minter, D.W.** (2020) Myxomycetes accumulating heavy metals. [*Arcyria cinerea*, *Diderma fallax*, *D. meyeriae*, *D. niveum*, *Fuligo septica*, *Hemitrichia serpula*, *Lamproderma arcyrioides*, *L. ovoideoechinulatum*, *Lycogala epidendrum*, *Meriderma echinulatum*]. *IMI Descriptions of Fungi & Bacteria* 222(2211–2220), [80] pp.

**Minter, D.W.** (2020) *Cyberloma*, *Loma* (Microsporidia). [*Cyberloma acerinae*, *C. psittaci*, *Loma boopsidis*, *L. camerounensis*, *L. dimorpha*, *L. diplodi*, *L. fontinalis*, *L. morhuae*, *L. myrophidis*, *L. trichiuri*]. *IMI Descriptions of Fungi & Bacteria* 225(2241–2250), [31] pp.

**Minter, D.W.** and Cannon, P.F. (2020) Coprophilous Ascomycetes. [*Ascobolus hawaiiensis*, *Bombardioidea stercoris*, *Cheilymenia pulcherrima*, *Coprotus duplus*, *Hypocopra brefeldii*, *Paratrichophaea boudieri*, *Podospora excentrica*, *Schizothecium vesticola*, *Sporormiella grandispora*, *Trichodelitschia bisporula*]. *IMI Descriptions of Fungi & Bacteria* 224(2231–2240), [44] pp.

#### 2.4.5. Completed theses (15)

Aidoo, S. (2020) Analysis of the diagnosis and recommendations made for fungal diseases by Ghanaian plant doctors. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 60 pp. Supervised: **Wood, A.** and **Reeder, R.**

Aslam, M. (2020) Developing an integrated crop management package for the sustainable citrus production in Pakistan. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 74 pp. Supervised: **Grossrieder, M.** and **Babendreier, D.**

**Augustinus, B.** (2020) On potential risks and benefits of an accidentally introduced weed biological control agent in Europe: The case of the ragweed leaf beetle, *Ophraella communa*. PhD thesis, University of Bremen, Germany. Supervised: **Schaffner, U.**

Belete, K.F. (2020) Integrated production technical guideline for sorghum (*Sorghum bicolor* (L.) Moench) in Ethiopia. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 59 pp. Supervised: **Holmes, K.** and **Toepfer, S.**

**Franić, I.** (2020) The diversity of insects and fungi associated with trees: A plant health perspective. PhD thesis, University of Bern, Switzerland. Supervised: **Eschen, R.** and **Kenis, M.**

Kipandula, J.L. (2020) A comparison of the quality of diagnoses and recommendations of paper-based and e-clinics in Malawi. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 42 pp. Supervised: **Eschen, R.** and **Mugambi, I.**

Liu, L.L. (2020) 三种类型生物农药对草地贪夜蛾幼虫的毒力测定. [Toxicities of three types of biopesticides to larvae of *Spodoptera frugiperda* (Smith)]. MSc Thesis, Beijing University of Agriculture, China, 31 pp. Supervised: Zhang, A.H. and **Li, H.M.**

Marimuthu, S.T.J. (2020) Assessment of the Trinidad and Tobago National Standard Good Agricultural Practices – Fresh Produce (TTS 648:2020), on contributing towards sustainable agricultural development, through biodiversity and landscape management within Trinidad and Tobago. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 158 pp. Supervised: **Bateman, M.** and **Schaffner, U.**

Nagaba, C. (2020) Integrated production technical guideline for commercial papaya (*Carica papaya* L) production in Uganda. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 89 pp. Supervised: **Wood, A.** and **Chaudhary, M.**

Nakibuuka, E.S. (2020) Integrated crop management technical guideline for vanilla production in Uganda. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 82 pp. Supervised: **Schaffner, U.** and **Toepfer, S.**

Sichona, J. (2020) Plant clinic data analysis of the effects of plant doctor and farmer gender on the interactions at plant clinics, including attendance, problems diagnosed, and advice given in Zambia. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 24 pp. Supervised: **Jenner, W.** and **Taylor, P.**

Uwitonze, N. (2020) Analysis of farmers' sources of information on fall armyworm and implications for the adoption of integrated pest management in Rwanda. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 52 pp. Supervised: **Tambo, J.** and **Ochilo, W.**

**Varia, S.** (2020) Investigations into the potential of classical biological control of the invasive aquatic weed, *Crassula helmsii*. PhD thesis, Royal Holloway, University of London, UK, 175 pp. Supervised: **Murphy, S.** and Gange, A.

Wanjiru, J.C. (2020) Analysis of the differences between farmers' pest control methods for *Tuta absoluta* prior to visiting the plant clinic and the plant doctors' recommendation. The case of Kenya. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 31 pp. Supervised: **Tambo, J.** and **Thakur, M.**

Zhang, Y. (2020) 亚洲小车蝗的产卵、孵化行为与染菌后蝗蛹体温响应的研究. [Study on oviposition, egg hatching behavior of *Oedaleus decorus asiaticus* and its nymph body temperature response infected by *Metarhizium anisopliae*. MSc Thesis, Gansu Agricultural University, China, 69 pp. Supervised: Shang, S.Q. and **Li, H.M.**


#### 2.4.6. Published datasets (2)

**Bateman, M.** (2020) Dataset: Updated assessment of potential biopesticide options for managing fall armyworm (*Spodoptera frugiperda*) in Africa. *CABI Datasets*. <https://doi.org/10.34857/0092858>


**Finch, E.** (2020) Dataset: Papaya mealybug distribution data. *CABI Datasets*. <https://doi.org/10.34857/0062833>

#### 2.4.7. 2019 Publications not previously listed (4)

**Hussain, Z., Hussain, I., Jamal, I.A., Hussain, M. and Farooq, M.** (2019) Pest complex of horticultural crops in District Ghizer (Gilgit-Baltistan), Pakistan: A baseline survey. *Journal of Horticultural Science and Technology* 2(1), 27–31.

**Musebe, R., Watiti, J., Duah, S. and Okuku, I.** (2019) Using multimedia campaign approach to improve farmer knowledge on soybean production: a case of selected states in Nigeria. *Journal of Economics and Sustainable Development* 10(24), 13 pp. <https://doi.org/10.7176/JESD/10-24-01> 

Shah, S.H.J., Malik, N., **Malik, A.H.**, Faqiri, M. and **Qazi, J.** (2019) First mtCO-I based molecular identification of two cryptic species of *Bemisia tabaci* from Afghanistan. *Archives of Phytopathology and Plant Protection* 52(5–6), 497–500. <https://doi.org/10.1080/03235408.2019.1648918>

**Rapo, C.B., Schaffner, U., Eigenbrode, S.D., Hinz, H.L., Price, W.J., Morra, M., Gaskin, J. and Schwarzländer, M.** (2019) Feeding intensity of insect herbivores is associated more closely with key metabolite profiles than phylogenetic relatedness of their potential hosts. *PeerJ* 7:e8203, 23 pp. <https://doi.org/10.7717/peerj.8203> 

## 2.5. Scientific project reports (69)

Alam, S.N, Sarker, D. and **Chaudhary, M.** (2020) Annual Report from BARI for BPS initiative in Bangladesh. Unpublished report, CABI South Asia, New Delhi, 15 pp.

**Ariza Salamanca, A.A., González-Moreno, P., Crozier, J., Navarro-Cerrillo, R.M.** (2020) CocoaAgroForecast: Scenarios of biomass accumulation using allometric models. Unpublished report, University of Córdoba and CABI E-UK, Egham, UK. 76 pp.

**Ariza Salamanca, A.A., González-Moreno, P., Quero, J.L., Crozier, J., Navarro-Cerrillo, R.M.** (2020) CocoaAgroForecast: Shade scenarios for cocoa. Unpublished report, University of Córdoba, Spain and CABI E-UK, Egham, UK, 76 pp.

**CABI UK** (2020) Biological control of invasive non-native riparian weeds 2017-2020: Japanese knotweed (JK); Himalayan balsam (HB); floating pennywort (FP); and Australian swamp stonecrop (ASSC). Defra EVID4 (2020) Evidence Project Final Report. (Authors Djeddour, D., Ellison, C., Kurose, D., Pollard, K., Pratt, C., Seier, M. and Varia, S.). Unpublished report, CABI E-UK, Egham, UK, 22 pp.

MARDI-CABI Joint Laboratory (2020) 2020 MARDI-CABI Joint Laboratory Annual Report. MARDI, Malaysia, 16 pp.

**Chaudhary, M. and Davis, T.** (2020) National Action Plan for FAW submitted to National Task force in Bangladesh. Unpublished report, CABI South Asia, New Delhi, India, 14 pp.

**Chaudhary, M. and Pandit, V.**(2020) Annual report on CDF funded ICAR-CABI project. Unpublished report, CABI South Asia, New Delhi, India, 20 pp.

**Chaudhary, M.** and Goswami, B. (2020) PW Sustainability Assessment Report, Bangladesh 2020. Unpublished report, CABI South Asia, New Delhi, India, 45 pp.

**Constantine, K., Chaudhary, M. and Williams, F.** (2020) An invasive species system assessment in Bangladesh. Unpublished Report, CABI E-UK, Egham, UK, 37 pp.

**Constantine, K., Mulila-Mitti, J. and Williams, F.** (2020) An invasive species system assessment in Zambia. Unpublished Report, CABI E-UK, Egham, UK, 43 pp.

**Cortat, G., Altermatt, K. and Kuhn, G.** (2020) Biological control of hawkweeds, *Pilosella* spp. Annual report 2019. Unpublished Report, CABI E-CH, Delémont, Switzerland, 15 pp.

**Cortat, G., Altermatt, K., Kuhn, G. and Hinz, H.L.** (2020) Biological control of garlic mustard, *Alliaria petiolata*. Annual report 2019. Unpublished Report, CABI E-CH, Delémont, Switzerland, 18 pp.

**Cortat, G., Altermatt, K., Kuhn, G. and Hinz, H.L.** (2020) Biological control of swallow-worts, *Vincetoxicum rossicum* and *V. nigrum*. Annual report 2018. Unpublished Report, CABI E-CH, Delémont, Switzerland, 17 pp.

**Cortat, G., Toševski, I., Altermatt, K., Kuhn, G. and Hinz, H.L.** (2020) Biological control of field bindweed, *Convolvulus arvensis*. Annual report 2019. Unpublished Report, CABI E-CH, Delémont, Switzerland, 9 pp.

**Costa, A., Sivapragasam, A., Thanarajoo, S.S., Crozier, J., Muhammad, F. and Flood, J.** (2020) A biosecurity plan for the Papua New Guinea coconut industry. Unpublished report, CABI Southeast Asia, Serdang, Malaysia, 57 pp + Annexes.

**Crozier, J. and Flood, J.** (2020) Cocoa Pest and Disease – Baseline of losses in Ghana and Cote d'Ivoire. Unpublished report, CABI E-UK, Egham, UK, 109 pp.

**Crozier, J. and Hidalgo, E.** (2020) Scoping study: To determine the feasibility of developing a digital on-farm monitoring tool for cacao pests and disease in Colombia. Part of the COLCO Project. Unpublished report, CABI E-UK, Egham, UK, 9 pp.

**Crozier, J. and Finch, E.** (2020) Third annual report: Cocoa-timber based agroforestry system trial. Unpublished report, CABI E-UK, Egham, UK, 37 pp.

**Davis, T. and Chaudhary, M.**(2020) Communication workshop Technical Brief for Bangladesh. Unpublished report, CABI South Asia, New Delhi, India, 17 pp.

**Djeddour, D.** (2020) Summary report of the biology and host range of *Merochlorops dimorphus* and *Metaprodiocetes trilineata* for the biocontrol of *Hedychium gardnerianum*. Unpublished report, CABI E-UK, Egham, UK, 9 pp.

**Ellison, C., Djeddour, D., Kurose, D., Pratt, C., Seier, M., Shaw, R. and Varia, S.** (2020) Biocontrol of Water Framework Directive Weeds. Progress December 2018-January 2020. Unpublished report, CABI E-UK, Egham, UK, 57 pp.

Fountain, M., Cross, J., Fitzgerald, J., Jay, C., Brain, P., Buss, D., Harris, A., Powell, G., Shaw, B., Walker, A., Rogai, F.M., de Silva, C.X., Rosalina, U., Csokay, L., Clarke, C., Lowe, J., Clark, M.P., Brough, B., Mohay, P., Deakin, G., Fernandez, R.B., Antoniella, B., Gibbons, A., Coyne, C., **Edgington, S., Taylor, B., Luke, B., Whelan, R., Moore, D., Thompson, E.**, Bennison, J., Brown S. Kirk, W., Sampson C., Hall, D., Farman D., Pope, T., Graham, J., Homer, R., Graham R., Irving, R. and Audsley N. (2020) Grower Summary. SF156 Improving integrated pest management in strawberry. Annual 2019. AHDB Horticulture, Kenilworth, UK, 45 pp.

- Häfliger, P., Guala, M., Trifonov, T., Stettler, P., Bokla, T., Closça, C., Toševski, I., Ellison, C. and Hinz, H.L.** (2020) Biological control of flowering rush, *Butomus umbellatus*. Annual report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 30 pp.
- Haye, T., Grove, E., Lemke, E. and Cock, C.** (2020) Arthropod Biological Control Program – Annual Report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 59 pp.
- Haye, T., Risse, M. and Humair, L.** (2020) Distribution and target and non-target effects of the exotic parasitoid *Trissolcus japonicus*. Unpublished report, CABI E-CH, Delémont, Switzerland, 12 pp.
- Haye, T. and Zhang, J.** (2020) *Grapholita molesta* / *Dasineura mali* - Project Report 2020 (2nd deliverable). Unpublished report, CABI E-CH, Delémont, Switzerland, 14 pp.
- Haye, T. and Zhang, J.** (2020) *Lycorma delicatula* - Project Report 2020 (3rd deliverable). Unpublished report, CABI E-CH, Delémont, Switzerland, 25 pp.
- Haye, T. and Zhang, J.** (2020) Biological Control of Invasive Agricultural Pests. Unpublished report, CABI East Asia, Beijing, China, 28 pp.
- Kadzamira, M.A.T.J., Casey J., Terefe, B., Abrahams, P., Ogunmodede, A., Constantine, K. and Hague, M.** (2020) Commercial Agriculture Portfolio Review – Draft Report for FCDO. Unpublished Report, CABI E-UK, Egham, UK, 105 pp.
- Kurose, D., Ellison, C.A. and Seier, M.K.** (2020) Biological control of navua sedge (*Cyperus aromaticus* (Ridl.) Mattf. & Kük.) using the flower smut fungus *Cintractia* sp. nov. Progress report 1 (19 September–7 December 2020). Unpublished report, CABI E-UK, Egham, UK, 13 pp.
- Kurose, D., Seier, M., Pratt, C. and Shaw, R.** (2020) Biological control of Japanese knotweed in the Netherlands *Aphalara itadori* (psyllid) & *Mycosphaerella polygoni-cuspidati* (leafspot). Unpublished report, CABI E-UK, Egham, UK, 27 pp.
- Maczey, N., González-Moreno, P., Balchin, J., Baigorri, D., Stevens, N. and Peters, R.** (2020) Improving biosecurity in the SAUKOTs through Pest Risk Assessments, Darwin DPLUS074. Final project report. Unpublished report, CABI, UK, Egham, UK, 29 pp. + annexes; <https://www.darwininitiative.org.uk/documents/DPLUS074/25013/DPLUS074%20FR%20-%20edited.pdf>
- Muhammad, F., Xuan, H.N., Heng, C.Y., Souvandouane, S., Neave, S., Costa, A., Thanarajoo, S.S. and Annamalai, S.** (2020) Inception report for the STDF project: Safer spices: boosting food safety and market access for the peppercorn value chain in Viet Nam, Lao PDR and Cambodia. Unpublished report, CABI South East Asia, Serdang, Malaysia, 66 pp.
- Muhammad, F., Amzah, B., Chan, H.T. and Annamalai, S.** (2020) Efficacy of Fipronil 0.3% GR against three Major Rice Insect Pests and Their Natural Enemies. Final Report October 2019 – March 2020. Unpublished report, CABI South East Asia, Serdang, Malaysia, 16 pp.
- Pollard, K.M and Seier, M.K.** (2020) The biological control of cat's claw creeper, *Dolichandra unguis-cati* (L.) L.G.Lohmann. Annual progress report (1 June 2019–1 June 2020). Unpublished report, CABI E-UK, Egham, UK, 22 pp.
- Pollard, K.M and Seier, M.K.** (2020) The biological control of cat's claw creeper, *Dolichandra unguis-cati* (L.) L.G.Lohmann. Six-month progress report (1 June 2020 – 30 November 2020). Unpublished report, CABI E-UK, Egham, UK, 11 pp.
- Pratt, C., Ellison, C., Pollard, K. and Varia, S.** (2020) Demonstrate and monitor the use of biological control agents for high priority invasive alien weeds. RAPID LIFE report, CABI E-UK, Egham, UK, 14 pp.
- Pratt, C., Ellison, C., Pollard, K. and Varia, S.** (2020) Public summary report of the biological control component of the RAPID LIFE project, December 2020. Unpublished report, CABI E-UK, Egham, UK, 13 pp.
- Seier, M., Ellison, C., Kurose, D., Pollard, K. and Cafá, G** (2020) Consultancy: Development of an agent for the biological control of the invasive blackberry (*Rubus niveus*) in the Galapagos Islands. First report (1 January – 30 April 2020). Unpublished report, CABI E-UK, Egham, UK, 11 pp.

- Seier, M., Ellison, C., Kurose, D., Pollard, K. and Cafá, G** (2020) Consultancy: Development of an agent for the biological control of the invasive blackberry (*Rubus niveus*) in the Galapagos Islands. Second report (1 May – 31 August 2020). Unpublished report, CABI E-UK, Egham, UK, 12 pp.
- Seier, M., Ellison, C., Kurose, D., Pollard, K. and Cafá, G** (2020) Consultancy: Development of an agent for the biological control of the invasive blackberry (*Rubus niveus*) in the Galapagos Islands. Second report (1 September – 31 December 2020). Unpublished report, CABI E-UK, Egham, UK, 15 pp.
- Seier, M. and Pollard, K.** (2020) The biological control of invasive devil's claw (*Cryptostegia madagascariensis* Bojer ex Decne) in north-eastern Brazil. Second annual report (1 March 2019-29 February 2020). Unpublished report, CABI E-UK, Egham, UK, 21 pp.
- Seier, M.K. and Pratt, C.F.** (2020) The potential for biological control of the two invasive *Rubus* species *R. ellipticus* var. *obcordatus* and *R. niveus* in Hawaii (Phase 3). Final report (1 June 2019 – 31 January 2020). Unpublished report, CABI E-UK Egham, UK, 30 pp.
- Stutz, S., Cloşca C., Lionetti, V., Weyl, P., Cristofaro, M. and Marini, F.** (2020) Biological control of perennial pepperweed, *Lepidium latifolium*. Unpublished report, Annual Report 2019. CABI E-CH, Delémont, Switzerland, 10 pp.
- Stutz, S., Guala, M., Cloşca, C., Lionetti V., Dolgovskaya, M.Yu., Volkovitch, M. and Reznik, S.** (2020) Biological control of common tansy, *Tanacetum vulgare*. Unpublished report, Annual Report 2019. CABI E-CH, Delémont, Switzerland, 18 pp.
- Stutz, S., Guala, M., Courbat, O., Stettler, P., Cristofaro, M., Di Cristina, F. and Guedj, M.** (2020) Prospects for the biological control of lesser calamint, *Calamintha nepeta*. Final Report 2018–2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 23 pp.
- Stutz, S., Lionetti, V. and Stettler, P.** (2020) Prospects for the biological control of oxeye daisy, *Leucanthemum vulgare*. Annual Report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 26 pp.
- Taylor, B., Whelan, R., Luke B. and Edgington S.** (2020) Assessing the market potential of a novel resistance management framework for fungal biopesticides in the UK glasshouse horticulture. (work package report February 2020). Unpublished report, CABI E-UK, Egham, UK, 14 pp.
- Toepfer, S., Waweru B., Bazagwira, D., Mukundwa I.P., Kajuga J. and Toth M.** (2020) Comparing sex pheromone lures at capturing fall armyworm moths (*Spodoptera frugiperda*) in maize fields. Project report for MTA ATK Hungary. Programme Action on Invasives. Unpublished report, CABI E-CH, Delémont, Switzerland and Hodmezovasarhely, Hungary, 15 pp.
- Toepfer, S., Toth S., Voros L. and Abraham R.L.** (2020) Could neem be used as a botanical soil insecticide against soil insect pests? Testing Azadirachtin granules for suppressing larval populations of the maize pest *Diabrotica v. virgifera* under greenhouse and field conditions in Hungary. Project report for Coromandel International Limited India. Unpublished report, CABI E-CH, Delémont, Switzerland and Hodmezovasarhely, Hungary, 38 pp.
- Toepfer, S.** (2020) Assessing the efficacy of a novel seed treatment against larvae of the invasive alien maize pest *Diabrotica v. virgifera* in a potted-maize plant experiment. Project report for Japan Agro Services S.A. France. Unpublished report, CABI E-CH, Delémont, Switzerland and Hodmezovasarhely, Hungary, 22 pp.
- Toepfer, S. and Toth, S.** (2020) Testing novel entomopathogenic nematode strains and symbiotic bacteria in caged potted maize-plant trials in Hungary for a better control of the invasive alien maize pest western corn rootworm, *Diabrotica v. virgifera* (Coleoptera: Chrysomelidae). Project report for e-nema Germany. Unpublished report, CABI E-CH, Delémont, Switzerland and Hodmezovasarhely, Hungary, 20 pp.
- Toepfer, S. and Toth, S.** (2020) Field testing a novel strain of Heterorhabditis bacteriophora in its suppression of the invasive alien maize pest western corn rootworm (*Diabrotica v. virgifera*) in maize. Project report for e-nema Germany. Unpublished report, CABI E-CH, Delémont, Switzerland and Hodmezovasarhely, Hungary, 28 pp.

- Toepfer, S.** (2020) Bacterial lysate tests on neonate rootworm larvae in artificial diet-based bioassays. CABI E-CH, Delémont, Switzerland. 10 project reports for Genective (DIETETIC Utilisation de la Diversité microbienne pour identifier des activités insecticides contre la larve de la chrysomèle du maïs (*Diabrotica virgifera virgifera*). Unpublished report, CABI E-CH, Delémont, Switzerland and Hodmezovasarhely, Hungary, 60 pp.
- Toševski, I., Hinz, H.L.,** Krstić, O. and Jović, J. (2020) Biological control of Dalmatian and yellow toadflaxes, *Linaria dalmatica* and *L. vulgaris*. Annual Report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 36 pp.
- Kenis, M., Nacambo, S.** and **Seehausen, L.** (2020) Rapport final: Suivi de l'invasion du frelon asiatique *Vespa velutina* dans le Jura et en Suisse (Mars 2017 – Février 2020). Unpublished report, CABI E-CH, Delémont, Switzerland, 34 pp.
- Seehausen, L., Nacambo, S.** and **Kenis, M.** (2020) Suivi de l'invasion du frelon asiatique *Vespa velutina* dans le Jura et en Suisse, Rapport 2020. Unpublished report, CABI E-CH, Delémont, Switzerland, 15 pp.
- Seehausen, L.,** Ris, N., **Driss, L., Racca, A., Grauby, S., Prêtre, N.,** Collatz, J., Häner, N., **Toševski, I.,** Stöckli, S. and **Kenis, M.** (2020) Final Report 2020: Evaluation of an Asian parasitoid of *Drosophila suzukii* for biological control in Europe - Part 2. Unpublished report, CABI E-CH, Delémont, Switzerland, 20 pp.
- Kenis, M., Nacambo, S.** and **Seehausen, L.** (2020) Surveillance des buxaiies jurassiennes et impact de la pyrale du buis. Unpublished report, CABI E-CH, Delémont, Switzerland, 14 pp.
- Varia S, Pratt, C.** and **Thom, N.** (2020) Project progress report: Implementation of a biological control strategy for *Crassula helmsii* using the mite, *Aculus crassulae* in the UK. Unpublished report, CABI E-UK, Egham, UK, 12 pp.
- Wan, M.** and **Zhang, F.** (2020) Plantwise China Sustainability Assessment Report. Unpublished report, CABI East Asia, Beijing, China, 20 pp.
- Weyl, P., Cloșca, C., Hinz, H.L.,** and **Cereghetti, A.** (2020) Biological control of whitetops, *Lepidium draba*, *L. chalepense* and *L. appelianum*. Annual Report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 16 pp.
- Weyl, P., Cloșca, C., Hinz, H.L.,** Vidović, B., Petanović, R., Cristofaro, M., Marini, F., Pillitteri, S. and **Cereghetti, A.** (2020) Biological control of dyer's woad, *Isatis tinctoria*. Annual Report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 23 pp.
- Weyl, P., Cloșca, C.,** Asadi, G., Vidović, B., Petanović, R., Marini, F. and Cristofaro, M. (2020) Biological control of Russian knapweed, *Rhaponticum repens*. Annual Report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 14 pp.
- Weyl, P.,** Asadi, G., Vidović, B., Petanović, R., Marini, F. and Cristofaro, M. (2020) Biological control of Russian olive, *Elaeagnus angustifolia*. Annual Report 2019. Unpublished report, CABI E-CH, Delémont, Switzerland, 11pp.
- Williams, F.** and **Constantine, K.** (2019) An invasive species system assessment in Kenya, December 2019. Unpublished report, CABI Africa, Nairobi, Kenya, 61 pp.
- Wong C.-Y., L., **Annamalai, S.,** Than, S.M., **Thanarajoo, S.S.** and **Faheem, M.** (2020) Inception Report on Agricultural Value Chain Development in Myanmar TA-9689 REG (52239-001). Unpublished report, CABI Southeast Asia, Selangor, Malaysia, 39 pp.
- Zhang, J., Mi, Q.,** Chen, J., Avila, G., Alavi, M. and **Zhang, F.** (2020) BMSB Control with physical trap project final report. Unpublished report, CABI East Asia, Beijing, China, 30 pp.
- Zhang, J.,** Chen, J., **Mi, Q.** and **Zhang, F.** (2020) BMSB impacts and phenology on kiwifruit and associated parasitoids eighteen months report. Unpublished report, CABI East Asia, Beijing, China, 36 pp.

In addition, in 2020, CABI Bioscience responded to 533 separate enquiries, issued 175 identification reports on 1104 samples, and the Genetic Resources Collection sent out 356 cultures in response to 60 orders. In 2020, the Diagnostics and Advisory Service received 88 enquires from 31 countries; 189 specimens were processed and five new pest reports were recorded (four invertebrates and one plant).

## 2.6. Oral presentations at scientific meetings (64)

CABI authors are shown in **bold**, the presenting author is underlined.

Andreas, J. and **Häfliger, P.** (2020) Update on promising biological control options for flowering rush (*Butomus umbellatus*). Upper Midwest Invasive Species Conference, 2–6 November 2020 (virtual).

Andreas, J., Milan, J., Randall, C. and **Weyl, P.** (2020) Classical weed biological control workshop. 2020 NAISMA Virtual Annual Conference, 5–9 October 2020 (virtual).

**Chaudhary, M.** Fostering sustainable agriculture in pandemic through innovations in advisory and accessibility of environment- friendly plant protection inputs. E Conference on Issues and Challenges on Agricultural and Aquatic Sectors along with Human Health in the Present Scenario of COVID-19. Department of Zoology, Lucknow Christian College, 7–8 September 2021, Lucknow, India (virtual).

**Chaudhary, M.** Biocontrol approaches for resilient agriculture under threat by invasions of pest and diseases due to climate change. 4th Ag Biotech Summit, India, 22–23 September 2020 (webinar).

**Chaudhary, M.** Invasive species: a threat to plant biodiversity and Plant biosecurity. Plant health as a driver of plant biosecurity, food security and sustainable agriculture. National Institute of Plant Health Management, Hyderabad, India, 26 November 2020 (webinar).

**Chaudhary, M.** Summary of Grow Asia/ CABI Webinar Series on FAW Biocontrol. Regional Training Workshop for Farmer Field School facilitators on sustainable management of Fall Armyworm: IPM, Biocontrol and Farmer Field Schools. FAO and Thai Education Foundation, 29 October 2020 (webinar).

**Chaudhary, M., Pandit, Day, R.** and **Sivapragasam A.** CABI initiatives to manage transboundary pest. International Seminar on Transboundary pest management. Tamil Nadu Agricultural University, Coimbatore, India, 4–5 March 2020.

**Colmenarez, Y.** Control biológico aplicado y manejo integrado de plagas. Universidad Centrooccidental 'Lisandro Alvarado', Barquisimeto, Venezuela, 8 November 2020, (webinar).

**Colmenarez, Y.** Control biológico como una herramienta de manejo sustentable de plagas. Universidad de Aquino de Bolivia, Santa Cruz de la Sierra, Bolivia, 26 October 2020 (webinar).

**Colmenarez, Y.** Control biológico y su importancia para la producción sustentable. 1° Ciclo de Conferencias Cinacruz Realidad y Propuestas, 18–24 May 2020, Santa Cruz de la Sierra, Bolivia (virtual).

**Colmenarez, Y.** Producción sustentable en base a las experiencias de la implementación de la red de módulos de asistencia técnica - clínica de plantas en el Perú. INIA, Lima, Peru, 20 August 2020 (webinar).

**Colmenarez, Y., Edgington, S., Hidalgo, E., Corniani, N., Crozier, J., Jenner, E., Velez, L.J., Murphy, S., Lowry, A., Finch, E., Alden, J., Saldana, G.L., Casey, J., Luke, B., Finegold, C.** Importancia del establecimiento de alertas tempranas y transferencia de tecnología en programas de control biológico y manejo integrado de plagas. 47° Congreso de la Sociedad Colombiana de Entomología, Bogotá, Colombia, 8–9 October 2020 (virtual).

Cristofaro, M., de Lillo, E., Marini, F., Petanović, R., Sforza, R., Vidović, B., and **Weyl, P.** (2020) Does biological control have a role to play in the integrated management of tree of heaven, *Ailanthus altissima*? Upper Midwest Invasive Species Conference, 2–6 November 2020 (virtual).

**Danielsen, S., Mulema, J., Taylor, R.,** Schelling, E. 2020. More than a plant clinic: Joint crop–livestock health services for small-scale farmers. BFH-HAFL Symposium: The role of plant health for sustainable food production, 23 January 2020, Zollikofen, Switzerland.

**Djeddour, D.** (2020) Biological control of *Hydrocotyle ranunculoides* using the weevil *Listronotus elongatus*. Local Action Group Workshop, UK, 29 January 2020, Shrewsbury, UK.

**Djeddour, D., Seier, M., Varia, S. Ellison, E., Pollard, K. Pratt, C. and Kurose, D.** (2020) Biological control for managing invasive species. Non Native Invasive Species Workshops for stakeholders, UK, 19 May 2020 (virtual).



**Djeddour, D., Seier, M., Varia, S. Ellison, E., Pollard, K., Pratt, C. and Kurose, D.** (2020). Biological control for managing invasive species. Non Native Invasive Species Workshops for contractors, UK, 20 May 2020 (virtual).

**Eschen, R.,** Ramamonjisoa, B. and Mbaabu, P.R. (2020) Successful utilisation of research knowledge in the r4d Ecosystems Module. How to integrate policy with research? Lessons learnt from various r4d synthesis mandates Webinar series: 'from evidence to policy', 14 May 2020 (webinar).

**Guyon, V., Toepfer, S.** and Sallaud, Ch. (2020) Screening of novel proteins of soil bacteria for activity against *Diabrotica virgifera virgifera*. DIETETIC Utilisation de la Diversité microbienne pour identifier des activités insecticides contre la larve de la chrysomèle du maïs (*Diabrotica virgifera virgifera*). Public and final project meeting, 11 December 2020, Clermont Ferrand, France.

**Haye, T.** (2020) Biological control of *Halyomorpha halys*. Cimici Asiatica: C'è una soluzione? 6 February 2020, CIIMLA, Modena, Italy.

**Haye, T.** (2020) Insects and pest control in a changing climate. PhD seminar. University of Modena and Reggio Emilia, 7 February 2020, Reggio Emilia, Italy.

**Haye, T.** (2020) Marmorierte Baumwanze – aktuelle Situation. Regionale Obstbautagung 2020, Fachstellen Bern, Solothurn, Freiburg, 30 January 2020, INFORAMA Ins, Switzerland.

**Haye, T.** (2020) State of the art in biological control of *Halyomorpha halys*. STINK BUGS: A Potential Threat for Turkish and Mediterranean Countries Agriculture, 28–29 February 2020, Istanbul, Turkey.

**Hidalgo, E.** Microorganismos para el manejo agroecológico de plagas. II Congreso Internacional de Ciencias Agrícolas y Pecuarias - UDABOL, 9–10 December 2020, Santa Cruz de la Sierra, Bolivia (virtual).

**Hinz, H.L.** (2020) Current and future issues in classical weed biocontrol. Invasives 2020 Forum, Invasive Species Council of BC, 10–13 February 2020, Vancouver, Canada.

**Hinz, H.L.** (2020) How to prioritize invasive plants for biological control? 2020 NAISMA Annual Conference, 5–9 October 2020 (virtual).

**Hinz, H.L.** (2020) Update on weed biocontrol activities at CABI for the U.S. and Canada. Biocontrol Summit organized by NAISMA, 28 October 2020 (virtual).

**Hinz, H.L.** (2020) Weed biocontrol: what's in the pipeline for western Canada? Invasives 2020 Forum, Invasive Species Council of BC, 10–13 February 2020, Vancouver, Canada.

**Kenis, M.** (2020) Field collection and identification of FAW parasitoids and predators. GrowAsia FAW Biocontrol Technical Workshop, 17 December 2020 (virtual).

**Kenis, M.** (2020) Les ravageurs envahissants et les risques pour la sécurité alimentaire. Journée d'Automne SSP 2020, 2 October 2020, Liebefeld, Switzerland.

**Kenis, M.** (2020) Prospects and constraints of biological control against mealybugs vectors of cocoa swollen shoot virus in West Africa. Seminar for CAOBISCO, 15 December 2020 (virtual).

**Kenis, M.** (2020) Prospects for the classical biological control of *Spodoptera frugiperda* in Asia and Africa using parasitoids from America. ASEAN Webinar Series on Biocontrol Approaches for Fall Armyworm, 10 September 2020 (virtual).

**Kuhlmann, U.** (2020) Plantwise: A global alliance for plant health and sustainable agriculture. Visions for a Sustainable Agriculture, 4–6 May 2020, Neuchâtel, Switzerland (virtual).

**Kuhlmann, U.** and **Jenner, E.** (2020) Empowering advisory services and growers by providing free access to innovative digital decision support tools. 9th Meeting of G20 Agricultural Chief Scientists (MACS-G20), 17–19 February 2020, Khobar, Kingdom of Saudi Arabia.

**Kuhlmann, U.** and **Luke, B.** (2020) Locust and grasshopper management in drylands: Can biological control be considered as a viable solution? International Virtual Experts Meeting on Promoting Sustainable Agriculture Development in Drylands, 10 August 2020, Riyadh, Kingdom of Saudi Arabia (virtual).

- Kuhlmann, U.** and **Neenan, P.** (2020) CABI BioProtection Portal: an innovative free access decision support tool. *Biological Products Industry Alliance* Annual Meeting and Symposium, 2–4 March 2020, Portland, Oregon, USA.
- Kuhlmann, U., Jenner, E.** and **Edgington, S.** (2020) CABI BioProtection Portal – A free tool for advisory services and growers. 15th Annual Biocontrol Industry Meeting – ABIM, 19-21 October 2020, Basel, Switzerland (virtual).
- Luke, B.** (2020) Biopesticides – an environmentally friendly solution. Pakistan's Food Security Challenges - Pests & Diseases threat. UK – Pakistan Science and Innovation Global Network, 25 June 2020 (virtual).
- Luke, B.** (2020) Developing Mycoinsecticides for UK Agriculture. Feeding the future: Can we protect crops sustainably? SCI's Agrisciences group, IAFRI and CHAP, 7 October, 2020 (virtual).
- Luke, B.** (2020) Development of a mycoinsecticide for locust and grasshopper control. Innovations and strategies in the management of grasshoppers, 27 August 2020, Ministério da Agricultura, Pecuária e Abastecimento, Brazil (virtual).
- Luke, B.** (2020) Do you know what bugs us? New Scientist live event, 28 November 2020 (virtual).
- Luke, B.** (2020) Green Muscle: An example of a successful mycoinsecticide. Locust control strategies: success stories and new approaches. UK – Pakistan Science and Innovation Global Network, 27 July 2020 (virtual).
- Luke, B.** (2020) Locust attack: What India's farming community need to know. M. S. Swaminathan Research Foundation event, 1 June 2020 (virtual).
- Luke, B.** and Miede, Y. (2020) Biocontrol on locusts in Africa. ABIM conference, 21 Oct 2020 (virtual).
- Pandit, V.** (2020) Issues and challenges on agricultural and aquatic sectors along with human health in the present scenario of COVID-19. Department of Zoology, Lucknow Christian College, 7–8 September, Lucknow, India.
- Pollard, K.** The biological control of Himalayan balsam. Scottish Honey Bee Heath Strategy Meeting, UK, 16 November 2020 (virtual).
- Pollard, K.** The biological control of Himalayan balsam. Scottish Bee Keepers Association, UK, 9 December 2020 (virtual).
- Pratt, C.** and **Pollard, K.** (2020) The biological control of Japanese knotweed and Himalayan balsam. RAPID Revelations! End of project conference for the RAPID LIFE project, UK, 9 July 2020 (virtual).
- Pratt, C., Djeddour, D., Varia, S., Kurose, D., Ellison, C., Pollard, K.** and **Seier, M.** (2020) Biological control of invasive non-native species: RAPID LIFE and current UK research. Invasive non-native species and weed biocontrol workshop, Medway Valley Countryside Partnership and RAPID LIFE, 27 February 2020, Kent, UK.
- Ryan, M.J.** (2020) Fungal culture collections and the microbiome: Protecting biodiversity and addressing future challenges, Kew State of the Worlds Plants and Fungi Virtual Symposium, 13 October 2020 (virtual).
- Schaffner, U.** (2020) Integrating ecological and socio-economic impacts of *Prosopis juliflora* in Eastern Africa to inform management. Annual Research Meeting of the Centre of Invasion Biology, Stellenbosch University, 13–14 November 2020 (virtual).
- Seehausen, L., Hays, T.** and **Kenis, M.** (2020) Biologische Schädlingsbekämpfung gebietsfremder Insekten in der Schweiz. Jahrestagung der Schweizerischen Entomologischen Gesellschaft, 6–7 March 2020, Basel, Switzerland.
- Seehausen, L., Nacambo, S., Stöckli, S., Kenis, M.** (2020) Recent invasion of *Vespa velutina* in Switzerland. COLOSS Velutina Task Force meeting, 28 September 2020 (virtual).
- Sivapragasam, A.** (2020) R&D for pests and diseases in rice and industrial crops: Current scenario and future challenges. MARDI Colloquium, 25 August 2020, Selangor, Malaysia.

**Sivapragasam, A.** (2020) Sustainable invasive insect species management: An approach for a better future. International Symposium of Entomology (ISOE 2020) on Sustainable Management of Invasive Species: CABI's experiences, 2 December 2020 (webinar).

**Smith, D.** and **Ryan, M.J.** (2020) CABI ABS negotiations for compliance with the Nagoya Protocol. International Phytobiomes Alliance Webinar ID 351-784-179, 5 July 2020 (virtual).

**Tambo, J.A.** (2020) Sustainable pest management in African agriculture: Evidence of the role of Plantwise. Visions for a Sustainable Agriculture Workshop, 4–6 May 2020, Neuchâtel, Switzerland (virtual).

**Thakur, M.** (2020) Role of ICTs in strengthening the biosecurity system in South Asia. International webinar on Recent Trends in Plant Biosecurity: International and National Perspectives, 4 December 2020, NIPHM, Hyderabad, India (virtual).

**Varia, S.** (2020) The biological control of Himalayan balsam in the UK. Groundwork River Ranger Workshop, UK, 27 October 2020 (virtual).

**Wan, M.** and **Zhang, F.** (2020) Plantwise Plus & Plantwise post-2020 strategy. Plantwise Sichuan Provincial Steering Committee Meeting & Plantwise China Annual Meeting, 15 December 2020, Qianwei, Sichuan, China.

**Weyl, P.** and **Hinz, H.** (2020) Is there a way forward for the biological control of common buckthorn, *Rhamnus cathartica*? Upper Midwest Invasive Species Conference, 2–6 November 2020 (virtual).

**Weyl, P.**, Marini, F., Vidović, Cristofaro, M. and Schaffner, U. (2020) 'Mite' we slow the invasion of Russian olive? *Aceria angustifoliae*, the first biocontrol candidate against Russian olive. 2020 NAISMA Annual Conference, 5–9 October 2020 (virtual).

**Zhang, F.** and **Wan, M.** (2020) Exploration of lemon plant clinic practice in China. 2020 International Lemon Festival & International Lemon Industry Development Summit, 23 October 2020, Tongnan, Chongqing, China.

**Zhang, J.** (2020) Brown marmorated stink bug injury damage on kiwifruit. Plant Protection Forum of Jilin Agricultural University, 20 November 2020, Changchun, Jilin, China.

## 2.7. Poster presentations at scientific meetings (2)

**Doughty, L.S.**, Ried J., **Godwin J.**, Bebbler D., Denby K. and **Finegold, C.** (2020) Developing a framework for the development of the Global Burden of Crop Loss. Grand Challenges Annual Meeting, Bill & Melinda Gates Foundation, 19–21 October 2020 (virtual).

**CABI** (2020). Introduction on CABI Agricultural and Bioscience and AgriRxiv. Annual Conference of the Entomological Society of China, 12–14 October 2020, Yantai, Shandong, China.

## 3. Other outputs

### 3.1. Support for introduction of classical biological control agents

Biological control agent studied	Target weed/ Insect pest	status end 2020	Released in 2020	Country of release or intended release
<i>Aceria angustifoliae</i> (Eriophyidae)	<i>Elaeagnus angustifolia</i> (Russian olive)	Release recommended by the USDA Technical Advisory Group (TAG) and the Canadian Biocontrol Committee in May 2020, however, Canadian Food Inspection Agency (CFIA) did not approve release in Canada	No	USA and Canada
<i>Acerophagus papaya</i> (Encyrtidae)	<i>Paracoccus marginatus</i> (papaya mealybug)	Imported and initiated host range testing	No	Kenya
<i>Aphalara itadori</i> (Aphalaridae)	<i>Fallopia japonica</i> / <i>F. bohemica</i> (Japanese knotweed)	Petition for release accepted in July 2020	Yes	Netherlands
<i>Ceutorhynchus cardariae</i> (Curculionidae)	<i>Lepidium draba</i> (hoary cress)	Petition for field release re-submitted to USDA Technical Advisory Group (TAG) in January 2020	No	USA
<i>Eiphosoma laphygmae</i> (Ichneumonidae)	<i>Spodoptera frugiperda</i> (fall armyworm)	Imported and initiated host range testing	No	Kenya
<i>Listronotus elongatus</i> (Curculionidae)	<i>Hydrocotyle ranunculoides</i> (floating pennywort)	Pest Risk Assessment (PRA) for consideration to release submitted in July 2020 and feedback addressed in resubmission October 2020	No	UK
<i>Listronotus setosipennis</i> (Curculionidae)	<i>Parthenium hysterophorus</i> (parthenium weed)	Host range testing completed	No	Pakistan
<i>Microterys nietneri</i> (Encyrtidae)	<i>Coccus hesperidum</i> (brown soft scale)	PRA for release early 2021	No	Tristan da Cunha, UKOT
<i>Mogulones borraginis</i> (Curculionidae)	<i>Cynoglossum officinale</i> (houndstongue)	Petition for field release submitted to USDA Technical Advisory Group in September 2020	No	USA
<i>Mycosphaerella polygoni-cuspidati</i> (Mycosphaerellaceae)	<i>Fallopia japonica</i> (Japanese knotweed)	PRA for single-mating type isolate submitted in 2018	Yes, for experimental field trials	UK
<i>Trissolcus japonicus</i> (Scelionidae)	<i>Halyomorpha halys</i> (brown marmorated stink bug)	Petition submitted in 2019, rejected in February 2020	No	Canada
<i>Trissolcus japonicus</i> (Scelionidae)	<i>Halyomorpha halys</i> (brown marmorated stink bug)	Petition submitted in January 2020	Yes, for experimental field trials	Switzerland (Canton Zurich)

### 3.2. Plantwise extension material

In addition to editing many pest management decision guides, CABI staff contributed to eight extension materials in the Plantwise knowledge bank in 2020. These included three Pest Management Decision Guides, two Plantwise factsheets for farmers, two video factsheets, and two posters and leaflets, all of which can be seen here: <http://www.plantwise.org/KnowledgeBank/SearchResults.aspx?q=aa:cabi%20AND%20yr:2020>

### 3.3. Distribution maps of plant pests/diseases

Thirty-two distribution maps of plant pests/diseases were issued, and can be found here: [https://www.cabi.org/cso/search/?q=\(Distribution%20Map\)%20AND%20yr:\(2020\)&types=,22,24](https://www.cabi.org/cso/search/?q=(Distribution%20Map)%20AND%20yr:(2020)&types=,22,24)

## 4. CABI staff, students and associates

### 4.1. Scientific staff

Location	Family name	First name	Highest degree
Brazil	Colmenarez	Yelitza	PhD
Brazil	Corniani	Natália	PhD
China	Li	Hongmei	PhD
China	Wan	Min	PhD
China	Zhang	Feng	PhD
China	Zhang	Jinping	PhD
Costa Rica	Hidalgo	Eduardo	PhD
Ethiopia	Gurmessa	Negussie	PhD
Ghana	Agboyi	Lakpo	PhD
Ghana	Boafo	Hettie Arwoh	MSc
Ghana	Clottey	Victor	PhD
Ghana	Duah	Solomon Agyeman	MA
Ghana	Hevi	Walter	MPhil
Ghana	Oppong-Mensah	Birgitta	MSc
Hungary	Toepfer	Stefan	DnatSc
India	Chaudhary	Malvika	PhD
India	Jadhav	Arun	BTech
India	Jain	Sudhanshu	MBA
India	Khanna	Kritika	MA
India	Nagpal	Akanksha	MTech
India	Pandit	Vinod	PhD
India	Ramasamy	Gopi	MPhil
India	Thakur	Manju	PhD
Kenya	Agwanda	Charles	PhD
Kenya	Akiri	Morris	PhD
Kenya	Bundi	Mary	MSc
Kenya	Chacha	Duncan	BSc
Kenya	Chege	Florence	MSc
Kenya	Day	Roger	PhD
Kenya	Gakuo	Stephanie	MSc
Kenya	Kansiime	Monica	PhD
Kenya	Karanja	Daniel	PhD
Kenya	Karanja	Lucy	MSc
Kenya	Makale	Fernadis	MSc

Location	Family name	First name	Highest degree
Kenya	Mibei	Henry	MSc
Kenya	Migiro	Lorna	PhD
Kenya	Mugambi	Idah	MSc
Kenya	Mulema	Joseph	PhD
Kenya	Musebe	Richard	PhD
Kenya	Njunge	Rahab	Bed
Kenya	Nunda	Winnie	BSc
Kenya	Ochilo	Willis	PhD
Kenya	Odero	Hilda	MSc
Kenya	Oduor	George	PhD
Kenya	Onyango	David	MSc
Kenya	Oronje	MaryLucy	PhD
Kenya	Otieno	Washington	PhD
Kenya	Rangi	Dennis	PhD
Kenya	Romney	Dannie	PhD
Kenya	Rware	Harrison	MSc
Kenya	Rwomushana	Ivan	PhD
Kenya	Williams	Frances	MSc
Malaysia	Annamalai	Sivapragasam	PhD
Malaysia	Chan	Fook Wing	BSc
Malaysia	Faheem	Muhammad	MSc
Malaysia	Thanarajoo	Sathis Sri	PhD
Netherlands	Danielsen	Solveig	PhD
Netherlands	Durocher-Granger	Lena	MSc
Netherlands	Vos	Janny	PhD
Pakistan	Ahmed	Shakeel	PhD
Pakistan	Ali	Kazam	PhD
Pakistan	Asad	Haibat Ullah	PhD
Pakistan	Asif	Muhammad	MSc
Pakistan	Aslam	Naeem	PhD
Pakistan	Bajwa	Babar Ehsan	PhD
Pakistan	Bhatti	Hamzah Shahbaz	MSc
Pakistan	Dhaunroo	Ashfaq Ali	MSc
Pakistan	Faisal	Shah	MSc
Pakistan	Farooq	Muzammil	PhD
Pakistan	Honey	Sabyan Faris	PhD
Pakistan	Humayun	Malik Amir	PhD
Pakistan	Imran	Muhammad	MSc
Pakistan	Khan	Kausar	PhD
Pakistan	Khan	Muhammad Hamza	MSc
Pakistan	Khan	Saad Muhammad	MSc
Pakistan	Mahmood	Riaz	MSc
Pakistan	Naqvi	Azeem Hayder	MSc
Pakistan	Rehman	Abdul	MSc

Location	Family name	First name	Highest degree
Pakistan	Rehman	Hafiz Mahmood	PhD
Pakistan	Riaz	Rehan	PhD
Pakistan	Safdar	Umair	PhD
Pakistan	Saleem	Yasir	MSc
Pakistan	Sultana	Zohra	MBA
Pakistan	Ullah	Fazl	MSc
South Africa	Witt	Arne	PhD
Switzerland	Babendreier	Dirk	DnatSc
Switzerland	Bateman	Melanie	PhD
Switzerland	Cortat	Ghislaine	MSc
Switzerland	Eschen	René	DnatSc
Switzerland	Grossrieder	Manfred	MSc
Switzerland	Häfliger	Patrick	DnatSc
Switzerland	Haye	Tim	DnatSc
Switzerland	Hinz	Hariet	DnatSc
Switzerland	Holmes	Keith	PhD
Switzerland	Jenner	Emma	PhD
Switzerland	Jenner	Wade	PhD
Switzerland	Kenis	Marc	DnatSc
Switzerland	Kuhlmann	Ulrich	DnatSc
Switzerland	Nacambo	Saidou	MSc
Switzerland	Schaffner	Urs	DnatSc
Switzerland	Seehausen	Lukas	PhD
Switzerland	Stutz	Sonja	DnatSc
Switzerland	Tambo	Justice	PhD
Switzerland	Weyl	Philip	PhD
Switzerland	Wood	Anna	PhD
Trinidad & Tobago	Ramnanan	Naitram	MPhil
Uganda	Alokit	Christine	MSc
UK (Egham)	Bachmann	Denise	MSc
UK (Egham)	Bonnin	Miguel	BSc
UK (Egham)	Buddie	Alan	PhD
UK (Egham)	Cafá	Giovanni	PhD
UK (Egham)	Caine	Thelma	
UK (Egham)	Cobb	Emma	MSc
UK (Egham)	Cock	Matthew	PhD
UK (Egham)	Constantine	Kate	MSc
UK (Egham)	Crozier	Jayne	PhD
UK (Egham)	Djeddour	Djami	MSc
UK (Egham)	Edgington	Steve	PhD
UK (Egham)	Ellison	Carol	PhD
UK (Egham)	Finch	Elizabeth	PhD
UK (Egham)	Flood	Julie	PhD
UK (Egham)	González-Moreno	Pablo	PhD

Location	Family name	First name	Highest degree
UK (Egham)	Hudson	Ken	MSc
UK (Egham)	Kermode	Anthony	BSc
UK (Egham)	Kurose	Daisuke	PhD
UK (Egham)	Lamontagne-Godwin	Julien	MSc
UK (Egham)	Lawrence	Sharon	
UK (Egham)	Lowry	Alyssa	MSc
UK (Egham)	Luke	Belinda	PhD
UK (Egham)	Maczey	Norbert	PhD
UK (Egham)	Madden	Esther	BSc
UK (Egham)	Minter	David	PhD
UK (Egham)	Murphy	Sean	PhD
UK (Egham)	Offord	Lisa	BSc
UK (Egham)	Ogunmodede	Adewale	MSc
UK (Egham)	Pollard	Kate	MRes
UK (Egham)	Pratt	Corin	MSc
UK (Egham)	Reeder	Rob	PhD
UK (Egham)	Reeve	Mike	PhD
UK (Egham)	Ryan	Matthew	PhD
UK (Egham)	Saini	Aston	BSc
UK (Egham)	Seier	Marion	PhD
UK (Egham)	Sharma	Divya	BSc
UK (Egham)	Shaw	Richard	PhD
UK (Egham)	Smith	David	PhD
UK (Egham)	Smith	Vince	PhD
UK (Egham)	Stewart	Helen	BSc
UK (Egham)	Taylor	Bryony	PhD
UK (Egham)	Taylor	Phil	PhD
UK (Egham)	Thom	Nikolai	BA
UK (Egham)	Thomas	Sarah	PhD
UK (Egham)	Thompson	Emma	
UK (Egham)	Tymo	Lukasz	MSc
UK (Egham)	Varia	Sonal	BSc
UK (Egham)	Whelan	Rhian	BSc
UK (Egham)	White	Gretel	PhD
UK (Egham)	Wood	Suzy	BSc
UK (HQ)	Allen	Uma	MSc
UK (HQ)	Antonian	Clara	BSc
UK (HQ)	Beale	Tim	BSc
UK (HQ)	Berthelemy	Mark	BSc
UK (HQ)	Beverley	Claire	PhD
UK (HQ)	Bird	Damian	BSc
UK (HQ)	Bishop	James	BSc
UK (HQ)	Cameron	Katherine	MSc



Location	Family name	First name	Highest degree
UK (HQ)	Charles	Lucinda	BSc
UK (HQ)	Cooper	Ward	BSc
UK (HQ)	Cullum	James	MSc
UK (HQ)	Curry	Claire	MSc
UK (HQ)	Day	Charlotte	MSc
UK (HQ)	Doroszenko	Anton	PhD
UK (HQ)	Doughty	Laura	PhD
UK (HQ)	Fielder	Hannah	PhD
UK (HQ)	Finegold	Cambria	MSc
UK (HQ)	Godwin	Julien	PhD
UK (HQ)	Head	Tracy	BSc
UK (HQ)	Hemming	David	PhD
UK (HQ)	Holland	William	MSc
UK (HQ)	Holt	Alistair	BSc
UK (HQ)	Hoskins	Isobel	PhD
UK (HQ)	Iqbal	Mariya	MSc
UK (HQ)	Jay	Tabitha	MSc
UK (HQ)	Makepeace	Caroline	BSc
UK (HQ)	Mcgillivray	Lesley	PhD
UK (HQ)	Musker	Ruthie	MSc
UK (HQ)	Neave	Suz	MSc
UK (HQ)	Norris	Wendie	PhD
UK (HQ)	O'Brien	Tim	BSc
UK (HQ)	Osborne	Janice	BSc
UK (HQ)	Palmer	Mark	MSc
UK (HQ)	Parfitt	Claire	BSc
UK (HQ)	Parr	Martin	PhD
UK (HQ)	Pittaway	Tony	PhD
UK (HQ)	Rendell-Dunn	Alexis	BSc
UK (HQ)	Reynolds	Kathryn	MSc
UK (HQ)	Richards	Gareth	PhD
UK (HQ)	Robinson	Andy	PhD
UK (HQ)	Stubbs	Rebecca	MSc
UK (HQ)	Swarbrick	Phil	PhD
UK (HQ)	Taylor	Robert	BSc
UK (HQ)	Weeks	Lalitha	MSc
UK (HQ)	Wilford	Shankari	BSc
UK (HQ)	Wood	Rachel	BSc
UK (HQ)	Zhang	Qiaoqiao	PhD
Zambia	Phiri	Noah	PhD

## 4.2. CABI staff working towards a research degree

Location	Name of staff member	Degree for which registered	University	CABI supervisor(s)
Ghana	Boafo, Hettie Arwoh	PhD	University of Ghana	Marc Kenis
Kenya	Chacha, Duncan	MSc	University of Nairobi	–
Kenya	Karanja, Lucy	PhD	University of Nairobi	–
Malaysia	Muhammad Faheem	PhD	Bahauddin Zakariya University, Multan, Pakistan	Rana M Shafique
Netherlands	Durocher-Granger, Léna	PhD	Wageningen University	Marc Kenis
Pakistan	Khan, Yasir Saleem	PhD	Sindh Agriculture University, Tandojam, Pakistan	–
UK	Kermode, Anthony	PhD	Royal Holloway, University of London	Matthew Ryan
UK	Pollard, Kate	PhD	Royal Holloway, University of London	Marion Seier
UK	Varia, Sonal	PhD	Royal Holloway, University of London	Sean Murphy
UK	Wood, Suzy	PhD	Royal Holloway, University of London	Norbert Maczey

## 4.3. Research students

Location*	Name of student	Degree to which attachment will contribute	University of student	CABI supervisor(s)
China	Chen Juhong	MSc	Jilin Agricultural University, China	Zhang Jinping
China	Li Wenjing	MSc	Jilin Agricultural University, China	Zhang Jinping
China	Liu Lulu	MSc	Beijing University of Agriculture, China	Li Hongmei
China	Singh, G Mahendra	PhD	Graduate School of CAAS, China	Zhang Feng
China	Wang Junya	MSc	Northeast Forestry University	Li Hongmei
China	Zhang Yan	MSc	Gansu Agricultural University, China	Li Hongmei
Hungary	Sri Ita Tagiran	PhD	Sz. Istvan University, Hungary	Stefan Toepfer
Hungary	Toth, Szabolcs	PhD	Sz. Istvan University, Hungary	Stefan Toepfer
Kenya	Cheruiyot, Edimon	MSc	University of Nairobi, Kenya	MaryLucy Oronje, Sean Murphy
Kenya	Chirchir, Jackline	MSc	Kenyatta University, Kenya	MaryLucy Oronje, Sean Murphy
Kenya	Kabole, Mellon	PhD	University of Nairobi, Kenya	Ivan Rwomushana
Kenya	Lungaju, Stephen	MSc	University of Nairobi, Kenya	MaryLucy Oronje, Sean Murphy
Kenya	Mwihomeke, MickFanaka	PhD	University of Nairobi, Kenya	Arne Witt, René Eschen
Kenya	Ochieng, Violet	MSc	University of Nairobi, Kenya	Ivan Rwomushana

Kenya	Odunga, Stacey	MSc	University of Nairobi, Kenya	MaryLucy Oronje, Sean Murphy
Switzerland	Allen, Tabea	MSc	Hochschule für Agrar-, Forst- und Lebensmittelwissenschaften (HAFL), Switzerland	Marc Kenis
Switzerland	Augustinus, Benno	PhD	University of Fribourg, Switzerland	Urs Schaffner
Switzerland	Fallet, Patrick	PhD	Université de Neuchâtel, Switzerland	Stefan Toepfer
Switzerland	Franić, Iva	PhD	University of Bern, Switzerland	René Eschen, Marc Kenis
Switzerland	Lehmann Logan	BSc	HAFL	Marc Kenis
Switzerland	Mathlouthi Enis	BSc	HAFL	Lukas Seehausen
Switzerland	Racca, Alessandro	MSc	Wageningen University, The Netherlands	Lukas Seehausen
UK	Munyumbwe, Grace	MSc	Royal Holloway, University of London, UK	Belinda Luke
UK	O'Neil, Tara	PhD	Royal Holloway, University of London, UK	Belinda Luke
UK	Peck, Lily	PhD	Imperial College, UK	Matthew Ryan, Julie Flood
UK	Spence, Ellie	PhD	Warwick University, UK	Steve Edgington

\* Research was carried out principally at the CABI centre in that country.

#### 4.4. Masters of Advanced Studies in Integrated Crop Management

The Masters of Advanced Studies in Integrated Crop Management (ICM) is an initiative started in 2015 as a collaboration between CABI's centre in Switzerland, the University of Neuchâtel and the Jura Canton. Scientists, teachers, extension officers and policy makers come to Switzerland to enrich their knowledge about the importance of ICM, supporting its adoption as a long-term strategy to address global challenges (<http://www.cabi.org/about-cabi/cabi-centres/switzerland/mas-icm-course/> , <https://www.unine.ch/mas-icm>).

List of participants, 2020 academic year.

Surname	Given name	Education	Job title	Professional affiliation	Country
██████	██████	██████	██████████████	██████████████	██████
Belete	Konjit Feleke	MSc	County Crops Development Officer	County Department of Agriculture and Irrigation	Ethiopia
Wanjiru	Josphine Carlisle	BSc	Crop Protection Officer	Ministry of Agriculture, Irrigation and Water Development	Kenya
Kipandula	Jayaka Lawrence	BSc	Horticulture and Plant Protection Officer	MoA - National Directorate of Agricultural Extension	Malawi
Aslam	Muhammad	MSc	Deputy Assistant Staff Officer	Plant Protection Division, Ministry of Agriculture	Pakistan
Uwitonze	Nicolas	BSc	Sub County Crops Development Officer	Cultivating New Fronters on Agriculture (CNFA; NGO)	Rwanda
Marimuthu	Shoba Tanya Julie	BSc	Traditional Cash Crops Production Specialist	Rwanda Agriculture and Animal Resources Development Board (RAB)	Trinidad and South Africa
Nagaba	Clesentia ('Barbra')	BSc	Development Officer	Plant Protection Service, Department of Agriculture	Uganda
Nakibuuka	Esther Ssettaala	BSc	District Agricultural Officer	Mubende District Local Government	Uganda
Sichona	Jordan	BSc	Agricultural Officer	Kayunga District Local Government	Zambia
Aidoo	Stephen	BSc	Principal Technical Research Assistant	Ministry of Agriculture	Ghana

## 4.5. CABI Associates

Location	Name	Highest qualification	Role
██████	██████	██████	██████████████
Bangladesh	Goswami, Biresh	PhD	CABI Associate, Bangladesh
Bolivia	Sainz, Claudia	MSc	CABI Associate, Bolivia
Ecuador	Vasquez, Carlos	PhD	CABI Associate, LAC
Ghana	Beseh, Patrick	MSc	CABI Associate, Ghana
Malaysia	Loke Wai Hong	PhD	CABI Associate, Malaysia
Malaysia	Lum Keng Yeang	PhD	CABI Associate, Malaysia
Malaysia	Soetikno, Sastroutomo S.	PhD	CABI Associate, Malaysia
Myanmar	Thaung, Myint	PhD	CABI Associate, Malaysia
Nicaragua	Medina, Luis	MSc	CABI Associate, Nicaragua
Philippines	Joshi, Ravindra	PhD	CABI Associate, Malaysia
Sri Lanka	Arulanandam, Vakeesan	BSc	CABI Associate, Sri Lanka
Switzerland	Gassmann, André	DnatSc	CABI Associate, Switzerland
UK	Evans, Harry C.	DSc	Emeritus Fellow

UK	Hunt, David	PhD	Emeritus Fellow
UK	Rutherford, Mike	PhD	CABI Associate, UK
UK(HQ)	Stewart, Janet	BSc	CABI Associate, UK
Vietnam	Costa, Arnaud	PhD	CABI Associate, Malaysia

## 4.6. Visiting scientists

Location	Name	Highest degree	Home institute	Dates (2020)
Kenya	Selpha Opisa Miller	PhD	International Centre of Insect Physiology and Ecology (ICIPE)	July 2020 – March 2021
Kenya	Allan Mweke	PhD	Mount Kenya University	September 2020 – March 2021
Egham for Kew DTOL	Romena Hill	BSc	RBG Kew/Queen Mary University of London	January 2020

## 4.7. Technical support

Centre	Name	Qualification
China	Mi Qianqian	MSc
China	Yan Bo	MSc
Kenya	Karanja, Peter	HNDip
Malaysia	Baki, Razali	Dip
Malaysia	Yahya, Hanifah	Certificate
Pakistan	Ahmed, Ejaz	Matric
Pakistan	Ali, Saqib	Graduate
Pakistan	Anjum, Daud Hussain	Matric
Pakistan	Rasheed, Khalid	Intermediate
Switzerland	Beberat, Lise	DiplGard
Switzerland	Clo ca, Cornelia	MSc
Switzerland	Donzé, Quentin	DiplGard
Switzerland	Jonathan, Jolidon	
Switzerland	Willemin, Florence	DiplGard
UK	Adamin, Tomasz	
UK	Clayton, Teresa	
UK	Hannon, Janet	
UK	Horner, Jacob	BSc
UK	Kopera, Anita	MSc

## 4.8. Temporary research students

Location	Name	Highest degree	University	Dates (2020)
China	Liu Yanan	BSc	Hebei North University	July – September
China	Sun Yanan	BSc	Beijing Forestry University	January – April
Ghana	Akoto, Hannah Serwaa	PhD	University of Ghana	July – December
Ghana	Babatoundé, Ferdinand	MSc	University of Ghana	July – December
Ghana	Idemudia, Itohan	MSc	University of Ghana	July – December
Ghana	Nkafu, Therese Ngosong	PhD	University of Ghana	September – December
Hungary	Nxumalo, Gift	BSc	Sz. Istvan University, Godollo, Hungary	April – August
Hungary	Chambyal, Tamnna	BSc	Sz. Istvan University, Godollo, Hungary	June – August
Switzerland	Fattore, Sandrine	MSc	University of Neuchatel, Switzerland	April – December
Switzerland	Hiscock, Madeleine	BSc	University of the West of England	June – September
Switzerland	Humair, Laureline	MSc	University of Neuchâtel	April – December
Switzerland	Masserano, Greta	MSc	University of Turin	April – September
Switzerland	Mosquero, Nataly	MSc	University of Neuchâtel	March – September
Switzerland	Murad, Maram	BSc	HAFL	February – March
Switzerland	Nardelli, Martina	MSc	University of Turin	April – September
Switzerland	Perret-Gentil, Anouchka	MSc	University of Neuchâtel and Lausanne	April – June
Switzerland	Riss, Marion	MSc	ETH Zürich	April – September
Switzerland	Rodriguez, Mario	MSc	University of Neuchâtel and Lausanne	May – August
Switzerland	Rufatti, Matthieu	BSc	University of Neuchâtel and Lausanne	June
Switzerland	Sneiders, Baptiste	MSc	University of Geneva	April – August
Switzerland	Traine, Juan	MSc	University of Neuchâtel	January – February
UK (HQ)	Adejoro, Foluso	MSc	Royal Agricultural University	October – December



## contact CABI

### Africa

#### Ghana

**CABI**, CSIR Campus  
No. 6 Agostino Neto Road  
Airport Residential Area  
P. O. Box CT 8630, Cantonments  
Accra, Ghana

**T:** +233 (0)302 797 202

**E:** westafrica@cabi.org

#### Kenya

**CABI**, Canary Bird  
673 Limuru Road  
Muthaiga  
PO Box 633-00621  
Nairobi, Kenya

**T:** +254 (0)20 2271000/20

**E:** africa@cabi.org

#### Zambia

**CABI**, 5834 Mwange Close  
Kalundu  
PO Box 37589  
Lusaka, Zambia

**E:** southernafrica@cabi.org

### Americas

#### Brazil

**CABI**, UNESP-Fazenda Experimental  
Lageado, FEPAF (Escritorio da CABI)  
Rua Dr. Jose Barbosa de Barros 1780  
Fazenda Experimental Lageado  
CEP:18.610-307  
Botucatu, São Paulo, Brazil

**T:** +5514-38826300

**E:** y.colmenarez@cabi.org

#### Trinidad & Tobago

**CABI**, Gordon Street, Curepe  
Trinidad and Tobago

**T:** +1 868 6457628

**E:** caribbeanLA@cabi.org

#### USA

**CABI**, 745 Atlantic Avenue  
8th Floor  
Boston, MA 02111, USA

**T:** +1 (617) 682 9015

**E:** h.jansen@cabi.org

### Asia

#### China

**CABI**, Beijing Representative Office  
Internal Post Box 56  
Chinese Academy of Agricultural Sciences  
12 Zhongguancun Nandajie  
Beijing 100081, China

**T:** +86 (0)10 82105692

**E:** china@cabi.org

#### India

**CABI**, 2nd Floor, CG Block,  
NASC Complex, DP Shastri Marg  
Opp. Todapur Village, PUSA  
New Delhi – 110012, India

**T:** +91 (0)11 25841906

**E:** cabi-india@cabi.org

#### Malaysia

**CABI**, PO Box 210,  
43400 UPM Serdang  
Selangor, Malaysia

**T:** +60 (0)3 89432921

**E:** cabisea@cabi.org

#### Pakistan

**CABI**, Opposite 1-A,  
Data Gunj Baksh Road  
Satellite Town, PO Box 8  
Rawalpindi-Pakistan

**T:** +92 (0)51 9290132

**E:** sasia@cabi.org

### Europe

#### Netherlands

**CABI**, Landgoed Leusderend 32  
3832 RC Leusden  
The Netherlands

**T:** +31 (0)33 4321031

**E:** netherlands@cabi.org

#### Switzerland

**CABI**, Rue des Grillons 1  
CH-2800 Delémont  
Switzerland

**T:** +41 (0)32 4214870

**E:** europe-CH@cabi.org

#### UK

**CABI**, Nosworthy Way  
Wallingford, Oxfordshire  
OX10 8DE, UK

**T:** +44 (0)1491 832111

**E:** corporate@cabi.org

**CABI**, Bakeham Lane  
Egham, Surrey  
TW20 9TY, UK

**T:** +44 (0)1491 829080

**E:** cabieurope-uk@cabi.org

**E:** microbialservices@cabi.org

[www.cabi.org](http://www.cabi.org)

KNOWLEDGE FOR LIFE