4 December 2015 Ken Walker (kwalker@museum.vic.gov.au) Museum Victoria. Edition 37.

Hi All – December already – as everyone says – where did the past year go? But now is the best time to be out photographing and finding new records and species.
I have told you that I belong to two Facebook groups – Amateur Entomology and Native Australian bees. I joined these groups to help with identifications, to see lots of great invertebrate images and to learn new things. One of the reasons I chose entomology as a career was knowing that almost every day I would learn or see someone knew. And so it was.

Last week, Andrea Ruhl posted images on Facebook of a leaf hopper bug with a green protuberance emerging from underneath its body. No had a clue what it was. I remembered that I had seen somewhat similar protuberances on leaf hoppers and all of them were Dryinidae wasp parasitoids. So – I added a remark that it was probably a Dryinidae pupal case.

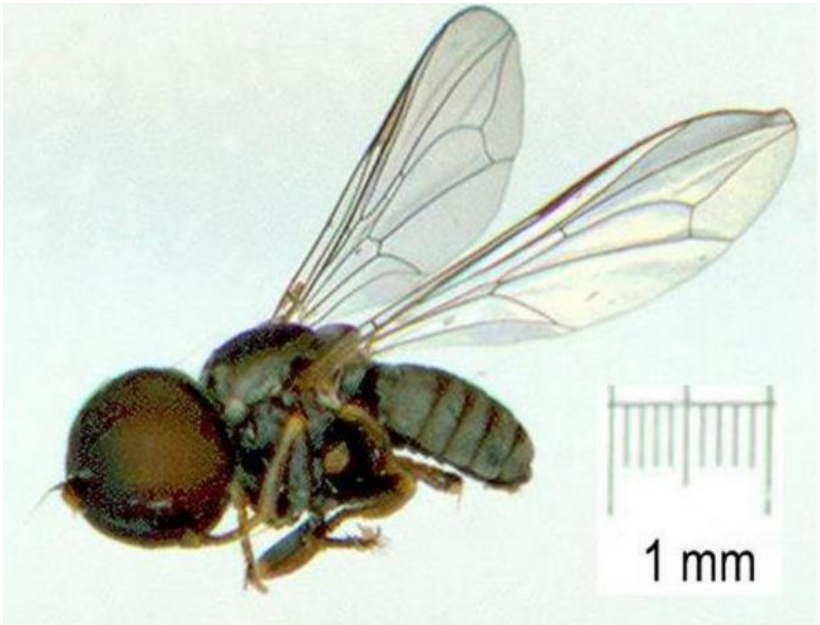
Dryinidae pupae emerge from the side or underneath of a leaf hopper …. But they are usually black or dark brown and the images that Andrea posted showed the protuberance to be green. I assumed that the pre-pupal stage had just emerged and would eventually turn black.
Assumptions about nature are the stuff of theories! Some turn out to be correct while others join the refuse in the rubbish bin.

Where would my theory go? Here are some images showing typical dryinid pupal cases projecting from the body of leaf hoppers.

Dryinid wasps are a small group of Australian wasps with about 170 known species. They are most easily recognised by the weird foreleg. The foreleg tarsal segments are extended into a large hook that recurves back somewhat like a raptorial foreleg.

I felt comfortable with my identification until Andrea posted a reply to my identification – “But this lump is green whereas all of the dryinid pupal images I have seen on the web are black.” A trickle of sweat ran down the back of my neck. Probably just emerged and has not yet had time to turn black I replied and all went quiet for a day or so.

Then Andrea returned triumphant. She had scoured the web for images similar to hers that showed a green, not black, “lump” from the body of a leaf hopper. And finally, she found a series of such images on the American website called “What bug is that?” These images had a green protuberance emerging from a leaf hopper. Reading the dialogue associated with these images, the first suggested identification was (like me) Dryinidae. But then some doubt crept in and someone nominated a fly family rather than a wasp family as the source of the green lump. The fly family was Pipunculidae. My knees went weak! Pipunculid adult flies are easily spot as they are commonly called “big headed flies” but I knew nothing of their larvae or maggots.



Location: Hermit Park QLD Photo by Graeme Cocks.

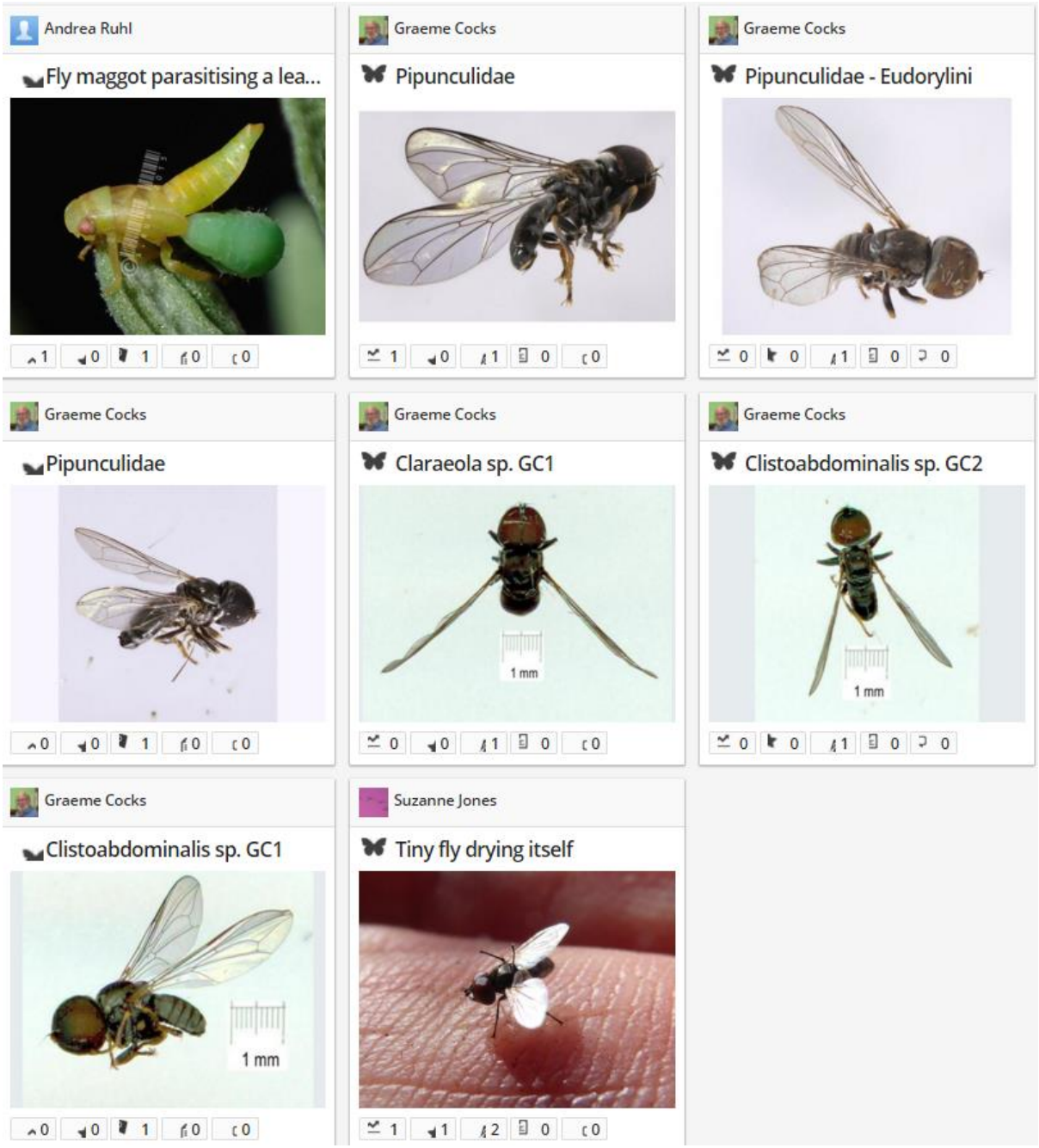
A google search (confirmed my worst fears!) – The description of the pipunculid larvae reads: “The larvae of Pipunculidae develop as parasitoids almost exclusively in Auchenorrhyncha”.

Rats and double rats! But – I never knew that and now I do.

There are two families of insects that parasitise leaf hoppers and produce lumps on the outside of the body. One is a hymenopteran (Dryinidae) and the other is a fly (Pipunculidae). That’s why I joined the Facebook amateur entomology page and I learnt something new. I was happy.

I sent a Facebook message to Andrea congratulating her on her persistence to finally get the correct answer. I also asked if I could share Andrea’s images on BowerBird so that others could learn from her images and research. My Pet Hate about Facebook is that the value of the record “dies” with the record and no Facebook record is on-shared. Literally, once the record moves down your screen its “15 minutes of fame” is over and it is lost. Andrea agreed to my BowerBird request.

I created a login under Andrea’s name so she gets the credit for the images and identification. BowerBird has 8 Pipunculidae records but only one of these records shows the larva.



Below are Andrea's image series showing in great detail the "green lump". One image even shows the head of the fly maggot.

It would have been great to rear the pupa through to an adult to be able to place it to genus but apparently when Andrea went o get a container in which to place the fly pupa, some ants stole the pupae and it was lost. Again – Rats and Double Rats.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2015


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And finally an image showing the head of the maggot –

The moral of my story is that you can always keep learning – even from websites such as Facebook. I was and still am amazed that Andrea persisted until she found images that matched her image. Well done – I doff my cap to Andrea and she is now a new member of BowerBird.

All is good.

Speaking of Larvae ……

Ken Harris posted some interesting images of spitfire larvae – the adults are known as Sawflies and they are amongst the most primitive of all wasps. Being on the ground most likely means the larvae have complete their larval development and are now heading underground to pupate on mass.

Location: Nangara Reserve, Jindivick, Victoria Photo by Ken Harris

The common name “spitfires” comes from the defensive actions of the larvae. You rarely find a spitfire alone, they are always in groups. Using the “power of the group”, when threatened the larvae regurgitate strong smelling stomach fluids through their mouth. The other action that spitfires do commonly is to thump the branch they are sitting on with the end of their abdomens.

Whether it is a warning or some other communication method, we do not know. Below is an image showing spitfires “spitting”.

In this image, you can see a spitfire raising its abdomen ready to strike the branch.

Location: Won Wron VIC Photos by David Akers

Of note, is that sawflies do not have a constricted waist – a character you usually associate with a wasp. The constricted waist is what gives a wasp it ability to parasitise a host. The constricted waist allows the wasp to angle the ovipositor in almost any direction to lay an egg into a host. The poor old sawflies do not have that ability – which is where they get their common name from. Sawflies make a cut in plant tissue into which they lay their eggs. Since the adult female cannot angle or arch her abdomen, the best she can do is to move her abdomen back and forth and a sawing motion to scrape a furrow in the plant tissue. Below is a classic sawfly (*Pterygophorus cinctus*) showing the lack of a constricted waist.

Location: Bentleigh East VIC Photo by Rudie Kuiter

A sad tale of loss

Brett from the Ellura Sanctuary in SA posted this image and text.

Location: Sleeper Track, Swan Reach SA

This is Hamish. His mother was shot & killed by a poacher on Ellura. We charged round to where we heard the gun shot to see him speed off into the sunset. We got his number plate and needless to say he had a visit from the police with a handy $10,000 fine for shooting a kangaroo. ALL females ALWAYS have a Joey on board. We had to cut Hamish out of his Mum's pouch to take him to careers, but unfortunately Hamish died a few days later.

BowerBird Mallee Farmer does it again!

Like me, you must all now feel a friendship with our Mallee farmer and her faunal and floral finds. Indeed, I count Maree as one of my special finds. I was asked to drive “all the way to the mallee” to deliver my bee talk which I did happily (yes – I was still young and naïve). Maree is a members of the Australian Plant Society (APS) in that area and she and her husband Graham put me up for the night and fed me a wonderful roast dinner – a great country welcome.

Somehow, I have created “a monster” or I have unleashed the inner entomologist that Maree had masked with her passion for plants. I have reported in the Bugle many of Maree’s photos and field trip adventures and I hope you have all enjoyed getting to know Maree. If ever you are out in Western Victoria near Wail, drop and say Hi – they’re a friendly bunch out there.

Well, Maree has done it again reporting the first Victoria record for a genus of lace bugs (Tingidae) that specialise in attacking only *Eremophila* flowers.

Tingid lace bugs are some of the most beautiful of bugs with the most ornate covering of lace-like networks and large bulbous mounds just behind their heads. There are just under 200 species in Australia and these represent a mixture of native species, invasive species and exotic species introduced as bio-control measures. Of course, they are sap sucking bugs that destroy plant tissue wherever they suck sap. If there are enough tinged bugs on a leaf, then the damage becomes noticeable and can affect the viability of the plant.

I grew up with tinged bugs in the back yard of my Brisbane home. My Mum grew Azaleas and leaves always looked patchy and mottled. If you turned over the leaves, then you found the

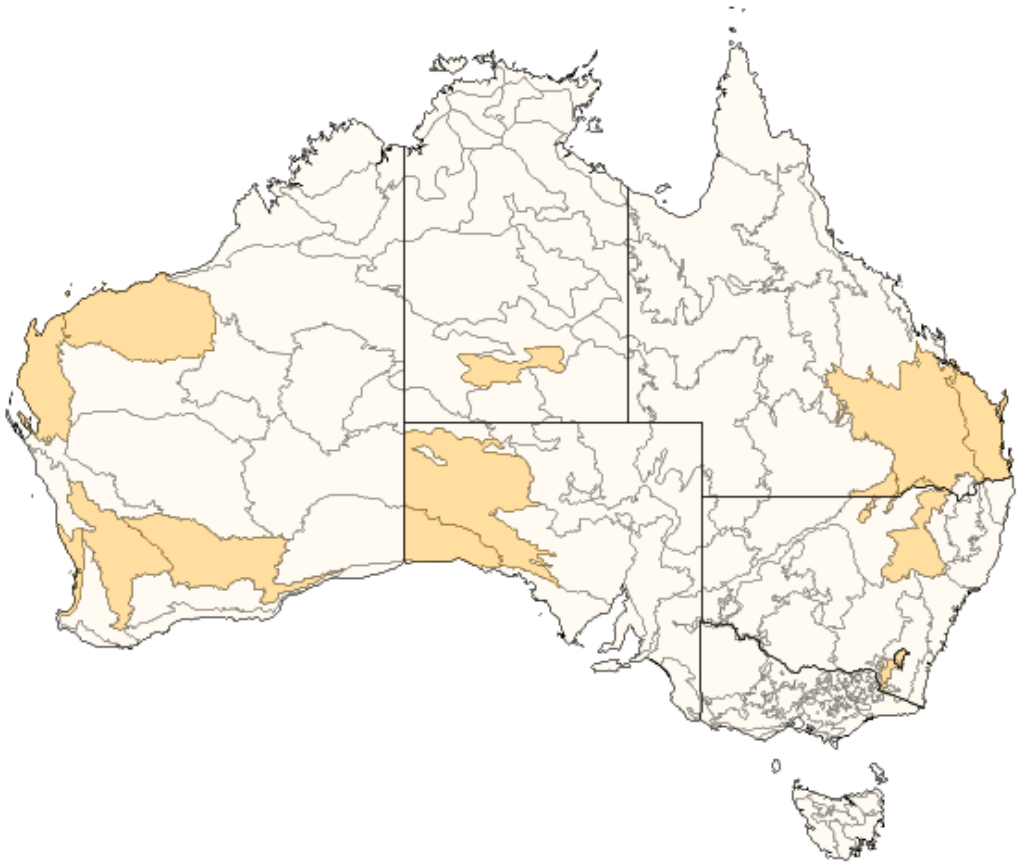
culprits. I remember very early in my Uni days, taking in a sample of the Azalea bugs and having Australia's Hemiptera expert, Dr Tom Woodward, identify them for me.

Stephanitis pyrioides, the Azalea lacebug, was probably imported with the first importation of azaleas into Australia. Here is a picture of this pest species collected in my Mum's backyard from her "prized" azaleas and its damage.

A few years ago, an overseas tingid expert visited the Australia Museum and in the park outside the Museum he found a new exotic tingid attacking the plane trees – the sycamore lace bug *Corythucha ciliata*. But are these bugs not the most ornate, delicate and intriguing bugs you have ever seen?

And so, Maree sent me images of a bug that was attacking a friend of her's Eremophila plants. I sent these images to Australia's tingid expert, Dr Gerry Cassis, and he provided an identification of the genus *Lasiacantha*. There are 25 known Australian species of this genus in Australia and as seen in the map below, the genus has never before been recorded in Victoria – until Maree popped up with your question.

I know that I do prattle on about the value of spatial and temporal data (where and when) being added to an image and here is another good example of the value of this data. Maree's friends record has added to our knowledge of Australian Biodiversity.



Below are what these bugs look like.

As per usual, images often have multiple stories to tell. One of the images Maree sent had an added bonus of a mite attacking a tingid bug. This is an immature Erythraeidae mite which are parasitic. The adult mites are free roaming predatory mites.

You may remember this cricket image with these mites on board as well.

Mite photo by Rudie Kuiter

Speaking of Rudie Kuiter

As I said last week, Rudie's orchid forays into the bush often produce a wonderful variety of other images. Here are a few images Rudie sent me this week.

Hylaeus primulipictus Location: Langwarrin, Vic.

Euryglossa adelaidae Location: Langwarrin, Vic

Like peas in a Pod

Linda Rogan from Briar Hill in Victoria posted a funny series of images showing up to 20 male *Hylaeus* bees all crowded into a single entrance of her bee hotel. Apparently over time, the bees emerged one at a time and took flight.

What is the Guinness World Record for the number of male *Hylaeus* using a single entrance at the same time?

Increased Occurrences of the Striped Ladybird *Micraspis frenata* in Tasmania

By Reiner Richter

Until this past decade the striped ladybird, Coccinellidae: *Micraspis frenata*, although common in mainland Australia, had not been recorded very often in Tasmania. *Micraspis frenata* is one of the more abundant ladybird beetles in Victoria, geographically and environmentally the closest to Tasmania. Similar sized species are the common spotted ladybird, *Harmonia conformis* and the transverse ladybird *Coccinella transversalis* – in Victoria these occur roughly the same amount (same order of magnitude) as *Micraspis frenata*. Both of these species have also been recorded a similar number of times in Tasmania (with similar population density to that of Victoria) but on ALA there were no records for *Micraspis frenata* until 2012 (near Devenport).

Interestingly the old CSIRO web site http://www.ces.csiro.au/aicn/system/c_750.htm (produced in 2004) indicates that the species is present in Tasmania. This might be because the type locality is Tasmania, from which Erichson described it in 1842! I asked Dr Adam Slipinski of the CSIRO (Australia's Coccinellid) expert about this and a quick look at his specimens revealed none from Tasmania. So I am assuming the “presence” is based on the type locality.

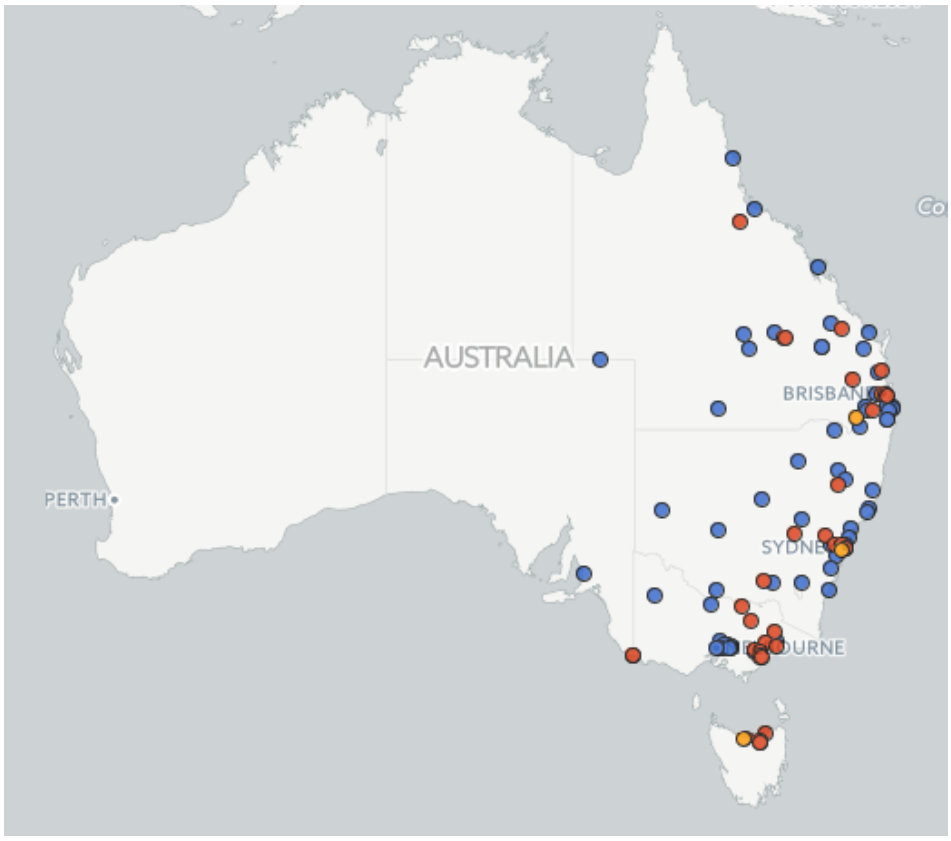
On my visit to Tasmania from late October 2015 I saw several ladybird species but on 20th October I saw many individuals of *Micraspis frenata* at the Tamar Island Wetlands reserve near Launceston. Initially there were around 50 individuals in the grass beside the board-walk at the visitor centre but on Tamar Island itself there were around 150 (many on a flower oak tree

and some on other vegetation). Any amateur entomologist like myself would have noticed them (and hopefully recorded).

A few days later when I got to looking up records I realised there was only one other from Tasmania, so I thought they must have been recent arrivals. It wasn't until my return home when I had more time to research further that found numerous records the Insects of Tasmania web site (https://sites.google.com/site/insectsoftasmaniacoleoptera/suborder-polyphaga/coccinellidae-ladybirds/genus-micraspis). A lot of the content of this site comes from Tony Daley, a name many on BowerBird would recognise, particularly if, like myself, you have wanted some flies identified.

So why the huge gap of records from before 1842 to 2008? Perhaps people have seen them but done no more than make personal records that get lost over time. The former organisations behind the BirdLife Australia comprised a central repository that recorded bird sightings and is part of the reason we have so many records available via ALA. Apart from sending specimens to your local museum there was really nowhere that compiled information about much else. This is where the internet has come along and helped in the past 10 years and, as Ken Walker often mentions, data being collected on sites like BowerBird go into the global pool of knowledge (hopefully) forever.

Micraspis frenata



ALA distribution map for *Micraspis frenata*

Orange Wasp

Jean and Fred Hort (our intrepid WA duo) recently posted an intriguing set of images of a large, orange wasp.

I love the way the BowerBird network reacts. Jean and Fred posted their record on 26 November and Bernard Jacobi (who lives in Germany) posted a reply on the 27 November.

The Australian members of the genus *Sphex* were revised this year and so Bernard sought a comment from the authors of this recent paper.

Bernhard Jacobi contacted the authors of this recent paper describing Australian Sphex wasps.
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4591716/pdf/zookeys-521-001.pdf

One of these authors (Thorleif Dörfel) replied: “The NT wasp (my photos) certainly is *Sphex darwiniensis*. Your photos show a species of the resplendens-group as evidenced by the bottom comment photo which shows a claw of the left foreleg with a tooth projecting at right angles. So there are three options: darwiniensis, rhodosoma (both descriptions based on a single specimen so variability is unknown) and a new species. So for the time being it would be best to refer to your wasp species as: *Sphex* sp. near darwiniensis (resplendens-group)."

What wonderful advice. The reason why Thorleif could provide such an answer was due to the numerous photos Jean and Fred took of this wasp from different angles. That really is a great way to record a find. Here are some of their photos:

Location: East Ballidu WA Photos by Jean and Fred Hort

Cheeky Sacred Kingfisher

David Akers posted a humour image and story about a Sacred Kingfisher.

Todiramphus sanctus Location: Won Wron VIC

Photo by David Akers

David commented: “Cheekily swooped down and took a dragonfly from a fire dam only metres away from me then perched in a tree and took a few minutes to swallow it.”

You can actually see the dragonfly in the bill of the bird about to be eaten.

Great images and thanks for telling us the story behind the image.

Marine mushrooms?

Steve Young's recent lovely images of a *Marasmius* mushroom reminded me of a recent discovery that our Museum Marine department was involved with. The marine department often collects specimens by dragging a dredge behind a boat at varying sea depths. They catch lots of specimens and are able to know what occurs at what depth. About 30 years ago, a young (now retired) curator of marine invertebrates collected several weird, mushroom looking specimens. They were pickled, stored and relatively forgotten about as no one could identify them. Well, recently a paper was published using these specimens and finally providing a new name for them. They have been given the name "*Dendogramma*" but no one has any idea what Phylum to put them in – they could even be a new Phylum … which would be a really significant thing to happen. They do not know if they an animal by themselves or perhaps part of a known animal. It has everyone scratching their head in amazement.

For me, the striking thing about these new and weird marine animal is their similarity to *Marasmius* mushrooms.

Below are images taken by Steve Young of a *Mycena* mushroom and below that image is this new, weird marine animal or part of an animal called *Dendogramma*.

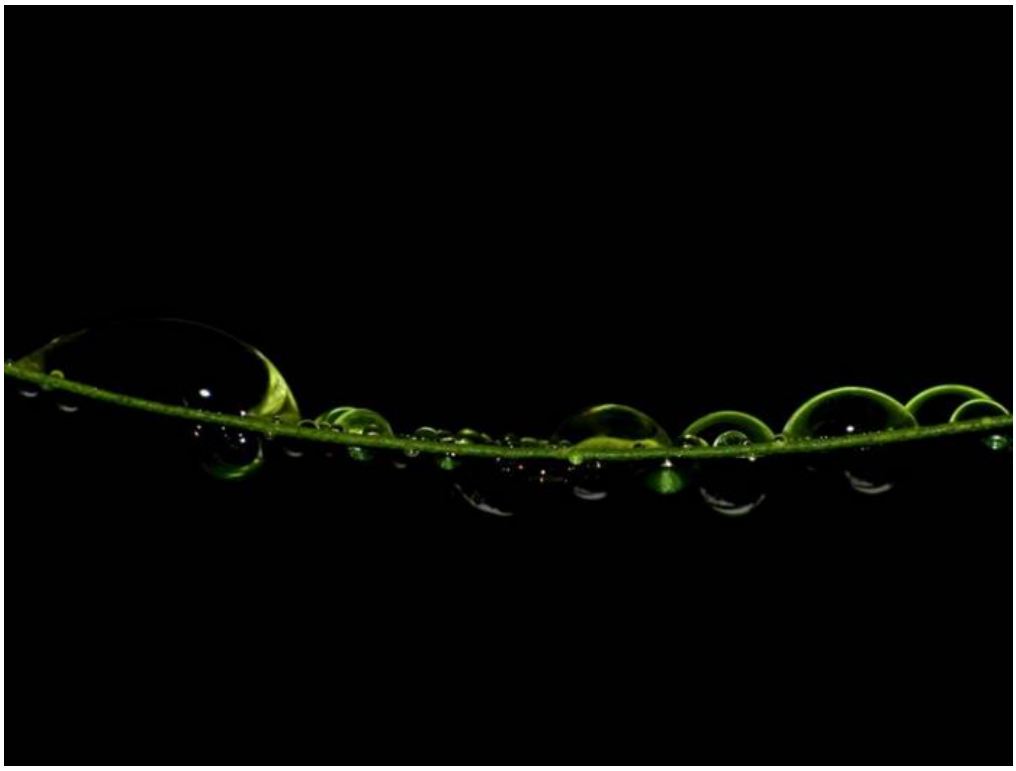
Our marine team recently collected more specimens of *Dendogramma* and have sent some material off for DNA analysis. Perhaps the results of DNA analysis will help to place this animal somewhere on the tree of life.

Marasmius

Dendogramma

Magic moments

Titled: *The Wind* Photo by Brett at Ellura Sanctuary



Titled: *Water Droplets on Bottlebrush leaf* Photo by Brett at Ellura Sanctuary

Lasioglossum lacthium on Bulbine Lily Photo by Reiner Richter

Chrysomelidae Mapleton QLD Photo by Dianne Clarke

Bee with mites Albury NSW Photo by Karen Retra

Eastern bearded dragon Location: Swan Reach SA Ellura Sanctuary

Mark Berkery's Nature's Place

What A Feast …

… the garden is. In more ways than one, I know.

To the senses a delight, of colour and form, scent and texture. Then just a little closer and …

… nature knows no pity, no sentimentality, just survival and reproduction. Only the fittest, the fastest, the craftiest endure.

And the wild formless intelligence behind it cannot be denied, while no thing, no body, lasts longer than its time.

I had a dream … that turned out to be a nightmare.

Now I don't dream any more.

And the dream goes on.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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 – else share with your friends)