# Australian Museum records in the Atlas of Living Australia

Atlas of Living Australia

2025-08-13

This document provides an R workflow to find species with data from the Australian Museum in the Atlas of Living Australia.

```r
# packages
library(galah)
library(dplyr)
galah_config(email = "your-email-here") # ALA-registered email
```

Atlas of Living Australia
ala.org.au

> **i Find name of resource**
>
> Search for the data resource name for records provided by the Australian Museum in the ALA.
>
> ```
> # Get name of australian museum resource data
> search_all(fields, "dataResourceName") |>
>   search_values("museum")
> ```
>
> ```
> # A tibble: 77 × 1
>    dataResourceName
>    <chr>
>  1 Australian Museum provider for OZCAM
>  2 Museums Victoria provider for OZCAM
>  3 Queensland Museum provider for OZCAM
>  4 Western Australian Museum provider for OZCAM
>  5 South Australian Museum Adelaide provider for OZCAM
>  6 Auckland Museum Botany Collection
>  7 WELT Herbarium at Museum of New Zealand Te Papa Tongarewa
>  8 Northern Territory Museum and Art Gallery provider for OZCAM
>  9 Tasmanian Museum and Art Gallery provider for OZCAM
> 10 Natural History Museum (London) Collection Specimens
> # i 67 more rows
> ```

Let's return the number of records for every species with at least some data contributed by the Australian Museum.

```
# Number of observations identified to the rank of 'species'
# (note that some organisms may not be identified to species level)
aus_museum <- galah_call() |>
  filter(dataResourceName == "Australian Museum provider for OZCAM") |>
  group_by(species) |>
  atlas_counts(limit = 1e7)

aus_museum
```

```
# A tibble: 42,619 × 2
  species                 count
  <chr>                   <int>
 1 Lampropholis delicata    4272
 2 Tisiphone abeona         3903
 3 Limnodynastes tasmaniensis  3632
 4 Phascolarctos cinereus   3240
 5 Heteronotia binoei       3045
```

```
 6 Crinia signifera          2862
 7 Lampropholis guichenoti   2504
 8 Manorina melanocephala    2378
 9 Pseudophryne bibronii     2092
10 Limnodynastes peronii     2046
# i 42,609 more rows
```

The Australian Museum contributes data for >42,500 species in the ALA.

```
aus_museum |> nrow()
```

```
[1] 42619
```

Next we'll figure out how many species have records exclusively from the Australian Museum. To do so, we'll return all the species in the ALA with any data provided by a source other than the Australian Museum. This ultimately returns all species with any data in the ALA *except for the species with data exclusively from the Australian Museum*. That means we can filter `aus_museum` to return only species names that don't appear in `not_aus_museum`. The result is a list of species where their only data is provided by the AM.

```
not_aus_museum <- galah_call() |>
  filter(dataResourceName != "Australian Museum provider for OZCAM") |>
  group_by(species) |>
  atlas_counts(limit = 1e7)

# Return species unique to Australian Museum data
aus_museum_only <- aus_museum |>
  filter(!species %in% not_aus_museum$species)

aus_museum_only
```

```
# A tibble: 6,682 × 2
   species                  count
   <chr>                    <int>
 1 Acrodicrania atricauda     360
 2 Dasyrhicnoessa ostentatrix 332
 3 Anoplocis ferrugineus      272
 4 Coelopa alluaudi           199
 5 Nannastacus gibbosus       197
 6 Paracaecilius selta        179
 7 Negrobovia aculicita       174
 8 Tabanus notatus            169
 9 Pisinna tropica            163
```

```
10 Parentia caldyanup          157
# i 6,672 more rows
```

---

**i** Test our result

We can test whether these species only have Australian Museum data by using them in a smaller query where we return record counts for several `aus_museum_only` species. Grouping by `dataResourceName` shows that, as expected, records for the first 10 species are only from the Australian Museum.

```
# test
galah_call() |>
  identify(aus_museum_only$species[1:10]) |> # first 10 species names
  group_by(dataResourceName) |>
  atlas_counts()
```

```
# A tibble: 1 × 2
  dataResourceName                    count
  <chr>                               <int>
1 Australian Museum provider for OZCAM  2202
```

---

## Number of species that consist only of AM records

This is the full list of species returned in `aus_museum_only`

```
aus_museum_only |> nrow()
```

```
[1] 6682
```

## Species where the sole record in the ALA is from AM data

This is any species with only one record in `aus_museum_only`

```
aus_museum_only |>
  filter(count < 2)
```

```
# A tibble: 2,203 × 2
  species                count
  <chr>                  <int>
 1 Abacetus angustior         1
 2 Acaenosquilla keablei      1
 3 Acanthasargus gracilis     1
```

```
 4 Acanthinevania humerata        1
 5 Acanthochondria tasmaniae      1
 6 Acanthoisis kimbla             1
 7 Acantholochus australiensis    1
 8 Acanthozoon albopunctatum      1
 9 Acanthuchus conspurcatus       1
10 Acasta purpurata               1
# i 2,193 more rows
```

```
aus_museum_only |>
  filter(count < 2) |>
  nrow()
```

```
[1] 2203
```