Auckland Museum Volunteer Instructions for Bionomia

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Introduction



Link natural history specimens to the world's collectors.

What is Bionomia? https://bionomia.net/

This is a website that helps link the data on collectors to the data about the natural history specimens they have collected or identified. Volunteers can, with a few clicks of a button, link the collector information to the collector's specimens or identification work. Bionomia does this by linking information about the collector held in the ORCID.org or Wikidata databases to the information held about those specimens in the GBIF website. GBIF is the Global Biodiversity Information Facility. GBIF is where many museums and herbaria from around the world collate their data about digitised specimens.

Why should you volunteer to do this?

The creation of this linked open data helps Auckland Museum. If these links exist researchers can do more work with Auckland Museum data. For example by studying these links researchers can discover more information on how and by whom Auckland Museum collections were created.

Also Auckland Museum, like many natural history organisations, wants to measure the impact of their natural history collections. When volunteers make these links, Auckland Museum can more easily assess the reach of the data the museum creates. The museum can also trace the impact of their employees' work. For example Auckland Museum can track the impact of employees collections and identifications of specimens - even if those specimens are held in the collections of other institutions.

Finally when volunteers make these links, Auckland Museum can discover the many scientific papers using the Auckland Museum datasets and digitised specimens. Auckland Museum can then report back to their funders showing the impact their natural history collections make in the increase of knowledge about New Zealand biodiversity.



Image by Frankieleon via WikiCommons CC BY 2.0

How can you help?

Volunteers are needed to make these links within the Bionomia site between the people who collect or identify specimens and the specimen data. To start to do this you need to log into the Bionomia site.

Obtain an ORCID id.

You have to log into Bionomia via your ORCID id https://orcid.org/. Bionomia requires this because you will be creating and adding data to the site which is in turn linked to the GBIF site.

Bionomia requires all its volunteers to have an ORCID id so that it knows who is making these data links. You will be creating and adding data to established datasets. It is important to be able to trace who is doing this work. Having an ORCID id will also help you get acknowledgement for your valuable work. Bionomia enables researchers to acknowledge and thank you for your efforts.



So what is an ORCID id? It is a unique digital identifier that distinguishes you from every other person. Currently it is mainly used by researchers but anyone can have an ORCID id. As a volunteer I use my ORCID id to track my digital volunteering work. Have a look here https://orcid.org/0000-0002-5398-7721

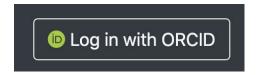
When you create your ORCID id at a bare minimum it should have your <u>full name</u> as well as your <u>affiliation</u> - in this case, the fact you volunteer for Auckland Museum. Also make sure you keep a note of your password.

Other information that you might like to include:

- "Also known as" names
- Your country
- Employment history
- Education and qualifications
- Your volunteering for Bionomia

Log into Bionomia https://bionomia.net/

Once you've completed the sign up process and have obtained your ORCID id you can then log into the Bionomia site.



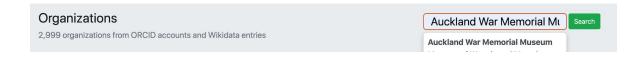
You are now able to work within Bionomia attributing specimens to collectors or identifiers of those specimens.

Beginner level: Attributing specimens to collectors.

Now you need to find a person to work on. One way is to pick a current or deceased employee of the Museum and link their specimens.



To find these is to click on the "organizations" tab at the top of the Bionomia site and then search for Auckland War Memorial Museum.



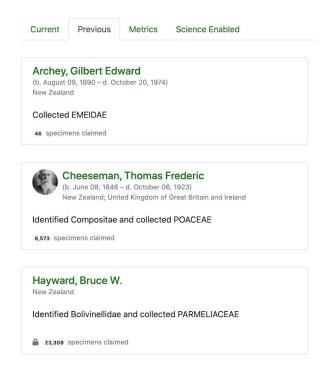
You can then choose to work on either the current employees of the museum or previous employees. As an example I will use the previous Auckland Museum employee "Archey, Gilbert Edward".

Auckland War Memorial Museum

http://www.aucklandmuseum.com/

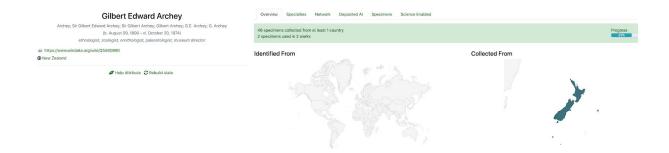
- Auckland

A



See https://bionomia.net/organization/Q758657/past

Here is his public profile in Bionomia.



See https://bionomia.net/Q5560890

Help attribute his specimens by pressing the "Help attribute" text.

Help Attribute

Here is where you have to be cautious. If you are NOT confident that "G. Archey" is OUR Gilbert Archey don't do anything. <u>Just leave it</u>. It is possible some other contributor will know more than us and will be able to confirm that specimen later. But until then, it is better to concentrate on being accurate rather than getting particular collectors or datasets to 100%. People are relying on the data we are creating so we have to try our best to make it accurate. Saying that, we should also "be brave" and attribute specimens that are likely collected by the folk we are working on.



For some of the specimens in our example we have got the name of the collector "G Archey" along with the Auckland Museum identifier "AK" or "AWMM" (which tells us the Auckland Museum holds that specimen) as well as a date that aligns with when Archey was alive and working for the Museum. So, in this case, we can be relatively confident that the specimen has been collected by our Gilbert Archey.



If I am satisfied he has collected this specimen I click the "net" button.



If I see his name in the "Identified By" column and I'm satisfied that the "G Archey" listed is OUR Gilbert Archey I'll press the "microscope" button.



And if Gilbert Archey's name appears in both the "Collected By" and the "Identified By" columns I'll press the "Both" button.



If I am SURE the specimen does NOT relate to our Gilbert Archey I click on the "Not them" button.



If I am just not sure, I LEAVE that specimen and go on to the next one in the list.

You have to be extra careful if there are two collectors with the same last name and first initial.

Beever, Jessica New Zealand Identified Pottiaceae and collected Pottiaceae	Beever, James (b. June 21, 1913 – d. October 17, 1998) New Zealand
	Identified ASTERACEAE and collected ASTERACEAE
216 specimens claimed	1 specimen claimed

For example in the Auckland Museum Botany Collection I know there is a collector Jessica Beever as well as a collector James Beever. If all the information you have is that the specimen was collected by "J. Beever", unless you can find other information such as date of collection etc, you can't confirm the J Beever is either of these two. So you will just have to leave that specimen.

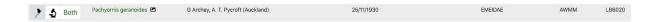
Correcting your mistakes.

Everyone makes mistakes. Don't worry if you do make a mistake in Bionomia as you can easily correct it.

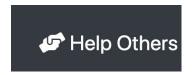


You'll notice next to the "Discovered" tab you are currently working on, there are two tabs called "Fix attributions" and "Reclaimed ignored". If you click on the "Fix attributions" you can fix any errors you or others have made attributing specimens to this collector. And if you have mistakenly pressed "Not them" you can go to the "Reclaim Ignored" tab to correct that error, enabling you to reattribute the specimen to the collector.

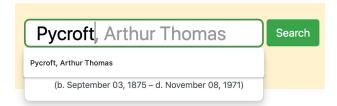
How to find more collectors to work on.



When I work on a particular collector I take note of their co-collectors. So for example when you have finished working on G Archey, you can then work on A. T. Pycroft if he/she is in Bionomia. You can check this by searching for A. T. Pycroft in the Bionomia by pressing the "Help Others" button on the top right of the page.



Then searching for his name in the search box.



You can then work on his specimens as well.

Level up to Auckland Museum datasets.

Alternatively you can go to a particular Auckland Museum dataset and look for collectors to work on.

Auckland Museum Botany Collection

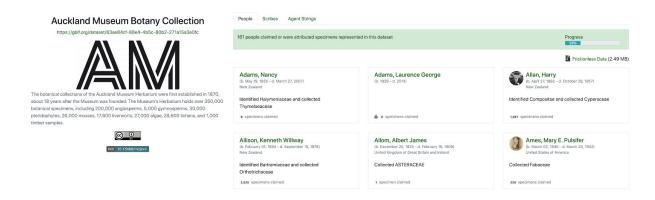
https://bionomia.net/dataset/83ae84cf-88e4-4b5c-80b2-271a15a3e0fc

Auckland Museum Land Vertebrates Collection

https://bionomia.net/dataset/aad97542-a068-449d-adb3-a8e937f64cb4

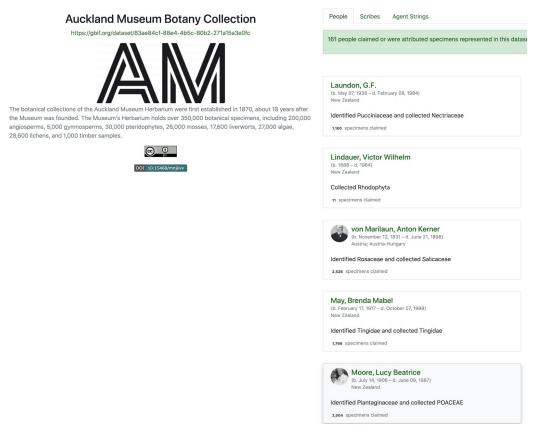
Auckland Museum NZ Marine Collection

https://bionomia.net/dataset/e2980e63-d152-4219-8c1e-0ffdef3ea6aa



Take the Auckland Museum Botany Collection. You can see the list of people who have specimens in this dataset. If you click on a person ALL the specimens they may have collected or identified will be shown.

It is possible to find the specimens from just the Auckland Museum that need to be attributed to them. To see the Auckland Museum specimens click on the person's name. Lets take for example Moore, Lucy Beatrice.



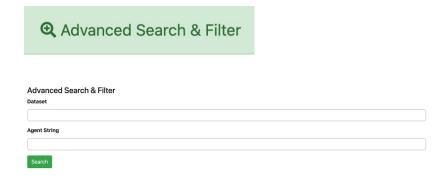
Clicking on her takes you to her profile. When I prepared these instructions you can see only 24% of her potential specimens in Bionomia have been dealt with.



You then click on the "Help Attribute" button which takes her to the general "Discovered" tab filled with potential specimens to work on from many different institutions.



To get to JUST the Auckland Museum Botanical Collection dataset you have to click the "Advanced Search & Filter" on the top right of the page.

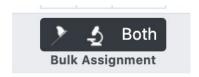


Fill in the "Dataset" with "Auckland Museum Botanical collection" and then press "Search". Then press "Apply".

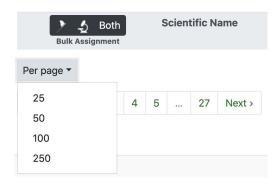


This will show you all the potential specimens for this collector in the Auckland Museum Botanical Collection. You can then attribute the appropriate specimens to this collector.

If all 25 per page of specimens belong to this collector you can bulk assign them by pressing the appropriate black "bulk assignment" buttons at the bottom left of the list.



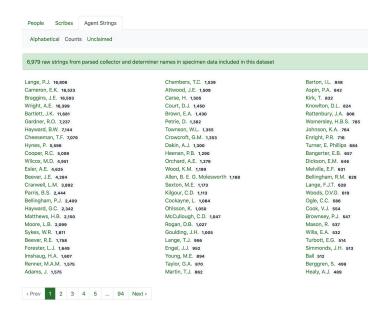
If you want to increase the number of specimens per page you can use the "Per page" dropdown to do this up to 250 specimens per page.



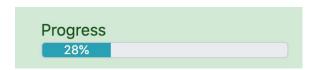
Level up - Working on "Agent Strings"

Once you are confident about attributing specimens and get familiar with the Bionomia site you might feel ready to "Level up" in difficulty. So let's have a look closer look at that Auckland Museum botany dataset.

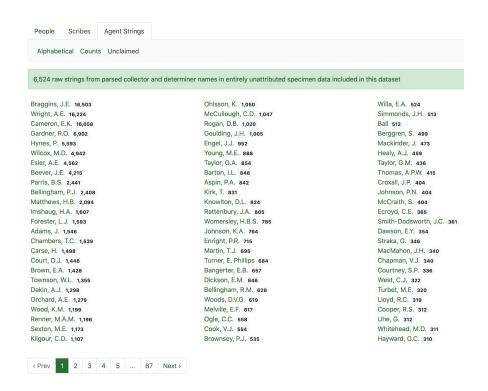
You could look at the "Agent Strings" for suggestions of who to work on. "Agent Strings" just gives all the name strings of collectors in this dataset. These strings don't link to any specimens nor to any data. However it can become useful if you click on the "Counts" tab as this gives you a list of the most prolific collectors down to the least prolific collectors in the dataset.



Many of these people may already be in Bionomia and have had all the Auckland Museum specimens attributed to them. For example the "Lange, P.J." represents the collector botanist Peter de Lange whom (when I last checked) is at 100% completeness. Other names may not currently have any presence in Bionomia. Their ORCID id or Wikidata item may not have been added to Bionomia.



When I did these instructions the Auckland Museum Botany dataset was at 28% completeness. Concentrating on the collectors at the top of the "Counts" list can result in efficient progress towards the completeness of this dataset.



For another way to help narrow down who you might want to work on you can look at the "Unclaimed" tab. This gives you a list of agent strings for people who have specimens currently unclaimed in Bionomia.

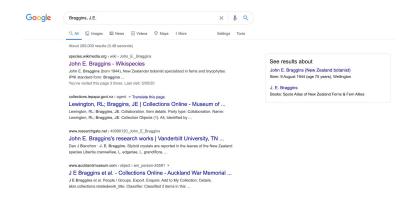
It is likely that these collectors, if they are in Bionomia, have yet to be worked on. Alternatively these collectors may need to be added to Bionomia.



For living collectors the only way to add them into Bionomia is through their ORCID identifier. If a living person doesn't have an ORCID id or you can't confirm that a particular ORCID id relates to a particular collector you can't add them to Bionomia.

Take for example "Braggins, J.E." on the "Unclaimed" list. The first thing I do is search Bionomia to double check he or she isn't in the system under another variation of their name.

As they are not, I do a general Google search on the name string.



So it looks like he's alive, his name is John E. Braggins and he's a New Zealand botanist. Whether we can get him into Bionomia will depend on whether he has an ORCID id. So we search the ORCID.org website.



There is an ORCID id for a "John Braggins" but the person behind this id doesn't give us enough information to confirm it is OUR "John E. Braggins". No matter how unusual the last name you can't just assume this is him. If we make an error at this stage it can have a huge effect on the quality of the herbarium data. So we have to try and confirm that this is OUR Braggins.

I'll start by doing a general search on Google for the raw ORCID id. It may be that the researcher has used the id along with their name as an author of a published article. Often these are then indexed by Google. If that fails I'll then check his wikidata item or his entry in Auckland Museum that this ORCID id relates to OUR John E. Braggins I WON'T add him to Bionomia.

It may be that the confirming information is in the Auckland Museum records system and herbarium employees can make this link. If that is the case they can add him to Bionomia. But based on the current information we have, we can't confirm this is his ORCID id and so we can't add him to Bionomia.

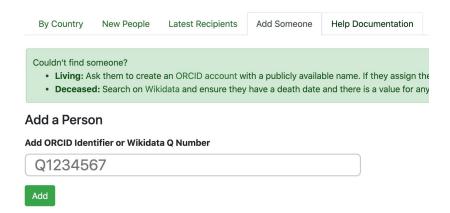
Be warned. This situation is NOT unusual for living collectors. So we move onto the next person on the list.

The next person on the list is "Wright, A.E." A Google search shows this is likely the New Zealand botanist and Canterbury museum director Anthony Ernest Wright. I have already previously come across A.E. Wright in my Wikidata work, found out who he was, and I have also emailed the Canterbury Museum to ask for his ORCID id. They confirmed it is https://orcid.org/0000-0002-8306-9710

So I can then add him to Bionomia. You press the "Help Others" button on the top right.



Press the "Add Someone" tab. This gives you information on what you need to do to manually add someone Bionomia.



We put in the ORCID id and press add, and then we can work on attributing specimens to him. To restrict our work to just the specimens held by Auckland Museum that might be collected by him, you can again use the "Advanced search & filter" button on the right hand side and choose an Auckland Museum dataset.

He has over 16,000 potential specimens in the Auckland Museum Botany Collection that might be attributed to him.



But what if the collector is deceased?

To add a deceased person, it is a similar process except instead of an ORCID id, you need a Wikidata item. The Wikidata item MUST contain either a death date or a birth date that is at least 120 years old. Without either of these Bionomia won't allow you to add the item manually. If the Wikidata item already has both a death date and any one of the following identifiers - IPNI, Harvard Index of Botanists, Entomologists of the World, ZooBank Author ID, BHL Creator ID or a Stuttgart Database of Scientific Illustrators ID - the collector will have

automatically been added to Bionomia and a simple search of the Bionomia site will discover the person you want to work on.



If the Wikidata item has a death date but none of those identifiers and you are convinced they are a collector, you can add the person to Bionomia by entering their Wikidata item to the "Add a person" line and pressing the green "Add" button.

Again to restrict your work to just the specimens held by Auckland Museum that might be collected by the person, you can use the "Advanced search & filter" button on the right hand side and choose an Auckland Museum dataset.

Making the Bionomia collector profile public.

If the living collector is already in Bionomia you can help them link their specimens or identifications to them. However it will be up to the living researcher to decide whether to make their profile public. This is because of privacy concerns. Most collectors expect their specimen data to be publicly available but they may not have expected their data to be collated and presented in this manner. For example people will be able to find out where and when the collectors have travelled, possibly who with and for what organisation. Living people understandably have privacy concerns about this.

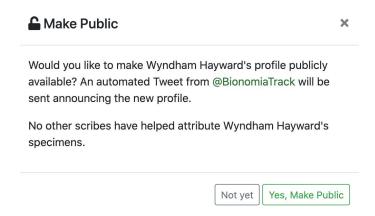


Even so this linking is very advantageous to both the collector and the institution they collected for. So please link living collectors to their specimens!

If the collector is deceased you can make the Bionomia collector profile public at any stage of the process. You can do this by pressing the "Make Public" text.



This takes you to another box confirming you are sure you are ready to make the profile public.



Once you make a collector "Public" Bionomia will automatically send out a tweet about that collector. This tweet will include general information on the main areas of their collecting as well as an image of the person if present on their Wikidata item. So it is best to make a collector public only after you have worked on their profile.

Level up - Creating a Wikidata item.

But what if you have found a deceased collector and you've searched but they aren't in Wikidata? What can you do? You can level up and create a Wikidata item for them.

Wikidata is a gigantic database and identifier linking hub. If you want to start editing Wikidata I'd highly recommend you make an account. If you've previously created a Wikipedia account you can log into Wikidata with the same username and password. If you've never made any sort of Wikipedia account before you can make a Wikidata account here https://www.wikidata.org/w/index.php?title=Special:CreateAccount&returnto=Q19003438

When you make an account please take note of your password. As you do more of this work you may end up editing Wikidata more frequently. Once you have created an account you can then create a wikidata item for your collector. First double check that they don't already have one by searching on the variations of the collector's name.

If you do need to create a new item here is a Youtube Video link that explains how to create a new Wikidata item. It is for a book rather than a person but it is an easy walk through on how to create an item. How to create an entirely new item on Wikidata (From 1:27:07)

Here is an example of a good quality and well referenced Wikidata item for a collector and identifier - Thomas Frederic Cheeseman https://www.wikidata.org/wiki/Q1361590. You can base your new item on this example.



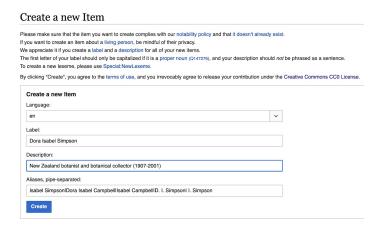
Once you have got your collector in Wikidata with at least the bare minimum of their information about them along with his or her death date you can then add them to Bionomia. Once in Bionomia you can then work on attributing their specimens.

You can also add the Bionomia identifier to Wikidata. That is, linking both databases together. The Bionomia ID for the person will be the Wikidata Q item number you added to Bionomia.

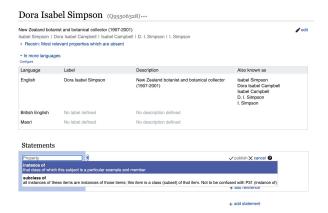
Here is how I added Mrs Dora Isabel Simpson née Campbell, a botanist and collector who worked at Auckland Museum to Wikidata. First I go to the Wikidata site https://www.wikidata.org/wiki/Wikidata:Main_Page



I pressed "Create New Item". I then fill out the resulting form as best I can. If you have multiple variations of the collector's name make sure you add these to the Aliases line and separate each of them with a "pipe" ie | . It is VERY important to add any appropriate "Also known as" names to Wikidata as this helps Bionomia to track down all the collector's specimens. For example if a woman collected both under her maiden and married name but only her married name is in Wikidata, Bionomia will only be able to track those specimens collected under her married name.



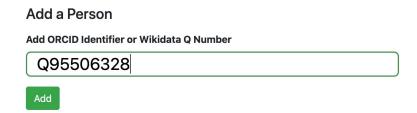
So I make sure I add all the variations of her name that she was known as to the Aliases line in the Wikidata item. Then I pressed the blue "create" button.



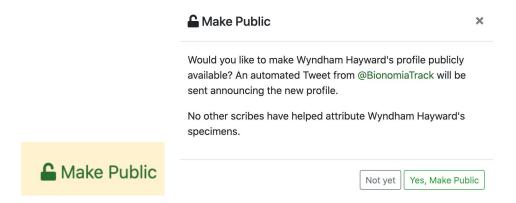
Then it is just a matter of adding statements. Press the "add statement" text. The first statement for a person is ALWAYS "instance of" and "human". Then you take it from there pressing "add statement" for each piece of data you have.

Here's the item I created for Dora Isabel Simpson https://www.wikidata.org/wiki/Q95506328

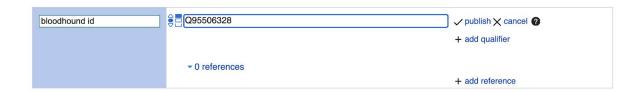
Then I copy her Q item number and go to Bionomia to add her to the Bionomia site.



And we're back to attributing specimens. Once you've finished doing as much as you can with her specimens you have the option to make the deceased person's Bionomia profile public. I always do this, even if I've only attributed just one specimen, as other institutions may use the information in Bionomia to link their specimens to her.



Once made public I add her Bionomia ID to her Wikidata item.

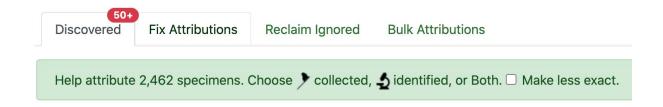


If you develop an interest in Wikidata, use this set of teaching notes to guide you through your learning journey. https://www.wikidata.org/wiki/User:Einebillion/Teaching_notes

Final level up - Bulk attributions via CSV files

This is where Bionomia lets you download the collection data for a collector into a CSV file. You can then work on it on your computer and then upload the file with the added data back into Bionomia. It means you can work on bulk attributions in upto 10,000 specimen record lots rather than just the maximum of 250 records in the Bionomia site.

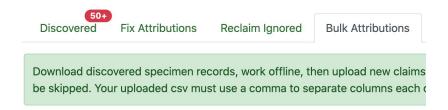
Obviously you first have to find a collector - I'm picking Arthur William Baden Powell, a conchologist who worked for Auckland Museum.



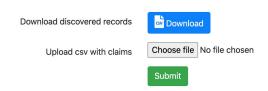
You can decide whether to work on all the specimens that may have been collected by him or alternatively restrict the possible specimens to an Auckland Museum NZ Marine Collection dataset.

• Advanced Search & Filter

If you want to restrict the specimens you are working on to just the Auckland Museum dataset go through the same steps set out previously using the "Advanced Search & Filter" button.



In this case, since he worked for the Auckland Museum, I'm going to work on all his 5,660 potential attributions. I click the "bulk attributions" tab.

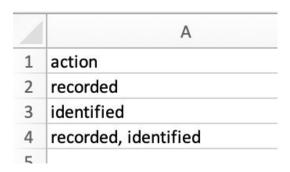


I then press the blue download button to download a csv file onto my computer. I then open up the file. Now I use Excel but I understand other software programmes work just as well. Opening the csv file up in Excel looks like this.



Currently this file is still in the csv format. You can edit the spreadsheet in this format but if you save your work make sure you save it as an Excel Workbook.

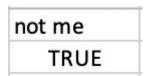




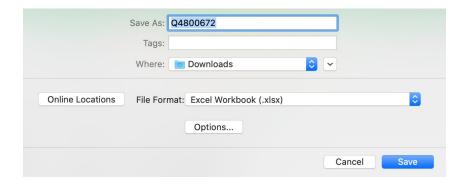
The important columns in the spreadsheet are first the "action" column. This is where you'll put "recorded" if the specimen was collected by Powell, or "identified" if it was identified by him. If he did both, you add "recorded, identified". Note the comma separating the two!



The next two important columns are the "recordedBy" and the "identifiedBy" columns. You can check whether Powell recorded or identified specimens by looking at the "recordedby" or "identifiedby" columns. The other column that may be of use is the "Not Me" column.

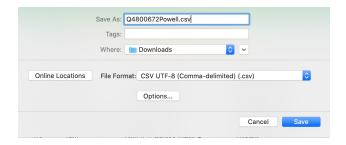


If the specimens are NOT collected by your collector you can add "True" to this column. This will have the same effect as manually pushing the yellow "Not them" button in Bionomia.



Once you've got your spreadsheet ready with some claims added, you need to save that information. As explained above you should make sure you save it first as an Excel workbook. You can then keep adding more attributions if you want. Once you are finished editing the data you will be wanting to upload it back into Bionomia.

To do this you then need to put it back into a CSV format. So you press "save as" and choose the file format CSV UTF-8 format. I always rename the file and make sure I add the .csv to it and then I save it to my Downloads folder.



I then close the file and go back to the Bionomia site. I go back to the Arthur William Baden Power profile and the "bulk attributions" tab and press the "Choose file" button. I choose the Powell csv file from my downloads folder. I then press the green "submit".

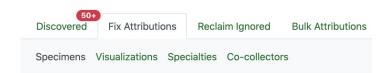


If successful Bionomia will tell you how many records you have added data to. I've only done a few in this case so it tells me it has updated 7 files.



It is possible to work in batches of up to 10,000, so obviously you have to be even more careful but it is a very efficient way to attribute multiple specimens to a collector in a short space of time.

Checking your work



Bionomia enables you to do some quick double checking of your work. If you click the "Help attribute" text for a particular collector and then go to the "Fix Attributions" tab, Bionomia gives you some simple suggestions for correcting the attribution data.

Here we will look at possible errors in attributions to Thomas Frederic Cheeseman. If you click on his "Visualizations" tab you'll see this.



Problems Discovered

- Collections made before birth: (3 view)
- · Collections made after death: (5 view)
- Identifications made before birth: (none)
- Identifications made after death: (none)

This gives you a quick look at possible errors in the data. In Cheeseman's case it says that there are 3 specimens collected before his death and 5 collected after. You can go and check these particular specimens by clicking on them.

However it may be that the attribution is correct but the herbarium data provided is either incomplete or is itself incorrect. The only way to be certain is to check the specimen. Unfortunately not every institution provides a specimen image attached to its data. So correcting the data can be difficult. But if there appears to be a pattern in the errors you can always email the institution with your issue.

For example let's look at the "collections made after death"



Two of these errors arise from Auckland War Memorial Museum data. However we are unable to see an image of the specimen in either case. What we can do is click on one of the specimen links that in turn takes us to the GBIF site.



If you then click on the "Dataset" text of "Auckland Museum Land Vertebrates Collection", this gives you the email contact for that dataset. You can then email Matt Rayner explaining the issue with the dataset and requesting that they check and if needed correct the data.

OCCURRENCE DATASET | REGISTERED MAY 17, 2016

Auckland Museum Land Vertebrates Collection

Published by <u>Auckland War Memorial Museum</u>

Collection Enquiries • Adam Moriarty • ☑ Matt Rayner

Public Profile of a Collector

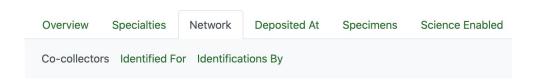
Once you have finished working on your collector, if their profile is public, you can then get an overview of the impact of your work. Take for example Thomas Cheeseman.



Go to his public profile by pressing that text.

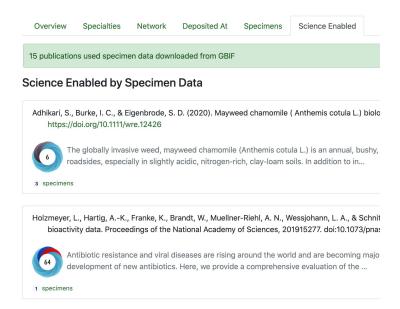


His profile gives you an overview and some data visualisations of his work. The tabs at the show his specialities, that is what he specialised in collecting or identifying. It shows his network - that is the people he collected with, identified for, or who identified his collections.



The "Deposited at" tab shows you the institutions in which his collections or specimens he identified are deposited in. The "Specimens" tab shows all the specimens attributed to him via Bionomia as well as the helpers who did this attribution work in Bionomia.

Finally the "Science Enabled" tab shows a list of all the recent papers that have used Cheeseman specimens or identifications and cited the GBIF specimen data. When you make these links through Bionomia you show how the work of a long dead scientist, as well as the institution that holds and looks after his specimens, continues to have current scientific impact.



Extra Information

If you want to be able to see your attribution at work in the <u>GBIF</u> website you can install the Bionomia Attributor chrome extension here:

https://chrome.google.com/webstore/detail/Bionomia-attributor

This shows you the attributions that have been made in Bionomia.



Resources

Bionomia "Get Started" instruction page. https://bionomia.net/get-started

Twitter quick reference help threads:

- How to sign up to ORCID & log into Bionomia if you are a collector of specimens a twitter thread https://threadreaderapp.com/thread/1257010391600660481.html
- Helping others in Bionomia a twitter thread https://threadreaderapp.com/thread/1257020903163981824.html
- Creating a wikidata item a twitter thread https://threadreaderapp.com/thread/1257053327809888256.html
- How to attribute records in Bionomia in bulk a twitter thread https://threadreaderapp.com/thread/1258487417876688901.html

Add Chrome or Firefox extensions to see the Bionomia added collector information when in GBIF. https://bionomia.net/integrations

How to create an entirely new item on Wikidata (From 1:27:07)

An example of good quality and well referenced Wikidata item for a collector and identifier: Thomas Frederic Cheeseman https://www.wikidata.org/wiki/Q1361590

Research resources for finding birth and death dates:

- FreeBMD https://www.freebmd.org.uk/
- FamilySearch https://www.familysearch.org/en/
- PapersPast https://paperspast.natlib.govt.nz/newspapers
- DigitalNZ https://digitalnz.org/
- Find a grave https://www.findagrave.com/

Teaching notes on editing Wikidata

https://www.wikidata.org/wiki/User:Einebillion/Teaching_notes

Current Auckland Museum Datasets:

- Auckland Museum Botany Collection https://bionomia.net/dataset/83ae84cf-88e4-4b5c-80b2-271a15a3e0fc
- Auckland Museum Land Vertebrates Collection https://bionomia.net/dataset/aad97542-a068-449d-adb3-a8e937f64cb4
- Auckland Museum NZ Marine Collection https://bionomia.net/dataset/e2980e63-d152-4219-8c1e-0ffdef3ea6aa