The BowerBird Bugle

11 December 2015 Ken Walker (kwalker@museum.vic.gov.au) Museum Victoria. Edition 38.

Hi All – Every marketing guru will tell you that – “Sex sells”. One of the funniest uses of sex to sell something I ever heard of was selling cars. How do you sell over a tonne of insert metal and plastic and make it look sexy? – add girls! This year, our mammal curator, Kevin Rowe, described a new species of rat from Sulawesi. That’s not earth shattering news in itself but he added a comment that one of the defining characters of this new species was that it had “unusually long pubic hairs”.

Museum Victoria mammalogist Kevin Rowe, a member of the team that found the rat in 2013, said among the distinct features were its very small mouth, large white front teeth, big ears and noticeably long pubic hairs.

Dr Kevin Rowe of the Museum Victoria, with a specimen of the newly discovered mammal species, the hog-nosed rat, found in Indonesia. *Photo: Eddie Jim*

That was enough to send the internet into hyper-over-drive. Kevin had taken some live footage of the new species running about in the rainforest and uploaded it to YouTube. It has now had over 1 million views. Kevin got interviewed from countries around the world asking about this new species with its “unusually long public hairs.” Why don’t I get the same attention when I describe a new species of bee?

Well, move over Kevin – a new species of Australian lacewing has recently been described from Western Australia and it too has a “curious anatomical feature” arising from its head.

THIS BUG HAS HEARD ALL YOUR JOKES ABOUT ITS HEAD ALREADY

Glenochrysa principissa Navás, male with ‘glenofinger’ gland everted P. DUELLI

Meet *Glenochrysa princupissa* – a recently described lacewing species that has a “curious anatomical feature” on its head.

To quote the article:

“It’s a glenofinger. That’s not an obscure Bond villain, but an inflatable “come hither” signal to females. The bulging gland gets bigger when the male is interested in a hookup. “

And, again as the article says: “Size does matter.”

“The insect’s protuberance releases pheromones, or chemical sexual attractants. And size does matter. The bigger the gland, the more area there is for pheromones to disperse from. Many other lacewings have smelly gland, but they are mostly on their side, or near the anus. Aside from this one group of little lacewings, none have a phallic-shaped gland on the back of their head.”

And, there is more to this story!

Now, “poor” Kevin, our mammal curator, treks off to Sulawesi and slugs it out deep in the rainforests with the heat, humidity and leeches. He sleeps rough and lives in a tent for several weeks at a time. Do these mammalogists have no sense of style or longing for the simple comforts of home?

Take a look at the type location for this new lacewing species.

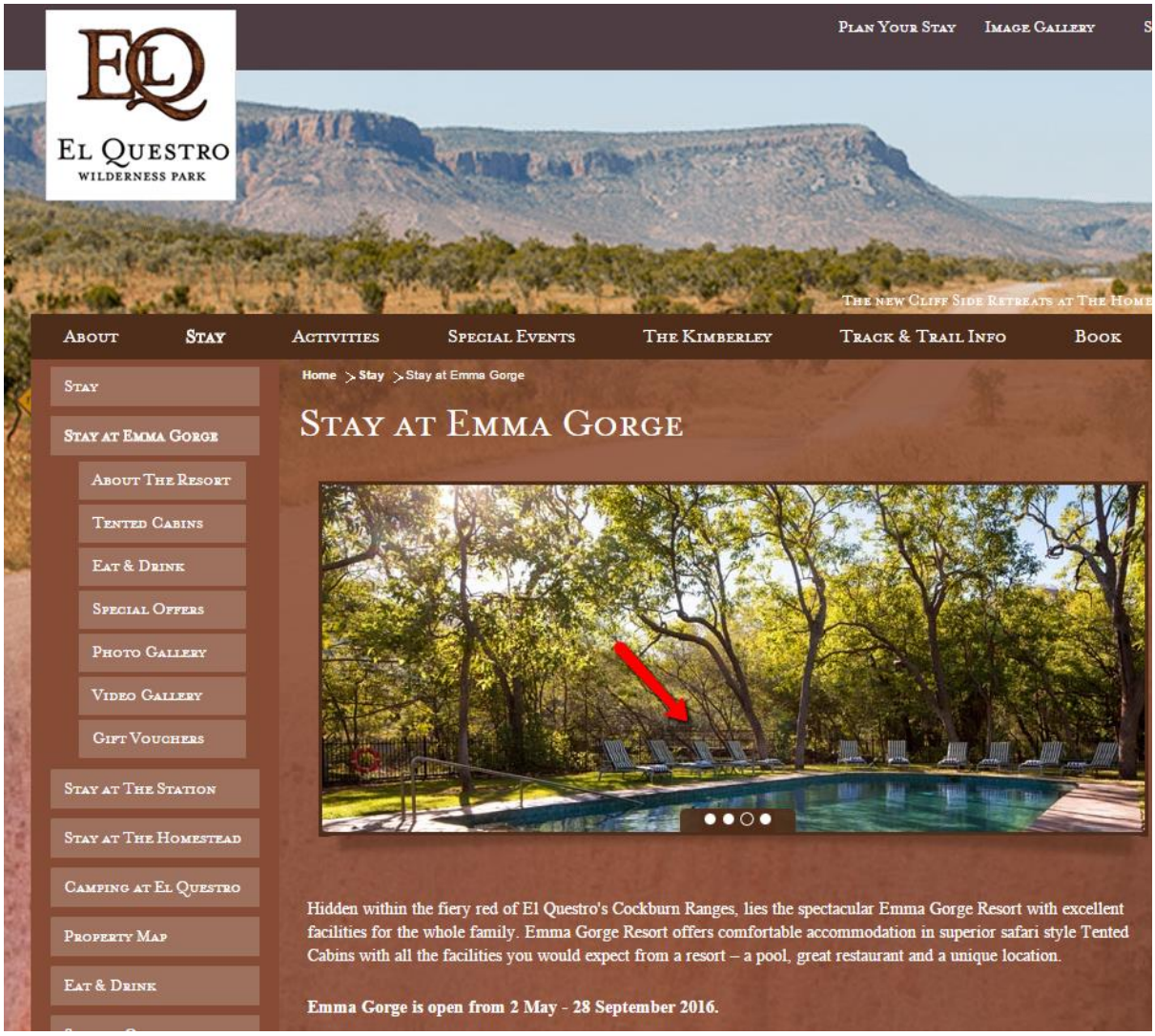
Entomologists only collect in style and comfort!

The type locality for this new species is as follows:

Type material

Holotype male. **AUSTRALIA:** Western Australia: El Questro-Emma Gorge Resort, 15°54′16.1″S, 128°07′40.7″, 20.ix.2002, Whiting, Ogden, Svensen (ANIC).

Yes – the El Questro-Emma Gorge ***Resort*** in WA.



Here is an image from the El Questro-Emma Gorge ***Resort.***

I believe the holotype specimen was collected under the poolside 3rd chair from the left. The field notes for this specimen capture "*could*" read: "First seen when placing G&T drink under chair. Called for assistant to bring a net – ordered a second G&T drink."

One of the best "loved and remembered" insect "Sex sells" taxonomist stories was when a Canberra based PhD student, Bryan Lessard, decided to "sexy up" a new species name of Tabanidae – March or Horsefly he described. Selling Horseflies that bite and suck blood is a bit like selling cars –

you need to add girls. So Bryan decided to enlist of the help of one of the world's "sexist" superstars – Beyonce. The fly had a yellow tip to the abdomen which somehow reminded Bryan of Beyonce so he named his new fly species –

Scaptia beyonceae.

To say his phone and internet went ballistic would be an understatement. There is now even a Wikipedia page just for this species.

The world's press had a ball promoting the link between the fly's abdomen and the similar nether regions on Beyonce.

Here is but one of many articles linking the word "Bootylicious" and the horsefly.

So, while Kevin is soon to head back to the Sulawesi rainforests to look for more rats, see you all at the El Questro-Emma Gorge ***Resort*** for a spot of insect collecting .. and the odd G&T by the poolside. Don't forget to bring an assistant!

Sometimes, BowerBird records take away by breath

BowerBird records just pop onto my screen – anything from anywhere by anybody – and sometimes the posted records catch me by complete surprise.

This week, our favourite naturalist couple in WA (Jean and Fred Hort) uploaded several images of one of Australia's rarest and most beautiful insects. They are lacewing insects (Neuroptera) called Spoonwings – these males use hind wings to attract a mate rather than something emerging from behind the head!

Only the males have these elaborate hind wings. Those few people who have seen them flying say it is the most beautiful lopping, slow flight pattern. The hind wings play no part in flight, they just bob up and down, presumably to attract a mate.

Somehow Jean and Fred found these spoonwings in this bush!

Chasmoptera superba Location: Waeel WA

Photos by Jean and Fred Hort

And here are images that stopped me in my tracks

Asilidae Location: Langwarrin, Vic. Photos by Rudie Kuiter.

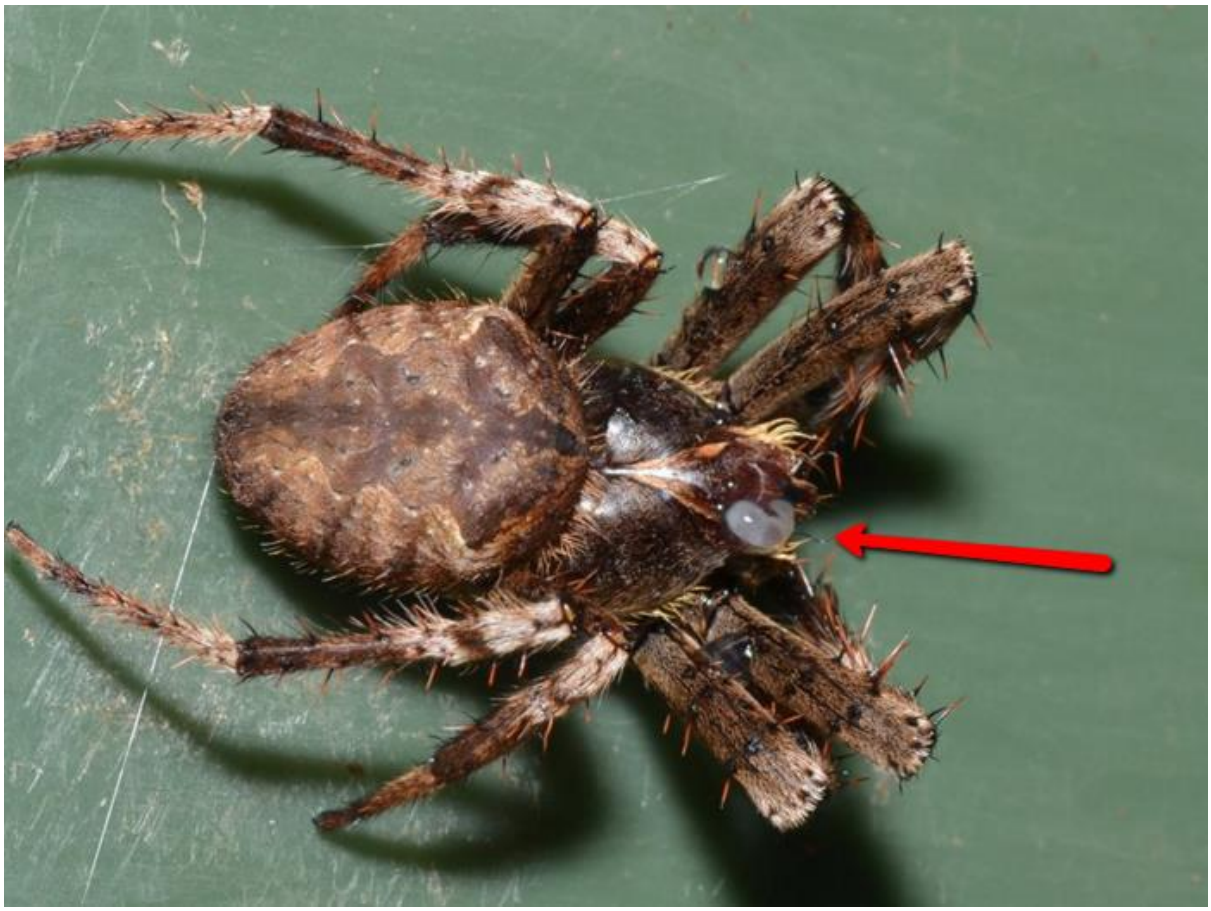
Our intrepid orchid pollinator hunter, Rudie Kuiter, took these amazing images of a robber fly catching a beetle down at Langwarrin, Vic.

Apparently, the fly dropped the beetle while in flight. That's one lucky beetle and I image the fly reported back about the "enormous" beetle - that got away.

More parasites to be found

Parasites and predators are the population regulators of our world. Without parasites and predators, we would be overrun by invertebrates – literally. There was once an analogy that if you began with a pair of fruit flies and let them breed and then allowed all of their progeny to continue breeding then at the end of one year you could place the fruit flies head to end and the line would stretch from earth to the moon. We need parasites and predators.

Last week, we had the fly maggot on the leaf hopper bug and this week we have probably a wasp larva attacking an orb weaving spider.



Eriophora transmarina Location: Mapleton, Qld.

Photo by Dianne Clarke.

The Magnificent spider

Ordgarius magnificus Location: Wollongong NSW

Photo by Jeannie

I have not seen one of these wonderful spider for many years so it was a thrill to see it on BowerBird this week.

During the day, the Magnificent Spider, *Ordgarius magnificus*, hides in a retreat made by binding leaves together with silk. Preferred trees include natives such as eucalypts in dry or wet sclerophyll forests, but these spiders are also found in suburban gardens. Often the spider's characteristic spindle-shaped egg sacs are hanging near the retreat.

Bolas spiders capture their prey by deception. At night the Magnificent Spider spins a short line of silk with a sticky globule of silk at the free end - the bolas (named after a South American throwing weapon made of rope and weights). This sticky silk globule contains pheromones that mimic the scent of a certain female noctuid moth species, attracting unwary male moths within range (known as 'aggressive mimicry'). The Magnificent Spider is very sensitive to vibrations, twirling its thread when it senses the approach of a male moth's beating wings. The moth eventually flutters close enough to be hit by the spider bolas and become stuck to the wet and sticky globule. The spider then pulls up the strand, bites and immobilises the moth, and either eats it straight away or stores it for later, wrapped in silk. These spiders can also be induced to respond to the vibrations of plucked guitar strings.

Below is an image of the characteristic images of the bolas spider.

Photo by Daniel lightscaper

To bee or not to bee ……..

What a sad fate has befallen this *Leioproctus* bee – prey to a scorpion fly (*Harpobittacus* sp.). However, the bee's fate will be used to seal a pack of "love".

Scorpion flies are great predators. Below is a male scorpion fly and to attract a female, he must offer her a meal he has collected before mating with her. I guess this is one way the female can measure that her mate is capable of catching a meal and so he has good genes to pass on. Offering a meal to a female is a way to ensure that the female has a protein meal which she needs to mature the eggs he has just fertilised.

His meal offering was this collectine bee – *Leioproctus* sp.

Harpobittacus sp. Location: Rocklands VIC Photo by Reiner Richter

Too bee or not to bee …… Part 2

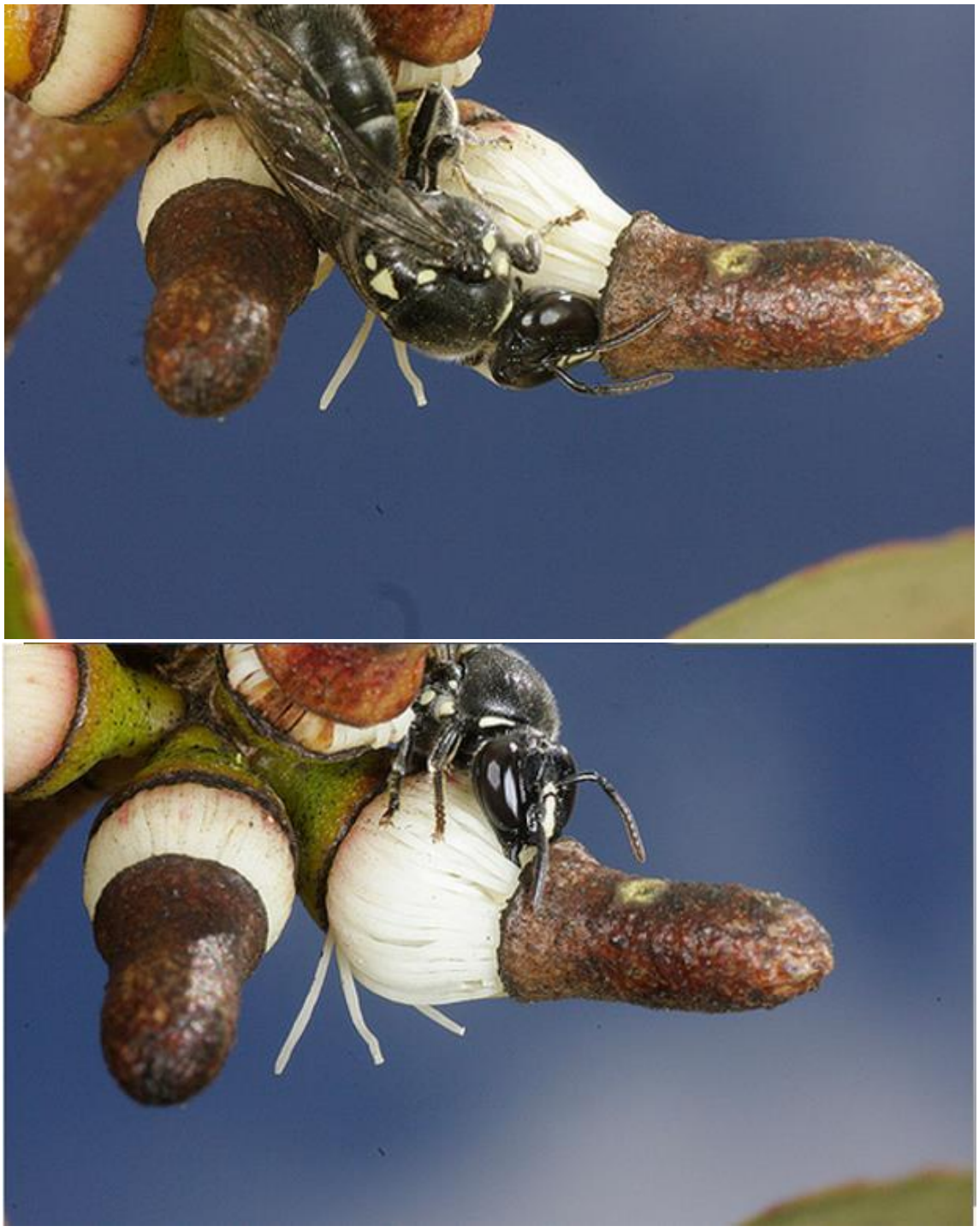
Here are a couple of Jack Jumper ants (*Myrmecia pilosula*) making a snack of a honeybee. I doubt the ants would have killed the bee – more likely the bee was dead when the ants found it.

One of the richness of image based records that BowerBird offers is the associations that images bring. The above spider with the hymenopteran parasite or this image with the ants and the honeybees – although we record only one of the two or more species in the image, the image itself tells an ecological or behavioural story that is magic and so important for long term use and knowledge.

Location: Langwarrin, Vic. Photo by Rudie Kuiter.

Speaking of image richness

I cannot remember if I have shown these remarkable images. They show a hylaeinae bee removing the floral cap of a eucalyptus flower so that the bee can get first access to the floral resources – pollen and nectar. An amazing behaviour.



Photos by Robert Luttrell

This week, we can add another bee to the list that uses this curious behaviour of removing the cap of eucalyptus flowers just when they ripen.

The above images were for a Collectidae – Hylaeinae bee whereas the image below is for a Halictidae – *Lasioglossum (Chilalictus) bicingulatum* bee. While BowerBird records just the species name, the “richness” of the image introduces to us an unknown behaviour for this species.

Perhaps this behaviour is more common than first thought – It just needs to be seen and documented – “image richness.”

Location: Langwarrin, Vic. Photo by Rudie Kuiter.

Absolute beauty

I know that I “sometimes or perhaps or maybe” give our dedicated “moth-ers” a hard time … but they really are an amazing group of collectors and incredible insects.

Just look and appreciate first of all the aesthetic beauty of this moth and then think of the functional morphological this intricate wing pattern brings to the moth.

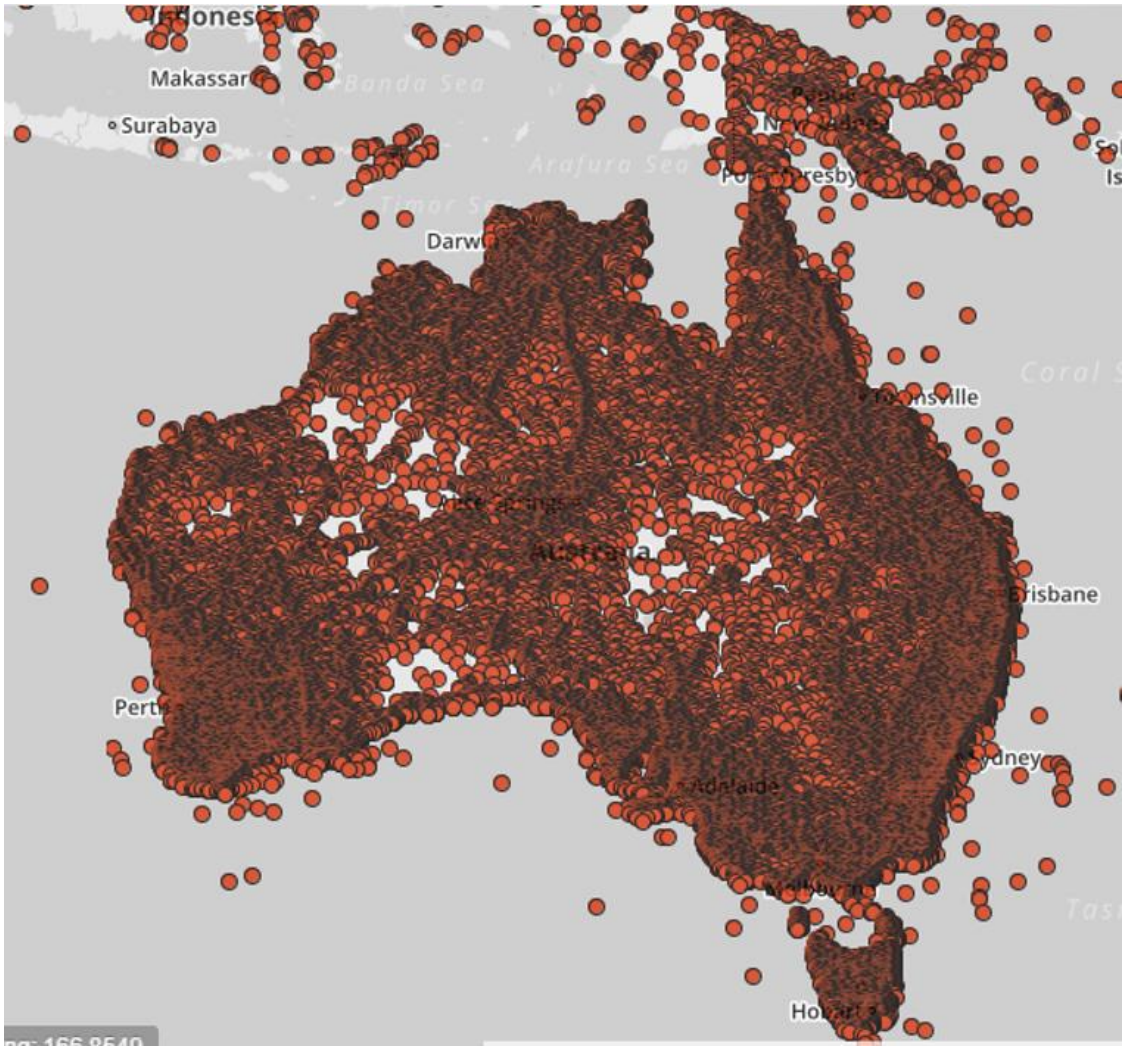
Why so complex? Is always the first question I ask.

Alucitidae: *Alucita pygmaea* Location: Mapleton QLD

Photo by Dianne Clarke

The Wahlenbergia bees – Bluebell bees

I have a special fondness for what I call the “Wahlenbergia bees”. I have mentioned previously that for my PhD I examined in excess of 35,000 bees belonging to the subgenus *Lasioglossum (Chilalictus)* from around Australia. Apart from the taxonomy of these bees, this large number of bees gave me a wonderful insight into the pollination syndromes for these bees. What plants do they visit? Are there any patterns? My initial instinct was to assume that bees evolved with plants and in Australia one of the dominant plant families is the ubiquitous plant family Myrtaceae – the gums, eucalypts, paperbarks, Melaleuca, Angophoras etc. Here is the ALA distribution map for Myrtaceae – this plant family occurs everywhere.



So when I began to accumulate and examine the plant records for individual bee species it came as a surprise to me when I found a series of species that had never been collected on Myrtaceae but curiously had only been collected on the plant family Campanulaceae and most often on the genus *Wahlenbergia* – the bluebells. These bees intrigued me and I discovered a fascinating story about them.

When in the field, this is what you commonly see when a bee is visiting a *Wahlenbergia* flower – bum up !

Location: Conder ACT. Photo by Michael Bedingfield

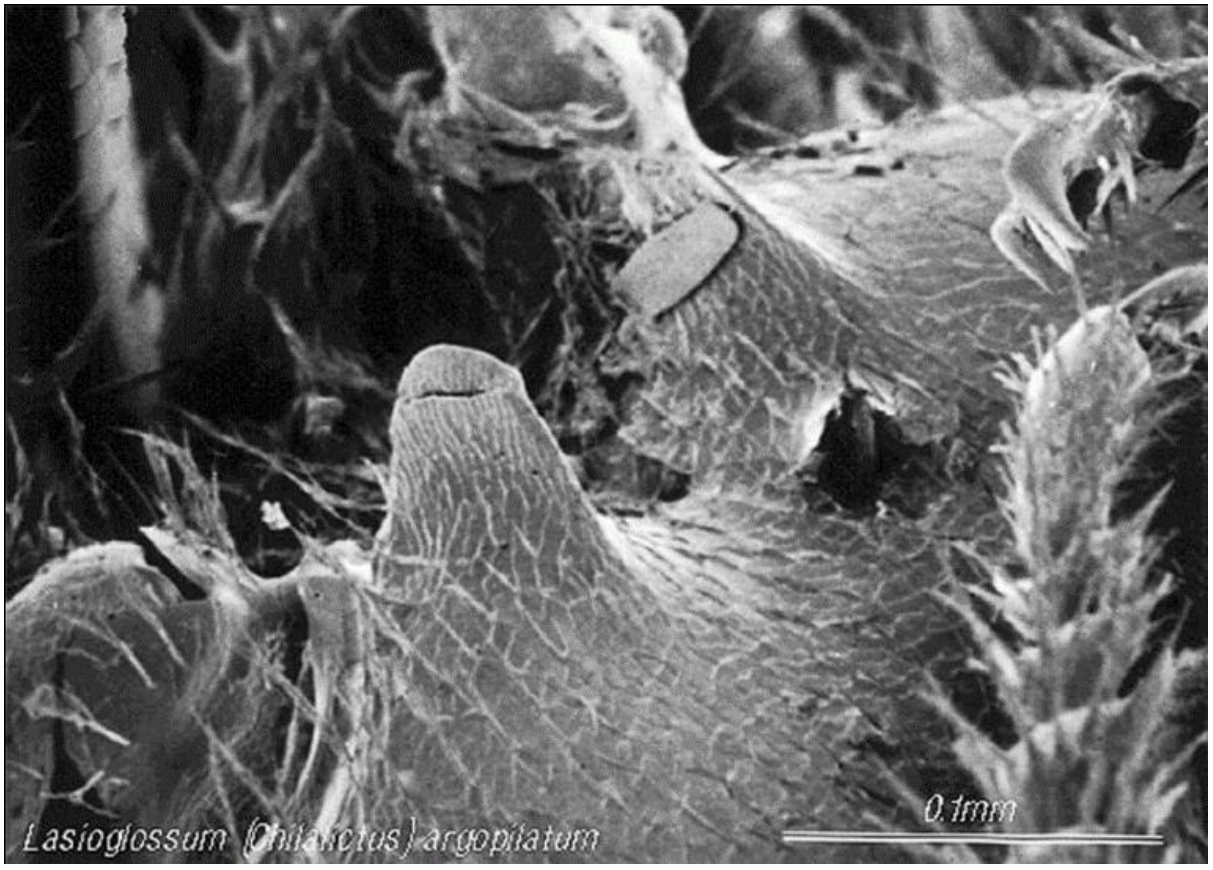
Functionally, let's look at this image. The bee is effectively accessing the nectar resources at the bottom of the flower but look which part of bee is in contact with the anthers – the underneath of the bee. That's unusual so I went back and

looked underneath these bees and I discovered something unique about these *Wahlenbergia* bees. Most bees do not collect pollen on the underneath of their thorax, in particular the area between the 1st and 2nd pair of legs and I found that the hairs in these area were always simple. Simple hairs do not collect pollen – the pollen grains just fall off. Pollen collecting hairs are branched and that's what differentiates wasps from bees: wasps have simple hairs while bees have areas of branched hairs. So, when I looked closely at the hairs between the 1st and 2nd pair of legs of these *Wahlenbergia* bees they were branched! No other bee had branched hairs in these areas. Other bees that visited both eucalypts and *Wahlenbergia* had simple hairs in between the legs but bees that only visited *Wahlenbergia* had branched hairs.

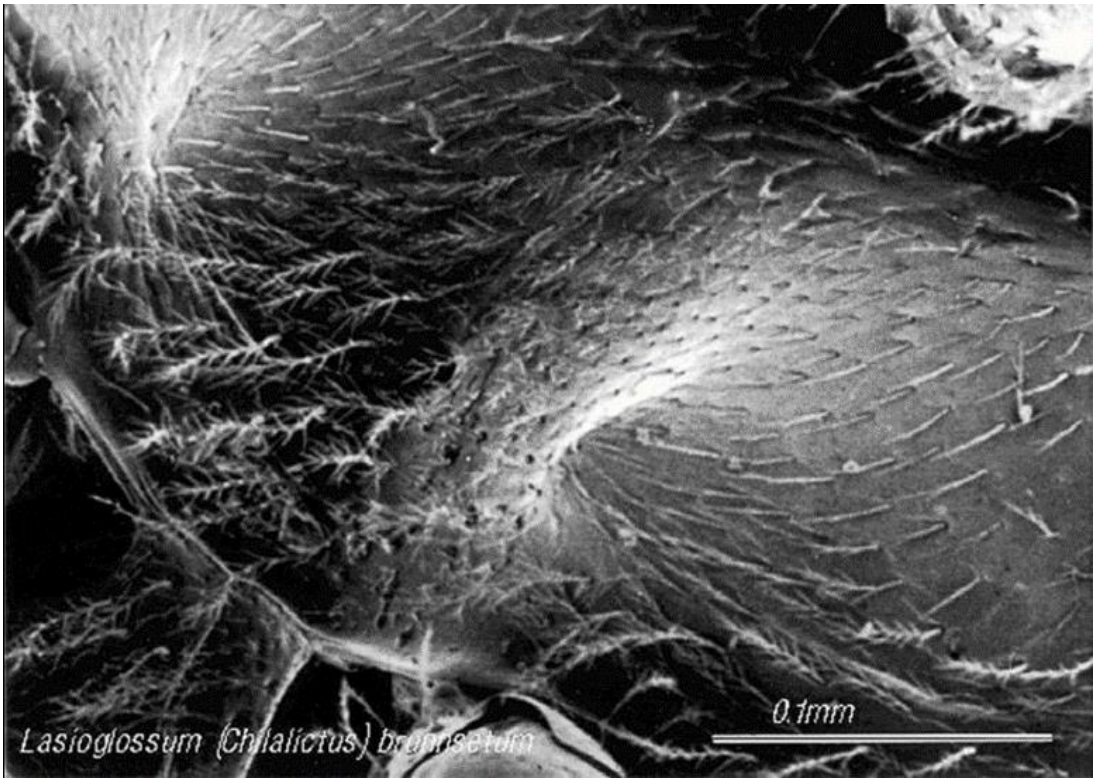
I named as new species a number of these *Wahlenbergia* bees. The bee below I called *L. demicapillum* as the hairs are branched only on one side of the hair shaft.

Here is an Scanning Electron Micrograph (SEM) image of the another new species with branched hairs on one side only – I names this species *L. aureopilatum*.

So the females had something unique amongst the bees, what about the males? Again, I found some highly unusual males features that only occur on male Wahlenbergia bees and again it was on the underneath of the thorax between the 1st and 2nd pair of legs. The best way to describe what I found were paired projections. The only purpose I can think of is that at the base of these projections is a male scent gland used to attract females and the males guide their hairy legs through these projections to gather up the exudates from the sex scent glands. No other bee in the remaining 130+ species of *Chilalictus* has any projections at all in this area. Here are some images of these male projections:


0.1mm
Lasioglossum (Chilalictus) argopilatum


0.1mm
Lasioglossum (Chilalictus) anforticornum



So, let's celebrate our unique *Wahlenbergia* bees and think of them as you drive the highways and see these spindly looking flowers waving along the sides of the road.

Location: Conder ACT. Photo by Michael Bedingfield

Location: Carwoola NSW Photo by Ken Walker

Location: Cobberas VIC Photo by Linda Rogan

Location: Briar Hill VIC Photo Linda Rogan

Location: Glenisla VIC Photo by Mitch Smith

Location: Briar Hill VIC Photo Linda Rogan

Location: Emerald, Qld. Photo by Laurence Sanders

Magic Moments

Location: Emerald, Qld. Photo by Laurence Sanders

Location: Balook VIC Photo by David Akers

Location: Baw Baw VIC Photo by Tamara Leitch

Location: Melbourne, Vic Photo by Lek

Mark Berkery's Nature's Place

Born Of The Green …

The green, earth as it may be remembered, mother to every creature born, without exception. So why do we think we are the exception, that we can ruin the nature for a profit?

We separate ourselves from nature and call it progress. But what is it progress from or to? From the simplicity of being content in nature, to a future imaginary world that only makes the present unreachable.

I've lived long enough to have involved myself in the delicious addiction to minding, as thinking and emotion sustaining a 'way of life', to have come to know it as nothing more than the pain of separation from the simplicity of being content now.

And now there is only one concern, one purpose, to live long enough to love enough to not have to do it again – live this life of progression from one self generated delusion to the next, one insane mental construct that only serves to divide, until it serves, as it does. To know love enough.

Look around, the world is going to hell, the world is hell and madmen are in charge. Seeing it is hell reveals the beginning of heaven, separating from the madness, and it is not up or over 'there'.

Enough experience will do that, especially if you live long enough to get old and ill while retaining a sense of equilibrium throughout, regardless …

There's got to be less, or other, than this …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This is the last BowerBird Bugle for 2015

I have decided to make edition 38 the last Bugle for 2015. I have had a lot of fun writing the weekly Bugle and I hope that the readers have also enjoyed reading my ramblings and hopefully learnt something new.

My main aim for writing the Bugle was to create and make people feel part of the BowerBird community – which is all about sharing your finds and recording them in a way that makes a permanent scientific contribution through ALA.

I have been amazed at so many levels at your contributions. Over 30,000 identified records now on ALA but more importantly, I feel that I am a better entomologist for the BowerBird experience. I have learnt a lot and visa versa.

Merry Christmas and Best wishes for 2016. See you then. Ken

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)