



09 September 2015 Ken Walker ([kwalker@museum.vic.gov.au](mailto:kwalker@museum.vic.gov.au)) Museum Victoria. Edition 25.

Hi All – Tomorrow I have been invited to speak at a 2 day symposium organised by the Field Naturalists Club of Victoria. The title of the symposium is: “Impacts of the Anthropocene on Biodiversity”. I have been asked to speak about native Australian bees – naturally ! (:->! I find these exercises interesting and useful. They are like “lines in sand” that force you to summarize and commit your current concepts and ideas using the data you have at hand now. Next week, you may receive a new dataset which completely changes your view, but given a deadline and speaking date, you can only offer what you have in hand. I have just completed developing my powerpoint presentation for tomorrow and I’d like to share with you a few points I have made. With regards to bees, there are two distinctly different types: Honeybees and Wildbees:

- Honeybees – one species which is an indiscriminate pollinator. Wildbees – 25,000+ species which have co-evolved relationships with specific flowers.
- The Annual economic value of bees: Honeybees - Australia c. \$6 billion; globally c. \$230 billion; Wildbees - Usually pollinate non-agricultural crops so not measured.
- Habitat requirements: Honeybees - Above ground managed hives transported to suitable flowering trees or crops; Wildbees - Require specific nesting sites (reeds,

stems, petals, bare earth) dependant on suitable flowers in local areas.

- Greatest threats: Honeybees - Pesticides, Parasites and Pathogens; Wildbees - Habitat loss and Environmental change (industrial and agricultural).

Since 1961, there has been a 45% increase in the number of honeybee colonies in the world. However, there has been a 300% increase in the number of human food crops that require pollination. The greatest “threat” for pollination is that for the most part, we get pollination for free. People generally do not value something they get free.

Australia is the only continent without a successful Varroa mite incursion. When Varroa reached Europe, UK and USA they lost approximately 50% of their honeybee hives due to Colony Collapse Disorder (CCD). Varroa was first reported in New Zealand North Island in 2000 and by 2006 it was in the South Island in 2006. Within four years New Zealand’s North Island feral honeybee populations plummeted to about 10% of what they had been. CCD appears to be a combination of viruses and pesticides. Varroa and tracheal mites in conjunction with neonicotinoids pesticides.

There are two critical environmental problems relating to bees: (1) The role of anthropogenic movement; (2) The role of agricultural intensification. Monocultures do not promote bee diversity.

I have highlighted the value and importance of recent BowerBird “first record this season” records. In the future, these records will be gold. I put together a composite page showing Karen Retra and Mitch Smith “first” bees records and Reiner Richter with his recent Odonata “first sighting” records –

and I got a plug in for BowerBird ... I never miss such an opportunity!

Citizen science observational data so important to our understanding.



*Lasioglossum hilactum*

"Sighted in the same calendar week as first sighting last year."



First Odonata for the Season

0 votes	0 favourites
1 Identify	4 Describe

Sighted 6 Sep 2015

*Amphylaeus obscuriceps*

"First sighting of this species for the season in Albury."



My first bee of the season



Records from Karen Retra, Mitch Smith & Reiner Richter.

*Trichocolletes tenuiculus*

"First sightings of the season for me a week earlier than last year."



I found a recently published paper (Rachael Winfree, Jeremy W. Fox, Neal M. Williams, James R. Reilly and Daniel P. Cariveau (2015): Abundance of common species, not species richness, drives delivery of a real-world ecosystem service. Ecological Letters Volume 18, pages 626–635 11 May 2015) which looked at the effect of species richness on bee pollination services. They found that the a few common species, not species richness, drives ecosystem service delivery. It will be interesting to see how the conservationists respond.

I have just been advised that they had to "get a bigger hall" due to the number of people wanting to attend the symposium. Oh well – there goes the weekend! (:->!

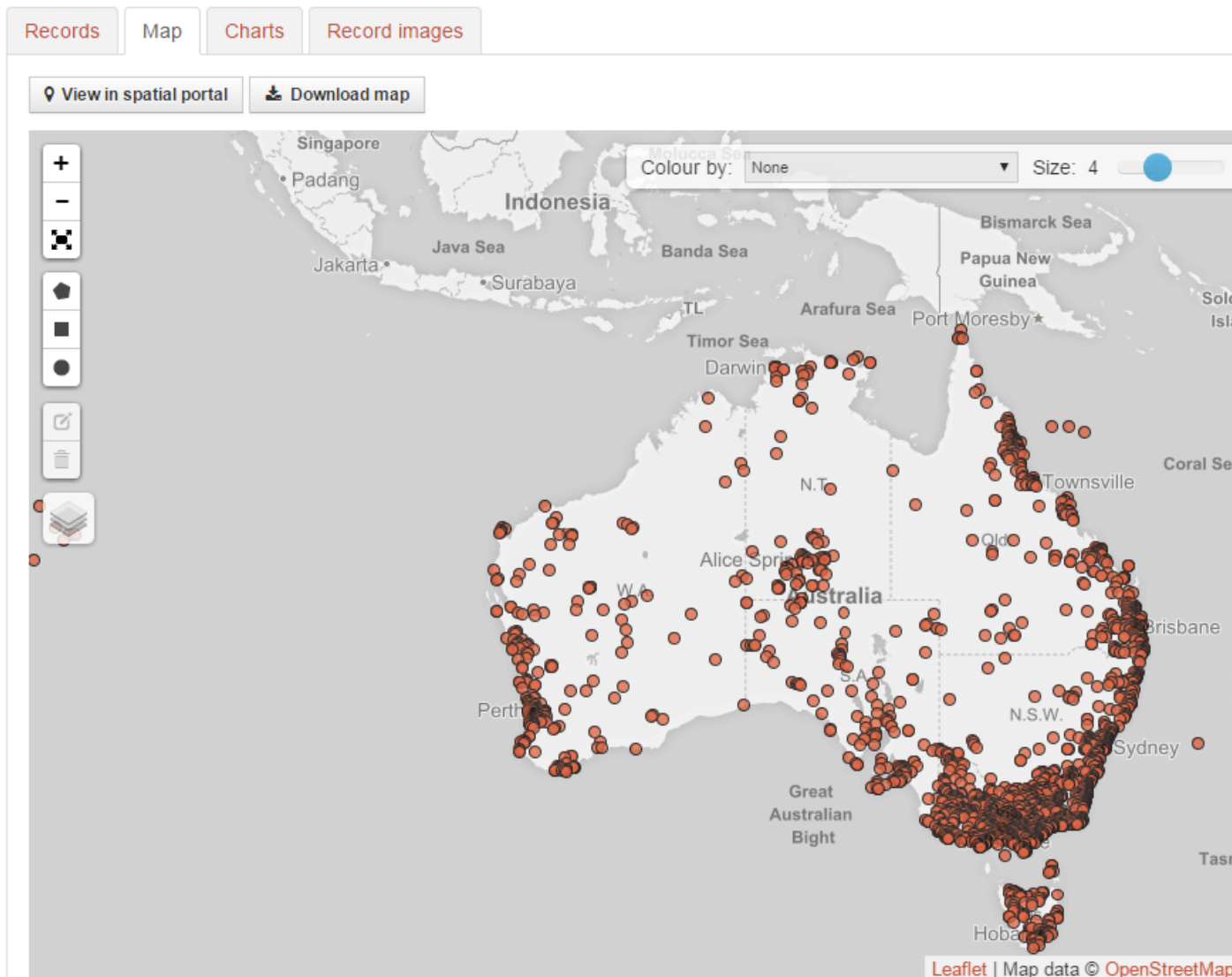
# Statistic, More Statistic and Damn Lies!!

That's how the age old expression goes and I have lots of statistics to share with you – all true of course!

Yeah! Last week, we cracked the 25,000+ number of records on ALA which is a great effort by all as ALA only uploads identified BowerBird records.

Below is a map showing the locations for these 25,000 records.

25,614 results for Data resource: BowerBird



The next set of statistics came from Hamish (one of the BowerBird programmers) who shared these BowerBird stats:

**Activities:** 86,106 (This includes records, comments, identifications, tags, votes – anything that is sent to the database)

**No. of Images:** 95,323

**No. of Records:** 29,116 (Remember that 25,614 have been identified giving us an 88% identification success rate!)

**No. of Projects:** 364 (Each of these is like a BioBlitz)

**No. of BowerBird members:** 3,081

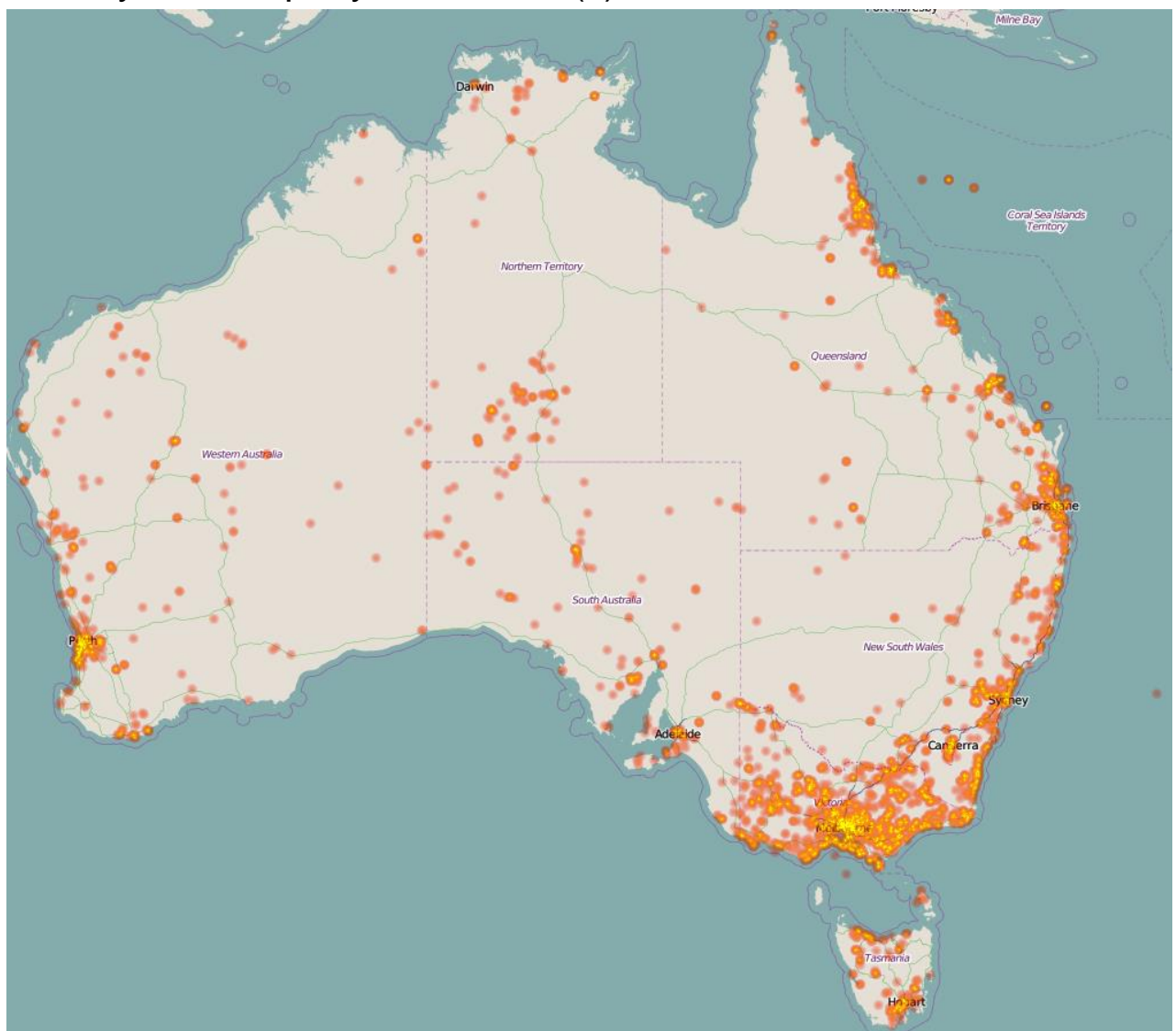
What great figures, especially the almost 100,000 images and 88% identification success rate. BowerBird really is becoming a centre for image-based identification and recognition. In Australia, BowerBird is the only citizen science project that insists that each record contains “evidence” to support the record – ie. An image. Most other citizen science websites allow observational only records to be posted without an image. That process has worked well for Birds Australia with their over 1 million bird observational records; but, when it comes to invertebrates I believe an image is necessary.

As I have said before, BowerBird was an unusual “Science” website to launch. Usually, science based websites launch full of flashy images and cool text designed to capture the attention of the viewer. BowerBird launched with no images and no text – a hollow shell. We hoped the saying: “Built it and they will come” would work for BowerBird and it has. I had a new member recently comment to me: “BowerBird is better than Facebook!”. Ha! Indeed.

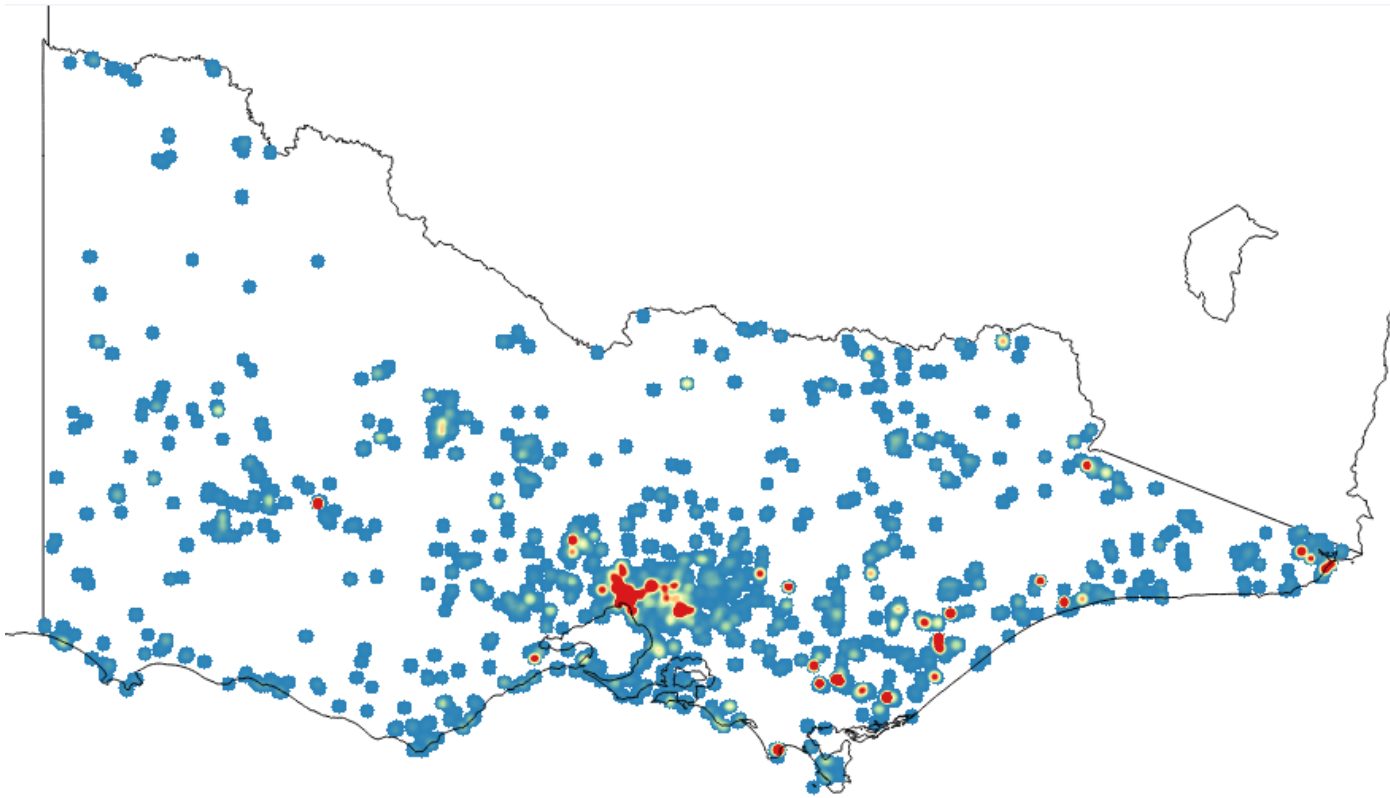


Earlier this week, Bob Mesibov (Launceston Museum Honorary Associate and our resident Millipede expert), downloaded the entire BowerBird dataset from ALA and produced for me some interesting maps. They are called “Heat Maps” and they work by increasing the brightness on a map in areas that have increased numbers of records for that location. This map is based on the 25,000+ BowerBird records on ALA. The obvious area of greatest recordings is southern Victoria. Then most of the State and Territory capitals (Melbourne, Sydney, Brisbane, Adelaide and Perth) are highlighted. Of course, thanks to the marvellous efforts of Graeme Cocks, Townsville is a “hot-spot”.

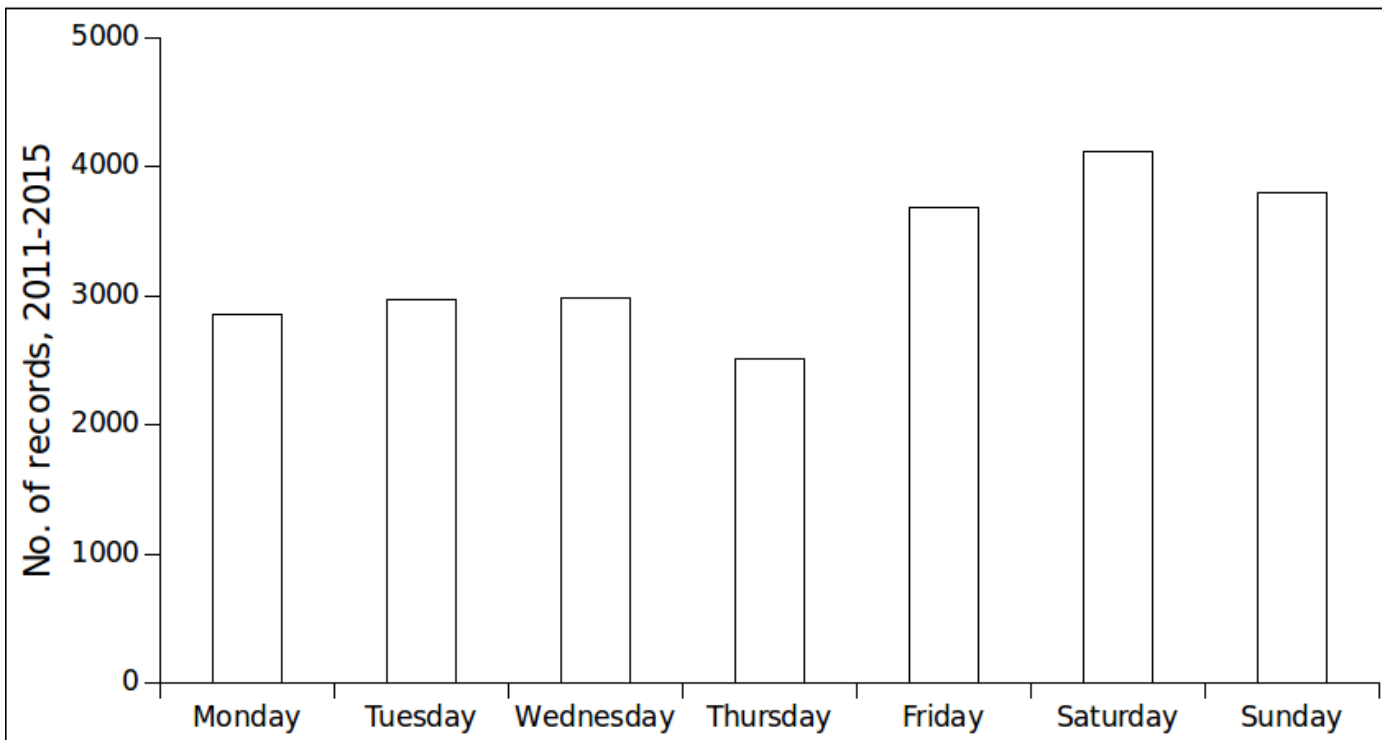
See if you can spot your location(s)!



Here is a different heat map view for Victorian only records:



Finally, Bob looked at the number of records per day of the week. Only a slight increase at the weekend. Thanks very much Bob for these insights into the BowerBird dataset.



# What a beautiful wasp.

David Francis uploaded several images of this magnificent parasitic wasp from Riddles Creek, Vic – photographed on Thursday, 10 September 2015.

It's a chalcid wasp in the family Eucharitidae. I recognised it as soon as I saw the image but then it took me a while to go through our museum collection to find our specimens as we still have the now Family listed as a subfamily of the Pteromalidae. I must get around to update our collection's taxonomy. It's funny when you know you know it but can't find it – frustrating. This is *Tricoryna punctulativentris*. These wasps are specialist ant larvae parasites – often *Camponotus*; the Sugar ant genus. *Camponotus* do not have a sting but can bite so the wasp's heavily sculptured thorax is most likely a defence against ant bites while parasitising the ant larvae.



Photo by David Francis



## Usually too small to see.

Tony Daley from Tasmania uploaded this wonderful closeup image of a simulid black fly. This is probably the best chance you will ever get to actually see one of these blood sucking flies. Normally all you see are black dots whizzing around you before they land to viciously bite. Look at the bite of the head and biting mouthparts. I'm surprised they don't carry a 44 gallon drum on their back to cart away the blood.

Tony was fortunate as he commented: "There were many females flying around me, but none actually attacking in earnest."

My favourite simulid is an image of one – anything else is too close to comfort for me. Been bitten too many times in the field.





Photos by Tony Daley.

Tony also provided some wonderful photos and information about this species of mosquito – *Ochlerotatus andersoni*







Tony commented: "Some characters of note for *Ochlerotatus andersoni* (typical form) are: area in front of wings with broad white scales; scutum with median stripe of dark-bronze scales contrasted marginally by pale scales; proboscis dark, not mottled; legs dark but mottled; hind tarsi unbanded; and wings dark scaled, not mottled. The Grampians-form is lacking the broad white scales in front of the wings and the hind legs are much lighter mottled, being largely pale scaled. Info. from "The Mosquitoes of Victoria" (Dobrotworsky 1965).

## **Another early bee sighting.**

Jenny Holmes spotted and photographed this female *Lasioglossum (Chilalictus) lanarium* near Halls Gap, Vic on Thursday 10 September 2015. Apparently, it was just resting rather than pollinating – probably still too cool.

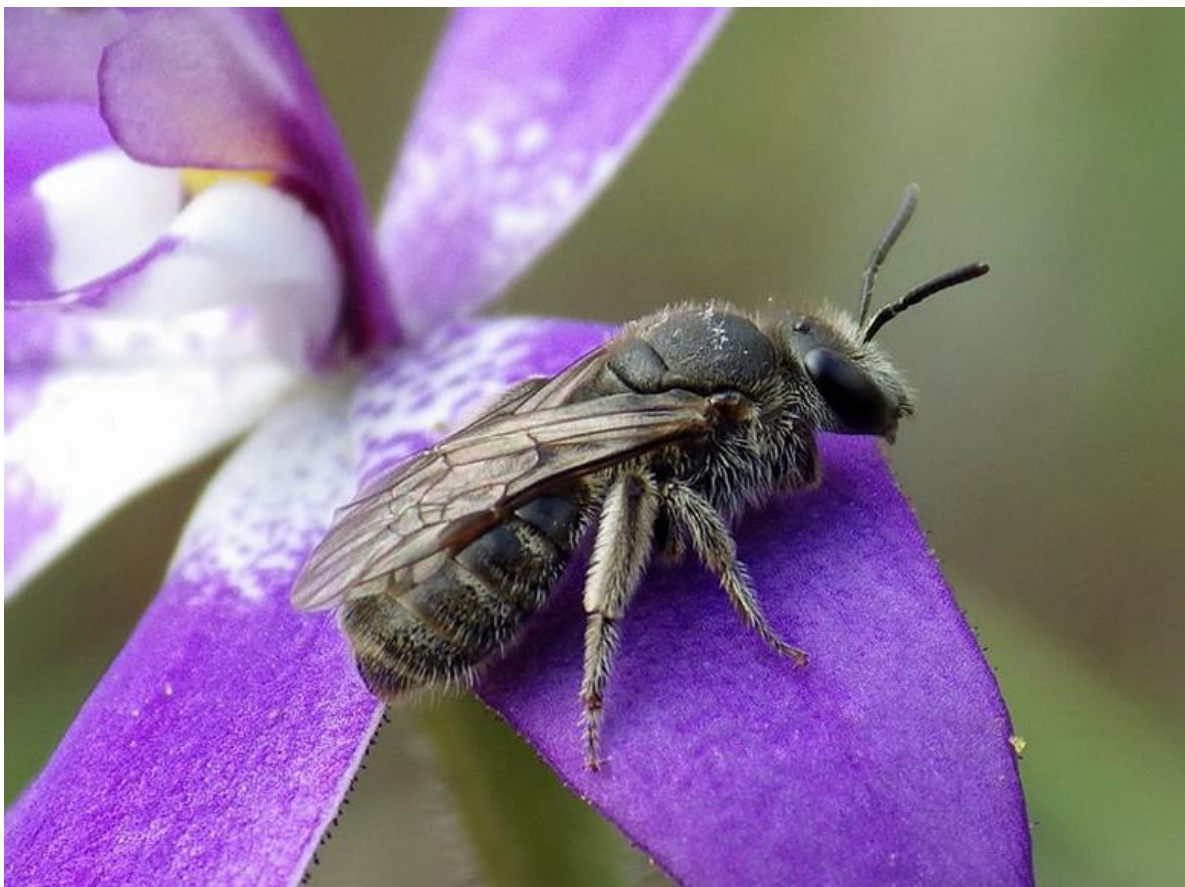


Photo Jenny Holmes

Jenny also uploaded images of native orchid in flower in her area near Great Western, Victoria:



*Glossodia major* – Photo Jenny Holmes



*Caladenia carnea* - Photo Jenny Holmes





Caladenia deformis - Photo Jenny Holmes

## The change in seasons brings a change in record images.

Matt Campbell, who has provided such a wonderful array of fungal images throughout winter, is now uploading the orchids that are emerging in his area. Here are a few:



Mayfly Orchid *Acianthus caudatus* . Location: Jeeralang  
Junction VIC Photo by Matt Campbell

Matt commented: “Despite leaves being present for a couple of months and flower spikes and buds developing some time not long after, the flowers have only really just started to open in the past week or so. Hopefully it won't be long before I can add shots of fully developed flowers.”



Maroonhood *Pterostylis pedunculata* Location: Jeeralang  
Junction VIC Photo by Matt Campbell



Tall Greenhood *Pterostylis melagramma* Location: Jeeralang  
Junction VIC Photo by Matt Campbell





Nodding Greenhood *Pterostylis nutans* Location: Jeeralang  
Junction VIC Photo by Matt Campbell

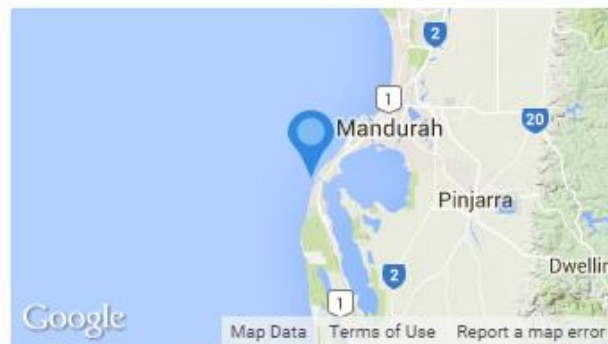


Mountain Greenhood *Pterostylis alpina* Location: Jeeralang  
Junction VIC Photo by Matt Campbell

## Someone has better than 20:20 vision.

I was amazed to see Daniel Heald's recent record of a beetle he found at the beach at Dawesville, WA. Actually, there were two beetles wrestling in a divot behind the breakwater at the Dawesville Cut.

Sighted 9 Sep 2015



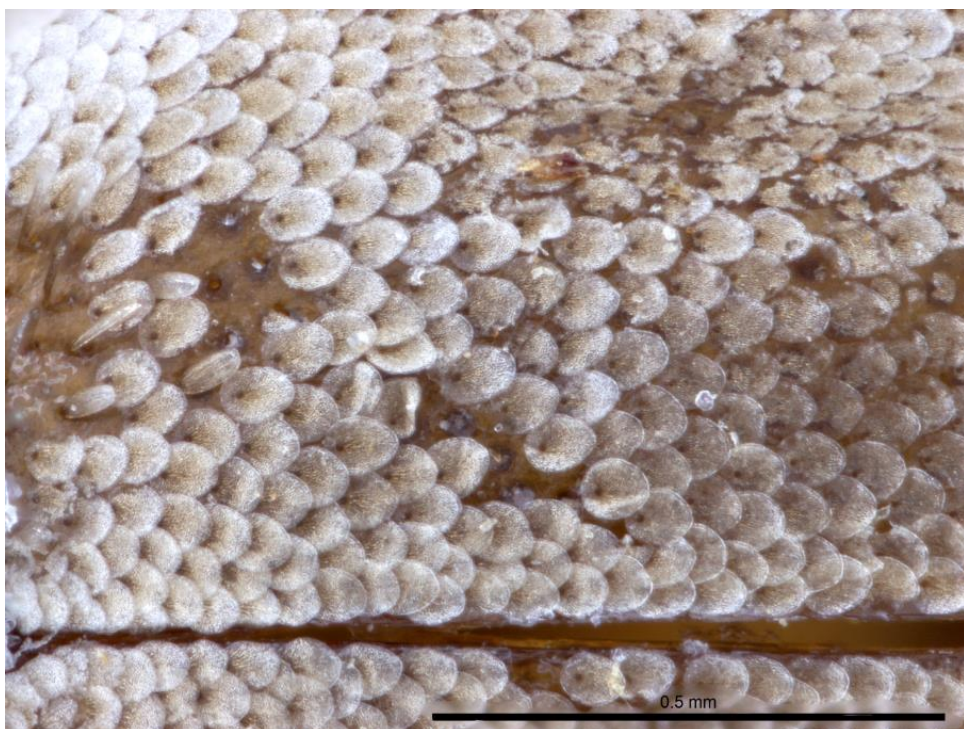
Southport Blvd, Dawesville WA 6211, Australia



The beetles belong to the family Phycosecidae and are *Phycosecis ammophilus*. There is only one genus in this family



and species occur among sand dunes along the coastlines of New Zealand and Australia. Larvae and adults are scavengers and have been found on dead birds and fishes. I have always loved the “abcordate” (ie. heart-shaped) scales that cover these insects. I pulled a specimen from the collection and photographed it and a close up the obcordate scales. Cool hey!



# If you are going to advertise yourself – Go all out!



Location: About 500 north of Tharwa ACT 2620.

Photo by Michael Bedingfield

These bugs are called Horehound bugs (Pentatomidae: *Agonoscelis rutila*) because they are usually found on the weed horehound *Marrubium vulgare*. Sometimes they swarms on foliage and blossoms of fruit trees and ornamental plants but normally causes little injury.



# Ant mimicking cerambycid beetles

They say mimicry is the greatest form of flattery! Well, these two longhorn beetles have out done themselves.



*Homaemota* sp. Location: Wonga Park VIC Photo by Martin Lagerwey



*Zoedia divisa* Location: Reefton VIC Photo by Martin Lagerwey

## Every angle covered.

I do enjoy seeing records where the photographer has taken images from almost every possible angle. Here is a great example from Michael Bedingfield for this stink bug.



Michael's record title also provides useful information to assist with identification.

**🦋 Small green 7mm  
Shield Bug with brown,  
pointed "shoulders", and  
pale yellow back-stripe.**

I have sent Michael's images off to our resident Hemiptera expert, Dr Mallik Malipatil at the Vic DPI. Just awaiting a reply!

# Another invited story from Karen Retra's "Little House on the Hill"

Karen (and you will all remember her long suffering partner I call "Poor Ralph") has just documented the "birth" of a leaf cutter bee that sealed up her progeny on 15 December 2013 and a new bee emerged on 18 December 2014. Karen wrote:

## **New generation emerges at bee hotel**

What's more exciting than watching native bees building nests in your backyard bee hotel? How about witnessing their offspring emerge, an entire year after the nest was completed!

Yes, I was there to see it - and again I had the camera rolling, so you too can share the fun. This is the same nest that featured in one of my previous videos. Native bee emerging from a bee hotel on Vimeo. Runs 3 mins. It is well worth watching at <https://vimeo.com/138937871>

Fortunately, I 'just happened' to be nearby as the bee prepared to emerge. I could hear it working inside the hole! Not unlike hearing a chick 'pipping' or tapping before they hatch from their egg, I guess. I've edited the footage (thought 3 minutes might be enough for most people), but just to note that it took about 45 minutes from the time I noticed the first signs of action to the bee actually leaving the nest.

The emerging bee had to use her mandibles (mouth or jaw if you like) to break up the 'plug' that had protected the nest, before she could emerge. I think it is a female as there's no sign of the modified forelegs the males of this species have.



# Maybe you final fungal fix?



Lichenized fungi *Pseudocyphellaria neglecta* Location: Morwell National Park, Vic. Photo Ken Harris



Lichenized fungi *Punctelia subrudecta* Location: Morwell National Park, Vic. Photo Ken Harris





Fluffy coral-like fungus. *Hericium* sp. Location: Mount Tryney Forest Road, Cambridge Plateau NSW Photo by Andrew Naughton



*Clitocybe semiocculta* Location: Bodalla NSW

Photo by Teresa and John



*Postia* sp. Location: Jeeralang Junction VIC Photo by Matt Campbell





*Pleurotus* sp. Location: Bodalla NSW

Photo by Teresa and John



*Trametes versicolor* Location: Bodalla NSW Photo by Teresa and John



*Parmelinopsis* sp. Location: Bodalla NSW

Photo by Teresa and John



Now – I have a lot of fun writing the Bugle each week 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](mailto:kwalker@museum.vic.gov.au) – else share with your friends)