

# Wednesday 28 August

## Main Hall

8:15 - 9:15



### Plenary Lecture 3

8:15 **PL3** Edible Insects: Promises and Challenges  
**Yupa Hanboonsong**  
 Entomology Department, Khon Kaen University (Thailand)

**Introducer:** Kei Yura (Ochanomizu University / Waseda University)

### Women in Entomology (WIE)

14:00 - 15:30



### Women in Entomology Lecture (Open to Public)

#### Women Researchers in Science and Entomology

**Chair:** Masanobu Itoh

14:00 Opening Remark

14:05 **WIE-OP1** The Time for Women in Science  
**Charlotte L. R. Payne**  
 Nature Research (UK)

14:30 **WIE-OP2** Bridging the Gap: Women in STEM in France  
**Gabriela Caballero Vidal**  
 The Sorbonne University (France)

14:45 **WIE-OP3** Women Researchers Paving the Way for Japan's Future  
**Yoshie Harada**  
 Osaka University (Japan)

15:10 Panel Discussion  
**Facilitator:** Takahiro Shiotsuki  
**Panellists:** Charlotte L. R. Payne,  
 Gabriela Caballero,  
 Yoshie Harada

### Citizen Program

16:00 - 17:30



### Citizen Program (Open to Public)

#### Rogue Invaders and Confronting Entomologists: Fighting the Unignorable Threats of Invasive Alien Insects with the Power of Citizen Science

16:00 **CP-OP1** Unravelling the Ecology of Ladybirds through Community (Citizen) Science  
**Helen E. Roy**  
 UK Centre for Ecology and Hydrology

16:30 **CP-OP2** Gall-inducing Insects: Nature's Architects and Invaders Unraveled  
**Man-Miao Yang**  
 National Chung Hsing University

17:00 **CP-OP3** The Ants that Conquered the World  
**Evan P. Economo**  
 Okinawa Institute of Science and Technology

## Room A

### Award

9:45 - 11:45



### The 2024 Awards from the Council of the International Congress of Entomology (CICE)

#### [Certificates of Distinction (Career Achievement Award)]

9:45 **A-CICE-01** Entomology beats lawn bowling  
**John H. Borden**  
 Simon Fraser University (Canada)

10:05 **A-CICE-02** Mosquitoes broadly rely on microbes for normal function.  
**Michael R. Strand**  
 University of Georgia (United States of America)

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|---|---|-------|---|
| 10:25   | <p><b>A-CICE-03</b> RNAi and Bt approaches for insect pest control: advances, applications, and challenges<br/> <b>Maria Fatima Grossi-de-Sa</b><br/>                     Embrapa Genetic Resources and Biotechnology (Brazil) / Catholic University of Brasilia (Brazil) / National Institute of Science and Technology, INCT PlantStress Biotech (Brazil)</p> | 10:45 | <p><b>A-CICE-04</b> Entomological needs in a bio-engineering faculty: from functional understanding to practical applications<br/> <b>Frederic Francis</b><br/>                     University of Liege, Gembloux Agro-Bio Tech, Functional &amp; Evolutionary Entomology (Belgium)</p> |
| <b>[Certificates of Merit (Mid-Career Award)]</b> |   |       |   |
| 11:05   | <p><b>A-CICE-05</b> Molecular and cellular basis of whitefly-bacteria symbiosis<br/> <b>Jun-Bo Luan</b><br/>                     Shenyang Agricultural University (China)</p>   | 11:25 | <p><b>A-CICE-06</b> Olfactory coding, processing and modulation in the insect brain<br/> <b>Silke Sachse</b><br/>                     Max Planck Institute for Chemical Ecology, Research Group Olfactory Coding (Germany)</p>  |

Annex Hall1

**Symposium 14-11**

9:45 - 11:45



**The fall armyworm as a threat to rice production in Asia and beyond**

**Chair:** Ted Turlings (University of Neuchâtel), Yunhe Li (Henan University)

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|-------|---|-------|--|
| 9:45  | <p><b>14-11-01</b> The threat of the fall armyworm to Asian rice production amplified by the brown planthopper<br/> <b>Yunhe Li</b></p>   | 11:00 | <p><b>14-11-05</b> Host selection and adaptation of the invasive pest <i>Spodoptera frugiperda</i> to indica and japonica rice cultivars<br/> <b>Peng Wang</b></p> |
| 10:15 | <p><b>14-11-02</b> Unveiling the Re-rising of True Corn-Strain Variants in the Fall Armyworm Population of Thailand Through Mitochondrial and Nuclear Gene Analysis<br/> <b>Chitsanuphong Phanthian</b></p> | 11:15 | <p><b>14-11-06</b> Genomic signatures unveil the hybrid origin and evolution of fall armyworm in the Eastern hemisphere<br/> <b>Lei Zhang</b></p>                  |
| 10:30 | <p><b>14-11-03</b> Genetic characterization and global distribution of the fall armyworm strain associated with rice infestations.<br/> <b>Rodney Nagoshi</b></p>   | 11:30 | <p><b>14-11-07</b> Plant-mediated interactions between the fall armyworm <i>Spodoptera frugiperda</i> and rice insect pests<br/> <b>Chen Qiu</b></p>               |
| 10:45 | <p><b>14-11-04</b> Invasive fall armyworms have low potential for infesting rice<br/> <b>Kiwoong Nam</b></p>  |       |  |

Annex Hall2

**Symposium 7-11**

9:45 - 11:45



**Latitudinal Trends in Insect Ecology**

**Chair:** Robert Davis (University of Tartu), Sille Holm (University of Tartu)

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|-------|---|-------|--|
| 9:45  | <p><b>7-11-01</b> Physiological correlates of insect latitudinal distribution: Lessons from <i>Drosophila</i> thermal biology<br/> <b>Johannes Overgaard</b></p>            | 10:45 | <p><b>7-11-05</b> Latitudinal cline of larval growth rate in the Japanese rhinoceros beetle (Kabutomushi) <i>Trypoxylus dichotomus</i><br/> <b>Wataru Kojima</b></p> |
| 10:00 | <p><b>7-11-02</b> Climate warming as a potential driver of changing future latitudinal patterns in the emergence of aquatic insects<br/> <b>Pavel Kratina</b></p>           | 11:00 | <p><b>7-11-06</b> Global analyses of Enemy Release Hypothesis and the effects of environment and plant growth form<br/> <b>Andrea Cortegoso Galman</b></p>           |
| 10:15 | <p><b>7-11-03</b> Shades of Diversity: exploring ant colouration across latitudes and environments.<br/> <b>Tristan Klafthenberger</b></p>                                  | 11:15 | <p><b>7-11-07</b> Host-plant specificity of geometrid moths: contrasts between temperate and tropical region<br/> <b>Sille Holm</b></p>                              |
| 10:30 | <p><b>7-11-04</b> Latitudinal diversity gradients in Darwin wasps (Hymenoptera, Ichneumonidae) unraveled by global-scale DNA barcoding data<br/> <b>Bernardo Santos</b></p> | 11:30 | <p><b>7-11-08</b> Latitudinal trends in body size are consistent across moth species in Europe<br/> <b>Toomas Tammaru</b></p>  |

## Room C-1

## Symposium 3-6

9:45 - 11:45



## Advances on Plant-Derived Food Sources in Biological Control

Chair: Pablo Urbaneja-Bernat (IRTA), Cesar Rodriguez-Saona (Rutgers University), Alejandro Tena (IVIA)

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|-------|---|-------|---|
| 9:45  | <b>3-6-01</b> Microbe-mediated alterations in floral nectar and consequences for insect parasitoids: a study on species used in biological control<br><b>Antonino Cusumano</b>      | 10:45 | <b>3-6-04</b> A predatory mite of coffee agroecosystems benefits from extrafloral nectar of associated trees<br><b>Angelo Pallini</b>           |
| 10:15 | <b>3-6-02</b> The role of nectar and pollen in protecting plants against pathogens<br><b>Felix Wäckers</b>  | 11:00 | <b>3-6-05</b> Honeydew management to promote biological control<br><b>Maite Fernández de Bobadilla</b>  |
| 10:30 | <b>3-6-03</b> Unveiling the role of plant-derived food sources in enhancing the efficacy of <i>Dolichogenidea gelechiidivoris</i> against <i>Tuta absoluta</i><br><b>Judit Arnó</b> | 11:15 | <b>3-6-06</b> Exploring the Impact of Plant Guttation on Insect-Plant Interactions in Multiple Cropping Systems<br><b>Pablo Urbaneja-Bernat</b> |
|       |   | 11:30 | <b>3-6-07</b> Plant derived foods to support biological control in vineyards<br><b>Geoff Gurr</b>   |

## Room C-2

## Symposium 20-7

9:45 - 11:45



## Behavioural diversity: causes and consequences

Chair: Iago Sanmartín-Villar (Polish Academy of Sciences), Srikrishna Narasimhan (Museum and Institute of Zoology, Polish Academy of Science)

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|-------|---|-------|--|
| 9:45  | <b>20-7-01</b> Functional benefits of behavioural diversity for group performance<br><b>Isaac Planas Sitja</b>  | 11:00 | <b>20-7-05</b> Can metabolism be used to predict dispersal? The insights of Pace-of-life at between individual level.<br><b>Violette Chiara</b>                                    |
| 10:15 | <b>20-7-02</b> Non-additive effects of genetic heterogeneity on foraging-vigilance trade-off in <i>Drosophila melanogaster</i><br><b>Takahira Okuyama</b> | 11:15 | <b>20-7-06</b> Cryptic strategies of <i>Trachyzulpha formosana</i> (Orthoptera: Tettigoniidae): background matching and masquerade<br><b>Janus Olajuan Boediman</b>                |
| 10:30 | <b>20-7-03</b> Are invaders smart? Individual cognition vs social information in invasive and native ants.<br><b>Srikrishna Narasimhan</b>                | 11:30 | <b>20-7-07</b> Exploring the deterring mechanism by lobed leaf shape against leaf-rolling weevils through the trajectory analysis of inspectional walking<br><b>Yumiko Higuchi</b> |
| 10:45 | <b>20-7-04</b> Multimodal sensory integration mediates defense behavior during rove beetle interspecies interactions<br><b>Jess Kanwal</b>                |       |  |

## Room D

## Symposium 16-11

9:45 - 11:45



## Bugs in the City: Urban Insect Ecophysiology

Chair: Megan E. Meuti (The Ohio State University), Lydia Fyie (Ohio State University)

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|------|--|-------|--|
| 9:45 | <b>16-11-01</b> Particulate matter contamination compromises insect antennal olfactory perception<br><b>Wentian Xu</b> | 10:00 | <b>16-11-02</b> Factors influencing abundance and behavior of predators in turfgrass<br><b>Shimat Joseph</b> |
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Sunday 25 Aug

Monday 26 Aug

Tuesday 27 Aug

Wednesday 28 Aug

Thursday 29 Aug

Friday 30 Aug

## Daily schedules

Sunday 25 Aug

- |       |   |       |   |
|-------|---|-------|---|
| 10:15 | <b>16-11-03</b> Consequences of adaptation to the urban heat island: testing for eco-evolutionary dynamics in a terrestrial isopod ( <i>Oniscus asellus</i> )<br><b>Ryan Martin</b>             | 11:00 | <b>16-11-06</b> Light pollution interferes with seasonal dormancy in temperate mosquitoes<br><b>Lydia Fyie</b>                    |
| 10:30 | <b>16-11-04</b> Urban Stressors and the Transmission of Pathogens<br><b>Michael H Reiskind</b>  | 11:15 | <b>16-11-07</b> Effects of Artificial Light at Night on the Photoperiodic Response in Flesh Flies<br><b>Ayumu Mukai</b>           |
| 10:45 | <b>16-11-05</b> The effect of urban, rural, and universal pollutants on the life history and gut microbiota of the major malaria vector <i>Anopheles arabiensis</i> .<br><b>Shune V. Oliver</b> | 11:30 | <b>16-11-08</b> Disentangling the behavioural and physiological consequences of artificial light at night<br><b>Theresa Jones</b> |

Monday 26 Aug

### Room E

#### Symposium 19-1

9:45 - 11:45



#### The next biomimetics in insect's perspective for the sustainable symbiosis on the globe

Chair: Shuhei Nomura (National Museum of Nature and Science, Tokyo, Japan), Masahiro Ohara (The Hokkaido University Museum)

Tuesday 27 Aug

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|-------|--|-------|--|
| 9:45  | <b>19-1-01</b> Keynote: The next biomimetics in insect's perspective for the sustainable symbiosis on the globe<br><b>Shuhei Nomura</b>      | 10:45 | <b>19-1-05</b> Dual effect of vibrations for pest control of fungus gnats and for cultivation of shiitake mushroom<br><b>Takuma Takanashi</b>              |
| 10:00 | <b>19-1-02</b> Social implementation using the NanoSuit method<br><b>Chiyo Senoh</b>   | 11:00 | <b>19-1-06</b> Towards development of pest control using vibrations in the brown-winged green stink bug damaging fruit trees in Japan<br><b>Nami Uechi</b> |
| 10:15 | <b>19-1-03</b> The roles of predation and multifunctionality in the macroevolution of ant mandible form and function<br><b>Julian Katzke</b> | 11:15 | <b>19-1-07</b> Egg-laying suppression effect of adjuvants in calcium carbonate wettable powder on the peach fruit moth.<br><b>Naoko Yoshinaga</b>          |
| 10:30 | <b>19-1-04</b> Quantification and classification of butterfly flight patterns based on a visual dictionary and pictures<br><b>Yuika Mano</b> | 11:30 | <b>19-1-08</b> Functional reconstruction of insect olfactory receptors and their application<br><b>Hidefumi Mitsuno</b>                                    |

Wednesday 28 Aug

### Room F

#### Citizen Program

#### Let's Observe Insects with Global Entomologists!



##### < Event summary >

An indoor observation event will be held at the Kyoto International Conference Center with the aim of increasing children's interest in natural science through exchanges with entomologists from overseas. This event will be co-hosted with the Women in Entomology program of ICE2024 Kyoto. Participants will be divided into small groups with several elementary and junior high school students as well as Japanese graduate students and will observe insects using microscopes while interacting with the children.

Registration has been closed.

Thursday 29 Aug

Friday 30 Aug

## Room G

## Symposium 11-4

9:45 - 11:45



## Current entomophagy: food and nutrition security, circular economy, and breeding techniques

Chair: Takeshi Suzuki (Tokyo University of Agriculture and Technology), Kei Yura (Ochanomizu University)

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|-------|---|-------|---|
| 9:45  | <b>11-4-01</b> The science (and art) of insects as traditional foods<br>Charlotte Payne   | 10:45 | <b>11-4-05</b> Genome sequence of crickets as a knowledge base of edible insects production<br>Kosuke Kataoka |
| 10:00 | <b>11-4-02</b> Cultivate a Sustainable Tomorrow: Unlocking the Potential of Insect Consumption for Nutrition and Income Generation in Rural Laos.<br>Shinjiro Saeki | 11:00 | <b>11-4-06</b> de novo domestication and genomics-assisted breeding of crickets<br>Atsushi Ogura              |
| 10:15 | <b>11-4-03</b> Exploration of Majuli White grub Beetle, <i>Lepidiota mansueta</i> for Food and Feed Security<br>Badal Bhattacharyya                                 | 11:15 | <b>11-4-07</b> Virus infections in crickets reared for feed: diagnosis and control<br>Patchara Phuektes       |
| 10:30 | <b>11-4-04</b> Astaxanthin accumulation in migratory locusts and two-spotted crickets<br>Ryohei Sugahara  | 11:30 | <b>11-4-08</b> Edible cricket farming using agro-industrial by-products<br>Takeshi Suzuki                     |

## Room H

## Symposium 11-5

9:45 - 11:45



## Sustainable biowaste recycling and animal feed production using insects.

Chair: Masami Shimoda (The University of Tokyo), Chia-Ming Liu (National Agriculture and Food Research Organization (NARO))

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|-------|---|-------|---|
| 9:45  | <b>11-5-01</b> Functions of insect-based feeds for animals<br>Takeshi Miura   | 10:45 | <b>11-5-05</b> Growth of black soldier fly larvae is unaffected by suppression of gut microbiome.<br>Rina Fukunaga  |
| 10:00 | <b>11-5-02</b> Exploring the Black Soldier Fly ( <i>Hermetia illucens</i> L.) Industry in Thailand: Challenges in Strain Preservation and Breeding<br>Chun-I Chiu | 11:00 | <b>11-5-06</b> Evaluation of antimicrobial activity of lipids extracted from <i>Hermetia illucens</i> reared on different feeding substrates<br>Antonio Franco        |
| 10:15 | <b>11-5-03</b> Physical food waste properties alter rearing performance and respiration of black soldier fly larvae bioconversion.<br>Adrian Fuhrmann             | 11:15 | <b>11-5-07</b> Engineering insects to produce carbohydrase enzymes for improved animal feed.<br>Justin Michael McNab  |
| 10:30 | <b>11-5-04</b> Presentation Withdrawn   | 11:30 | <b>11-5-08</b> Enhancing Amino Acid Productivity and Profile in Black Soldier Fly Larvae through NAT Transporter Suppression in the Excretion System<br>Chia-Ming Liu |

## Room B-1

## Symposium 18-5

9:45 - 11:45



## Decoding Parasitic Lice: Systematics, Evolution, and Genomics

Chair: Drew Sweet (Arkansas State University), Jorge Doña (University of Granada)

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|------|--|-------|--|
| 9:45 | <b>18-5-01</b> Structural and physical adaptations of the ectoparasitic seal louse, <i>Echinophthirius horridus</i> , for living in the deep sea<br>Anika Preuss | 10:00 | <b>18-5-02</b> Genomic diversity in the symbiotic bacteria of human head lice<br>Bret M Boyd |
|------|--|-------|--|

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| 10:15 | <b>18-5-03</b> Introgression dynamics in avian feather lice<br><b>Jorge Doña</b>  | 11:00 | <b>18-5-06</b> Developing tools to connect specimens, traits and phylogenetic trees to understand evolutionary patterns in mammalian lice.<br><b>Julie Allen</b> |
| 10:30 | <b>18-5-04</b> Integrating legacy data and whole genome sequencing on both sides of the tanglegram uncovers unexpected cospeciation in <i>Degeeriella</i><br><b>Therese A. Catanach</b> | 11:15 | <b>18-5-07</b> Cophylogenomics of tinamous and their hyperdiverse family of lice (Phthiraptera: Ischnocera)<br><b>Kamila Mayumi Kuabara</b>                      |
| 10:45 | <b>18-5-05</b> Mitochondrial genome fragmentation in lice: What we know and what we want to know.<br><b>Stephen L Cameron</b>   | 11:30 | <b>18-5-08</b> Diversity, Distribution and Population Genomics of Global Human Head Lice through Whole Genome Analysis<br><b>Niyomi House</b>                    |

Room B-2

Symposium 18-6

9:45 - 11:45



Biodiversity and taxonomy of lepidopteran insects

**Chair:** Houshuai Wang (South China Agricultural University Department of Entomology), Toshiya Hirowatari (Kyushu University), Masaya Yago (The University of Tokyo)

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|-------|--|-------|---|
| 9:45  | <b>18-6-01</b> Evolutionary history of Tineoidea (Insecta: Lepidoptera)<br><b>Jadranka Rota</b>  | 10:45 | <b>18-6-05</b> Towards a better understanding of Gelechioid tree of life<br><b>Etka Yapar</b>   |
| 10:00 | <b>18-6-02</b> Systematics and evolutionary dynamics of insect-fern interactions in the specialized fern-spore feeding Cuprininae (Lepidoptera, Stathmopodidae)<br><b>Zong-Yu Shen</b> | 11:00 | <b>18-6-06</b> Species-level phylogenomics and historical biogeography of the Apollo butterflies (Papilionidae: Parnassiinae)<br><b>Noémie M-C Hévin</b>  |
| 10:15 | <b>18-6-03</b> Macroevolution of butterflies is weakly linked to angiosperms<br><b>David Plotkin</b>   | 11:15 | <b>18-6-07</b> A new example of unique evolution in oceanic islands: more than 10 undescribed gracillariids in Ogasawara, islands designated as a World Natural Heritage in Japan<br><b>Yutaka Tamadera</b> |
| 10:30 | <b>18-6-04</b> Systematics, diversification and evolutionary history of butterflies in the tribe Candalidini (Lepidoptera: Lycaenidae)<br><b>Michael F. Braby</b>                      | 11:30 | <b>18-6-08</b> The evolution of diurnality in Uraniidae moths, an unusually colourful and iridescent lineage of Lepidoptera<br><b>Leidys Murillo-Ramos</b>  |

Room I

Symposium 13-5

9:45 - 11:45



CRISPRing vectors: The new era of genome engineering towards vector-borne disease control

**Chair:** Hitoshi Tsujimoto (Texas A&M University), Bianca Burini (University of Florida)

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| 9:45  | <b>13-5-01</b> Sand Fly Microinjection for CRISPR Mutation<br><b>Robert Harrell</b>  | 10:45 | <b>13-5-04</b> Genetic analysis of oviposition behavior for mosquito surveillance and control<br><b>Matthew DeGennaro</b>  |
| 10:15 | <b>13-5-02</b> Exploring adaptation of CRISPR interference (CRISPRi) in the mosquito, <i>Aedes aegypti</i><br><b>Hitoshi Tsujimoto</b> | 11:00 | <b>13-5-05</b> Gene-driven Ectoexpression of <i>AalNix3&amp;4</i> in Dengue vector, <i>Aedes albopictus</i><br><b>Xiaoguang Chen</b>   |
| 10:30 | <b>13-5-03</b> Probing and Perturbing the piRNA Pathway with Targeted Mosquito Genome Modifications<br><b>Vanessa Michelle Macias</b>  | 11:15 | <b>13-5-06</b> Harnessing DNA repair to revert to a non-transgenic state, or how to plan for the end-of-life of your favorite transgene when it is no longer needed<br><b>Zach N Adelman</b> |

11:30 **13-5-07** From Genome to Phenome: Tools to understand the basic biology of ticks  
Monika Gulia-Nuss

## Room J

## Symposium 13-6

9:45 - 11:45



## Neglected vectors and pests in a changing climate

**Chair:** Bethany McGregor (United States Department of Agriculture), Amy Hudson (United States Department of Agriculture, Agricultural Research Service), Phillip Shults (United States Department of Agriculture)

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| 9:45  | <b>13-6-01</b> The changing eco-epidemiology of tick-borne spotted fever group rickettsioses: paired vector-clinical-environmental studies in the Americas<br><b>Melissa Nolan</b>                        | 10:45 | <b>13-6-05</b> Distinguishing the role of two vector genera in a disease system<br><b>Amy Hudson</b>   |
| 10:00 | <b>13-6-02</b> The changing landscape of <i>Culicoides</i> -borne viruses in Europe.<br><b>Marion England</b>   | 11:00 | <b>13-6-06</b> Black flies aggressivity in Kafolo: influence of climatic and environmental factors<br><b>Touré Donatié Serge</b>   |
| 10:15 | <b>13-6-03</b> Exploring Biting Midge Species Distributions Under Diverse Climate Models<br><b>Phillip Shults</b>   | 11:15 | <b>13-6-07</b> DNA barcoding-assisted morphological identification of sand flies and their association with environmental factors in Taiwan<br><b>Yu-Feng Tsai</b>         |
| 10:30 | <b>13-6-04</b> Effects of climate on larval <i>Culicoides</i> sp. abundance in the Central Great Plains of the US and implications for the transmission of a livestock disease<br><b>Bethany McGregor</b> | 11:30 | <b>13-6-08</b> Superfly - The unintended consequences of pesticide resistance on the thermal tolerances of house flies ( <i>Musca domestica</i> )<br><b>Travis W Rusch</b> |

## Room K

## Symposium 5-7

9:45 - 11:45



## Urban Arthropods

**Chair:** Olivia Sanllorente (University of Granada)

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| 9:45  | <b>5-7-01</b> Citizens' perception of insects and its relationship with the extinction of experience<br><b>Olivia Sanllorente</b>   | 10:45 | <b>5-7-05</b> Urban green spaces and adjacent areas of Mexico City as a refuge for resilient species: case study for Auchenorrhyncha fauna (Insecta, Hemiptera)<br><b>Olivia Esperanza Aponte-Mejia</b> |
| 10:00 | <b>5-7-02</b> Exploring <i>Psocathropos lachlani</i> Ribaga, the Most Synanthropic Household insects in Taiwan: Unveiling the Ecological Insights Through Citizen Science and Climatic Analysis<br><b>Mei-Ling Chan</b> | 11:00 | <b>5-7-06</b> Investigating the effect of mowing as a habitat restoration practice on the stem-dwelling insect community of <i>Solidago altissima</i> in urban meadowscapes<br><b>Thomas CK Hall</b>    |
| 10:15 | <b>5-7-03</b> Urbanization and community garden features affect the taxonomic diversity and functional traits of wild bees<br><b>Astrid E. Neumann</b>  | 11:15 | <b>5-7-07</b> Unveiling the Calling Diversity of Cricket Across Urban Parks Through Soundscape Techniques<br><b>Chia-Chien Hung</b>   |
| 10:30 | <b>5-7-04</b> Distribution of Aculeate wasps in a subtropical urbanized biodiversity hotspot: assessing multi-scale drivers under climate change scenarios<br><b>Ji Hyeon Park</b>                                      | 11:30 | <b>5-7-08</b> The effects of artificial noise on the acoustic behavior of <i>Ornebius infuscatus</i> (Orthoptera: Mogoplistidae)<br><b>Sheng-Hung Lin</b>   |

## Room 554

## Symposium 12-3

9:45 - 11:45



## ad hoc session

Chair: Francesco Martoni (Agriculture Victoria Research), Marion Javal (IRD)

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| 9:45  | <b>12-3-01</b> Fungi on invasive ladybirds: what influences their growth and spread?<br><b>Michiel D. de Groot</b>   | 10:45 | <b>12-3-05</b> Monitoring of an extreme case of host shift: revealing the biology and ecology of an emerging crop pest and potential invader.<br><b>Marion Javal</b>   |
| 10:00 | <b>12-3-02</b> Transcriptomics and Metabolomics Association Analysis Revealed the Gum Secretion responses of <i>Elaeagnus angustifolia</i> to <i>Anoplophora glabripennis</i> Oviposition Scar<br><b>Chengcheng Li</b> | 11:00 | <b>12-3-06</b> Using high throughput sequencing metabarcoding for diagnostics and surveillance of agricultural pests and beneficial insects.<br><b>Francesco Martoni</b>   |
| 10:15 | <b>12-3-03</b> Landscape metagenomics of the invasive bumblebee ( <i>Bombus terrestris</i> ) shows interactions among the gut microbiome and pollenbiome.<br><b>Sabrina Haque</b>                                      | 11:15 | <b>12-3-07</b> Modelling suppression gene drive for invasive <i>Solenopsis invicta</i> fire ants<br><b>Yiran Liu</b>   |
| 10:30 | <b>12-3-04</b> Development of novel LAMP and qPCR assays for rapid and specific identification of Bronze birch borer ( <i>Agrilus anxius</i> )<br><b>Sezer Olivia Kaya</b>   | 11:30 | <b>12-3-08</b> Molecular phylogeny, genetic diversity, behavior and hostplant adaptation of a global invasive moth, tomato leaf miner ( <i>Tuta absoluta</i> ) (Lepidoptera: Gelechiidae)<br><b>Manupa Pabasara Wickramasinghe</b> |

## Room 555

## Symposium 4-4

9:45 - 11:45



## Multi-trophic Interactions of Scolytinae in Naïve Systems: Integrating Ecological Methods for Management

Chair: Kelsey Tobin (Cornell University), Monique Rivera (Cornell University)

- |       |   |       |   |
|-------|---|-------|---|
| 9:45  | <b>4-4-01</b> Characterizing changes in black walnut volatile organic compounds inoculated with <i>Geosmithia morbida</i> , the causal agent of thousand cankers disease<br><b>Kelsey Tobin</b> | 11:00 | <b>4-4-05</b> Multi-trophic Interactions in Oak Decline Syndrome in Korean Forests: Host-Microorganism-Ambrosia beetle<br><b>Won Il Choi</b>  |
| 10:15 | <b>4-4-02</b> Influence of Acetic Acid and Ethanol on Host Colonization by Xyleborine Ambrosia Beetles<br><b>Christopher Ranger</b>   | 11:15 | <b>4-4-06</b> Ecologically based research initiatives for monitoring and management of <i>Hypothenemus obscurus</i> (Scolytinae), an important invasive pest of macadamia in Hawaii<br><b>Angelita Acebes-Doria</b> |
| 10:30 | <b>4-4-03</b> Behavioral responses of non-native scolytine beetles to volatiles of their fungal symbionts: Implications for detection and management<br><b>Matthew Ginzel</b>                   | 11:30 | <b>4-4-07</b> Reduced Infestation by <i>Xylosandrus germanus</i> in Apple Trees Treated with Host Plant Defense Compounds<br><b>Arthur Agnello</b>  |
| 10:45 | <b>4-4-04</b> The Efficacy of Semiochemical Repellents to Protect Healthy and <i>Ceratocystis</i> -infested 'Ōhi'a from Attack by Ambrosia Beetles<br><b>Kylle Roy</b>                          |       |   |

Sunday 25 Aug

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## Room 509

## Symposium 6-2

9:45 - 11:45



## Insect cuticles: morphogenesis and physiological functions

**Chair:** Shigeo Hayashi (RIKEN Center for Biosystems Dynamics Research), Bernard Moussian (Institut Sophia Agrobiotech), Toshiya Ando (Kyoto University)

- |       |  |       |  |
|-------|--|-------|--|
| 9:45  | <b>6-2-01</b> Functional study of <i>Osiris</i> family genes of <i>Drosophila</i> in cuticle nano-patterning.<br><b>Shigeo Hayashi</b>   | 10:45 | <b>6-2-04</b> Major structural protein in locust mandible capable of forming extraordinarily stiff materials via hierarchical self-assembly<br><b>Huitang Qi</b> |
| 10:15 | <b>6-2-02</b> A developmental genetic approach to the study of cuticular photonic crystal formation in the weevil scale cell<br><b>Toshiya Ando</b>  | 11:00 | <b>6-2-05</b> The structure-function relationship of the vibration receptors in the spider <i>Cupiennius salei</i><br><b>Carolin Fischer</b>                     |
| 10:30 | <b>6-2-03</b> Group I lytic polysaccharide monooxygenase is required for chitinous cuticle turnover during molting in two longhorn beetles, <i>Monochamus alternatus</i> and <i>Psacotheta hilaris</i><br><b>Daehyeong Kim</b> | 11:15 | <b>6-2-06</b> Mesoscale laminate structure and constitutive anisotropy in Polyneopteran head capsules<br><b>Michael Andrew Jansen</b>                            |
|       |  | 11:30 | <b>6-2-07</b> Timing of chitin orientation in the locust hindleg<br><b>Bernard Moussian</b>  |

## Room 510

## Symposium 10-5

9:45 - 11:45



## Molecular Plant-Insect-Microbe Interactions

**Chair:** Akiko Sugio (INRAE), Daisuke Kageyama (NARO)

- |       |   |       |   |
|-------|---|-------|---|
| 9:45  | <b>10-5-01</b> Investigating the mysteries of gall formation: A study of gall-forming weevil and its symbiotic bacteria<br><b>Tsutomu Tsuchida</b>  | 10:45 | <b>10-5-05</b> The alteration and influence of <i>Diaphorina citri</i> flavivirus-like virus on Huanglongbing bacteria vectoring and gene expression in psyllid<br><b>Chun-Yi Lin</b> |
| 10:00 | <b>10-5-02</b> Reasons for decreased aphid vector transmission of beet chlorosis virus from sugar beets co-infected with beet yellows virus<br><b>Martin Drucker</b>                                | 11:00 | <b>10-5-06</b> Foliar fungal endophytes alter tree defense metabolites and provide direct anti-herbivore resistance<br><b>Nadir Erbilgin</b>  |
| 10:15 | <b>10-5-03</b> Subversion of salicylic acid signaling pathway by $\beta$ C1 encoded by begomoviral betasatellites promotes virus infection post whitefly-mediated inoculation<br><b>Li-Long Pan</b> | 11:15 | <b>10-5-07</b> Role of the endosymbiont <i>Regiella insecticola</i> in pea aphid performance and plant defense<br><b>Grit Kunert</b>  |
| 10:30 | <b>10-5-04</b> Uncovering the intricate three-way interactions in vector-borne pathosystems using solanaceous-liberibacter pathosystem<br><b>Cecilia Tamborindeguy</b>                              | 11:30 | <b>10-5-08</b> Orchestration of plant defense signaling: impact of herbivores' oral factors including symbiotic microorganisms and elicitors<br><b>Gen-ichiro Arimura</b>             |

## Wednesday 28 August

## Event Hall

Poster Presentation by Elementary, Junior High and Senior High School Students 11:45 - 13:30



※Poster presentations of their activities in school life.

- |       |  |       |  |
|-------|--|-------|--|
| SP-01 | Turn alternation in amputated pillbug ( <i>Armadillidium vulgare</i> )<br><b>Sakurako Asano, Naho Kitahara, Aoi Shimizu, Miwa Harikai, Rui Yoshioka</b>            | SP-11 | The relationship between cuticle structure and regional color differences in <i>Phelotrupes auratus</i><br><b>Rena Matsuyama, Mitsuki Fukushima</b>  |
| SP-02 | Can I protect the stag beetle?<br><b>Masamichi Morioka</b>   | SP-12 | Aiming towards using cabbage butterfly eggs as educational materials. -s2-<br>Investigation the condition under which females lay eggs in breeding cages<br><b>Takeru Inagaki</b>  |
| SP-03 | Why are you grooming? -the territory and grooming of <i>Eobiana engelhardti</i> subtropica-<br><b>Reika Morioka</b>  | SP-13 | The Relationship Between the Mandibles of the <i>Lucanus maculifemoratus</i> and Temperature<br><b>Chihiro Takehara</b>  |
| SP-04 | Hey, you may be deceived? -the mystery of the pink hopper-<br><b>Masayoshi Morioka</b>   | SP-14 | Nest usurpation and subsequent nesting behavior of social parasitic hornet ( <i>Vespa dybowskii</i> )<br><b>Tatsuki Tohnooka</b>   |
| SP-05 | Research into <i>Phialodes rufipennis</i> leaf shape preference for cradle creation based on image analysis<br><b>Shusei Kuroki</b>                                | SP-15 | Investigation of the relationship between the frequency of attaching pads of jumping spiders and the conditions in which they are placed<br><b>Miu Kobayashi</b>   |
| SP-06 | Swallowtail butterflies remember what they learned as caterpillars, and the sex-linked memories persist for three generations.<br><b>Jo Nagai</b>                  | SP-16 | Effects of Plant Nutrition on Aphid Competition and Behavior<br><b>Ayako Nakatani</b>  |
| SP-07 | Differences in Wing Orientation and Haltere Movements Across Crane Fly Species<br><b>Akito Kubota</b>  | SP-17 | Save <i>Nepa hoffmanni</i> - A study of the endangered species in Nara prefecture<br><b>Miwa Kango</b>   |
| SP-08 | TESTING THE FIERY MANTIS MYTH<br><b>Aruma Yamamoto</b>   | SP-18 | Preparedness and skills for future insect scientists acquired through entomology-related volunteer activities by junior and senior high school students working at the Museum of Natural History, a non-profit organization in Kagawa Prefecture<br><b>Mihiro Suwa, Yuto Iima, Kaito Ootsubo</b> |
| SP-09 | Investigation for an Alternative to Pesticides ~Utilization of Japanese Green Tea Components~<br><b>Saya Honda, Haruka Tsuruyama</b>                               |       |  |
| SP-10 | The ecology of <i>Temnothorax arimensis</i> ant in forest, and the effects of aphids living on tree on the activity of <i>T. arimensis</i><br><b>Munetaka Iori</b> |       |  |

Poster 13 11:45 - 13:30



## Biological Control

- |       |   |       |   |
|-------|---|-------|---|
| P0441 | Effects of modest temperature increase on aphid response to parasitism<br><b>Mukta Mala</b>   | P0444 | Assessing the toxicity of the entomopathogenic fungi effective on ovicidal activity of whiteflies, <i>Bemisia tabaci</i><br><b>Sudarat Pimkhonburee</b>                       |
| P0442 | <i>Adialytus ambiguus</i> as biological agent against <i>Sipha flava</i> in Reunion Island.<br><b>Laura Moquet</b>  | P0445 | Starvation Stress Effect to Functional Response, Adult Development and Sex Ratio of Assassin Bug, <i>Sycanus collaris</i> F. (Hemiptera: Reduviidae)<br><b>Tewee Maneerat</b> |
| P0443 | Long-term influence of the introduced parasitoid <i>Torymus sinensis</i> on the chestnut gall wasp at starting points of the classical biocontrol in Japan<br><b>Kaori Yara</b> | P0446 | Choosing phytophagous or entomophagous insects for biological control of <i>Cuscuta</i> species in Europe and the Middle East<br><b>Matvey Nikelshparg</b>                    |

- P0447 Importance of parasitoids and hyperparasitoids in elm leaf beetle *Xanthogaleruca luteola* (Muller) (Coleoptera: Chrysomelidae) control at northwest of Iran  
**Erfan Amareh**
- P0448 Detection of Dendrolimus sibiricus cypovirus -1  
**Anna Subbotina**
- P0449 Control efficiency of *Pyemotes zhonghuajia* combined with *Metarhizium anisopliae* against *Aromia bungii*  
**Limin He**
- P0450 Characteristics of the serosal cells surrounding *Cotesia kariyai* larvae and its role in host immunosuppression  
**Yuki Okumura**
- P0451 Cky811 protein expressed in polydnavirus and venom gland of *Cotesia kariyai* regulates host *Mythimna separata* larvae immunity  
**Tomomi Sawa**
- P0452 On the origin of hyperspread cells, circulating hemocytes in the body cavity of *Mythimna separata*  
**Hiroshi Matsutani**
- P0453 Factors preventing *Cotesia ruficrus* from parasitizing *Mythimna separata* last-instar larvae  
**Miyu Tanaka**
- P0454 A gut infecting iflavivirus modulates caterpillar oral secretions and alters plant response to herbivory  
**Salvador Herrero**
- P0455 Immunoregulation of *Mythimna separata* by the endoparasitic wasp *Microplitis mediator*  
**Koshi Ninomiya**
- P0456 Surveys on egg parasitoids of *Halyomorpha halys* and native Heteroptera (Hemiptera) in the Sardinia Island  
**Sandro Flore**
- P0457 The genetic analysis of the artificially selected biocontrol agent, *Orius strigicollis* with a longer giving-up time  
**Tomoya Katsuno**
- P0458 *Varronia curassavica* benefits Chrysopidae predators and has a negative effect on *Leucoptera coffeella* fitness  
**Elem Fialho Martins**
- P0459 Evaluation of the function of indigenous natural enemies, including spiders, on insectary plants and eggplant in an urban agricultural field in Tokyo  
**Hina Tamagwa**
- P0460 Strategies for conservation biological control of pests for regenerative coffee farming at Cerrado  
**Madelaine Venzon**
- P0461 Evaluation of Okra as an Insectary Crop for *Orius* spp., its Effectiveness and Mechanisms in an Open-field Eggplant Cultivation in Japan.  
**Kousei Nakamura**
- P0462 Laboratory evaluation of natural and edible repellents against *Drosophila suzukii*  
**Piera Maria Marras**
- P0463 Development of an efficient system for the collection of eggs of the Mediterranean flour moth, *Ephesia kuehniella* Zeller  
**Daiki Hirayama**
- P0464 A feasibility study on the use of *Cleome hassleriana* as a banker plant for *Nesidiocoris tenuis*  
**Ryohei Nakano**
- P0465 CHITOSAN NANOPARTICLES LOADED WITH ORANGE ESSENTIAL OIL AGAINST *APHIS GOSSYPII*: CHARACTERIZATION, INSECTICIDAL ACTIVITY AND SELECTIVITY  
**Giulia Giunti**
- P0466 Artificial flowers as a new tool for improving a biocontrol program with predatory hoverflies  
**Olivier Aubry**
- P0467 The role of CO<sub>2</sub> in the insect host-seeking behaviors of *Steinernema siamkayai*  
**Puping Ta-oun**
- P0468 To be a good killer: Characterizing the virulence of entomopathogenic nematodes against wireworms.  
**Chacon Hurtado Andrea**
- P0469 Biological control of *Iridopsis* sp. (Lepidoptera: Geometridae) with entomopathogenic nematodes  
**Silvia Renata Siciliano Wilcken**

## Poster 14

11:45 - 13:30



## Ecology and Evolution

- P0470 Cyclic population fluctuations with spatial waves of the mulberry tiger moth in southwestern Japan  
**Masaru Hondo**
- P0471 Genetic structure and geographic adaptation of the cricket *Teleogryllus emma* in Japan  
**Kazuhiro Satomura**
- P0472 Geographic variation in photoperiodic response for induction of pseudopupal diapause by precocious metamorphosis in the bean blister beetle, *Epicauta gorhami*  
**Misato Terao**
- P0473 Nymphal period and diapause in the Asian mantis, *Hierodula patellifera*, from Okinawa, Japan, under long-day and short-day conditions  
**Ryo Watanabe**
- P0474 Clear local adaptation in butterfly photoperiodism but not thermal performance along a latitudinal cline  
**Isabelle Siemers**
- P0475 Life-history traits of an indigenous egg parasitoid wasp *Telenomus remus*, a promising natural enemy against *Spodoptera frugiperda* in mainland Japan  
**Takamasa Komori**

## Poster presentations

Sunday 25 Aug

P0476 Global warming has extended egg diapause duration, not changing the body size over the past 60 years in the emma field cricket *Teleogryllus emma*.  
**Katsuya Taniyama**

P0492 Taxonomic Study of Two Japanese Species of the Subgenus *Burlinius* of the Genus *Cryptocephalus* (Coleoptera, Chrysomelidae)  
**Ryota Nishimura**

P0477 Parallel evolution during poleward range shifting: a case study in the damselfly *Ischnura elegans*.  
**Lesley Lancaster**

P0493 Extracellular symbiont colonizes insect during embryo development  
**Christiane Emmerich**

P0478 Insights from the canopy: Both vertebrate- and ant-mediated regulation of arthropod communities and insect herbivory were revealed along latitudinal gradient  
**Katerina Sam**

P0494 Ecosystem Functional Diversity and Landscape Connectivity Influence Bee Community Resilience  
**Angie Mar González Rosario**

P0479 Ploidy or not: dissecting genome size evolution in *Catapionus* weevils in Japan  
**Shota Murakami**

P0495 Tending ants selectively prey on aphids with shorter proboscises: implication for the evolution of aphid proboscis length  
**Takumi Matsuura**

P0480 Unraveling the Geographic Influence on Bark Beetle-Driven Deadwood Decomposition  
**John J. Riggins**

P0496 UDP-glucosyltransferases act as key determinants of host plant range in generalist and specialist *Spodoptera* species  
**Huidong Wang**

P0481 Uncertain mate recognition forms diversity of mate competition in butterflies  
**Tsuyoshi Takeuchi**

P0497 Lepidopteran prolegs are novel traits, not leg homologs  
**Yuji Matsuoka**

P0482 Look but do not touch: the occurrence of venomous species across Lepidoptera  
**Andrea Battisti**

P0498 Induction of female functional virginity mutation in the wasp *Telenomus remus* by eliminating PI -*Wolbachia*  
**Tu i chen**

P0483 Using AI-based computer vision to quantify the integration of color and shape within Nymphalid butterflies  
**Moritz D Lürig**

P0499 Investigating the role of detoxification in the adaptation of Asian and European corn borers to maize  
**Gaelle LE Goff**

P0484 Abiotic and biotic factors shaping saproxylic beetle communities in Central Europe: An experimental approach  
**Claudio Sbaraglia**

P0500 Unraveling the behavioral "building blocks" of social interactions in the socially flexible sweat bee, *Lasioglossum baleicum*  
**Michelle L. White**

P0485 Speciation in confined isolation: is ecological speciation at play in Norfolk Island Eumolpinae (Coleoptera: Chrysomelidae)?  
**Anabela Cardoso**

P0501 Temperature modulates sociality in the allodapine bee *Exoneura robusta*  
**Jan Kreider**

P0486 Host-Symbiont Interactions across a Sociality Continuum in Halictid Bees  
**Charlotte Knopp**

P0502 Extreme climate shifts pest dominance hierarchy through thermal evolution and transgenerational plasticity  
**Liang Zhu**

P0487 85 million year old insects "Eggs" of the family Empidoidea in amber in Kuji City, Iwate Prefecture using microphotographs and X-ray CT  
**Yasuyuki Shirota**

P0503 Exploring the Origin of Novel Traits in the Insect Head: Insights from Bizarre Head Development in Horn-Headed Crickets  
**Mizuho Yoneda**

P0488 Effects of mutualist aphid and temperature on colony growth and survival of African big-headed ant  
**Ming-Hsiao Peng**

P0504 To hair or not to hair, that is the question: the effectiveness of urticating hairs as a defence in the face of larval mortality  
**Kai Hart**

P0489 Ecology of ground beetles (Coleoptera: Carabidae) and their evolutionary process-hind wings, flight muscles, and feeding habits  
**Sonomi Shibuya**

P0505 Evolutionary dynamics of wing shape in dragonflies and damselflies  
**Alexander Blanke**

P0490 Flight muscle development and flight dispersal of *Parastmchia japonensis* (Hemiptera: Parastrachiidae)  
**Tomoe Kurita**

P0506 Evolution of Wingless Male Caste in Technomyrmex Ants Inferred from A Multi-Omics Approach  
**Po-Wei Brian Hsu**

P0491 Hiding in plain sight: flea beetles (Chrysomelidae: Galerucinae: Alticini) make feeding damage that approximate their own bodies in color and size  
**Alexander S Konstantinov**

P0507 Advances in The Classification of Noctuoidea  
**Jose I. Martinez**

P0508 Cooperative herbivory between two important pests of rice  
**Qingsong Liu**

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P0509 Evolution of insect hearing - what makes a neuron responsive to sound?  
Benjamin Warren

## Poster 15

11:45 - 13:30



## Insects as Food, Feed and Pollinators

- P0510 Temporal transition of pollination networks driven by flowering phenology and bees' diet decision  
**Yun-Chen Hsieh**
- P0511 Forest bees need diverse canopies  
**Clayton Traylor**
- P0512 Grinding feed does not affect growth, development and survival in individually and group reared edible crickets  
**Jacinta Kong**
- P0513 Subsidiary effects of spent coffee grounds in black soldier fly production  
**Mika Fujita**
- P0514 Unlocking the Potential of Black Soldier Flies (*Hermetia illucens*) as Efficient Biosolid Consumers  
**Sophia Escobar-Correas**
- P0515 Vertical Movement of Black Soldier Fly Larvae and the Design of Mass Production Bioreactors  
**Bo Yun Cheng**
- P0516 Cricket production by using food waste  
**Tsuyoshi Kurosu**
- P0517 The search for attractants controlling aggregation behavior in black soldier fly larvae  
**Sohgo Nishioka**
- P0518 Acceptability of Black Soldier Fly Larvae Food Waste Bioconversion Facilities (BFWs) in Singapore  
**Niraly Mangal**
- P0519 Mercury bioremediation takes flight!  
**Kate Tepper**
- P0520 Evaluation of feed produced from *Hermetia illucens* larvae in piglet breeding  
**Rino Nakajima**
- P0521 Potential of Black soldier fly business in Japan, based on the Taiwan model  
**Hiroto Ohki**
- P0522 How to harness natural arthropod pest regulation services in tropical horticultural systems? A biodiversity perspective.  
**Thibault Nève de Mévergnies**
- P0523 *Campylobacter jejuni*: challenge test on *Tenebrio molitor* L. larvae intended as food  
**Nunzio Isidoro**
- P0524 Japanese Locust (*Locusta Migratoria*) has food functionality for the suppression of metabolic syndrome  
**Shota Okamoto**
- P0525 Entomophagy in the western world: Strategies for inspiring humans to embrace edible insects as healthy, eco-friendly foods of the future  
**Sujaya Rao**
- P0526 Cyanide detoxification in crickets: towards environment-friendly feed design for cricket farming using agricultural by-products from cassavas  
**Kohyoh Murata**
- P0527 Characterization and selective breeding of a black mealworm strain of *Tenebrio molitor* Linnaeus (Coleoptera: Tenebrionidae)  
**Jeong-Hun Song**
- P0528 Quid Pro Quo? Wild Bees in Pollinator-independent Crop Agroecosystems of the South Eastern United States.  
**Isaac L. Esquivel**
- P0529 Insect Pollination and Its Economic Importance for the Main Crops in Morocco  
**Rachid Sabbahi**
- P0530 Pollen protein/lipid ratio drives the biased visitation of bumblebees (*Bombus ignitus* Smith) to male-fertile cultivars of the Japanese pear (*Pyrus pyrifolia* Nakai)  
**Shinnosuke Mori**
- P0531 Assessment of tomato pollination efficiency through machine-mimicked bumblebee vibrations  
**Yun Kuo**
- P0532 Potential Role of Logging Coppice in the Provisioning Longicorn-beetle Pollinators, Based on the Time-Series Quantitative Survey of Saproxyllic Beetles  
**Satoshi Asano**
- P0533 Benefits of agroecosystem practices for improving pollinator health and biodiversity  
**Arathi H Seshadri**
- P0534 Bottom-up effects of agricultural management practices on bee health  
**Pierre Lau**
- P0535 Ecosystem services in agriculture: How can plant mixes support pollinator populations?  
**Filip Franeta**
- P0536 A Little Bee Told Me...Honey Bee Foraging Preference in Mixed Urban & Agro-ecosystems  
**Sreelakshmi Suresh**
- P0537 What Do Edible Wasps Eat? ; The Sophistication of Local Knowledge Among Those Who Collect, Rear, and Eat Wasps for a Prosperous Life.  
**Tatsuya Saga**

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- P0538 Can aggregated flowers be detected by pollinators from a distance?: exploring changes in flower detectability with inflorescence density  
**Souta Anazawa**
- P0539 Warming-induced short-term phenological change boosts honey bee larval growth  
**Megan Ming-Yang Chang**
- P0540 Insect cell lines for a new sustainable food: first steps for a cultivated meat  
**Patrizia Falabella**
- P0541 Bees as joint pollinators: importance of their multifaceted impact on floral evolution  
**Kazuharu Ohashi**
- P0542 3PI: Predicting Plant-Pollinator Interactions in a Tropical Dry Forest  
**Alana Freytes-Rivera**
- P0543 Diversity of Edible Insects in Laos  
**Koji Mizota**

Poster 16

11:45 - 13:30



Pest Management

- P0544 Variants in Cas9 and *nanos* regulatory elements reduce resistance allele formation in homing gene drive  
**Rachel Zhou**
- P0545 Microsatellite DNA marker analysis of population genetic structure of the generalist predatory mite *Euseius sojaensis*  
**Yuki Kato**
- P0546 To determine the impact of plant based material against the jassid (*Amrasca* spp) (Homoptera: Cicadellidae) on the eggplant (*Solanum melongena* L.).  
**Muhammad Ali**
- P0547 Integrating plastic mulches and kaolin clay for heat stress alleviation and insect pest prevention in tomato cultivation  
**Emmanuel Torres**
- P0548 Responding to invasive species in the Pacific Northwest: merging research, extension, and outreach  
**Silvia I Rondon**
- P0549 Challenges of developing IPM for a new pest in a niche crop: Stem-boring agromyzid in quinoa  
**Adrianna Szczepaniec**
- P0550 Can *Aphis spiraeicola* outcompete *A. pomi* in European apple orchards?  
**Viktor Markó**
- P0556 Estimation of parameters for development of the rice stink bug, *Niphe elongata* under fluctuating temperature condition  
**Fumiya Sasaki**
- P0557 How much does increasing landscape heterogeneity decrease biopesticide resistance evolution? Simulating evolution with constraints  
**Blair Matarlo**

- P0547 Integrating plastic mulches and kaolin clay for heat stress alleviation and insect pest prevention in tomato cultivation  
**Emmanuel Torres**
- P0548 Responding to invasive species in the Pacific Northwest: merging research, extension, and outreach  
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- P0549 Challenges of developing IPM for a new pest in a niche crop: Stem-boring agromyzid in quinoa  
**Adrianna Szczepaniec**
- P0550 The Implications of Climate Change on Coffee Leaf Miner (*Leucoptera coffeella*) and Coffee Production in southeastern Brazil  
**Alessandra Marieli Vacari**
- P0551 Building an IPM program for the invasive Hibiscus Bud Weevil (*Anthonomus testaceosquamosus* Linell; Coleoptera: Curculionidae)  
**Alexandra M Revynthi**
- P0552 Update of the Rice Delphacid (Hemiptera: Delphacidae) Mangement in Texas Rice  
**Lina Bernaola**
- P0553 Early Detection in Potential Insect Vectors of *Ralstonia solanacearum*: A Major Component of Integrated Pest Management Program in Potato  
**Ma. Kimberly Cruz Suministrado**
- P0554 Identifying cassava genotypes resistant to the African cassava whitefly, *Bemisia tabaci* (Gennadius)  
**Maruthi M. N. Gowda**
- P0558 A discrete-deme model for spatial population genetics that mimics continuous space allows improved realism for gene drive simulations  
**Chengwei Shi**
- P0559 Pruning damage to *Camellia japonica* caused by *Ceresium holophaeum* on Toshima Island, Tokyo  
**Tadayuki Oshino**
- P0560 Spatial analysis of *Frankliniella occidentalis* in hot pepper greenhouse using geostatistical techniques  
**SoEun Eom**

- P0550 The Implications of Climate Change on Coffee Leaf Miner (*Leucoptera coffeella*) and Coffee Production in southeastern Brazil  
**Alessandra Marieli Vacari**
- P0551 Building an IPM program for the invasive Hibiscus Bud Weevil (*Anthonomus testaceosquamosus* Linell; Coleoptera: Curculionidae)  
**Alexandra M Revynthi**
- P0552 Update of the Rice Delphacid (Hemiptera: Delphacidae) Mangement in Texas Rice  
**Lina Bernaola**
- P0553 Early Detection in Potential Insect Vectors of *Ralstonia solanacearum*: A Major Component of Integrated Pest Management Program in Potato  
**Ma. Kimberly Cruz Suministrado**
- P0554 Identifying cassava genotypes resistant to the African cassava whitefly, *Bemisia tabaci* (Gennadius)  
**Maruthi M. N. Gowda**
- P0561 Anticipating the occurrence and type of critical transitions  
**Chun Wei Chang**
- P0562 Prediction of soybean pod borer *Leguminivora glycinivorella* (Lepidoptera, Tortricidae) damage using land use information  
**Hideto Yoshimura**
- P0563 Evaluation of X-ray irradiation on tsetse fly (*Glossina brevipalpis*) as an alternative to gamma cell irradiation  
**Moeti Oriel Taioe**

- P0553 Early Detection in Potential Insect Vectors of *Ralstonia solanacearum*: A Major Component of Integrated Pest Management Program in Potato  
**Ma. Kimberly Cruz Suministrado**
- P0554 Identifying cassava genotypes resistant to the African cassava whitefly, *Bemisia tabaci* (Gennadius)  
**Maruthi M. N. Gowda**
- P0564 The species composition of aphid vectors (Hemiptera: Aphididae) of potato virus Y and harbored virus strains in potato fields at Hokkaido, a northern region of Japan  
**Masakazu Sano**
- P0565 Vector diversity influence the transmission efficiency of barley yellow dwarf virus  
**Daniel J Leybourne**
- P0566 Finding potential vector of exotic *Xylella fastidiosa* in Australia  
**Piotr Trebicki**

- P0567 Population survey of leafhopper species in sugarcane fields and detection of sugarcane white leaf phytoplasma in leafhopper vector  
**Chanat Kaewmanee**
- P0568 Emerging tree health issues of wattle plantations in Ethiopia  
**Mesfin Wondafrash Gossa**
- P0569 Oral toxicity of systemic insecticides to the invasive red-necked longhorn beetle *Aromia bungii*  
**Eiriki Sunamura**
- P0570 Studies of flight characteristics of an ambrosia beetle, *Platypus quercivorus*, using improved flight mills  
**Haruki Konishi**
- P0571 The suitability of rice as a host of the fall armyworm, *Spodoptera frugiperda*, and the mortality of its larvae infected by 11 isolates of *Metarhizium*  
**Pei-Jung Lin**
- P0572 Suitability of eight major crops in Japan for the development of *Spodoptera frugiperda*  
**Sayumi Tanaka**
- P0573 Population genomics and allochronic strain divergence as a framework for strain-specific management of the fall armyworm in North America  
**Gregory A. Sword**
- P0574 A novel pest suction machine promising control of *Bemisia tabaci* (Hemiptera: Aleyrodidae) in a tomato greenhouse  
**Chiharu Saito**
- P0575 Cassava resistance to whitefly is correlated to the content of cyanogenic glucoside  
**Ranran Pan**
- P0576 Genome-wide analysis of MYB family in *Nicotiana benthamiana* and the functional role of the key members in resistance to *Bemisia tabaci*  
**Fengbin Zhang**
- P0577 Monitoring of the regional insecticide resistance of *Bemisia tabaci* collected from the pepper house in the Republic of Korea  
**Gyeongmo Gu**
- P0578 Spatio-temporal changes in the African cassava whitefly, *Bemisia tabaci*, and their microbiome.  
**Maruthi M. N. Gowda**
- P0579 Evaluation of pesticides for African cassava whitefly management.  
**Rekha Swamy**
- P0580 Recent evolution of tomato leaf curl New Delhi virus factors involved in host acquisition and host loss  
**Svenning Moller**
- P0581 Behind the scenes of *Popillia japonica*'s integrated pest management: differentially expressed genes following different control treatments  
**Claudio Cucini**
- P0582 Integrating and adapting long-lasting insecticide netting at food facilities with existing IPM programs to reduce pest infestation and ensure food security  
**Sabita Ranabhat**
- P0583 Possibility of Using Pure Neem Oil, and Black Pepper Essential Oil to Coating Rice Seed for Controlling Stored Insect Pests and Effects on Seed Quality during Storage  
**Pattamavadee Kunwanlee**

## Poster 17

11:45 - 13:30



## Systematics, Phylogeny and Morphology

- P0584 Systematics of emerald and tigertail dragonflies (Anisoptera: Synthemistidae, Corduliidae)  
**Aaron M Goodman**
- P0585 Finding of two new species of the genus *Gastrancistrus* (Hymenoptera: Pirenidae) parasitizing gall midges (Diptera: Cecidomyiidae) associated with evergreen trees in Japan  
**Kishin Inoue**
- P0586 Presentation Withdrawn
- P0587 An annotated checklist of millipedes and the first record of the millipede genus *Xystodesmus* (Polydesmida: Xystodesmidae) in the Korean Peninsula  
**Gyeongmin Kim**
- P0588 Developmental process of helmet formation in the treehopper *Poppea capricornis* (Hemiptera: Membracidae)  
**Kanta Sugiura**
- P0589 Out from nests and burrows, with mammals hand-in-hand: the phylogeny and evolution of the Sapriniinae (Coleoptera: Histeridae)  
**Tomáš Lackner**
- P0590 Diversity and systematics of Cretaceous angel insects (Zoraptera)  
**Robin Kundrata**
- P0591 Advancing Phylogenetic Studies of Tipulidae (Diptera) through the Systematics of Subgenus *Pterelachisus* in China  
**Yuetian Gao**
- P0592 THE PHYLOGENY OF THE SUPERFAMILY BIBIONOIDEA (INSECTA: DIPTERA) INFERRED FROM MITOCHONDRIAL GENOMES AND ITS IMPLICATIONS FOR THE EVOLUTION OF OUTBREAKS IN FLIES  
**Seunghun Jung**
- P0593 Diversity and distribution of extant angel insects (Zoraptera)  
**Gabriela Pačková**
- P0594 Genetics and morphology reveal cryptic species hidden within the first termite described (*Termes fatalis* Linnaeus 1758)  
**Nicolas Fontaine**

## Poster presentations

Sunday 25 Aug

P0595 Integrative taxonomy of the nocturnal Darwin wasp genus *Netelia* (Hymenoptera: Ichneumonidae: Tryphoninae) from Taiwan  
**Hsuan-Pu Chen**

P0596 Applications of Whole Genome Sequencing for Phylogenomics and Evolution in Hymenoptera: UCE and venom evolution  
**Juanita Rodriguez**

P0597 Citizen science and taxonomy: working with school students to document and name new wasp species.  
**Erinn Fagan-Jeffries**

Monday 26 Aug

P0598 A Newly Recorded Exotic Ant of the Genus *Solenopsis* Westwood, 1840 (Hymenoptera: Formicidae: Myrmicinae) in Taiwan  
**Fu-Ya Chung**

P0599 A review of the lac insects (Hemiptera: Kerriidae) of South America, with notes on a new genus from Brazil and Uruguay  
**Takumasa Kondo**

P0600 The establishment and application of DNA barcoding library of green lacewings (Neuroptera: Chrysopidae) from China  
**Yan Lai**

Tuesday 27 Aug

P0601 A systematic study of the bark nesting ant: *Rhopalomastix omotoensis* (Terayama, 1990) in the Ryukyu Islands.  
**Azumi Kudaka**

P0602 Fauna and protection of longhorned beetles (Coleoptera: Cerambycoidea) in the Philippines  
**Arvids Barsevskis**

P0603 Phylogeny and biogeographic history of the large cosmopolitan parasitoid wasp tribe Aleiodini (Braconidae: Rogadinae)  
**Buntika Butcher**

P0604 First molecular phylogeny of the subfamily Delininae (Diptera: Scathophagidae)  
**Sangjin Han**

P0605 Decoding systematics of the genus *Dasyhelea* Kieffer (Diptera: Ceratopogonidae) – a study in the Gangetic Delta of India  
**Shubhranil Brahma**

Wednesday 28 Aug

P0606 Male genitalic morphology sheds new light on the phylogeny of the pit-building antlion tribe Myrmeleontini (Neuroptera: Myrmeleontidae)  
**Yu-Hsiu Lin**

P0607 Species diversity and nest diversity of soil-feeding termites, *Dicuspitermes* (Termitidae) in Sarawak, Malaysia  
**Yoko Takematsu**

Thursday 29 Aug

P0608 A Taxonomic Study of Dacinae Fruit Flies (Diptera: Tephritidae) of Taiwan with Description of Male Genitalia  
**Chien-Yu Huang**

P0609 Imported agricultural products of quarantine pest query system in Taiwan—Scale insects  
**Shu-Pei Chen**

Friday 30 Aug

P0610 The Achilles' heel of Microgastrinae (Hymenoptera, Braconidae): lack of a robust phylogeny  
**Mostafa Ghafouri Moghaddam**

P0611 From Fuzzy Wasps to Fuzzy Generic Boundaries: UCE Phylogenomics of the Australasian Sphaerophthalminae (Hymenoptera: Mutillidae)  
**Madalene Marie Giannotta**

P0612 A taxonomic review of Korean *Phasia* Latreille (Diptera: Tachinidae: Phasiinae) based on morphology and DNA barcoding analyses  
**Seung-Su Euo**

P0613 New Distribution of *Reticulitermes speratus speratus* (Blattodea: Rhinotermitidae) in South Korea  
**Hyobin Lee**

P0614 Phylogenomic relationships of the Aedini tribe in mosquitoes  
**Huiqing Yeo**

P0615 Phylogeny and evolution of floral choices in bees of the tribe Emphorini (Hymenoptera: Apidae)  
**Nathalia Florez Gomez**

P0616 A review of the Japanese species of the genus *Hybrizon* (Hymenoptera: Ichneumonidae: Hybrizontinae)  
**Satsuki Kajiwara**

P0617 Discussion of species-group of *Carebara* (Hymenoptera: Formicidae: Myrmicinae) in Southeast Asia  
**Kohei Matsuura**

P0618 Well-established populations of the western drywood termite, *Incisitermes minor* (Blattodea: Kalotermitidae), in Korea  
**JaeHyeon Lee**

P0619 Phylogeny and evolution of Laelapidae focusing *Varroa* mites  
**Jaeseok Oh**

P0620 Revision of the psyllid genus *Diaphorina* (Hemiptera: Psylloidea: Psyllidae) using morphological and molecular techniques  
**Liliya Serbina**

P0621 Study on the morphological variations of *Bactrocera dorsalis* (Diptera: Tephritidae)  
**Deuk-Soo Choi**

P0622 Building a phylogeny for the Adelgidae using shotgun phylogenomics and the genome of the Hemlock Woolly Adelgid.  
**Bryan Brunet**

P0623 First discovery in Japan of a dolichopodid fly of the genus *Hypocharassus*, a genus with a disjunct distribution in East Asia and eastern North America  
**Kazuhiro Masunaga**

P0624 Challenges and progress in the taxonomy of neotropical soldierless termites (Blattodea: Termitidae: Apicotermitinae)  
**Tiago Carrijo**

P0625 Systematic of the treehopper tribe Darnini (Hemiptera: Membracidae)  
**Laura C Gonzalez Mozo**



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| <p>P0626 Phylogenomics and divergence dating of the Leptanillinae (Hymenoptera: Formicidae)<br/><b>Zachary Griebenow</b></p> <p>P0627 Presentation Withdrawn</p> <p>P0628 Preliminary study of the web-based identification system on Dipteran Insects larvae for the quarantine inspection in Korea<br/><b>Yong-Bong Lee</b></p> <p>P0629 Phylogeny and classification of jewel damselflies (Odonata: Chlorocyphidae)<br/><b>Seth Bybee</b></p> <p>P0630 Untangling paraphyly in Apoid wasps with an emphasis on the Ammoplanina group<br/><b>Rin Krichilsky</b></p> | <p>P0631 Discovery of <i>Trissolcus</i> (Hymenoptera: Scelionidae) parasitic on eggs of <i>Niphe elongata</i> (Hemiptera: Pentatomidae) in Japan<br/><b>Yuka Sakai</b></p> <p>P0632 A novel and effective ejaculating mechanism evolved in the sperm pump of Empididae (Eremoneura, Diptera)<br/><b>Tomoki Hirose</b></p> <p>P0633 Taxonomic revision of the genus <i>Aulonocarabus</i> (Coloeoptera; Carabidae) in South Korea<br/><b>Jong Kyun Park</b></p> <p>P0634 Three new species and one new record of spring stoneflies (Plecoptera: Perlodidae) from Korea<br/><b>Jeong Mi Hwang</b></p> <p>P0635 Paraprotosyllidiidae, an extinct family of minute-sized sternorrhynchans (Hemiptera)<br/><b>Marina Hakim</b></p> |
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Sunday 25 Aug

Monday 26 Aug

Tuesday 27 Aug

Wednesday 28 Aug

Thursday 29 Aug

Friday 30 Aug