



22 May 2015 Ken Walker (kwalker@museum.vic.gov.au) Museum Victoria. Edition 9.

Hi All – Well, the weather is cooling down and the daylight hours are getting shorter but that does not seem to have slowed down the rate of contributions to BowerBird – they keep coming in thick and fast : Thanks everyone.

And, what a massive variety for records have been uploaded this week - everything from turtle shells to lizards to moths to stink bugs to pseudoscorpions to fungi and lots more. As I have said before, I liken the BowerBird records to standing beside a UV light trap at night. You never know what is going to “pop” onto the light sheet until it suddenly appears. I love the serendipity of BowerBird records and the unsaid BowerBird motto is: “Anything from anywhere.”

Last Sunday, there was an article written in the Age newspaper about the success of the Melbourne CBD BioBlitz that the Museum, the Melbourne City Council and citizen scientists did last October-December 2014 – in particular the part BowerBird played in the survey. While the “formal” part of the survey was conducted over only 2 days (one day each in the Fitzroy and WestGate Parks), over a 3 month period citizen scientists uploaded 1227 records to BowerBird which created an enormous biodiversity dataset for the Melbourne CBD – an important baseline study. The article contained a picture of me ferreting about a Fitzroy Gardens flower bed and the article was

published on Page 3 of the paper. Of course, my colleagues have labelled me the “Page 3 Girl”” Bah!

Indeed, several contributors have continued to post new records from the Melbourne CBD – which all adds to the knowledge. Here are some of my favourite images from the CBD survey:



Photo by Tom Nataprawira



Photo by Anna Lanigan



Photo Melbourne City Council

This photo surprised me – It is the world-wide diamondback moth, cabbage moth .. a major pest species. This specimen was photographed in a vege garden on the 16th floor of an apartment building. It was the first record for this species in Melbourne.



And, I loved the juxtaposition of this photo of a House Sparrow on board a motorbike – record titled: “Urban Biodiversity”



Photo by Yvonne Lynch.

These recent photo from Perth caught my eye showing the benefits of bio-control. It's a predatory stink bug (Pentatomidae: *Oechalia schellenbergii*) making a meal of a looper caterpillar.



Daniel also showed images of the immature of this predatory



bug:

Photo by Daniel Heald

J.B.S. Haldane (5 November 1892 – 1 December 1964) was a British geneticist and evolutionary biologist. He is credited with a famous insect quote reply to a question asked of him by theologians if there was anything that could be concluded about the Creator from his studies. Haldane's reply was: "The Creator, if he exists, has "An Inordinate Fondness For Beetles"". Several books have been written using this quote as their title. Haldane was indeed correct as one in every four described animals in the world is a beetle. To appreciate the success of beetles in the world compare this: There are over 500,000 described species of beetles in the world compared with "only" 250,000 different species of flowering plant ... pause ... Wow! That's a lot of beetles. And furthermore, one in every five animals in the world is a weevil – Weevils dominate the beetle world. Why have beetles been so successful as an animal group? The first reason is their hard back called an elytra. The second reason is their life cycle consists of four stages: egg to larva to pupa to adult. This is called a Holometabolous life cycle. The other insect life cycle is called "Hemimetabolous" in which a miniature version of the adult hatches out of an egg (eg. a cockroach or stick insect) and gradually grows into an adult insect – No larva or pupal stages. The great advantages of a Holometabolous life cycle are two-fold:

1. There is no competition for food between the larval and adult stages with Holometabolous insects (think of caterpillars and butterflies – different food needs). For Hemimetabolous insects, immatures and adults compete for the same food sources from the moment the egg hatches.
2. Insects are cold blooded so they need the surrounding air temperature to warm them up to active and find food. Then how best to pass the winter when there is little food about and

the weather is cold? The best life stage to spend the winter is during the non-feeding stages of an insect's life cycle. For Holometabolous insects that's the egg and pupal stages which do not feed and they can simply sit and wait out the winter before developing into the eating larval or adult stage. Poor old Hemimetabolous insects have to suffer through the winter trying to absorb enough warmth to get them going and then finding food in the depths of winter.

No wonder the majority of insects are Holometabolous!

Now despite Nature's overwhelming love of beetles – on BowerBird it's the moths that are the winners.

There are only 3 different beetle Projects compared to 14 different BowerBird moth Projects. And, there are just under 2,000 beetle BowerBird records compared to over 4,500 moth records. Seems like on BowerBird the phrase should be:

“BowerBird has An Inordinate Fondness for Moths!”

Beetles	Moths
	
Beetles (Coleoptera) are the armored insects with tough and brightly colored elytra. They	Australian moths represent a diverse fauna of between 20,000 and 30,000 species. They
	 
 194  1947 <a data-bbox="643 1742 762 1783" href="#">Joined	 168  4597 <a data-bbox="1249 1742 1369 1783" href="#">Joined

When I have been in the field with “moth-people” you don't see them much. They sleep most of the day and hang around UV

light sheets until all hours of the night. Very often have a pale look and I'm sure their Vitamin D levels are low Only joking.

We love our “moth-ers”. (:->

And so, here is a BowerBird montage to moths



Photo by Matt Campbell



Photo by Martin Lagerwey



Photos by Ken Harris



Photos by David Akers



Photos by Peter Marriott



Photos by David Mules



Photos by Graeme Cocks



Photos by Cathy Powers



Photos by David Walter



Photos by David Rentz

ENOUGH of the Moths!

Insect confusion again

You may remember last week that I was initially confused as to the Order of a bug image on BowerBird. This week I am not confused but I thought I would point out a confusing similarity.

Many of you may know the Treehopper group called Membracidae which often have large pronotal, lateral “horns”.

Well, there is a small group of Pentatomidae stinkbugs in the subfamily Popodinae (with less than 10 generic names) that also display large pronotal, lateral “horns” as seen below.

I was thrilled to see an example of this stinkbug subfamily appear on BowerBird this week.

Membracidae – Treehopper



Photo by Lily Kumpe

Pentatomidae Popodinae
Stinkbug.



Photo by Linda Rogan.

BowerBird Photo of the week

This wonderful photo is of a male halictid bee *Nomia* (*Hoplonomia*) *rubroviridis* roosting. What a photo and what a bee!



Photo by Laurence Sanders.

And, keeping with the bee theme, these great images of bees came in from Erica Siegel "Bee Hotel":

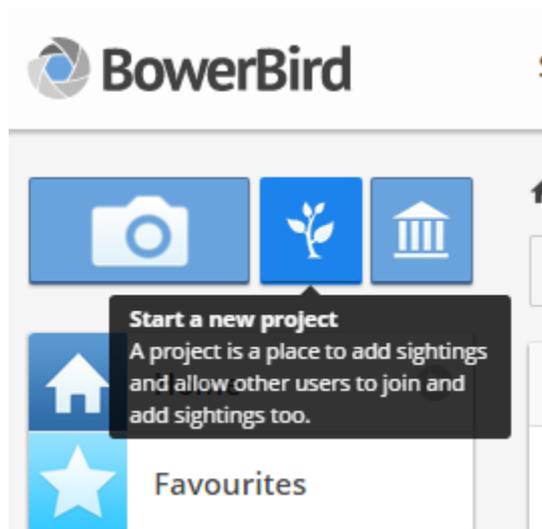


Photos by Erica Siegel

BowerBird Tip

Have you ever considered creating your own BowerBird Project? It's easy.

Step 1. Go to the top left corner of the page and click the "leaf" button.

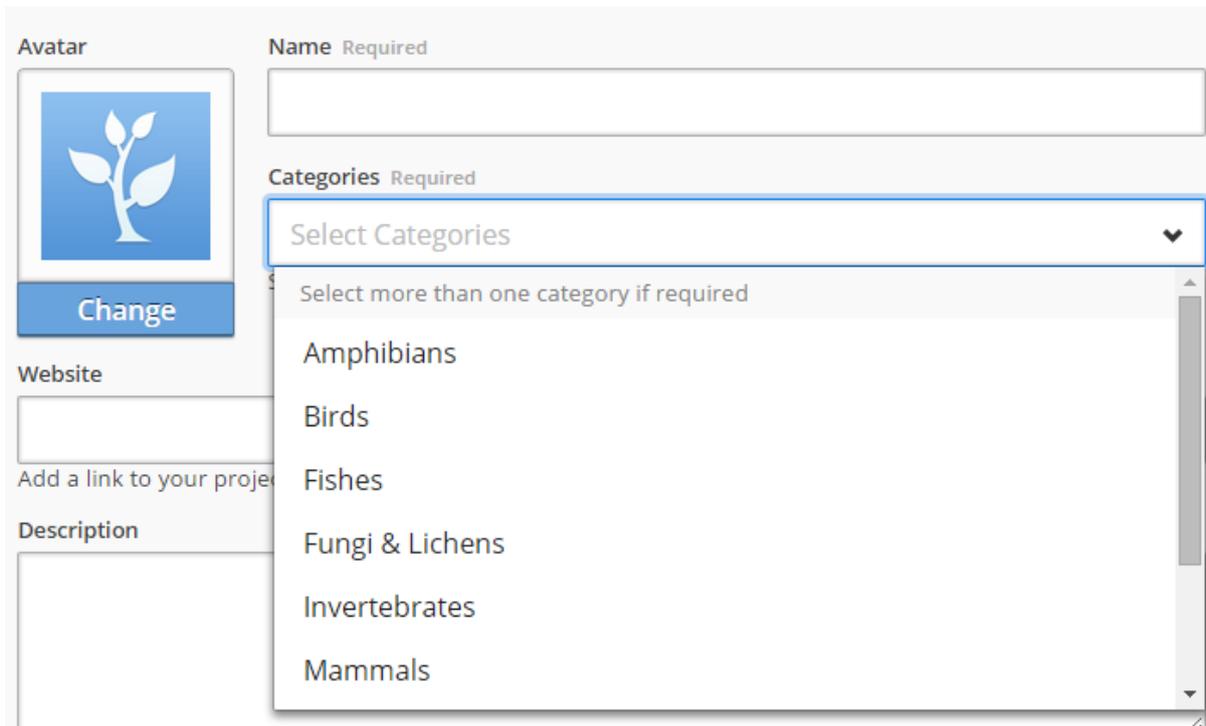


Step 2. There are only a few questions to answer to setup your Project. The questions are:

- Give your Project a Name
- Select which types of animals will be in your Project (eg. Bird, Lizards, Frogs, Invertebrates etc). This information tells other people who may want to join your Project what kind of images to upload to your project.
- Select and upload an "Avatar" image for your Project. Here is the Avatar image for the Arachnids Project



Here is what the question page looks like. It's not too scary.



The screenshot shows a web form for creating a project. On the left, there are sections for 'Avatar' (with a blue leaf icon and a 'Change' button), 'Website' (with a text input field and the prompt 'Add a link to your project'), and 'Description' (with a text area). On the right, there is a 'Name' field (marked 'Required') and a 'Categories' dropdown menu (marked 'Required'). The dropdown menu is open, showing a search bar 'Select Categories' and a list of categories: Amphibians, Birds, Fishes, Fungi & Lichens, Invertebrates, and Mammals. A note above the list says 'Select more than one category if required'.

For me, the success of any Project is not what gets uploaded into the Project itself but rather how many other Projects you share it with when you upload a record.

Here is an example where a person has uploaded a single record and shared its across 4 different Projects:

- Moths Project
- Insects Project
- Dandenong and Yarra Ranges Project
- Anthelid Moth Project

This single record will be seen by hundreds of people.

Projects



Leuba Ridgeway took this wonderful set of moth egg images – it's the Gum-leaf Skeletonizer moth - *Uraba lugens*.

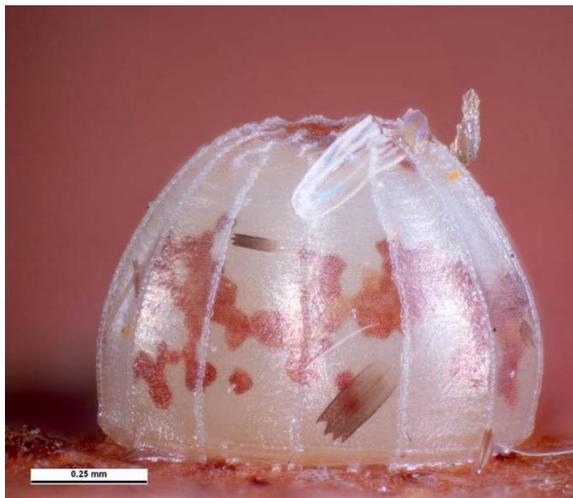




Photos by Leuba Ridgeway

Speaking of eggs Have you seen the butterfly eggs on BowerBird? I took them so I guess I am proud of them. They were used in Ross Field's recent Australian Butterfly book where Ross illustrated all life stages for almost every Victorian butterfly – egg, larva, pupa and both adult male and female. Here is a selection of the egg images.

These are Skipper (Hesperiidae) eggs



These are Lycaenidae (Blue) eggs



These are Nymphalidae (Browns) eggs



These are Papilionidae (Swallowtails) eggs



My Favourite - *Jalmenus evagoras* – Common Imperial Blue



And to finish, a few of the Fungal uploads ...

I love a good "Dog Vomit" fungi



Photo by Matt Campbell



Photo by Ken Harris



Photo by Peter Kerr



Photo by Teresa and John



Photo by Teresa and John



Photo by Matt Campbell

Haveagoodweekend

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)