CABI Science Report

2019

Issued May 2020

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KNOWLEDGE FOR LIFE

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 (Department for International Development), China (Chinese Ministry of Agriculture), 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 (2020) CABI Science Report 2019. CABI, Wallingford, UK, 52 pp.

Contents

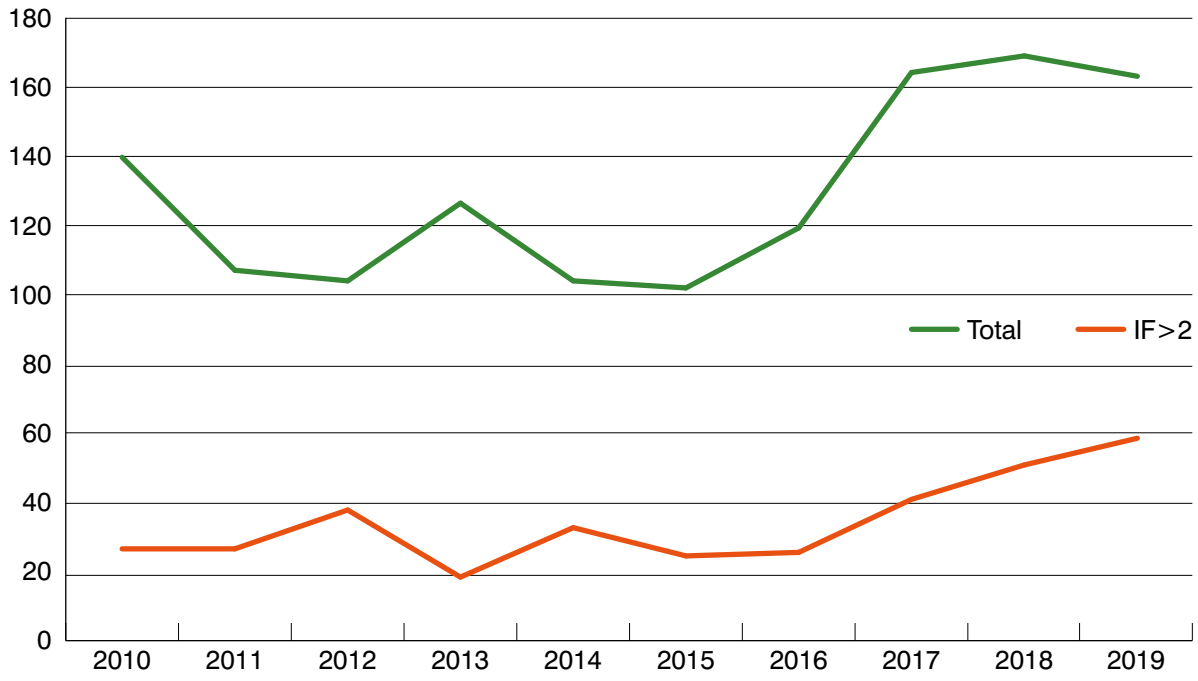
1. Implementing the CABI Science Strategy

Within this section we present highlights from a number of areas anticipated in the CABI Science Strategy[1], 2017-2019, much of it supported by the CABI Development Fund (CDF).

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 summarises the listings later in this report (Section 2), while the graph shows the trend over the last ten years; it can be seen that we significantly exceeded both targets in 2019.

Scientific publications in 2019	Open access	Not open access	Total
Total number of publications	105	58	163
Number of peer-reviewed publications	87	41	128
Number of publications in journals with a 2018 impact factor >2	46	12	58
Papers with a social and economic science focus	25	5	30
Not peer-reviewed	17	17	34
Books and manuals	5	5	10
Book chapters and proceedings papers	13	6	10



Total annual number of publications by CABI staff over the last ten years, and the number appearing in journals with an impact factor greater than 2.00 (IF>2)

A second CABI corporate key performance indicator, since 2018, is that at least 15 of our published papers should have a strong social and/or economic focus. In 2019, 25 publications were considered to meet this criterion.

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

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 2019 received support in this way.

González-Moreno, P., and 86 authors, including **Kenis, M.** (2019) Consistency of impact assessment protocols for non-native species. NeoBiota 44, 1–25. https://doi.org/10.3897/neobiota.44.31650

Hinz, H.L., Winston, R.L. and Schwarzländer, M. (2019) How safe is weed biological control? A global review of direct non-target attack. Quarterly Review of Biology 94(1), 1-27. https://doi.org/10.1086/702340

Kansiime, M.K., **Alawy, A.**, Allen, C., Subharwal, M., **Jadhav, A.** and **Parr, M.** (2019) Effectiveness of mobile agri-advisory service extension model: evidence from Direct2Farm program in India. World Development Perspectives 13, 25–33. https://doi.org/10.1016/j.wdp.2019.02.007

CABI Scientific Publication Recognition scheme 2018

A Scientific Publication Recognition scheme for CABI's scientists was designed, resourced from the CDF, and piloted across CABI in 2017. In 2019, four awards to recognise achievements in 2018 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 2018 IF>2 in 2018. Marc Kenis – for 11 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 2018. Mike Reeve – for the following paper: Reeve, M.A. and Buddie, A.G. (2018) A simple and inexpensive method for practical storage of field sample proteins for subsequent MALDI TOF MS analysis. Plant Methods 14:90, 17 pp. https://doi.org/10.1186/s13007-018-0358-8 (Impact factor 4.269).
- **Award 3**: The CABI staff member with a paper (authored/co-authored) published since 1 January 2014 with the largest number of citations on google scholar, as established on 31 December 2018. Marc Kenis – for the following paper with 180 citations: Seebens, H. and 44 coauthors, including Kenis, M. (2017) No saturation in the accumulation of alien species worldwide. Nature Communications 8(14435), 1–9. https://doi.org/10.1038/ncomms14435
- **Award 4**: The CABI staff member with the largest number of authored/coauthored papers with a social or economic science focus in journals with an IF>2 in 2018. Marc Kenis – for six papers.

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**. In 2019, in addition to updates, we have been adding records from the last century in CAB Abstracts that had not previously been identified. At the end of 2019, the CSOP held 6,305 records, an increase from 4,858 records at the end of 2018. A framework for adding CABI's unpublished project scientific reports was developed and will be implemented in 2020.

Effective mechanisms implemented 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.

CABI's research published open access

By 2020, CABI aimed to publish its research open access, depending on the requirements of the sponsors (CABI Science Strategy and CABI's Knowledge Management Policies[2]). Of CABI's core research published in peer-reviewed journals with a CABI lead or corresponding author, 50 of 52 papers (96%) were published open access in 2019 (section 2.4.2). The costs were met from projects, when appropriate, CDF and centre budgets.

Public relations support for CABI's scientific papers published in 2019

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 Twitter, Facebook and LinkedIn accounts (linking to the news stories on CABI's website and/or the paper).

During 2019, the CABI Communications Team provided PR support for 11 papers. These were selected based on CABI's role, the impact of the journal and the perceived newsworthiness of the science published. For these 11 papers, a total of almost 90 items of media coverage were generated, with a combined estimated audience reach of over half a million.

The three papers with the most media coverage achieved were:

- Franić et al. 'Are traded forest tree seeds a potential source of non-native pests?' in Ecological Applications with seven items of coverage and a reach of nearly 260,000.
- Shiferaw et al. 'Modelling the current fractional cover of an invasive alien plant and drivers of its invasion in a dryland ecosystem' in Scientific Reports with 19 pieces of coverage and a reach of more than 82,000.
- Kenis et al. 'Telenomus remus, a candidate parasitoid for the biological control of Spodoptera frugiperda in Africa, is already present on the continent' in Insects with 15 pieces of coverage and a reach of nearly 40,000.

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

For 2019, we planned to host at least nine research students and 20 interns across CABI (total 29). In 2019, we hosted 24 research students (section 4.3, 15 MSc and 9 PhD) and 26 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 2019 include:

Cock, M.J.W. (2019) Unravelling the status of partially identified insect biological control agents introduced to control insects: an analysis of BIOCAT2010. BioControl 64(1), 1-7.

González-Moreno, P., and 86 authors, including Kenis, M. (2019) Consistency of impact assessment protocols for non-native species. NeoBiota 44, 1–25. https://doi.org/10.3897/neobiota.44.31650

Heeb, L., Jenner, E. and Cock, M.J.W. (2019) Climate-Smart Pest Management: building resilience of farms and landscapes to changing pest threats. Journal of Pest Science 92(3), 951–969. https://doi.org/10.1007/s10340-019-01083-y

Hinz, H.L., Winston, R.L. and Schwarzländer, M. (2019) How safe is weed biological control? A global review of direct non-target attack. Quarterly Review of Biology 94(1), 1-27. https://doi.org/10.1086/702340

[2] https://www.cabi.org/Uploads/CABI/about-us/4.8.5-other-business-policies-and-strategies/Data%20management.pdf

2. Scientific outputs

2.1. Honours, honorary roles

Location	Name	Honour/role	Date(s)
Malaysia	Annamalai, Sivapragasam	Member, Advisory Panel for Coconut R&D projects in MARDI	Ongoing
Malaysia	Annamalai, Sivapragasam	Member of Panel Reviewer in Editorial Board of "The Planter"	Ongoing
Malaysia	Annamalai, Sivapragasam	Member, Editorial Board, Vietnam Academy of Agricultural Sciences	2019
Switzerland	Babendreier, Dirk	Visiting Professorship, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2018
Malaysia	Chan, Hong Twu	Scientific member in Malaysia Mushroom Research Center	Ongoing
India	Chaudhary, Malvika	Member of the International Organisation for Biological Control	From 2019
UK	Cock, Matthew	Honorary Life Member of the International Organisation for Biological Control	From 2015
UK	Cock, Matthew	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	Ongoing
UK	Djeddour, Djami	Honorary Lecturer in the School of Biological Sciences, Royal Holloway, University of London	2019-2022
UK	Edgington, Steve	Visiting Research Fellow, Reading University	2016–2020
UK	Edgington, Steve	Convenor for the Association of Applied Biologists, Nematology division	2015–2022
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
UK	Gonzalez-Moreno, Pablo	Lecturer, University of Cordoba, Spain	From April 2019
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	Kenis, Marc	Coordinator, Working Group 7.03.13 – Biological control of forest insects and pathogens, International Union of Forest Research Organizations	From 2008
Switzerland	Kenis, Marc	Member of the Scientific Committee of the Swiss Biological Records Center	From 2012
Switzerland	Kenis, Marc	Member of the International Union of Forest Research Organizations Task Force Forests and Biological Invasions	From 2015
Switzerland	Kuhlmann, Ulrich	Adjunct Professor, Department of Entomology, University of Manitoba, Canada	From 2000

Switzerland	Kuhlmann, Ulrich	Convenor, International Working Group of Ostrinia 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
China	Li, Hongmei	Adjunct Professor, Chinese Academy of Agricultural Sciences – Institute of Plant Protection.	From 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
Kenya	Oduor, George	STDF Working Group	From 2018
India	Pandit, Vinod	Member of Technical Committee of Plant Protection Directorate to develop Management protocol for Tuta absoluta in Nepal	From 2015
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
Switzerland	Schaffner, Urs	Affiliated Professor, Department of Plant, Soil and Entomological Sciences, University of Idaho, USA	From 2008
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
UK	Taylor, Phil	Board member of the British Society for Plant Pathology	From 2017
UK	Taylor, Phil	Board member of World Agriculture (journal)	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	Witt, Arne	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	From 2014
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
China	Zhang, Jinping	Li Lairong Horticultural Research Fellowship, The New Zealand Institute for Plant & Food Research Ltd.	December 2018-February 2019

2.2. Support to international scientific meetings

CABI staff have played significant roles in the organisation of several scientific meetings in 2019.

Meeting	Staff member	Role
Workshop on Monitoring and Control of Transboundary Crop Pests, 12 November 2019, Chengdu, China	Feng Zhang	Session chair
27th International Working Group on Ostrinia and other maize pests (IWGO) Conference, 14–17 October, Switzerland	Ulli Kuhlmann Dirk Babendreier Hongmei Li Stefan Toepfer	Convenor Session chairs
Southeast Asia Vegetable Symposium, 9–11 July 2019, Melaka, Malaysia	Sivapragasam Annamalai	Session moderator
AAB Advances in Nematology, 10 December 2019, Edinburgh, Scotland	Steve Edgington	Organising committee and session chair
Regional Workshop on Fall Armyworm Management in Asia, 1–3 May 2019, Hyderabad, India	Malvika Chaudhary	Panelist
Enabling capacity in production and application of bio-pesticide and bio-fertilizer for soil-borne disease control and organic farming, 7–9 May 2019, Hanoi, Vietnam	Malvika Chaudhary	Resource person
Satellite symposium 'Threat arising from Transboundary pest and diseases', International Conference on Plant Protection in Horticulture, 24–27 July 2019, Bengaluru, India	Malvika Chaudhary Manju Thakur	Lead organizer, moderator Rapporteur
Regional PRA workshop for NPPO from South Asia, 4–5 September 2019, Dhaka, Bangladesh	Malvika Chaudhary	Lead coordinator
Regional Workshop on Planning and Managing Technology Transfer for Inclusive Development, 16–18 July 2019, Thimphu, Bhutan	Malvika Chaudhary	Session moderator
Regional training Workshop on Pest Risk Analysis Decision Support Tool in collaboration with NPQS, Colombo, Sri Lanka, 23-24 December, 2019	Manju Thakur	Lead Coordinator and trainer

2.3. Journal contributions

CABI staff acted on the editorial boards of the following journals in 2019:

- Asian Journal of Agricultural Extension, Economics & Sociology (H. Rware)
- BioControl (D. Babendreier)
- BioInvasions Records (A. Witt)
- Brazilian Journal of Forestry and Environment (N. Corniani)
- New Disease Reports (R. Reeder, P. Taylor)
- CAB Reviews (M.J.W. Cock)
- Chilean Journal of Agricultural Research (S. Edgington)
- Climate and Development (J. Lamontagne-Godwin)
- Journal of Applied Entomology (S. Toepfer)
- Journal of Asia Pacific Entomology (A. Sivapragasam)
- Journal of Insects as Food and Feed (M. Kenis)
- Journal of Pest Science (T. Haye)
- Journal of Tropical Agriculture and Food Science (J. Flood, A. Sivapragasam)
- Neobiota (R.H. Shaw)
- The Planter (A. Sivapragasam)
- Turkish Journal of Weed Science (P. Gonzalez-Moreno)

2.4. Publications

CABI authors are shown in **bold**, the corresponding author(s) where designated are underlined, papers in journals with a 2018 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: www.cabi.org/what-we-do/outputs-and-publications

2.4.1. Books, proceedings and manuals (10)

FAO and **CABI** (2019) Community-based fall armyworm (*Spodoptera frugiperda*) monitoring, early warning and management. Training of trainers manual. First edition. FAO, Rome, Italy and CABI, Wallingford, UK, 112 pp. http://www.fao.org/publications/card/en/c/CA2924EN/ 🔓

FAO and **CABI** (2019) Fall Armyworm Field Handbook: Identification and Management. First Edition. FAO, Rome, Italy and CABI, Wallingford, UK, 38 pp. https://www.cabi.org/isc/abstract/20197200644 🔓

Hinz, H., Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) (2019) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, xix + 331 pp. https://www.ibiocontrol.org/proceedings/ 🔓

Holmes, K., **Babendreier, D.**, **Bateman, M.**, **Chaudhary, M.**, **Grunder, J.**, **Mulaa, M.**, **Durocher-Granger, L.** and **Faheem, M.** (2019) Biopesticides manual: guidelines for selecting, sourcing, producing and using biopesticides for key pests of tobacco. CABI, Wallingford, UK, xi + 145 pp. 🔓

Kenis, M., Hurley, B.P., Colombari, F., Lawson, S., Sun, J., Wilken, C., Weeks, R. and Sathyapala, S. (2019) Guide to the classical biological control of insect pests in planted and natural forests. FAO Forestry Paper 182. Food and Agriculture Organization of the United Nations, Rome, Italy, x + 96 pp. www.fao.org/3/ca3677en/ca3677en.pdf 🔓

Lenteren, J.C.van, Bueno, V.H.P., Luna, M.G., **Colmenarez, Y.C.** (2019) Biological Control in Latin America and the Caribbean: Its rich history and bright future. CABI, Wallingford, UK, 550p.

Lou, Q.Z, Li, J. and 52 co-editors, including **Zhang J.P.** (2019) 河北梨园有害生物图谱 [Illustrated pear pests in Hebei]. Hebei Science and Technology Press, Shijiazhuang: , China, 158 pp. [In Chinese.]

Sheppard, A.W., Paynter, Q., Mason, P., **Murphy, S.**, Stoett, P., Cowan, P., Brodeur, J., Warner, K., Villegas, C., **Shaw, R.**, **Hinz, H.**, Hill, M. and Genovesi, P. (2019) The application of biological control for the management of established invasive alien species causing environmental impacts. CBD Technical Series No. 91. The Secretariat of the Convention on Biological Diversity, Montreal, Canada. 74 pp. https://www.cbd.int/ts/ https://www.cbd.int/conferences/2018/cop-14/documents

Thanarajoo S.S., **Chan H.T.** and Day M. (2019) Abstract book for 9th International Workshop on Biological Control and Management of Eupatorieae and other Invasive Weeds, 19–22 March 2019, Putrajaya, Malaysia. CABI Southeast Asia, Serdang, Malaysia, 47 pp.

Zhang, T., Wang, B. and **Wan, M.** (2019) 常见作物主要病虫害防治实用技术手册 [Practical Pests Management Technical Manual of Major Pests in Common Crops]. China Agricultural Science and Technology Press, Beijing, China, 140 pp. [In Chinese.]

2.4.2. Peer-reviewed papers (125)

Adhikari, S.R., **Pandit, V.**, Sharma, D.R. and Subedi, R.K. (2019) Perception on biological pesticide by various levels of stakeholders in Nepal. *Journal of Biological Control* 33(3), 173-177. http://dx.doi.org/10.18311/jbc/2019/22690

Agboyi, L.K., **Mensah, S.A.**, **Clottey, V.A.**, Beseh, P., Glikpo, R., **Rwomushana, I.**, **Day, R.** and **Kenis, M.** (2019) Evidence of leaf consumption rate decrease in fall armyworm, *Spodoptera frugiperda*, larvae parasitized by *Coccygidium luteum*. *Insects* 10(410), 9 pp. https://doi.org/10.3390/insects10110410

Aigbedion-Atalor, P.O., Idemudia, I., **Witt, A.B.R.** and Day, M.D. (2019) First record of the impact of the parasitism of *Cecidochares connexa* (Diptera: Tephritidae) by a solitary larval ectoparasitoid in West Africa: Cause for concern? *Journal of Plant Diseases and Protection* 126(1), 93–95. https://doi.org/10.1007/s41348-018-0189-x

Babendreier D., **Wan M.**, **Tang R.**, **Tambo J.**, **Liu Z.**, **Grossrieder M.**, **Kansiime M.**, **Wood A.**, **Zhang F.** and **Romney D.** (2019) Impact of integrated pest management in rice and maize in the Greater Mekong Subregion. *CABI Study Brief* 32(Impact), [14 pp.]. https://dx.doi.org/10.1079/cabicomm-62-8117

Babendreier, D., **Wan, M.**, **Tang, R.**, **Gu, R.**, **Tambo, J.**, **Liu, Z.**, **Grossrieder, M.**, **Kansiime, M.**, **Wood, A.**, **Zhang, F.** and **Romney, D.** (2019) Impact assessment of biological control-based integrated pest management in rice and maize in the Greater Mekong Subregion. *Insects* 10(226), 16 pp. https://doi.org/10.3390/insects10080226

Baker, T., **Whitehead, B.**, **Musker, R.** and Keizer, J. (2019) Global agricultural concept space: lightweight semantics for pragmatic interoperability. npj *Science of Food* 3(16), 8 pp. https://doi.org/10.1038/s41538-019-0048-6

Baroncelli, R., **Cafà, G.**, Castro, R.R.L., Boufleur, T. and Massola Jr, N.S. (2019) Fungal Planet description sheet 1033. *Persoonia – Molecular Phylogeny and Evolution of Fungi* 43, 405–406. https://doi.org/10.3767/persoonia.2019.43.06

Bebber, D.P., Field, E., Gui, H., Mortimer, P., **Holmes, T.** and Gurr, S.J. (2019) Many unreported crop pests and pathogens are probably already present. *Global Change Biology* 25(8), 2703–2713. https://doi.org/10.1111/gcb.14698

Bhatti, H., **Bajwa, B.E.** and **Honey, S.F.** (2019) Biological control of aflatoxin causing organisms in agricultural commodities as an integrated environmentally safe approach. *International Journal of Agriculture & Biosciences* 8(4), 190–193. http://www.ijagbio.com/pdf-files/volume-8-no-4-2019/190-193.pdf

Bloukounon-Goubalan, A.Y., Saïdou, A., Obognon, N., Amadji, G.L., Igué, A.M., **Clottey, V.A.**, Chrysostome, C.A.A.M., **Kenis, M.** and Mensah, G.A. (2019) Decomposition and nutrient release pattern of agro-processing by-products biodegraded by fly larvae in acrisols. *Archives of Agronomy and Soil Science* 65(11), 1610–1621. https://doi.org/10.1080/03650340.2019.1572118

Bloukounon-Goubalan, A.Y., Saïdou, A., Obognon, N., Amadji, G.M., Igué, A.M., **Clottey, V.A.** and **Kenis, M.** (2019) Decomposition and nutrient release pattern of animal manures biodegraded by fly larvae in acrisols. *Canadian Journal of Soil Science* 99(1), 60–69. https://doi.org/10.1139/cjss-2018-0076

Boafo, C., Affedzie-Obresi, S., Gbemavo, D.S.J.C., **Clottey, V.A.**, Nkegbe, E., Adu-Aboagye, G. and **Kenis, M.** (2019) Use of termites by farmers as poultry feed in Ghana. *Insects* 10(3):69, 13 pp. https://doi.org/10.3390/insects10030069

Boansi, D., **Tambo, J.A.** and Müller, M. (2018) Intra-seasonal risk of agriculturally-relevant weather extremes in West African Sudan Savanna. *Theoretical and Applied Climatology* 135(1–2), 355–373. https://doi.org/10.1007/s00704-018-2384-x

Bras, A., Avtzis, D.N., **Kenis, M.**, **Li, H.**, Vétek, G., Bernard, A., Courtin, C., Rousselet, J., Roques, A. and Auger-Rozenberg, M.-A. (2019) A complex invasion story underlies the fast spread of the invasive box tree moth (*Cydalima perspectalis*) across Europe. *Journal of Pest Science* 92(3), 1187–1202. https://doi.org/10.1007/s10340-019-01111-x

Cafà, G., **Caggiano, B.**, **Reeve, M.A.**, **Bhatti, H.**, **Honey, S.F.**, **Bajwa, B.** and **Buddie, A.G.** (2019) A polyphasic approach aids early detection of potentially toxigenic aspergilli in soil. *Microorganisms* 7(300, 14 pp. https://doi.org/10.3390/microorganisms7090300

Caldara, R. and **Toševski, I.** (2019) *Rhinusa* Stephens: a taxonomic revision of the species belonging to the *R. linariae*, *R. herbarum*, *R. melas*, and *R. mauritii* groups (Coleoptera Curculionidae). *Zootaxa* 4679(2), 318–340. https://doi.org/10.11646/zootaxa.4679.2.6

Carvajal-Yepes, M., Cardwell, K., Nelson, A., Garrett, K.A., Giovani, B., Saunders, D.G.O., Kamoun, S., Legg, J.P., Verdier, V., Lessel, J., Neher, R.A., **Day, R.**, Pardey, P., Gullino, M.L., Records, A.R., Bextine, B., Leach, J.E., Staiger, S. and Tohme, J. (2019) A global surveillance system for crop diseases: Global preparedness minimizes the risk to food supplies. *Science* 364(6447), 1237–1239. https://doi.org/10.1126/science.aaw1572

Chen, J., **Mi, Q.**, Chen, L., Lou, Q., Shi, S., **Zhang, F.** and **Zhang, J.** (2019) 基于茶翅蝽文献量学的国内外研究现状. [Bibliometric analysis and research progress of *Halyomorpha halys* (Stål).] *China Plant Protection Guide* 39(12), 28–36. [In Chinese with English abstract.]

Cheng, Y., Zhang, Y., Wang, G., Guo, C. and **Li, H.** (2019) 自然环境中地面温度对亚洲小车蝗体温的影响 [Effect of ground surface temperature on body temperature of *Oedaleus decorus asiaticus* under natural habitat]. *Plant Protection* 45(2), 64–67. [In Chinese with English abstract.] https://doi.org/10.16688/j.zwbh.2018499

Cock, M.J.W. (2019) Donkey's eyes, *Junonia* spp. (Lepidoptera, Nymphalidae), in Trinidad and Tobago. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2019, 14-20. https://ttfnc.org/livingworld/index.php/lwj/article/view/723

Cock, M.J.W. (2019) Field-identification of the Caligo butterflies (Nymphalidae, Brassolinae) of Trinidad and Tobago. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2019, 37-39. https://ttfnc.org/livingworld/index.php/lwj/article/view/738

Cock, M.J.W. (2019) Unravelling the status of partially identified insect biological control agents introduced to control insects: an analysis of BIOCAT2010. BioControl 64(1), 1–7. https://doi.org/10.1007/s10526-018-09921-1

Cock, M.J.W. and Alston-Smith, S. (2019) *Oxynthes corusca* (Herrich-Schäffer) (Lepidoptera, Hesperiidae), an overlooked butterfly record from Trinidad, West Indies, with notes on the caterpillar. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2019, 45-46. https://ttfnc.org/livingworld/index.php/lwj/article/view/729

Cock, M.J.W., **Buddie, A.G.** and **Cafà, G.** (2019) Piloting the use of DNA barcoding in support of natural enemy surveys: new parasitoid records for banana skippers (Erionota spp., Hesperiidae, Lepidoptera) in Malaysia. *Journal of Asia-Pacific Entomology* 22(1), 183–188. https://doi.org/10.1016/j.aspen.2018.12.019

Cock, M.J.W.; Polar, P.; Rutherford, M., **Cafá, G.** and **Buddie, A.** (2019) *Hypercompe trinitatis* (Lepidoptera, Erebidae, Arctiinae) and its caterpillar in Trinidad, West Indies. *Living World, Journal of the Trinidad and Tobago Field Naturalists' Club* 2019, 21-27. https://ttfnc.org/livingworld/index.php/lwj/article/view/726

Costi, E., **Haye, T.** and Maistrello, L. (2019) Surveying native egg parasitoids and predators of the invasive *Halyomorpha halys* in Northern Italy. *Journal of Applied Entomology* 143(3), 299–307. https://doi.org/10.1111/jen.12590

Danielsen, S., Kajura, C., **Mulema, J.**, **Taylor, R.**, **Kansiime, M.**, **Alokit, C.**, Tukahirwa, B. and Schelling, E. (2019) Reaching for the low hanging fruits: One health benefits of joint crop–livestock services for small-scale farmers. *One Health* 7: 100082. https://doi.org/10.1016/j.onehlt.2019.100082

Day, M.D. and **Witt, A.B.R.** (2019) Weed biological control: challenges and opportunities. *Weeds – Journal of Asian-Pacific Weed Science Society* 1(2), 34–44.

Devos, Y., Craig, W., Devlin, R.H., Ippolito, A., Leggatt, R.A., Romeis, J., **Shaw, R.**, Svendsen, C. and Topping, C.J. (2019) Using problem formulation for fit-for-purpose pre-market environmental risk assessments of regulated stressors. *EFSA Journal* 17(S1):e170708, 31 pp. https://doi.org/10.2903/j.efsa.2019.e170708

Dilipkumar, M., Erwan-Shah, S., Anuar, A. and **Sivapragasam, A.** (2019) A sex pheromone-baited trapping system for management of sweetpotato weevil, *Cylas formicarius* (Coleoptera: Brentidae). *Journal of Applied Entomology* 143, 408–416. https://doi.org/10.1111/jen.12602

Dougoud, J., **Toepfer, S.**, **Bateman, M.**, and **Jenner, W.** (2019) Efficacy of homemade botanical insecticides based on traditional knowledge. A review. *Agronomy for Sustainable Development* 39:37, 22 pp. https://doi.org/10.1007/s13593-019-0583-1

Dowlath, P. and **Ramnanan, N.** [2019] Attitudes, knowledge and practices for Trinidad vegetable farmers and their predisposition to adopting IPM strategies in the management of crop diseases. *Tropical Agriculture* 95(Special Issue 2) (2018), 103–111.

Eschen, R., De Groot, M, Glavendekić, M., Lacković, N., Matosević, D., Morales-Rodriguez, C., Hanlon, R.O., Oskay, F., Papazova, I., Prospero, S. and **Franić´, I.** (2019) Spotting the pests of tomorrow – Sampling designs for detection of species associations with woody plants. *Journal of Biogeography* 46(10), 2159–2173. https://doi.org/10.1111/jbi.13670

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

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

Fang, Y., Wu, H., Wang, J.-X., Dou, W.-J., Zhang, X.-M., **Zhang, F.**, Xiao, C. and Chen, G.-H. (2019) 云南省斑翅果蝇寄生性天敌昆虫种类调查 [Investigation on the species of parasitic natural enemies of Drosophila suzukii in Yunnan.] *Journal of Environmental Entomology* 41(3), 592–598. [In Chinese with English abstract.]

Franić´, I., Prospero, S., Hartmann, M., Allan, E., Auger-Rozenberg, M.-A., Grünwald, N.J., **Kenis, M.**, Roques, A., Schneider, S., Sniezko, R., Williams, W. and **Eschen, R.** (2019) Are traded forest tree seeds a potential source of nonnative pests? *Ecological Applications* 29(7), e01971, 16 pp. https://doi.org/10.1002/eap.1971

Ganda, H., Zannou-Boukari, E.T., **Kenis, M.**, Chrysostome, C.A.A.M. and Mensah, G.A. (2019) Potentials of animal, crop and agri-food wastes for the production of fly larvae. *Journal of Insects as Food and Feed* 5(2), 59–67. https://doi.org/10.3920/jiff2017.0064

Gaskin, J.F., Andrés, J.A., Bogdanowicz, S.M., Guilbault, K.R., Hufbauer, R.A., **Schaffner, U.**, **Weyl, P.** and Williams, L., III (2019) Russian-olive (*Elaeagnus angustifolia*) genetic diversity in the western United States and implications for biological control. *Invasive Plant Science and Management* 12(2), 89–96. https://doi.org/10.1017/inp.2019.16

Ghosh, S., Taron, A. and **Williams, F.** (2019) The impact of plant clinics on the livelihoods of Bangladeshi farmers. *CABI Study Brief* 29(Impact), [8 pp.]. https://dx.doi.org/10.1079/CABICOMM-62-8107

Gillespie, D.R., Broadbent, A.B., Mason, P.G., **Haye, T.**, Clarke, P., Goettel, M.S. and Leung, B. (2019)

Use of life tables to predict the impact of introducing exotic parasitoids, against the cabbage seedpod weevil in North America. *Biocontrol Science and Technology* 29(10), 940–964. https://doi.org/10.1080/09583157.2019.1625028

González-Moreno, P., and 86 authors, including **Kenis, M.** (2019) Consistency of impact assessment protocols for non-native species. *NeoBiota* 44, 1–25. https://doi.org/10.3897/neobiota.44.31650

Gupta, A., Achterberg, C. van, Ballal, C.R., **Maczey, N.**, **Djeddour, D.**, Bhutia, S.G. and Rajeshwari, S.K. (2019) Two new species of *Rhogadopsis* Brèthes (Braconidae: Opiinae) as solitary parasitoids of *Merochlorops* species complex (Diptera: Chloropidae) from India. *Zootaxa* 4550(2), 268–276. https://doi.org/10.11646/zootaxa.4550.2.7

Harrison, R.D., Thierfelder, C., Baudron, F., Chinwada, P., Midega, C., **Schaffner, U.** and Berg, J. van den (2019) Agro-ecological options for fall armyworm (*Spodoptera frugiperda JE Smith*) management: Providing low-cost, smallholder friendly solutions to an invasive pest. *Journal of Environmental Management* 243, 318–330. https://doi.org/10.1016/j.jenvman.2019.05.011

Heeb, L., **Jenner, E.** and **Cock, M.J.W.** (2019) Climate-Smart Pest Management: building resilience of farms and landscapes to changing pest threats. *Journal of Pest Science* 92(3), 951–969. https://doi.org/10.1007/s10340-019-01083-y

Hernández-Vera, G., **Toševski, I.**, Caldara, R. and Emerson, B.C. (2019) Evolution of host plant use and diversification in a species complex of parasitic weevils (Coleoptera: Curculionidae). *PeerJ* 7:e6625, 21 pp. https://doi.org/10.7717/peerj.6625

Hinz, H.L., **Schaffner, U.**, Bourchier, R.S., Schwarzländer, M. and Weed, A. (2019) Comment on Havens and colleagues (2019). *Bioscience* 69(11), 853. https://doi.org/10.1093/biosci/biz110

Hinz, H.L., Winston, R.L. and Schwarzländer, M. (2019) How safe is weed biological control? A global review of direct non-target attack. *Quarterly Review of Biology* 94(1), 1-27. https://doi.org/10.1086/702340

Kansiime, M.K., **Alawy, A.**, Allen, C., Subharwal, M., **Jadhav, A.** and **Parr, M.** (2019) Effectiveness of mobile agri-advisory service extension model: evidence from Direct2Farm program in India. *World Development Perspectives* 13, 25–33. https://doi.org/10.1016/j.wdp.2019.02.007

Kansiime, 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 frugiderda* J.E. Smith) and farm-level management practices in Zambia. *Pest Management Science* 75(10), 28400–2850. https://doi.org/10.1002/ps.5504

Kenfack Voukeng, S.N., Coombes, C., **Weyl, P.**, Djeugoue, F. and Hill M.P. (2019) Morphological identification of fungi associated with *Eichhornia crassipes* (Mart.-Solms) Laubach in the Wouri River Basin, Douala, Cameroon. *African Journal of Aquatic Science* 44, 195–208. https://doi.org/10.2989/16085914.2019.1636760

Kenfack Voukeng, S.N., **Weyl, P.**, Hill, M.P. and Chi, N. (2019) The attitudes of riparian communities to the presence of water hyacinth in the Wouri River Basin, Douala, Cameroon. *African Journal of Aquatic Science* 44(1), 7–13. https://doi.org/10.2989/16085914.2018.1538868

Kenis, M., Plessis, H. du, Van den Berg, J., Ba, M.N., Goergen, G., Kwadjo, K.E., Baoua, I., **Buddie, A.**, **Cafà, G.**, **Offord, L.**, **Rwomushana, I.** and Polaszek, A. (2019) *Telenomus remus*, a candidate parasitoid for the biological control of *Spodoptera frugiperda* in Africa, is already present on the continent. *Insects* 10(4): 92, 10 pp. https://doi.org/10.3390/insects10040092

Khan, A., **Honey, S.F.**, **Bajwa, B.**, Jamil, N. and **Mazhar, M.S.** (2019) Responses of *Cydia pomonella* (l.) reared on different artificial diets under laboratory conditions. *Sarhad Journal of Agriculture* 35(2), 386-391. http://dx.doi.org/10.17582/journal.sja/2019/35.2.386.391

Kirichenko, N., Augustin, S., and **Kenis, M.** (2019) Invasive leafminers on woody plants: a global review of pathways, impact and management. *Journal of Pest Science* 92(1), 93–106. https://doi.org/10.1007/s10340-018-1009-6

Konopka, J.K., Gariepy, T.D., **Haye, T.**, **Zhang, J.**, Rubin, B.D. and McNeil, J.N. (2019) Exploitation of pentatomids by native egg parasitoids in the native and introduced ranges of *Halyomorpha* halys: a molecular approach using sentinel egg masses. *Journal of Pest Science* 92(2), 609–619. https://doi.org/10.1007/s10340-018-01071-8

Kosovac, A., Jakovljević, M., Krstić, O., Cvrković, T., Mitrović, M., **Toševski, I.** and Jović, J. (2019) Role of plant-specialized *Hyalesthes obsoletus* associated with *Convolvulus arvensis* and *Crepis foetida* in the transmission of '*Candidatus* Phytoplasma solani'-inflicted bois noir disease of grapevine in Serbia. *European Journal of Plant Pathology* 153(1), 183-195. https://doi.org/10.1007/s10658-018-1553-1

Kyaw, H.W.W., Tsuchiya, K., Matsumoto, M., Aye, S.S., Iiyama, K., **Kurose, D.**, Horita, M., Furuya, N. (2019) Molecular characterization of *Ralstonia solanacearum* strains causing bacterial wilt of solanaceous crops in Myanmar by rep-PCR analysis. *Journal of General Plant Pathology* 85(1), 33–38. https://doi.org/10.1007/s10327-018-0818-z

Lamontagne-Godwin, J., Cardey, S., **Williams, F.E.**, Dorward, P.T., **Aslam, N.** and **Almas, M.** (2019) Identifying gender-responsive approaches in rural advisory services that contribute to the institutionalisation of gender in Pakistan. *Journal of Agricultural Education and Extension* 25(3), 267–288. https://doi.org/10.1080/1389224X.2019.1604392

Lamontagne-Godwin, J., Dorward, P., **Ali, I.**, **Aslam, N.** and Cardey, S. (2019) An approach to understand rural advisory services in a decentralised setting. *Social Sciences* 8(3): 103, 18 pp. https://doi.org/10.3390/socsci8030103

Lamontagne-Godwin, J., Dorward, P., **Aslam, N.** and Cardey, S. (2019) Analysing support towards inclusive and integrated rural advisory systems. *Social Sciences* 8(295), 18 pp. https://doi.org/10.3390/socsci8100295

Li, H., **Wan, M.**, Gu, R., Liu, L., Nie, F., Wang, Z. and **Zhang, F.** (2019) 基于文献计量学的重大入侵害虫草地贪夜蛾的研究动态分析 [Bibliometric analysis on research progress of invasive insect pest fall armyworm, *Spodoptera frugiperda*]. *Plant Protection* 45(4), 34–42. [In Chinese with English abstract.]

Linders, T.E.W., **Schaffner, U.**, **Eschen, R.**, Abebe, A., Choge, S.K.; Nigatu, L.; Mbaabu, P.M., Shiferaw, H. and Allan, E. (2019) Direct and indirect effects of invasive species: Biodiversity loss is a major mechanism by which an invasive tree affects ecosystem functioning. *Journal of Ecology* 107(6), 2660-2672. https://doi.org/10.1111/1365-2745.13268

Liu, Y., Cheng, Y., **Li, H.**, Nong, X. and **Luke, B.** (2019) 不同温度下绿僵菌对东亚飞蝗3龄蝗蝻的致病力影响 [Virulence of *Metarhizium anisopliae* against 3rd instar nymphs of *Locusta migratoria manilensis* under different temperatures.] *Chinese Journal of Biological Control* 35(4), 642–647. [In Chinese with English abstract.] https://doi.org/10.16409/j.cnki.2095-039x.2019.04.021

Liverpool-Tasie, L.S.O., Sanou, A. and **Tambo, J.A.** (2019) Climate change adaptation among poultry farmers: evidence from Nigeria. *Climatic Change* 157(3-4), 527–544. https://doi.org/10.1007/s10584-019-02574-8

Lohano, H.D., Mari, F.M., **Stewart, J.**, **Ali, I.** and **Romney, D.** (2019) Improving the safety and quality of cotton production in Pakistan. *CABI Study Brief* 30(Impact), [7 pp.]. https://dx.doi.org/10.1079/cabicomm-62-8106

Marelli, J.P., Guest, D.I., Bailey, B.A., **Evans, H.C.**, Brown, J.K., Junaid, M., Barreto, R.W., Lisboa, D.O. and Puig, A.S. (2019) Chocolate under threat from old and new cacao diseases. *Phytopathology* 109(8), 1331–1343. https://doi.org/10.1094/phyto-12-18-0477-rvw

Martin, E.A., and 64 coauthors including **Stutz, S.** (2019) The interplay of landscape composition and configuration: new pathways to manage functional biodiversity and agroecosystem services across Europe. *Ecology Letters* 22, 1083–1094. https://doi.org/10.1111/ele.13265

Min, W., Gu, R., Zhang, T., Zhang, Y., Ji, H., Wang, B., Qiao, Y. and **Toepfer, S.** (2019) Conflicts of interests when connecting agricultural advisory services with agri-input businesses. *Agriculture* 9(10), 218, 19 pp. https://doi.org/10.3390/agriculture9100218

Misawa, T. and **Kurose, D.** (2019) Anastomosis group and subgroup identification of *Rhizoctonia solani* strains deposited in the NARO Genebank, Japan. *Journal of General Plant Pathology* 85(4), 282–294. https://doi.org/10.1007/s10327-019-00848-8

Morales-Rodríguez, C., and 34 coauthors including **Eschen, R.**, **Franic´, I.** and **Kenis, M.** (2019) Forewarned is forearmed: harmonized approaches for early detection of potentially invasive pests and pathogens in sentinel plantings. *NeoBiota* 47, 95–123. https://doi.org/10.3897/neobiota.47.34276

Musebe, R.O., **Mugambi, I.**, **Williams, F.**, **Mulaa, M.**, **Nambiro, E.** and **Chege, F.** (2019) Gender differences in the use of plant health information services: a case of plant clinics under Plantwise Program in Kenya. *African Journal of Agricultural Research* 13(51), 2862–2871. https://doi.org/10.5897/AJAR2018.13090

Nahiyoon, A.A., Fayyaz, S. and Kazi, N. (2019) New and known nematodes associated with cotton plantation in Sindh, Pakistan. *Pakistan Journal of Zoology* 51(4), 1309-1314. http://dx.doi.org/10.17582/journal.pjz/2019.51.4.1309.1314

Nóbrega, T.F., Ferreira, H.C., B.W., **Evans, H.C.** and Barreto, R.W. (2019) Fungal Planet description sheet 1017. *Persoonia – Molecular Phylogeny and Evolution of Fungi* 43, 373–374. https://doi.org/10.3767/persoonia.2019.43.06

Novoa, A., Brundu, G., Day, M.D., Deltoro, V., Essl, F., Foxcroft, L.C., Fried, G., Kaplan, H., Kumschick, S., Lloyd, S., Marchante, E., Marchante, H., Paterson, I.D., Pyšek, P., Richardson, D.M., **Witt, A.**, Zimmermann, H.G. and Wilson, J.R.U. (2019) Global actions for managing cactus invasions. *Plants* 2019, 8(10), 421, 27 pp. https://doi.org/10.3390/plants8100421

Ochilo, W.N., Nyamasyo, G.N., Kilalo, D., **Otieno, W.**, Otipa, M., **Chege, F.**, Karanja, T. and Lingeera, E. (2019) Characteristics and production constraints of smallholder tomato production in Kenya. *Scientific African* 2, e00014. https://doi.org/10.1016/j.sciaf.2018.e00014

Ochilo, W.N., Nyamasyo, G.N., Kilalo, D., **Otieno, W.**, Otipa, M., **Chege, F.**, Karanja, T. and Lingeera, E.K. (2019) Ecological limits and management practices of major arthropod pests of tomato in Kenya. *Journal of Agricultural Science and Practice* 4(2), 29–42. https://doi.org/10.31248/JASP2019.124

Ochilo, W.N., **Ruffhead, H.**, **Rumsey, A.**, **Chege, F.**, Lusweti, C., **Oronje, M.** and **Otieno, W.** (2019) Can you ensure that ICT for development apps are downloaded and used? A case study of the Plantwise Data Collection app for Plant Health in Kenya. *Journal of Agricultural & Food Information* 20(3) 237–253. https://doi.org/10.1080/10496505.2019.1609967

Park, I., Schwarzländer, M., **Hinz, H.L.**, **Schaffner, U.** and Eigenbrode, S.D. (2019) A simple approach to evaluate behavioral responses of insect herbivores to olfactory and visual cues simultaneously: the double stacked y-tube device and portable volatile collection system. *Arthropod-Plant Interactions* 13(1), 139–149. https://doi.org/10.1007/s11829-018-9663-4

Paterson, I.D., Coetzee, J.A., **Weyl, P.**, Griffith, T.C., Voogt, N. and Hill, M.P. (2019) Cryptic species of a water hyacinth biological control agent revealed in South Africa: host specificity, impact, and thermal tolerance. *Entomologia Experimentalis et Applicata* 167, 682-691. https://doi.org/10.1111/eea.12812

Pecchia, S., Caggiano, B., Lio, D.D., **Cafà, G.**, Le Floch, G. and Baroncelli, R. (2019) Molecular detection of the seed-borne pathogen Colletotrichum lupini targeting the hyper-variable IGS region of the ribosomal cluster. *Plants* 8(222), 16 pp. https://doi.org/10.3390/plants8070222

Pomalégni, S.C.B., Kpadé, C.P., Gbemavo, D.S.J.C., **Clottey, V.A.**, **Kenis, M.** and Mensah, G.A. (2019) Traditional poultry farmers' willingness to pay for using fly larvae meal as protein source to feed local chickens in Benin. *Bio-based and Applied Economics* 7(2), 117–138. https://doi.org/10.13128/bae-7671

Pousga, S., Sankara, F., Coulibaly, K., Nacoulma, J.P., Ouedraogo, S., **Kenis, M.**, Chrysostome, C. and Ouedraogo, G.A. (2019) Effets du remplacement de la farine de poisson par les termites (Macrotermes sp.) sur l'évolution pondérale et les caractéristiques de carcasse de la volaille locale au Burkina Faso. *African Journal of Food, Agriculture, Nutrition and Development* 19(2), 14354-14371. https://doi.org/10.18697/ajfand.85.17430

Prasad, A.K., Roy, S., **Neave, S.**, Sarma, A.J., Phukan, P.J., Rahman, A., Muraleedharan, N. and Mukhopadhyay, A. (2019) Sticky bands as effective tools to manage looper pests (Lepidoptera: Geometridae) in tea crops. *Entomologia Generalis* 39(3–4), 347–351. https://doi.org/10.1127/entomologia/2019/0735

Reeve, M.A. and **Bachmann, D.** (2019) A method for filamentous fungal growth and sample preparation aimed at more consistent MALDI-TOF MS spectra despite variations in growth rates and/or incubation times. *Biology Methods and Protocols* 4(1), 3, 1–14. https://doi.org/10.1093/biomethods/bpz003

Reeve, M.A. and Pollard, K.M. (2019) MALDI-TOF MS-based analysis of dried seed proteins immobilized on filter paper. *Biology Methods and Protocols* 4(1), bpz007, 12 pp. https://doi.org/10.1093/biomethods/bpz007

Reeve, M.A. and **Seehausen, M.L.** (2019) Discrimination between Asian populations of the parasitoid wasp *Ganaspis cf. brasiliensis* using a simple MALDI-TOF MS-based method for use with insects. *Biology Methods and Protocols* 4(1), 1–8. https://doi.org/10.1093/biomethods/bpz002

Reeve, M.A., **Bachmann, D.** and **Caine, T.S.** (2019) Identification of *Penicillium* species by MALDI-TOF MS analysis of spores collected by dielectrophoresis. *Biology Methods and Protocols* 4(1), bpz018, 1-15. https://doi.org/10.1093/biomethods/bpz018

Reeve, M.A., **Caine, T.S.** and **Buddie, A.G**. (2019) Spectral grouping of nominally *Aspergillus versicolor* microbial-collection deposits by MALDI-TOF MS. *Microorganisms* 7(235), 15 pp. https://doi.org/10.3390/microorganisms7080235

Reeve, M.A., **Stewart, H.** and **Ryan, M.J.** (2019) MALDI-TOF MS spectral variation is observed between fungal samples grown under identical conditions after long-term storage by cryopreservation, freeze-drying, and under oil. *CryoLetters* 40(3), 145–151.

Roy, H.E., and 43 authors including **Kenis, M.** (2019) Developing a list of invasive alien species likely to threaten biodiversity and ecosystems in the European Union. *Global Change Biology* 25, 1032–1048. https://doi.org/10.1111/gcb.14527

Ryan, M.J., McCluskey, K., Verkleij, G., Robert, V. and **Smith, D**. (2019) Fungal biological resources to support international development: challenges and opportunities. *World Journal of Microbiology and Biotechnology* 35(139), 13 pp. https://doi.org/10.1007/s11274-019-2709-7

Sabbatini Peverieri, G., Mitroiu, M.-D., Bon, M.-C., Balusu, R., Benvenuto, L., Bernardinelli, I., Fadamiro, H., Falagiarda, M., Fusu, L., Grove, E., **Haye, T.**, Hoelmer, K., Lemke, E., Malossini, G., Marianelli, L., Moore, M.R., Pozzebon, A., Roversi, P.-F., Scaccini, D., Shrewsbury, P., Tillman, G., Tirello, P., Waterworth, R. and Talamas, E.J. (2019) Surveys of stink bug egg parasitism in Asia, Europe and North America, morphological taxonomy, and molecular analysis reveal the Holarctic distribution of *Acroclisoides sinicus* (Huang & Liao) (Hymenoptera, Pteromalidae). *Journal of Hymenoptera Research* 74, 123–151. https://doi.org/10.3897/jhr.74.46701

Sanou, A.G., Sankara, F., Pousga, S., Coulibaly, K., Nacoulma, J.P., Ouedraogo, I., Nacro, S., **Kenis, M.**, Sanon, A. and Somda, I. (2019) Production de masse de larves de *Musca domestica* L. (Diptera: Muscidae) pour l'aviculture au Burkina Faso: Analyse des facteurs déterminants en oviposition naturelle. *Journal of Applied Bioscience* 134, 13689–13701. https://dx.doi.org/10.4314/jab.v134i1.6 https://m.elewa.org/Journals/wp-content/uploads/2019/02/6.Sanou_.pdf

Sanou, A.G., Sankara, F., Pousga, S., **Kenis, M.**, Coulibaly, K., Nacoulma, J.P., Nacro, S., Ouedraogo, I. and Somda, I. (2019) Farmers' perception of the use of fly larvae in poultry feed in Burkina Faso. *African Entomology* 27(2), 373–385. https://doi.org/10.4001/003.027.0373

Santos, T.B., Luz, E.D.M.M., **Evans, H.C.** and Bezerra, J.L. (2019) *Spermosporella irenopsidis* sp. nov. and *Spermatoloncha maticola*, parasitic on black mildew (*Irenopsis vincensii*) of rubber in Bahia, Brazil. *Rodriguésia* 70: e03342017, 1–4. http://dx.doi.org/10.1590/2175-7860201970083

Seehausen, M.L., Timm, C., Jones, I.M., Bourchier, R.S. and Smith, S.M. (2019) Reproductive life-history traits of the classical biological control agent *Hypena opulenta* (Lepidoptera: Erebidae): Using agent biology to support post release monitoring and establishment. *Biological Control* 135, 95–101. https://doi.org/10.1016/j.biocontrol.2019.05.010

Shiferaw, H., Bewket, W., Alamirew, T., Zeleke, G., Teketay, D., Bekele, K., **Schaffner, U.** and Eckert, S. (2019) Implications of land use/land cover dynamics and *Prosopis* invasion on ecosystem service values in Afar Region, Ethiopia. *Science of the Total Environment* 675, 354–366. https://doi.org/10.1016/j.scitotenv.2019.04.220

Shiferaw, H., **Schaffner, U.**, Bewket, W., Alamirew, T., Zeleke, G., Teketay, D. and Eckert, S. (2019) Modelling the current fractional cover of an invasive alien plant and drivers of its invasion in a dryland ecosystem. *Scientific Reports* 9(1576), 12 pp. https://doi.org/10.1038/s41598-018-36587-7

Shyamsundar, P., Springer, N.P., Tallis, H., Polasky, S., Jat, M.L., Sidhu, H.S., Krishnapriya, P.P., Skiba, N., Ginn, W., Ahuja, V., Cummins, J., Datta,I., Dholakia, H.H., Dixon, J., Gerard, B., Gupta, R., Hellmann, J., **Jadhav, A.**, Jat, H.S., Keil, A., Ladha, J.K., Lopez-Ridaura, S., Nandrajog, S.P., Paul, S., Ritter, A., Sharma, P.C., Singh, R., Singh, D. and Somanathan, R. (2019) Fields on fire: Alternatives to crop residue burning in India. *Science* 365(6453), 536-538. https://doi.org/10.1126/science.aaw4085

Silvestri, S., Macharia, M. and Uzayisenga, B. (2019) Analysing the potential of plant clinics to boost crop protection in Rwanda through adoption of IPM: the case of maize and maize stem borers. *Food Security* 11(2), 301-315. https://doi.org/10.1007/s12571-019-00910-5

Smith, D., **Buddie, A.G.**, Goss, R.J.M., Overmann, J., Lepleux, C., Brönstrup, M., Kloareg, B., Meiners, T., Brennecke, P., Ianora, A., Bouget, F.-Y., Gribbon, P. and Pina, M. (2019) Discovery pipelines for marine resources: an ocean of opportunity for biotechnology? *World Journal of Microbiology and Biotechnology* 35(107), 8 pp. https://doi.org/10.1007/s11274-019-2685-y

Stackebrandt, E. and **Smith, D.** (2019) Paradigm shift in species description: the need to move towards a tabular format. (Editorial.) *Archives of Microbiology* 201(2), 143-145. http://link.springer.com/article/10.1007/s00203-018-1609-9

Stahl, J., **Babendreier, D.** and **Haye, T.** (2019) Life history of *Anastatus bifasciatus*, a potential biological control agent of the brown marmorated stink bug in Europe. *Biological Control* 129, 178–186. https://doi.org/10.1016/j.biocontrol.2018.10.016

Stahl, J., Tortorici, F., Pontini, M., Bon, M.-C., Hoelmer, K., Marazzi, C., Tavella, L. and **Haye, T.** (2019) First discovery of adventive populations of *Trissolcus japonicus* in Europe. *Journal of Pest Science* 92(2), 371–379. https://doi.org/10.1007/s10340-018-1061-2

Stahl, J.M., **Babendreier, D.**, Marazzi, C., Caruso, S., Costi, E., Maistrello, L. and **Haye, T.** (2019) Can *Anastatus bifasciatus* be used for augmentative biological control of the brown marmorated stink bug in fruit orchards? *Insects* 10(108), 14 pp. https://doi.org/10.3390/insects10040108

Stahl, J.M., Gariepy, T.D., Beukeboom, L.W. and **Haye, T.** (2019) A molecular tool to identify *Anastatus* parasitoids of the brown marmorated stink bug. *Entomologia Experimentalis et Applicata* 167, 692–700. https://doi.org/10.1111/eea.12809

Szücs, M., Salerno, P.E., Teller, B.J., **Schaffner, U.**, Littlefield, J.L. and Hufbauer, R.A. (2019) The effects of agent hybridization on the efficacy of biological control of tansy ragwort at high elevations. *Evolutionary Applications* 2(3), 470–481. https://doi.org/10.1111/eva.12726

Tai, H., Guo, J., Yang, S., **Zhang, F.**, Liu, J., Yang, Y., Song, M., Xia, Y., He, K., Lin, Q. and Wang, Z. (2019) 草地贪夜蛾在云南德宏州甘蔗上的生物学习性及为害状观察 [Biological characteristics and damage symptoms of fall armyworm, *Spodoptera frugiperda*, on sugarcane in Dehong prefecture of Yunnan province.] *Plant Protection* 45(6), 75–79. [In Chinese with English abstract.] https://doi.org/10.16688/j.zwbh.2019488

Tai, H., Guo, J., **Zhang, F.**, Wang, G., An, Z., Zhang, T., Su, H., Xu, J., Yang, L. and Wang, Z. (2019) 草地贪夜蛾在云南冬季甜玉米上的生物学习性及为害状观察 [Biological characteristics and damage symptoms of the fall armyworm *Spodoptera frugiperda* on winter sown sweet corn in Yunnan province.] *Plant Protection* 45(5), 91–95. [In Chinese with English abstract.] https://doi.org/10.16688/j.zwbh.2019349

Tambo, J.A., **Aliamo, C.**, **Davis, T.**, **Mugambi, I.**, **Romney, D.**, **Onyango, D.O.**, **Kansiime, M.**, **Alokit, C.**, and Byantwale, S.T. (2019) The impact of ICT-enabled extension campaign on farmers' knowledge and management of fall armyworm in Uganda. *PLoS ONE* 14(8), 21 pp. https://doi.org/10.1371/journal.pone.0220844

Tarmann, G.H. and **Cock, M.J.W.** (2019) Zygaenidae from Trinidad, West Indies. *Journal of the Lepidopterists' Society* 73(3), 153-161. https://doi.org/10.18473/lepi.73i3.a4

Toepfer, S., **Kuhlmann, U.**, **Kansiime, M.**, **Onyango, D.O.**, **Davis, T.**, **Cameron, K.** and **Day, R.** (2019) Communication, information sharing, and advisory services to raise awareness for fall armyworm detection and area-wide management by farmers. *Journal of Plant Diseases and Protection* 126(2), 103–106. https://doi.org/10.1007/s41348-018-0202-4

Trillo, A., Montero-Castaño, A., **González-Varo, J.P.**, González-Moreno, P., Ortiz-Sánchez, F.J. and Vilà, M. (2019) Contrasting occurrence patterns of managed and native bumblebees in natural habitats across a greenhouse landscape gradient. *Agriculture, Ecosystems and Environment* 272, 230-236. https://doi.org/10.1016/j.agee.2018.11.018

Vilà, M., Gallardo, B., Preda, C., García-Berthou, E., Essl, F., **Kenis, M.**, Roy H.E. and **González-Moreno, P.** (2019) A review of impact assessment protocols of non-native plants. *Biological Invasions* 21(3), 709-723. https://doi.org/10.1007/s10530-018-1872-3

Vincent, C., **Babendreier, D.**, S´wiergiel, W., Helsen, H. and Blommers, L.H.M. (2019) A review of the apple sawfly, *Hoplocampa testudinea* (Hymenoptera Tenthredinidae). *Bulletin of Insectology* 72(1), 35–54.

Visch, W., Rad-Menéndez, C., Nylund, G.M., Pavia, H., **Ryan, M.J.** and Day, J. (2019) Underpinning the development of seaweed biotechnology: cryopreservation of brown algae (*Saccharina latissima*) gametophytes. *Biopreservation and Biobanking* 17(5), p pp. https://doi.org/10.1089/bio.2018.0147

Wan, F. and 58 coauthors including **Tang, R.** (2019) A chromosome-level genome assembly of *Cydia pomonella* provides insights into chemical ecology and insecticide resistance. *Nature Communications* 10(4237), 14 pp. https://doi.org/10.1038/s41467-019-12175-9

Wan, M., Gu, R., Zhang, T., Zhang, Y., Ji H., Wang, B., Qiao, Y. and **Toepfer, S**. (2019) Conflicts of interests when connecting agricultural advisory services with agri-Input businesses. *Agriculture* 9(218) 19 pp; https://doi.org/10.3390/agriculture9100218

Williams, F., **Murphy, S. T.**, **Beseh, P.** and **Lamontagne-Godwin, J.** (2019) Have actions taken to control fall armyworm reduced the economic cost experienced in Ghana? *CABI Study Brief* 31(Impact), [10 pp.]. https://dx.doi.org/10.1079/cabicomm-62-8108

Witt, A.B.R., Shackleton, R.T., **Beale, T.**, **Nunda, W.** and Wilgen, B.W. van (2019) Distribution of invasive alien *Tithonia* (Asteraceae) species in eastern and southern Africa and the socioecological impacts of *T. diversifolia* in Zambia. *Bothalia – African Biodiversity & Conservation* 49(1), a2356, 11 pp. https://doi.org/10.4102/abc.v49i1.2356

Zhang, J., Huang Y., Pu, R., **Gonzalez-Moreno, P.**, Yuan, L., Wu, K. and Huang, W. (2019) Monitoring plant diseases and pests through remote sensing technology: A review. *Computers and Electronics in Agriculture* 165(104943), 14 pp. https://doi.org/10.1016/j.compag.2019.104943

Zhang, X., Han, L., Dong, Y., Shi, Y., Huang, W., Han, L., **González-Moreno, P.**, Ma, H., Ye, H. and Sobeih, T. (2019) A deep learning-based approach for automated yellow rust disease detection from high-resolution hyperspectral UAV images. *Remote Sensing* 11(1554), 16 pp. https://doi.org/10.3390/rs11131554

Zhou, C.-Q., Zhan, H.-X., Xiao, C. and **Zhang, J.-P.** (2019) 以黑腹果蝇为寄主的蝇蛹金小蜂生长发育、繁殖及功能反应研究 [The development, fecundity, and functional response of Pachycrepoideus vindemmiae on the pupae of *Drosophila melanogaster*.] *Journal of Environmental Entomology* 41(3), 599–604. [In Chinese with English abstract.] https://doi.org/10.3969/j.issn.1674-0858 [doesn't work]

Zorić, A.S., Morina, F., **Toševski, I.**, Tosti, T., Jović, J., Krstić, O., and Veljović-Jovanović, S. (2019) Resource allocation in response to herbivory and gall formation in *Linaria vulgaris*. *Plant Physiology and Biochemistry* 135, 224–232. https://doi.org/10.1016/j.plaphy.2018.11.032

2.4.3. Book chapters and proceedings papers (16)

Caracciolo, C., Aubin, S., **Whitehead, B.** and Panagiotis, P. (2019) Semantics for data in agriculture: A community-based wish list. In: Garoufallou, E., Sartori, F., Siatri, R. and Zervas, M. (eds) Metadata and Semantic Research. Springer International Publishing, 340–45. https://doi.org/10.1007/978-3-030-14401-2_32

Chaudhary, M. and Ghosh, S.K. (2019) Emerging trends in bio control of soil-diseases concept and capacity building. In: Minh, N.D. and Lii, J. (eds) Proceedings. International Workshop on enabling capacity in production and application of bio-pesticides and bio-fertilizers for soil-borne disease control and organic farming, 7–9 May 2019, [Hanoi], Vietnam. The Vietnam Academy of Agricultural Sciences, Hanoi, Vietnam, and Food and Fertilizer Technology Center for the Asian and Pacific Region Taipei, Taiwan, pp. 15-39.

Colmenarez, Y., **Corniani, N.** and **Jenner, W.** (2019) Plantwise: improving food security through better Plant Health System. *In*: Precision Phytopathology Frontiers of Science. Fundação de Estudos e Pesquisas Agrícolas e Florestais, Botucatu, Brazil, pp. 187–211. [3]

Franco, J.P., Crespo, L.V., **Colmenarez, Y.C.** and Lenteren, J.C.van (2019) Biological control in Bolivia. In: Lenteren, J.C. van, Bueno, V.H.P., Luna, M.G., Colmenarez, Y.C. (eds) Biological Control in Latin America and the Caribbean: Its rich history and bright future. CABI, Wallingford, UK, 64-77.

Hinz, H., **Weyl, P.**, **Smith, D.** and **Djeddour, D.** (2019) The Nagoya Protocol: implications for classical biological control of invasive plant species. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, 206–211. https://www.ibiocontrol.org/proceedings/

Lenteren, J.C.van and **Colmenarez, Y.C.** (2019) Biological control in Barbados. In: Lenteren, J.C.van, Bueno, V.H.P., Luna, M.G., Colmenarez, Y.C. (eds) Biological Control in Latin America and the Caribbean: Its rich history and bright future. CABI, Wallingford, UK, 43-57.

Lenteren, J.C.van, Bueno, V.H.P., Luna, M.G and **Colmenarez, Y.C.** (2019) Biological control in Latin America and the Caribbean: Information sources, organizations, types and approaches in biological control. In: Lenteren, J.C.van, Bueno, V.H.P., Luna, M.G., Colmenarez, Y.C. (eds) Biological Control in Latin America and the Caribbean: Its rich history and bright future. CABI, Wallingford, UK, 1-20.

Maczey, N., **Moore, D.**, **González-Moreno, P.** and Rendell, N. (2019) Introduction of biological control agents against the European earwig (*Forficula auricularia*) on the Falkland Islands. In: Veitch, C.R., Clout, M.N., Martin, A.R., Russell, J.C. and West, C.J. (eds.) Island invasives: scaling up to meet the challenge. Occasional Paper SSC no. 62. IUCN, Gland, Switzerland, pp. 389–393. https://doi.org/10.2305/IUCN.CH.2019.SSC-OP.62.en

McConnachie, A. and **Witt, A.** (2019) History and management – East and North Africa, and the Middle East. In: Adkins, S., Shabbir, A. and Dhileepan, K. (eds) *Parthenium Weed: Biology, Ecology and Management.* CABI Invasives Series 8. CABI, Wallingford, UK, pp. 287–302.

Negussie, A., Norgrove, L., Achten, W., Nacro, S., **Kenis, M.**, Hermy, M., and Muys, B. (2019) 22. Lessons on alien biofuel crops invasiveness risk assessment: based on practical experiences from *Jatropha curcas* L. in Southern and West Africa. In: Hadgu, K.M., Bishaw, B., Iiyama, M., Birhane, E., Negussie, A., Davis, C.M. and Bernart, B. (eds) Climate-smart Agriculture. Enhancing Resilient Agricultural Systems, Landscapes, and Livelihoods in Ethiopia and Beyond. World Agroforestry (ICRAF), Nairobi, Kenya, pp. 243-251. http://www.worldagroforestry.org/downloads/publications/pdfs/b19055.pdf

Shabbir, S., **Rehman, A.** and **Weyl, P.** (2019) Prospects of classical biological control of weeds in Pakistan: challenges and opportunities. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, 63–67. https://www.ibiocontrol.org/proceedings/

[3] Read on-line but no download without subscription

Sivapragasam, A. (2019) Emerging trends in plant protection for tropical fruit production. In: Cangao, C.A.T., Rusman, A., Chandrabalan, D. and Ahmad, Y. (eds) TROPED '18. Proceedings International Conference on Tropical Fruit Pests and Diseases 'Sustainable Solutions for Tropical Fruit Pests and Diseases', Kota Kinabalua, Sabah, Malaysia25–27 September 2018. International Tropical Fruits Network (TFNet), Selangor, Malaysia, pp. 136–139. http://itfnet.org/troped2018/index.php

Thakur, M. and Chaudhary, K.V. (2019) Pheromones for rice pest management. In: Panwar, A.S. (ed.) Rice production modern techniques. Biotech books, New Delhi, India, pp. 427-440.

Thakur, M. and Kumar, V. (2019) Management of Stored grain rice pests. In: Panwar, A.S. (ed.) Rice production modern techniques. Biotech books, New Delhi, India, pp. 441-457.

Vásquez, C., Ferrer, F., **Colmenarez, Y.C.** and Sanchez, J.M. (2019) Biological control in Venezuela. In: Lenteren, J.C.van, Bueno, V.H.P., Luna, M.G., Colmenarez, Y.C. (eds) Biological Control in Latin America and the Caribbean: Its rich history and bright future. CABI, Wallingford, UK, 457-472.

Witt, A. and Belgeri, A. (2019) Impacts on the environment. In: Adkins, S., Shabbir, A. and Dhileepan, K. (eds) *Parthenium Weed: Biology, Ecology and Management.* CABI Invasives Series 8. CABI, Wallingford, UK, pp. 79–104.

2.4.4. Not Peer-reviewed (10)

Cannon, P.F. and **Minter, D.W.** (2019) Fungicolous Hypocreales. [*Hypocreopsis lichenoides, H. rhododendri, Nectriopsis lecanodes, Neobarya peltigerae, N. xylariicola, Paranectria affinis, P. oropensis, Pronectria anisospora, P. oligospora, P. santessonii*]. *IMI Descriptions of Fungi & Bacteria 220*(2191–2200), [44 pp.].

Cherix, D., Ebener, A., **Kenis, M.** and Abderhalden, M. (2019) Asiatische Hornisse – wo stehen wir heute? *Schweizerische Bienen-Zeitung* 2019(3), 16–18.

Cherix, D., Ebener, A., **Kenis, M.** and Abderhalden, M. (2019) Le Frelon asiatique – où en sommes-nous aujourd'hui? *Revue Suisse d'apiculture* 2019(3), 43–47.

Claerebout, S., **Haye, T.**, Ólafsson, E., Pannier, É. and Bultot, J. [2019] Premières occurrences de *Halyomorpha halys* (Stål, 1855) pour la Belgique et actualisation de sa répartition en Europe (Hemiptera: Heteroptera: Pentatomidae). *Bulletin de la Société royale belge d'Entomologie/Bulletin van de Koninklijke Belgische Vereniging voor Entomologie* 154 (2018), 205–227.

Crozier, J. and **Flood, J.** (2019) The importance of plant health to food security. In: Cangao, C.A.T., Rusman, A., Chandrabalan, D. and Ahmad, Y. (eds) TROPED '18. Proceedings International Conference on Tropical Fruit Pests and Diseases 'Sustainable Solutions for Tropical Fruit Pests and Diseases', Kota Kinabalua, Sabah, Malaysia25–27 September 2018. International Tropical Fruits Network (TFNet), Selangor, Malaysia, pp. 31–36. http://itfnet.org/troped2018/index.php

Kenis, M. and **Li, H.** (2019) Impact de la pyrale du buis en Europe et potentiel de la lutte biologique par l'introduction de parasitoids. Colloque Scientifique sur les Bioagresseurs du Buis, 16–17 octobre 2018, Tours, France. Végéphyl, Alfortville, France, pp. 167–172.

Minter, D.W. (2019) Glugea (Microsporidia). [*Glugea anomala, G. atherinae, G. capverdensis, G. caulleryi, G. heraldi, G. hertwigi, G. plecoglossi, G. stephani, G. vincentiae, G. weissenbergi*]. *IMI Descriptions of Fungi & Bacteria* 221(2201–2210), [46 pp.].

Minter, D.W. and Cannon, P.F. (2019) Ascobolaceae on dung. [*Saccobolus beckii, S. citrinus, S. eleutherosporus, S. minimus, S. quadrisporus, S. truncatus, Thecotheus crustaceus, T. holmskjoldii, T. keithii, T. pelletieri*]. *IMI Descriptions of Fungi & Bacteria* 219(2181–2190), [45 pp.].

Rwomushana, I., **Beale, T.**, Chipabika, G., **Day, R.**, **Gonzalez-Moreno, P.**, **Lamontagne-Godwin, J.**, **Makale, F.**, **Pratt, C.** and **Tambo, J.** (2019) Evidence Note. Tomato leafminer (*Tuta absoluta*): impacts and coping strategies for Africa. *CABI Working Paper* 12, 56 pp.

Wei, X., Zhao, L., Qiao, Y., Wang, B., **Wan, M.** and **Toepfer, S.** (2019) Implementing agripolicies on pesticide reduction through subsidies and plant clinics in China. *CABI Working Paper* 13, 25 pp. [Also available in a Chinese version.] https://dx.doi.org/10.1079/cabicomm-62-8118

2.4.5. Completed theses (21)

Alhassan, S. (2019) Using plant clinic data to assess recommendations made by plant doctors for Fall Armyworm management in Ghana. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 33 pp. Supervised: **Tambo, J.** and **Babendreier, D.**

Astasio-Ávila, J. (2019) Modelos de distribución de especies invasoras en la costa del suroeste español. (Species distribution models for invasive species on the southeast coast of Spain. BSc Thesis Environmental Sciences, Universidad Alcalá de Henares, Spain, 45 pp. Supervised: Saldaña, A. and **González-Moreno, P.**

Cheng, Y.M.(2019) 东亚飞蝗对植株高度的选择及其应对绿僵菌侵染的体温变化 [Study on the factors affecting the selection of plant height by *Locusta migratoria manilensis* and the change of body temperature after *Metarhizium anisopliae* infection.] [In Chinese with English abstract.] MSc Thesis, Huaibei Normal University, China, 57 pp. Supervised: Guo, C.Y. and **Li, H.M.**

Curry, C. (2019) The use of highly hazardous pesticides by farmers attending Plantwise plant clinics, and prevalence of those pesticides in recommendations made at the plant clinics. MSc thesis, University of Central Lancashire, UK, 76 pp. Supervised: Dodgson, J. and **Reeder, R.**

Gu, H.J. (2019) 小叶黄杨害虫调查及黄杨绢野螟寄生蜂与发生规律研究 [Study on pests of *Buxus sinica* and parasitic wasp and occurrence regularity of *Diaphania perspectalis*.] [In Chinese with English abstract.] MSc Thesis, Beijing University of Agriculture, China, 41pp. Supervised: Zhang, A.H. and **Li, H.M.**

Khaing, W.P. (2019) Towards biologically based, sustainable paddy cultivation management in Myanmar. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 41 pp. Supervised: **Babendreier, D.** and **Chaudhary, M.**

Kumwenda, M. (2019) A review of citrus psyllids and citrus greening control methods and integration of the results in an integrated production technical guideline for citrus production in Malawi. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 72 pp. Supervised: **Grossrieder, M.** and **Schaffner, U.**

Lamontagne-Godwin, J. (2019) Gendered relationships in rural advisory services: a Pakistani case study. PhD, Rural Livelihoods at the University of Reading, School of Agriculture, Policy and Development, United Kingdom, 152 pp. Supervised: **Reeder, R.**

Linders, T. (2019) Understanding the newcomers: The effects of Prosopis and Lantana on biodiversity and ecosystem services in Eastern Africa. PhD thesis, University of Bern, Switzerland, 160pp. Supervised by: Allen, E., **Schaffner, U.** and **Eschen, R.**

Njoroge, C. (2019) Integrated production guideline for strawberry (Fragaria ananassa) production in Kenya Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 71 pp. Supervised: **Heeb, L.** and **Toepfer, S.**

Nabakwe, W. (2019) An evaluation of effects of chemical control recommendations for aphids on kale, on aphid natural enemies and pollinators in Kenya. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 52 pp. Supervised: **Eschen, R.** and **Wood, A.**

Nsubuga, Z. (2019) Exploring the of role of plant doctor quizzes and social media on plant health services in Uganda: Focus on the Plantwise Uganda telegram in Uganda. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 45 pp. Supervised: **Wood, A.** and **Taylor, P.**

Mabasso, S. (2019) Pesticides uses and regulations in Mozambique: Potential for promotion of IPM. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 77 pp. Supervised: **Bateman, M.** and **Schaffner, U.**

Manishimwe, R. (2019) Analysis of farmers' willingness to pay towards the sustainability of plant clinics in Rwanda. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 42 pp. Supervised: **Tambo, J.** and **Heeb, L.**

Mammo, A. (2019) Integrated Production (IP) guideline for faba bean (Vicia faba L.) in Ethiopia. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 44 pp. Supervised: **Grossrieder, M.** and **Holmes, K.**

Mibei, H. (2019) Requirements elicitation for mobile Business to Business (B2B) application, a project-based consulting approach. Master of Business Administration, University of South Wales, United Kingdom, 25 pp. Supervised: Spiros, C.

Misengo, S. (2019) Assessment of quality of plant clinic diagnoses and recommendations for management of tomato leaf miner, Tuta absoluta in Zambia. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 51 pp. Supervised: **Jenner, W.** and **Reeder, R.**

Murekeyimana, P. (2019) Integrated production technical guideline for tomato (*Solanum lycopersicum*) production in Rwanda. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 79 pp. Supervised: **Holms, K.** and **Toepfer, S.**

Ochillo, W.N. (2019) Systems approach framework for integrated arthropod pest management in smallholder tomato (Solanum lycopersicum) production in Kenya Doctor of Philosophy in Entomology, University of Nairobi, Kenya, 121 pp, Supervised: Nyamasyo, G. and Kilalo, D.

Piyatissa, P.M.U.B. (2019) Evaluation of dominant crops, diagnosis and recommendations with pesticides in crop clinics in Sri Lanka from 2012 to 2018. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 35 pp. Supervised: **Jenner, W.** and **Thakur, M.**

Whittaker, L.J. (2019) The ecology of the coffee berry borer (*Hypothenemus hampei*) (Ferreri) (Coleoptera: Scolytidae) in relation to altitude in the Colombian coffee triangle. MSc in Ecological Applications. Imperial College of London, UK. Supervised: **Murphy, S.**, **González-Moreno, P.** and Barraclough, T.

2.4.6. Published datasets (1)

Augustinus, B., Sun, Y., Beuchat, C., **Schaffner, U.** and Müller-Schärer, H. (2019) Data from: Predicting impact of a biocontrol agent: Integrating distribution modelling with climate-dependent vital rates. *Dryad, Dataset*. https://doi.org/10.5061/dryad.hs0r9c4

2.4.7. 2018 Publications not previously listed (11)

Awan, D.A., Ahmad, F. and **Ashraf, S.** (2018) Effective weed control strategy in tomato kitchen gardens – herbicides, mulching or manual weeding. *Current Science* 114(6), 1325–1329. https://doi.org/10.18520/cs/v114/i06/1325-1329

Cai, N., Wang, F., Nong, X., **Li, H.**, Wang, G., Huang, X., Cui, P., Wang, L., Tu, X. and Zhang, Z. (2018) 金龟子绿僵菌在草原羊草和克氏针茅根际的种群动态和根内宿存鉴定. [Rhizospheric population dynamics and endophytic identification of *Metarhizium anisopliae* applied to the prairie grasses, *Stipa krylovii* and *Leymus chinensis*]. *Plant Protection* 44(6), 32–37. [In Chinese with English abstract.] https://doi.org/10.16688/j.zwbh.2018309

Chaudhary, C. (2018) Strengthening biocontrol by transboundary exchange of tools, techniques and expertise amongst SAARC countries. In Alam, S.N., Sarkar, M.A., Pandey, P.R. and Bokhtiar, S.M. (eds) SAARC Regional Training in Integrated Pest Management (28-31 May 2018). Bangladesh Agricultural Research Institute, Dhaka, Bangladesh, pp. 7–12. Available here: http://www.sac.org.bd/publications/

Costa, A., **Thanarajoo, S.S.** and **Sivapragasam A.** (2018) Pest-smart practices and early warning system under climate change (a manual for rice and other crops). CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), Wageningen, The Netherlands, vii + 45 pp. https://ccafs.cgiar.org/publications/pest-smart-practices-and-early-warning-system-under-climate-change-manual-rice-and#.xrdq848o8b4

Ghosh, S.K. and **Chaudhary, M.** (2018) Production and quality control methods for the development of an effective microbial pesticides as a viable IPM inputs for the management of crop pests and diseases. In Alam, S.N., Sarkar, M.A., Pandey, P.R. and Bokhtiar, S.M. (eds) SAARC Regional Training in Integrated Pest Management (28-31 May 2018). Bangladesh Agricultural Research Institute, Dhaka, Bangladesh, pp. 101–140. Available here: http://www.sac.org.bd/publications/

Hasan, F., Tahir, S., **Din, I.**, Channa, M.S.U. and Anwar, T. (2018) Parasitism of *Acerophagus papayae* on papaya mealybug on alternate host plant, *Abutilon* sp. in Karachi, Sindh, Pakistan. *International Journal of Biology and Biotechnology* 15(3), 561–564. http://www.ijbbku.com/abst_july_2018.html [not functioning]

Khan, Y.S. and Javed, N. (2018) Entomopathogenic nematodes survey, persistence in soil, reproductive potential and their effects on *Meloidogyne incognita*. *Egyptian Journal of Agronematology* 17(2), 109-120.

Silva, M.L. da, Fidelis, E.G., Negrini, M. and **Colmenarez, Y.C.** (2018) *Bactrocera dorsalis* (Handel 1912) (Diptera: Tephritidae). In: Fidelis, E.G., Lohmann, T.R., Silva, M.L.da, Parizzi, P. and Laranjeira, F.F. (eds) Priorização de Pragas Quarentenárias Ausentes no Brasil. Embrapa, Brasília, Brazil, pp. 135–154. https://www.embrapa.br/busca-de-noticias/-/noticia/44218602/embrapa-disponibiliza-livro-sobre-priorizacao-de-pragas-quarentenarias-ausentes

Sivapragasam, A., Badrulhadza, A. and Mohamad Roff, M.N. (2018) Status and management of *Conogethes* spp. in Malaysia. In: Chakravarthy, A.K. (ed.) The black spotted, yellow borer, *Conogethes punctiferalis* Guenée and allied species. Springer Nature Singapore Pte Ltd., Singapore, 89–100. https://doi.org/10.1007/978-981-13-0390-6_8

Wang, X.M. and 81 co-editors, including **Zhang J** (2018) 中国玉米病虫草害图鉴 [Illustrated maize pests in China]. Beijing: China Agricultural Press, 404pp. [In Chinese.]

Zheng, X., Huang, J., **Li, H.**, Mansaray, L.R., Song, P. and Dou, Y. (2018) Mapping of oriental migratory locust habitat using Landsat OLI images in Dongying City, China. Agro-Geoinformatics, 2018 7th International Conference on Agro-Geoinformatics. IEEE (Institute of Electrical and Electronic Engineers), New York, USA, [5 pp.] https://doi.org/10.1109/agro-geoinformatics.2018.8476141

2.5. Scientific Project Reports (40)

CABI East Asia and IPP-CAAS (2019) MARA-CABI Joint Laboratory for Bio-safety Annual Report 2018-2019. Unpublished report, CABI East Asia, Beijing, China, 48 pp.

Constantine, K., **Kansiime, M.**, **Mugambi, I.**, **Nunda, W.**, **Chacha, D.**, **Rware, H.**, **Makale, F.**, **Mulema, J.**, **Godwin, J.**, **Williams, F.** and **Day, R.** (2019) Smal holder farmer perceptions of biopesticides in Kenya, April 2019. Unpublished report, CABI UK, Egham, UK, 52 pp.

Cortat, G., **Deluigi, J.** and **Knecht, A.** (2019) Biological control of hawkweeds, *Pilosella* spp.. Annual report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 15 pp.

Cortat, G., **Deluigi, J.**, **Knecht, A.** and **Hinz, H.L.** (2019) Biological control of garlic mustard, *Alliaria petiolata*. Annual report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 11 pp.

Cortat, G., **Deluigi, J.**, **Knecht, A.** and **Hinz, H.L.** (2019) Biological control of swallow-worts, *Vincetoxicum rossicum* and *V. nigrum*. Annual report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 14 pp.

Cortat, G., **Toševski, I.**, **Deluigi, J.**, **Knecht, A.** and **Hinz, H.L.** (2019) Biological control of field bindweed, *Convolvulus arvensis*. Annual report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 18 pp.

David, S., **Danielsen, S.** and **Gómez, J.** (2019) Plantwise Impact Report 2011-2018. Unpublished report, CABI Netherlands, Leusden, Netherlands, 58 pp.

Djeddour, D. (2019) The potential for the biological control of *H. gardnerianum*. Annual Report 2018. Unpublished report, CABI UK, Egham, UK, 41 pp.

Djeddour, D. (2019) The potential for the biological control of *H. gardnerianum*. Annual Report 2019. Unpublished report, CABI UK, Egham, UK, 43 pp.

Ellison, C., **Djeddour, D.**, **Kurose, D.**, **Pratt, C.**, **Seier, M.**, **Shaw, R.** and **Varia, S.** (2019) Biocontrol of Water Framework Directive weeds. Summary Progress Report for Steering Group 2019. November 2019. Unpublished report, CABI-UK, Egham, UK, 4 pp.

Ellison, C., **Djeddour, D.**, **Pratt, C.**, **Seier, M.**, **Shaw, R.** and **Varia, S.** (2019) Biocontrol of Water Framework Directive weeds. Progress November 2018–May 2019 prepared for UK plant health authorities meeting. June 2019. CABI-UK, Egham, UK, 3 pp.

Ellison, C., **Seier, M.**, **Kurose, D.** and **Pollard, K.** (2019) Consultancy report 2nd Product: Report on surveys in China and India and agent selection. For project: Development of an Agent for the Biological Control of the Invasive Blackberry (*Rubus niveus*) in the Galapagos Islands. Unpublished report, CABI-UK, Egham, UK, 24 pp.

Ellison, C., **Seier, M.**, **Kurose, D.** and **Pollard, K.** (2019) Consultancy report 3rd Product: Report on final agent selection. For project: Development of an Agent for the Biological Control of the Invasive Blackberry (*Rubus niveus*) in the Galapagos Islands. Unpublished report, CABI-UK, Egham, UK,9 pp.

Eschen, R. (2019) L'efficacité du contrôle mécanique de l'Impatiente glanduleuse pour la restauration de la flore et la faune indigènes. Unpublished report, CABI CH, Delémont, Switzerland, 11 pp.

Häfliger, P., **Kerim, A.**, **Gütlin, A.**, **Courbat, O.**, **do Cormo, S.**, **Toševski, I.**, **Ellison, C.** and **Hinz, H.L.** (2019) Biological control of flowering rush, Butomus umbellatus. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 23 pp.

Haye, T. (2019) *Plutella xylostella* – Project Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 17pp.

Haye, T. and **Zhang, J.** (2019) *Lycorma delicatula* – Project Report 2019. Unpublished report, CABI CH, Delémont, Switzerland, 15 pp.

Haye, T., **Lemke, E.**, **Grove, E.** and **Cock, C.** (2019) Distribution and target and non-target effects of the exotic parasitoid *Trissolcus japonicus*. Annual Report 2019. Unpublished report, CABI CH, Delémont, Switzerland, 22 pp.

Haye, T., **Stahl, J.**, **Grunsky, A.**, **Ediger, M.**, **Craig, L.** and **Laing, C.** (2019) Annual Project Report 2018 – Arthropod Biological Control Program 2018. Unpublished report, CABI CH, Delémont, Switzerland, 41 pp.

Khanna, K., **Ramasamy, G.** and **Pandit, V.** (2019) Problems of integration of smallholders in value chains in India and Nepal. Unpublished report, CABI South Asia, New Delhi, India, 39 pp.

Luke, B., **González-Moreno, P.**, Chapman, J., Cornelius, M, Jong, M. de, Dong, Y., **Flood, J.**, Gould, P., Huang, J., Huang, W., Langsdale, M., **Li, H.**, Lim, J., Liu, B., Liu, T., Nong, X., Perkins, B., Ren, B., Song, P., Styles, J., **Thomas, S.**, **Thomson, E.**, Wooster, M., Yang, P., Wang, G., **Whelan, R.**, Zhang, F. and Zhu, J. (2019) Integrating advanced earth observation and environmental information for sustainable management of crop pests and diseases. Final report. Unpublished report, CABI-UK, Egham, UK, 78 pp.

Maczey, N., **Gonzalez-Moreno, P.**, Balchin, J. and Baxter, N. (2019) Improving biosecurity in the SAUKOTs through Pest Risk Assessments. Annual project report for DPLUS074. Unpublished report, CABI-UK, Egham, UK, 43 pp.

Maczey, N., **Seier, M.**, **Kurose, D.** and **Ellison, C.A.** (2019) The potential for the classical biological control of *Sagina procumbens* (procumbent perlwort) in the UK Overseas Territory of Tristan da Cunha. Final Report February 2019. Unpublished report, CABI-UK, Egham, UK, 27 pp.

Pollard K.M. and **Seier, M.K.** (2019) The biological control of cat's claw creeper, *Dolichandra unguis-cati* (L.) Lohmann. Annual Report June 2018 – June 2019. Unpublished report, CABI-UK, Egham, UK, 25 pp.

Pollard K.M. and **Seier, M.K.** (2019) The biological control of cat's claw creeper, *Dolichandra unguis-cati* (L.) Lohmann. Six month progress report, 2019. Unpublished report, CABI-UK, Egham, UK, 10 pp.

Seier, M., **Pollard, K.** and **Evans, H.** (2019) The biological control of invasive devil's claw (*Cryptostegia madagascariensis* Bojer ex Decne) in north-eastern Brazil. First annual report, March 2018-February 2019. Unpublished report, CABI-UK, Egham, UK, 20 pp.

Stutz, S., **Messer, T.**, and **Courbat, O.** (2019) Prospects for the biological control of oxeye daisy, *Leucanthemum vulgare*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 20 pp.

Stutz, S., **Messer, T.**, **Closça C.**, **Hinz, H.L.**, Cristofaro, M. and Marini, F. (2019) Biological control of perennial pepperweed, *Lepidium latifolium*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 10 pp.

Stutz, S., **Messer, T.**, **Closça, C.**, **do Carmo, S.**, **Courbat, O.**, Dolgovskaya, M.Yu., Volkovitch, M., and Reznik, S. (2019) Biological control of common tansy, *Tanacetum vulgare*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 25 pp.

Thomas, S.E., **Pollard, K.M.** and **Seier, M.K.** (2019) Biocontrol of *Buddleja davidii*. Final report, September 2019. Unpublished report, CABI-UK, Egham, UK, 38 pp.

Toševski, I., **Hinz, H.L.**, Krstić, O. and Jović, J. (2019) Biological control of Dalmatian and yellow toadflaxes, *Linaria dalmatica and L. vulgaris*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 40 pp.

Wan, M., Qiao, Y., Wan, X., **Toepfer, S.** and **Zhang F.** (2019) Plantwise in China – 2019 Annual Report. Unpublished report, CABI East Asia, Beijing, China, 11 pp.

Weyl, P., **Closça, C.**, Asadi, G., Vidović, B., Petanović, R., Marini, F. and Cristofaro, M. (2019) Biological control of Russian knapweed, *Rhaponticum repens*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 15 pp.

Weyl, P., **Closça, C.**, Asadi, G., Vidović, B., Petanović, R., Marini, F. and Cristofaro, M. (2019) Biological control of Russian olive, *Elaeagnus angustifolia*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 17 pp.

Weyl, P., **Closça, C.**, **Hinz, H.L.**, and **Besomi, G.** (2019) Biological control of whitetops, *Lepidium draba*, *L. chalepense* and *L. appelianum*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 16 pp.

Weyl, P., **Closça, C.**, **Hinz, H.L.**, Vidović, B., Petanović, R., Cristofaro, M., Marini, F. and **Besomi, G.** (2019) Biological control of dyer's woad, *Isatis tinctoria*. Annual Report 2018. Unpublished report, CABI CH, Delémont, Switzerland, 23 pp.

Williams, F. and **Constantine, K.** (2019) An invasive species system assessment in Kenya, December 2019. Unpublished report, CABI Africa, Nairobi, Kenya, 61 pp.

Zhang, J.P., Chen, J.H., **Mi, Q.** and **Zhang, F.** (2019) BMSB impacts and phenology on kiwifruit and associated parasitoids. Zespri-funded BMSB biocontrol project milestone report. Unpublished report, CABI East Asia, Beijing, China, 29 pp.

Zhang, J.P., **Mi, Q.**, Chen, J.H., Avila, G., Guo, L. and **Zhang, F.** (2019) BMSB control with physical trap: Milestone 1 report. Unpublished report, CABI East Asia, Beijing, China, 4 pp.

Zhang, J.P., **Mi, Q.**, Chen, J.H., Avila, G., Guo, L. and **Zhang, F.** (2019) BMSB control with physical trap: Milestone 2 report. Unpublished report, CABI East Asia, Beijing, China, 3 pp +annexes.

In addition, in 2019, CABI Bioscience responded to 381 separate enquiries. The Microbial Identification Service issued 133 identification reports on 447 samples, the Environmental and Industrial Lab issued 70 consultancy reports, and the Genetic Resources Collection sent out 501 cultures in response to 98 orders.

2.6. Oral presentations at scientific meetings (118)

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

Agboyi, L.K., Beseh, P., **Mensah, S.A.**, **Clottey, V.A.**, **Rwomushana, I.**, Glikpo, R., **Day, R.** and **Kenis, M.** (2019) Parasitism of *Spodoptera frugiperda* in Ghana, West Africa. 27th Conference of the IOBC-International Working Group on Ostrinia and Other Maize Pests, 14–17 October 2019, Engelberg, Switzerland.

Agboyi, L.K., **Beseh, P.**, **Mensah, S.A.**, **Clottey, V.A.**, **Rwomushana, I.**, Glikpo, R., **Day, R.** and **Kenis, M.** (2019) Parasitism of *Spodoptera frugiperda* in Ghana, West Africa. 23rd Meeting and Conference of the African Association of Insect Scientists, 18–22 November 2019, Abidjan, Côte d'Ivoire.

Agboyi, L.K. (2019) La chenille légionnaire d'automne, *Spodoptera frugiperda* (J.E. Smith) en Afrique: aperçu des actions de CABI pour sa gestion et enseignements tirés. Regional Conference on the Fall Armyworm in the Sahel and West Africa, 10–12 September 2019, Ouagadougou, Burkina Faso.

Ali, K., **Rehman, A.**, **Khan, K.**, and **Weyl, P.** (2019) Comparative efficacy of common broad leaf herbicides against invasive weed *Parthenium hysterophorus* L. 2nd International Conference on Climate Smart Agriculture: The Way towards Sustainability, 26–27 November 2019, Multan, Pakistan.

Ali, K., **Weyl, P.** and **Rehman, A.** (2019) Initiation of a classical biological control programme against *Parthenium hysterophorus* in Pakistan. International Congress of Entomology, 8–10 April 2019, Faisalabad, Pakistan.

Babendreier, D., **Agboyi K.**, Beseh, P., Osae, M., Nboyine, J. and **Kenis, M.** (2019) Prospects for biopesticides and local farmer's methods to achieve sustainable control of fall armyworm. 27th Conference of the IOBC-International Working Group on *Ostrinia* and Other Maize Pests. 14–17 October 2019, Engelberg, Switzerland.

Bateman, M. (2019) Assessment of potential biopesticide options for managing fall armyworm (*Spodoptera frugiperda*) in Africa. 27th Conference of the IOBC-International Working Group on Ostrinia and Other Maize Pests, 14–17 October 2019, Engelberg, Switzerland.

Beverley C (2019) Digital tools for monitoring emerging plant health issues. International Conference on Plant Protection in Horticulture: Advances and Challenges, 24–27 July, 2019, Bengalaru, India.

Buddie, A.G. (2019) Beyond BLAST – a brief introduction to molecular IDs for plant pathologists. UKPD Annual meeting, 26–27th March 2019, RBG Kew, UK.

Chan, H.T. and **Sivapragasam, A.** (2019) CABI's involvement in invasive program and the need for regional cooperation in biological control against invasive alien species. R&D Conference on Invasive Alien Species Management and Biosecurity Measures in the Asia-Pacific Region, 8–12 July 2019, Manila, Philippines.

Chaudhary M., **Costa, A.** and **Pandit, V.** (2019) CABI-Plantwise efforts on FAW in Asia. Fall Armyworm Preparedness and Management Workshop, 29–31 July 2019, Lalitpur, Nepal.

Chaudhary, M. (2019) Biological control agents and biorationals for management of fall armyworm. Options to respond to fall armyworm in Asia, streamed live 11 July 2019 by SDSN Sustainable Agriculture & Food Systems. https://www.youtube.com/watch?v=w7HZQ609Hes

Chaudhary, M. (2019) Biological control agents for management of FAW. Training Programme on Maize, 2–31 December 2019, Bangalore, India.

Chaudhary, M. (2019) CABI's experience on biological control of FAW. FAO National Inception Meeting, 29 November 2019, Hyderabad, India.

Chaudhary, M. (2019) Current status on detection and emergency responses in Asia for the management of invasive pest, fall armyworm. Plant Protection Sciences Club – IIHR (PPSC-I), 3 April 2019, Bengaluru, India.

Chaudhary, M. (2019) Emerging trends in biocontrol of soil pest and diseases concept and capacity building. Enabling capacity in production and application of bio-pesticide and bio-fertilizer for soil-borne disease control and organic farming, 7–9 May 2019, Hanoi, Vietnam.

Chaudhary, M. (2019) Pest management decision guides and Plantwise in Asia. Regional Workshop on Fall Armyworm Management in Asia, 1–3 May 2019, Hyderabad, India.

Chaudhary, M. (2019) Plant wise in Asia: an extension approach for promoting best practices through surveillance. International Conference on Plant Protection in Horticulture, 24–27 July 2019, Bengaluru, India.

Chaudhary, M. (2019) Status of FAW in Asia and CABI initiative for its management. Crop Life Stewardship Annual Meeting and Workshop, 28–29 May 2019, New Delhi, India.

Chaudhary, M. (2019) Turning problems into opportunities for CSIs: biological control of transboundary agricultural pests- a case study from India. Regional Workshop on Planning and Managing Technology Transfer for Inclusive Development, 16–18 July 2019, Thimphu, Bhutan.

Chaudhary, M. and **Thakur, M.** (2019) Empowering farmers with plant protection knowledge through partnerships. Corporate Social Responsibility for Agricultural Development, 17–18 October 2019, Hyderabad, India.

Chaudhary, M., **Pandit, V.** and Rajkumar, R. (2019) Women-led cottage industry for boosting sustainable agriculture: a case study from India. Regional Workshop on Planning and Managing Technology Transfer for Inclusive Development, 16–18 July 2019, Thimphu, Bhutan.

Colmenarez, Y. (2019) Avaliação do uso do controle biológico versus métodos convencionais de controle na América Latina: que tão longe estamos? XVI Simpósio de Controle Biológico, 11–15 August 2019, Londrina, Brazil.

Colmenarez, Y. (2019) Control biológico como herramienta clave dentro del manejo sustentable de especies invasoras de importancia agrícola presentes y potenciales en la región Neotropical. I Simposio Latinoamericano de Control Biológico & IV Simposio Chileno de Control Biologico, 8–10 October 2019, Termas de Chillán, Chile.

Colmenarez, Y. (2019) Las actividades y contribuciones de la Organización y nuestra visión hacia el futuro. XVI Simpósio de Controle Biológico, 11–15 August 2019, Londrina, Brazil.

Colmenarez, Y. (2019) Manejo de pragas agrícolas e florestais. VI Simposio Internacional de Entomologia, 15–20 September 2019, Viçosa, Brazil.

Colmenarez, Y. (2019) Situação atual e perspectivas do Controle Biológico na América do Sul. I Simpósio de Defesa Fitossanitária do Tocantins, 14–16 May 2019, Palmas, Brazil.

Colmenarez, Y. (2019) The innovations and challenges of biological control in South America. VI Simposio Internacional de Entomologia, 15–20 September 2019. Viçosa, Brazil.

Cortat, G., **Hinz, H.L.**, Milbrath, L.R. and Bourchier, R. (2019) Two additional potential biocontrol agents for invasive swallow-worts: an update from CABI. North American Invasive Species Management Association – New York Invasive Species Research Institute Joint Conference, 30 September–3 October 2019, Saratoga Springs, NY, USA.

Costa A., **Thanarajoo S.S**, **Sivapragasam, A.**, Simelton E. and Duong M. T. (2019) Integrating bio-based alternatives and climate-smart approaches into vegetables cropping systems in Southeast Asia. The Southeast Asia Vegetable Symposium (SEAVEG2019), 9–11 July 2019, Melaka, Malaysia.

Djeddour, D. (2019) Potential for biological control of floating pennywort in the UK. RAPID LIFE workshop, 12 September 2019, Kent, UK.

Doughty, L. (2019). Combatting the threat of globalization and pest invasions with an authoritative workflow tool for risk assessment. International Pest Risk Research Group 13th Annual Meeting, Globalization and Pest Invasions: Emerging Risks and Vulnerabilities, 3–6 September 2019, Poznań, Poland.

Durocher-Granger L., Mfune T., Musesha M., Chipabika G., **Lowry A.**, **Kenis M.** and Dicke, M. (2019) Natural enemy complex of Spodoptera frugiperda on maize in Zambia. 27th IWGO Conference of the International Working Group on Ostrinia and other Maize Pests (IWGO), 14–17 October 2019, Engelberg, Switzerland.

Edgington, S. (2019) Information portal for biopesticide products. Biopesticide Summit, 2–3 July 2019, Swansea, UK.

Edgington, S. (2019) The contribution of extension services to the monitoring of crop pests and to the uptake of augementative biocontrols in selected low to lower-middle income countries. International Congress on Invertebrate Pathology and Microbial Control & 52nd Annual Meeting of the Society for Invertebrate Pathology & 17th Meeting of the IOBC-WPRS Working Group 'Microbial and Nematode Control of Invertebrate Pests', 28 July–1 August 2019, Valencia, Spain.

Ehlers, R.-U., Molina, C., Vandenbossche, B., Dörfler, V., Barg, M. and **Toepfer, S.** (2019) *Diabrotica v. virgifera* management using genetically improved strains of *Heterorhabditis bacteriophora*. International Congress on Invertebrate Pathology and Microbial Control & 52nd Annual Meeting of the Society for Invertebrate Pathology & 17th Meeting of the IOBC-WPRS Working Group 'Microbial and Nematode Control of Invertebrate Pests' 28 July–1 August 2019, Valencia, Spain.

Ehrensperger, A., Adoyo, B., Kiteme, B., Choge, S., Megersa, B., Alamirew, T., Kilawe, C., Mbwambo, J.R., Kajembe, G., **Eschen, R.**, Eckert, S., Baumgartner, U. and **Schaffner, U.** (2019) Spatial-temporal processes in co-designing SLM: New approaches to mitigating the impacts of invasive alien plants. Fourth Open Science Meeting, 24–26 April 2019, Bern, Switzerland.

Ellison, C.A. and **Pollard, K.M.**, (2019) Release of a rust fungus for the classical biological control of Himalayan balsam in the UK: problems and progress. NERC Himalayan Balsam Workshop, 9 January 2019, Royal Holloway University, Egham, UK.

Eschen, R. (2019) Detection of potential pests and diseases of woody plants before their arrival in importing countries. Keynote presentation. Detection and control of forest invasive alien species in a dynamic world, 25–28 September 2019, Ljubljana, Slovenia.

Faheem M. (2019) Role of ICT for dissemination of advanced agriculture technology for farmers. Southeast Asia Vegetable Symposium (SEAVEG2019), 9–11 July 2019, Melaka, Malaysia.

Fallet, P., De Gianni, L., Kajuga, J., Waweru, B., Glauser, G., **Toepfer, S.** and Turlings, T.C.J. (2019) A novel strategy to control fall armyworm with entomopathogenic nematodes. International Congress on Invertebrate Pathology and Microbial Control & 52nd Annual Meeting of the Society for Invertebrate Pathology & 17th Meeting of the IOBC-WPRS Working Group 'Microbial and Nematode Control of Invertebrate Pests' 28 July–1 August 2019, Valencia, Spain.

Fennell, J.T., Rajib, S.M. S. M., **Usman, M.**, **Hamza Khan, A.**, **Khan, S.**, **Beale, T.**, **Lamontagne-Godwin, J.**, **González-Moreno, P.**, **Rehman, A.** and Breton R. (2019) From handheld device to satellite: a toolkit of remote sensing and machine learning techniques for measuring the spread of invasive plants. 15th International Conference on Ecology and Management of Alien Plant invasions (EMAPi): Integrating research, management and policy, 9–13 September 2019, Průhonice, Czech Republic.

Finch, E. and **Maczey, N.** (2019) PRISE: Pest Risk Information Service, Project introduction and calibration protocols. Project training workshop, 11–15 November 2019, Salima, Malawi.

Finegold, C (2019) The global burden of crop loss. Grand Challenges Annual Meeting, Bill & Melinda Gates Foundation, 28–30 October, Addis Ababa, Ethiopia.

Franic, I. Prospero, S., Adamson, K., Allan, E., Attorre, F., Auger-Rozenberg, M.-A., Augustin, S., Avtzis, D., Baert, W., Barta, M., Bauters, K., Bellahirech, A., Boroń, P., Bragança, H., Brestovanská, T., Brurberg, M.B., Burgess, T., Burokienė, D., Cleary, M., Corley, J., Coyle, D.R., Csóka, G., Černý, K., Davydenko, K., de Groot, M., Diez, J.J., Doğmuş Lehtijärvi, H.T., Drenkhan, R., Elsafy, M., Eötvös, C.B., Fan, J., Fürjes-Mikó, Á., Grad, B., Hartmann, M., Havrdova, L., Hrabetova, M., Justesen, M.J., Kacprzyk, M., **Kenis, M.**, Kirichenko, N., Kramarets, V., Lacković, N., Lazarević, J., Leskiv, M., Li, H., Madsen, C.L., Malumphy, C., Matek, M., Matošević, D., Matsiakh, I., Meffert, J., Migliorini, D., Nikolov, C., O Hanlon, R., Oskay, F., Paap, T., Parpan, T., Piškur, B., Ravn, H.P., Richard, J., Ronse, A., Roques, A., Sivickis, K., Talgø, V., Tomoshevich, M.A., Uimari, A., Ulyshen, M., Vettraino, A.M., Villari, C., Wang, Y., Witzell, J., Zlatković, M., **Eschen, R.** (2019) Worldwide and host-dependent variation in fungal endophyte diversity in twigs of eleven tree genera. GfÖ Annual Meeting, 9–13 September 2019, Münster, Germany.

González-Moreno, P. (2019) Tackling invasive alien species with data: evidence-based models to inform policy and management. Biodiversity and Ecosystem working session, 1st LifeWatch ERIC Scientific Community Meeting, 28 May 2019, Rome, Italy.

González-Moreno, P., Fennell, J.T., **Usman, M.**, **Hamza Khan, A.**, **Khan, S.**, **Beale, T.**, **Lamontagne-Godwin, J.**, **Rehman, A.** and Breton, R. (2019) Understanding hierarchical patterns of plant invasions impacting agriculture: the study case of parthenium weed in Pakistan. 15th International Conference on Ecology and Management of Alien Plant invasions (EMAPi): Integrating research, management and policy, 9–13 September 2019, Průhonice, Czech Republic.

Häfliger, P., **Ellison, C.**, and **Hinz, H. L.** (2019) Update on promising biological control options for flowering rush. North American Invasive Species Management Association – New York Invasive Species Research Institute Joint Conference, 30 September–3 October 2019, Saratoga Springs, NY, USA.

Haye, T. (2019) Global pest status of *Halyomorpha halys* and impact of its associated parasitoids. (Invited key note.) 150 Years Anniversary of the Italian Entomological Society, 22 February 2019, Florence, Italy

Haye, T. (2019) Global pest status of *Halyomorpha halys* and impact of its associated parasitoids. (Invited talk.) CREA, 15 April 2019, Florence, Italy.

Haye, T. (2019) *Halyomorpha halys* und *Trissolcus japonicus* Monitoring in der Schweiz. LTZ, 30 October 2019, Karlsruhe, Germany.

Haye, T. (2019) Neuste Erkenntnisse zur Marmorierten Baumwanze und zur Verbreitung der Samurai-Schlupfwespe. (Invited key note.) Fachtagung Marmorierte Baumwanze, 9 December 2019, Winthertur, Switzerland.

Haye, T. (2019) The potential of egg parasitoids for biological control of *Halyomorpha halys*. (Invited talk.) Ministry of Agriculture, 23 January 2019, Ankara, Turkey.

Haye, T. (2019) The spread patterns of *Halyomorpha halys*, the situation in the areas of diffusion and the new perspectives to reach a balance. (Invited key note.) La Cimice asiatica: confronti ed esperienze sviluppate nell'ultimo triennio, 12 April 2019, Bologna, Italy.

Haye. T., Moraglio, S., Stahl, J., Visentin, S., Gregorio, T. and Tavella, L. (2019) Fundamental and ecological host range of *Trissolcus japonicus* in Europe. Annual Meeting of Entomological Society of America, 17–20 November 2019, St. Louis, Missouri, USA.

Hinz, H.L. (2019) Weed biocontrol agents in the pipeline for the western USA. Innovations in Invasive Species Management Conference, 10–12 December 2019, Coeur d'Alene, Idaho, USA.

Hinz, H.L. (2019) Weed project updates CABI Switzerland. Montana Weed Biological Control Group Meeting, 16–17 December 2019, Bozeman, Montana, USA.

Honey, S.F., **Anjum, D.H.**, Khan, J., **Bajwa, B.E.** and Tareen, M.J. (2019) Environment conservation and next generation pest management model for *Cydia pomonella* (Lepidoptera: Tortricidae) – Pakistan (Balochistan province) perspectives. ESCON, 2019, international conference on environmental toxicology and health, 25–27 February 2019, Islamabad, Pakistan.

Kenis, M. (2019) Classical biological control. Forest Invasive Species Network for Africa (FISNA) workshop, 3–5 November 2019, Pretoria, South Africa.

Kenis, M. (2019) Prospects for the classical biological control of *Spodoptera frugiperda* in Africa and Asia using parasitoids from the Americas. 27th Conference of the IOBC-International Working Group on Ostrinia and Other Maize Pests. 14–17 October 2019, Engelberg, Switzerland.

Kenis, M. (2019) Reviewing potential biological control agents (BCA) and studying natural enemies in their native range. Forest Invasive Species Network for Africa (FISNA) workshop, 3–5 November 2019, Pretoria, South Africa.

Kenis, M. and Rwomushana, I. (2019) Prospects for the classical biological control of Spodoptera frugiperda in Africa using parasitoids from the Americas. 23rd Meeting and conference of the African Association of Insect Scientists, 18–22 November 2019, Abidjan, Côte d'Ivoire.

Kermode, A.K., **Ryan, M.J.** and Devoto, A. (2019) Preservation of consortia and communities of microorganisms for sustainable agri-tech application. Royal Holloway University, 30 April 2019, UK.

Khan. K. and **Rehman. A.** (2019) Public knowledge, perceptions, and management practices of the new invasive plant, *Parthenium hysterophorus* in the district of Sheikhupura, Pakistan. 9th International Workshop on Biological Control and Management of Eupatorieae and other Invasive Weeds, 19–22 March 2019, Kuala Lumpur, Malaysia.

Kuhlmann, U. (2019) Biopesticides Portal – an online tool that facilitates the identification, sourcing and application of biological control products. Member Countries Regional Consultation: Africa, 25–27 February 2019, Gabarone, Botswana.

Kuhlmann, U. (2019) CABI's experience to promote plant health: Strengthening systems and the importance of advisory services. International Year of Plant Health Official Launch Event, 2 December 2019, Rome, Italy.

Kuhlmann, U. (2019) Plantwise – a global alliance for plant health and sustainable agriculture. Visions for a Sustainable Agriculture, 6–8 May 2019, Neuchâtel, Switzerland.

Kuhlmann, U., **Day, R.**, **Otieno, W.** and **Jenner, W.** (2019) CABI's experiences of transboundary plant pest management: Strengthening systems and the importance of advisory systems. JIRCAS International Symposium, 26 November 2019, Tsukuba, Japan.

Kurose, D. (2019) An update for biological control of Himalayan balsam and Japanese knotweed. Operation Hogweed (TOPHOG) Tees Rivers Trust – Invasive Non-Native Species forum, 13 December 2019, Darlington, UK.

Lamontagne-Godwin, J. (2019) Addressing gender inequality in agriculture. Topentag workshop, 18 September 2019, Kassel, Germany

Li, H., **Liu, Y.**, **Zhang, Y.**, **Taylor, B.**, **Cheng, Y.**, **Tang, R.**, **Gonzalez-Moreno, P.**, **Luke, B.**, **Wang, G.** and **Nong, X.** (2019) Pathogen development models lab & field work activities – LOCUSTS. 'Integrating advanced earth observation and environmental information for sustainable management of crop pests and diseases' Final Meeting, 28 February–1 March 2019, Egham, UK.

Li, H., **Lowry, A.**, **Zhang, Y.** and **Luke, B.** (2019) Literatures review on locust oviposition and egg hatching. 'Utilizing Earth Observation and UAV technologies to deliver pest and disease products and services to end users in China' 3rd Consortium Meeting, 4–5 December 2019, Egham, UK.

Li, H., **Zhang, Y.**, **Zhang, Z.**, **Dong, Y.**, **Huang, W.** and **Luke, B.** (2019) Locust egg field work. 'Utilizing Earth Observation and UAV technologies to deliver pest and disease products and services to end users in China' 3rd Consortium Meeting, 4–5 December 2019, Egham, UK.

Luke, B. (2019) Biopesticide research at CABI. Biopesticide Summit, 2–3 July 2019, Swansea, UK.

Luke, B., **Li, H.** and **Zhang, Y.** (2019) Introduction to CABI. 'Utilizing Earth Observation and UAV technologies to deliver pest and disease products and services to end users in China' Inception Workshop, 27–28 April 2019, Anyang, China.

Maczey, N. (2019) Improving biosecurity in the SAUKOTs through Pest Risk Analysis, Darwin plus 074. Addressing drivers of ecological change in Lake Akrotiri: Assessing and mitigating impacts of invasive non-native species, 27–29 November 2019, Akrotiri, Cyprus.

Maczey, N. and **Gonzalez-Moreno, P.** (2019) Darwin plus 074 – project introduction. Inception workshop: Improving biosecurity in the SAUKOTs through Pest Risk Analysis, 18–22 March 2019, Jamestown, St Helena.

Maczey, N. and **Gonzalez-Moreno, P.** (2019) Darwin plus 074 – project update. Second project workshop: Improving biosecurity in the SAUKOTs through Pest Risk Analysis, 9th–13th December 2019, Jamestown, St Helena.

Maczey, N., **Gonzalez-Moreno, P.** (2019) Benefits, safety and risks of classical biological control for the management of IAS. Meeting of the St Helena Nature Conservation Group, 9 December 2019, Jamestown, St Helena.

Mahendran, P., Smitha, Manikandan, K., Arulpandi, R., Anitha, S., Radhakrishnan, B., **Nagpal, A.** and **Neave, S.** (2019) Move towards more sustainable pest management in tea. PLACROSYM XXIII, 6–8 March 2019, Karnataka, India.

Nacambo, S. (2019) Substrats disponibles pour la production de larves de mouches pour l'aviculture en zone sahélienne. 23rd Meeting and conference of the African Association of Insect Scientists, 18–22 November 2019, Abidjan, Côte d'Ivoire.

Nacambo, S. (2019) Substrats disponibles pour la production de larves de mouches pour l'aviculture en zone sahélienne. 23rd Meeting and Conference of the African Association of Insect Scientists, 18–22 November 2019, Abidjan, Côte d'Ivoire.

Pandit, V. (2019) FAW preparedness monitoring, area-wide surveillance, and early warning systems. Fall armyworm preparedness and management workshop, 29–31 August 2019, Kathmandu, Nepal.

Pollard, K. M. (2019) The biological control of Himalayan balsam in the UK. Property Care Association's 5th Annual International Invasive Weed Conference, 21 November 2019, Warwick, UK.

Pollard, K.M. (2019) The biological control of Himalayan balsam in the UK. EEB, Department of Biological Sciences Seminar Series, 27 March 2019, Egham, UK.

Pollard, K.M., **Seier, M.**, **Ellison, C.A.** and Gange, A. (2019) Battling the biotypes of balsam: the biological control of himalayan balsam in the UK. Royal Holloway post graduate symposium, 30 April 2019, Egham, UK.

Pratt, C.F. (2019) Biological control of invasive non-native species: Current UK research. Aquatic weed management workshop, Institute of Fisheries Management/ Environment Agency, 9 February 2019, Holmfirth, UK.

Pratt, C.F. and **Ellison, C.A.** (2019) Weed biocontrol through RAPID Life: Challenges and opportunities. Exchanging Experience on the Management of IAS (Invasive Alien Species) in Europe, RAPID Life/ Belgian Forum on Invasive Species (BFIS), 18 December 2019, Brussels, Belgium.

Schaffner, U., Allan, E., Alamirew, T., Bekele, K., Eckert, S., **Eschen, R.**, Haji, J., **Linders, T.**, Nigatu, L., Mbaabu, P.R. and Shiferaw, H. (2019) Integrating ecological and socio-economic impacts of *Prosopis julifora* in Eastern Africa to inform management. 15th International Conference on Ecology and Management of Alien Plant Invasions, 9–12 Sepember 2019, Prague, Czech Republic.

Seehausen, M.L., Afonso, C., Jactel, H., and **Kenis, M.** (2019) Factors affecting the success of biological control introductions in the Western Palearctic. Meeting of IUFRO WG 7.03.13 biological control of forest insect pests and pathogens, 6–8 November 2019, Pretoria, South Africa.

Seehausen, M.L., Girod, P., Driss, L., **Racca, A.**, and **Kenis, M.** (2019) Prospects for classical biological control of Drosophila suzukii using Asian parasitoids. Morocco Berry Conference, 5 December 2019, Agadir, Morocco.

Seehausen, M.L., Girod, P., Laetitia, D., Beltrando, K., and **Kenis, M.** (2019) Progress in research on the use of Asian parasitoids against *Drosophila suzukii*. International Soft Fruit Conference, 10 January 2019, 's-Hertogenbosch, The Netherlands.

Seehausen, M.L., Girod, P., Laetitia, D., Beltrando, K., **Prêtre, N.**, **Racca, A.**, **Grauby, S.**, and **Kenis, M.** (2019) Prospects for classical biological control of *D. suzukii* using Asian parasitoids. Controllo biologico su *Drosophila suzukii*: stato attuale e prospettive, 10 March 2019, Legnaro, Italy.

Seehausen, M.L., Girod, P., Laetitia, D., Beltrando, K., **Prêtre, N.**, **Racca, A.**, **Grauby, S.**, and **Kenis, M.** (2019) Lotta biologica a *Drosophila suzukii* con l'introduzione di parassitoidi asiatici in Europa. Parassitoidi asiatici contro la Drosofila, siamo vicini ad un rilascio in Europa? 10 March 2019, Baselga di Pinè, Italy.

Seehausen, M.L., Girod, P., Laetitia, D., **Prêtre, N.**, **Racca, A.**, **Grauby, S.**, Ris, N., Borowiec, N., Warot, S., **Reeve, M.A.**, and **Kenis, M.** (2019) Host specificity of the Ganaspis cf. brasiliensis species complex in tri-trophic systems and implications for classical biological control of *Drosophila suzukii*. 6th International Entomophagous Insects Conference, 9–14 March 2019, Perugia, Italy.

Seier, M. (2019) Classical biological control of invasive plant species. Presentation at Universidade Federal do Ceará – UFC, 8 January 2019, Fortaleza, Brazil.

Seier, M. (2019) Classical biological control of weeds – what we can achieve together. Presentation at Universidade Federal de Viçosa, 7 February 2019, Viçosa, Brazil.

Seier, M. (2019) Giant hogweed is invincible – were Genesis right? Water Vole and Invasive Non-native Species Conference, 3 December 2019, Hatfield, UK.

Shaw, R.H. (2019) Invasive plants, their "pests" and climate change. PlantNetwork Annual Meeting, 8 May 2019, Abbotsbury, UK

Shaw, R.H. (2019) Using natural enemies against exotic weeds: an update on progress in the UK. British Crop Protection Council Weeds Group Annual Meeting, 13 November 2019, Cambridge, UK.

Sivapragasam, A. (2019) Advances in biological control of insect pests of crucifers. The Southeast Asia Vegetable Symposium (SEAVEG2019), 9–11 July 2019, Melaka, Malaysia.

Sivapragasam, A. (2019) Statement by CABI – contributions towards sustaining the coconut sector. The International Coconut Community Session, 26 August 2019, Manila, Philippines.

Spence, E., Hesketh, H., Svendsen, C., Chandler, D., Martin, G., Berry, S. and **Edgington, S.** (2019) Is screening potential entomopathogenic fungi for the control of the greenhouse whitefly (*Trialeurodes vaporariorum*). International Congress on Invertebrate Pathology and Microbial Control & 52nd Annual Meeting of the Society for Invertebrate Pathology & 17th Meeting of the IOBC-WPRS Working Group 'Microbial and Nematode Control of Invertebrate Pests', 28 July–1 August 2019, Valencia, Spain.

Stutz, S. (2019) The challenges of synchronization in plant and insect phenology for conclusive results of host specificity tests: the case study of a biocontrol agent on common tansy. Innovations in Invasive Species Management Conference, 10–12 December 2019, Coeur d'Alene, Idaho, USA.

Stutz, S. (2019) Weed project updates CABI Switzerland. Montana Weed Biological Control Group Meeting, 16–17 December 2019, Bozeman, Montana, USA.

Szalai, M., **Toepfer, S.** and Kiss, J. (2019) Simulating western corn rootworm adaptation to crop rotation and mitigation options on landscape level. The International Society for Ecological Modelling Global Conference 2019 (ISEM), 17–20 September 2019, Salzburg, Austria.

Tambo, J.A. (2019) Sustainable pest management in African agriculture: evidence of the role of Plantwise. Visions for a Sustainable Agriculture Workshop, 7 May 2019, Neuchâtel, Switzerland.

Tambo, J.A. (2019) Sustainable pest management in African agriculture: evidence of the role of Plantwise. Center for Development Research, 5 July 2019, Bonn, Germany.

Tambo, J.A., Uzayisenga, B., Mugambi, I., Bundi, M., Silvestri, S. (2019) Plant clinics, farm performance and poverty alleviation: panel data evidence from Rwanda. 18th Nordic Conference on Development Economics, 17–18 June 2019, Copenhagen, Denmark.

Thakur M. (2019) Tools to support decision making for fighting invasive species. International Conference on Plant Protection in Horticulture: Advances and Challenges, 24–27 July 2019, Bengalaru, India.

Toepfer, S. and Toth, Sz. (2019) Entomopathogenic nematode application against root-damaging *Diabrotica* larvae in maize: what, when, and how? International Congress on Invertebrate Pathology and Microbial Control & 52nd Annual Meeting of the Society for Invertebrate Pathology & 17th Meeting of the IOBC-WPRS Working Group 'Microbial and Nematode Control of Invertebrate Pests', 28 July–1 August 2019, Valencia, Spain.

Toth, S, Szalai, M., Kiss.J. and **Toepfer, S.** (2019) Factors influencing the efficacy of soil insecticides and entomopathogenic nematodes at reducing the maize pest *Diabrotica v. virgifera* (Coleoptera: Chrysomelidae) under field conditions. IOBC IWGO conference, 14–17 October 2019, Engelberg, Switzerland.

Varia, S. (2019) Biological control of *Crassula helmsii*. EEB, Royal Holloway Department of Biological Sciences Seminar Series, 22 March 2019, Egham, UK.

Varia, S. (2019) Biological control of *Crassula helmsii*. Royal Holloway post graduate symposium, 1 May 2019, Egham, UK.

Weyl, P., **Hinz, H.** and **Closca, C.** (2019) The role of open-field tests in host range testing of potential weed biological agents. North American Invasive Species Management Association – New York Invasive Species Research Institute Joint Conference, 30 September–3 October 2019, Saratoga Springs, NY, USA.

Weyl, P., **Hinz, H.** and Gassmann, A. (2019) Biological control of Rhamnus cathartica: where do we go from here? North American Invasive Species Management Association – New York Invasive Species Research Institute Joint Conference, 30 September–3 October 2019, Saratoga Springs, NY, USA.

Zhang, F., **Li, H.**, **Wan, M.**, **Zhang, J.P.**, **Liu., Z.**, **Godwin, J.**, **Babendreier, D.**, **Toepfer, S.**, **Oronje, M.**, **Kenis, M.**, **Durocher-Granger, L.**, **Rwomushana, I.** and **Day, R.** (2019) 草地贪夜蛾的可持续防控: CABI全球行动与最佳实践. [Sustainable management of fall armyworm: CABI's global action and best practices. In Chinese.] National Workshop on FAW Monitoring and Control, 26–29 November 2019, Guangzhou, China.

Zhang, F., **Godwin, J.**, **Li, H.**, **Babendreier, D.**, **Toepfer, S.**, **Oronje, M.**, **Kenis, M.**, **Durocher-Granger, L.**, **Rwomushana, I.** and **Day, R.** (2019) Sustainable management of fall armyworm: Biologically-based best practices and lessons learnt. Workshop on Monitoring and Control of Transboundary Crop Pests, GLAST, 12 November 2019, Chengdu, China.

2.7. Poster presentations at scientific meetings (16)

Cafà, G. and **Buddie, A.G.** (2019) NGS methods to unlock environmental and extreme microecosystems. Treasures from the deep EMBRIC Workshop, 4–6 March 2019, Brussels, Belgium.

Finegold, C., Reid, J., Denby, K. and Gurr, S (2019) Global burden of crop loss: generating evidence to improve crop health worldwide. Grand Challenges Annual Meeting, Bill & Melinda Gates Foundation, 28–30 October, Addis Ababa, Ethiopia. Gates Open Res 2019, 3:1599. https://doi.org/10.21955/gatesopenres.1116448.1

Kenis, M., **Nacambo, S.**, and **Seehausen, M.L.** (2019) Invasion, impact, and biological control of the box tree moth, *Cydalima perspectalis*, in Europe. COLOSS Velutina Task Force Meeting, March 21–23 2019, Torino, Italy.

Li, H., **Wan, M.**, Gu, R., Liu, L., Nie, F., Wang, Z. and **Zhang, F.** (2019) 110 years' research on the fall armyworm: where we are? The 27th International Working Group on *Ostrinia* and other maize pests (IWGO) Conference, 14–17 October 2019, Engelberg, Switzerland.

Mancini, A., **Crozier, J.**, Cryer, N., Gninahophin, S., **González-Moreno, P.**, Kaminski, A., Gilmour, M. and Stirling, C. (2019) Establishment of a 12-ha cacao agroforest in Côte d'Ivoire. 4th World Congress on Agroforestry, 20–22 May 2019, Montpellier, France.

Saldaña López, A., **González-Moreno, P.** and Herrera José, M. (2019) Climatic niche shifts analysis in a coastal invaded plant community in Southern Spain. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting, 4–7 February 2019, Barcelona, Spain.

Spence, E., Hesketh, H., Svendsen, C., Chandler, D., Martin, G., Berry, S. and **Edgington, S.** (2019) Using entomopathogenic fungi to control the greenhouse whitefly (*Trialeurodes vaporariorum*): developing a standardised bioassay. International Congress on Invertebrate Pathology and Microbial Control & 52nd Annual Meeting of the Society for Invertebrate Pathology & 17th Meeting of the IOBC-WPRS Working Group 'Microbial and Nematode Control of Invertebrate Pests', 28 July–1 August 2019, Valencia, Spain.

Toepfer, S. Fallet, F., Waweru, B.W., Kajuga, J. and Turlings, T (2019) Simplifying damage rating scales for fall armyworm in maize. IOBC IWGO conference, 14–17 October 2019, Engelberg, Switzerland.

Toepfer, S., Knuth, P., Glas, M., Toth, Sz. and Zellner, M. (2019) Field dose –efficacy response of entomopathogenic nematodes at controlling Diabrotica v. virgifera. Entomopatogén fonálférgek különböző dózisainak hatása az amerikai kukoricabogár (*Diabrotica v. virgifera*, Coleoptera: Chrysomelidae) lárvái elleni védekezésben. 65th Hungarian Plant Protection Days. 65. Növényvédelmi Tudományos Napok, 19–20 February 2019, Budapest, Hungary. http://www.magyarnovenyvedelmitarsasag.hu/65NTN/NTN65Kiadvany.pdf [In Hungarian and English.]

Toepfer, S., Tóth, S. and Zellner, M. (2019) How to use entomopathogenic nematodes against the root-damaging Diabrotica larvae in maize? IOBC IWGO conference, 14–17 October 2019, Engelberg, Switzerland.

Toth, Sz., Szalai, M., Zellner, M., Kunth, P. Glas, M., Kiss, J. and **Toepfer, S.** (2019) Temporal effects of soil insecticides and entomopathogenic nematodes at reducing *Diabrotica v. virgifera* (Coleoptera: Chrysomelidae) under field conditions. A *Diabrotica v. virgifera* (Coleoptera: Chrysomelidae) lárvája elleni kémiai és biológiai védekezési lehetőségek hatékonyságának időbeli különbségei szabadföldön 65th Hungarian Plant Protection Days. 65. Növényvédelmi Tudományos Napok, 19–20 February 2019, Budapest, Hungary. http://www.magyarnovenyvedelmitarsasag.hu/65NTN/NTN65Kiadvany.pdf [In Hungarian and English].

Toth, Sz., Szalai, M., Kiss, J. and **Toepfer, S.** (2019) Diapause and hatching patterns of *Diabrotica v. virgifera* (Coleoptera: Chrysomelidae) to better plan experimentation with neonate larvae. IOBC IWGO conference, 14–17 October 2019, Engelberg, Switzerland.

Varia, S., **Wood, S.**, **Pratt, C.** and **Murphy, S.** (2019) The use of the Australian mite, *Aculus crassulae*, as a biocontrol agent for *Crassula helmsii* in Europe. 15th Conference on Ecology and Management of Alien Plant Invasions, 9–13 September 2019, Prague, Czech Republic.

Wan, M., **Toepfer, S.**, Gu, R., Zhang, T., Zhang, Y., Ji H., Wang, B. and Qiao, Y. (2019) Conflicts of interests when connecting agricultural advisory services with agri-input businesses. ABIM 2019, 21–23 October 2019, Basel, Switzerland.

Wei, X., Zhao, L., Qiao, Y., Wang, B., **Wan, M.** and **Toepfer, S.** (2019) Implementing agri-policies on pesticide reduction through subsidies and plant clinics in China. ABIM 2019, 21–23 October 2019, Basle, Switzerland.

Zhang, J., Avila, G., Sandanayaka, M. **Zhang, F.** and Chen, J. (2019) Abundance and diversity of parasitoids of *Halyomorpha halys* in kiwifruit orchards in China. 68th New Zealand Entomological Society Conference, 7–9 February 2019, Hanmer Springs, New Zealand.

2.8. Published abstracts of presentations and posters (39)

Ali, K., **Rehman, A.**, **Khan, K.** and **Weyl, P.** (2019) Comparative efficacy of common broad leaf herbicides against invasive weed *Parthenium hysterophorus* L. [Presentation abstract]. In: Abstract Book. 2nd International Conference on Climate-Smart Agriculture: The Way towards Sustainability, November 26–27, 2019. Muhammad Nawaz Sharif University of Agriculture, Multan, Pakistan, pp. 88-89.

Ali, K., Sagheer, M., Hasan, M., Rashid, A., Nawaz, T. and Shahid, M. (2019) Bioactivity of medicinal plants as toxicants and enzyme inhibitors against insect pests of stored commodities [Presentation abstract]. In: Abstract Book. 2nd International Conference on Climate-Smart Agriculture: The Way towards Sustainability, November 26–27, 2019. Muhammad Nawaz Sharif University of Agriculture, Multan, Pakistan, pp. 87-88.

Ali, K., **Weyl, P.** and **Rehman, A.** (2019) Initiation of a classical biological control programme against *Parthenium hysterophorus* in Pakistan. [Presentation Abstract]. In: Abstract Book. International Entomological Congress-2019. Department of Entomology, University of Agriculture, Faisalabad, Pakistan, p. 106.

Arnaud, C. [Costa, A.], **Sathis, S.T. [Thanarajoo S.S.]**, **Sivapragasam, A.**, Elizabeth, S. [Simelton E.] and Duong M. T. (2019) Integrating bio-based alternatives and climate-smart approaches into vegetables cropping systems in Southeast Asia. In: Programme & Abstracts Book. Southeast Asia Vegetable Symposium 2019. [Malaysian Agricultural Research and Development Institute], Malaysia, p. 94.

Beverley, C. (2019) Digital tools for monitoring emerging plant health issues. [Presentation abstract]. In: Reddy, P.V.R., Sriram, S., Sridhar, V., Kumar, G.M.S., Umamaheshwari, R., Usharani, T.R., Tadha, T.K. and Vincent, L. (eds) Souvenir and Abstracts. International Conference on Plant Protection in Horticulture: Advances and Challenges. Association for the Advancement of Pest Management in Horticultural Ecosystems, Bengalaru, India, p. 198.

Chaudhary, M. and **Pandit, V.** (2019) The status of FAW spread, awareness and its management in Asia with respect to biocontrol. Entomology 2019, November 17–20, St. Louis, MO. Entomological Society of America, https://esa.confex.com/esa/2019/meetingapp.cgi/Paper/145503

Colmenarez, Y. (2019) Control biológico como herramienta clave dentro del manejo sustentable de especies invasoras de importancia agrícola presentes y potenciales en la región Neotropical. In: I Simposio Latinoamericano de Control Biológico & IV Simposio Chileno de Control Biologico, 8-10 October, 2019. Termas de Chillán, Chile, p. 8. http://www.endofitos.com/gallery/simpoiso_libro_resumen_2019.pdf

Colmenarez, Y.C., **Corniani, N.**, Vasquez, C. and **Hidalgo, E.** (2020) Avaliação do uso do controle biológico versus métodos convencionais de controle na América Latina: Que tão longe estamos? Resumos de Palestras. Siconbiol 16°. Londrina 2019. [Embrapa, Brazilia, Brazil], p. 88.

Cortat, G. and **Hinz, H.L.** (2019) Alternative methods to evaluate the host range of *Melanagromyza albocilia* for the biological control of field bindweed in North America. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 146. https://www.ibiocontrol.org/proceedings/

DeJonge, R.B., Smith, S.M., **Hinz, H.L.**, **Cortat, G.** and Bourchier, R.S. (2019) Using native congeners as "surrogates" to identify false positives in host specificity testing. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 147. https://www.ibiocontrol.org/proceedings/

Desurmont, G., Gaskin, J., Glauser, G., Junier, T., **Schaffner, U.**, Turlings, T. and **Hinz, H.L.** (2019) The potential role of targeted and non-targeted metabolic profiling in host-range testing. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 118. https://www.ibiocontrol.org/proceedings/

Djeddour, D., **Maczey, N.** and **Pratt, C.** (2019) Wild ginger, a beautiful menace to island ecosystems – can a natural solution be found? In: Veitch, C.R., Clout, M.N., Martin, A.R., Russell, J.C. and West, C.J. (eds.) Island invasives: scaling up to meet the challenge. Occasional Paper SSC no. 62. IUCN, Gland, Switzerland, p. 708. https://doi.org/10.2305/IUCN.CH.2019.SSC-OP.62.en

Ellison, C., **Häfliger, P.** and **Hinz, H.L.** (2019) Doassansia niesslii (white smut pathogen): a new potential biological control agent for flowering rush in North America. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 41. https://www.ibiocontrol.org/proceedings/

Faheem M. (2019) Role of ICT for dissemination of advanced agriculture technology for farmers. In: Programme & Abstracts Book. Southeast Asia Vegetable Symposium 2019. [Malaysian Agricultural Research and Development Institute], Malaysia, p. 97.

Gaskin, J., Schwarzländer, M., Gibson, R. II, Simpson, H., Marshall, D., Gerber, E. and Hinz, H.L. (2019) Geographic population structure in an outcrossing plant invasion after centuries of cultivation and recent founding events. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 6. https://www.ibiocontrol.org/proceedings/

Häfliger, P. and **Hinz, H.** (2019) Knowledge on life history improves rearing success and informs host-range testing of a semi-aquatic weevil. [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 48–49. https://www.ibiocontrol.org/proceedings/

Honey, S.F., **Anjum, D.H.**, Khan, J., **Bajwa, B.E.** and Tareen, M.J. (2019) Environment conservation and next generation pest management model for *Cydia pomonella* (Lepidoptera: Tortricidae) – Pakistan (Balochistan province) perspectives [Presentation Abstract]. In: ESCON, 2019 International Conference on Environmental Toxicology & Health, February 25-27, 2019. Abstract Book. Department of Environmental Sciences, COMSATS University Islamabad, Vehari Campus, Pakistan, p. 88.

Katovich, E., Becker, R., Marek-Spartz, M., **Cortat, G.**, **Hinz, H.L.** and Van Riper, L. (2019) Biological control of garlic mustard with Ceutorhynchus scrobicollis, an update. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 50. https://www.ibiocontrol.org/proceedings/

Kenis, M., **Girod, P.**, **Driss, L.**, **Seehausen, L.** and **Haye, T.** (2019) How close are we from a release of Asian parasitoids against *Drosophila suzukii* in Europe? [Extended abstract.] *IOBC-WPRS Bulletin* 144, 1–3.

Kurose, D., **Pollard, K.M.** and **Ellison, C.A.** (2019) Searching for host-pathogen compatibility: how cpDNA anaylsis can aid successful classical biological control of Impatiens glandulifera. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 189. https://www.ibiocontrol.org/proceedings/

Kurose, D., **Seier, M.K.**, **Ellison, C.A.** and **Maczey, N.** (2019) The potential for classical biological control of Sagina procumbens in the UK Overseas Territory of Tristan da Cunha. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 33. https://www.ibiocontrol.org/proceedings/

Müller-Schärer, H., Sun, Y., Litto, M., Bouchemousse, S., Lommen, S. and **Schaffner, U.** (2019) Predicting benefits and risks of biological control of the invasive common ragweed in Europe: from ecological to evolutionary studies. [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 151–154. https://www.ibiocontrol.org/proceedings/

Panta, S., **Weyl, P.**, **Hinz, H.L.**, Harmon, B.L., and Schwarzländer, M. (2019) A novel approach to host-specificity testing for non-target plant species restricted to highly specialized soil types. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 145. https://www.ibiocontrol.org/proceedings/

Park, I., Schwarzländer, M., Eigenbrode, S., Cook, S., **Hinz, H.L.** and **Schaffner, U.** (2019) Integrating sensory ecology to complement pre-release risk assessments for biological control candidates. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 119. https://www.ibiocontrol.org/proceedings/

Pollard, K., **Kurose, D.**, **Buddie, A.** and **Ellison, C.** (2019) The prospects for biological control of *Rubus niveus* in the Galapagos Islands. In: Island invasives: scaling up to meet the challenge. In: Veitch, C.R., Clout, M.N., Martin, A.R., Russell, J.C. and West, C.J. (eds.) Island invasives: scaling up to meet the challenge. Occasional Paper SSC no. 62. IUCN, Gland, Switzerland, p. 720. https://doi.org/10.2305/IUCN.CH.2019.SSC-OP.62.en

Pollard, K.M., **Varia, S.** and **Ellison, C.A.** (2019) Field release of a rust fungus for the biological control of Himalayan balsam in the UK: constraints to success. [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 231–233. https://www.ibiocontrol.org/proceedings/

Schwarzländer, M., **Hinz, H.L.**, Winston, R., Day, M. and Panta, S. (2019) Biological control of weeds: a summary of introductions, rates of establishment and estimates of success. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 247. https://www.ibiocontrol.org/proceedings/

Seehausen, M.L. (2019) Progress in research on the use of Asian parasitoids against *Drosophila suzukii*. [Presentation summary.] Magazine 10 January 2019. International Soft Fruit Conference. BVB Substrates, Grubbenvorst, The Netherlands and Delphy Team Softfruit, Horst, The Netherlands, 48–49.

Seier, M.K., **Evans, H.C.**, Bonilla, O.H., Rapini, A., Araujo, F.S., Costa, R.C., **Pollard, K.M.**, Nechet, K.L., Soares, D.J. and Barreto, R.W. (2019) Embarking on classical biological weed control in Brazil: the rust fungus Maravalia cryptostegiae versus Cryptostegia madagascariensis. [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 71–73. https://www.ibiocontrol.org/proceedings/

Seier, M.K., **Kurose, D.** and **Evans, H.C.** (2019) From classical to inundative control: Mycosphaerella polygoni-cuspidati as a potential mycoherbicide for Japanese knotweed. [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 91–93. https://www.ibiocontrol.org/proceedings/

Sivapragasam, A. (2019) Advances in biological control of insect pests of crucifers. [Keynote abstract.] In: Programme & Abstracts Book. Southeast Asia Vegetable Symposium 2019. [Malaysian Agricultural Research and Development Institute], Malaysia, p. 70.

Stutz, S. and **Messer, T.** (2019) Asynchrony in phenology of target and non-target plants: implications for host-specificity testing with Platyptilia ochrodactyla, a potential biocontrol agent for common tansy. [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 53–54. https://www.ibiocontrol.org/proceedings/

Subedi, B., Eigenbrode, S.D., Harmon, B.L., **Hinz, H.L.**, **Weyl, P.** and Schwarzländer, M. (2019) Examining pre-alightment host selection of a potential biological control agent of dyer's woad to cues of non-target confamilial plants. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 144. https://www.ibiocontrol.org/proceedings/

Thakur, M. (2019) Tools to support decision making for fighting invasive species. In: Reddy, P.V.R., Sriram, S., Sridhar, V., Kumar, G.M.S., Umamaheshwari, R., Usharani, T.R., Tadha, T.K. and Vincent, L. (eds) Souvenir and Abstracts. International Conference on Plant Protection in Horticulture: Advances and Challenges. Association for the Advancement of Pest Management in Horticultural Ecosystems, Bengalaru, India, p. 199.

Thakur, M., Bhalla, S., Parveen, S. and Gupta, K. (2019) Non-chemical disinfestation methods against Oryzaephilus mercator (Fauvel) infesting walnut kernel. In: Souvenir. 2nd International Conference on Recent Advances in Agricultural, Environmental and Applied Sciences for Global Development (RAAEASGD-2019), 27-29, September, 2019. Agroenvironmental Development Society, Rampur UP, India, p. 133. http://www.aedsi.org/publication/

Thomas, S., **Pollard, K.** and **Seier, M.** (2019) Could fungi stop buddleia in its tracks? In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, p. 101. https://www.ibiocontrol.org/proceedings/

Vargaz, G. and **Colmenarez, Y.C.** (2019) Organización Internacional de Control Biológico para la Región Neotropical – avances y perspectivas de colaboración. Resumos de Palestras. Siconbiol 16°. Londrina 2019. [Embrapa, Brazilia, Brazil], p. 36.

Varia, S., **Wood, S.**, **Pratt, C.**, Adair, R. and **Murphy, S.** (2019) A “mitey” solution for Australian swamp stonecrop in the UK. [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 242–243. https://www.ibiocontrol.org/proceedings/

Weyl, P., Cristofaro, M., Smith, L., **Schaffner, U.**, Vidovic, B., Petanovic, R., Marini, F., Asadi, G. and Stutz, S. (2019) Eriophyid mites and weed biological control: does every silver lining have a cloud? [Extended abstract]. In: **Hinz, H.**, Bon, M-C., Bourdôt, G., Cristofaro, M., Desurmont, G., **Kurose, D.**, Müller-Schärer, H., Rafter, M., **Schaffner, U.**, **Seier, M.**, Sforza, R., Smith, L., **Stutz, S.**, **Thomas, S.**, **Weyl, P.** and Winston, R. (eds) XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland. US Forest Service, Morgantown, WV, USA, pp. 9–11. https://www.ibiocontrol.org/proceedings/

3. Other outputs

3.1. Support for introduction of classical biological control agents

Biological control agent studied	Target weed/Insect pest	Status end 2018	Released	Country of release or intended release
Aceria angustifoliae (Eriophyidae)	*Elaeagnus angustifolia*	Petition for release submitted in November 2019 to USA Technical Advisory Group (TAG) and Canadian Food Inspection Agency (CFIA)	No	USA and Canada
Aceria angustifoliae (Eriophyidae)	*Elaeagnus angustifolia*	Petition for release submitted in November 2019 to USA Technical Advisory Group (TAG) and Canadian Food Inspection Agency (CFIA)	No	USA and Canada
Aphalara itadori (Aphalaridae)	*Fallopia japonica / F. bohemica*	Pest risk assessment (PRA) for consideration for release	No	Netherlands
Listronotus setosipennis (Curculionidae)	*Parthenium hysterophorus*	Imported and initiated host range testing	No	Pakistan
Mycosphaerella polygonic-cuspidati (Mycosphaerellaceae)	*Fallopia japonica*	PRA for single-mating type isolate submitted in 2018	Yes, for experimental field trials	UK

3.2. Extension material

CABI staff contributed to 61 extension materials in the Plantwise Knowledge Bank in 2019. This included 15 Pest Management Decision Guides, 27 Plantwise factsheets for farmers and 14 posters and leaflets, all of which can be seen here: http://www.plantwise.org/KnowledgeBank/SearchResults.aspx?q=aa:cabi%20AND%20yr:2019

Thirteen extension materials were produced in the African Soil Health Consortium project: nine for use by intermediaries and four for direct use by farmers. These, and more, can be found here: http://africasoilhealth.cabi.org/materials/

Four technical briefs on fall armyworm (FAW) were developed in the Action on Invasives programme for awareness campaigns. Four photo guides and a FAW lifecycle document were disseminated across Uganda and Zambia. Two videos on FAW were also developed for Ghana and Uganda. Six brochures and pamphlets were developed and disseminated across urban and rural populations in Pakistan; six public service messages and one video documentary were developed and aired on local and national cable and satellite television stations in Pakistan.

A photo booklet covering the pests and diseases of Cocoa was prepared by Jayne Crozier and Sarah Thomas. This guide, and those covering mango, citrus, onion, cabbage, sorghum, tomato, potato, rice and beans, are available online on the Plantwise Knowledge Bank https://www.plantwise.org/KnowledgeBank/SearchResults.aspx?q=Photoguide

3.3. Distribution maps of plant pests/diseases

Fifty-four distribution maps of plant pests/diseases were issued and can be found here: https://www.cabdirect.org/cabdirect/search/?q=sc:fv%20or%20sc:fw&sort=Relevance&facets=1&facet1f=Year&facet1v=2019&facet1o=OR

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	Liu	Zhi	MSc
China	Tang	Rui	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	BSc
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	Rajendran	Ganeshamoorthy	MSc; MBA
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	Kimani	Martin	MSc

Location	Family name	First name	Highest degree
Kenya	Makale	Fernadis	MSc
Kenya	Mibei	Henry	MSc
Kenya	Migiro	Lorna	PhD
Kenya	Mugambi	Idah	MSc
Kenya	Mulaa	Margaret	PhD
Kenya	Mulema	Joseph	PhD
Kenya	Musebe	Richard	PhD
Kenya	Nambiro	Elizabeth	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
Kenya	Witt	Arne	PhD
Malaysia	Annamalai	Sivapragasam	PhD
Malaysia	Chan	Fook Wing	BSc
Malaysia	Chan	Hong Twu	MSc
Malaysia	Costa	Arnaud	PhD
Malaysia	Faheem	Mohamad	MSc
Malaysia	Thanarajoo	Sathis Sri	PhD
Netherlands	Danielsen	Solveig	PhD
Netherlands	Durocher-Granger	Lena	MSc
Netherlands	Schaap[4]	Ben	MSc
Netherlands	Valverde	Alvaro	MSc
Netherlands	Vos	Janny	PhD
Pakistan	Ahmed	Ashfaque	MSc
Pakistan	Ahmed	Rauf	MSc
Pakistan	Ahmed	Shakeel	PhD
Pakistan	Ali	Irshad	MSc
Pakistan	Ali	Kazim	PhD
Pakistan	Asad	Haibat Ullah	PhD
Pakistan	Asif	Muhammad	MSc

[4] On secondment from Wageningen University & Research

Location	Family name	First name	Highest degree
Pakistan	Aslam	Naeem	MSc
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	MMS
Pakistan	Rehman	Abdul	MSc
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
Rwanda	Silvestri	Silvia	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	Heeb	Luca	PhD
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

Location	Family name	First name	Highest degree
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)	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)	Flood	Julie	PhD
UK (Egham)	Godwin-Keene	Georgina	
UK (Egham)	González-Moreno	Pablo	PhD
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)	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)	Stewart	Helen	BSc
UK (Egham)	Taylor	Bryony	MSc

Location	Family name	First name	Highest degree
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/Egham)	Finch	Lizzie	PhD
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
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)	Djuric	Miroslav	MPhil
UK (HQ)	Doroszenko	Anton	PhD
UK (HQ)	Doughty	Laura	PhD
UK (HQ)	Fielder	Hannah	PhD
UK (HQ)	Finegold	Cambria	MSc
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

Location	Family name	First name	Highest degree
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	Chiluba	Mwape	MSc
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)
China	Liu Zhi	PhD	CAAS Graduate School, China	–
Ghana	Boafo, Hettie Arwoh	PhD	University of Ghana	Marc Kenis
Ghana	Oppong-Mensah, Birgitta	MSc	Andrews Uni, Canada	–
Kenya	Chacha, Duncan	MSc	University of Nairobi	_
Kenya	Karanja, Lucy	PhD	University of Nairobi	–
Netherlands	Durocher-Granger, Léna	PhD	Wageningen University	Marc Kenis
Pakistan	Ahmed, Ashfaq	PhD	University of Karachi	–
Pakistan	Ali, Irshad	M.Phil	National Defence University (NDU) Islamabad	_
Pakistan	Aslam, Naeem	PhD	University of Agriculture, Peshawar, Pakistan	–
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 Ju-Hong	MSc	Jilin Agricultural University, China	Zhang Jinping
China	Cheng Yumeng	MSc	Huaibei Normal University, China	Li Hongmei
China	Gu Haojing	MSc	Beijing University of Agriculture	Li Hongmei
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	Zhang Yan	MSc	Gansu Agricultural University, China	Li Hongmei
Hungary	Toth, Szabolcs	MSc	Sz. Istvan University, Hungary	Stefan Toepfer
Kenya	Chesang, Rael	MSc	Kenyatta University, Kenya	Winnie Nunda
Kenya	Kihoro, David	MSc	Ghent University, Belgium	Willis Ochilo
Kenya	Latia, Sharon	MSc	Ghent University, Belgium	Willis Ochilo
Kenya	Mwihomoke, MickFanaka	PhD	University of Nairobi, Kenya	Arne Witt
Pakistan	Iqbal, Shomaila	PhD	Pir Mehr Ali Shah Arid Agriculture University, Pakistan	Aamir Humayun Malik
Pakistan	Jalal, Muhammad	PhD	Quaid-i-Azam University, Pakistan	Aamir Humayun Malik
Switzerland	Allen, Tabea	MSc	Hochschule für Agrar-, Forst- und Lebensmittelwissenschaften, Switzerland	Marc Kenis
Switzerland	Benno, Augustinus	PhD	University of Fribourg, Switzerland	Urs Schaffner
Switzerland	Fallet, Patrick	MSc	Université de Neuchâtel, Switzerland	Stefan Toepfer
Switzerland	Franić, Iva	PhD	University of Bern, Switzerland	René Eschen
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
UK	Pomfrett, Louise	MSc	Royal Holloway, University of London, UK	Julien Lamontagne-Godwin
UK	Spence, Ellie	PhD	Warwick Univeristy, Uk	Steve Edgington

4.4. Masters of Advanced Studies in Integrated Crop Management

The Masters of Advanced Studies in Integrated Crop Management (ICM) is an initiative that 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 enrich their knowledge about the importance of ICM, supporting its adoption as a long-term strategy to address global challenges.

https://www.cabi.org/what-we-do/cabi-centres/masters-of-advanced-studies-in-integrated-crop-management/

https://www.unine.ch/mas-icm

List of participants for the 2019 academic year

Surname	Given name	Education	Job title	Professional affiliation	Country
Alhassan	Salley	MSc	Crops Officer	Ministry of Food and Agriculture	Ghana
Khaing	Wai Phu	BSc	Deputy Assistant Staff Office for Plant Protection Division	Ministry of Agriculture, Livestock and Irrigation	Myanmar
Kumwenda	Miriam	BSc	Agricultural Extension Specialist	Ministry of Agriculture, Irrigation and water Development	Malawi
Mabasso	Sérgio	Agronomic Engineer	Officer for Technology in Vegetable Production and Plant Protection	National Agricultural Extension Directorate of the Ministry of Agriculture and Food Security	Mozambique
Mammo	Abrham Mulatu	BSc	Senior Entomologist	Ministry of Agriculture and Natural Resource	Ethiopia
Manishimwe	Rosine	MSc	Tutorial Assistant	University of Technology and Arts of Byumba	Rwanda
Misengo	Sylvia	BSc	Principal Technical Research Assistant	Zambia Agriculture Research Institute	Zambia
Murekeyimana	Peruth	MSc	Traditional Cash Crops Production Specialist	Rwanda Agriculture and Animal Resources Development Board	Rwanda
Nabakwe	Wilson	BSc	Agricultural Extensionist	County Government of Elgeyo Marakwet	Kenya
Njoroge	Cyrus	BSc	Sub-county crops development officer	Ministry of Agriculture	Kenya
Nsubuga	Zacchaeus	BSc	Agricultural Officer	Bbaale Sub-County of Kayunga District Local Government	Uganda
Piyatissa	Panik	BSc	Development Officer	Plant Protection Service of the Department of Agriculture	Sri Lanka

4.5. CABI Associates

Location	Name	Highest Qualification	Role
[redacted]	[redacted]	[redacted]	[redacted]
Bolivia	Lagrava, Juan Jose	MSc	CABI Associate, Bolivia
Bolivia	Sainz, Claudia	MSc	CABI Associate, Bolivia
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
Peru	Franco, Javier P.	PhD	CABI Associate, Peru/Bolivia
Philippines	Joshi, Ravindra	PhD	CABI Associate, Malaysia
Sri Lanka	Arulanandam, Vakeesan	BSc	CABI Associate, Sri Lanka
Sri Lanka	Bandara, W.M.P.T.	MSc	CABI Associate, Sri Lanka
Switzerland	Gassmann, André	DnatSc	Consultant
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

4.6. Visiting scientists

Location	Name	Highest degree	Home institute	Dates (2019)
Switzerland	Afonso, Catarina	MSc	University of Lisbon, Portugal	September–October
Switzerland	Jingfei Guo	PhD	Institute of Plant Protection, CAAS, China	October–December
Switzerland	Shengyong Wu	PhD	Institute of Plant Protection, CAAS, China	October–December
UK (Egham)	Bob Brown	PhD	Landcare Research, Lincoln, New Zealand	September–October
UK (Egham)[1]	Ankita Gupta	PhD	NBAIR/ICAR, Bangalore, India	May-June

[1]Jointly with The Natural History Museum, London

4.7. Technical support

Where located	Name	Highest degree
China	Mi Qianqian	MSc
Kenya	Karanja, Peter	HNDip
Malaysia	Baki, Haji Razali	
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	Jonathan, Jolidon	
Switzerland	Willemin, Florence	DiplGard
UK	Adamin, Tomasz	
UK	Clayton, Teresa	
UK	Hannon, Janet	
UK	Horner, Jacob	
UK	Hudson, Harri	MSc
UK (Egham)	Kerim, Aylin	BSc

4.8. Temporary research students

Location	Name	Highest degree	University	Dates (2019)
China	Cui Huawei	BSc	Northwest Agriculture and Forestry University, China	June–August
China	Liu Mengxuan	BSc	Beijing University of Agriculture, China	July–September
China	Qi Gen	BSc	Inner Mongolia Agricultural University, China	May–August
China	Wang Rongrong	BSc	Beijing University of Agriculture, China	July–September
China	Zhang Ziteng	BSc	Beijing University of Agriculture, Chian	May–August
Ghana	Agnamba, Ossara	BSc	University of Ghana	June–December
Ghana	Marri, Dinah	MSc	University of Ghana	October–December
Ghana	Mensah, Samuel A.	BSc	University of Ghana	September–December
Hungary	Milković, Matija	BSc	University of Novi Sad, Serbia	July–September
Switzerland	Altermatt, Kathrin	BSc	University of Neuchatel, Switzerland	June–July

Location	Name	Highest degree	University	Dates (2019)
Switzerland	Bokla, Tessa	BSc	University of Northern British Columbia, Canada	May–August
Switzerland	Cereghetti, Alissa	MSc	University of Zurich, Switzerland	May–June
Switzerland	Cock, Christine	MSc	Carleton University, Canada	May–August
Switzerland	Grauby, Sarah	MSc	Nancy's University of Science	March–August
Switzerland	Grove, Emily	BSc	Simon Fraser University, Canada	May–August
Switzerland	Guala, Mariel	MSc	Universidad de Buenos Aires, Argentina	April–July
Switzerland	Kuhn, Guillaume	MSc	University of Fribourg, Switzerland	May–September
Switzerland	Lemke, Emily	BSc	Thompson Rivers University, Canada	May–August
Switzerland	Lionetti, Vito	MSc	Macquarie University, Canada	April–September
Switzerland	Pretre, Nicolas	BSc	University of Neuchatel, Switzerland	January–Februrary
Switzerland	Stettler, Pia	MSc	Universiy of Bern, Switzerland	May–October
Switzerland	Trifonov, Teodor	MSc	University of Freiburg, Switzerland	April–July
UK (Egham)	Della Giouampaola, Alessandro		Royal Holloway, University of London, UK	August–September
UK (HQ)	Ogunmodede, Adewale	MSc	Royal Agricultural University, UK	November–December
Zambia	Mfune, Tibonge	BSc	University of Zambia	January–April
Zambia	Musesha, Monde	DipAg	Natural Resources Development College, Zambia	January–April

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