



11 February 2016 Ken Walker (kwalker@museum.vic.gov.au) Museum Victoria. Edition 39.

Hi All – Welcome to 2016 and *THE BUGLE IS BACK* – but perhaps not with the same frenetic pace of an edition per week as in 2015. It takes me about a full day to write the Bugle so that's 20% of my weekly worktime which did become a burden some weeks last year with other pressing commitments. I have been successful in receiving two funded grants for 2016 so they will need my attention throughout 2016.

As I once said, I nearly fell off my chair when one reader suggested that I produce a Daily Bugle – though the sentiments were well appreciated! So, I will try to produce a monthly Bugle which will contain lots of great stories from the BowerBird records and people. If I am sometimes a few days late you will know that my grant work took precedence that week.

Well, I hope everyone had an enjoyable and safe Christmas – New Year period. Most certainly, the BowerBird record uploads continued unabated during this time with even several records being uploaded on Christmas Day a Gold Star for those people!

I have enjoyed watching the “summer batch” of wildlife appear on my BowerBird screen. Sometimes I just sit down and scroll through page after page of BowerBird sightings screens which

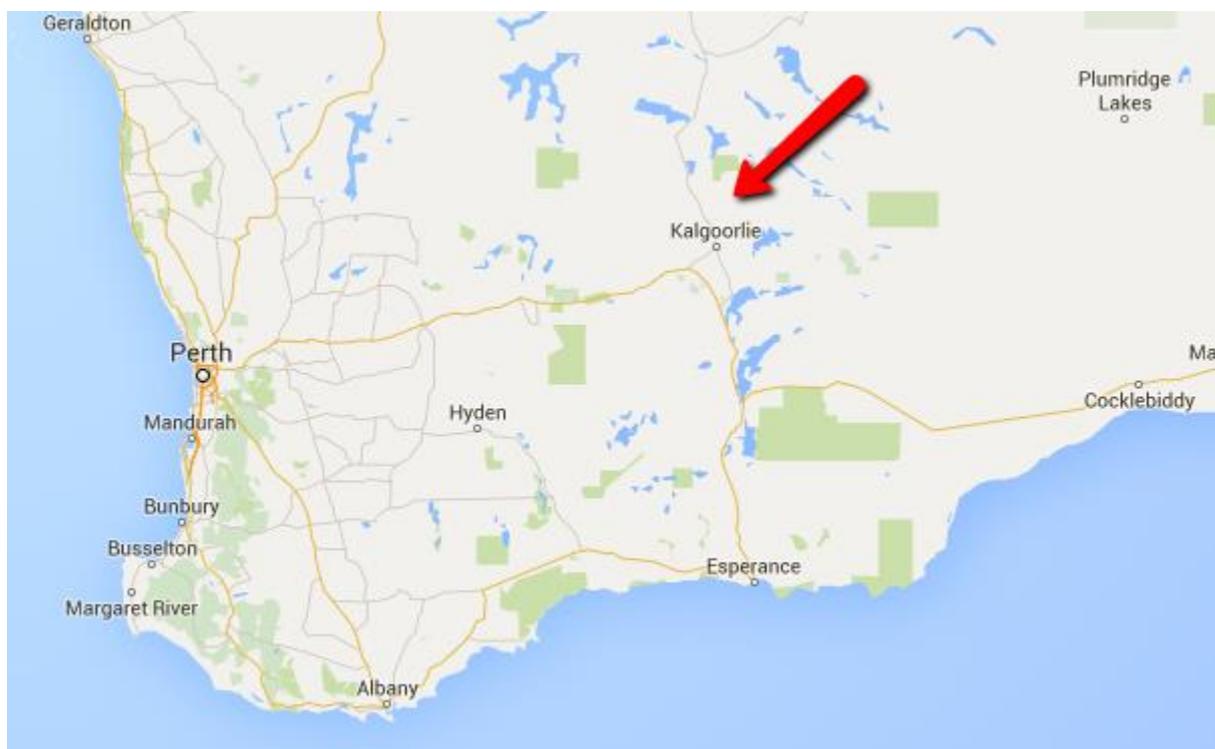
for me is like turning pages of a Natural History book that keeps growing as I am reading the “book”. Thanks everyone.

Well, my first story is about “getting the best bang for your buck” when engaging in social media. As I have previously noted, I am a “reluctant” Facebook user. I cannot remember actually creating a new Facebook post – I am more of a “watcher” or I tend to “lurk” and I occasionally add a comment or two. I watch for posts from old Uni or local friends but the main reason I joined Facebook was to watch and assist with identifications for the Australian Amateur Entomology and Native Bee Facebook groups. I get frustrated when I see posts not supplied with any location or date associated with photographed information – especially when the images are of really interesting things or species. Whenever I am asked to identify a post that does not have a location, I always reply “I do not know where these images was taken so I cannot help.” That usually gets a quick location response from the person who posted the record. Only once did the poster state just the State despite my several requests for a town or city.

However, my main frustration with social media such as Facebook or Flickr is the loss of value of the record and the time people have taken to photograph and post images as well as the efforts of those people who provide identifications. No Facebook or Flickr post is ever on-shared with any natural history database, let alone Australia’s National Biodiversity aggregator – Atlas of Living Australia (ALA). Citizen science has so much to offer to a better understand Australia’s plants and animals and yet knowledge added to Facebook and Flickr posts remains trapped inside these social website walls.

There are now over 40 billion images posts now on Facebook and Flickr – what a massive loss of data. So, when I see a valuable Facebook post, I often request that I be allowed to share the post’s images and data on BowerBird where ultimately the value of the data will finish up on ALA. Here are two examples from this week alone where original Facebook posts became BowerBird records and they significantly added to our Australian Biodiversity current knowledge. Indeed, I am considering putting my collecting pole and net back in the pool cue rack and just following Facebook and BowerBird to do my scientific discoveries!!

The first “fell of my chair” moment was a series of posts from Robyn Carlisle who lives in Kalgoorlie, WA – an inland town in central WA.



Robyn posted a series of bee images she had photographed in her Kalgoorlie home backyard. The first was this “cute” little bee sitting on the end of a leaf.



Robyn Carlisle

February 7 at 1:28pm

Sorry about the quality of the pic . but just wanted to share this tiny fellow that I saw last year in my garden Kalgoorlie WA



Someone replied that it could belong to the subgenus *Lasioglossum (Parasphecodes)* – which is a pretty good guess as almost all members of this subgenus have a red abdomen as it shown in the image. But colours are never a good or reliable character on which to base an identification. So, I decided to show how using ALA we could rule out the subgenus *Lasioglossum (Parasphecodes)* as it has never been previously recorded in or around Kalgoorlie and since I have studied *Lasioglossum (Parasphecodes)* I have always

considered the subgenus to be more of a coastal species. But first to ALA --

One of the six query options on ALA is to “Browse locations”.

This is a powerful and useful query tool.

Explore the Atlas of Living Australia

Australia's species



Search for Australian flora and fauna species by common, scientific name or search by category.

[Browse species](#)

Species by location



Search by pre-defined region, or enter an address or location to find the recorded species nearby.

[Browse locations](#)

Collections



Learn about the institution, the collections they hold and view records of specimens that have been databased.

[Browse collections](#)

Mapping & analysis



Visit the Atlas research portal for analysing species occurrences, areas and environments.

[Browse mapping](#)

Data sets



Refine the list of all the data sets contained within the Atlas by institution, integration status, content, resource, and license.

[Browse data sets](#)

ALA Community



Partner profiles, collaborations, and case studies: see how our key contributors help grow the Atlas of Living Australia.

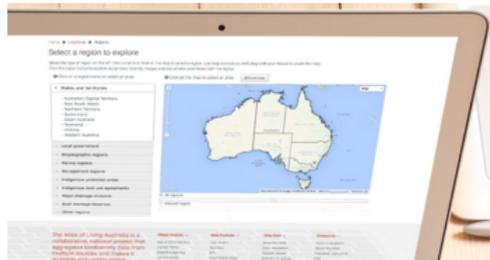
[Browse community](#)

Inside this option, are two ways to query: By REGION or by LOCATION.

Explore by region or location

Use the Atlas of Living Australia to browse species by region or by location.

Explore by pre-defined region



Pre-defined regions include states and territories, local government areas, biogeographic regions, marine regions, management regions and more.

[Browse by region](#)

Explore by address or location



Simply enter an address or location to find the recorded species nearby. You can set the size of the search area and download the results.

[Browse by location](#)

The “By Region” query allows you to make large, broad scale queries about defined regions such as Australian States or Territories. It’s an easy way to examine the Biodiversity of a region – but it does return thousands of species and records.

▼ States and territories

- Australian Capital Territory
- New South Wales
- Northern Territory
- Queensland
- South Australia
- Tasmania
- Victoria
- Western Australia

A query for Victoria returns 10.6 million records. In the left column are displayed all of the returned groups (eg, Mammals, Bird) which you can select to narrow down your query.

Occurrence records (10.16 million)

Explore by species	Explore by taxonomy
Group	Sp
▼ All Species	1. "Eucymatoge'
> Mammals	2. Aaaba fossicc
> Birds	3. Aaaba nodosi
> Insects and Spiders	4. Aades cultrati
> Amphibians	5. Aaroniella rav
> Reptiles	6. Abantiades aj
> Fish	7. Abantiades bi
> Molluscs	8. Abantiades hy
> Crustaceans	9. Abantiades la
> Plants	10. Abantiades la
> Fungi	11. Abantiades le
	12. Abantiades m

By selecting only “Insects and Spiders”, I have reduced the number of returned records from 10.16 million down to 19,174 – Phew and then I can choose to examine only the records for Wasps, Ants, Bees and Sawflies. Still, that’s a lot of data and probably only useful if you are writing a report or you want to get a full overview of a faunal component across a State or Territory. Great for Government enquiries, EPA’s etc but perhaps not so great for citizen science enquiries – so let’s look at the second option: Browse by location

Occurrence records (19,174)

Explore by species		Explore by taxonomy	
Group	Species	Records	
<ul style="list-style-type: none"> ▼ Insects and Spiders Cockroaches, Termites Beetles Earwigs Flies, Mosquitoes Webspinners Mayflies, Shadflies Cicadas, Aphids, Planthoppers, Leafhoppers, Shield Bugs <li style="background-color: #8B4513; color: white;">Wasps, Ants, Bees, Sawflies Butterflies, Moths Mantises Scorpionflies, Hangingflies Alderflies, Dobsonflies, Fishflies Lacewings, Mantidflies, Antlions Dragonflies, Damselflies Grasshoppers, Crickets, Locusts, Katydid, Weta, Lubber Stick Insects, Phasmids Stoneflies Fleas Thrips Caddisflies, Sedge-flies or Rail-flies Silverfish 	<ol style="list-style-type: none"> 1. Abispa (Abispa) ephippium : Potter Wasp 2. Abispa (Abispa) splendida 3. Acanthobetyla tooloomensis 4. Acarodynerus dietrichianus rufocaudatus 5. Aclista claripennis 6. Aclista longispina 7. Aclista variipennis 8. Acropyga myops 9. Acropyga pallida 10. Afranthidium repetitum 11. Alaptus reticulatipennis 12. Amblyopone australis 13. Amblyopone clarki 14. Amblyopone exigua 15. Amblyopone ferruginea 16. Amblyopone gracilis 17. Amblyopone longidens 18. Amblyopone mercovichii 19. Amblyopone michaelsoni 20. Amegilla (Asaropoda) albiceps 21. Amegilla (Asaropoda) bombiformis 	<p>5</p> <p>1</p> <p>2</p> <p>1</p> <p>2</p> <p>3</p> <p>5</p> <p>1</p> <p>4</p> <p>4</p> <p>2</p> <p>100</p> <p>2</p> <p>4</p> <p>35</p> <p>5</p> <p>5</p> <p>1</p> <p>2</p> <p>1</p> <p>3</p>	<p>▲</p> <p>▼</p>

I love the “Browse location” query as I can customise it using a postcode or a town or a street address or even input my own GPS co-ordinates. It allows me to “personalise” my query. So, I did a query for Kalgoorlie and I selected a 10km radius from the centre of Kalgoorlie (the default is 5km radius).

Explore Your Area

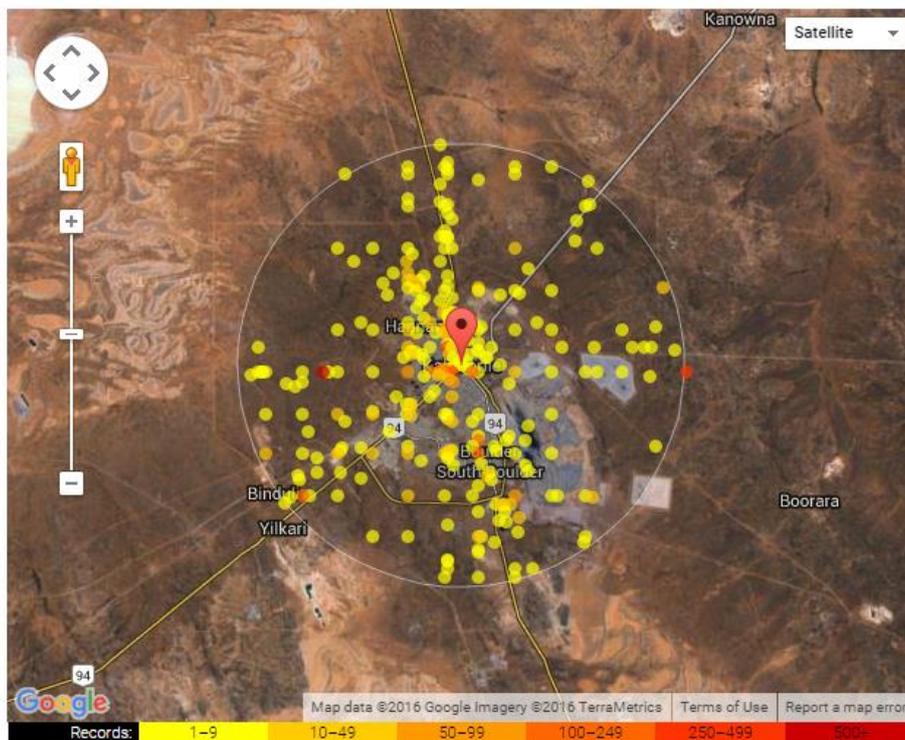
Enter your location or address:

Showing records for: **90 Egan St, Kalgoorlie WA 6430, Australia**

Display records in a km radius

E.g. a street address, place name, postcode or GPS coordinates (as lat, long)

I get a map showing me all of the records within the 10km radius



I get a list of all plants and animal records within this circle and again, I can select “Insects” only and then scroll down to the *Lasioglossum* section which shows only the subgenus “*Chilalictus*” bees has been recorded around Kalgoorlie, WA.

Species : Common Name	Records
89. <i>Iridomyrmex bicknelli</i> : Dome Headed Tyrant Ants	1
90. <i>Iridomyrmex brunneus</i>	1
91. <i>Iridomyrmex chasei</i>	1
92. <i>Iridomyrmex rufoniger</i> : Tufted Tyrant Ants	2
93. <i>Iridomyrmex turbineus</i>	1
94. <i>Jalmenus aridus</i> : Inland Hairstreak	13
95. <i>Lasioglossum (Chilalictus) adustum</i>	3
96. <i>Lasioglossum (Chilalictus) ebeneum</i>	1
97. <i>Lasioglossum (Chilalictus) erythrurum</i>	1
98. <i>Lasioglossum (Chilalictus) fasciatum</i>	1
99. <i>Lasioglossum (Chilalictus) greavesi</i>	1
100. <i>Lasioglossum (Chilalictus) gunbowerense</i>	3
101. <i>Lasioglossum (Chilalictus) veronicae</i>	1
102. <i>Lasioglossum (Chilalictus) vitripenne</i>	1
103. <i>Leptopius areolatus</i>	1
104. <i>Leptopius duboulayi</i>	1
105. <i>Liparetrus cinctipennis</i>	1
106. <i>Liparetrus germari</i>	1
107. <i>Liparetrus malara</i>	1
108. <i>Liparetrus niger</i>	2
109. <i>Lixus mastersii</i> : Weed Weevil	2
110. <i>Mallada signatus</i>	1
111. <i>Megacephala blackburni</i>	4



Feeling pretty confident, I explained that no *L. (Parasphecodes)* records has been found at Kalgoorlie and noted that *L. (Parasphecodes)* was a coastal subgenus and very unlikely to be recorded so far inland. Puffed up like a male peacock in full plumage, I identified the bee as *Lasioglossum (Chilalictus) greavesi* – which is on the above list. Appropriate thanks was received from Robyn – the poster of this image. That’s when I should have shut down my computer and never looked at Facebook again. Two days later Robyn posted another bee from her backyard and I fell off my chair – again!



Robyn Carlisle

February 9 at 1:28am

Only saw this bee the one time I think it is a fire tailed Resin Bee but am most happy to be corrected . Kalgoorlie WA



Crickey !! It's a (please excuse my French) BLOODY *L.* (*Parasphecodes*) FROM KALGOORLIE, WA! Bugger!! My coastal theory for this subgenus was busted! I could not believe my eyes but there was the proof. A Browse by Region search for WA shows that four species of *L.* (*Parasphecodes*) have been recorded in WA. The closest *Parasphecodes* record to Kalgoorlie is *L. hiltacum* from Southern Cross, WA and that is what Robyn's image bee appears to be.

562.	Lasioglossum (Parasphecodes) dissimulator	1
563.	Lasioglossum (Parasphecodes) hilactum	40
564.	Lasioglossum (Parasphecodes) hiltacum	84
565.	Lasioglossum (Parasphecodes) lichatum	38

As I said earlier, I reckon there is no point me going out collecting anymore. I keep an updated bee database which has bee records from every Australian Museum – thousands of records across almost 100 years’ worth of collecting by multiple collectors. My database shows 19 bee species have previously been collected around Kalgoorlie but no one has ever before collected any species of *L. Parasphecodes* – until “bloody” now!



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Search Facets Show

Search Keys Show

Search By Map Show

19 results found for "Kalgoorlie" in All Fields (0.4621942 seconds)

So – I humbled myself, withdrew my previous *L. Parasphecodes* distribution predications and grovelled with Robyn to allow me to add her image to BowerBird so ALA will show this subgenus does occur that far inland. Robyn willingly gave her approval – Phew. What a waste of a valuable record if it had of remained only in Facebook. Robyn has promised to update me further with the bees that visit her backyard in Kalgoorlie – I’m sure I will learn a lot from Robyn!

Ken Walker
9 Feb 2016



Photo copyright to Robyn Carlisle

New inland record for Parasphecodes bees!

1 votes
+ -

2 favourites
★

Edit

1 Identify
0 Describe

Sighted 6 Feb 2016



90 Egan St, Kalgoorlie WA 6430, Australia

Projects

Robyn was so pleased with her find that she posted this Facebook “classic” comment:



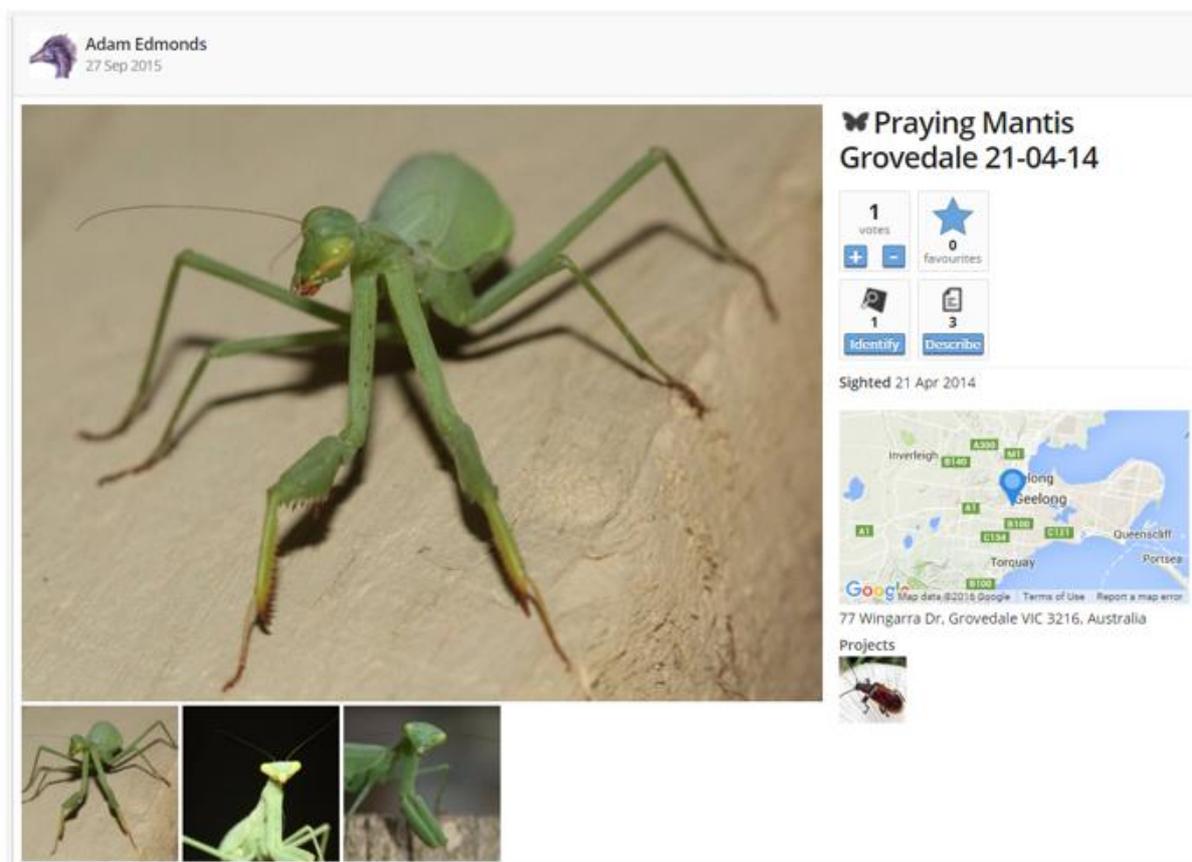
Robyn Carlisle Must say I am rather pleased may never get back to the house work again lol

I do hope that Robyn now devotes her time to photographing bees (just bees!) in her backyard to educate me – alone! (:->!

So that was Sunday and Tuesday of this week. Tuesday night brought a while new amazing discovery as I was soon to find out.

Some of you may remember last year when on 27th September 2015, Adam Edmonds posted images of a mantid photographed in his Mum's backyard in Geelong. (What is it about Australian "backyards"??? Stuff of nightmare for me!)

Well, these images turned out to be the first record for Australia of a new invasive pest species called the South African mantis – *Miomantis caffra*. The governmental paperwork in Victoria and Canberra generated by this find most likely felled a few Tasmanian forests! Great excitement/devastation all round.



In early October, Adam returned to his Mum's Geelong backyard (I hate that word!) and collected a specimen which he present to me on 2 October 2015. I set, staged, dried, labelled

and registered this specimen. And, here is an image of the final Museum ready specimen. We sent this specimen to the Australian mantid expert at the Australian Museum – Graham Milledge. Graham confirmed the genus as *Miomantis* and suspects it is *M. caffra* but unfortunately the separation of species in the genus can only be done by male genitalia examination and this was a female specimen. So, we now know it is an exotic genus and we know the presumed species.

“All went quiet on the Western Front” regarding *Miomantis*.



“Tuesday night was a night like any other night”. (I think that is the begin line from so many books!). I had settled in to watch some rubbish on the TV when I heard a ping from my iPad signalling an email had just arrived. Ethan Beaver, a keen BowerBird member, emailed asking if I had seen a Facebook post from that day that he thought looked like *Miomantis* – and the photo was labelled “Melbourne”. OMG! The post had been put in the international “Entomology” group rather than the

“Amateur Australian Entomology” group. I had seen it earlier in the day but I did not think much about it as the top image of the post looked like a typical local mantid species ootheca (ie. egg case).



Dahlstrom AnnaKarin

February 7 at 6:37pm · Melbourne

Melbourne, Australia

Interesting egg sack? Anyone knows what it could be?



Because I did not open that post, I did not see Anna’s follow up posted images of a different ootheca she had also found at her property. Silly me as it turned out.



Dahlstrom AnnaKarin Yes, have had a few mantis around this year- actually saw one mantis laying one a month ago on my front porch, but it looks different- it's whiter and longer- but probably the same then.

Like · Reply · February 7 at 6:41pm



Dahlstrom AnnaKarin This is the other one



Later Anna posted an image of the mantid she saw laying this ootheca – it was *Miomantis* and from Melbourne! OMG! Again!



Dahlstrom AnnaKarin And this is her before laying the White sack



Like · Reply · February 9 at 7:05pm

Following a series of posts I sent to Anna's mantis page, she contacted me by email and gave me her home address which was in Brighton, Melbourne. Again, I grovelled and asked permission to post her images on the BowerBird website and I

arranged to visit her home the next morning to collect the ootheca and to look for the adult. It turned out the ootheca was laid on 6 January 2016. It had been laid on the mortar between the red bricks so it was easy to dislodge a bit of mortar and to remove the ootheca intact and then into a secure container.



Anna and I searched all of the bushes in her yard for almost one hour but we did not see any sign of the adult female.

The ootheca has the characteristic shape of *Miomantis* – oval with a raised central midline ridge



It was not until I returned to the Museum and examined the ootheca under a microscope that it appears none of the eggs have hatched. Hopefully, if the eggs are viable and we do get hatchlings from this ootheca, then we would hope to breed through a male to adulthood which would allow us to examine the male genitalia and confirm the species name *M. caffra*. Below is an image of the ootheca through a microscope.

Well, another Tasmanian forest was felled to document the discovery of this second sighting of *Miomantis* now from Melbourne. This species originated in South Africa and first turned up in New Zealand in 1978. There it appears to be out

competing the local native mantis species. A 2013-2014 quarantine survey of Norfolk Island also discovered *Miomantis caffra* on the island.



So really, why do I need to leave my warm and cosie office to travel to Kalgoorlie to collect bees or to scour the suburbs of Melbourne looking for invasive pests – the public will find them in their backyards (grrrrrrrrrr) and offer their finds to me on a platter called Facebook or BowerBird. If on Facebook, all I have to do is to grovel to share the images and details onto BowerBird, which then uploads to ALA and the whole world then knows about these wonderful Biodiversity find. Piece of cake! – No more collecting for me! I can't find half the things locals find in their backyards (there's that word again!). Of course, they spend 12 months in their backyard (Now I'm taking tablets) whereas I spend at most a morning or afternoon and then off to another location 100kms down the road. I'm done!

In early January 2016, Laurence Sanders photographed an extraordinary interaction between a wolf spider and a leaf cutter bee. What Laurence photographed broke the “natural rules” of predator versus prey relationships. Fortunately, Laurence uploaded his image on both Facebook and BowerBird so I did not need to grovel in this case. I sent Laurence’s images to bee and spider colleagues around the world and no one had ever seen or even heard of such an interaction let alone have a series of wonderful images that documented what happened. Within days, I began receiving requests from around the world to share Laurence’s images – which fortunately were already on Facebook and BowerBird. People I have never heard of excitedly contacted me asking for the links as they had heard a rumour about a bee and wolf spider. Their excitement was palpable and their enjoyment obvious. Laurence and I decided this was too good a story to keep just within Facebook and BowerBird so I approached the editor of Wildlife Australia. Last year, I wrote a bee story for this magazine and I felt it was quite professional in its approach and coverage. Several BowerBird members receive and assist this publication. The article will most likely be published in the Autumn issue but I thought I would provide here a preview. The text below is not the text that will appear in the published version – the editors took my text and added their “Wildlife Flavour”. I do not want to repeat their final text prior to its formal publication. My text below will still give you the flavour of the story. Enjoy!!

Strange bedfellows – Part 1.

Amazing natural science discoveries often come from simple observations; and amateurs, some now called “citizen scientists”, have made many of these discoveries. There is a difference between an amateur and a citizen scientist: the latter shares their knowledge. The famous biologist E.O. Wilson

once wrote: “Knowledge does not become science until it is shared.” There are numerous ways to share observations – Facebook, Flickr, BowerBird, Atlas of Living Australia etc. The important thing is to share with others what has been found.

Laurence Sanders is a citizen scientist living in Emerald, Queensland and a BowerBird member. He has a passion for observing and photographing natural history – in particular Australian native bees and spiders even though Laurence is “slightly arachnophobic”. Laurence has observed, documented and shared many previously unknown aspects of our native bees’ natural history but a recent observation he made has delighted and perplexed professional scientists nationally and internationally.

Leaf cutter bees (*Megachile* spp.) get their common name from the habit of female bees cutting oval shaped pieces of leaf about the length of their body. The bee curls in half the cut a piece of leaf and flies it back to a nesting site which is usually a disused underground burrow – the bee never digs her own burrow. Each female bee constructs a brood cell by shaping together about 10 pieces of cut leaf into a cylinder shaped tube. At one end of the tube, the bee provisions a ball of pollen - called a “pollen pudding”. An egg is laid on top of the pollen pudding and the leafy tube sealed. In these photos, the cut leaf pieces come from a Bauhinia tree - *Lysiphyllum cunninghamii* – located about seven metres from the underground burrow.

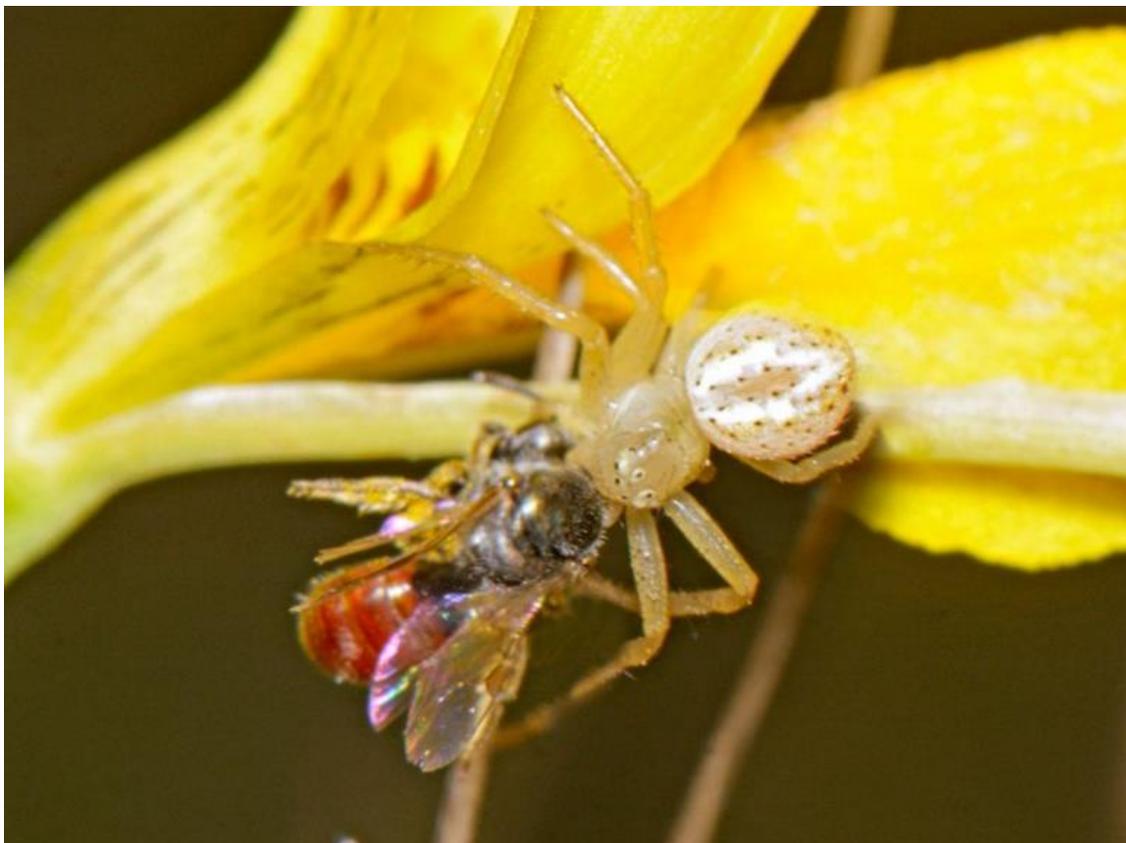
Finding a suitable sheltered hollow in which to construct their brood cells is an important part of the process. Even a discarded sock in the backyard can be used.

Wolf spiders are effective “vagrant” hunters – that means they do not build a web trap and wait for prey to come to the trap but rather wolf spiders roam, hunt, run down and overpower their invertebrate prey. They are powerfully built and agile spiders.

Wolf spiders dig their own or occupy an existing underground burrow to shelter in during the day.

Laurence went to a local park to photograph peacock spiders. He discovered a ground burrow with lots of silk around it so he setup his camera to photograph the occupant. It turned out to be a wolf spider which when it came out of its burrow caused Laurence to take a step back quickly. However, he noticed something on the left side of the image he had taken – a bee. Laurence had discovered the first ever known or documented instance of a female leaf cutter bee and wolf spider sharing or cohabitating the same underground burrow. Web building and crab spiders regularly catch and eat bees but Laurence's photos show this wolf spider ignoring the leaf cutter bee as she ferries cut pieces of leaf and pollen down into the shared underground burrow.

Here is a photo by Rudie Kuitert showing a crab spider feasting on a relatively small *Lasioglossum hemichalceum*.



And, here is an image by Linda Rogan showing that larger bees such as *Apis mellifera* are also on the menu of spiders.



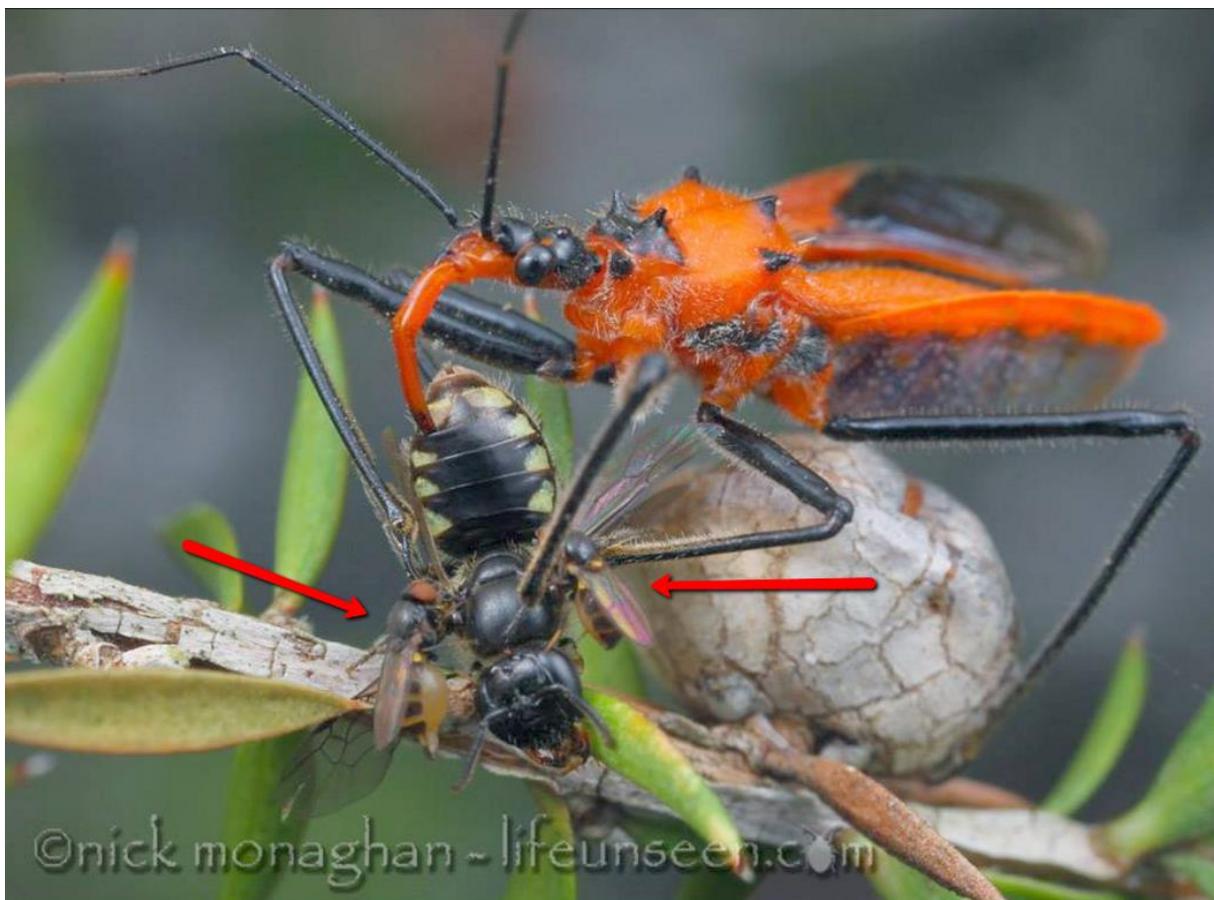
Bee / spider cohabitation behaviour has never been seen or recorded and it poses many questions. Why does the wolf spider not attack and eat the bee? Why did the bee choose to build a nest in a burrow shared with a live, predatory spider? How does this work for both the bee and spider?

Off the top of my head, I can think of 3 possible reasons for this strange behaviour and there are probably more theories out there as well:

1. Ground dwelling wolf spiders would not frequently interact with flying bees so the spider may just not recognize the bee as prey.

2. Laurence observed the burrow's resident spider eating one of the small "jackal" flies (Milichiidae) that sits around the entrance of the burrow. These "jackal flies" are commonly found in association with insect predators. When a kill it made, the flies jump on the corpse to suck up bodily fluids of the recently killed prey. The body length of these flies is about 3mm whereas the body length of the leaf cutter bee is between 6-7mm so the bee is about twice the body length of the fly. If eating milichiid flies were to provide sufficient food for the spider, then attacking something twice the size of the flies may not seem worth the risk of injury to the spider and it has decided to ignore the larger, potential prey.

Below is a wonderful image by Nick Monaghan showing an assassin bug (Reduviidae: *Gminatulus australis*) eating a colletid *Euhesma* bee and arrowed are two jackal flies (Milichiidae) feeding on the dead bee.



3. Leaf cutters are not terribly fussy about where they find a nest burrow to use during the nesting period. Although I had never thought of it before, in their search for a disused burrow they presumably do occasionally try to use an occupied burrow. So this strange cohabitation could come about by a bee and spider wanting the same resource, and simply ignoring each other and sharing a resource.

Curiously, the shared burrow's entrance diameter (almost 20mm) is significantly wider than that usually dug by a wolf spider suggesting the spider did not dig this burrow. The spider is obviously a long term resident of the burrow as shown by the copious amount of silk around the burrow entrance. The leaf cutter bee is more likely to be a temporary burrow resident visiting for only as long as required to build and provision one or more leafy brood cells. Indeed, Laurence noted the bee had disappeared several days after he first observed her.

The leaf cutter bee is *Megachile macularis*; the wolf spider is an undescribed species of a genus close to *Tasmanicosa* sp.; and the flies belong to the family Milichiidae. Thanks to Volker Framenau and Dan Bickel for identifications of the spider and flies respectively.

Laurence's observations give a whole new meaning to the conventional predator – prey relationships. Below are a series of Laurence's photos taken in the week of 7 January 2016 in Emerald, Queensland. Laurence – thanks so much for sharing with us so many of your wonderful photos and discoveries.

Here is Laurence's BowerBird record URL:

<http://www.bowerbird.org.au/observations/53346>

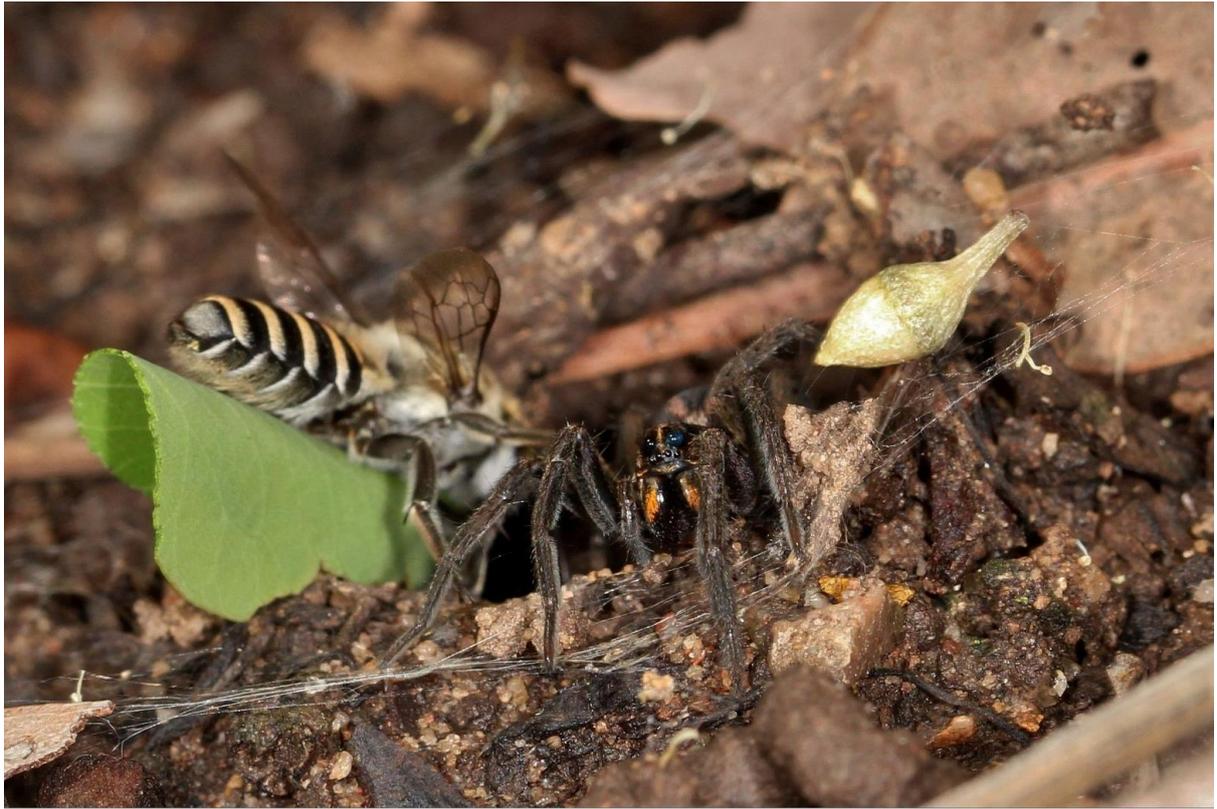
Check it out !!



Cut leaf piece from a Bauhinia tree - *Lysiphyllum cunninghamii*



What a classic photo that would stop any photographer in his/her tracks. What is that bee trying to do? Madness!!



“Let’s see if I can slip past this silly old spider!”



“Yep – that was easier than I thought”



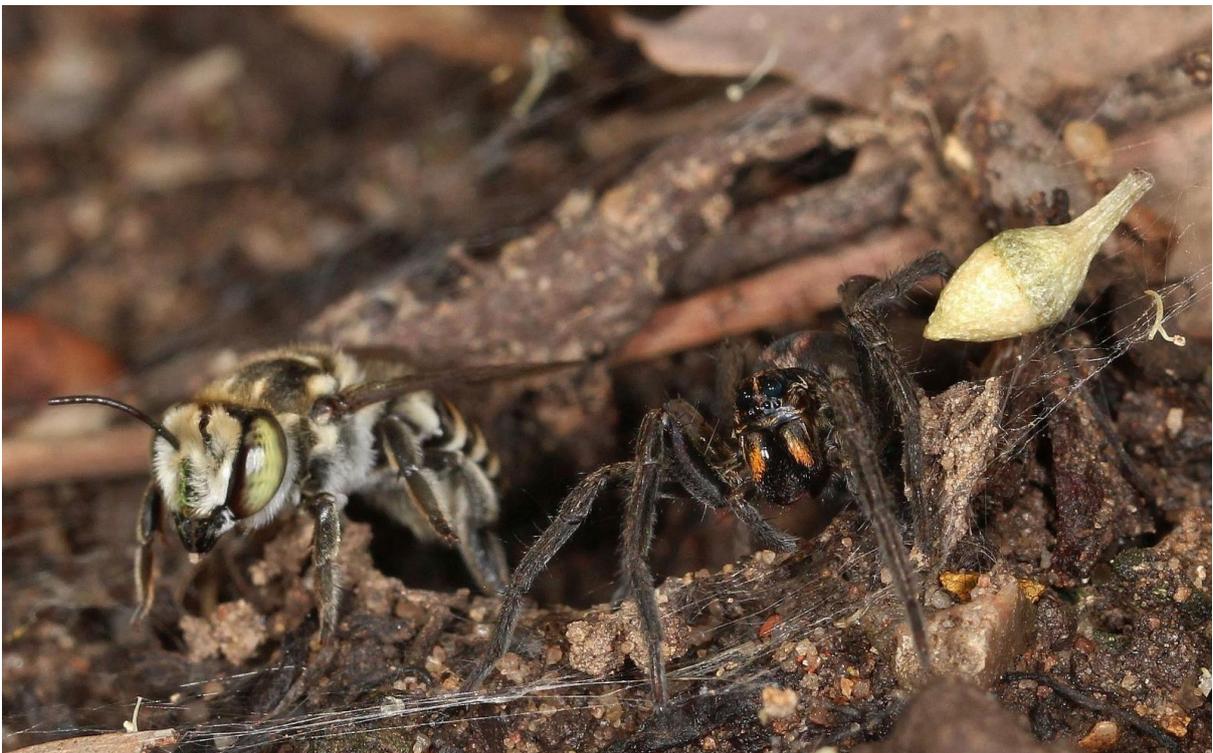
“Sorry about that, this leaf is a bit bigger, do you mind moving?”



“I thought I had better have a chat with this spider to let her know what I am putting at the end of this burrow”



“We had better both look to see if my leaves are in her way.”



“She doesn’t seem to mind as long as I keep it tidy.”



“A pat on the head from the spider is always a good sign.”



“Ok – that’s the leafy brood cell made, now for some pollen”



“Strange – I wonder where “Wolfie” is today?”



“Arrgh – there she is – probably after that fly (arrowed).”



“Nothing to see here – Move along – Haven’t you ever seen a wolf spider and a leaf cutter bee getting along and co-habiting? No – which forest did you drop in from? What do you mean it “unique and never before heard of”. My mother always said I was a bit different to the by brother and sister spiderlings. I’d rather play than eat my friends except for those pesky milichiid flies – fair game I say and a girl’s gotta eat while watching her figure which is why I like small meal sizes rather than large. That’s just me!”

We are all wondering whether this is a relatively common occurrence never before observed or photographed or whether this instance is truly a once-off. Keep your eyes peeled when you see a hole in the ground.

Strange bedfellows – Part 2.

Linda Rogan photographed this interesting interaction between Dawson's burrowing bee (*Amegilla dawsonii*) and a spider hunting wasp (*Cryptocheilus bicolor*) at Mt Augustus, WA.



BowerBird member's passion.

I do really enjoy seeing members passionate about using BowerBird to its full potential. Here is text Mitch Smith attached to an orchid-bee pollinator series of photos explaining (with passion) he and Rudie Kuitert were making about bees visiting *Caladenia* orchids.:

“What I love about Bowerbird??? Not only do you get to provide a record, which includes data such as time, location, and a digital specimen, but you also get to furnish the content with an observation. This I think, can be very important to enhance the 'static' record, and can help us with gaining an insight in to the myriad of different critters, and plants that have been uploaded. This was certainly the case when observing bees on the orchid genus *Caladenia*. Two recent examples spring to mind when a record is just not enough!!! The first was the case of a Spider orchid (*Caladenia rosella*) that was reported to be pollinated by a bee, which only a couple of species had supposedly been recorded using this pollination mechanism. Some of these culprits were caught and identified, and theories were surmised as to the reason why these bees visited flowers that were clearly designed for 'sexual deception', which is well known in this type of orchid. The bees move too fast for a casual observer to understand what is happening and it was assumed that a Colletid bee was looking for pollen as the wattles were flowering in the area and the presence of a yellow structure at the base of the flower. We were pleased to find out that this was not the case, and this species of bee was being deceived into thinking this orchid was a female bee to mate with, and the fact that all the bees visiting the flowers were males someone should have twigged that they do not collect pollen anyway. It was only when it was closely observed (through the lens) that the truth was revealed in this amazing relationship.(See

/observations/20076). Ken Walker recently mentioned, in the Bugle, of receiving poorly preserved and recorded, trapped specimens from an orchid pollinator expert, which again showed a male *Leioproctus* bee with 'spider orchid' pollen deposited to the thorax in the typical fashion. So what does this tell us?? Well, that a bee visited a spider orchid once!!! Firstly we have observed both male and female bees visiting various spider orchids previously out of curiosity, and secondly is this the pollinia from the right orchid?? I believe that you will only determine whether this is the principal pollinator through detailed observation, as we have experienced in the past. Having said that, I believe that this bee is most likely the pollinator for this orchid (for different reasons other than pollen on its back) and I will hopefully be able to show this in the near future with thorough observations. In the case of this orchid, again records had been made but no correlations with the relationship have been concluded. Last year someone had delivered us a record (images) with enough detail to see the interactions between the bee and this orchid, but it was the observations that clinched the deal, being described as "There was some frenetic action for several seconds and it [the bee] returned several times and went "crazy" for the labellum on each occasion". The light bulb illuminated, and we could use our previous experiences with sexual deceptive reactions to deduce that it was a sexual attraction, and not a food mimic which is the case with most bee/orchid relationships. This season we made a bee-line to the site of the previous observation and were rewarded with several sightings of this unique kinship. Clearly the small Hyaleine bee was attempting to mate with the modified labellum, which is the right shape, size, feel, and smell, and not trying to feed on nectar or pollen, which was previously thought which by the way, is not conducive for bees, especially males, to collect. NB.

Caladenias do also mimic nectar and pollen bearing flowers so the confusion was understandable. It was great to find out that this is, so far, the only small *Caladenia* to attract a bee by sexual deceit and not food reward deception. I'm sure further observations will reveal more little secrets like this one.”





When a question from a BowerBird member which will lead to changes across two of our major scientific Biodiversity databases and How my days just seem to disappear.

Gordon Claridge is a keen naturalist who lives in the foothills of the Great Dividing Range in the Lockyer Valley in SE Qld and a new member to BowerBird. Gordon contacted me in early January about creating a BowerBird Project for a group of naturalists who live in the Lockyer Valley and would like to record their findings. They do contribute some of their findings to the Queensland Wildnet database but that has not yet appeared on ALA. So, I helped to create such a project:



Gordon recently emailed me a series of images showing a wide range of horn development on what we presumed to be *Xylotrupes gideon* – the Elephant beetle.

Were they all the same species? What is the known variations within this group? Is there any recent literature on these beetles and their horn development?

Remember, I work on bees so beetles are “out of my comfort zone”. Below are examples of the horn development Gordon found and sent me:



Variation 1.



Variation 2.



Variation 3.

The first thing I did was to visit ALA to see where these beetles occur. ALA showed me that there are currently two recognised species of Australian *Xylotrupes*: *X. gideon* and *X. ulysses*.

That's what I thought was the case so I felt I knew something at least.

genus *Xylotrupes* 

species *Xylotrupes gideon* : Elephant Beetle 

species *Xylotrupes macleayi* [inferred placement]

species *Xylotrupes ulysses* : Elephant Beetle 

ALA uses the taxonomy supplied by the Australian Faunal Directory (AFD) which also showed the same two species:

you are here: [environment name](#) » [biodiversity](#) » [ABRS](#) » [AFD](#) » [Xylotrupes Hope, 1837](#) » [names export](#)

Names List for *Xylotrupes* Hope, 1837

The [Xylotrupes Hope, 1837](#) names list is also available in [CSV format](#).

[Xylotrupes Hope, 1837](#)

Xylotrupes Hope, 1837

[Xylotrupes gideon](#) (Linnaeus, 1767)

Scarabaeus gideon Linnaeus, 1767

[Xylotrupes gideon gideon](#) Thomson, 1859

Scarabaeus gideon australicus Thomson, 1859

[Xylotrupes ulysses](#) (Guérin-Méneville, 1830)

Scarabaeus ulysses Guérin-Méneville, 1830

[Xylotrupes ulysses australicus](#) Thomson, 1859

Xylotrupes ulysses australicus Thomson, 1859

So on ALA, I sought distribution maps for both species and I found the bulk of the records were for *X. gideon* and very few records for *X. ulysses*. I began to wonder whether the variation of horn development documented by Gordon was the difference between the two species. I was wrong as I found out later.

Xylotrupes gideon (Linnaeus, 1767)

Elephant Beetle

Name source
[Australian Faunal Directory](#)

Rank
Species

Data links
[LSID](#) [JSON / WMS / RDF](#)

Species presence
 Recorded In Australia

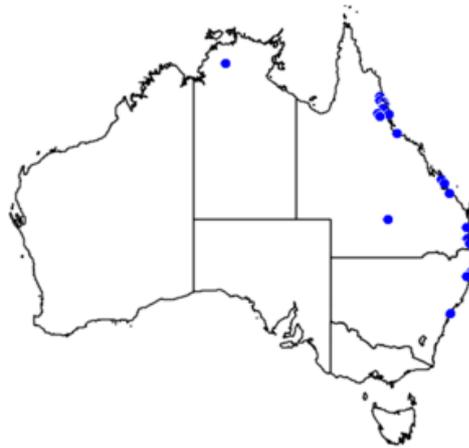
Overview

Gallery

Names

Classification

Occurrence records map



Xylotrupes ulysses australicus (Thomson, 1859)

Name source
[Australian Faunal Directory](#)

Rank
Subspecies

Data links
[LSID](#) [JSON / WMS / RDF](#)

Species presence
 Recorded In Australia

Overview

Gallery

Names

Classification

Occurrence records map



So, then I went to the Museum Victoria collection and pulled out our drawer of *Xylotrupes* specimens. We had two rows of specimens all labelled *Xylotrupes gideon*. I examined various specimens under the microscope to see the variation in their horn development. I was surprised that our collection had only representatives of one species, *X. gideon* and none of *X. ulysses*. So, I went back to ALA and I looked at where specimens of these two species had come from. Something did not seem right. On ALA, the *X. gideon* specimens came from only two sources: Australian Museum and WAITE Uni of Adelaide collection. But I was looking at a drawer of registered *X. gideon* specimens the Museum Victoria collection that were not on ALA.

Xylotrupes gideon (Linnaeus, 1767)

Elephant Beetle

Name source
Australian Faunal Directory

Rank
Species

Data links
LSID JSON / WMS / RDF

Species presence
 Recorded In Australia

Overview Gallery Names Classification Records Literature Sequences

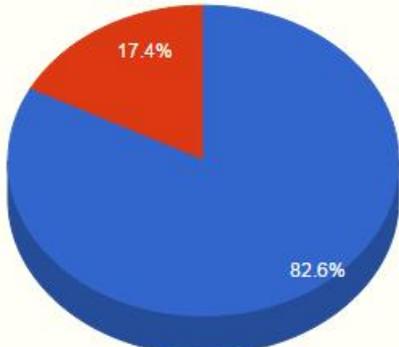
Occurrence records

[View list of all 70 occurrence records for this taxon](#)

Charts showing breakdown of occurrence records

Hint: click on chart elements to view that subset of records

By collection



- Australian Museum Entomology 82.6%
- Waite Insect and Nematode 17.4%

However, when I checked the ALA records for *X. ulysses*, to my surprise, all of our Museum specimens on ALA were listed under the species name *X. ulysses*. Curious – I dug deeper.

- Subspecies: *Xylotrupes ulysses australicus* Date: 1964-02-13 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Year: 1939 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Date: 1952-03-21 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Date: 1952-03-21 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Date: 1952-03-20 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Date: 1950-02-23 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Date: 1952-03-20 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Date: 1950-03-18 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Year: 1950 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:

- Subspecies: *Xylotrupes ulysses australicus* Year: 1951 State: Queensland
Institution: Museum Victoria Collection: Museum Victoria Entomology Collection Basis Of Record:



« Previous

I then went back to the source of our specimens on ALA which are held in our Emu database. Sure enough when I queried for the species *X. gideon* I found no records but when I queried for *X. ulysses* I found them all. I opened some of the *X. ulysses* Emu records and while I was looking through page after page of data per record, a small note caught my eye:

Identification Ref:	
Identification Accuracy	
Confidence:	
Comments:	Name change of Australian sp. Rowland, J.M. (2003) A.J.Z. 51(3)
Identification History	

It seemed our databased specimens had been changed from *X. gideon* to *X. ulysses* due to a 2003 paper by Rowland published in the Australian Journal of Zoology. I quickly sourced the paper on the web:

CSIRO PUBLISHING

www.publish.csiro.au/journals/ajz

Australian Journal of Zoology, 2003, 51, 213–258

Male horn dimorphism, phylogeny and systematics of rhinoceros beetles of the genus *Xylotrupes* (Scarabaeidae: Coleoptera)

J. Mark Rowland

Reading through the paper, I soon discovered what had happened. Rowland conducted a thorough review of all *Xylotrupes* species in the Australasian area and he found there were six valid species. The entry for *X. gideon* told that its distribution was restricted to (below) and did not occur in Australia:

Distribution

West Malaysia; Borneo; Indonesian archipelago from Sumatra and Java, east through the Lesser Sunda Islands at least to Dammar Island.

The only *Xylotrupes* species that occurs in Australia is *X. ulysses australica* :

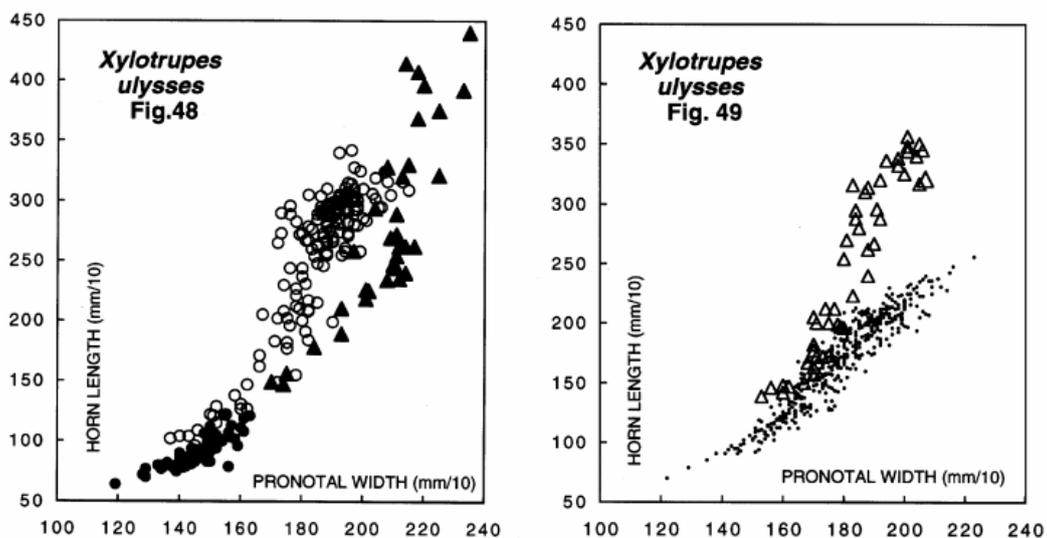
Distribution

Northern and eastern Australia, including the islands of the Torres Straits.

X. gideon and *X. ulysses* can be easily separated by the presence of a dorsal tooth on the horn of *X. gideon*. Remember Gordon's photo – no dorsal tooth on the horn !



Another “cool” feature of this paper was that Rowland quantified the extent of the variation in the size of the male horn and the range of variation is enormous well accounting for Gordon’s observed variations.



Figs 48, 49. Allometric relationships of horn length and body size, *Xylotrupes ulysses*. 48, Closed circles: *X. ulysses telemachos*; open circles: *X. ulysses clinias* from Wau Valley, Papua New Guinea; closed triangles: *X. ulysses ulysses*. 49, Dots: *X. ulysses australicus* from Bundaberg, Queensland; open triangles: *X. ulysses clinias* from Vanuatu.

A half a day after beginning what I thought would be a simply query/answer I have finally got to the bottom of these two species, the incorrect information on AFD and ALA and the mislabelled identification of the specimens in our collection drawer. Welcome to my world where the minutiae becomes paramount and being a pedant is part of the job requirements.

I have now re-identified and correctly labelled the museum specimens as *X. ulysses*. I then contacted the AFD co-ordinator and explained the story to her and she replied with a thanks and that she would put someone on to making the necessary changes. Once the taxonomic name changes are made on AFD, they will flow through to ALA when they do their next names update.

Phew – I enjoyed the challenge to get to the bottom of these problems that all began with Gordon’s query about variations he had observed in specimens of *Xylotrupes*. Thanks Gordon – your query will necessitate taxonomic changes to both of Australia’s major biodiversity databases.

I am reminded of a quote by Confucius who said:

“The beginning of wisdom comes by calling things by their correct names.” How true.

Despite its somewhat stuffy appearance, taxonomy and nomenclature of animals is a dynamic and active science. We strive to better reflect the natural world using our human-made classifications and naming systems. What was once thought to be a single species can become several species and visa versa several species can be collapsed back into one.

I have always remembered a story told to me back about 1978. I was a Master’s student at the University of Queensland with Dr Elizabeth Exley. She told me of a time when she was

revising a complex bee genus called *Euryglossa* and she was at the British Museum and had the types of 13 different species in front of her. All looked different but only by their colouring. After several days of examining these types and a sleepless night, she came in one day and decided to synonymise all 13 species into one – *Euryglossa adelaidae*. Below is the entry on AFD for these synonymies. The colour variations in this one species can be seen its BowerBird records. Imagine if each of these records had a different species name! What a mess!

<p> Linda Rogan</p> <p> Euryglossa adelaidae in Ang...</p>  <p> 0  0  1  0  0</p>	<p> Dianne Clarke</p> <p> Black solitary bee: Colletidae...</p>  <p> 0  0  1  0  0</p>	<p> Linda Rogan</p> <p> Third species roosting on Ku...</p>  <p> 0  0  1  0  0</p>
<p> Laurence Sanders</p> <p> Unid native bee</p>  <p> 0  0  2  0  0</p>	<p> Marc Newman</p> <p> Euryglossa adelaidae f (Than...</p>  <p> 0  0  2  1  0</p>	<p> Linda Rogan</p> <p> Lasioglossum on pea flower ...</p>  <p> 0  0  1  0  0</p>
<p> Linda Rogan</p> <p> Single shot of this bee with s...</p>  <p> 0  0  1  1  0</p>	<p> Suzanne Jones</p> <p> Blue bee with red thorax on ...</p>  <p> 0  0  1  1  0</p>	<p> Linda Rogan</p> <p> Native bee on Angophora</p>  <p> 0  0  1  0  0</p>

Species *Euryglossa adelaidae* Cockerell, 1905

Euryglossa adelaidae Cockerell, T.D.A. 1905. Descriptions and records of bees. V. *Annals and Magazine of Natural History* 34: 1-10.

Type data: Holotype BMNH Hym.17.a.282 ♂ (described as ♀), Adelaide, SA.

Halictus oxleyi Cockerell, T.D.A. 1905. New Australian bees, in the collection of the British Museum. *The Entomologist* 37: 1-2.

Type data: Holotype BMNH Hym.17.a.953 ♂, Adelaide, SA.

Euryglossa chrysoceras Cockerell, T.D.A. 1910. Some Australian bees in the Berlin Museum. *Journal of the Entomological Society of Australia* 1: 1-2.

Type data: Holotype ZMB ♂, Adelaide, SA.

Euryglossa leptospermi Cockerell, T.D.A. 1910. Descriptions and records of bees. XXXI. *Annals and Magazine of Natural History* 39: 1-2.

Type data: Holotype BMNH Hym.17.a.271 ♀, Mackay, QLD.

Euryglossa myrtacearum Cockerell, T.D.A. 1910. New and little-known bees. *Transactions of the American Entomological Society* 36: 1-2.

Type data: Holotype BMNH Hym.17.a.276 ♀, Mackay, QLD.

Euryglossa variabilis Perkins, R.C.L. 1912. Notes, with descriptions of new species, on aculeate Hymenoptera. *Annals of the Entomological Society of America* 5: 31-32 [110].

Type data: Syntype(s) BMNH ♀ (number of specimens unknown, described as ♂, a specimen is labelled 't

Euryglossa sanguinosa Cockerell, T.D.A. 1913. Some Australian bees. *Proceedings of the Academy of Natural Sciences* 65: 1-2.

Type data: Holotype BMNH Hym.17.a.260 ♀, Windsor, VIC.

Stilpnosoma variegatum Friese, H. 1924. Ueber die Bienen Australiens. *Konowia* 3: 216-249 [Date published 1924].

Type data: Holotype AMNH ♀, Mackay, QLD.

Stilpnosoma laterale Friese, H. 1924. Ueber die Bienen Australiens. *Konowia* 3: 216-249 [Date published 1924].

Type data: Holotype AMNH ♀, Mackay, QLD.

Stilpnosoma piceum Friese, H. 1924. Ueber die Bienen Australiens. *Konowia* 3: 216-249 [Date published 1924].

Type data: Lectotype AMNH 26860 ♂, Colo (as Cola) Vale, NSW.

Subsequent designation references:

Exley, E.M. 1976. Revision of the subgenus *Euryglossa* Smith (Apoidea: Colletidae: Euryglossinae). *Australian Journal of Zoology* 24: 1-10.
in Houston, W.W.K. & Maynard, G.V. (eds) 1993. *Zoological Catalogue of Australia, Vol. 10, Hymenoptera*. Canberra: Australian Government Publishing Service. 1-10.
designation (Art. 74, ICZN 1985).

Euryglossa albosignata Cockerell, T.D.A. 1929. Bees from the Australian region. *American Museum Novitates* 45: 1-2.

Type data: Holotype AMNH ♂, Bamawm, VIC.

Euryglossa coventryi Rayment, T. 1935. *A Cluster of Bees. Sixty essays on the life-histories of Australian Bees*. D.Ph., Cornell University, U.S.A. Sydney: Endeavour Press. 752 pp. [641].

Type data: Holotype ANIC ♂, Croydon, VIC.

Euryglossa ephippiata punctata Rayment, T. 1939. Bees from the high lands of New South Wales and Victoria. *Journal of the Royal Society of New South Wales* 73: 1-2. [The name *Euryglossidia punctata* Rayment, 1935].

Type data: Lectotype ANIC ♀, Gunbower, VIC (Gosford, NSW in description).

I thought this might be a bumper edition at almost 60 pages – so much to tell, so much happening around BowerBird and its members. I did not have time to tell you about Dr Leigh Winsor’s identifications and stories behind Reiner Richter’s magnificent flatworm images. Well worth a look:

<http://www.bowerbird.org.au/projects/1633/sightings>

<p>Reiner Richter</p> <p>🦋 Mottled Flatworm (?Artiopo...</p>  <p>👍 1 ⭐ 0 📷 0 📄 1 💬 0</p>	<p>Reiner Richter</p> <p>🦋 Flatworm: <i>Caenoplana hoggii</i></p>  <p>👍 0 ⭐ 0 📷 1 📄 4 💬 0</p>	<p>Reiner Richter</p> <p>🦋 Nemertean (Argonemertes ...</p>  <p>👍 0 ⭐ 1 📷 0 📄 1 💬 0</p>
<p>Reiner Richter</p> <p>🦋 ?Australopacifica Flatworm</p>  <p>👍 0 ⭐ 0 📷 0 📄 1 💬 0</p>	<p>Reiner Richter</p> <p>🦋 Tiny Black Flatworms</p>  <p>👍 0 ⭐ 0 📷 0 📄 1 💬 0</p>	<p>Reiner Richter</p> <p>🦋 Orange Mottled Flatworm</p>  <p>👍 1 ⭐ 0 📷 0 📄 1 💬 0</p>
<p>Reiner Richter</p> <p>🦋 Banded Flatworm</p>  <p>👍 0 ⭐ 0 📷 0 📄 2 💬 0</p>	<p>Reiner Richter</p> <p>🦋 Light Mottled Flatworm</p>  <p>👍 0 ⭐ 0 📷 0 📄 1 💬 0</p>	<p>Reiner Richter</p> <p>🦋 Dark Mottled Flatworm</p>  <p>👍 0 ⭐ 0 📷 0 📄 1 💬 0</p>

And finally, what's a Bugle without Mark Berkery's

Nature Place

The rain came and with it the ready bees in the hotel under the veranda burst out into the world of sense, colour, scent, form, sound and the touch of another.

They wait for a few days after enough rain so there would be conditions conducive to survival, moisture and food in the form of flowers. And of course resin to build and seal their nests with – in the case of the Orange Tail Resin Bees.

It had been a while since there were many of these bees flying around the garden, it being so hot and dry I suspect as cause, and then I started seeing them. One here and there, and then I went looking around the hotels and started finding them floating in the watering cans – I leave them sitting for the chlorine to evaporate.

Can't have that, so started a rescue mission and retrieved five or six from a watery end over a couple days, two pairs – my early morning sleeplessness as advantage. Set out some water they can land on and take off from, and no more bees in the cans, so far.

This is during the last week, after I got out of hospital and was supposed to be doing nothing at all.

Hospital was a rescue of a different kind, really. A Dr Charles Nankivell (surgeon @ Redlands Hosp) headed a team that I like to refer to as stellar. In fact my experience of the process from reception to discharge was that. Only the good shone for me, the other didn't make it in, though it did knock.

In 'a way' the surgical team get the easy end, after introductions the patient is usually drugged to numbness to one degree or another, though I suspect they have their difficult ones, stressed out at the prospect of being under the knife is probably not uncommon.

The nurses that manage the aftermath are exceptional creatures too, each in their own way demonstrating quiet efficiency while doing the job of a diplomat, keeping everyone in the game, regardless of disposition.

It was a powerful experience, surrender of my life into the hands of strangers, and the care and kind professionalism with which I was handled ...

... as if I were a baby loved.



© Mark Berkery

Clinging to the rescue straw.



© Mark Berkery

Catching the breeze on the edge of a leaf.



© Mark Berkery

Jeez, that was close mate. You ok?



© Mark Berkery

Don't fall off now, that wind is strong.



© Mark Berkery

No worries, just catching it to dry the wings.



© Mark Berkery

Ahh, it's nice here in the warm sun.



© Mark Berkery

Thanks for the help mate.

Now – I have a lot of fun writing the Bugle each month and I would like to share that fun. If anyone has a BowerBird related story they would like to tell, please send me your story and I will include it in the next Bugle.

As always from BowerBird .. that's your lot for this week.

Haveagoodweekend all Happy photographing ...

Cheers – Ken

(If you wish to leave this email list, please contact me directly at kwalker@museum.vic.gov.au – else share with your friends)