



09 October 2015 Ken Walker (kwalker@museum.vic.gov.au) Museum Victoria. Edition 29.

Hi All – To finalise the footy season finally! and Phew! – Congratulations to the Hawks for winning the AFL competition and congrats to the Cowboys for winning the NRL competition. I watched both games and I know which game had me on the edge of my chair – even after the final whistle blew; and which game I fell asleep during. There were holidays on the Friday in Melbourne and the Monday in other states which seems to have created a bonanza of uploads into BowerBird.

First, a follow up on the invasive South African praying mantis in Geelong. Adam Edmonds' initial uploaded image was taken on 21 April 2014. However, since last week's Bugle, Adam emailed me an image of a mantis he took near the same location as the 2014 images but which was taken on April 5, 2009. I sent Adam's 2009 image to Australia's mantis expert, Graham Milledge at the Australian Museum, and he confirmed it was indeed the South African mantis - *Miomantis caffra*. It is often considered that once an exotic species has reached another country and survived there for more than 5 years, then it is almost impossible to eradicate – you can really only try to reduce its impact through a range of control measures.

Miomantis caffra has been in Australia since at least April 2009. It will be interesting to see how far it has spread. It would be great if any BowerBird member in Victoria or NSW or SA could

photograph any mantis they see and post the images on BowerBird. We may just find if this species has spread beyond Geelong.



Location Geelong, Date 5 April 2009. Photo by Adam Edmonds

Earth shattering event in taxonomy!

Monday, 5 October 2015 was the day the taxonomic foundations were shaken abruptly. Let me tell you what “earth shattering event” occurred on this date. Since 1758, all taxonomists have followed the Linnaean system of nomenclature which is the binomial system of Genus and species. It has served us well for over 250 years. In 1895, the International Commission of Zoological Nomenclature (ICZN) was established and they created “The ICZN Code” under which we all practice taxonomy – the naming of animals. The Code has had many updates since 1895 but there has been at least one fundamental tenet we practice – the nomination and

deposition of a Holotype. This is a system where the author of a new species, chooses a single specimen to be the representative name holder of the new species. This specimen is called the Holotype and it should be deposited into a zoological institution, such as a museum, which will allow that specimen to be borrowed and examined by others. Imagine if the author of new species wrote that he had about 100 specimens of the new species at the time he wrote the new species description. Some would be male while other females, they may have been collected over different months or years and perhaps collected from different locations. No doubt, across these 100 or so specimens, there would be variation between the specimens. So which of these 100 or so specimens should someone borrow to see what the author meant when describing the new species? To avoid any type of colour or size or shape or sex variation, the ICZN code states that the author must choose a single specimen as the representative of the new species. This is the specimen that people will borrow to see what the author had in mind when erecting a new species. It's a brilliant system of stability for nomenclature – Holotypes are the cornerstones of taxonomy. Each species is represented by a single specimen housed in a museum that others can borrow and examine to determine whether their species matches the Holotype or not. You will often see specimens in collection labelled with “CWT” – “Compared with Type” which makes the specimen extremely valuable as you know it has been directly compared with the Holotype. During the 19th and 20th centuries, the British Museum of Natural History (now called the Natural History Museum of London but its official acronym remains BMNH) was the central hub for documenting the fauna of world. People from the British colonies around the world would send specimens they collected to the BMNH where experts would

look and name new species. Everyone wanted to lodge their holotypes in the BMNH. Let's take the story of our iconic platypus – the most oddest of creature combining seemingly mammal features with the bill of a duck! Captain John Hunter was the second governor to the new Australian colonies. In 1797, he watched an aboriginal spear a platypus in the Yarramindi lagoon, near the Hawkesberry River just north of Sydney. In 1798, Hunter sent a single skin of the platypus to the George Shaw who was a parson turned Keeper Natural History at the BMNH. In 1799, Shaw named the platypus *Platypus anatinus* (flat-foot duck) and the specimen skin he used (the holotype) is still housed in the British Museum and can be viewed by scientists upon request. Shaw wrote in his description this passage: “Of all the Mammalia yet known it seems the most extra-ordinary in its conformation; exhibiting the perfect resemblance of the beak of a Duck engrafted on the head of a quadruped. So accurate is the similitude, that, at first view, it naturally excites the idea of some deceptive preparation by artificial means; the very epidermis, proportions, serratures, manner of opening, and other particulars is the beak of a shoveler, or other broad-billed species of duck, presenting themselves to the view; nor is it without the most minute and rigid examination that we can persuade ourselves of its being the real beak or snout of a quadruped. (Shaw 1799, p. 384)”

Three years later, the Göttingen anatomist Johann Friedrich Blumenbach, who was famous for his discoveries of mammoths and crinoids described the platypus from a second platypus skin sent by Hunter. Blumenbach named the animal *Ornithorhynchus paradoxus* (paradoxical bird-snout; Blumenbach 1803). The world now had two names for this single species. When Shaw gave the generic name “Platypus” to the Australian mammal, he was unaware that generic name

“*Platypus*” had been used for a genus of beetles in 1793. The rules of the ICZN do not allow two animals to have the same generic or species name so the name *Platypus* had to be abandoned. However, Shaw's specific epithet stood the test of time. The platypus thus became *Ornithorhynchus anatinus* – a combination of Blumenbach's generic name and Shaw's species name. It seems entirely appropriate that this animal, which so resembles a hybrid, should bear a hybrid name.

I well remember my first visit to the British Museum when I was revising the bee subgenus *Lasioglossum* (*Chilalictus*). I had spent about 2 years sorting through approximately 35,000 specimens of these bees. I sorted these specimens into species that I used code names for – BP4a or IH3 – because I did not have the species representing specimens in Australia – most were in the BMNH. So, I took to London representatives of my coded species and I began to compare them with the Holotypes of Australian bee species housed in the BMNH. Fredrick Smith was an entomologist working at the British Museum of Natural History (BMNH) in London in the 1850s. He worked on Hymenoptera (wasps, bees and ants) and he described many new species from specimens sent back to the BMNH from the colonies. Smith described several species of my *L. Chilalictus* species such as : *L. bicingulatum* Smith, 1853 or *L. cognatum* Smith 1853, or *L. convexum* 1879. You cannot imagine what a thrill it was for me to hold and examine the exact specimens that Smith also held in 1853 and 1879 when describing the above species. I sat there comparing Smith's Holotypes with my coded representatives and changing their coded names to real species names. I finally felt like a real taxonomists.

So, what happened this week to rock these Linnaean foundations of taxonomy? Two well respected Diptera (ie. fly)

taxonomists described a new species of Bombyliidae fly from South Africa. Nothing new here, until you read the title of their published paper: “***New species without dead bodies: a case for photo-based descriptions, illustrated by a striking new species of Marleyimyia Hesse (Diptera, Bombyliidae) from South Africa.***” The “New species without dead bodies” is what rocked the foundations.

There is no physical holotype specimen lodged into a museum for this species. The only records available of the “Holotype” are photographs they took of the live fly –before it flew off. No one in future will ever be able to directly compare physical specimens against the physical specimens the authors of this new species designated as a holotype. No genitalia preparations or illustrations were made for this paper. No DNA signature can ever be made from the name bearing specimen for this species. If new techniques are discovered to extract additional data from physical specimens in 50 years’ time, these techniques cannot be used on this species.

Here is the picture of this species “Holotype”. This is as close as any of us will ever get to this fly.



So, how did they get away with this under the ICZN rules? Well, they used Article 73. This is wordy, poorly written ICZN rule about what happens if a holotype is lost or destroyed. You can never replace a holotype as it must be chosen by the author(s) of the species before the species name is published. The authors of this new fly species have given their own interpretation of Article 73 and since it is so poorly written it does perhaps pass this rule. The authors of this new fly species do state that they do not want the non-deposition of a holotype to become the norm. More and more around the world, governments are locking up habitats and lands and denying collecting permits for these places. Some of their reasons are honest but in other cases chemical companies have purchased

the rights to all plants and animals within a certain areas. These chemical companies then examine the plants and animals looking for cures to cancers and other diseases which they will then patent and sell. Such medical discoveries are rare and much time, effort and money must be committed. It's a bit like searching for gold, diamonds or oil – you have to spend a lot to get even a return for your investment.

So, these authors tried to show there are ways within the ICZN rules that allow you to describe new species from areas where you are not allowed to collect specimens. Remember the old National Parks motto: “Take only photographs; Leave only footprints.”

Taxonomists are generally extremely conservative and reserved people – stuck away on some museum collection, spending their days looking at and sorting through myriads of dead animals and putting names on them. Occasionally, a new species is found and it is described – leaving behind a physical holotype. Anything that disturbs this rigour is not taken lightly. The internet taxonomic chat listservers have been awash with taxonomists voicing their pros and cons for this new paper published on Monday this week. They are clearly divided into the for and against groups and never the twain is going to meet.

To summarise, I did like a post sent in by a botanical taxonomist friend of mine – Jim Croft. Jim wrote:

“Dead body or it didn't happen!”

Bottoms Up !

The other day, I was scrolling through the Australian Native bee BowerBird project identifying bees when I came across two photos that made me laugh and which I could not identify. There is not much you can do with only a “bum up” view!



Photo by Bronwyn Hennessy



Photo by Linda Rogan Some may say – A bee’s best view!

Speaking of bees – as I often do!

Erica Siegel posted today a magnificent image of one of Australia's major group of native bees but which most people would not consider a bee. This is a Euryglossinae bee – a group of bees found only in Australia and which has the almost unique feature of not having any pollen collecting hairs on the outside the body. These bees eat the pollen and carry it back to their nests in the first part of the stomach called the “crop”. During my post-grad University days, I was employed as a research assistant to the only person to study these bees – Dr Elizabeth Exley. She taught me their taxonomy for which I can always grateful. This is *Hyphesma atromicans* and is about 5mm in body length.



Location: Birkdale QLD on Cherry of Rio Grande flowers.

Photo by Erica Siegel.

Speaking of Euryglossinae bees

Here is a picture of me from 7 November 1978 collecting bees from a *Eugenia* tree at the entrance to Rocky River – Cape York. I stood on top of the 4WD and had my maximum 5 metre pole extensions to just reach the bottom flowers of this tree.



On this tree, I collected a new euryglossine species which Dr Exley named after me for efforts I took to collect the specimens!

Euryglossina (Quasihesma) walkeri Exley, 1980.



Photos by Ken Walker

And while on the subject of bees!

David Akers posted this lovely image of a honeybee.

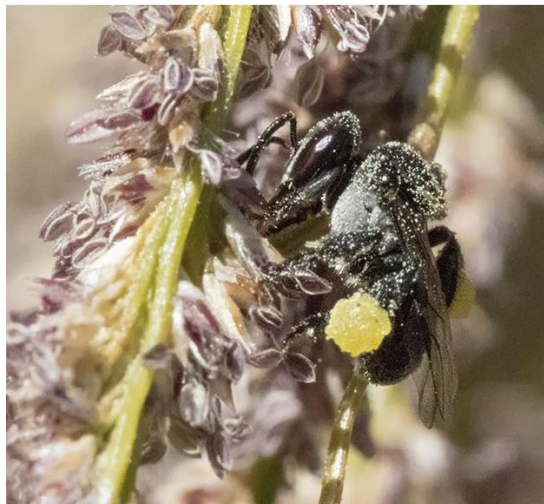


Did you know?:

- Honeybees contribute \$6 billion to the Australian economy
- Honeybees contribute \$230 billion to the world economy
- Honeybees are the primary pollinators of over 300 crops
- A queen honeybee lives between 6-8 years
- A worker honeybee lives about 6 weeks
- Female workers bees result from fertilized eggs
- Male drone bees result from unfertilized eggs
- The queen honeybee mates with about 20 males during her one and only nuptial flight
- Over 75% of Australia's honeybee population are in feral hives – no one is looking after them as managed bees.

Have you ever seen one of our native honey-producing bees called “Sugar-bag” bees?

Notice the pollen load on the hind legs.



Tetragonula carbonaria Location: Tallai QLD Photos by Kerrie Brailsford

And, here they are swarming out of sugar-bag bee colony built inside a hollow tree trunk and below is the hive structure.



Tetragonula carbonaria Location: Tallai QLD Photo by Kerrie Brailsford



Tetragonula carbonaria Location: Imbil QLD Photo by Dianne Clarke

And finally on bees – Make and put out your bee hotels now!



Photo by Graeme Cocks



Photo by Garden Bees City of Boroondara

Ever wanted a good back scratcher?

Ellura Sanctuary says: “You can identify a Southern Hairy-nosed wombat scratching post by the tracks leading to it and the large amount of scats around it. You'd think they'd scratch against anything, but they definitely have their favourite posts. Perhaps they are the perfect height.”

By the way, this is BowerBird's first record for the Southern Hairy-nosed wombat. Very cool.



Location: Sleeper Track, Swan Reach SA Photo by Ellura Sanctuary

And they're racing at Ellura sanctuary



Southern Hairy-nosed Wombat *Lasiorhinus latifrons*

Location: Sandleton SA Photo by Ellura Sanctuary

The warm weather bring 'em out!

Photographed yesterday in Gippsland – this is the only angle I ever want to see a snake going – away from me!











































































Red-bellied black snake *Pseudechis porphyriacus*


Location: Won Wron VIC Photo by David Akers

Speaking about the warm weather ..

The warm weather has certainly got the BowerBird twitchers out and about and uploading lots of wonderful bird photos. Here are but a few – well worth a look:

<p> Graeme Cocks</p> <p> White-winged Triller</p>  <p> 0  0  1  0  0</p>	<p> David Akers</p> <p> White-winged Choughs Fled...</p>  <p> 1  0  1  0  0</p>	<p> Graeme Cocks</p> <p> Spotted Dove</p>  <p> 0  0  1  0  0</p>
<p> Graeme Cocks</p> <p> Scaly-breasted Lorikeet</p>  <p> 0  0  1  0  0</p>	<p> Graeme Cocks</p> <p> Silvereve</p>  <p> 0  0  1  0  0</p>	<p> Graeme Cocks</p> <p> Spectacled Monarch Flycatc...</p>  <p> 0  0  1  0  0</p>
<p> Graeme Cocks</p> <p> Little Falcon</p>  <p> 0  0  1  0  0</p>	<p> Graeme Cocks</p> <p> Rainbow Lorikeet</p>  <p> 0  0  1  0  0</p>	<p> Graham Winterflood</p> <p> Spinifex Pigeon</p>  <p> 0  0  1  0  0</p>


 Graham Winterflood

 Galah (*Cacatua roseicapilla*)




 0  0  1  1  0


 Graham Winterflood

 White-browed Robin



 1  0  1  0  0

 Graham Winterflood

 Varied Sitella (White-winged ...)



 1  1  1  0  0

 Ken Harris

 Blue-winged Parrot - Neoph...



 0  0  1  0  0

 Graham Winterflood

 White-gaped Honeyeater




 0  0  1  0  0

 Graham Winterflood

 Pale-yellow Robin




 1  0  1  0  0

 Anna Lanigan

 Crimson Finch



 1  1  1  0  0


 Anna Lanigan

 Great Bowerbird



 1  0  1  0  0

 Anna Lanigan

 Glossy Ibis



 1  0  1  0  0

Judy & Rob Peters

Male King Parrot feeding on ...



0 0 1 1 0

Anna Lanigan

White-bellied Cuckoo-Shrike



0 0 0 0 0

Anna Lanigan

Glossy Ibis



0 0 1 0 0

Anna Lanigan

Magpie-lark



0 0 1 0 0

Anna Lanigan

Whistling Kite gathering sticks



0 0 1 0 0

Anna Lanigan

Pheasant Coucal



0 0 1 0 0

Anna Lanigan

Chestnut-breasted Mannikin



0 0 1 0 0

Anna Lanigan

Yellow-tinted Honeyeater



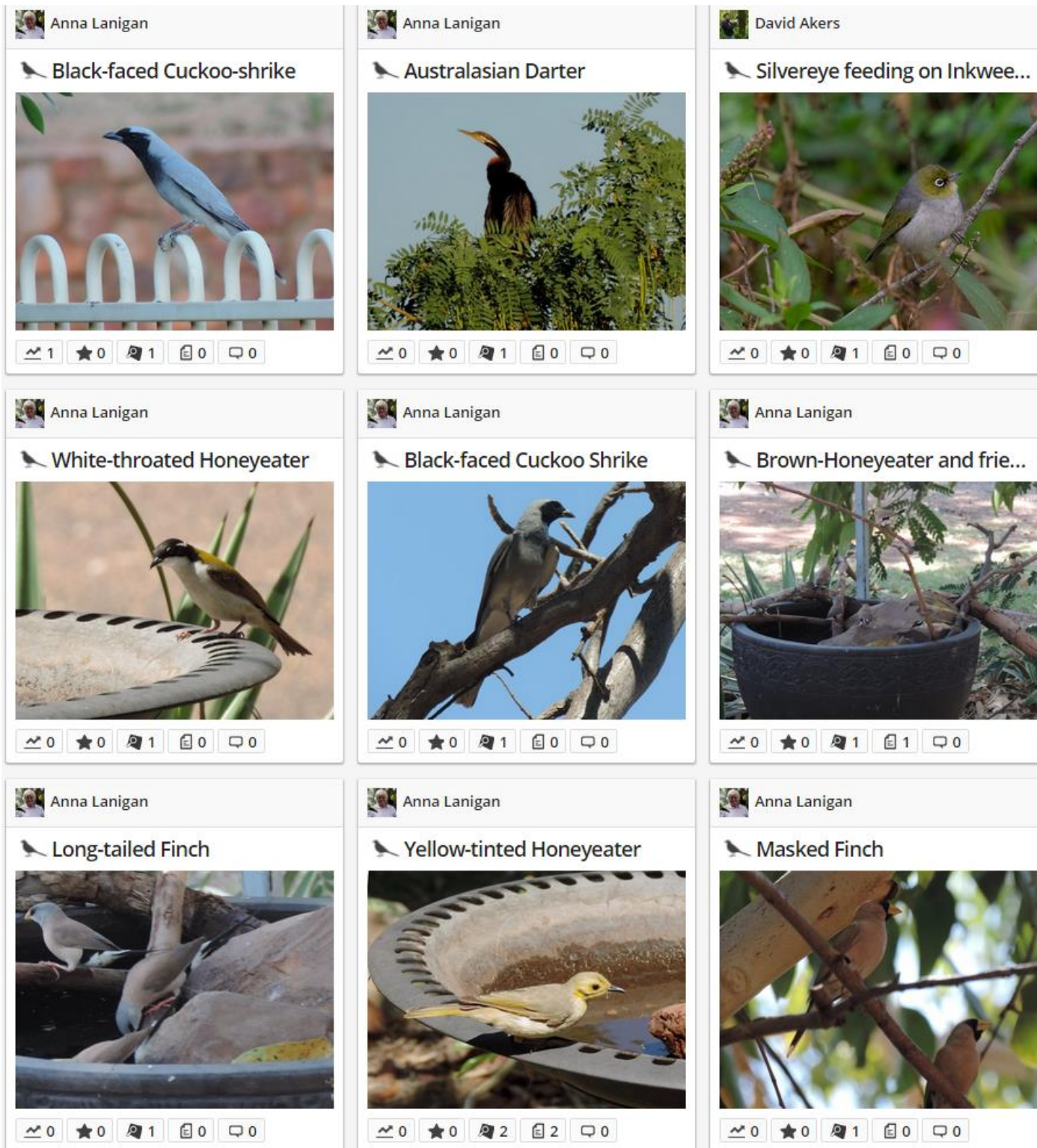
0 0 1 0 0

Graham Winterflood

Singing Honeyeater



0 0 1 0 0



Here is the BowerBird “Birds” URL which you can scan ...

<http://www.bowerbird.org.au/home/sightings?category=Birds>

Just named spider on BowerBird!

Laurence Sanders uploaded an image of corinnid sac spider from his home region of Emerald, Queensland. The expert in this group is Dr Robert Raven at the Queensland Museum. I remembered that Robert had produced a 258 page tome revising the Australian members of group so I sought his opinion. Rob was amazed to see the spider and where it was from. He had only named this species *Nucastia supunnoides* Raven in 2015. And, previously the species was only known from one location: Avon R near Valencia Ck, VIC. Emerald, Qld is a looooong way from Valencia, Vic. Great find Laurence!



Location: Emerald QLD Photo by Laurence Sanders

Ever heard of a non-venomous spider?

Most spiders have venom which they use to kill their prey. One group of spiders that do not possess venom glands is the Uloboridae or cribellate orb weavers or hackled orb weavers. To capture prey they rely only on wrapping it up by silk. They build small incomplete orb web, mostly horizontal, usually not as perfect as those built by spiders in other web building families. They use different type of silk, known as cribellate silk which is woolly appearance.

This is *Philoponella congregabilis* a south east Australian species photographed on 4 October 2015



Location: Won Wron VIC Photo by David Akers.

Mark Berkery's Nature's Place

The big bods are arriving to the garden now, about 5" long this one, and there is plenty to eat this year so no need to evict them to the neighbours, yet. :-)

A Locust I believe, perched on the veranda, cautious but unafraid. She backed up from the lens so I manoeuvred her and eventually got some nice background in the frame – employing behaviour that appears undesirable to the inexperienced.

But no need to push it. At the angle she was and with what I had with me at the time there were only a few shots available. The upper body/thorax and head portrait is most expressive, for a Locust, and I thought the foot especially interesting.

Armoured, both for gripping and striking. Those sprung legs are strong enough to propel the heavy beast into the air, and those spurs are capable of penetrating and damaging the strongest of attackers.

It's wild out there ...














© Mark Berkery



All photos by Mark Berkery

Finally, with not a mushroom in sight on BowerBird, how about your Plant fix for the week! Some recent uploads...

<p>David Akers</p> <p>✧ <i>Thelionema caespitosum</i></p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>	<p>Ken Harris</p> <p>✧ Hooked Needlewood - Hake...</p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>	<p>Ken Harris</p> <p>✧ Old Man Saltbush - Atriplex ...</p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>
<p>Ken Harris</p> <p>✧ Broad-leaf Desert Cassia - Se...</p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>	<p>Ken Harris</p> <p>✧ <i>Senna artemisioides</i> subsp. ...</p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>	<p>Ken Harris</p> <p>✧ Fuzzy New Holland Daisy - Vi...</p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>
<p>Ken Harris</p> <p>✧ Umbrella Wattle - <i>Acacia os...</i></p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>	<p>Russell Stanley</p> <p>✧ <i>Thelymitra albiflora</i> in the Cl...</p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>	<p>Ken Harris</p> <p>✧ Berrigan - <i>Eremophila longif...</i></p>  <p>👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0</p>

Ken Harris

✧ Weeping Pittosporum - Pitto...



📈 0 ★ 0 📌 1 📄 0 💬 0

Ken Harris

✧ Horned Saltbush - Sclerolae...



📈 0 ★ 0 📌 1 📄 0 💬 0

Ken Harris

✧ Bottle Bluebush - Maireana ...



📈 0 ★ 0 📌 1 📄 0 💬 0

Anna Lanigan

✧ Boab Tree



📈 0 ★ 0 📌 1 📄 0 💬 0

David Akers

✧ Boronia latipinna - Grampia...



📈 0 ★ 0 📌 1 📄 0 💬 0

David Akers

✧ Bauera sessiliflora - Grampi...



📈 0 ★ 0 📌 1 📄 0 💬 0

Anna Lanigan

✧ Boab Tree



📈 0 ★ 0 📌 1 📄 0 💬 0

David Akers

✧ Pultenaea scabra - Rough B...



📈 0 ★ 0 📌 1 📄 0 💬 0

Judy & Rob Peters

✧ Read Beard Orchid



📈 0 ★ 0 📌 1 📄 1 💬 0

Ken Harris

✧ Narrow-leaf Desert Cassia - ...



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Thread Iris - *Moraea setifolia*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Pussy Tails - *Ptilotus spathul...*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Broad-leaf Millotia - *Millotia ...*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Pink Purslane - *Calandrinia c...*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Mallee Pomaderris - *Pomad...*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Grey Copper Burr - *Sclerolae...*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Small Vanilla Lily - *Arthropo...*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

Ken Harris

✧ Scaly Buttons - *Leptorhynch...*



👍 0 ⭐ 0 🗨️ 1 📄 0 💬 0

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)