

16 June 2017 Ken Walker (kwalker@museum.vic.gov.au) Museums Victoria. Edition 52.

Hi All – Extra brownie points to anyone who noticed the above change from “Museum Victoria” to “Museums Victoria” – yet another recent name change. No one noticed hey ... well,

When I first arrived here in 1981, we were called the “National Museum of Victoria”. Then we amalgamated with the Science Museum in 1983 and we became known as the “Museum of Victoria”. About 2 decades later they decided to drop the “of” (why you ask? – Beats me!) and so we became “Museum Victoria”. Recently somewhere pondered the fact that the museum is actually spread of three separate campuses – the Melbourne Museum (in central Melbourne), the Immigration Museums (Melbourne’s original Customs House positioned next to the Yarra River so boats sailing up the river could easily pay their taxes) and Scienceworks which is out in the burbs at Spotswood. So, they changed the name to yet again to “Museums Victoria”. I wish I was paid for thinking up all these new names!

Interestingly, each Museum and Herbarium has an acronym which scientists use when referring to where they borrowed specimens from or where they have lodged specimens used to complete their taxonomic revisions. From 1854 to 1983 we were called the “National Museum of Victoria” which had an

acronym of “NMV” – the same as the “National Museum of Vienna”! Even though we have now changed our name several times, the Museum Board ruled in 1983 that we will always retain our original museum acronym of NMV to maintain continuity with all pre-1983 publications to our collections.

Another “big” Museum which had a name change about a decade ago was the “British Museum of Natural History”. I grew up with the acronym of BMNH – that acronym rolls off my tongue without even thinking. That august institution is now called the “Natural History Museum of London” but it also decided to maintain its original scientific acronym of BMNH.

It’s funny having to teach student taxonomists the old museum acronyms whose acronym no longer bears any resemblance to the current institution’s name.

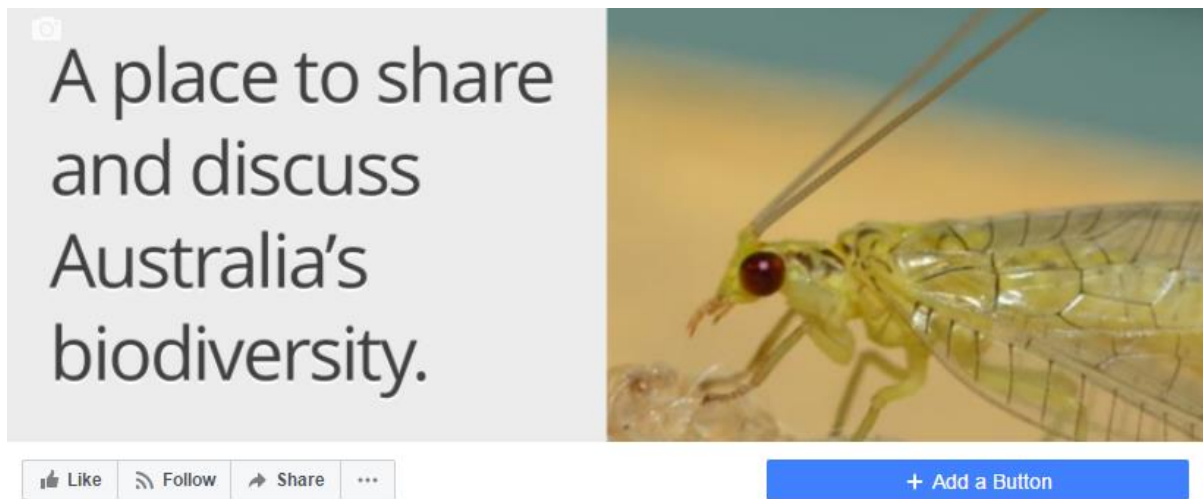
I think there is an official listing of all Museum and Herbaria names world-wide somewhere on the web – but we all know them anyway.

Remember my favourite Confucius saying: “The beginning of wisdom comes when you call things by their correct name.”

Well, I have been 36+ years in my job as the museum’s entomologist and yet almost every day I learnt something completely new about insects. BowerBird has increased my daily learning exponentially. Here are a few new things about insects I have learnt in the past few days.

I recently began following the BowerBird posts of Rose Robin who lives, or at least posts images from near and around the Gold Coast in SE Queensland. I first interacted with Rose when

I was flicking through Facebook posts on the evening of Friday May 19, 2017 and I noticed Rose had written a post saying that she was having problems posting an image to BowerBird. Her post finished with “Feeling frustrated”. So, I posted back to Rose and we began a lovely conversation in which Rose convinced me to create a Facebook page for BowerBird where people could post comments or requests for assistance or just to chat. “Following Rose’s instructions” (:->!, I accidentally created a Facebook “Page” rather than Facebook “Group” (I didn’t know there was a difference) which apparently made it difficult for others who saw our posts to find the newly created Facebook Page. The difficulty may have been because the word “BowerBird” was already taken on Facebook so I had to call the new page “BBowerBird”. Anyway, for those who want to post comments to the Facebook BowerBird, just go to <https://www.facebook.com/BBowerBird/> and post away.



Thanks Rose.

So, I began to follow Rose’s BowerBird posts and I have learnt so much.

Here is a beautiful, freshly moulted Zebra Shield Bug.



Bathrus variegatus Location: Tamborine Mountain QLD Photos by Rose Robin

However, it was these next two beetles where I learnt the most.

This series of beetle images caught my eye as I had never seen anything like them before.



Pristoderus sp. Tamborine Mountain QLD Photos by Rose Robin

I stared at these images for a while and tried to convince myself they were some kind of Tenebrionidae beetle and probably in the Pie-dish group due to the apparent double horned projections on either side of the head best seen in the last image. So, I went hunting in our extensive Tenebrionidae collection and about one hour later I had found nothing.

Then, much to my relief, Dr Nick Porch, a senior lecturer at Deakin University who specialises in examining subfossil buried beetles identified the images as belong to the genus:
Taxonomy: Animalia: Arthropoda: Insecta: Coleoptera:
Zopheridae: *Pristoderus*.

When I went to my books and the literature I found that the genus *Pristoderus* used to be called *Dryptops* and was placed in the family Colydiidae. Now, *Dryptops* has been synonymised with *Pristoderus* and now the family Colydiidae is the subfamily Colydiinae in the family Zopheridae. Phew – now wonder I was confused.

My CSIRO “Insects of Australia” reference book made mention of the then known *Dryptops* genus saying: “particularly interesting in that they harbour an epicuticular growth of cryptogams, giving them a green colour.” A quick check on the Google as to the definition of “cryptogams” showed “a plant that has no true flowers or seeds, including ferns, mosses, liverworts, lichens, algae, and fungi.”

So, the light green covering on the back of this beetle is not some exudate produced by the beetle itself for camouflage but rather is a living lichen growing happily on the back of the beetle. What??? I had never heard of such an association. Mind blowing for me and completely new information.



Pristoderus sp. Tamborine Mountain QLD Photos by Rose Robin

While I was rummaging through the Tenebrionidae collection looking for the first of Rose's beetle images, I noticed one species that had white markings all over its back.

When I examined these specimens closely, I saw that the white mass was not solid but rather composed of a series of flocculated, white, convoluted filaments like a tangled series of threads. I took a mental image of this beetle and on the same day I saw a post from Rose (29 May 2017) with exactly this beetle alive. Again, mind blowing and fascinating as again, I had never seen anything like it before. The beetle is indeed within the Pie-dish Tribe Heleini but this species, *Emcephalus floccosus*, appears to be the only species of this genus to possess the white filamented dorsal cover.

There is an image on ALA of this same species in which the dorsal pronotum and elytra are brown and clean of any signs of white filaments. Based in this observation, I suggest it is the beetle itself that produces these white filaments rather than something growing on the beetle – but then, I am prepared to be completely wrong again. Actually, the white filaments remind me very much of the spirally whitefly.



Spiralling whitefly *Aleurodicus dispersus* Solomon Island, Honiara. Photo by Ken Walker

Dr Federico Turco, senior collection manager at ANIC (CSIRO, Canberra) revised the genus *Pristoderus* while at the University of Queensland – see published results in Taxonomic revision of Australian *Pristoderus* Hope (Coleoptera, Zopheridae) Federica Turco, Adam Slipinkski & Christine Lambkin (2012) *Zootaxa* 3239: 1–34.

As Geoff Monteith (ex senior curator of entomology at the Queensland Museum) collected many of the specimens used in Federico's revision, I recently chatted to him about the presumed plant growths on the dorsal surface of these beetles. He sent me these comments:

“I don't think there is plant growth on their body because they look exactly like that when they are newly emerged and under the microscope the surface consists of lots of close-packed setal structures bound together by wax secretions. And they are morphologically uniform, not with random shapes caused by plant growth. It's the same with the *Emcephalus* piedish tenebrionids. That apparent growth of white fluff on their back is waxy threads that is secreted from the cuticle. It is fully formed when the beetle emerge and slowly wears off with age so old beetles are just shiny brown. They live on the trunks of trees and just look like little white patches of lichen or mould...but it is all their own making. The famous *Gymnopholus* weevils in New Guinea studied by Gressitt are the ones that really grow stuff on their back and are like little walking gardens of moss and lichen... they are big weevils which walk around on mossy foliage and live for years... so plenty of time for the growth to grow and some have specialised surfaces to encourage the growth (the subgenus *Symbiophilus*)....they are only at pretty high altitudes where it is wet and foggy all the time and everything grows moss...” Thanks Geoff.

Another of our wonderful citizen science photographers lives up in SE Queensland – Glenda Walter. Glenda finds the most curious of looking insects such as this insect covered in debris.



Centrogonus Location: Murphys Creek QLD Photo by Glenda Walter

Again, Geoff Monteith is the person to ask about any bug in Queensland. Geoff wrote this about Glenda's image:

“Those big bug nymphs that carry the litter on their back and that occur on the undersides of bit of wood on the ground are nymphs of predatory assassin bugs of the family Reduviidae and the genus *Centrogonus*. The adults are biggish winged bugs often with spines on the sides of their pronotum and are usually only seen at light...I suspect the adults are pretty short lived and you never see them in the places where the nymphs live.” Thanks again Geoff.

The beauty and value of live photographs

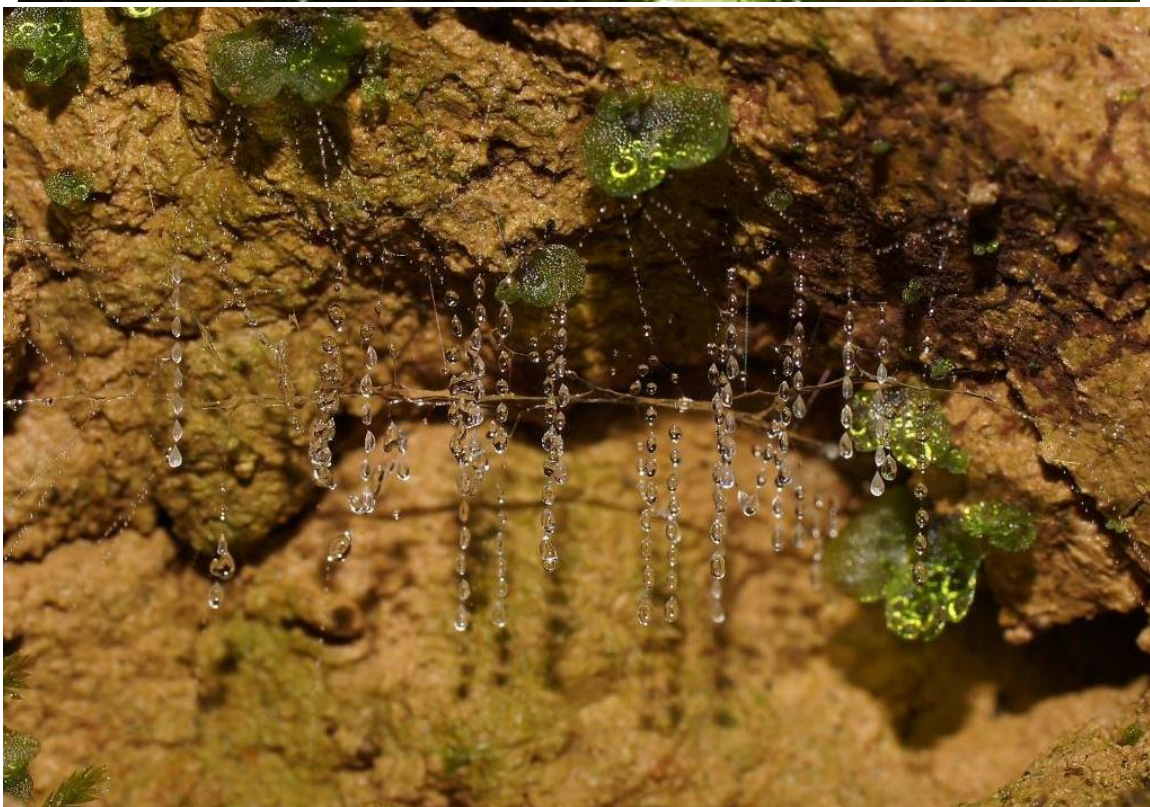
As I have commented previously, the BowerBird live images often tell a more complete biological story than an image of a dead museum specimen.

Below is an opilione harvestman caught up in the web of glow worm maggots.



Location: Lorne VIC Photo by Reiner Richter

And, speaking about glow worms, here is an image taken by Reiner showing the glow worm thread traps.



Arachnocampa otwayensis Locations: Barwon Downs & Wongarra VIC Photo Reiner Richter

Taxonomy is a “funny” science. We are governed by the rules laid out in the International Code of Zoological Nomenclature (ICZN). These rules set out how a new species must be named and in particular how the author of the new species must choose and designate a single specimen as the Holotype. This Holotype allows anyone in the future to examine this single specimen and to understand exactly what the author meant when the new species was described. Interestingly, the only accepted valid species without a Holotype is us – *Homo sapiens* ! We have “jokingly” nominated Linnaeus as our Holotype. In 1758, Linnaeus first proposed the use of a binomial system to name all species. We have followed this practice ever since.

So, the name *Arachnocampa (Campara) otwayensis* was first published in Baker et al. (2008) but because in that publication Baker et al did not designate a holotype for the species, then under the ICZN rules the 2008 naming of *Arachnocampa (Campara) otwayensis* was deemed to be “unavailable”.

In 2010, Baker wrote second paper about Australian glow worms and in this paper she again proposed the name *Arachnocampa (Campara) otwayensis* but this time she designated a holotype and the species became a valid taxon.

The Holotype for *Arachnocampa (Campara) otwayensis* sits happily in the collections of Museums Victoria inside a tube of 70% alcohol. It was collected at: Australia, Victoria, Melba Gully State Park, Madsen Track, stream and trail banks, 10.vi.2002 [38°41.8’S, 143°22.2’E]

Never forget to cross those Ts and dot those Is when doing taxonomy!

I very much enjoyed seeing this right forewing of the Blue Tiger butterfly.



Tirumala hamata Location: Cape Tribulation QLD Photo by Judy & Rob Peters



Platythyrea ant with caterpillar prey Location: Emerald, QLD Photo by Laurence Sanders



I was amazed to see this bee (*Lasioglossum Parasphecodes hiltacum*) photographed in Melbourne on 6 June 2017. Location: Black Rock VIC Photo by John Eichler



This weevil (*Dialeptopus* sp.) looks like something from the set of “Game of Thrones”
Location: Hawker SA Photo John Eichler



As snug as a bug! Coccinellidae Location: Frenchville QLD Photo by Joshua Holden



Tenebrionidae beetle remains Location: Cue, WA. Photo by Daniel Heald

Don't stare at his nose !



Hemiptera: Dictyopharidae: *Thanatodictya* Location: Buckland TAS Photo by Tony D.

Built for camouflage except when on a light sheet



Dorsal view



Ventral view

Geometridae: *Proboloptera embolias* Location: Genoa VIC Photo by Ken Harris

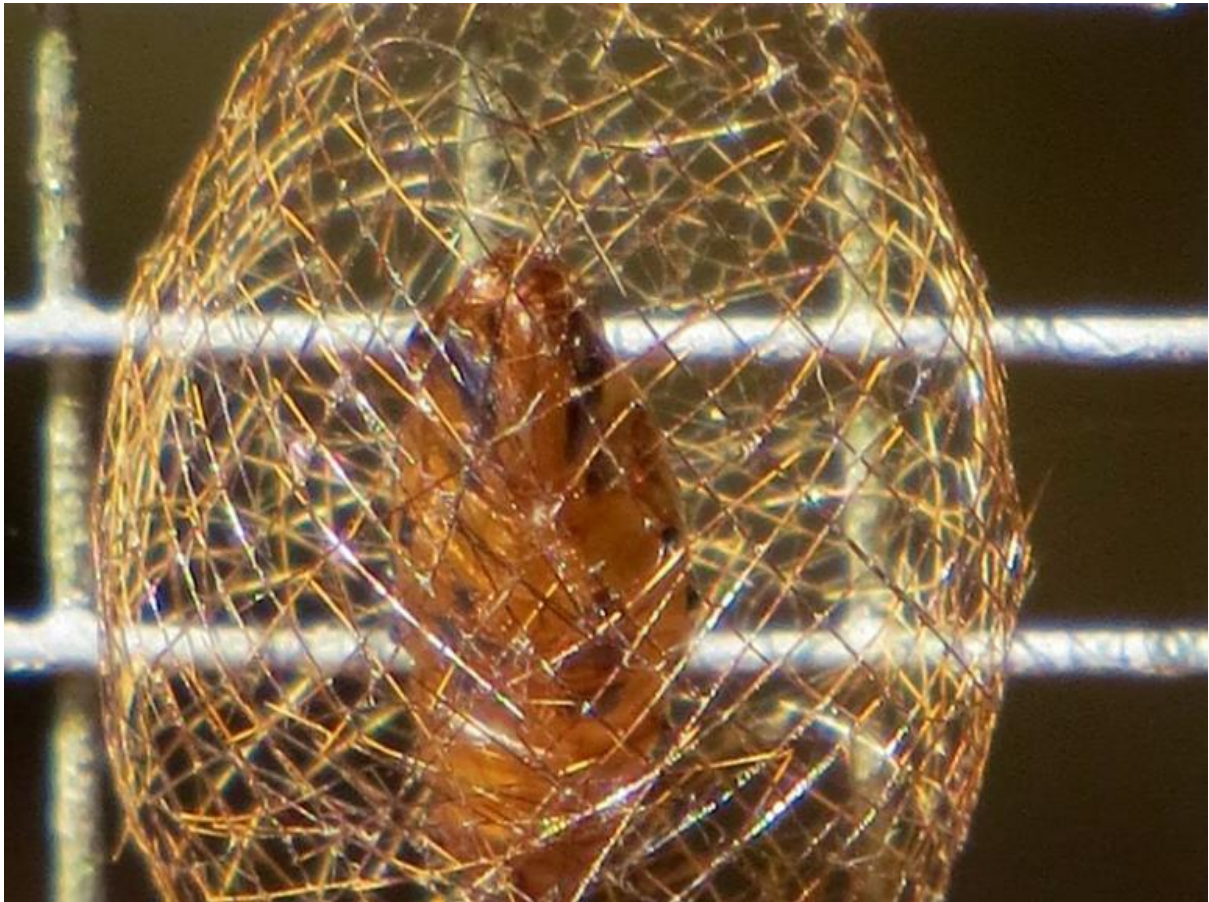


A dozing pademelon *Thylogale billardierii* Location: Freycinet TAS Photo by Reiner Richter



A dozing carpet python *Morelia spilota* Location: Vinegar Hill QLD Photo by Gordon Claridge

Unusual moth pupal case



Cyana meyricki Location: Tamborine Mountain QLD Photo by Rose Robin

Quote from Don Herbison-Evans, Coffs Harbour Butterfly House:

"The cocoon made by the caterpillar is quite remarkable. It is an open square mesh cage, constructed out of larval hairs held together with silk. The hairs are too short to construct the cage directly, so the caterpillar attaches pairs of hairs to each other end to end, and uses these pairs to make the sides of the cage. The pupa is suspended in the middle of the cage, equidistant from the sides. The caterpillar even manages to push its final larval skin outside the mesh cage while forming its pupa. When the moth emerges, it appears to exit the cage without damaging it."

A common late autumn fly that confuses most

Each year in mid to late autumn, I can predict that I will be asked many times to identify a “strange looking insect”. Often people only see the wingless, adult female or do not associate the much smaller, winged males as being of the same species.

Boreoides subulatus, is called the Wingless soldier fly and is found only between Sydney in NSW and throughout much of Victoria. The females seeks decaying organic matter in which to lay eggs. Sometimes males can be seen riding on the back of the female and mating with her. These flies are great for the garden to let them be. Imagine how many eggs she can lay!



Boreoides subulatus Location: Camberwell, Vic Photo by Angus Martin

Stick insects – a group to watch on BowerBird

I like to watch with interest when new members join BowerBird and show a particular area of expertise not previously found on BowerBird. So is the case with Matthew Connors relatively recent addition to BowerBird and the expertise he brings in particular Stick Insects or Phasmatids.

Australia has two species of phasmatids in the genus *Didymuria*: *D. violescens* (Spur-legged Phasmid) and *D. virginea* (Cape York Stick-insect).

Didymuria violescens occurs in SE Australia from Brisbane, down coastal NSW and throughout eastern Victoria to about Melbourne. The common name comes from the males only having distinct, large, black spurs on their hind legs and the male hind legs are thicker than those on the female. The males are capable of limited flight but the females, although they have small wings, cannot fly but glide clumsily down from elevated positions. The male hind wings are also a wonderful shade of purple.

From time to time, the population of *Didymuria violescens* explodes and the massive numbers of these leaf eating insects can cause serious defoliation of eucalypt forests. Repeated severe defoliation can kill eucalypt trees. Interestingly, dense populations of *Didymuria violescens* occurs only in high altitude above 600 metre or 2000 ft in the old scale.

So, while *Didymuria violescens* is well known and well documented its sister taxon *Didymuria virginea* remains virtually unknown with no records so far on ALA. Well, a record of *Didymuria virginea* has just appeared on BowerBird so we can all at least see what this species looks like.



Female *Didymuria violescens* Location: Sydney, NSW Photo by Martin Lagerwey



Male *Didymuria violescens* Location: Reefton VIC Photo by Martin Lagerwey



Didymuria virginea Location: Douglas QLD Photo by Matthew Connors

Matthew wrote: "This adult female was found hanging in a low eucalypt, and is the only individual of the species I have come across. This species is very similar to the much more common and southerly *D. violescens*, but differs in a number of respects. Primarily, the males lack the large spines on the hind legs that are characteristic of *D. violescens*, but unfortunately this cannot be seen on the female. A more subtle feature of females is the length of the wings - in *D. virginea*, the female's hindwings reach approximately to the end of the fourth abdominal segment, whereas those of female *D. violescens* reach only the end of the third abdominal segment (note that the first abdominal segment is not generally seen). This is only the third recorded population of this species, and extends their known range by more than 250km." This will be ALA's first record for this species – well done Matthew.

Confusion reigned – What Order does it belong to?

Is there any other group of animals in the world where it is sometimes difficult to place an individual to Order? Personally, I love such cases as it yet again demonstrates the enormous variety of shapes, sizes and forms that insects take – some are obvious while others are not. Here is the “collective wisdoms” thought processes of getting to the truth: Due to the shape of the antennae, this image was first thought to be a Psocopteran booklouse, then perhaps due to the appearance of hardened elytra covering the abdomen it may be a beetle but it finally found its home in the big-eyed leaf little true bugs Order of Hemiptera in the family of Schizopteridae which are characterised by having coleopteroid wing development. In other words, when evolution came to these insects it decided to “have a bit of fun” and toss in characters from a range of different Orders which are not normally associated with the Order in which it actually occurs. Ain’t Nature wonderful ... and weird ! This will be the first live image of this family on ALA.



Schizopteridae Location: Joyner QLD Photo by Tony Eales

Just beautiful

The Large cuckoo wasp, *Stilbum cyanurum*, must surely be one of Australia's most beautiful wasps.



Stilbum cyanurum Location: Glen Eden QLD Photo by Teale Britstra

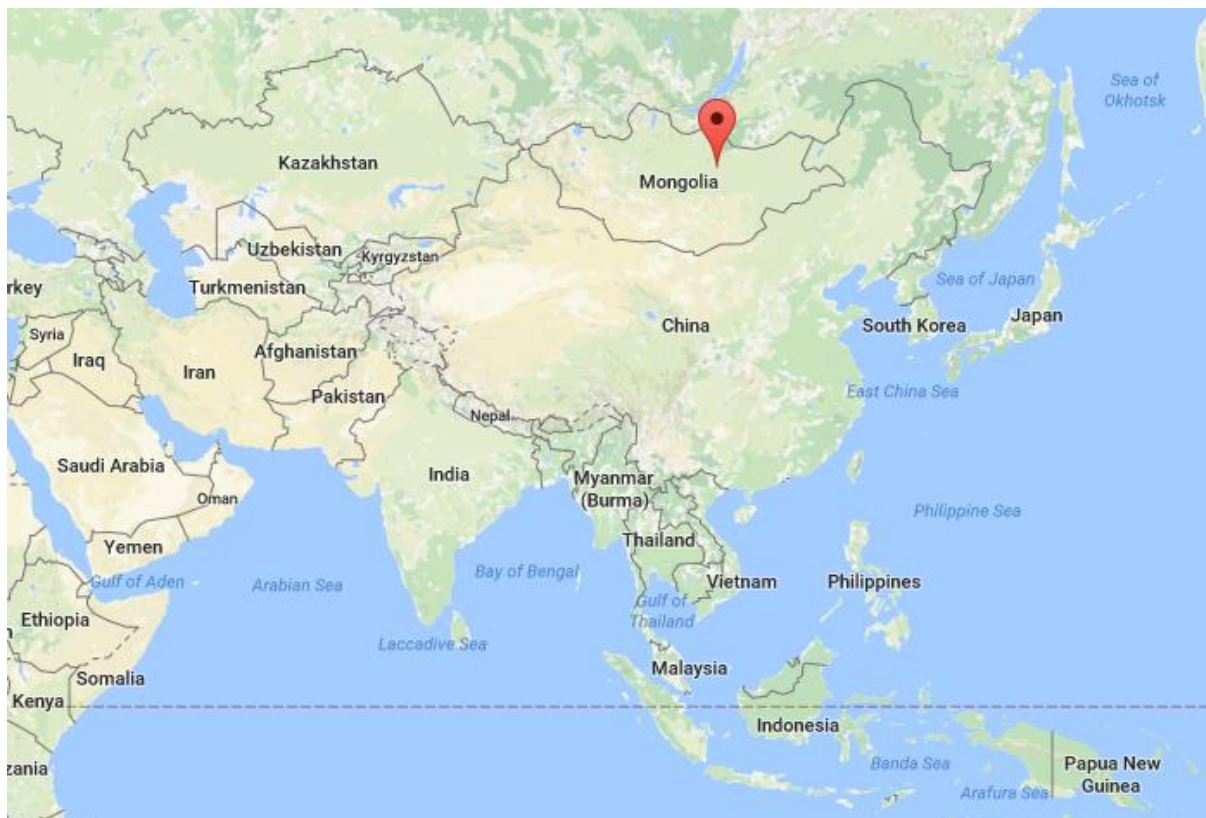
Because their hosts possess stings and biting mandibles, cuckoo wasps have evolved some defences, namely a thick integument and an ability to roll their body into a ball with their legs tucked in. *Stilbum cyanurum* is distinguished by having a strong, concave, median projection on the rear of the thorax and four downward pointing teeth on each side of the thorax. The wasp breeds in the nests of large mud-dauber wasps (*Delta* and *Sceliphron*) which are commonly found on the walls of buildings. It may also parasitize the nests of some megachilid bees. This species is found throughout Australia and much of the Eastern Hemisphere. Its size varies markedly.

More cool photos by Lily Kumpe

Lily is currently living in Ulaanbaatar, Mongolia but is processing and posting some of her past photos onto BowerBird. Below is a map showing exactly where Ulaanbaatar is in Mongolia. I was in contact with Lily in May and despite being in the northern hemisphere “summer” it had snowed on the day we emailed each other. And, Lily is not finding many insects to photograph which is why she is catching up with her Australian insect backlog collection.

Lily has a unique style of photography – every photo is against a white background. Lily once told me that she does such photography so that she can easily make up composite images as the background of all images is white.

Hopefully one day, Lily will write us a story about her brand of photography. Until then, below are some of her recent BowerBird uploads. Enjoy.





lilykumpe.com | meetyourneighbours

Bush cockroaches Location: Little Grove WA Photo by Lily Kumpe



Goniatina sp. Location: Torndirrup WA Photo by Lily Kumpe



lilykumpe.com | meetyourneighbours.net

Coryphistes ruricola Location: Torndirrup WA Photo by Lily Kumpe



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Lambertia inermis Location: Hopetoun WA Photo by Lily Kumpe

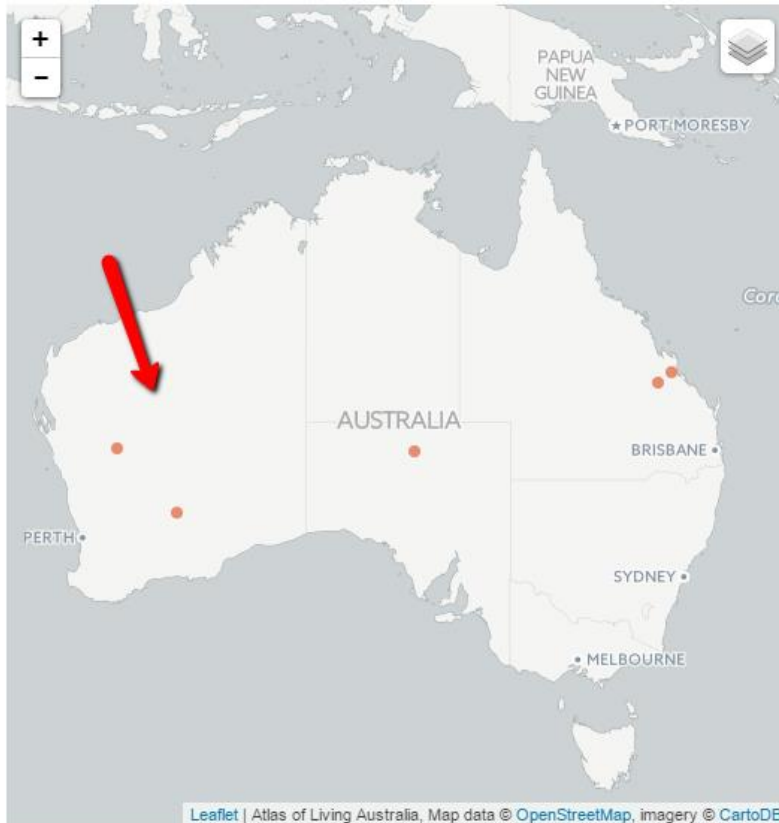


Cerambycidae Location: Shadforth WA Photo by Lily Kumpe



Chalcophorotaenia exilis Location: Kumarina WA Photo by Lily Kumpe

Allen Sundholm identified Lily's jewel beetle images as *Chalcophorotaenia exilis* which is now the most northern location for this species and the first image for this species.



Interestingly, Allen provided an image of the original Holotype specimen for this species described by Blackburn in 1894.



How about some bird images?

Here is a Squatter pigeon which is listed as a Vulnerable species.



Geophaps scripta Location: Canoona QLD Photo by Geoff Lotton



Welcome swallow *Hirundo neoxena* Location: Edithvale VIC Photo by Anna Lanigan

A ribbon or peanut worm – with a surprise.

Reiner has posted a set of fascinating images of a ribbon or peanut worm - *Argononemertes australiensis*. A relatively common species but found only at higher elevations. Reiner's images came from Olinda and I found the same species during the Alpine Bioscan in NE Victoria. One of the curious habits of these worms is to shoot out a proboscis like extension measuring several times the length of the body. When it first happens it catches you by surprise – especially if you have the worm on the palm of your hand it gives you quite a fright !

Reiner wrote: “As I was walking along the track I noticed glistening squiggles reflecting the sun and suspected some kind of gastropod for the first second until I saw a land planarian at the end. It wasn't until processing the photos now that I realized by the rounded head and "eye" arrangement that this is actually a nemertean. As Dr Leigh Winsor has helpfully described numerous times here on BowerBird, the arrangement of these eyes is a useful diagnostic. Photographing the eyes is not easy, as they are small creatures, so a good macro camera helps a lot (what they call "1:1") and one that focuses fairly quickly before they wiggle too much. “







Argonemertes australiensis Location: Olinda, Vic Photos by Reiner Richter



Argonemertes australiensis with extended proboscis Location: Cobberas VIC Photo by David Paul.

Have you ever seen an insect called the Bird of Paradise Flies?

When is a fly not a fly? When it's a Bird of Paradise fly ! Kerry Stuart from the west uploaded the most wonderful set of images of the male and female Bird of Paradise fly. These 'flies' are not real flies (not Diptera) but they belong to the soft mealy bug/scale insect family Margarodidae.

The very distinct looking male has one pair of milky white wings with a dark reddish purple margin and has a comet like fibrous tail (like most mealy bugs). The male has a whitish powdery substance covering its body. The female, however, is larger than the male and has a flat segmented body. She is wingless and hence flightless, she walks about with her short (3 pairs) of legs. Often one female will attract multiple males to mate with her.









All photos of *Callipappus farinosus* Location: Flynn WA Photos by Kerry Stuart

How about a Fungal Foray?



Ramariopsis pulchella Location: Barwon Downs VIC Photo by Reiner Richter



Entoloma panniculum Location: Barwon Downs VIC Photo by Reiner Richter



Hygrocybe sp. Location: Barwon Downs VIC Photos by Reiner Richter



Coral fungi *Ramaria* Location: Seaview VIC Photo by Peter Kerr



Clitocybe clitocyboides Location: Great Western VIC Photo by Jenny Holmes



Microporus xanthopus Location: Yungaburra QLD Photo by Judy & Rob Peters



Fairy Clubs *Macrotyphula juncea* Location: Seaview VIC Photo by Peter Kerr



Chlorociboria sp Location: Great Western VIC Photo by Jenny Holmes



Mycena tuvara Location: Jeeralang Junction VIC Photo by Matt Campbell



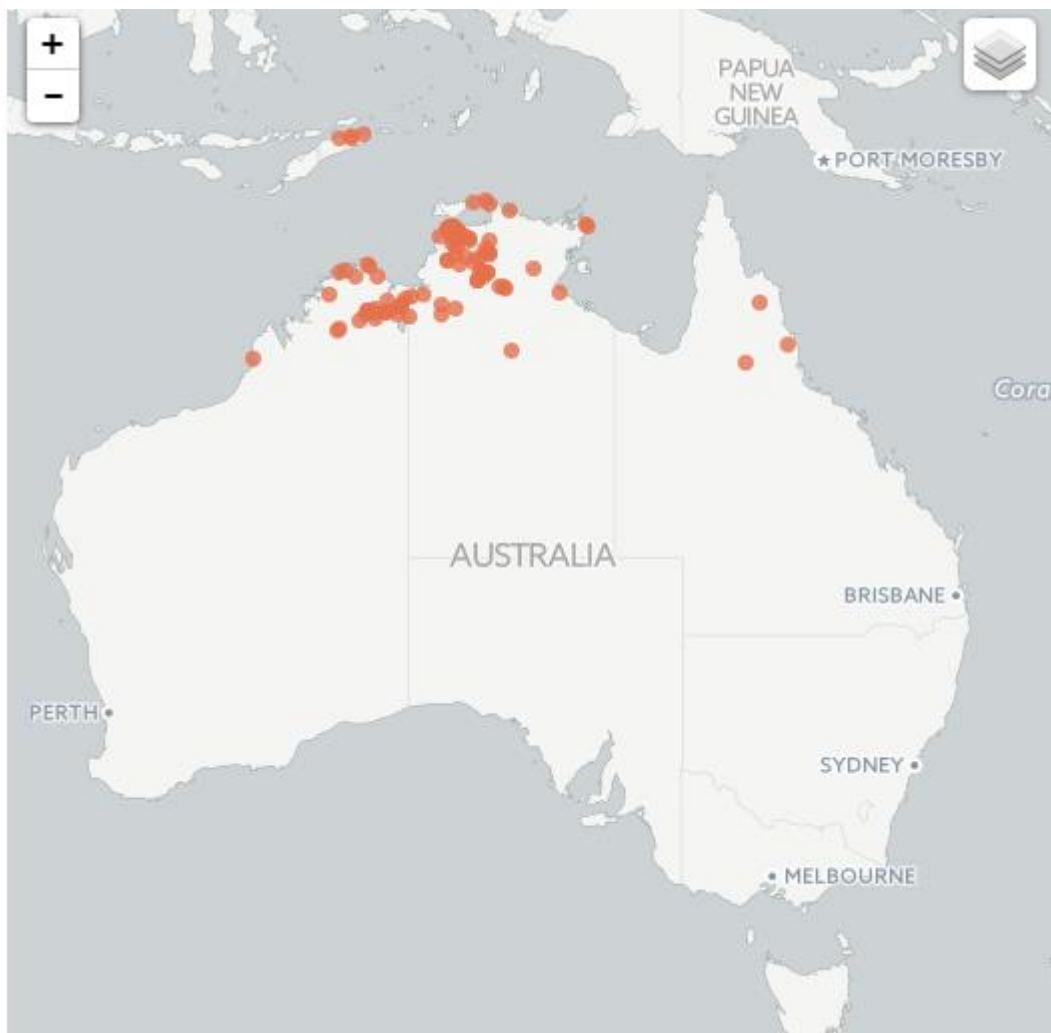
Cup fungi Pezizales Location: Barwon Downs VIC Photo by Carol Page



Hygrocybe graminicolor Location: Barwon Downs VIC Photo by Carol Page

BowerBird tracks an invasive species of Butterfly

The Tawny Coster, *Acraea terpsicore*, a nymphalid butterfly was first record in the Northern Territory near Darwin in 2012. The species occurs naturally on peninsular India and Sri Lanka, but during the past three decades it has spread to parts of South-East Asia. Its spread has been recorded at 200 km per year and in Australia it recorded rate of spread is now 315 kms per year. The butterfly breeds on species of Passifloraceae and Cucurbitaceae. This species has now spread across northern Australia into WA and northern Queensland.



BowerBird records show its spread down to Atherton and Mission Beach in Queensland and Douglas-Daly in the NT.



Acraea terpsicore Location: Maria Creeks QLD Photos by Ross Field



Acraea terpsicore Location: Derby WA Photo by Ross Field



Acraea terpsicore Location: Douglas-Daly NT Photo by Simon Ong



Acraea terpsicore Location: Mooroolbool QLD Photo by Graham Winterflood



Acraea terpsicore Location: Atherton QLD Photo by Judy & Rob Peters

Has there been a plague of these this year?

This year I have received so many identification requests for the Bottlebrush or Melaleuca sawfly that I am beginning to wonder if there has been an explosion in their population this year. All enquiries and images sent to me have been for the larval form. Sawfly larvae look something like a moth grub.



Pterygophorus cinctus Location: Cooroy QLD Photo by Donna Tomkinson

And here is what the adult insect looks like.



Pterygophorus cinctus Location: Briar Hill VIC Photos by Linda Rogan

Here's something I had never heard of before and BowerBird taught me !

Most will be familiar with the body colours of the Jack Jumper Ant – *Myrmecia pilosula* – body black with orange legs and mandibles. Rog Standen posted images of typical looking jack jumpers but then also posted images of ants from the same nest that were all a light brown colour. The original theory about such light brown coloured ants was that they had only recently emerged from their pupal cases (eclosed) and that their cuticle had not yet hardened and acquired the typical black and orange colours. Freshly emerged insects are called “callows” and they sometimes do take an hour or so to harden when exposed to air.

That theory fell flat when people collected the light brown coloured ants and up to 5 weeks later they had never acquired the darker body colourings. Another strange fact against the original theory was that these light brown ants were primarily only found in the Jack Jumper ants. Why was this not a common theme across all ants?



A typically coloured jack jumper ant.



Light brown *Myrmecia pilosula* ants Location: Langwarrin VIC Photos by Rog Standen

In 1998, Michael Crosland published a paper in the Annals of the American Entomological Society in which he concluded that the light brown coloured form of *Myrmecia pilosula* was the result of gregarine protozoan parasitism (Apicomplexa: Gregarinda). Crosland dissected 50 light brown ants and found them to be packed full of gregarine protozoan spores but no such spores were found inside normal coloured jack jumpers.

Crosland (1988) reported that the gregarine spores almost filled the entire internal body space of the light coloured ants – on average 1.4 million gregarine spores per ant.

The spores seem to be eaten by the larval ants and then attach to the larval gut wall. From there, they migrate to the hemocoel (ie. blood) in the ant's pupal stage.

Crosland concluded that the hardening of the ant's cuticle was prevented by the high levels of gregarine infection during the pre-adult stage. The hardening of the outer cuticle (ie. skin) left the brown ants with a much softer cuticle than that of black form of the jack jumper.

Crosland tested his theory against ant colonies collected in the ACT (Tidbinbilla), NSW (Mt. Victoria), Victoria (Anglesea) and South Australia (Marion Bay). All colonies contained both black and brown forms of the jack jumper and all gave similar results when dissected.

Thanks to Rog Standen for taking the photos and making the observation and then followed up with extensive discussions between Rog, Tony D., and Liz O'Donnell.

The record containing these images and discussion is at:

<http://www.bowerbird.org.au/observations/85915>

Opiliones or Harvestmen – but are they spider?

Actually, Opiliones or Harvestmen are not spiders at all and the easiest way to distinguish these two groups of arachnids is to look at the abdomen. If you can see segments on the abdomen then it's an opiliones and without segments, then it's a spider.

Another differing characters are the number of eyes. Opiliones have a single pair of eyes in the middle of the head, oriented sideways – although some species are eyeless. Spiders of course spiders have 6 or mainly 8 eyes arranged in many patterns.

Biologically, the two groups are different as well. Spiders are primarily predators whereas many species of opiliones are omnivorous, eating primarily small insects and all kinds of plant material and fungi, however, some opiliones are scavengers, feeding upon dead organisms.

Most harvestmen ambush their prey, although active hunting is also found. Because their eyes cannot form images, they use their second pair of legs as antennae to explore their environment.

Most species are nocturnal and coloured in shades of brown, although a number of diurnal species are known, some of which have vivid patterns in yellow, green, and black with varied reddish and blackish mottling and reticulation.

While opiliones are not social animals, they sometimes aggregate in large numbers which have the correct habitat conditions and plentiful food.



Caddidae Location: Dandenong Ranges NP Photo by Nick Porch



Triaenonychidae Location: Caveside TAS Photo by Reiner Richter



Opiliones Location: Baw Baw VIC Photos by Reiner Richter



Triaenonychidae Location: Baw Baw VIC Photo by Reiner Richter



Triaenonychidae Location: Noojee VIC Photo by Reiner Richter



Opiliones Location: Tarra Valley VIC Photo by Tamara Leitch



Opiliones with eggs Location: Cobberas VIC Photo by Ken Walker

A fly with no name

Colin Prickett uploaded images of a lovely looking beefly (Bombyliidae). I sent the image to the Queensland fly expert, Dr Christine Lambkin who forwarded the image to the CSIRO fly expert Dr Xuankun Li who informed us that it was an undescribed species in an undescribed genus. He told me the name of the new genus but if I type it here it will make the name unavailable – ICZN rules again!

So, at present, it is an attractive fly with no name!



Undescribed new genus/species Location: Karnup WA Photo by Colin Prickett

A rare parasitoid in an unusual position

Mark Berkery's "Nature Place" is always at the end of a Bugle but these additional images are of a special mention.

Mark recently photographed a rare wasp parasitoid called a Dryinidae wasp larva. The female adult wasp lays eggs on or parasitises only the adults or nymphs of leafhopper insects and she lays them either between abdominal segments or thoracic segments.

The wasp larva hatches and remains on the outside of the host while feeding on the host's internal tissues. As the wasp larva grows in size, it developed into an ever size increasing U-shaped protrusion. When the wasp larva has completed development, it drops off the host and pupates in the soil.

The feeding of the wasp larva completely disrupts the development of the leaf hopper host and if parasitised as a nymph then it will never moult again to become an adult leafhopper.

The more usual attachment site for dryinid wasp larvae is between the abdominal segments so Mark's images of this rare wasp are made all the more "exciting" and unusual in that the wasp larval attachment is on the thorax – this is the first time that I have seen larval thoracic attachment.

Enjoy Mark's images!



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Dryinid wasp larva on a eurybrachid leafhopper Location: Victoria Point, QLD. Photos by Mark Berkery

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

Nature Place

I have seen this fly a few times over the years but never got a shot until recently when it flew across my path and landed on a big tree I was inspecting.

It looks black and white to the unaided eye, no colours at all, but some hues and shades appear when you get up closer. A fly's eye view you could say.

It's a plain enough creature, unremarkable in a way, still amazing to be able to enter its world this way and see what another fly would see.

I look across and see what I would look like as a fly. I see fly

... You never know, at the surface, the genius behind the form.



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The fly's actual length is around 12mm.



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The wing would be around 7mm long.





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

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)