

Australian Entomological Society

## 49th AGM and Scientific Conference

23rd - 26th September  
Alice Springs, Northern Territory

*Insects as the centre of our world*

### 2018 Program

#### Australian Entomological Society Conference Program

Sunday 23<sup>rd</sup> – Wednesday 26<sup>th</sup> September 2018

*Information disclaimer: The speakers, topics and times are correct at the time of publishing. In the event of unforeseen circumstances, the organisers reserve the right to alter or delete items from the conference program*

*Last updated 12<sup>th</sup> September 2018*

#### Sunday 23<sup>rd</sup> September 2018

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10:30-3:30pm	Editorial Board meeting – Boardroom 1
1:30pm	Registration desk open
2:00-4:30pm	Workshop: An introduction to mechanistic modelling (registration required)
4:45pm	Coaches depart the Alice Springs Convention Centre for Welcome Reception
5:00pm	Welcome Reception - Simpsons Gap
	Welcome to Country by Arrente Elder Ms Kumalie Riley
7:00pm	Coaches arrive back at the Alice Springs Convention Centre

#### Monday 24<sup>th</sup> September 2018

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From 8am Registration desk open

8:40– 8:45	Welcome & housekeeping	Ellery MAJOR (AD)
8:45 – 9:00	Opening address - <b>Chansey Peach MLA – Member for Namatjira</b>	Ellery MAJOR (AD)
9:00-9:45	<b>KEYNOTE:</b> Caterpillars as big as mountains: the ecology and cultural significance of caterpillars in the modern day. <b>Veronica Dobson &amp; Fiona Walsh</b>	Ellery MAJOR (AD)
9:45-10:30	<b>KEYNOTE:</b> Evolutionary history & global spread of termites: a mitochondrial phylogenomics approach. <b>Theo Evans</b>	Ellery MAJOR (AD)
10:30-11:00	<b>MORNING TEA</b>	

<b>TIME</b>	<b>Insect conservation: conserving the little things that run a rapidly changing world</b> <b>Chairs: Michael Braby &amp; Gary Taylor</b> Ellery MAJOR (AD)	<b>Pest management and alternative pest control</b> <b>Chair: Magen Pettit</b> Ellery B	
11:00-11:15	Strategic national approach for improving the conservation management of insects and allied invertebrates in Australia. <b>Gary Taylor</b>	Behaviour and Life History Strategies of Two Local Populations of <i>Scirtothrips dorsalis</i> Hood (Thysanoptera: Thripidae) in the Philippines. <b>Jena Joy Apolinario</b>	
11:15-11:30		Overwintering of <i>Carpophilus</i> spp. (Coleoptera: Nitidulidae) in almonds and its importance as a part of control strategy. <b>Dr Mofakhar Hossain</b>	
11:30-11:45	Conserving a biodiversity hotspot: patterns of biodiversity of butterflies and diurnal moths in the monsoon tropics of northern Australia. <b>A/Prof Michael Braby</b>	The value of pastures for pest suppression: valuable predator habitat or pest refuge? <b>Mrs Rebecca Nagy</b>	
11:45:12:00	The Butterflies Australia Project: addressing data deficiency in insects using citizen science. <b>Chris Sanderson</b>	Barrier plants – developing novel methods to prevent colonisation of crops by sweet potato weevil, <i>Cylas formicarius</i> . <b>Dr Liu Jian</b>	
12:00-12:15	Conservation of butterflies in Tasmania. <b>Dr Phil Bell</b>	Habitat manipulation using native/naturalised plant species: can this strategy reduce the overreliance of chemical insecticides in brassica pest management in Africa? <b>Blankson Amoabeng</b>	
12:15-12:30	Silver Xenica ( <i>Oreixenica lathoniella herceus</i> ) conservation in South Australia. <b>Bryan Haywood</b>	Animal exposure to urticating caterpillars: an update. <b>Prof. Myron Zalucki</b>	
12:30-12:45	Roadside insect habitats need national protection: a case study of the Endangered Bullock Jewel Butterfly, <i>Hypochrysops piceatus</i> Kerr, Macqueen & Sands, 1969 (Lepidoptera). <b>Dr Don Sands</b>	Thrips infesting strawberry in La Trinidad, Benguet, Philippines. <b>Dr Cecelia Reyes</b> (rapid fire 5 minute)	
12:45-1:30	<b>LUNCH</b>		
<b>Time</b>	<b>Native species: cultural and ecological significance</b> <b>SPONSORED BY NT Convention Bureau</b> <b>Chair: Renate Faast</b> Ellery MAJOR (AD)	<b>Pest management and alternative pest control (cont)</b> <b>Chair: Magen Pettit</b> Ellery B	<b>Modern Diagnostics: solving diagnostic challenges for Northern Australia</b> <b>SPONSORED BY Australian Department of Agriculture and Water Resources</b> <b>Chair: Craig Marston</b> Ellery C
1:30-1:45	Self-organized bioluminescence synchronization in cave glowworms. <b>Dr David Merritt</b>	Efficacy of plant extracts oil against <i>Sitophilus oryzae</i> (L.) In stored wheat grains. <b>Dr Gaje Singh</b>	Improving our understanding of Australasian Epilachnini (Coleoptera: Coccinellidae): taxonomy and distribution. <b>Mary Finlay-Doney</b>
1:45-2:00	The biodiversity of native bees in the 'burbs and their habitat preferences. <b>Kit Prendergast</b>	Efficacy of Inert dust and IGR's against different life stages of <i>Tribolium castaneum</i> L. (Herbst) (Coleoptera: Tenebrionidae). <b>Shahbaz Ahmad</b>	Fruit Fly diagnostics. <b>Mark Schutze</b>
2:00-2:15	Multiple ecosystem services for agriculture from native Australian plants. <b>Sunita Pandey</b>	<b>Session 2B: Physiology and adaptation</b> <b>Chair: David Merritt</b> Ellery B Moving to keep fit: feeding and movement behaviour of <i>Helicoverpa armigera</i> on artificial diet with different protein: carbohydrate ratios. <b>Peng Wang</b>	Preparation of identification keys for major Australian endemic and exotic genera of Miridae and Lygaeoidea (Heteroptera: Hemiptera). <b>Mallik Malipatil</b>
2:15-2:30	Revealing the biodiversity of Australian tarantulas. <b>Ethan Briggs</b>	Evolution of chemical defences in dalodesmid millipedes. <b>Hannah Zurcher</b>	Asia-Australia faunal relationships and new approaches to thrips identifications. <b>Laurence Mound</b>

2:30-2:45	Extremophiles in climate sensitive environments: Invertebrates in the Eyre Peninsula gnammas. <b>Brock Hedges</b>	Eucalyptus-feeding psyllids do not rely on olfaction to locate hosts. <b>Dr Martin Steinbauer</b>	A Lucid Key to Lepidopteran Larvae: Biosecurity & Beyond. <b>Diane Moyle</b>
2:45-3:00	How the native and introduced dung beetles are faring in paddocks along gradients of NSW tablelands? <b>Min Raj Pokhrel</b>	The cross-generation effect and multiple environmental cues that contribute to the plastic responses of summer diapause in the redlegged earth mite, <i>Halotydeus destructor</i> . <b>Xuan Cheng</b>	What materials and skills does a good generalist entomological diagnostician need, and how do we provide them. <b>Mike Hodda</b>
3:00-3:30	<b>AFTERNOON TEA</b>		
<b>Time</b>	<b>Native species: cultural and ecological significance (cont)</b> <b>SPONSORED BY NT Convention Bureau</b> <b>Chair: Renate Faast</b> Ellery MAJOR (AD)	<b>Physiology and adaptation (cont)</b> <b>Chair: David Merritt</b> Ellery B	
3:30-3:45	The buzz about stingless bees in the Northern Territory: ecology and pollination potential. <b>Mary Finlay-Doney</b>	Changes in headspace volatiles of eucalypts under attack by <i>Goniopteris</i> weevils. <b>Natalia Medeiros de Souza</b>	
3:45-4:00	Exploring a native Australian food resource: Aboriginal and Western understandings of lerps (Psyllidae). <b>Renee Salagaras</b>	Electrophysiological responses of the large placoid sensilla in the antenna of tomato potato psyllid, <i>Bactericera cockerelli</i> . <b>Lee-Anne Manning</b>	
4:00-4:15	Insects for everyone. <b>Pat Lowe</b>	The environmental predictors of ant melanisation over a bioclimatic gradient. <b>James Buxton</b>	
4:15-4:30	Ethnoentomology in Australia: How were insects used medicinally by Australian Aboriginal societies? <b>Dr Renate Faast</b> (rapid fire 5 minutes)	Why aphids will be more efficient at transmitting viruses in the future: field and growth chamber studies under increased carbon dioxide. <b>Dr Piotr Trebicki</b>	
4:30-4:45		Increased CO2 and temperature affect wheat and the performance of the aphid <i>Rhopalosiphum padi</i> and its natural enemy <i>Aphidius colemani</i> . <b>Ana Moreno-Delafuente</b>	
4:45-5:00		A glutathione S-transferase metabolic resistance to pyrethroids/DDT is linked with reduced mating competitiveness in male <i>Anopheles funestus</i> , African malaria vector. <b>Magellan Tchouakui</b>	
5:00-6:00	Poster Presentations in the Ghan Foyer (nibbles served and cash bar available)		

6:00pm for 6:30 start Student Event. Doubletree by Hilton, 82 Barrett Drive. Spinifex Room

## **Tuesday 25<sup>th</sup> September 2018**

From 8am Registration desk open

8:45-8:50	Welcome and housekeeping	Ellery MAJOR (AD)
8:50-9:35	<b>KEYNOTE:</b> Mechanistic models of insect distribution and abundance. <b>Michael Kearney</b>	Ellery MAJOR (AD)
<b>Time</b>	<b>Physiological trait variation and mechanistic distribution modelling</b> <b>Chairs: Steven Chown &amp; Michael Kearney</b> Ellery MAJOR (AD)	<b>Insights into the unique extinct insect fauna preserved in Burmese amber</b> <b>Chairs: Rolf Oberprieler &amp; Lauren Ashman</b> Ellery B
9:35-9:50	A comparative analysis of the thermal tolerance and metabolic rate of dung beetles from a temperate pasture ecosystem in Australia. <b>Zac Hemmings</b>	Introduction to Burmese Amber. <b>Dr Rolf Oberprieler</b>
9:50-10:05	Metabolic Performance of Australian Arachnids. <b>Ian Aitkenhead</b>	The challenges of imaging insect inclusions in Burmese Amber. <b>Debbie Jennings</b>

10:05-10:20	The relation between melanism and thermal biology in a colour polymorphic bush cricket, <i>Isophya rizeensis</i> . <b>Dr Arda Cem Kuyucu</b>	Mesozoic record of the Cucujoid beetles (Coleoptera: Cucujoidea). <b>Zhenhua Liu</b>
10:20-10:35	Environmental and developmental drivers at the egg stage generate divergent life cycles in wingless arid zone grasshoppers (Orthoptera: <i>Warramaba</i> spp.). <b>Jacinta Kong</b>	Imposter longhorn beetles in Cretaceous Burmese amber. <b>Lauren Ashman</b>
10:35–10:45	Group photo	
10:45-11:05	<b>Morning Tea SPONSORED BY Australian Entomological Supplies</b>	
<b>Time</b>	<b>Physiological trait variation and mechanistic distribution modelling (cont)</b> <b>Chairs: Steven Chown &amp; Michael Kearney</b> <span style="float: right;">Ellery MAJOR (AD)</span>	<b>Insights into the unique extinct insect fauna preserved in Burmese amber (cont)</b> <b>Chairs: Rolf Oberprieler &amp; Lauren Ashman</b> <span style="float: right;">Ellery B</span>
11:05-11:20	Blown out to sea? Drivers of secondary flight loss on oceanic islands. <b>Rachel Leihy</b>	Technological changes and a new family of Thysanoptera in Burmese Amber. <b>Laurence Mound</b>
11:20-11:35	Modelling the incursion and spread of a forestry pest within Victoria. <b>Dr John Weiss</b>	Crickets from Burmese amber (Orthoptera, Gryllidea). <b>You Ning Su</b>
11:35-11:50	Physiological characteristics and ecological dynamics. <b>Prof. Steven Chown</b>	New Brachyceran Diptera from Burmese Amber in the families Apsilocephalidae and Ironomyiidae. <b>Dr David Yeates</b>
11:50-12:05		The unique weevil fauna preserved in Burmese Amber. <b>Dr Rolf Oberprieler</b>
12:05-1:00	<b>LUNCH</b>	
1:00-1:50	<b>Shortlisted Phil Carne student presentations</b> Continental aridification correlates with the parallel acquisition of burrowing behaviour in Australian giant cockroaches (Blaberidae: Geoscapheinae). <b>Perry Beasley-Hall</b> The pitfalls of short range of endemism: high vulnerability to ecological and landscape traps <b>Leanda Mason</b> Morphological phylogeny of the Australian genera of the bee fly subfamily Bombyliinae (Diptera: Bombyliidae) <b>Xuankun Li</b>	Ellery MAJOR (AD)
1:50-2:05	<b>Biology and ecological relationships</b> <b>Chair: Katja Hogendoorn</b> Herbivory in a millipede. <b>Josh Douglas</b>	Ellery MAJOR (AD)
2:05-2:20	Convergent evolution of chemical signals across Kingdoms: spruce bark beetles ( <i>Ips typographus</i> , Curculionidae) and their fungal symbionts. <b>Prof. Philip Weinstein</b>	
2:20-2:35	Two's company, three's a crowd: co-occurring pollinators and parasite species in <i>Breynia oblongifolia</i> (Phyllanthaceae). <b>Jonathan Finch</b>	
2:35-2:40	Yeast insect associations. <b>Miguel de Barros Lopes</b>	
2:40-2:45	Investigating the functional role of dominant ant species in carrion ecology: consuming carrion or consuming the carrion consumers? <b>Melissa Van De Wetering</b>	
2:45 - 2:50	Distribution and seasonality of parasitoid wasps of agromyzid leafminers (Diptera: Agromyzidae) in Victoria. <b>Marianne Coquilleau</b>	
2:50-3:05	Oviposition preferences by <i>Aedes aegypti</i> in natural habitats. <b>Dr Shahid Majeed</b>	
3:05-3:30	<b>AFTERNOON TEA</b>	

3:30-4:30	AES AGM	Ellery MAJOR (AD)
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5:45pm Delegates to meet at Crowne Plaza Lasseter's Hotel Reception for a short walk to conference dinner

6:00pm Conference Dinner SPONSORED BY Northern Territory Department of Primary Industry and Resources  
Alice Springs Golf Course – dinner under the stars

### Wednesday 26<sup>th</sup> September 2018

From 8:30am Registration desk open

9:00-9:05	Welcome and housekeeping	
9:05 – 9:50	<b>KEYNOTE:</b> Plant biosecurity just comes with the Territory. <b>Sarah Corcoran</b> <span style="float: right;">Ellery MAJOR (AD)</span>	
9:50-10:20	<b>MORNING TEA</b>	
<b>Time</b>	<b>Beneficial organisms: biological superheroes</b> <b>Chair: Isabel Valenzuela-Gonzalez</b> <span style="float: right;">Ellery MAJOR (AD)</span>	<b>Biosecurity: detection, surveillance and eradication</b> <b>SPONSORED BY Northern Territory Department of Primary Industry and Resources. Chair: Stacey Anderson</b> <span style="float: right;">Ellery C</span>
10:20-10:35	Using parasitic Hymenoptera to control aphid pests along the Southern grain belt of Australia. <b>Samantha Ward</b>	UAVs supporting on-ground surveillance for grape phylloxera. <b>Dr John Weiss</b>
10:35-10:50	Efficacy of a novel integrated pest management strategy for sweet potato weevil ( <i>Cylas formicarius</i> ) and West Indian Sweet potato Weevil ( <i>Eusecepes postfasciatus</i> ) in Papua New Guinea <b>Robert Geno</b>	2017-18 brown marmorated stink bug, <i>Halyomorpha halys</i> (Hemiptera: Pentatomidae) detections in Western Sydney, New South Wales, Australia. <b>Martin Horwood</b>
10:50 -11:05	Neoclassical Biological Control: can we accelerate ongoing evolution of native <i>Leptocoris</i> soapberry bugs to limit <i>Cardiospermum</i> balloon vines? <b>Scott Carroll</b>	Development of Pest and Disease Lists for Mangoes in Cambodia. <b>Khay Sathya</b>
11:05-11:20	Evaluation of single and combined applications of entomopathogenic fungi and bio-rational insecticides against red palm weevil. <b>Muhammad Asad Saleem</b>	The Response to Asian Honey Bee Incursions ( <i>Apis cerana</i> ) in Northern Territory. <b>Vicki Simlesa</b>
11:20-11:35	Control of giant pine scale <i>Marchalina hellenica</i> (Hemiptera, Margarodidae) in Australia. Is biological control a feasible option? <b>Dr Umar Lubanga</b>	The entomological science and effort underpinning current efforts to eradicate Red Imported Fire Ant <i>Solenopsis invicta</i> Buren from Australia (Hymenoptera: Formicidae). <b>Austin McLennan</b>
11:35-11:50	Predatory efficacy and biological parameters of three coccinellid species against wheat aphid under controlled conditions. <b>Dr Saleem Muhammad Jawad</b>	Tracing invasion pathways of pyrethroid-resistant <i>Aedes aegypti</i> (yellow fever mosquito) into Australia and New Zealand using genome-wide SNPs. <b>Dr Tom Schmidt</b>
11:50-12:35	<b>LUNCH</b>	
<b>Time</b>	<b>Beneficial organisms: biological superheroes (cont)</b> <b>Chair: Isabel Valenzuela-Gonzalez</b> <span style="float: right;">Ellery MAJOR (AD)</span>	<b>Biosecurity: detection, surveillance and eradication (cont)</b> <b>Chair: Stacey Anderson</b> <span style="float: right;">Ellery C</span>
12:35-12:50	Possibility of Evolution or Adaptation in Culture of the <i>Oryctes</i> Nudivirus of the Coconut Rhinoceros Beetle <i>Oryctes rhinoceros</i> (Coleoptera: Scarabaeidae: Dynastinae. <b>Dr Geoffrey Bedford</b>	DNA barcode library of scale insects of biosecurity concern to northern Australia. <b>Eliza Finlay</b>

12:50-1:05	Integrated pest management technology in Northern Territory vegetable crops and extending the technology through demonstration plots. <b>Dr Brian Thistleton</b>		Simultaneous DNA and morphology preservation of psyllids captured on sticky traps in a field surveillance program. <b>Dr Eow LiXin</b>
1:05-1:20	Climate change impacts biological control; a case study involving the parasitoid, <i>Aphidius colemani</i> and the disease vector <i>Aphis gossypii</i> on melon plants. <b>Ana Moreno-Delafuente</b> (rapid fire 5 minutes)	<b>Taxonomy and evolution</b> <b>Chair: Lyn Cook</b> Ellery B Systematics of the Dodonaea inhabiting <i>Acizzia</i> (Hemiptera: Psyllidae). Testing the monophyly of this Australian insect group. <b>Alana Delaine</b>	Detecting the unexpected: Implementing DNA Metabarcoding for High-Throughput Insect Surveillance. <b>Alexander Piper</b>
1:20-1:35	<b>Fruit flies: an exotic and domestic conundrum</b> <b>Chair: Mark Schutze</b> Size distribution of pupae and quality control parameters of the Queensland fruit fly. <b>Sushil Gaire</b>	Genetic constraints to the evolution of broad polylecty in <i>Lasioglossum</i> (Chilalictus): Halictidae. <b>Trace Akankunda</b>	DNA Barcoding of sugar cane stem-borer moths of concern to Australian biosecurity. <b>Tim Lee</b>
1:35-1:50	The effect of raspberry ketone feeding on the electrophysiological responses of Queensland fruit flies to cue-lure stimuli md. <b>Jamil Hossain Biswas</b>	Speciation of bees ( <i>Homalictus</i> ): providing an alternative to the 'Taxon Cycle' in island biogeography theory. <b>James Dorey</b>	
1:50-2:05	Fruit flies in Indonesian mango production. <b>Dr Muryati Muryati</b>	Phylogeny of the Australian <i>Gasteruption</i> Latreille (Hymenoptera: Evanioidea: Gasteruptionidae). <b>Ben Parslow</b>	
2:05-2:35	<b>AFTERNOON TEA</b>		
<b>Time</b>	<b>Beneficial organisms: biological superheroes (cont)</b> <b>Chair: Isabel Valenzuela-Gonzalez</b> Ellery MAJOR (AD)	<b>Taxonomy and evolution (cont)</b> <b>Chair: Lyn Cook</b> Ellery B	
2:35-2:50	Detection of tephritid fruit flies using LAMP (Loop-Mediated Isothermal Amplification) assays. <b>Dr Arati Agarwal</b>	DNA barcoding the Australian microgastrine (Hymenoptera: Braconidae) fauna using a high-throughput approach. <b>Erinn Fagan-Jeffries</b>	
2:50-3:05	A History of Fruit Fly Detections in New Zealand. <b>Alan Flynn</b>	Is the widespread polyphagous pest, brown soft scale, a cryptic species complex? <b>Dr Yen-Po Lin</b>	
3:05-3:20	The Significance of Natural Predators and Sterile Insect Technique (SIT) on Queensland Fruit Fly Pest Control. <b>Darshana Rathnayake</b>	An historical new species of Thamnophryne: a case of symmetrical asymmetry. <b>Murray Fletcher</b>	
3:20-3:35	Pest Control Practices of Mango Farmers in the Philippines and ecological studies of fruit fly: Implication in Area-wide Pest Management. <b>Pee-Jay Rejuso</b> (rapid fire 5 minute)	Cryptic diversity of Anisolabid earwigs (Anisolabididae: Dermaptera) in Australian grain-producing regions. <b>Oliver Stuart</b>	
3:35-3:40	2019 Conference announcement		Ellery MAJOR (AD)
3:40-4:00	Awards and closing remarks		Ellery MAJOR (AD)