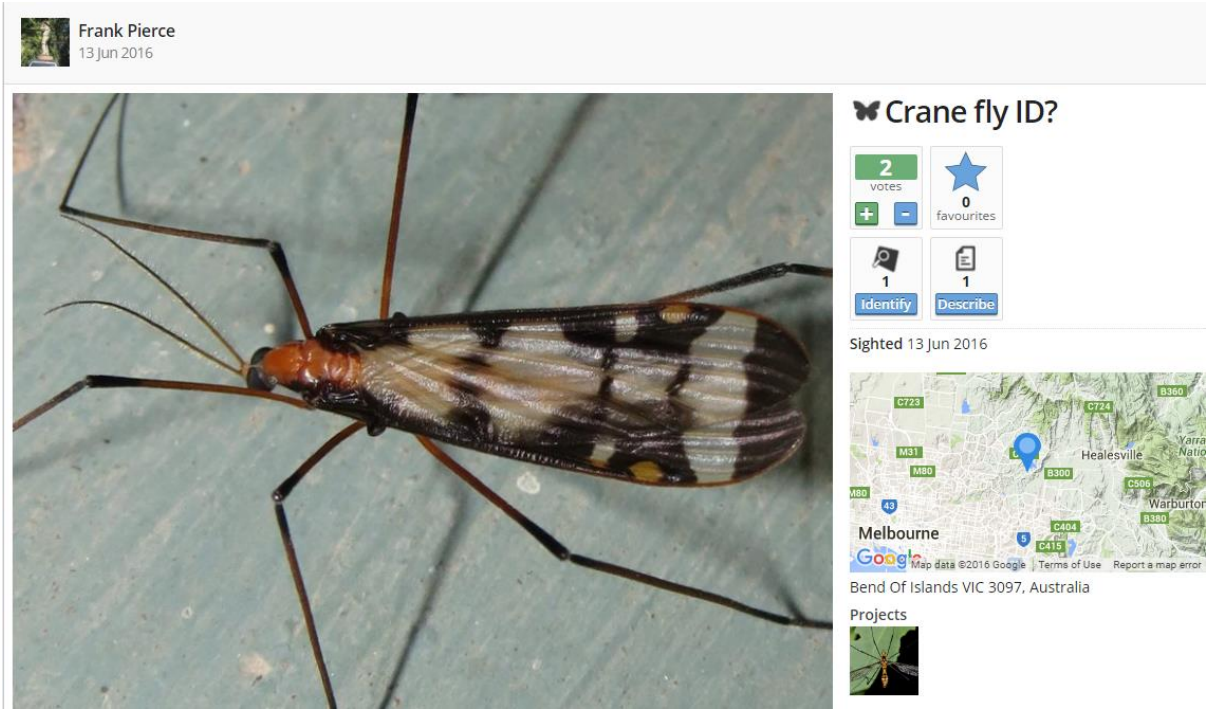
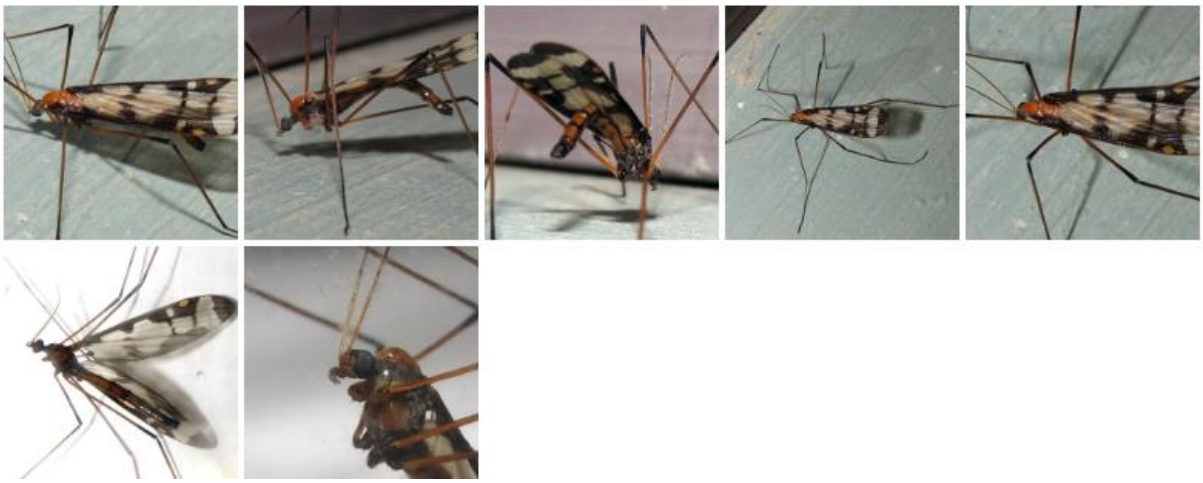
The BowerBird Bugle

17 June 2016 Ken Walker (kwalker@museum.vic.gov.au) Museum Victoria. Edition 43.

Hi All – I love watching people get very excited when someone shares their images and someone else recognises the value and importance of those image. I saw such an example this week. Frank Pierce posted images of a cranefly he photographed on the Queen's Birthday Holiday (13 June 2016) at "Bend of Islands" out near Healesville Victoria. Frank posted 7 images showing dorsal, lateral, wing venation and lateral head close up. He titled his record "Crane fly ID?"





BowerBird is fortunate to have a cranefly expert – Zac Billingham who has created a BowerBird cranefly project and has posted hundreds of cranefly images himself. Zac nearly jumped through my screen with his reply to Frank's images. Zac posted:

Sigmatomera Austrolimnobia victoriae
(species)
Taxonomy: Animalia: Arthropoda: Insecta: Diptera: Limoniidae: Sigmatomera Austrolimnobia: victoriae
Common Names: Limoniids, Limoniid flies

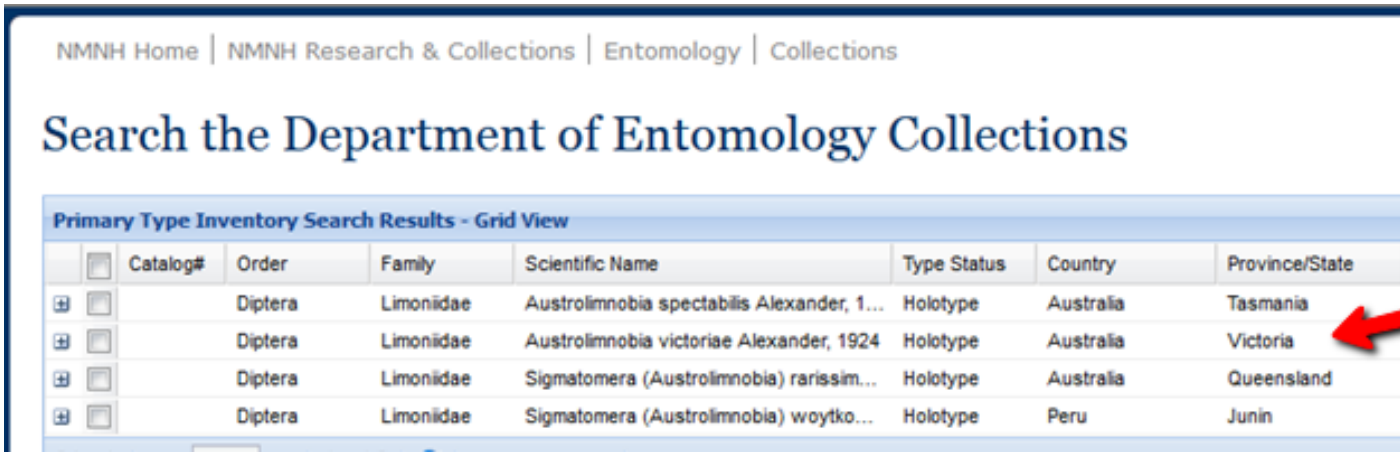
"Hello Frank, thank you very much for sharing your sighting, fantastic photos. I have ID'd this stunning fly as *Sigmatomera victoriae* based on the original description by Dr C.P. Alexander in 1924, I have never seen one in person. As far as I have been able to find there are no other published sightings of *Sigmatomera victoriae*. I have been searching for a specimen for several years to aid in my studies of the Australian craneflies but have not found a single one among the 15,000+ craneflies I've examined. I have looked through the Museum Victoria's entire Diptera collection but the type specimen of *Sigmatomera victoriae* unfortunately appears to be lost. When Dr. Alexander published his description of the species he did not record the date of occurrence and listed the type location simply as "Dandenong ranges" - these two factors have made

efforts to re-collect the species extremely difficult. I say all this to illustrate how special and remarkable your sighting is - it is fantastic that a platform like Bowerbird exists and enables such an uncommon and stunning insect to be shared with the wider community. If you happened to collect the specimen I would be very interested to examine it, if not I'd be just as interested to hear any details of your sighting - exact location, time, weather conditions etc. You can contact me at zac.billingham@ghd.com - thank you again."

Wow! – That's excitement ... the Holy Grail indeed.

I immediately re-examined our Museum Victoria collection. The type is registered as T-1979. We are now up to almost 20,000 recorded types so judging by this number, the type would have been registered possibly about the early 1970s when the Museum first began to register types.

A check on ALA showed just two records and no images. One record was for the Museum Victoria type and the second record is from the USNM (Smithsonian Institution, Washington DC.). Curiously, the USNM record has exactly the same data as the type that is supposed to be in the collection of Museum Victoria – "Dandenong Ranges" and no date. A check of our loan records showed the type was borrowed in 1990 but has not yet returned. So we then search the Smithsonian's entomology type website and found a type for this species list there! We contacted the person who borrowed the specimen and yes, he had not returned it but will soon. The Smithsonian record is for the male genitalia of the type which Alexander deposited there. So, a good ending to the story and we will soon have the type back at Museum Victoria after a 26 year absence.



I believe that prior to Frank's photos from earlier this week, no one has seen or collected *Sigmatomera victoriae* since it was first described back in 1924 by Alexander. Now – that's special indeed and we so lucky to have Zac who recognised it.

Photo by Frank Pierce. *Sigmatomera Austrolimnobia victoriae*

Craneflies or Tipulidae certainly are an attractive group of insects. Their gangly long legs seem so delicate and yet they are so robust. Here are but a few examples from BowerBird.

Clytocosmus sp. Location: Falls Creek. Photographer: Julia Mynott

Ptilogyna Plusiomyia olliffi Location: Warburton. Photographer Reiner Richter.

Helius communis Location: Huntingfield TAS Photographer: Tony D.

Ischnotoma Ischnotoma eburnean Location: Lobethal SA Photograher: Ellura Sanctuary

Leptotarsus clavatus Location: Bend Of Islands VIC Photographer: Lynne Johnstone

Gynoplistia sp. Location: Great Western VIC Photographer: Jenny Holmes

Discobola australis Location: Fernshaw VIC Photographer: Zac Billingham

Geranomyia sp. Location: Warburton Photographer: Zab Billingham

BowerBird humour

I love it when people add some humour to their posts. Here is an example from Reiner Richter showing a male bee roosting at what looks to be a most uncomfortable angle indeed.

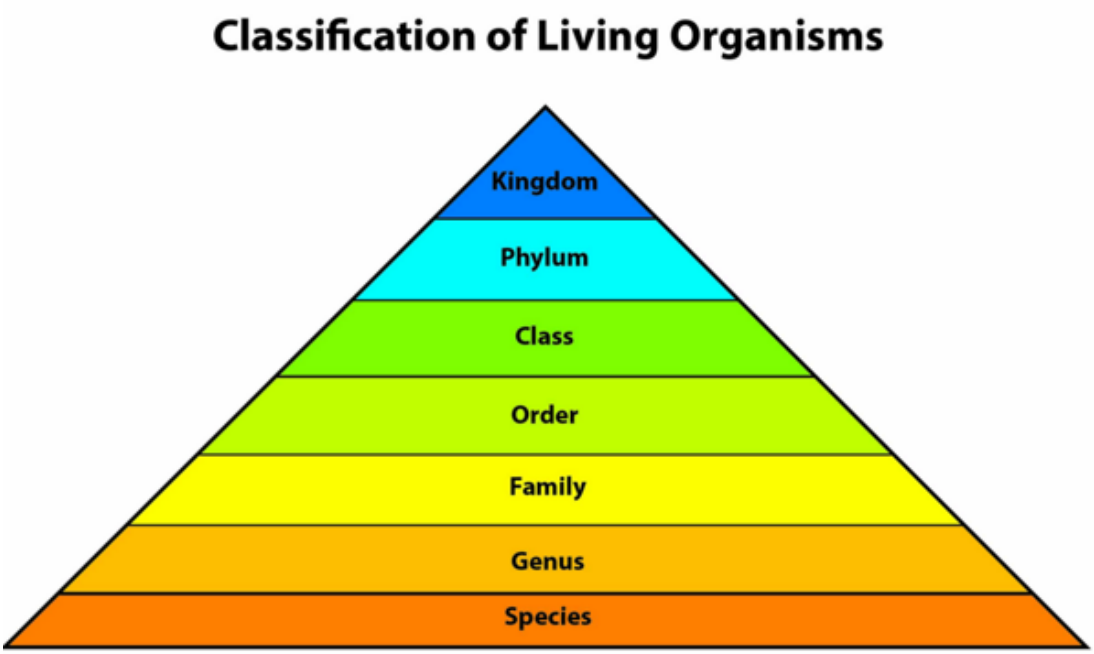
Reiner's title of "Ouch, Me Back!" is a perfect title for this image. Notice the male bee's enlarged, white tarsal segments. That made is easy to place this image to species name:

Megachile lucidiventris
(species)
Taxonomy: Animalia: Arthropoda: Insecta: Hymenoptera: Megachilidae: Megachile: lucidiventris
Common Names: Bees, Megachilids, Megachild bees

Location: Kilsyth VIC Photo by Reiner Richter.

Bee Identification – Part 3.

Despite what most people think, classification is an ever evolving story. Humans invented classifications because our brain is wired to put things into boxes rather than dealing with everything at one time. Imagine if we walked into a supermarket and nothing was sorted into groups! What a nightmare if we saw a cabbage next to sausages next to a packet of flour etc. How would we make sense of the disorder and how would be find what we wanted to purchase? We would have to look at each individual item until we found something to purchase. Similarly, imagine if we only had a species rank. How would you find more beetles or flies or goodness forbid – more bees of the same group! The only classification level invented by nature is the species level. Everything above the species has been invented by us! Since the 1758, we have been honing and improving our classification all with the intent of our classification trying to resemble “the natural order of nature”. We use the principal of inherited descent to group species into ranks above the species



This is called “monophyly” and we define a group as being “monophyletic” if we believe it had a common ancestor for all members of the group. The nemesis to monophyly is “paraphyly” which is defined as having more than one common ancestor within a group. Let’s take the absurd example of a genus having a bee, fly, beetle and frog species all with the same genus. That is an obvious unnatural grouping which we call “paraphyletic” and so we would change the classification with such a genus to better represent natural groups. Monophyly and Paraphyly can sometimes be difficult to distinguish. Many different animals can often have similar looking structures but that does not mean they have a common ancestor. Let’s take the mantis lacewing. Those raptorial forelegs look very similar to that of a preying mantis but this is an example of evolutionary convergence where nature has independently evolved a similar “fit for purpose” structure in two separate groups.

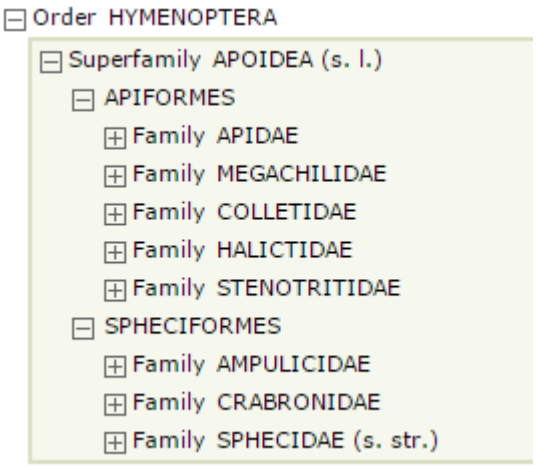
So, classification is always evolving and changing as we better understand nature and its natural groupings. Now why am I telling you about classification when I should be talking about bees? Well, recently the bee classification had a major change.

Bees fall under the superfamily rank (invented by us) called “Apoidea”. Below is a section from our taxonomic “bible” called the Australian Faunal Directory (AFD) which says that Apoidea includes “Social Bees, Solitary Bees”. But that is no longer the case.

Using new DNA techniques, researchers were trying to find which group of wasps gave rise to the bees. Morphologically, we thought the Sphecidae or digger wasps. But then some subfamilies within the Sphecidae were elevated to family rank (eg. Crabronidae) and they seemed a better fit for the ancestors of bees. But the DNA research found that by excluding these wasps from the bee groupings made Apoidea paraphyletic as it was missing some groups that should be included inside the so called “Bees” Superfamily Apoidea.

The upshot is that now three groups of wasps – the Ampulicidae, the Crabronidae and the Sphecidae” are included in the previously “bees only” superfamily Apoidea.

“Bloody” taxonomists – always changing their minds just when you thought you knew what was going on!



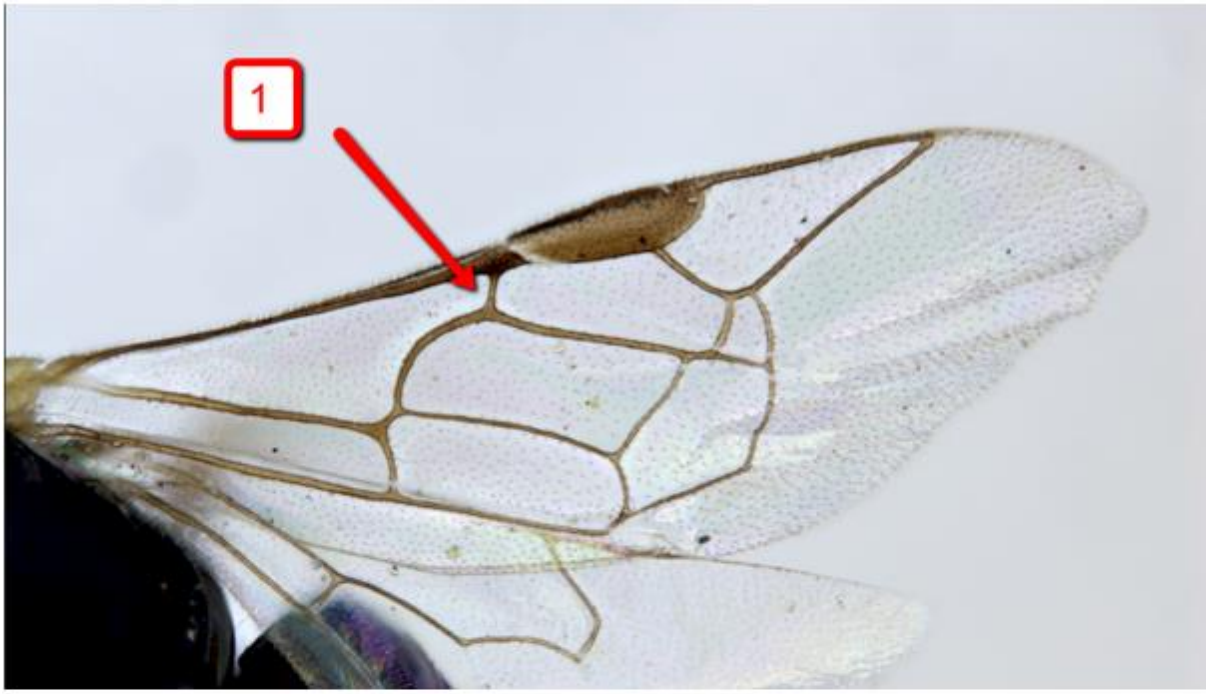
I raise this issue as it could cause confusion about the number of bee species in Australia. If you look at the statistics on AFD for the Apoidea it lists 2393 species. But, of course that includes species from 3 families of wasps now included in Apoidea. The “real” number of Australian bees is just under 1700 species.

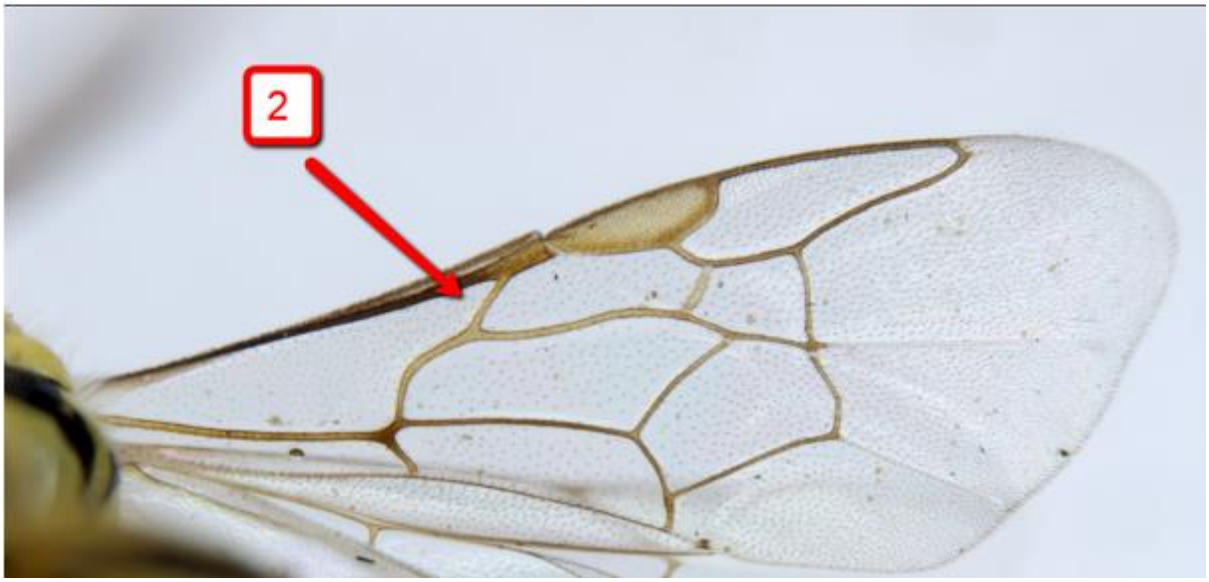
As the old taxonomy joke goes – Ask 10 taxonomists to name a species and you will get back 11 different answers!!

Statistics for APOIDEA (s. l.)

Families	8
Genera	122
Subgenera	118
Genus synonyms	418
Species	2398
Subspecies	19
Species synonyms	3124
Incertae sedis	11
Species inquirenda	0
Aggregate genera	0
Aggregate species	0
Unplaced	6

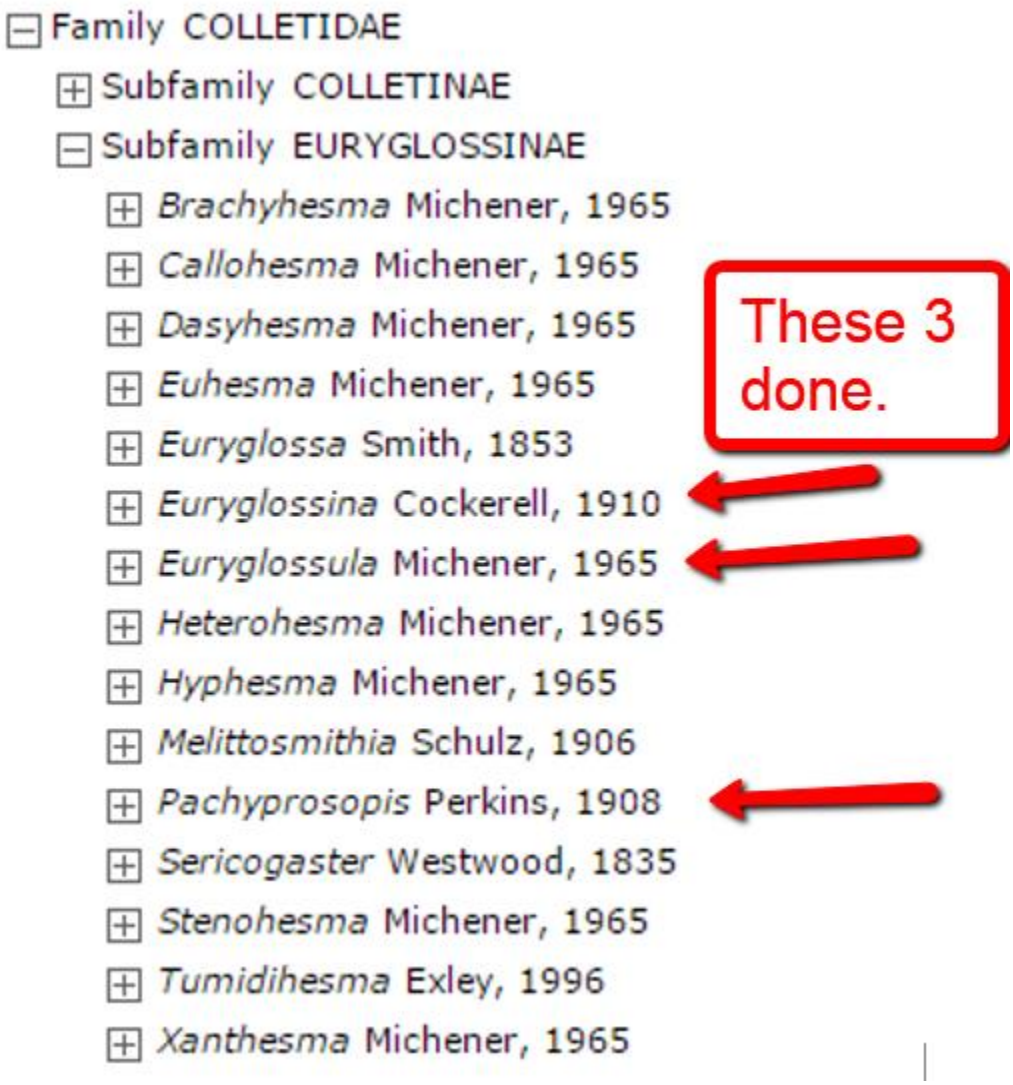
Last week, we looked in detail at 3 of the Euryglossinae subgenera which leaves 12 genera still to tackle. Those 3 subgenera could be recognised by the wing character seen in Fig 1 - first abscissa of vein Rs transverse almost at right angles.





The remaining 12 genera all have the first abscissa of vein Rs transverse as seen in Fig 2 – ie. at an angulated rather than at right angles.

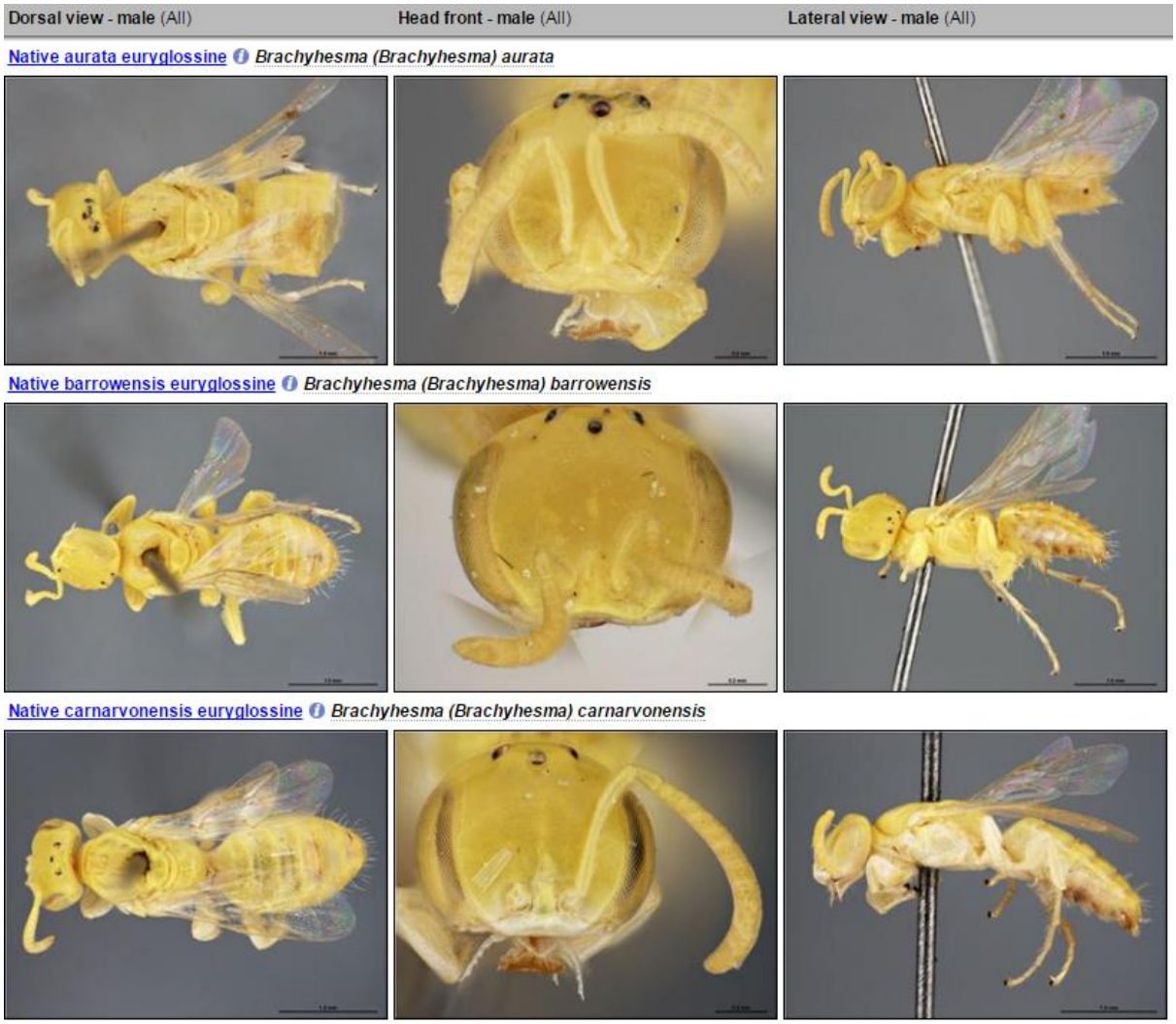
These remaining 12 subgenera are not an easy bunch to diagnose using classic morphological characters so I will use some “unconventional” characters to help identify them – colour (notoriously unreliable) and body length.



Let’s start our division using colour and in particular the colour yellow. There are several groups of Euryglossinae bees that are small and yellow coloured – these include *Brachyhesma, Callohesma* and species of *Xanthesma* in the subgenera of *Argohesma, Xenohesma* and *Cheatohesma.* Remember, Jean and Fred Hort’s photo of 4 *Brachyhesma* females all fitting happily inside a single eucalyptus flower.

Brachyhesma houstoni Photo by Jean and Fred Hort.

All *Brachyhesma* are yellow coloured bees.



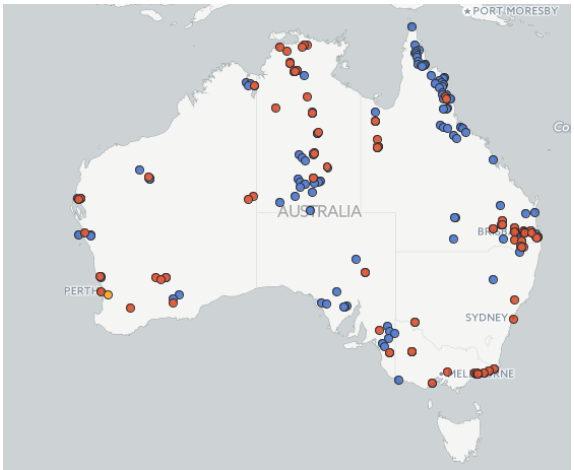
One of the many curious features about *Brachyhesma* is that the females of every species all look the same. You cannot separate to species based on females only – you need the males. And, the males show a myriad of wonderful features.

Here is the male of *Brachyhesma antennata* so called because of its unique antennal shape:

And, here is male of *Brachyhesma grossopedalis* (grosso= enlarged; pedalis= foot; meaning “big-foot). You can see the enlarged midleg segments clearly.

Or what about *Brachyhesma bitrichopedalis* (bi= two; tricho= hair; pedalis=foot; means “2 hairs on foot” seen arrowed below)

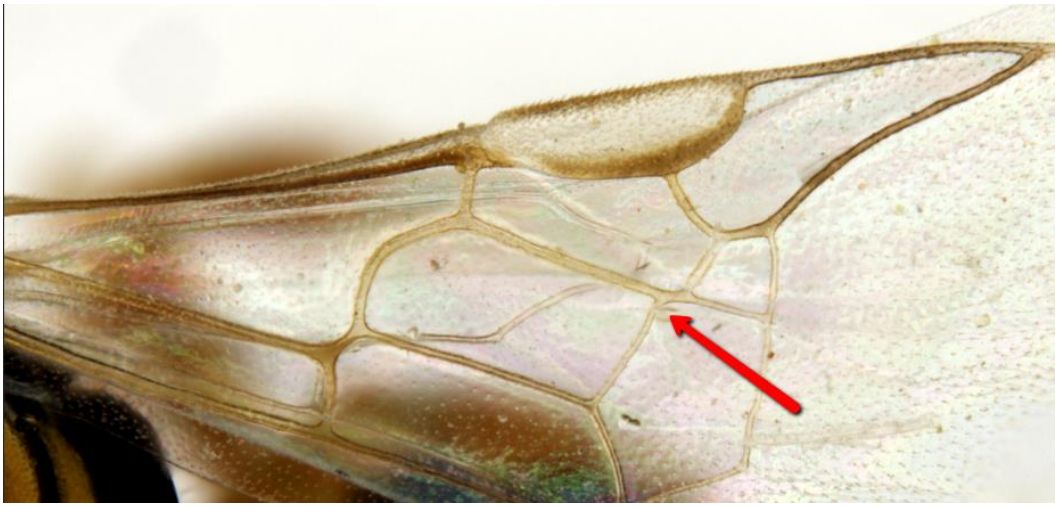
Brachyhesma (41 species) occurs in all states and territories except Tasmania. (See the map below – aren’t we lucky that bees “only” occur either side of major road ways !! (:->!) This genus is more commonly found in northern Australia. If you draw a line between Brisbane (Qld) and Carnarvon (WA), you will find 33 of the 41 Australian species north of that line.



Many euryglossine bees have distinctive facial fovea (grooves on the inside of the inner eye margin – see arrows). One such genus with four subgenera is *Xanthesma* in which the top of these facial grooves curves strongly towards the ocelli – as seen in the image below.

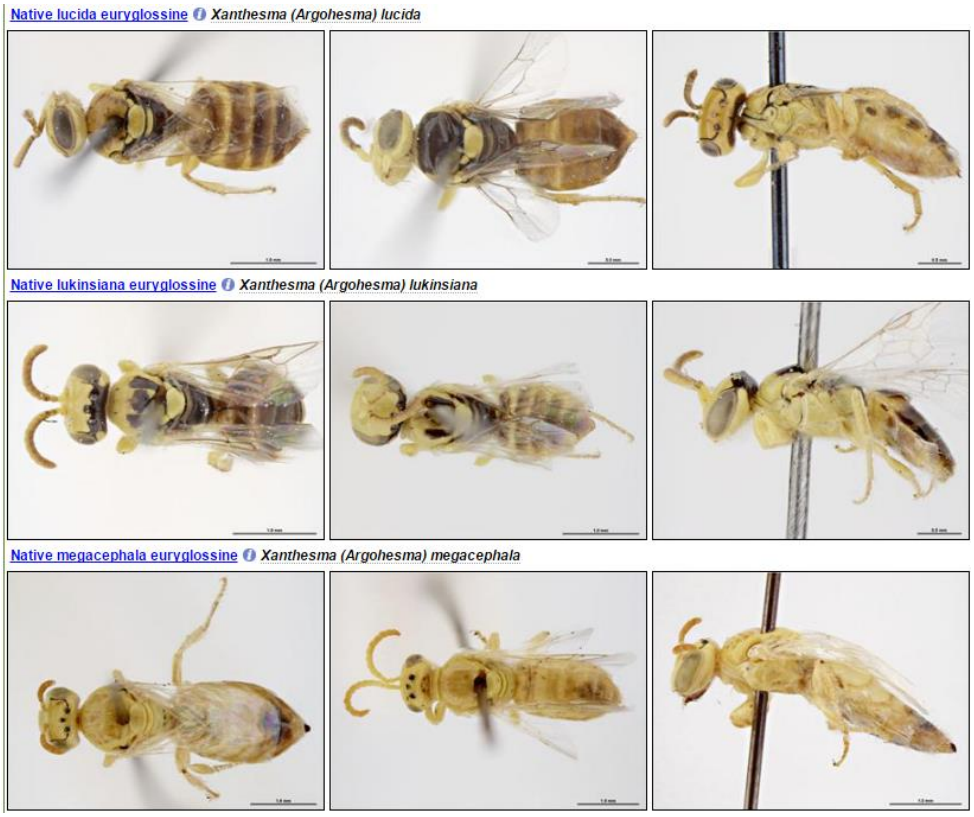
Compare the above arrowed facial fovea to those on the face of the below *Euryglossa* face in which the fovea are almost parallel.

One of the *Xanthesma* subgenera, *Argohesma* (note: Argos is Greek for “bright”) with 8 Australian species, have predominantly yellow bees. The subgenus is distinguished by the position of the first recurrent vein enters the apex of the first submarginal cell (see arrow below).



Xanthesma (Argohesma) forewing venation.

Many of the species are yellow; however, a few are black with yellow body markings.



The second *Xanthesma* subgenus is called *Chaetohesma,* with 10 Australian species, is another group of primarily yellow bees.

Xanthesma (Chaetohesma) occur mostly in the northern half of Australia but I have recorded one species out in east Gippsland.

Xanthesma (Chaetohesma) distribution.

Chaetohesma can be distinguished from *Argohesma* by the positioning of first recurrent vein entering the second submarginal cell (see arrow below). Compare the above *Argohesma* above in which first recurrent vein entering the first submarginal cell.

Xanthesma (Chaetohesma) forewing venation.

Chaetohesma have a few unique characters. One is the tip of the mandible has a pre-apical tooth – all other Xanthesma have a simple tooth.

Xanthesma (Chaetohesma) mandibles showing a preapical tooth on each mandible

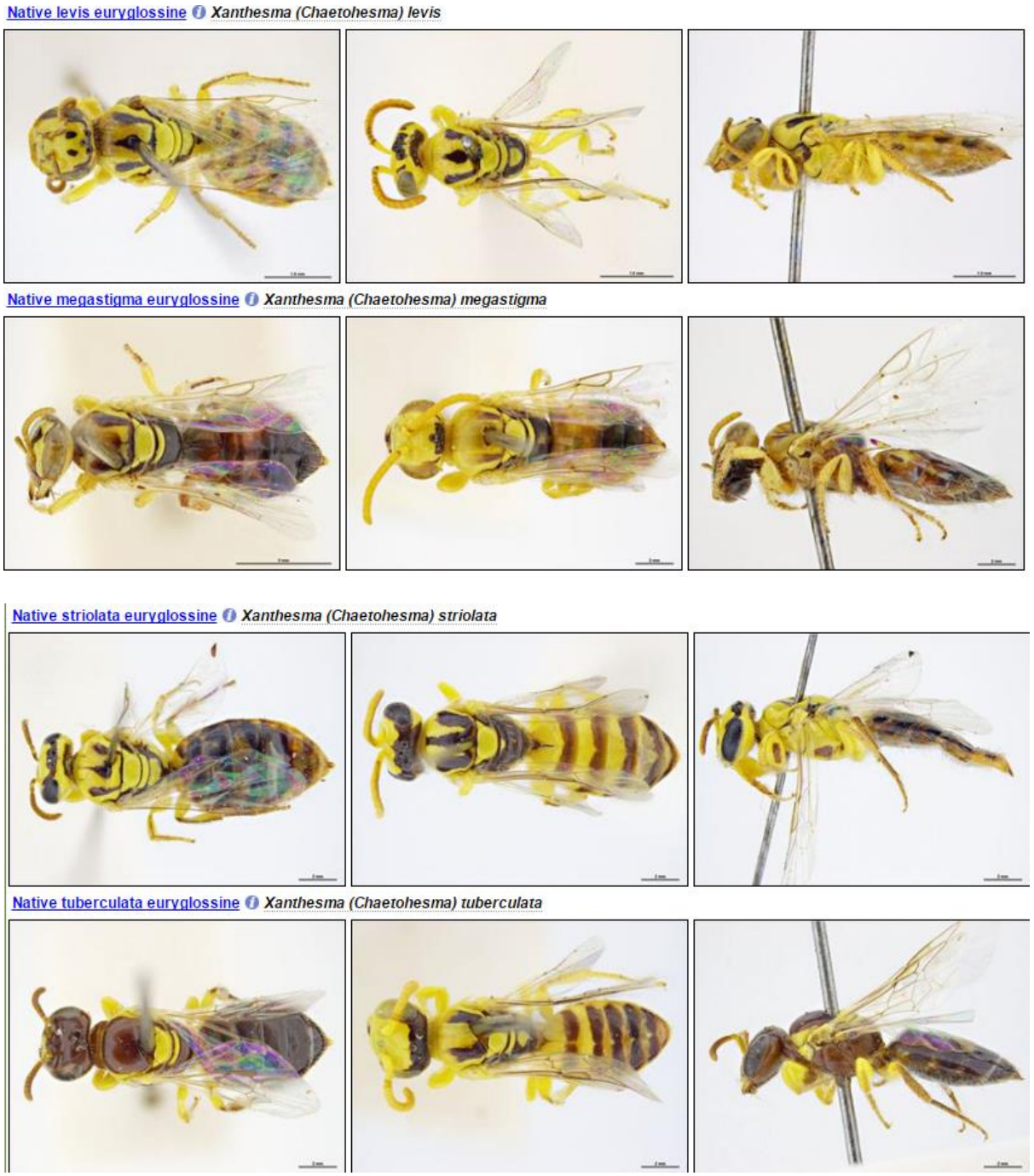
The second unique character shows how the subgenus *Chaetohesma* name was derived. "Chaeto" is Greek for "long hair". *Chaetohesma* females have a unique set of hair or spines at the base of the fore coxae (the base of the foreleg: arrowed).

I think it is always "fun" to source the "etymology" of the scientific name.

Xanthesma (Chaetohesma) forecoxal spine.

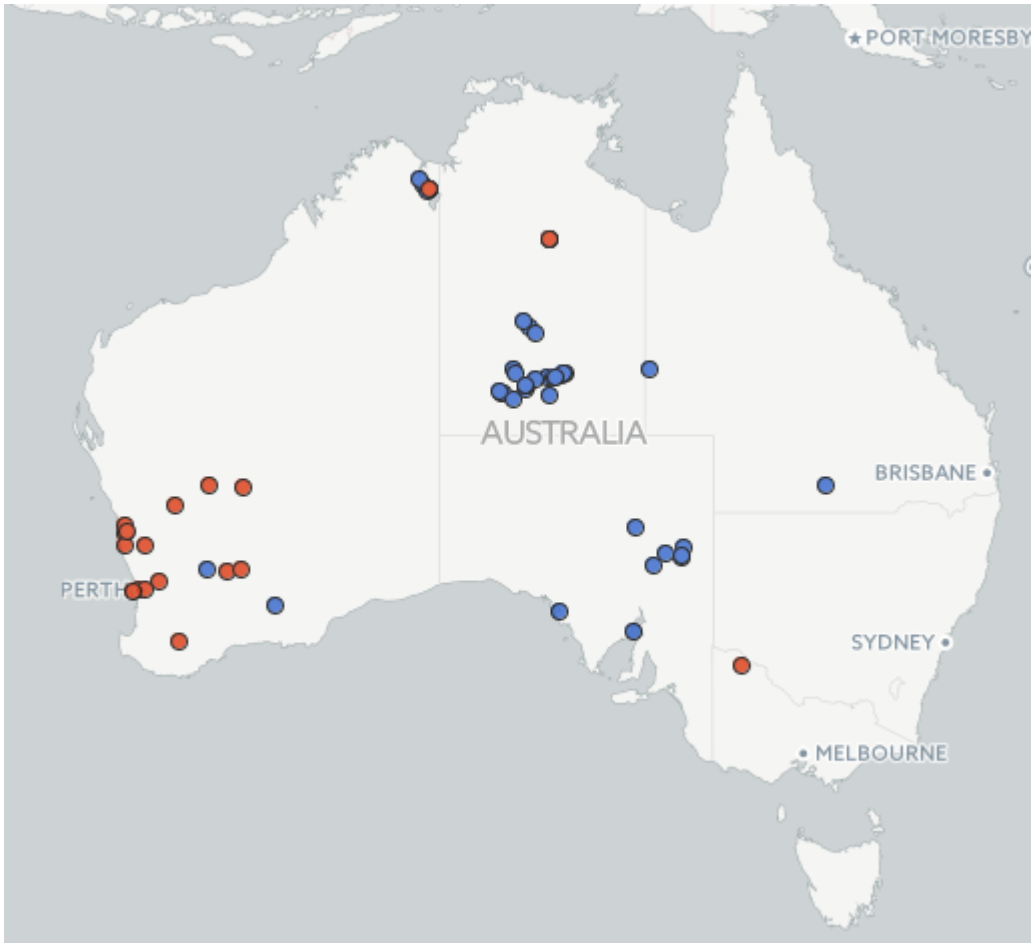
I am always amazed how often people misspell "entomology" with "etymology" which is the study of words. Only this week, someone at the Museum make this mistake – Grrrrrrr.

	Group 1	Group 2
1:30-2	Katie - vert wet coll/lab	Karen - vert dry coll/lab
2-2:30	Karen - vert dry coll/lab	Katie - vert wet coll/lab
2:30-3	Robin - marine inverts	Dave - vert paleo
3-3:30	Richard/Peter - entomology	Robin - marine inverts
3:30-4	Ken - photo/entymology	Richard/Peter - entomology
4-4:30	Dave - vert paleo	Ken - photo/entymology



Xanthesma (Chaetohesma) female and males showing the yellow colours.

The final *Xanthesma* yellow subgenus is called *Xenohesma* which has 17 Australian species. Again, only the males of these bees can be distinguished as the females all resemble each other. *Xenohesma* typically occur in the dry areas of Australia as seen by the distribution map below.



The males of *Xenohesma* have some amazing characters, Many have a completely, bright yellow metasoma (apparent abdomen). Usually, males of bees go to flowers to seek females with which to mate but that does not happen with *Xenohesma*.

Xenohesma males use a unique approach. Hundreds of males gather together and engage in an amazing, mating flight. In a large mass, the males fly a zig-zag pattern of back and forth at a very fast pace. So fast, that you can really only seen the yellows of the male bee metasomas whizzing around in a spectacular fashion. I have been privileged to see this display several times in central Australia. As the males perform this rapid flying manoeuvre, a female will fly into the flying male swarm and be mated immediately. To be able to see an approaching female, *Xenohesma* males have enlarged eyes to improve their vision. You can see a video of this mating swarm at: http://researchdata.museum.vic.gov.au/Xenohesma_males.wmv

Male *Xanthesma (Xenohesma) stagei* with enlarged eyes.

Below is a selection of *Xenohesma* species males:

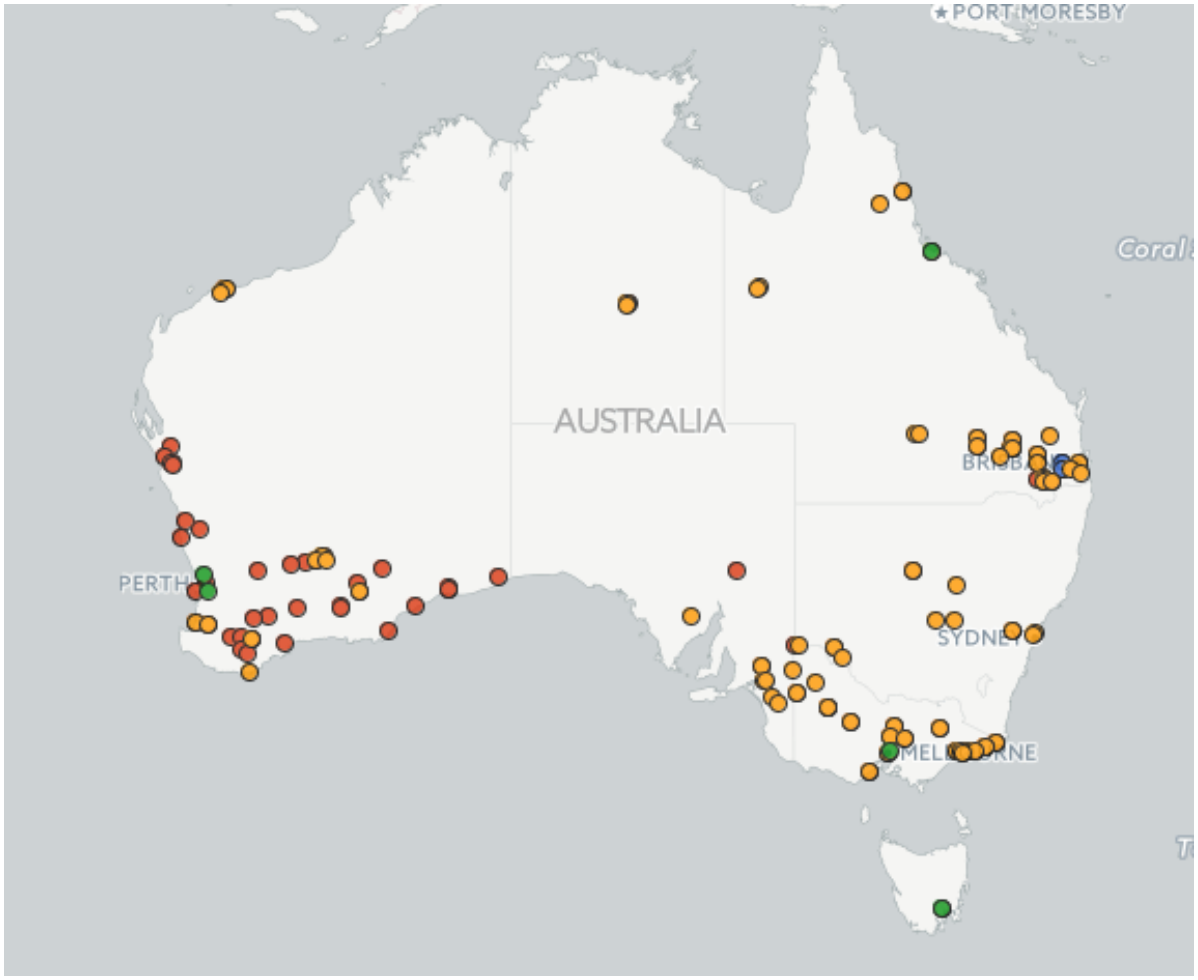
Native sigaloessa euryglossine *Xanthesma (Xenohesma) sigaloessa*

Native Binnu euryglossine *Xanthesma (Xenohesma) sp. "Binnu"*

Native Exmouth euryglossine *Xanthesma (Xenohesma) sp. "Exmouth"*

Enormous eyes of *Xanthesma (Xenohesma) sigaloessa*

The last of the “yellow” euryglossine bees is *Callohesma*. “Callo” is Greek for “beautiful” and these are indeed lovely bees – still, which bee isn’t beautiful ? ... at least to me! There are 34 species of Australian *Callohesma* which are primarily distributed across southern Australia.



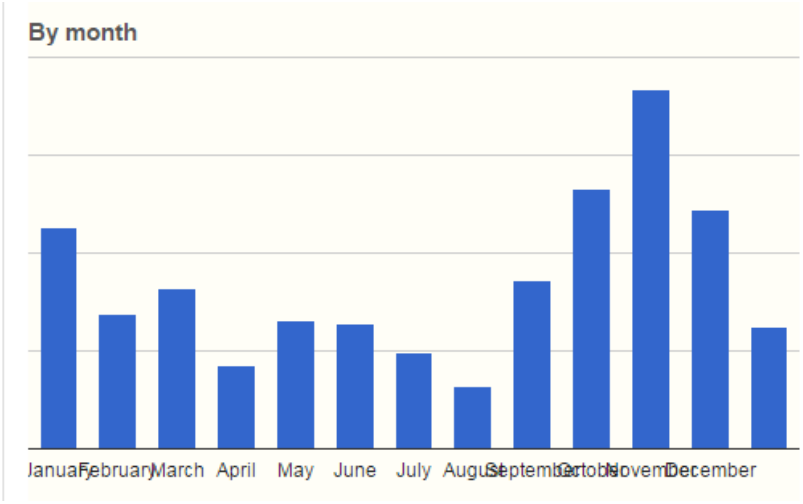
I always find it fascinating to look at distributions and try to explain the observed pattern. Sometimes the explanation is simple but many times it is difficult to understand what is going on. Of course, sometimes observed distributions are what we call a “collection artefact” which means there are not enough distribution data points to accurately reflect the true distribution of a species.

Below is a good example of a species “just waiting” for more data to come along. John Read recorded the yellow plaguing grasshopper from near Coober Pedy.

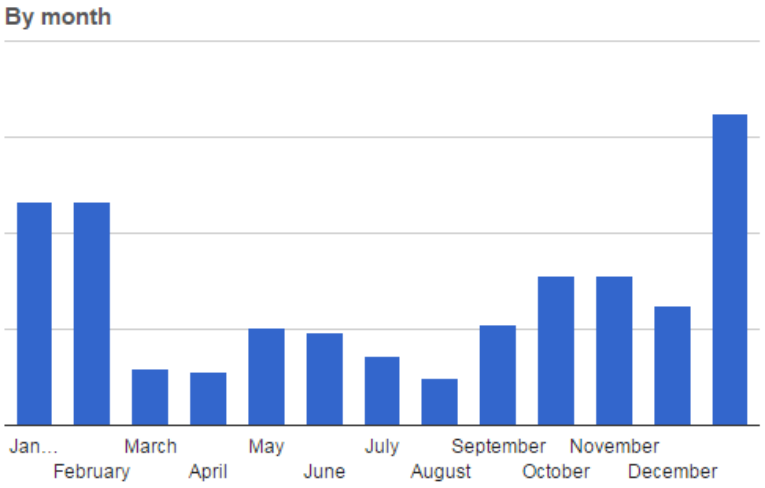
And when the record was uploaded to ALA, it was the first for this species on ALA. Where else does it occur?

If you look in David Rentz's et al. book titled: "A Guide to Australian Grasshoppers and Locusts" the distribution map associated with this species show it "possibly occurs" throughout much of dry, central Australia ... but to date, only one record has been databased and uploaded to ALA.

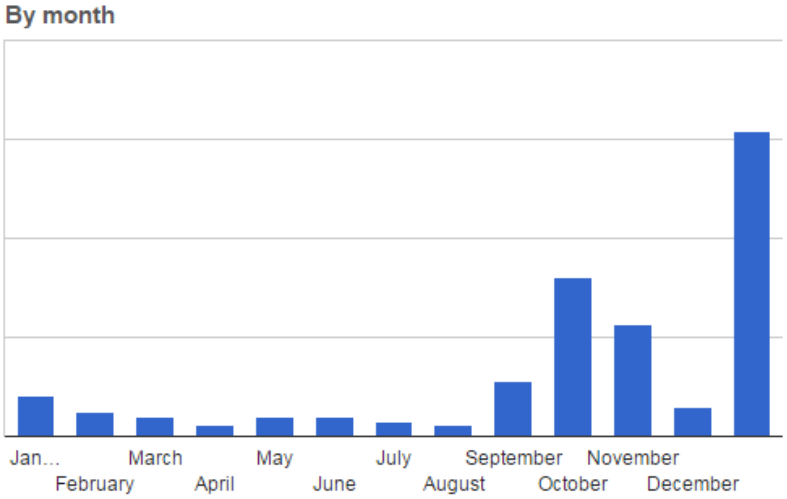
I sometimes get ask about our Museum insect collection – "Why do you have so many specimens of the same species? Isn't one enough? It's a good question as the Museum Victoria insect collection has about 3 million specimens and we estimate Australian museums hold about 60 million zoological specimens. To answer the number of specimens question, I often show a map such as the grasshopper above and ask – If we only have one specimen, do we need to know where else it may occur? As well, if we only have one specimen then we only know one month in which the species is active. Do you think we need to know which other months of the year the species is active? Let's begin by looking at the date or temporal data provided by multiple records. I'll look at the temporal data for 3 halictid bees: *Homalictus sphecodoides, Lasioglossum lanarium* and *Lasioglossum bicingulatum*. The first temporal chart below is for *Homalictus sphecodoides.* This chart shows that the species is present somewhere in Australia during all months of the year and that it seems to have two peaks for collection data – October and January. This suggests that this species has 2 generations per year which we call bimodal. The second temporal chart is for *Lasioglossum bicingulatum* which shows only one major population peak between December and February suggesting it is unimodal (one population per year). The third temporal chart for *Lasioglossum lanarium* shows the species mainly flies in spring/summer only with few specimens collected after Christmas



Temporal chart for *Homalictus sphecodoides*



Temporal chart for *Lasioglossum bicingulatum*



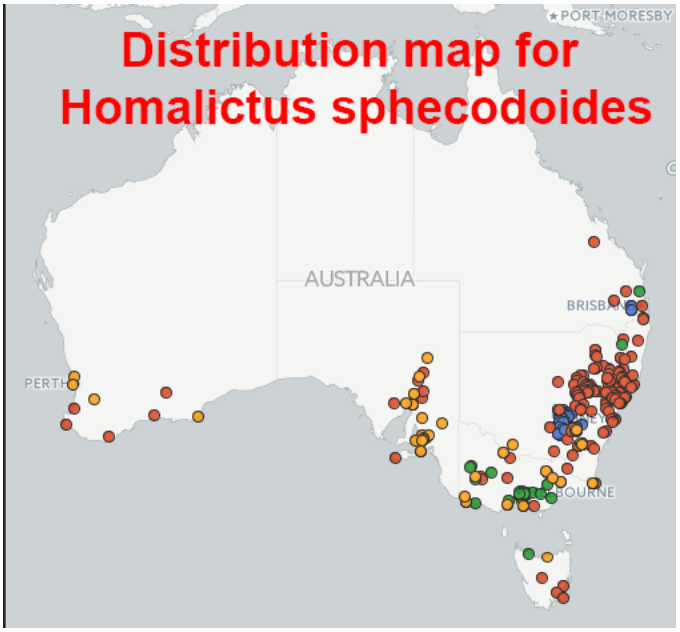
Temporal chart for *Lasioglossum lanarium*

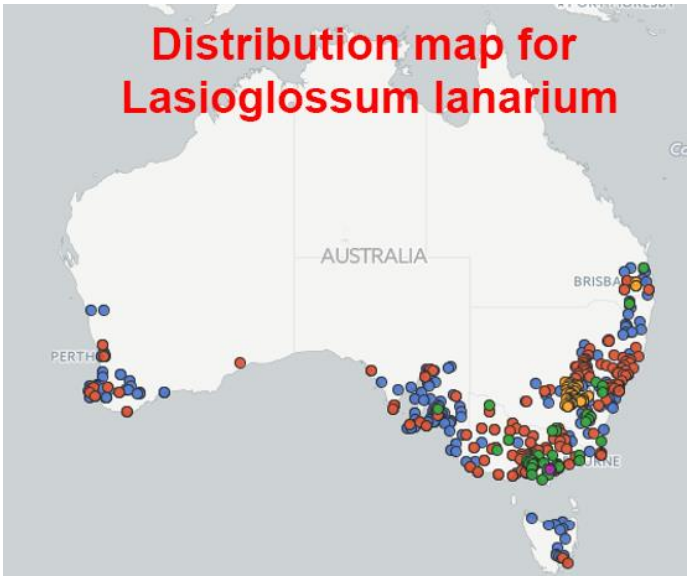
On the next page are distribution maps for the same three bee species: *Homalictus sphecodoides, Lasioglossum lanarium* and *Lasioglossum bicingulatum*.

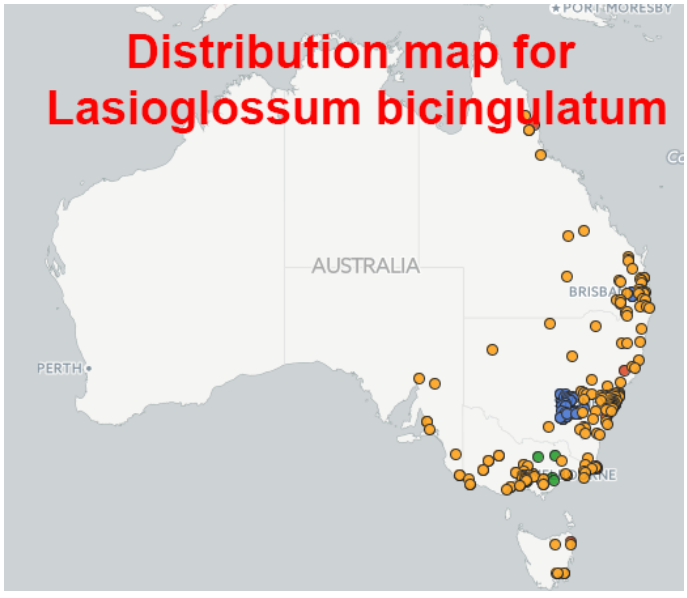
Now first of all, imagine that the below map, with only one dot, represents the distributions for all three species. All three species occur in Gippsland and that's what we could see if we had only one specimen per species.

Of course, such distributions are almost useful other than to say these species at least occurs in Victoria. But the obvious question is where else do these three species occur.

Well, the real picture is revealed on the next page. Two of the species follow the typical Bassian faunal province distribution of occurring in both the SE and SW corners of Australia. This is within the 500mm rainfall isohyet – which obviously affects what flowering plants occur in these area. The third species is restricted to eastern Australia but extends right up in north Queensland. So how much more information do we have by having multiple specimens? The more the better! Imagine if these were pest species. We need to know where they occur.

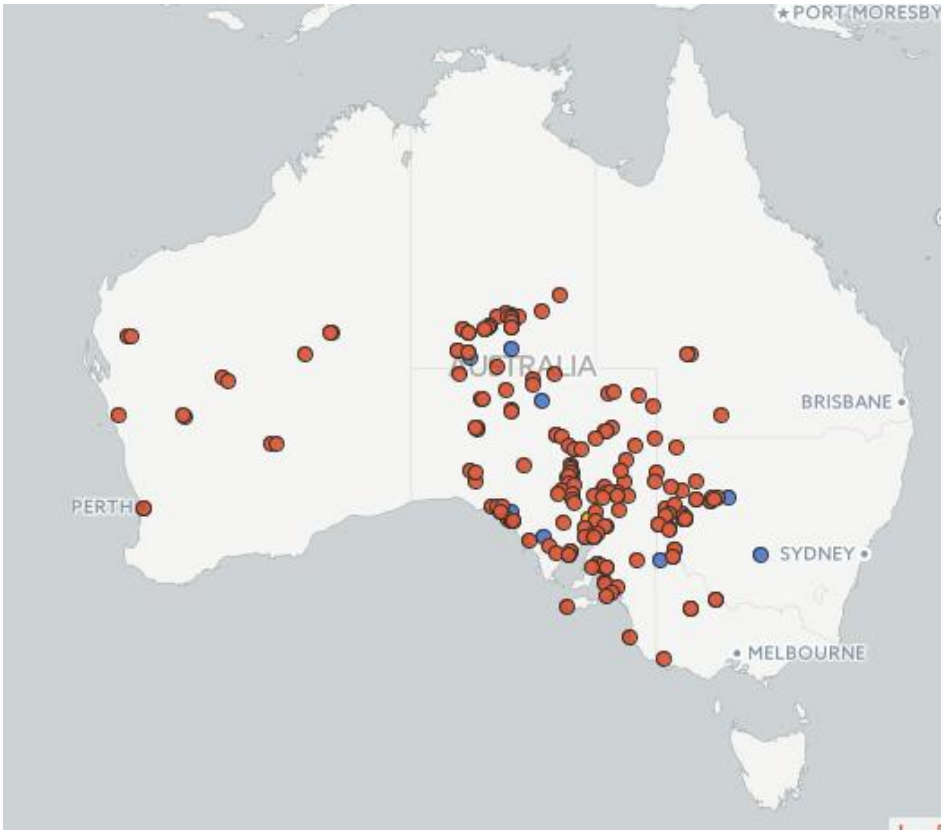

Distribution map for
Homalictus sphecodoides
PORT MORESBY
AUSTRALIA
BRISBANE
PERTH
MELBOURNE


Distribution map for
Lasioglossum lanarium
AUSTRALIA
BRISBANE
PERTH

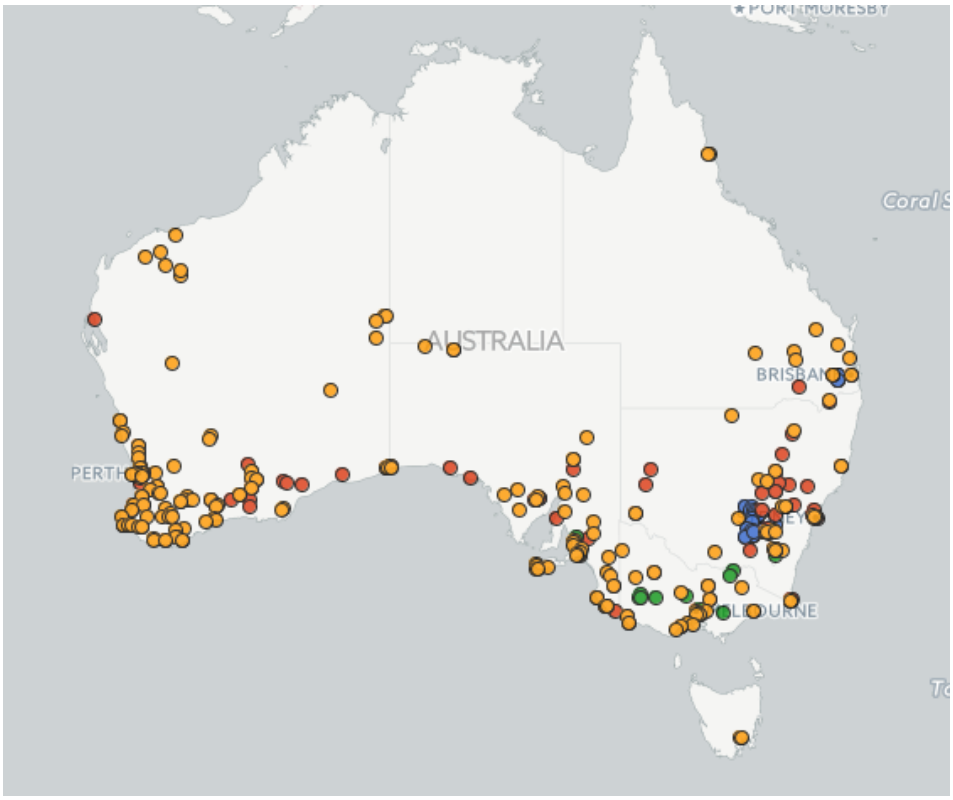

Distribution map for
Lasioglossum bicingulatum
PORT MORESBY
AUSTRALIA
BRISBANE
PERTH

There is an interesting rainfall pattern which called the line of equal moisture content that runs across Australia from about Brisbane in Queensland across to about Carnarvon in WA. To the north of that line the land receives primarily summer (monsoon) rains, whereas to the south of the line the rain is mainly winter rains. Imagine how significant that must be to the plants that grow and at what time of the year do they flower. Anything that then depends on floral resources will also probably be affected by the rainfall that produces their food source.

Such knowledge of rainfall patterns helps to explain Australia wide faunal distribution patterns. Take a look at the patterns for *Lasiglossum eremean* and *Lasioglossum hemichalceum* which occurs almost exclusively south of the equal rainfall line.



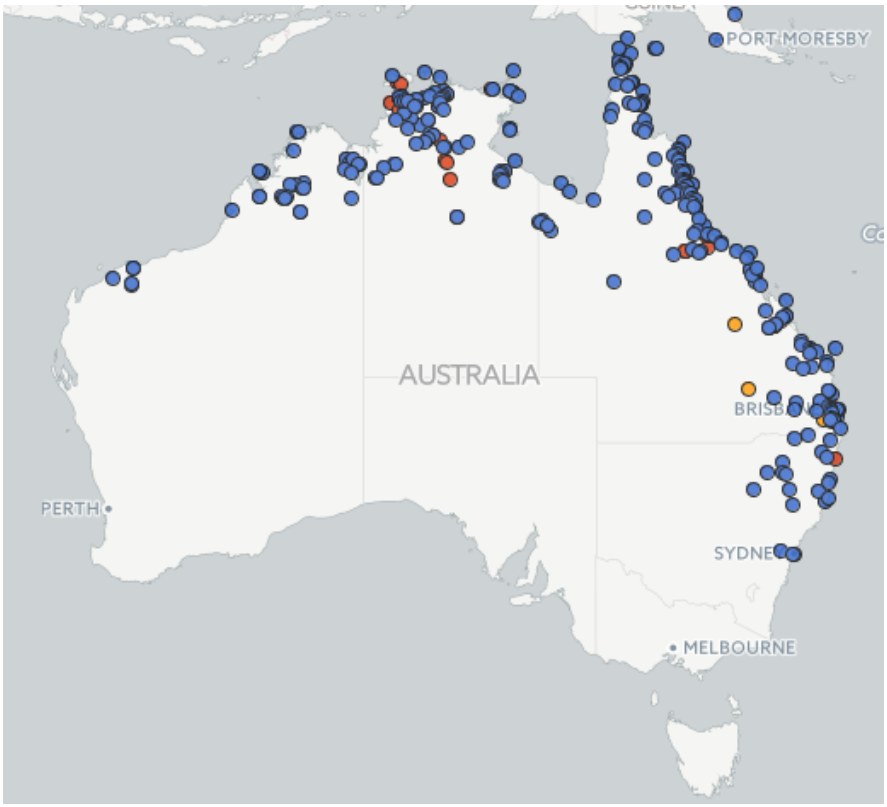
Distribution pattern for *Lasioglossum eremean*

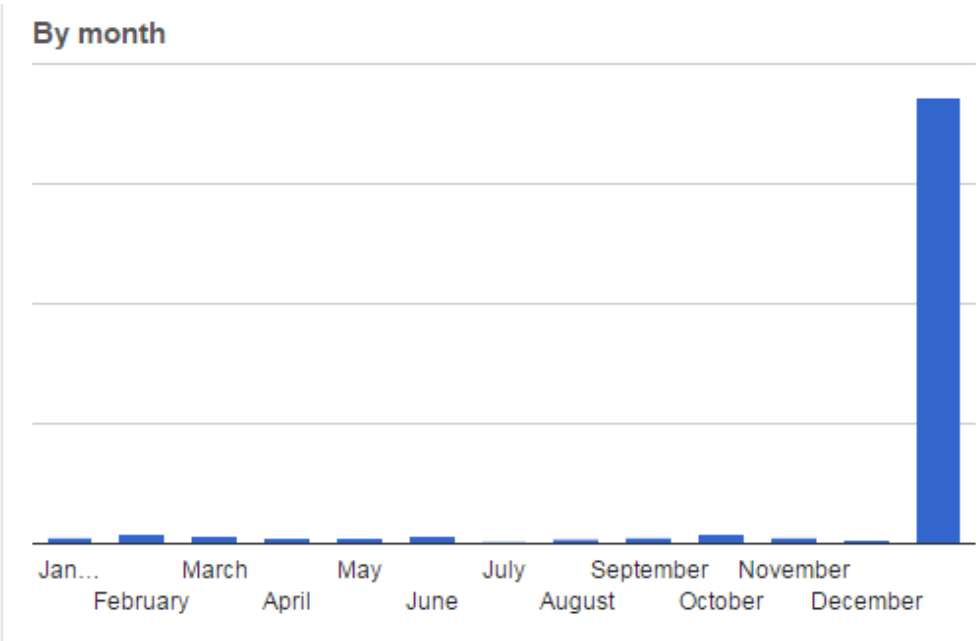


Distribution pattern for *Lasioglossum hemichalceum*

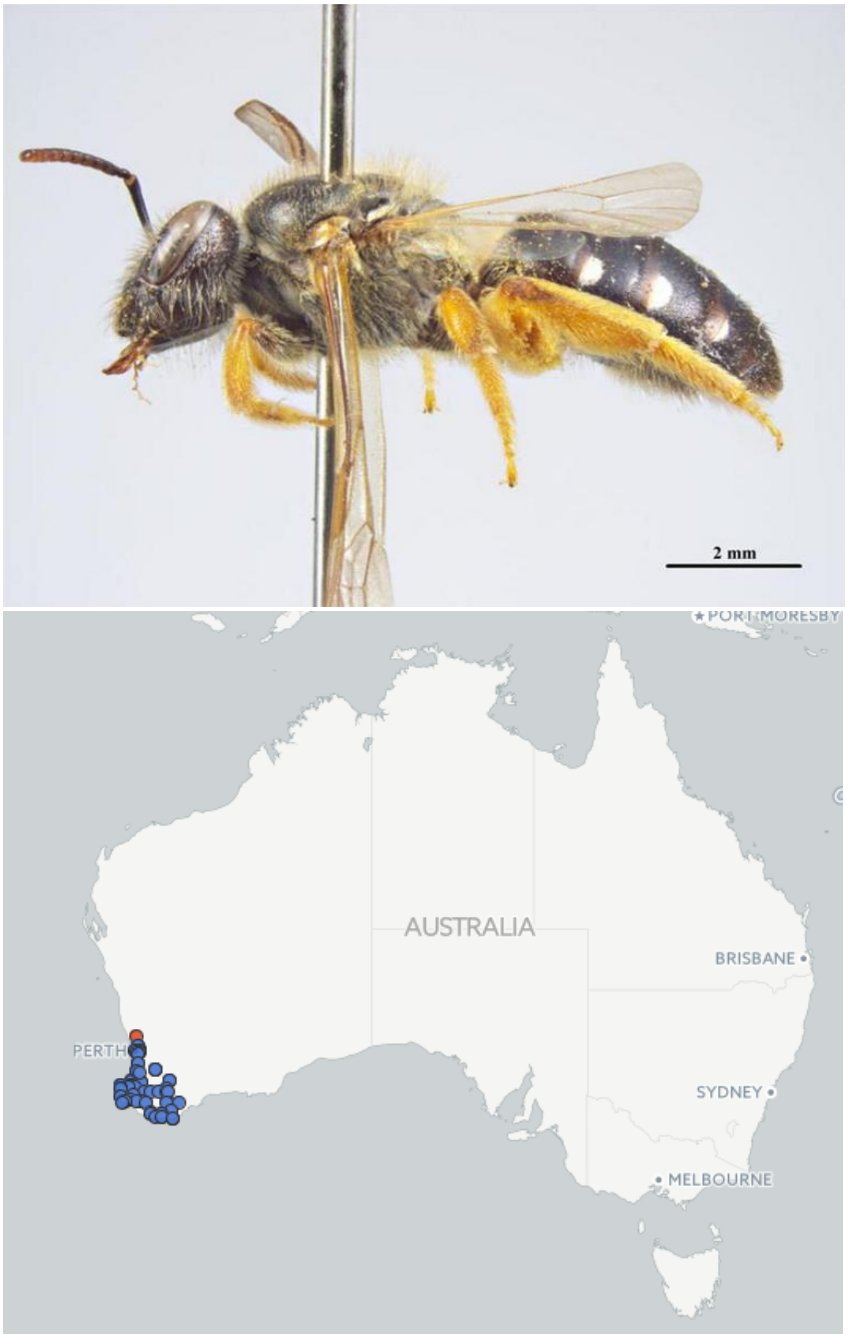
Now compare that to the distribution of large carpenter bees *Xylocopa (Koptortosoma*) spp. which occur mainly north of the line which receive monsoonal rains. And, below the map look at the temporal chart for these bees. Very restrictive indeed.

So much to learn and observe by looking at where and when species occur.





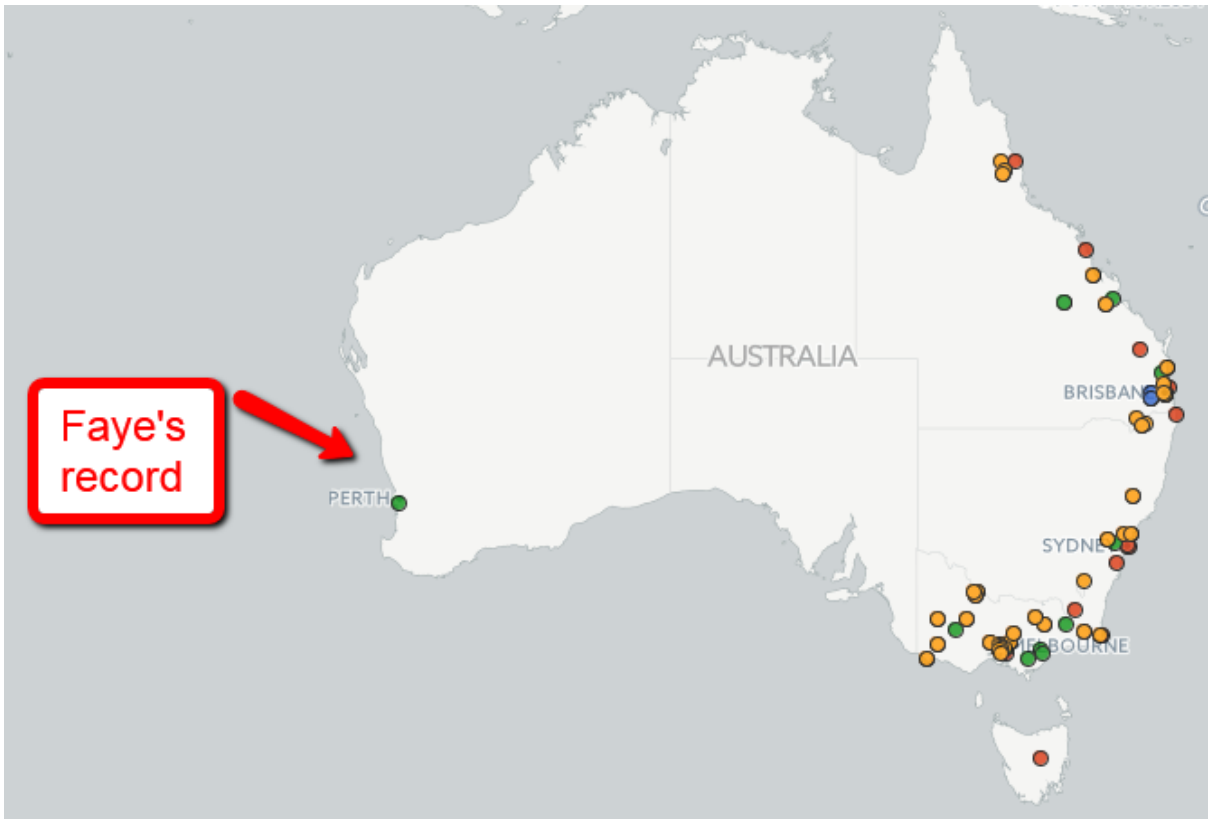
Finally, try explaining this bee distribution. It is one of the largest of *Lasioglossum (Chilalictus)* species with some specimen having a body length of over 11mm and it is called *L. mirandum* (Note: “mirandus” is Latin for “wonderful” or “strange”). Yet it is restricted to the SW of WA within the 800mm rainfall isohyet and it mainly flies in December. Why so restrictive for such a big bodied bee? I’m stumped here!



Distribution map for *Lasioglossum mirandum*

This may explain why I got so excited about Faye's unusual bee record for WA reported in last month's Bugle. Remember that I told you about Faye's find in WA of a bee previously recorded from only eastern Australia. This bee has a habit of nesting inside disused mud wasp nests. Faye's photo clearly showed the bee building a nest in an abandoned mud wasp nest. The identification was confirmed by the WA bee expert Dr Terry Houston. Faye's record is now on ALA and the disjunct distribution shown is a result of human intervention. Obviously the species can exist in SW WA but it did not occur there naturally but it would seem with some human help it now becoming naturalised in SW WA.

Every picture tells a story.

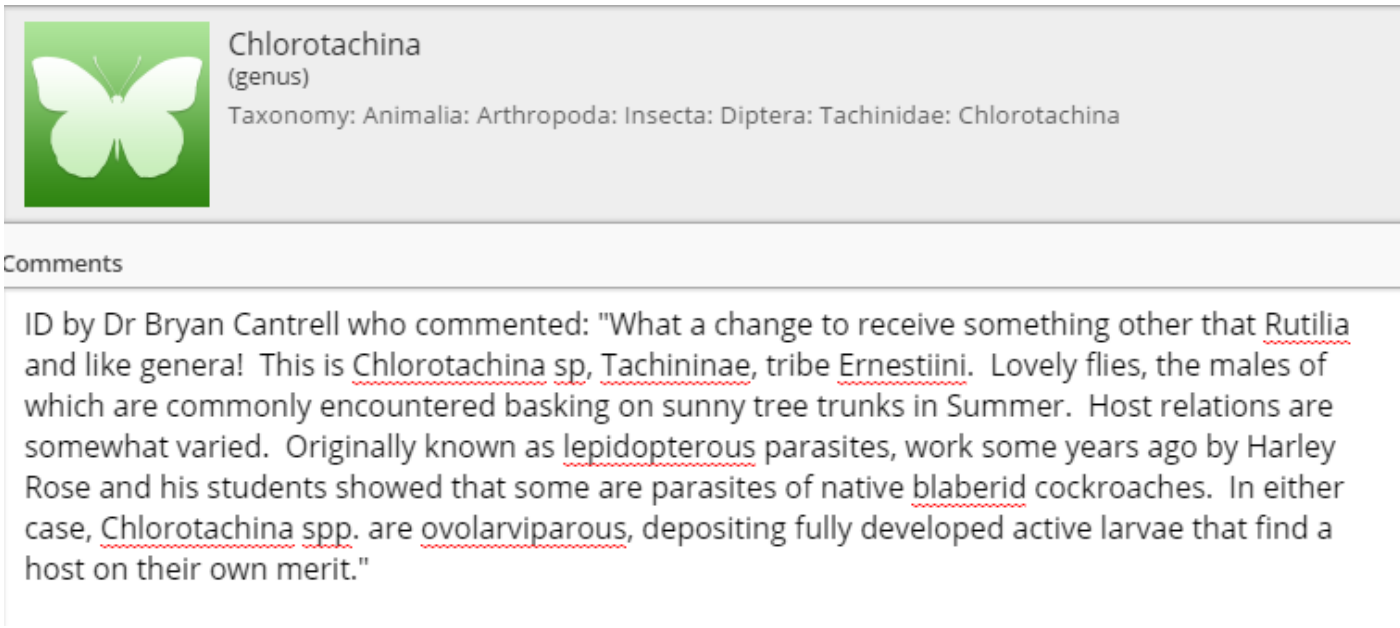


Expert advice

I often refer BowerBird images to the experts. Until last year, for over 20 years I was the Taxonomic Editor for the Journal of Australian Entomology (now known as Austral Entomology). I took on this task for several reasons – To learn how to write scientifically; and, to network with all of the active Australian taxonomists. I generally have found that Australian taxonomists do not join citizen science website such as BowerBird as they do not want to spend their time both scanning for records in their own speciality and then answering lots of public enquiries outside of what their job pays them to do. But – I have found that through my 20+ years of editing their scientific papers I seem to be able to send them individual records with identification request which they are most happy to do. Remember – *It's not what you know but who you know!!* Dr Bryan Cantrell is Australia's Tachinidae fly expert. I have known Bryan since my days in the 1970s at the University of Queensland. Bryan has now retired but loves when I send him a tachinid image for identification. Bryan not only provides an identification but usually expands on the known biology of the groups. Tachinid flies are parasites. They attack a wide range of other insects and use a range of different techniques to find their host. In some cases, the adult female directly deposits eggs on the host. In some cases where the host is a caterpillar, the female adult lays egg on the caterpillar's host plant. The fly egg is covered with a special coating that can only be broken down by the enzymes inside the gut of a caterpillar. So, the tachinid fly egg sits and waits until a caterpillar eats the leaf and tachinid egg and when inside the caterpillar, the egg hatches and the rest is history.

I recently sent Bryan a presumed tachinid record uploaded by Reiner Richter. Below is the image and Bryan's ID and reply.

Location: Mount Dandenong, Vic. Photographer: Reiner Richter



Reiner's upload is only the third record on ALA for this genus. BowerBird – putting the right record with the right expert.

Simon Ong – our contact at Kununurra

I have mentioned Simon before and he continues to upload some of the amazing fauna around the NW Western Australia. Two recent posts caught my eye.

Blind snake – *Ramphotyphlops* sp. Photos by Simon Ong

“Was found inside an ant nest that was at the base of a dead *Sesbania formosa* when it was knocked over. A couple of the

images include the ants. At first the snake writhed a lot but settled into a tight knot around a twig, allowing me to pick it up to photograph it away from the ants which were agitated and biting. The tip of the tail is dark brown.”

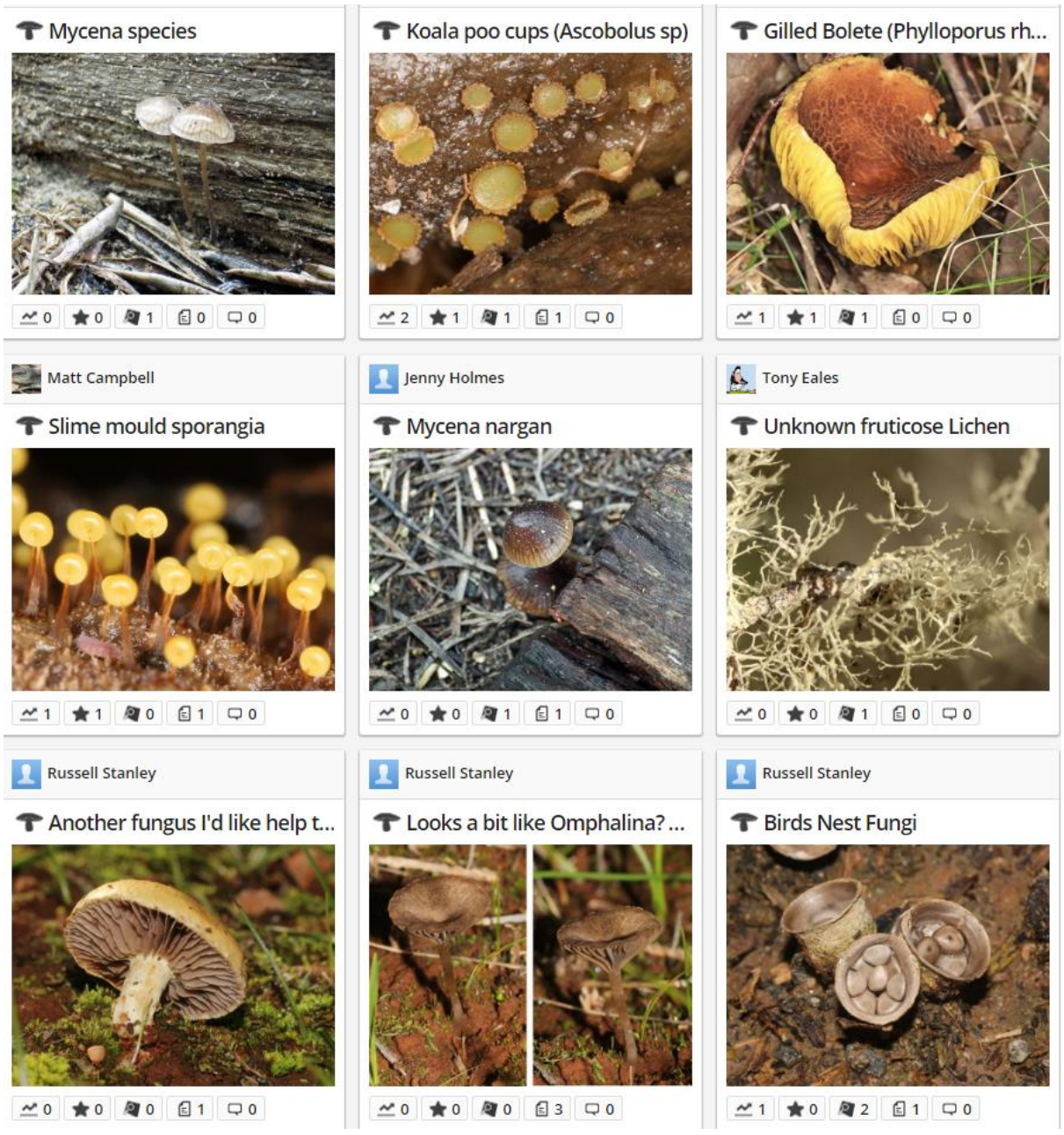
A new invasive butterfly species to Australia

Lepidoptera: Nymphalidae: *Acraea terpsicore* Tawny Coster Photo by Simon Ong

This species is native to India and Sri Lanka but in the last decade has arrived and has successfully established in Darwin and then has moved out at a rate of over 300kms per year. Simon’s record from Durack WA is about as far west as the species has been recorded. Great image of a relatively new invasive species to Australia. For information see: Host plants, biology and distribution of Acraea terpsicore (Linnaeus, 1758) (Lepidoptera: Nymphalidae): a new butterfly for northern Australia with potential invasive status. Austral Entomology Volume 53, Issue 3, pages 288–297, August 2014

Fungi !!

Currently, BowerBird is awash with the most magnificent fungal images. Different sizes, shapes and colours – truly staggering.



Jenny Holmes

Cladia Sp. (Coral Lichen)

3 1 1 0 0

Teresa and John

Hypholoma sp.

0 0 1 0 0

Teresa and John

Hygrocybe sp

0 0 1 0 0

Teresa and John

Hygrocybe firma

0 0 1 0 0

Teresa and John

Mutinus sp.

0 0 1 0 0

Teresa and John

Mycena albidocapillaris

0 0 1 0 0

Reiner Richter

Little White Tacks

0 1 1 0 0

Torbjorn von Strokirch

Inonotus sp.?

0 0 0 3 0

Teresa and John

Stilbella aleuriata

2 0 0 1 0

Teresa and John

Resupinatus cinerascens

1 0 1 0 0

Teresa and John

Resupinatus applicatus

0 0 1 0 0

Teresa and John

Pluteus sp.

0 0 1 0 0

Jade Craven

Anglesea Fungi 1

0 0 0 1 0

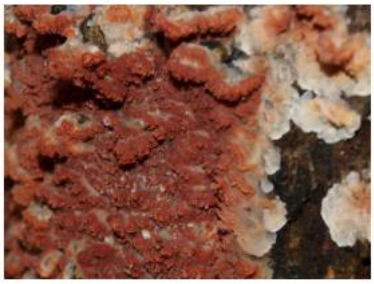
Tamara Leitch

Black Entoloma

1 0 1 0 0

Tamara Leitch

Gloeoporus taxicola



1 0 1 0 0

Tamara Leitch

Yellow Entoloma

0 1 1 0 0

Tamara Leitch

Conocybe sp.

0 0 1 0 0

Tamara Leitch

Amanita ochrophylloides

0 0 1 0 0

Tamara Leitch

Laccaria sp?

0 0 1 0 0

Tamara Leitch

Hygrocybe sp.

0 1 1 0 0

Torbjorn von Strokirch

LBM

0 0 0 3 0

Karen Garth

Clavulina sp

0 0 0 0 0

Karen Garth

Dermocybe

0 0 0 1 0

Judy & Rob Peters

Amanita muscaria

1 1 1 2 0

What about these images!

Stemonitopsis typhina plasmodium Photographer: Teresa & John

Slime mould sporangia Photographer: Matt Campbell

Koala poo cup (*Ascobolus* sp). Photographer: Matt Campbell

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

Nature Place

… is where 's'ea meets l'and'. It must be so, how it came to be called sand. It just makes sense.

However, the most memorable experience of my recent few days away from the familiar was the sensation of sand being sucked by tide from beneath my feet, as I walked in the sunshine along the edge where earth falls to the deep.

The roar of waves breaking along the shore as I lay in the dark of night, on the other edge of the deep, inside.

Bright moonlight in a dark star filled sky, lighting up the midnight beach.

Cool misty morning air hanging over the dew soaked trail.

The simple things that please without excitement.

The feel of sand is what sensation looks like.

Welcome to my new world order …

… of sense, in ancient ways.

Click pictures for a better view.

Fiddler Beetle, visiting the butterfly bush earlier in the year – it's been a dry year.

Only came the once I saw ...

... to feed on the abundant yellow flower's sweet nectar.

Click the pix, they open in a new tab. They are meant to be seen a little bigger.

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)