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Australian Stick Insect Goes Global

From the President

See the movie, read the book, watch the video. The Lord Howe Island Stick Insect (*Dryococelus australis*), sometimes considered the rarest insect on the planet, has been the subject of wide attention for some time, appearing in media around the world such as the New York Times, the UK's Daily Mail and Germany's Deutsche Vella, as well as featuring on T-shirts, baseball caps, stubbie holders, mints, and even Melbourne trams. Not to mention attracting the attention of luminaries including Sir David Attenborough and Dame Jane Goodall.

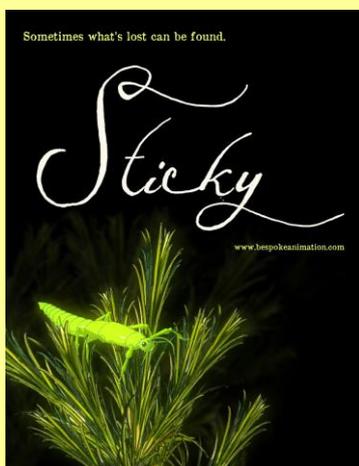
Now the humble stick insect features in a film and a book, both originating in rural Victoria. The film 'Sticky' by Castlemaine Director Jilli Rose and Producer Katrina Mazurek is taking the film festival world by storm, screening so far at 21 different festivals in Canada, USA, England, Hong Kong, Bulgaria, South Korea, Scotland, Spain, Greece and Austria.

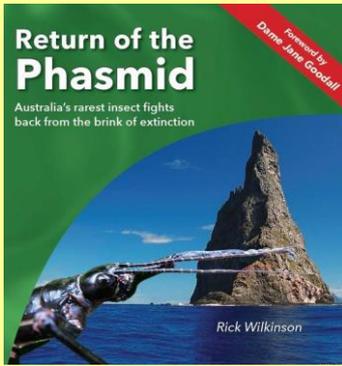
Last month 'Sticky' won Best Documentary at the St Kilda Film Festival and Best Short at the San Francisco Green Film Festival, as well as Best Short at the South by South West Films for the Forest (SXSW) in Texas, USA, all Oscar-accredited festivals.

This year has also seen it officially selected at Cinequest (Silicon Valley), the International Wildlife Film Festival (Montana), Mountainfilm (Colorado), and in the next couple of months will screen at the Columbia Gorge International Film Festival and Port Townsend Film Festival in the USA. And the video is on permanent display at the CSIRO Discovery Centre in Canberra.

On the book front, later this month sees the launch of 'Return of the Phasmid: Australia's Rarest Insect Fights Back from the Brink of Extinction' by Rick Wilkinson, seasoned author of 13 books with a more recent bent towards natural history. The book covers the natural history of the Lord Howe Island Stick Insect and the island, with a detailed narrative of the project to protect the species through captive breeding.

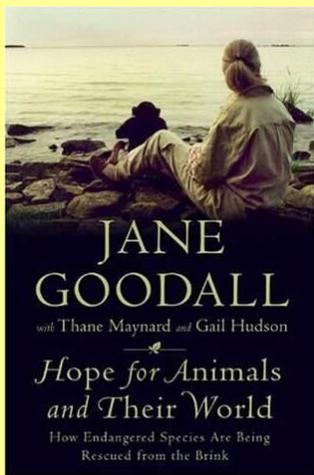
The Australian conservation movement in general lags behind Europe, the UK and the US, particularly in insect conservation. But the publication of both a book and film about a single





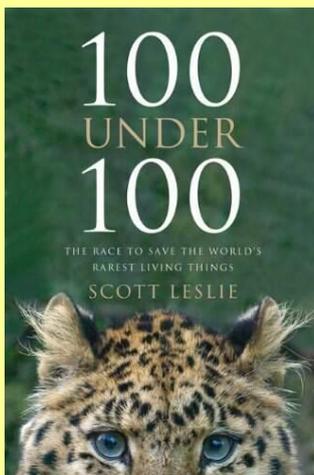
insect species is unprecedented worldwide, and is a significant feather in the cap of the burgeoning insect conservation movement in Australia. A number of books have been

published on the 'Tasmanian Tiger' – coincidentally, until its rediscovery in 2001, the Lord Howe Island Stick Insect was known by some as the Thylacine of the insect world.



Don Merton's book, 'The Black Robin', outlined the recovery of this species from the Chatham Islands off New Zealand, and was used as a handbook for single species (or flagship) conservation projects. The 'Return of the Phasmid' now sits proudly alongside it, and the LHSI also features in other

conservation-based books from overseas, such as Jane Goodall's 'Hope for Animals and their World',



and Scott Leslie's '100 Under 100'. The latter volume categorises species from around the world that are thought to have less than 100 specimens left in the wild.

In addition to these official publications, a video of a Lord Howe Island Stick Insect hatching filmed by Rohan Cleave at

Melbourne Zoo has had 1.6 million views on Vimeo and refeatured on many other websites, such as National Public Radio in the US.



The video also has more than 90,000 views on youtube, where it sits alongside a clip of Australia's highest-rating breakfast radio presenter Ross Stevenson taking a behind-the-scenes tour of the stick insect and its breeding programme.

At this stage the species is on public display only at Melbourne Zoo and in a small enclosure on Lord Howe Island, but plans are afoot to take the stick insect itself to the rest of the world.

Not bad for a humble Australian bug.

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'Sticky' can be purchased at <http://bespokeanimation.bigcartel.com/>

'Return of the Phasmid' can be purchased at <https://www.facebook.com/#!/pages/Return-of-the-Phasmid/619151198178258?fref=ts>

Video of the Lord Howe Island Stick Insect hatching can be viewed at <http://vimeo.com/14413689>

Goodall, J., Maynard, T. & Hudson, G., 2009, Hope for Animals and their World: How Endangered Species are being Rescued from the Brink, Grand Central Publishing, USA, 416pp

Leslie, S., 2012, 100 Under 100: The Race to Save the World's Rarest Living Things, HarperCollins Publishers, USA, 311pp

*Rohan Cleave, Manager of the Lord Howe Island Stick Insect breeding programme, will be the guest speaker at the Entomological Society of Victoria's August meeting. See Bulletin for further details.*

Patrick Honan  
President  
Entomological Society of Victoria.



## Notices

### From Gary Sankowski, Butterflies and Other Invertebrates Club (BOIC) member

I am looking for images of the following:

- Skippers: any of the Flats
- Skipper species occurring from Brisbane south
- Swordgrass browns - especially showing the upper side of the wings
- *Ogyris* species
- Hairstreaks
- *Jalmenus* species, including larvae with ants.

Additionally, I need eggs or small larvae of *Vanessa kershawi* (Australian Painted Lady) and *Vanessa itea* (Australian Admiral) to complete a series of life history images. Both these species are not very common in the north. I will compensate for postage and suggest if anyone has access to these to contact me first, either by email [garry.sanko@westnet.com.au](mailto:garry.sanko@westnet.com.au) or by phone 07 4095 4469."

### From the Australian Entomological Society

We are trying to hunt down Australian Entomological Society Foundation members who are still living. (Generally entomologists seem to be long lived!)

We have a number of people who, in 1991 at least, were in Victoria, and for whom we no longer have any contact address or phone number. I wonder if your Victorian society has contact with any of them or has any idea who might know of their whereabouts?

They are:

- Shepherd, R.C.H.
- Shelden, G.P.
- Ozols, J.
- Neumann, F.G.
- Morris, D.S.
- Kelly, P.G.
- Edwards, B.A.B.

We would be grateful for any help you can give!

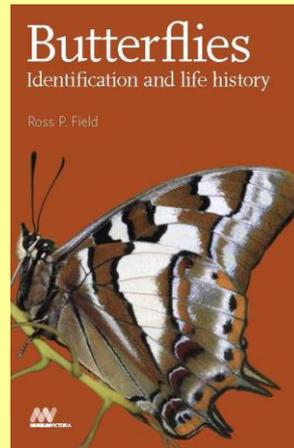
With best wishes

Alice Wells (on behalf of the Organising Committee of the 2014 AES Conference)

[Alice.Wells@csiro.au](mailto:Alice.Wells@csiro.au)



## Victorian Butterflies



Following April's presentation by Ross Field on his new book, several members wanted to purchase copies but unfortunately we ran out on the night.

Fortunately, the publisher (Melbourne Museum) has offered further copies at the August meeting at the discounted price of

\$25 (and without the exorbitant cost of postage.

### ESV Council:

<i>President</i>	Patrick Honan
<i>Vice President &amp; Excursion Secretary</i>	Peter Carwardine
<i>Hon Secretary</i>	Vacant
<i>Hon Treasurer</i>	Joshua Grubb
<i>Hon Editor</i>	Linda Rogan
<i>Immediate Past President</i>	Peter Marriott
<i>Webmaster and Facebook</i>	Steve Curle
<i>Councillors</i>	Vivienne Curle
	Peter Lillywhite
	Maik Fiedel
	Steve Curle

### ESV upcoming events

Meetings are held at the Melbourne Museum Discovery Centre Seminar Room, at 7.45pm.

Members and guests are welcome to join us at Michelinos Trattoria Restaurant in Carlton at 6pm.

17 June 2014  
Members' presentations

19 August 2014  
The Lord Howe Island Stick Insect – Rohan Cleave

21 October 2014  
Members' presentations

9 December 2014  
Excursion

## Articles of interest

### **Zombies in the Garden, Killing Themselves Slowly From: New York Times, Science April 2014**

Scientists say they have identified a protein that causes zombielike behavior in plants.

Certain crops are vulnerable to parasites that take control of their hosts' behavior, forcing them to act in the intruder's interest. (The same is true in some animal species: Spiders in Costa Rica infected by a parasitic wasp, for example, will abandon their own web and build one better suited to the wasp.)

The phenomenon occurs in flowering plants that have been infected by a pathogen transmitted by the tiny insects called leafhoppers. Rather than grow petals or stamens, infected plants will produce green, leaflike structures. This benefits the leafhoppers, which can eat the leaflike growths, but it prevents the plants from reproducing.

"It is like a living death for the plant," said Saskia A. Hogenhout, a biologist at the John Innes Center in England and an author of the study, which appears in the journal PLOS Biology. Affected crops can include grapes, coconuts and rapeseed.

By sequencing the genome of the pathogen, researchers identified a protein, SAP54, that causes the plants to produce the leaf tissue rather than their intended flowers. To become active, SAP54 interacts with a family of plant proteins known as RAD23.

Knowing the protein that causes the behavior should make it easier for researchers to develop a treatment that will reduce the number of crops lost to the disease.

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### **Could spiders be the key to saving our bees? From Science Daily June 2014**

A novel bio-pesticide created using spider venom and a plant protein has been found to be safe for honeybees -- despite being highly toxic to a number of key insect pests.

New research led by Newcastle University, UK, has tested the insect-specific Hv1a/GNA fusion protein bio-pesticide -- a combination of a natural toxin from the venom of an Australian funnel web spider and snowdrop lectin.

Feeding acute and chronic doses to honeybees -- beyond the levels they would ever experience in the field -- the team found it had only a very slight effect on the bees' survival and no measurable effect at all on their learning and memory.

Publishing their findings today in the academic journal Proceedings of the Royal Society B, the authors say the insect-specific compound has huge potential as an environmentally-benign, 'bee-safe' bio-pesticide and an alternative to the chemical neonicotinoid pesticides which have been linked to declines in pollinator populations.

Honeybees perform sophisticated behaviors while foraging that require them to learn and remember floral traits associated with food.

Disruption to this important function has profound implications for honeybee colony survival, because bees that cannot learn will not be able to find food and return to their hives.

By pollinating some key crop species, honeybees make a vital contribution to food security. The decline of these insects raises significant concerns about our ability to feed a growing population.

Professor Angharad Gatehouse, based in Newcastle University's School of Biology and one of the supervisors on the project, explains: "Our findings suggest that Hv1a/GNA is unlikely to cause any detrimental effects on honeybees.

"Previous studies have already shown that it is safe for higher animals, which means it has real potential as a pesticide and offers us a safe alternative to some of those currently on the market.

"The project is part of the Insect Pollinators Initiative, jointly funded by the Biotechnology and Biological Sciences Research Council, Defra, the Natural Environment Research Council (NERC), the Scottish Government and the Wellcome Trust under the auspices of the Living with Environmental Change (LWEC) partnership.

This research, involving academics from Newcastle and Durham Universities and the Food

and Environment Research Agency, was funded by the UK's innovation agency the Technology Strategy Board.

During the study, the bees were exposed to varying concentrations of the spider/snowdrop bio-pesticide over a period of seven days. Throughout the study period, the team carried out a series of memory tests and recorded any changes in behaviour.

Research lead Erich Nakasu, a PhD student at Newcastle University, explains: "This is an oral pesticide so unlike some that get absorbed through the exoskeleton, the spider/snowdrop recombinant protein has to be ingested by the insects.

"Unlike other pesticides, Hv1a/GNA affects an underexplored insecticidal target, calcium channels. These are more diverse than commonly-targeted insecticide receptors, such as sodium channels, and therefore offer the potential for more species-specific pesticides.

"Calcium channels are linked to learning and memory in bees so it's vital that any pesticide targeting them does not interfere with this process," explains Erich.

"Although Hv1a/GNA was carried to the brain of the honeybee, it had no effect on the insect which suggests the highly selective spider-venom toxin does not interact with the calcium channels in the bee.

"The larvae were also unaffected by the Hv1a/GNA, which they were able to break it down in their gut. Dr Geraldine Wright, one of the authors on the paper, heads up Newcastle University's Honeybee Lab.

Last year she led the research which highlighted the damaging effect of neonicotinoids on bees' ability to learn and remember and subsequently communicate to their hive mates.

"Around 90pc of the world's plants are directly or indirectly reliant on pollinators to survive," she explains.

"If we destroy the biodiversity of pollinators then it will be irrelevant how effective our pesticides are because we won't have any crops to protect.

"There is now substantial evidence linking neonicotinoid pesticides to poor performance and

survival in bees and what we need now is a clear directive from Government to develop and introduce bee-safe alternatives."

Professor Gatehouse adds: "There isn't going to be one silver bullet. What we need is an integrated pest management strategy and insect-specific pesticides will be just one part of that."

### Upcoming conferences

**Conference:** The XVII Congress for the International Union for the Study of Social Insects

**Location:** Cairns, Australia

**Date:** 13-18 July 2014

**Contact:** info@iussi2014.com

**Conference:** The International Society of Hymenopterists

**Location:** Cusco, Peru

**Date:** 20-25 July 2014

**Contact:**

[www.cebioperu.org/courses/hymenopterameeting.php](http://www.cebioperu.org/courses/hymenopterameeting.php)

**Conference:** The Invertebrates in Education and Conservation Conference

**Location:** Rio Rico, Arizona, USA

**Date:** 22-26 July 2014

**Contact:** Erin.Sullivan@Zoo.org

**Conference:** The 10th European Congress of Entomology (ECE 2014)

**Location:** York, UK

**Date:** 3-8 August 2014

**Contact:** ece2014@royensoc.co.uk

**Conference:** Seventh International Conference on the Biology of Butterflies

**Location:** Turku, Finland

**Date:** 11-14 August 2014

**Contact:** niklas.wahlberg@utu.fi

**Conference:** XXV International Congress of Entomology

**Location:** Orlando, Florida USA

**Date:** 25-30 September 2016

**Contact:** [www.ice2016orlando.org](http://www.ice2016orlando.org)

**Conference:** The 62nd Annual Meeting of the Entomological Society of America

**Location:** Portland, Oregon

**Date:** 16-19 November 2014

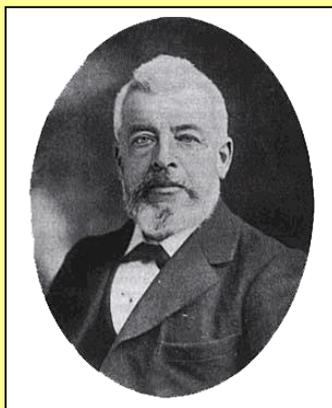
**Contact:** [www.entsoc.org/entomology2014](http://www.entsoc.org/entomology2014)

## Prominent entomologists

An occasional series on early entomologists

### **Victoria's first entomologist**

Charles French is often considered to be Australia's first official entomologist, having been



appointed Government Entomologist in Victoria in 1889, a first for the Australian colonies, and one year before A.S. Olliff in NSW. He was a renowned collector of insects and is best known to most people for the trivial name (*frenchii*) which appears in both insect and plant species. He

was the first scientific collector of the magnificent Rainbow Stag Beetle (*Phalacrognathus muelleri* (Macleay)), which he sent to Sir William Macleay and asked that the beetle be named after his boss, Baron Ferdinand von Mueller.

Born in 1842 in Kent, England, Charles French migrated with his family to Cheltenham, Victoria, in 1852 where he worked clearing land and assisting bullock-wagons transporting supplies to the goldfields.

His interest in plants came to the attention of von Mueller, director of the Botanic Gardens, with whom he formed a life-long friendship, and in 1865 Charles French was appointed to the Garden's nursery and lived on the grounds.

Having developed a strong interest in insects as a boy in England, Charles took it up again in 1860, exercising his collecting skills on botanical field trips around Australia. In 1874 he contributed an article on timber-boring insects to the Victorian Department of Agriculture's annual report, the first article on economic entomology published in the state.

In 1889 he was made Government Entomologist, a position that has made many naturalists/entomologists green with envy ever since. The post was created in response to the increasing number of native and introduced insect outbreaks, particularly a major locust (*Chortoicetes terminifera*) plague and concern

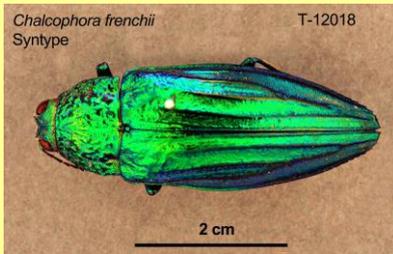
over the spread of *Phylloxera* on grape vines. His duties revolved around investigating and advising the Government on managing these outbreaks. This led to the publication of the 'Handbook of the Destructive Insects of Victoria', with five volumes published between 1891 and 1911.

These books are still highly-valued works, covering 132 species of arthropod pests, as well as colour plates of important insectivorous birds that he considered important agents of biological control. Although most of his work involved research into chemical control, his ideas were the fore-runner to Integrated Pest Management and in hindsight are somewhat prescient, focussing on "the balance between the birds, beasts, insects and plants and if by artificial means we destroy the balance, immediately intolerable numbers of some kind remain with us". Ladybirds were a particular favourite; he was entranced by the effectiveness of the Australian ladybird *Rodolia cardinalis* in controlling Cottony Cushion Scale (*Icerya purchasi*) in California in the 1880s.

An unpublished sixth volume of the Handbook was uncovered in 2011 during DEPI's translocation from the Institute for Horticultural Development (IHD) in Knoxfield to the new AgriBio unit at La Trobe University in Bundoora. Dr Alan Yen asked IHD staff to keep an eye out for the legendary volume of unknown whereabouts during their clean-up. The unfinished work, written one hundred years previously, had been in a sealed box since it was donated via Charles' son after his father's death. Dr Yen has since edited and updated it, and DEPI published 150 copies to round off the series.

Charles French published 22 articles between 1889 and 1912, and is considered the father of economic entomology in Victoria. He was an enthusiastic collector of beetles and conducted exchanges with overseas collectors, putting together a display in the Royal Exhibition Buildings in Melbourne in 1891. One of his three major beetle collections was sent to Indonesia, one to Holland and the third to the National Museum of Victoria (now Melbourne Museum). The latter contained more than 2,500 specimens, including the jewel beetle *Chalcophora frenchii*. In 1885 he was awarded a Gold Medal for an insect collection in an exhibition in Amsterdam.

Charles French's naturalist activities were as wide-ranging as his official ones. A fellow of the



Linnean Society of London and the Royal Horticultural Society of England, he was also a

foundation committee-member of the Field Naturalists' Club of Victoria in 1880. His interest in plants continued, contributing records on Victorian ferns to the 'Southern Science Record' and von Mueller's 'Key to the System of Victorian Plants (1885-88).

Charles French's son, Charles Hamilton French, was born in 1868, going on to echo his father's interests in natural history and collecting insect specimens as he travelled around the state on behalf of the National Herbarium. Charles Jnr eventually became Assistant Government Entomologist and contributed 31 articles to the Journal of Agriculture, going on to become Biologist to the Department of Agriculture and Officer-in-Charge of the Science Branch at Burnley Gardens.

Charles French Snr died in Malvern in 1933, leaving a legacy as a naturalist of renown, and of developing techniques that are the foundation of modern economic and applied entomology.

## *Around the societies*

### **Butterflies and Other Invertebrates Club**

#### **Planning and General Meeting.**

**What:** A talk by John Moss on some of the insects in his extensive collection will follow our quarterly planning meeting.

**When:** Saturday 2<sup>nd</sup> August 2014 from 10am.

**Where:** John's place at Capalaba – address provided on RSVP.

**Who:** All members are welcome.

**RSVP:** Ross Kendall on 07 3378 1187, 0402 254 370 [ross@butterflyencounters.com.au](mailto:ross@butterflyencounters.com.au)

#### **BOIC Display at the Brisbane Exhibition.**

**What:** The club will maintain a display for the duration of the "Ekka". Apart from books and posters, we will also have "live" invertebrates and a continuous slide show.

Two members will be in constant attendance.

**When:** From Friday 8<sup>th</sup> August to Sunday 17<sup>th</sup> August.

**Where:** In the Horticultural Pavilion, Brisbane Exhibition Grounds.

**Who:** Everyone is welcome to drop by.

#### **BOIC Display at Kumbartcho Festival.**

**What:** The club will maintain a display manned by Ross Kendall and Richard Zietek.

**When:** On Sunday 31<sup>st</sup> August 2014 from 10am to 3pm

**Where:** Kumbartcho, 15 Bunya Pine Court, Eatons Hill.

**Who:** Members from the northside of Brisbane are especially welcome to drop by.

#### **The Society for Growing Australian Plants Spring Flower Show.**

**What:** SGAP always has a spectacular display of native flowers and sponsor the sales of a wide range of native plants at very reasonable prices. Our club will maintain a display and have butterfly host plants for sale.

**When:** On Saturday October 11<sup>th</sup> and Sunday October 12<sup>th</sup>.

**Where:** The auditorium at Mt Coot-tha Botanic Gardens

**Who:** All members are welcome to drop by if within range.

#### **The Entomological Society of Queensland**

Meetings are held at the Ecosciences Precinct, Boggo Road, Dutton Park, Qld  
[k.ebert@uq.edu.au](mailto:k.ebert@uq.edu.au)

#### **Butterfly Conservation South Australia**

##### **1st July: Jewel beetles and plants**

Dr Peter Lang is a botanist with the State Herbarium, but also has an interest in Buprestid or Jewel beetles and their association with plants. Visitors will be enthralled by Peter's amazing images of these colourful beetles.

##### **5th Aug The wild life of wildlife - procreation oddities**

The need to breed has created many opportunities for evolution to enhance sexual "apparatus" and behaviour in the animal kingdom. Join us for a brief tour of the bizarre kinds of equipment and rituals that have led to the marvellous array of biological diversity on the planet. This talk by Professor Steve Donnellan will

commence at 7.00pm following a short BCSA AGM at 6.30pm.

### **2nd Sept: Orchids and lilies of the Adelaide Hills**

Orchids can be used as an indicator of ecosystem health. Author of "Start with the leaves" Robert Lawrence, will show how to identify native orchids and lilies of the Adelaide Hills with a well-illustrated presentation. Books will be available for sale. This talk will be preceded by the launch of the new BCSA Spider and other Arachnids posters.

### **7th Oct: Weeds and wildlife**

We know that wildlife sometimes use weeds as habitat – but does it really matter? Jasmin Packer, University of Adelaide, will reveal why weeds are sometimes critical habitat.

### **4th Nov: Remarkable fossils from Kangaroo Island**

Some of the best preserved Cambrian fossils in the world come from Kangaroo Island. They are about 515 million years old and include specimens with guts, appendages and some of the best preserved very early eyes. Presented by University SA Adjunct Professor Jim Jago.

### **The Society for Insect Studies**

#### **John Tann — Atlas of Living Australia: What You can do**

**June 10, 2014 7.30 pm, Australian Museum Annexe, Level 4**

The Atlas of Living Australia provides free access to information about Australian biodiversity. Researchers and the public can use biological collections information, field observations, photographs, literature and expert knowledge. Mapping and analysis tools are available to explore and study plants and animals in new ways.

In his talk, John will demonstrate some of the ALA capabilities and discuss how amateurs and specialists can get involved – such as contributing sightings and images, or by helping transcribe specimen labels.

John Tann works at the Australian Museum, where he has been involved with the Atlas of Living Australia since its inception seven years ago. In his free time, he takes photographs of small things and shares them on Flickr.

**Macleay Museum meeting 12 August 2014**

6.30pm – Look around the Macleay Museum Gallery and current exhibition

7.00pm – Robert Blackburn - Macleay Entomology Collections and Collectors

After the talk: tea and biscuits some drawers of specimens from the entomology collection will be on display but please note there is no collection tour.

An RSVP would be helpful so we can make sure enough chairs are out. If you plan to attend, please tell a Committee member by 11 August. The Macleay Museum is accessed via Gosper Lane, University of Sydney. A map and further information will be included in the next Circular.

### *IAPPS conference 2014*

#### **XVIII. International Plant Protection Congress (IPPC) 2015**

Mission possible: food for all through appropriate plant protection

#### **Conference Homepage:**

[www.ippc2015.de](http://www.ippc2015.de)

#### **Venue and Date:**

Free University Berlin  
Henry Ford Building  
Garystraße 35  
14195 Berlin-Dahlem/Germany  
24-27 August 2015

#### **Hosting Organisations:**

German Phytomedical Society (DPG)

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

Julius Kühn Institute (JKI)

[www.jki.bund.de](http://www.jki.bund.de)

Agriculture Industry Association (IVA)

[www.iva.de](http://www.iva.de)

#### **Conference Language:**

The official conference language is English.

#### **Conference Organization:**

Conventus Congressmanagement & Marketing GmbH

Justus Appelt/Claudia Tonn

Carl-Pulfrich-Straße 1

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## From the archives...

### **Some observations on the emergence of *Ogyris idmo* (Hewitson 1862) (Lycaenidae: Theclinae) By W.N.B. Quick**

*Published in 'The Victorian Entomologist' Vol.2,  
No.3, June 1972*

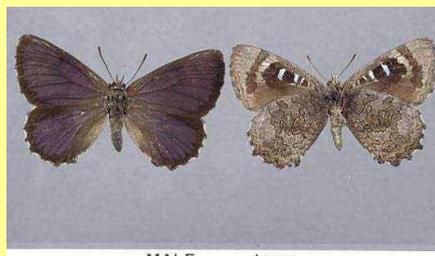
In November, 1945, while collecting near Kiata, Victoria, the late Mr M.W. Mules had the good fortune to see an apparently freshly-emerged *Ogyris idmo waterhouseri* fly from the ground almost directly in front of him, and which he was able to net.

Closer examination of the area uncovered a sizeable nest of the ant *Camponotus nigriceps* near the base of a mallee, *Eucalyptus viridis*. The nest was opened, and in a gallery just inside the entrance, one pupa of this butterfly was found, together with the empty pupal shell of the butterfly seen on the wing. The live pupa emerged late the same day, November 11<sup>th</sup>, 1945.

Save for a few tiny herbaceous plants and scattered grasses, this eucalypt appeared to be the only vegetation nearby which could conceivably support the larva of such an insect. It seems improbably however that a eucalypt would be the foodplant of an *Ogyris* butterfly, a genus



FEMALE 1 cm



MALE 1 cm

which is so closely associated with the Loranthaceae and Santalaceae, both of which families are represented widely in the surrounding districts. *Eucalyptus*, on the other hand, with over 600

species throughout Australia, has only once been reported as a butterfly foodplant (*Hypochrysops ignita chrysonotus*), and even this appears to have been an isolated and aberrant instance.

This situation has prompted several entomologists, the present writer included, to scour this same area for such plants as *Eucarya*, *Choretrum* and *Leptomeria*. None were found, although *Amyema miqueli* and *Leptomeria* occur within a mile or so. Reports of the area in immediately preceding years confirmed that no recent clearing had taken place.

It seems therefore that we may expect the larvae of this rare butterfly, if not carnivorous, either to be fed by the ants, or to feed within the ants' nest on items collected, or nurtured by the ants for their own use. In the latter case, the aberrant life-history might be compared to those within the genus *Pseudodipsas*, in which at least one species (*Ps. digglesii*) is a mistletoe feeder, while *Ps. myrmecophila* feeds on food stored by the ants within their nest, and in its immediate environs.

One additional point may be of significance. On that thundery, almost legendary day in early November 1939 when Mr Keith Hateley obtained no less than thirty eight specimens for the Lyell collection, the butterflies were flying low, as is their habit, over mallee re-growth, some three or four feet in height, the original growth having been roughly cleared some two years previously. This stage of growth would not only make the butterflies easily-observed, but may have offered conditions exceptionally favourable to either the ant of the butterfly population. Any areas which have recently been burned, or are in a stage of re-growth should be checked at this time of the year for a possible recurrence of this phenomenal upsurge in the butterfly's numbers.

The butterfly's habit, like *O. otanes*, of settling frequently on or near the ground may be significant.

To the best of the writer's knowledge, this constitutes the only occasion on which any trace of the early stages of this butterfly have been found, and was apparently the last seen of this species in the Kiata area.

*Photos courtesy Museum Victoria.*

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Contributions to the ESV newsletter are always welcome.

Contact the President, Patrick Honan, at [phonan@museum.vic.gov.au](mailto:phonan@museum.vic.gov.au)