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The Atlas of Living Australia
www.ala.org.au

ATLAS OF LIVING AUSTRALIA
sharing biodiversity knowledge

CSIRO Scientists in Schools
Canberra, 16 November 2011

The Atlas is funded by the Australian Government under the National Collaborative Research Infrastructure Strategy and further supported by the Super Science Initiative of the Education Investment Fund

The Atlas of Living Australia Offers

- A huge array of information on Australian species, freely accessible through a single website.
- All species, all data, online. Work in progress.
- Tools to set up online observation and survey forms, with the ability to upload photos.
- Mission
  - To develop an authoritative, freely accessible, distributed and federated biodiversity data management system.

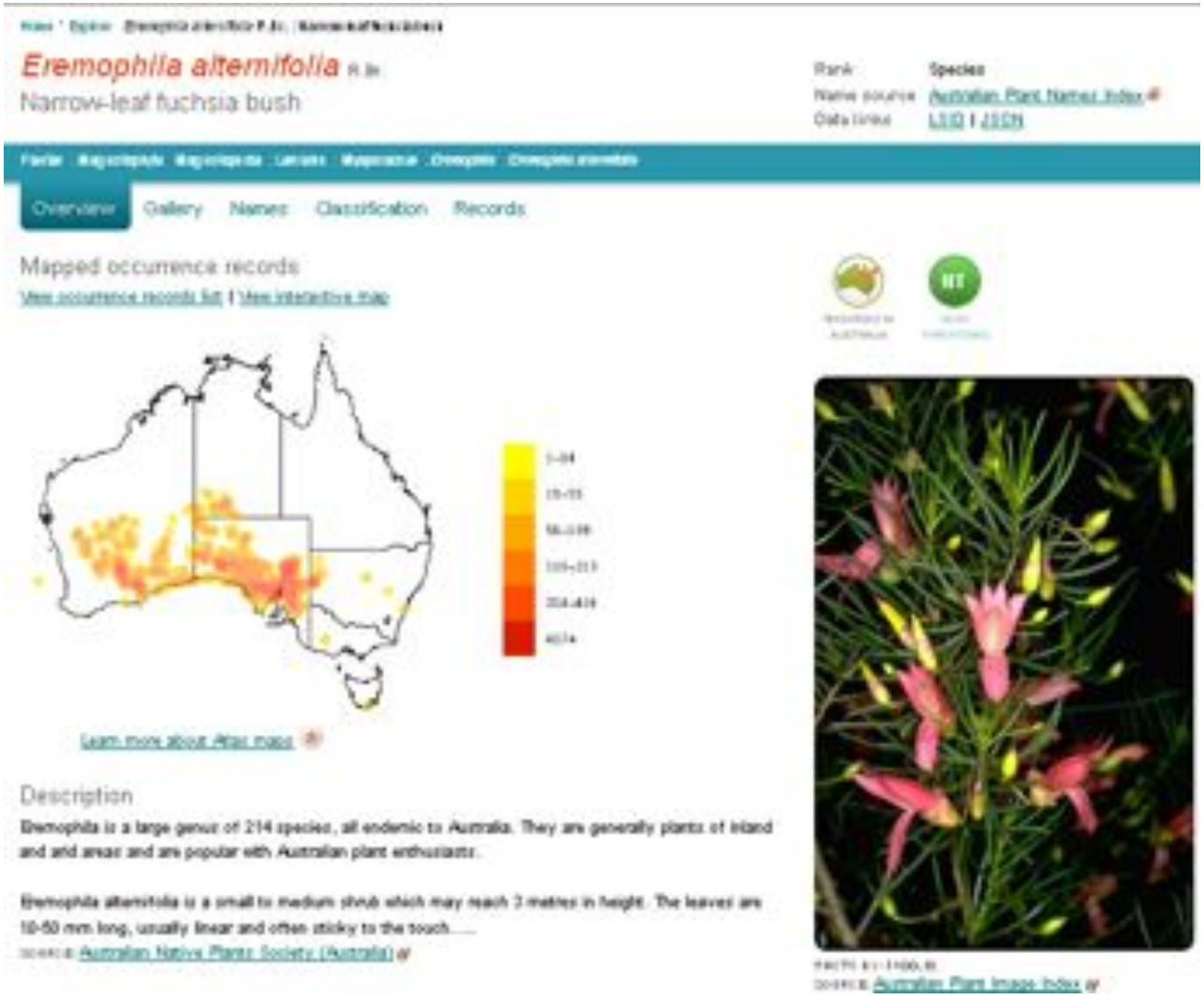
Data, Information and Tools

- 170,000 species pages
- Species biology, ecology, status
- 25 million+ distribution records
- Mapping tools
- Photos and images
- Names and classification
- Identification tools
- Heritage literature
- Data on biological collections
- Citizen science and education – add sightings & data
- Volunteer involvement.

Atlas Site Homepage

170,000+ Species Pages

170,000+ Species Pages



25 Million+ Occurrence Records

Home : Explore : Callocephalon fimbriatum (Gang-gang Cockatoo)

Callocephalon fimbriatum (J. Grant, 1803)
Gang-gang Cockatoo

Rank Species
Name source Australian Faunal Directory
Data links LSID | JSON

Animalia : Chordata : Aves : Psittaciformes : Cacatuidae : Callocephalon : Callocephalon fimbriatum

Overview | Gallery | Names | Classification | Records | Literature

Occurrence Records

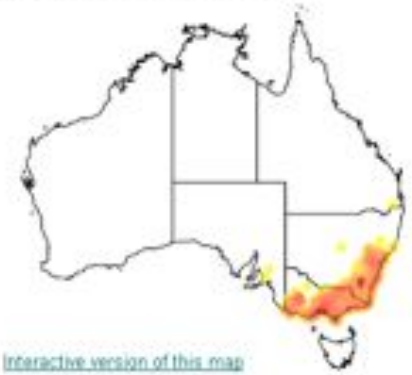
View list of all 10,565 occurrence records for this taxon

By Dataset

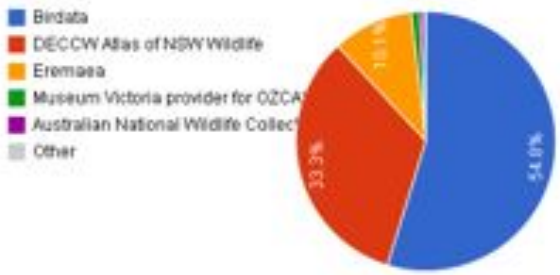
- Birdata: 5,842 records
- DECCW Atlas of NSW Wildlife: 3,553 records
- Eremaea: 1,074 records
- Museum Victoria provider for OZCAM: 112 records
- Australian National Wildlife Collection provider for OZCAM: 60 records
- South Australia Fauna Observations: 11 records
- Australian Museum provider for OZCAM: 4 records
- Tasmanian Museum and Art Gallery provider for OZCAM: 4 records
- Barcode of Life: 2 records
- EOL Flickr Group: 1 records
- Individual Sightings: 1 records
- Western Australia Museum provider for OZCAM: 1 records

Share
Sightings, photos and data for the **Gang-gang Cockatoo**

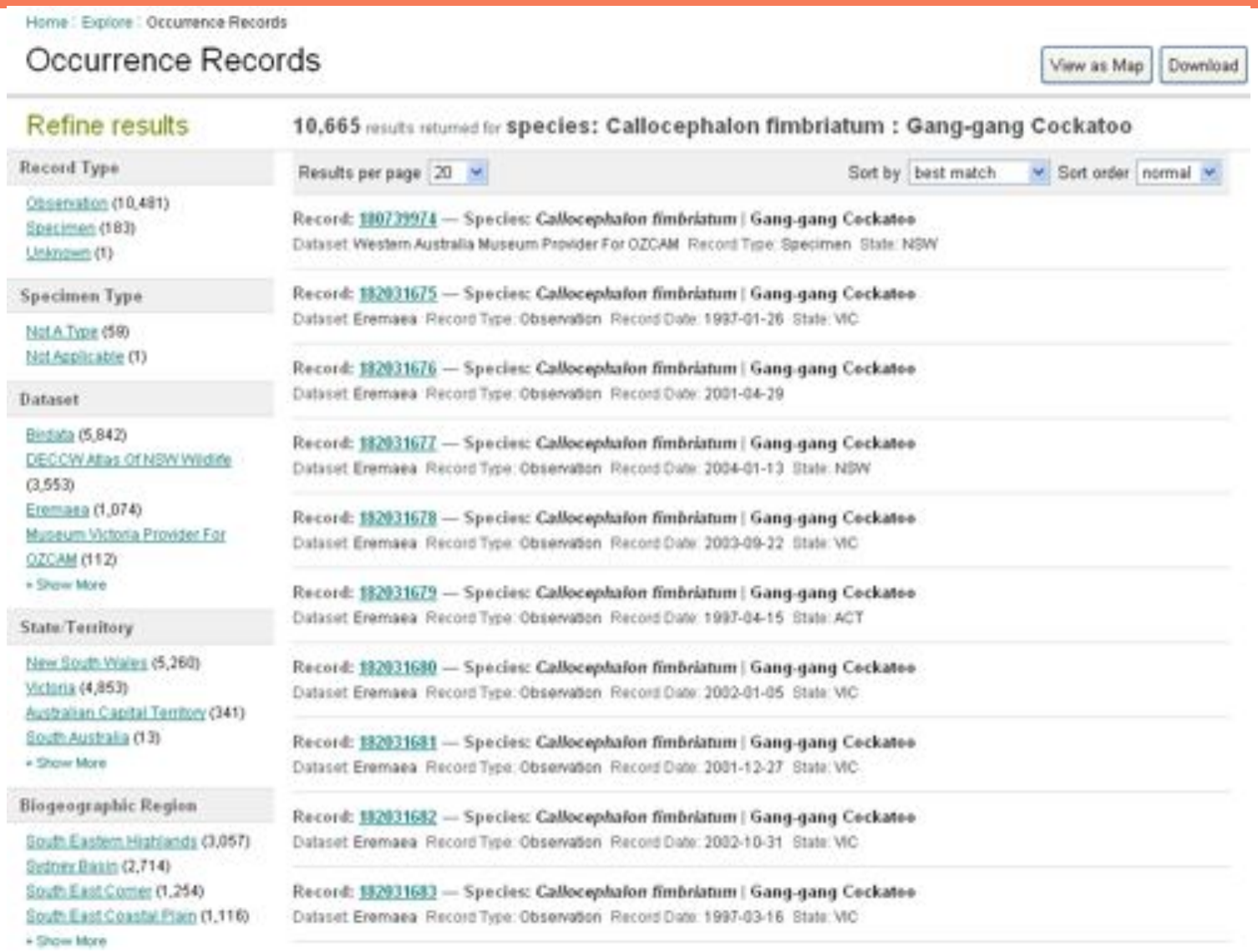
Map of Occurrence Records



Interactive version of this map



25 Million+ Occurrence Records



A Single Occurrence Record

Home : Explore : Occurrence Record - 180739974

Occurrence Record Details: 180739974

Dataset

Annotate Dataset

Data Provider	OZCAM (Online Zoological Collections of Australian Museums) Provider
Data Set	Western Australia Museum provider for OZCAM
Institution	Western Australian Museum Institution Code: "WAM"
Collection	Western Australian Museum Bird Collection Collection Code: "AVIF"
Catalogue Number	172
Basis of Record	specimen *Supplied as: "preservedSpecimen"*
Comments	[0 comments]

Taxonomy

Annotate Taxonomy

Scientific Name	Callocephalon fimbriatum
Taxon Rank	Species
Common Name	Gang-gang Cockatoo
Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Psittaciformes
Family	Cacatuidae *Supplied as: "PSITTACIDAE"*
Genus	Callocephalon

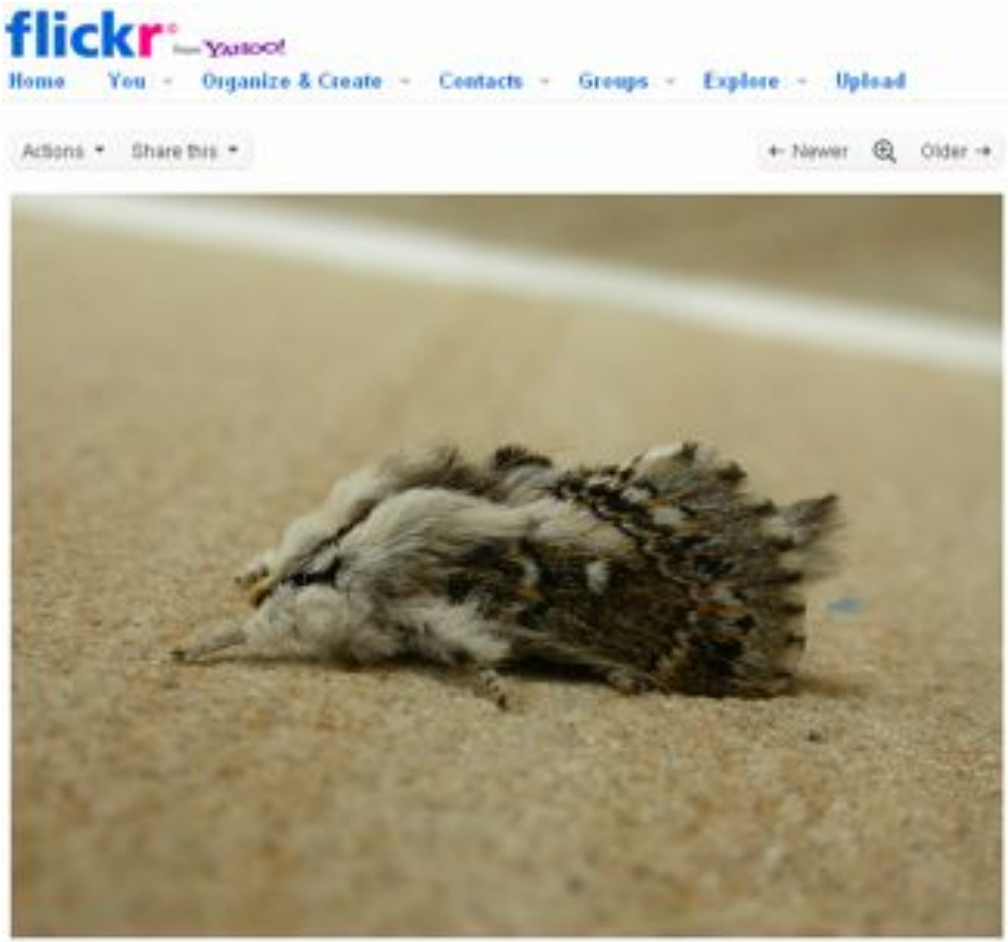
Possible Issues

Data validation tools identified the following possible issues:

- Miscellaneous issues: country inferred from coordinates

Location of record

Records from Field Observations

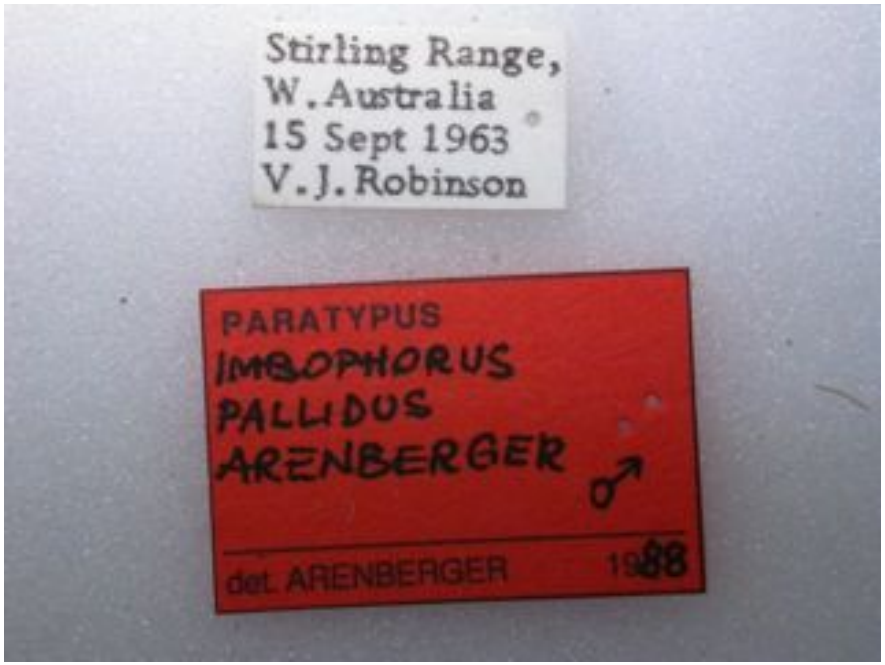


ScientificName:	*Porela delineata*
Family:	Lasiocampidae
Locality:	Black Mountain
State:	ACT
DateCollected:	2010-09-20
Latitude:	-35.3
Longitude:	149.1
CoordinatePrecision:	10m
CoordinateMethod:	Yahoo! Maps
TypeStatus:	None

Records from Specimens

ScientificName:	*Derwentia derwentiana*
Family:	Scrophulariaceae
Locality:	0.4 km E of Coryah Gap...
State:	NSW
DateCollected:	1998-12-12
Latitude:	-30.3
Longitude:	150.1
CoordinatePrecision:	200m
CoordinateMethod:	Paper map
TypeStatus:	None

Records from Specimens

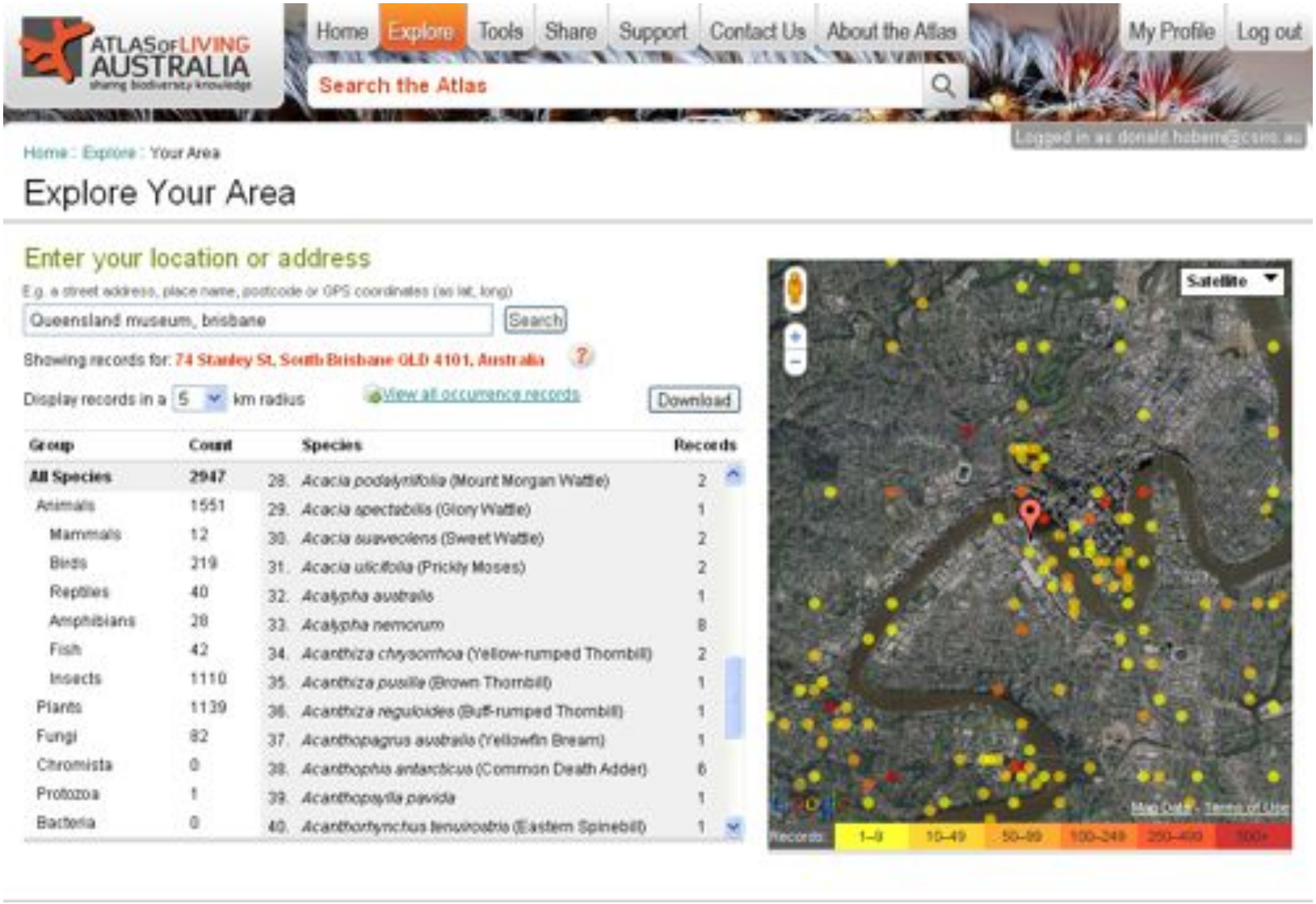


ScientificName:	*Imbophorus pallidus*
Family:	Pterophoridae
Locality:	Stirling Range
State:	WA
DateCollected:	1963-09-15
Latitude:	-34.3
Longitude:	118.0
CoordinatePrecision:	10000
CoordinateMethod:	Google Earth
TypeStatus:	Paratypus

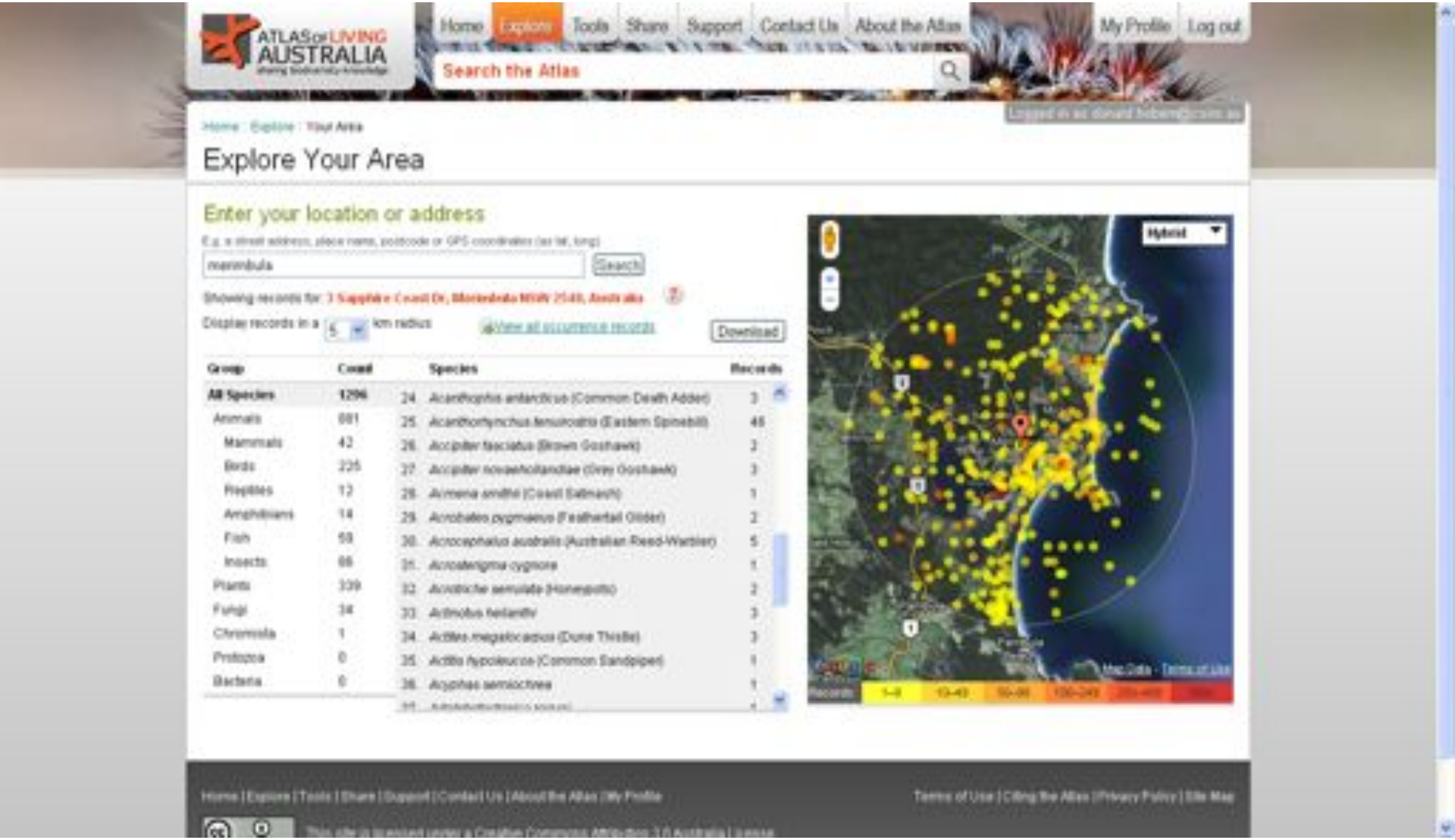
Powerful Mapping Tools

- 300+ layers for mapping and analysis.
- Suite of powerful mapping tools.

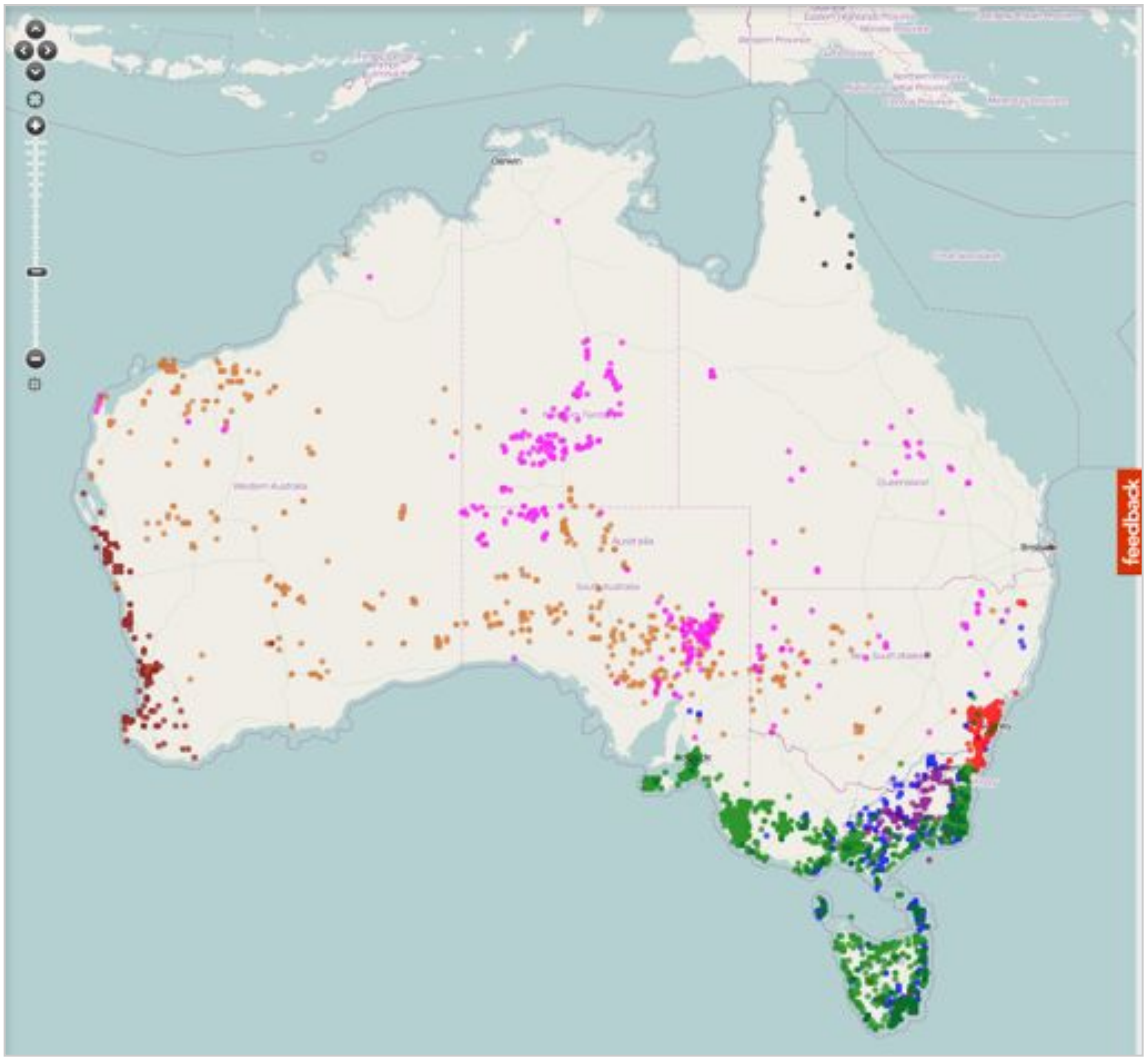
Species in Your Local Area



Species in Your Local Area



Where is Each Species Found?



WA

Anigozanthos manglesii
Mangles' Kangaroo Paw

NT

Gossypium sturtianum
Sturt's Desert Rose

SA

Swainsona formosa
Sturt Pea

QLD

Vappodes phalaenopsis
Cooktown Orchid

NSW

Telopea speciosissima
Waratah

ACT

Wahlenbergia gloriosa
Royal Bluebell

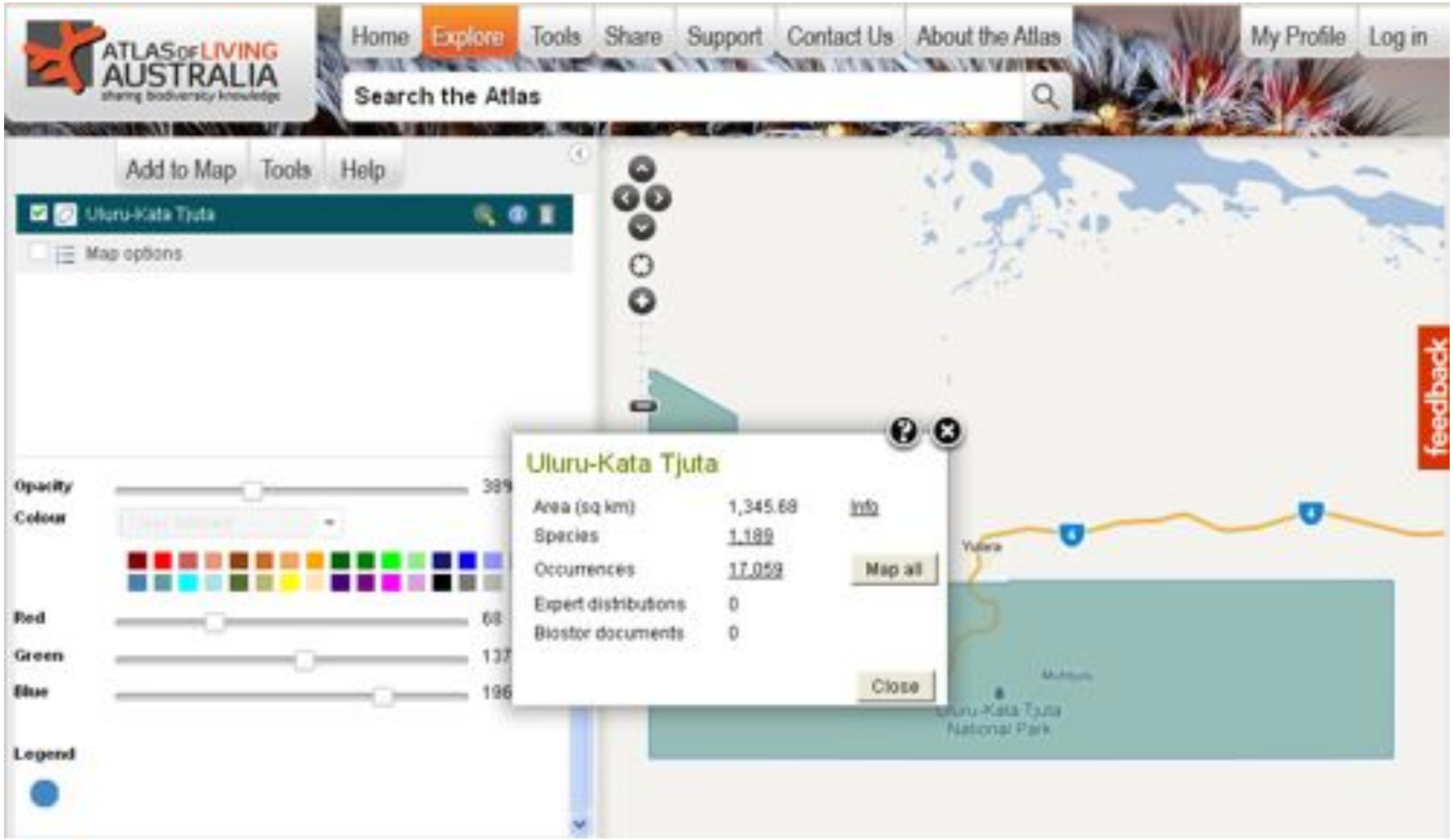
VIC

Epacris impressa
Common Heath

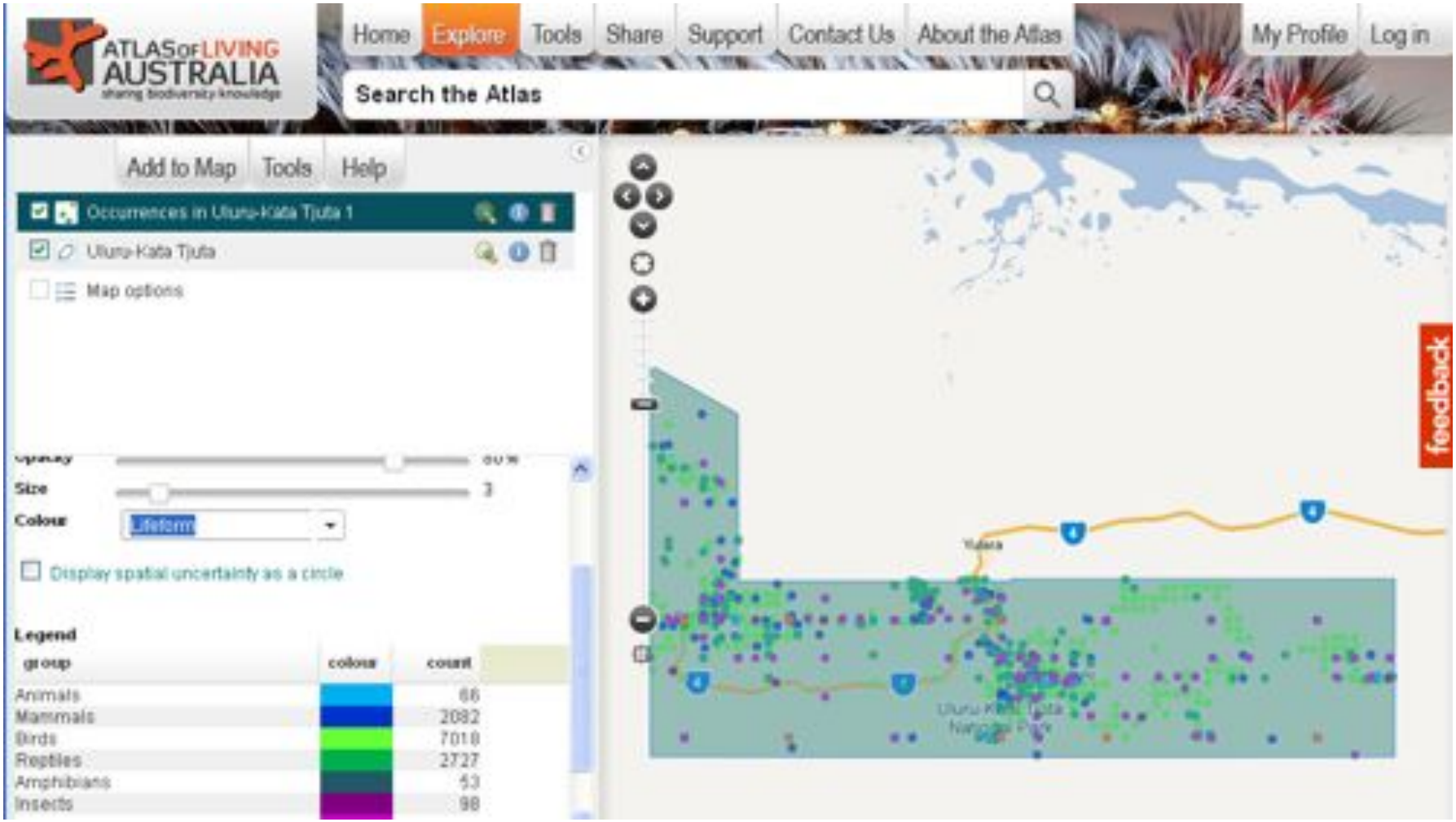
TAS

Eucalyptus globulus
Blue Gum

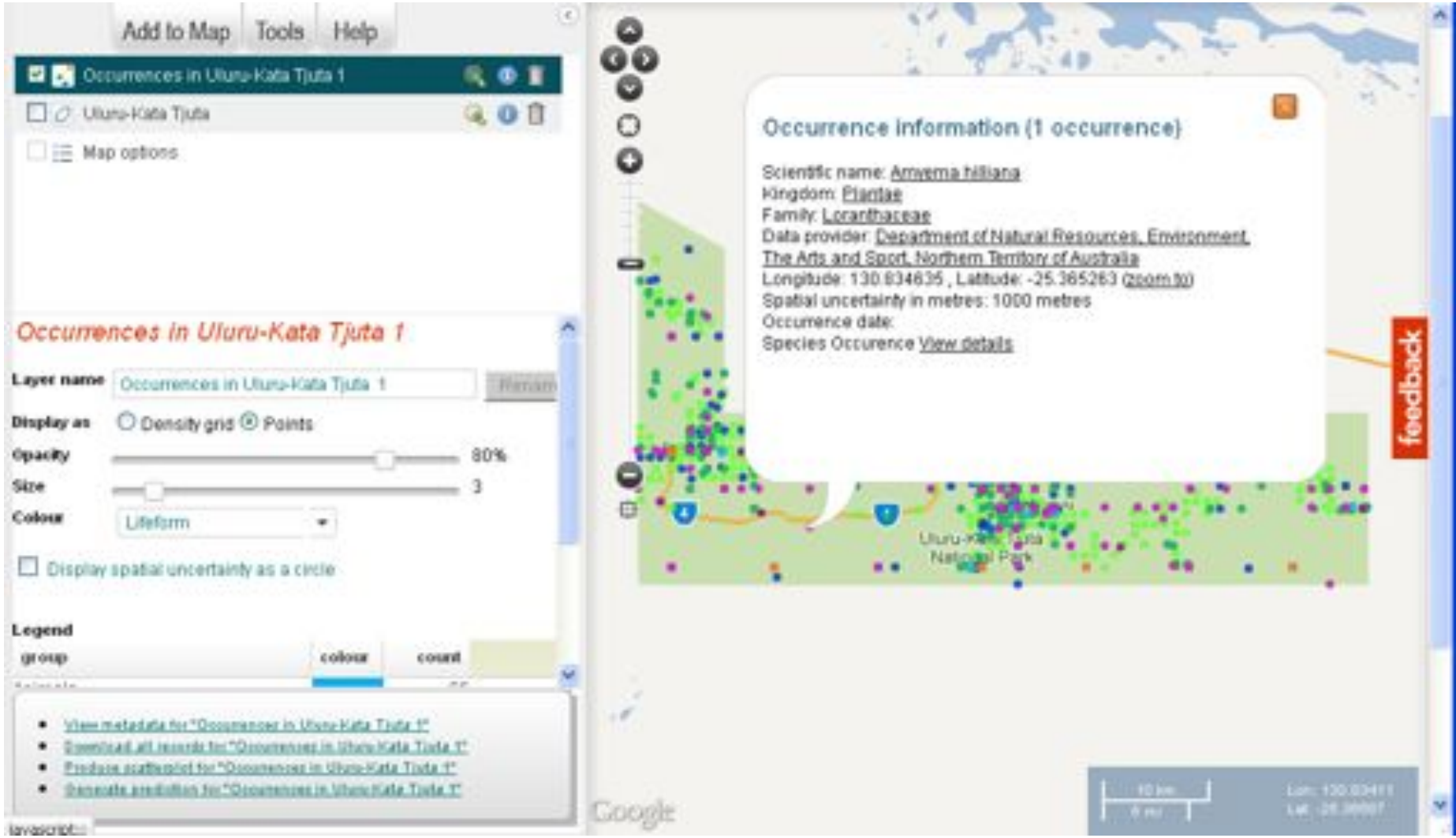
Map Species – Define Area



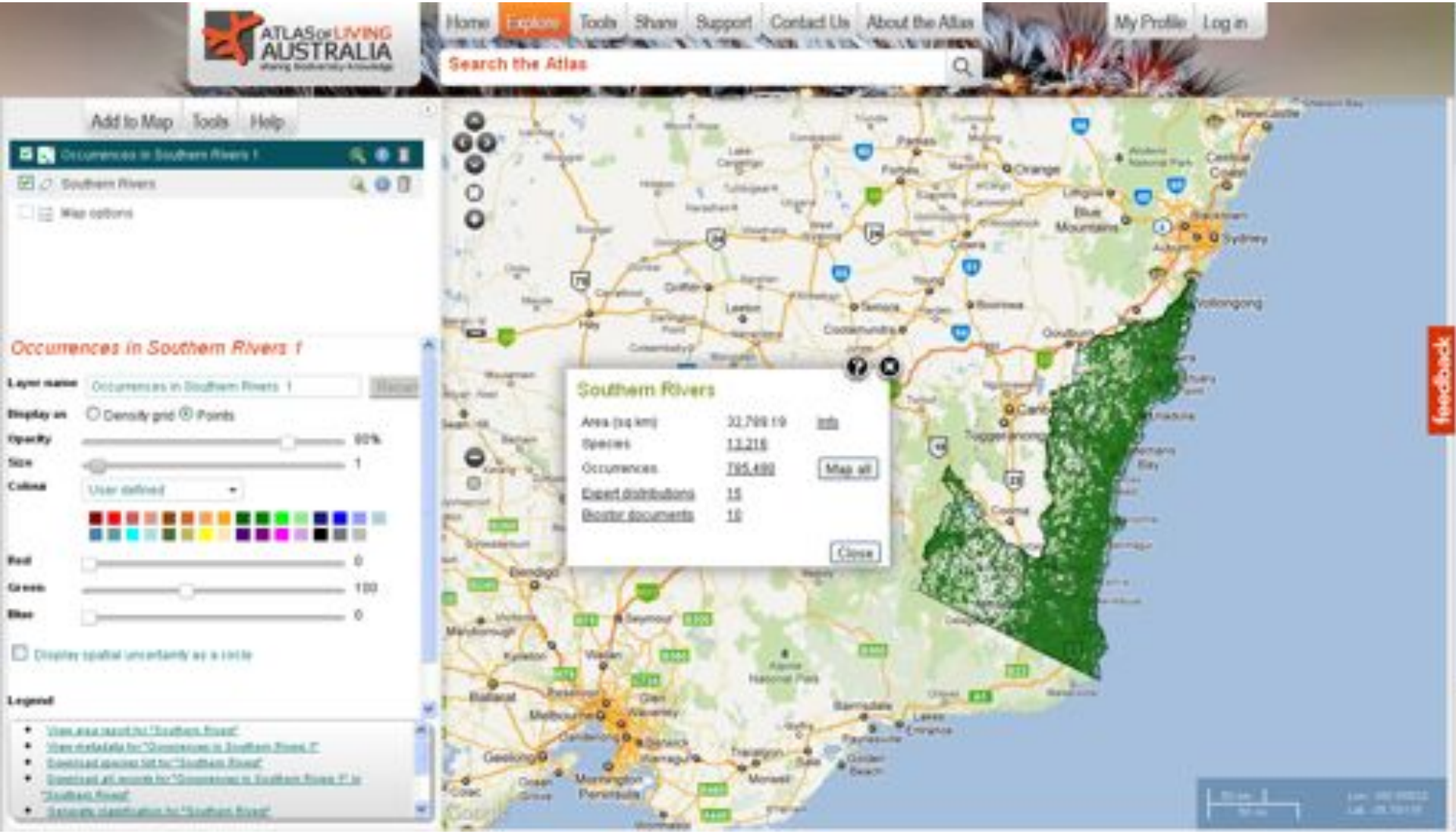
Map Species – All Species



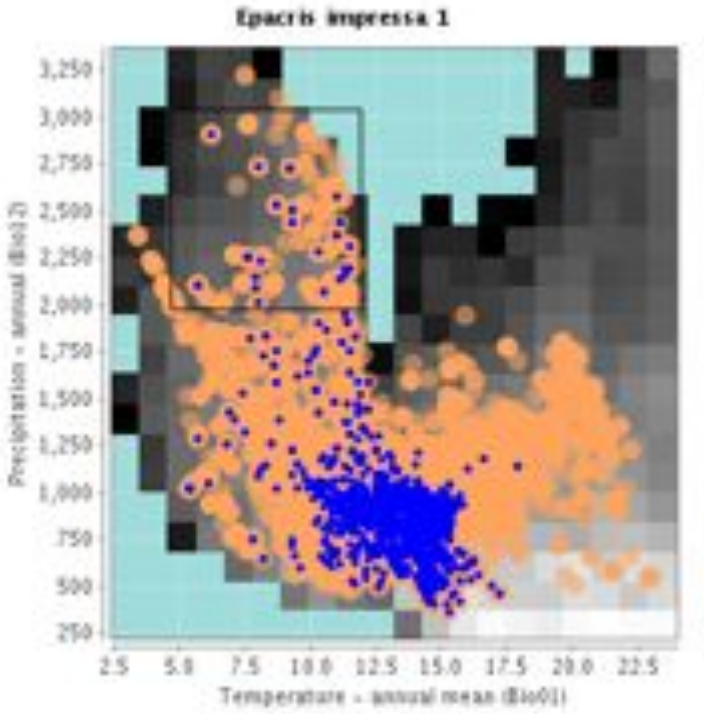
Click to See Occurrence Details

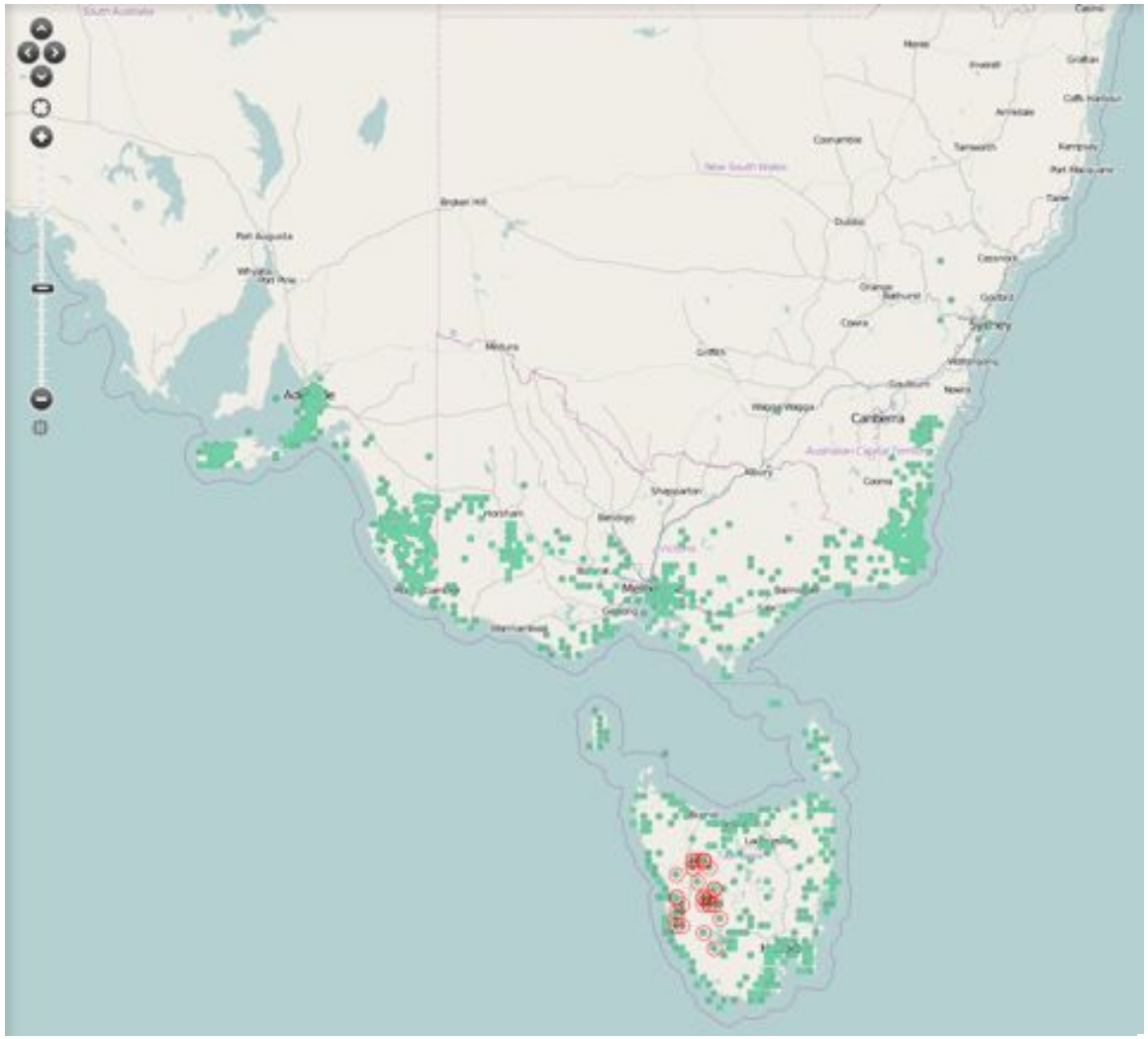


Map Regional Information



Environmental Mapping - Layers





Niche modelling

Maxent model for Epacris impressa

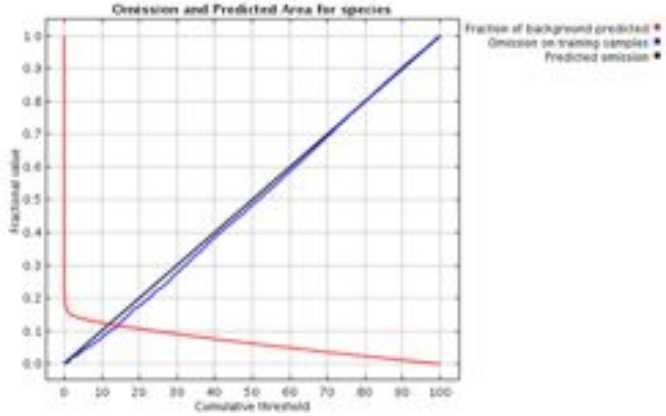
This Maxent v3.3.3a predictive model for Epacris impressa was created Fri Jul 29 13:27:52 EST 2011. Links at the bottom of this page to the raw data may be used for further analysis.

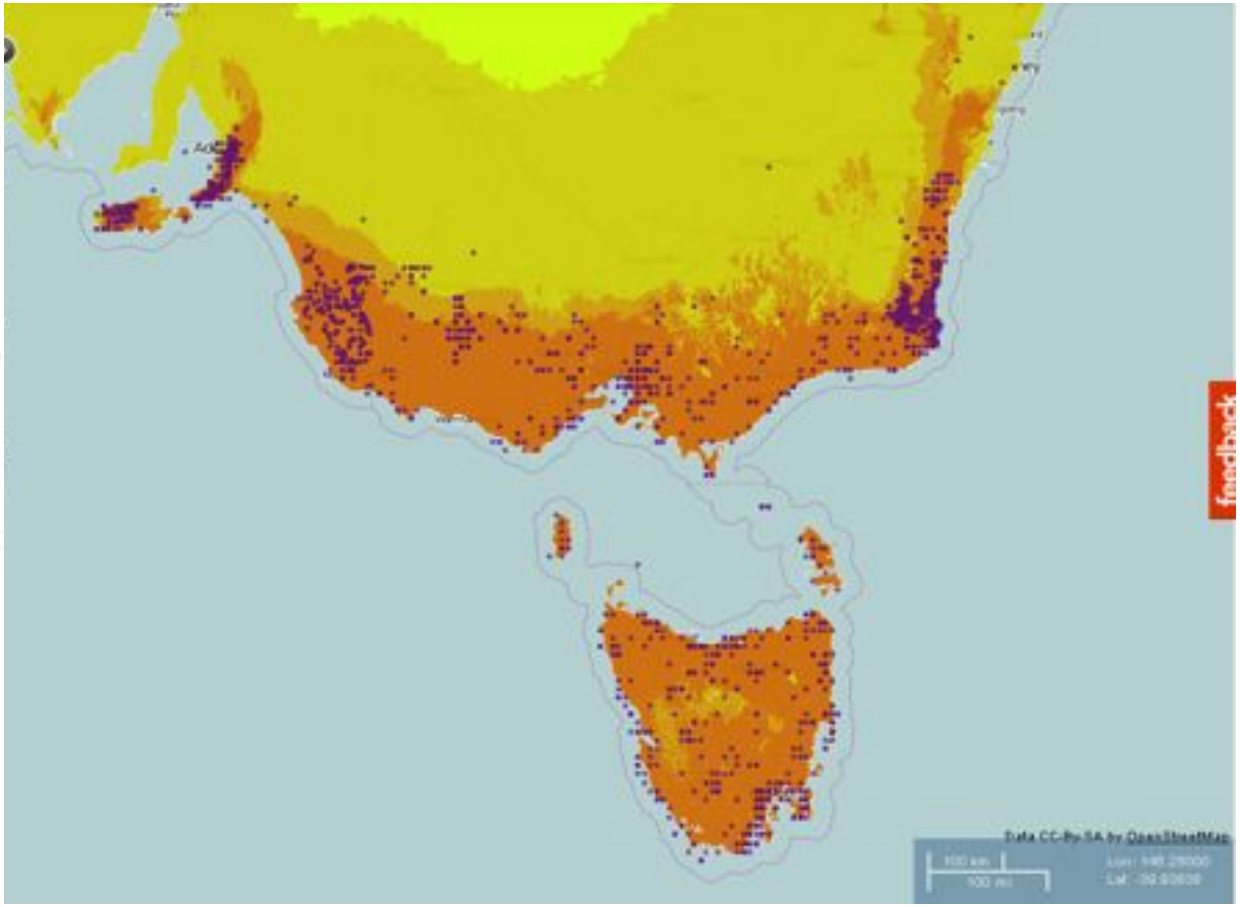
Model reference number: 1311909973484
Species: Epacris impressa (species)
Layers:

- Precipitation - annual (Bio12) (bioclim_bio12)
- Precipitation - annual seasonality (srain0)
- Temperature - annual mean (Bio01) (bioclim_bio1)
- Temperature - annual range (Bio07) (bioclim_bio7)
- Aspect (aspect)
- Elevation (elevation)

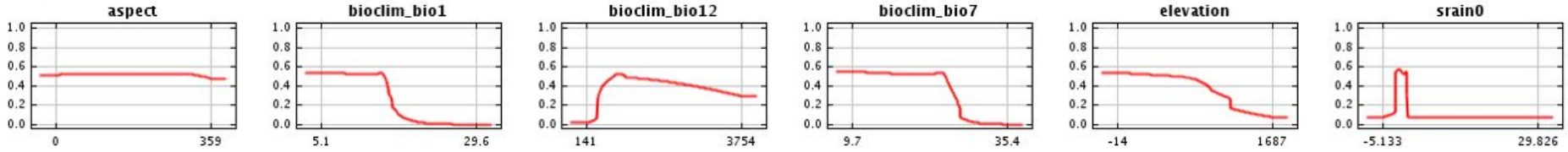
Analysis of omission/commission

The following picture shows the omission rate and predicted area as a function of the cumulative threshold. The omission rate is is calculated both on the training presence records, and (if test data are used) on the test records. The omission rate should be close to the predicted omission, because of the definition of the cumulative threshold.





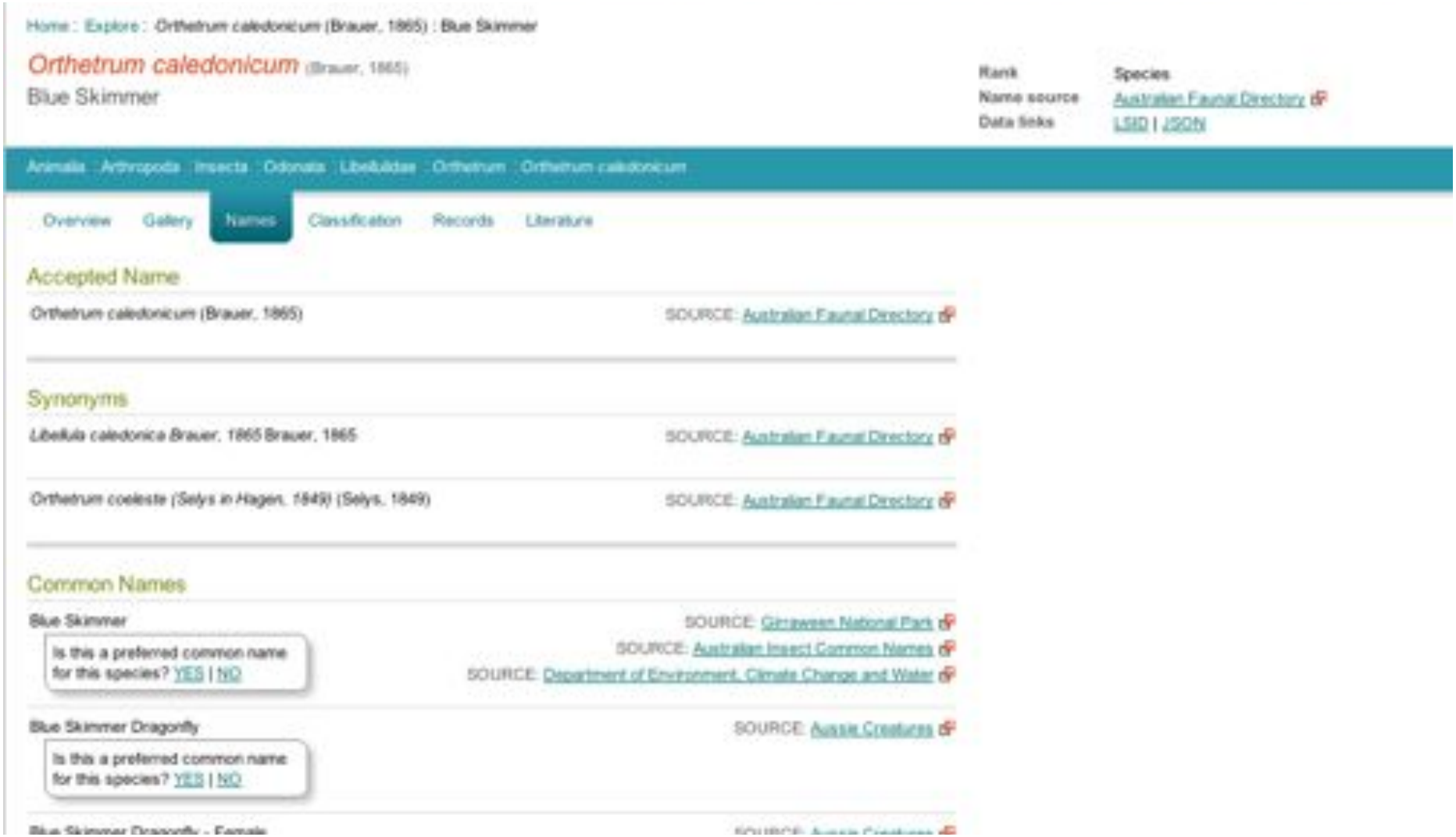
Response curves



Species photos and images

Diagnostic photos

Species Names



Species Classification

Rich Data: Identification Tools

Rich Data: Identification Tools

Data on Biological Collections

Australia's natural history collections

Learn about the institution, the collections they hold and view records of specimens that have been databased. Currently only the collections of ALA partners are shown. Over time this list will expand to include all natural history collections in Australia.

Map | List

Click a button to only show those organisms.

All collections
Show all 141 collections.

Fauna
Mammals, birds, reptiles, fish, amphibians and invertebrates

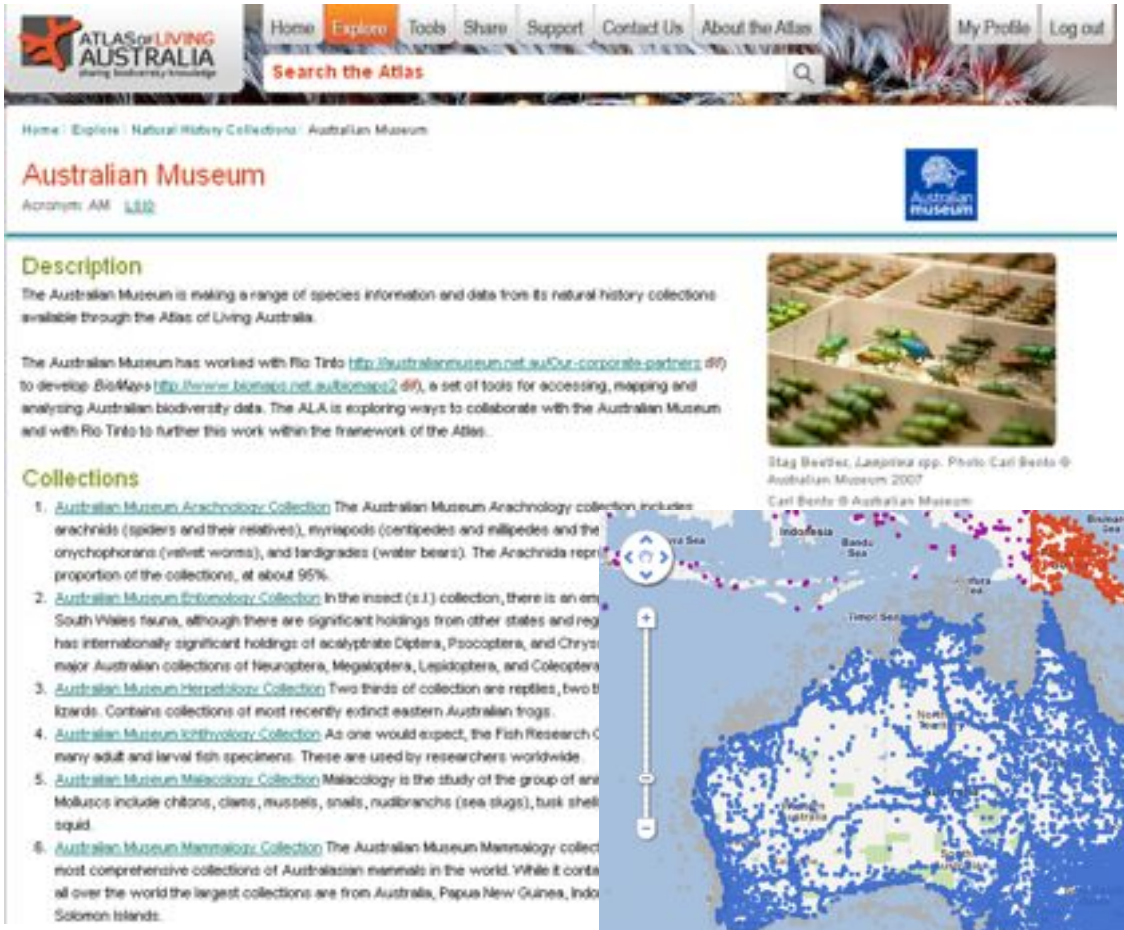
Insects
Insects, spiders, mites and some other arthropods

Microorganisms
Protists, bacteria, viruses, microfungi and microalgae

Plants

Click on a map pin to see the collections at that location. Use the map controls to zoom into an area of interest. Or drag your mouse while holding the shift key to zoom to an area.

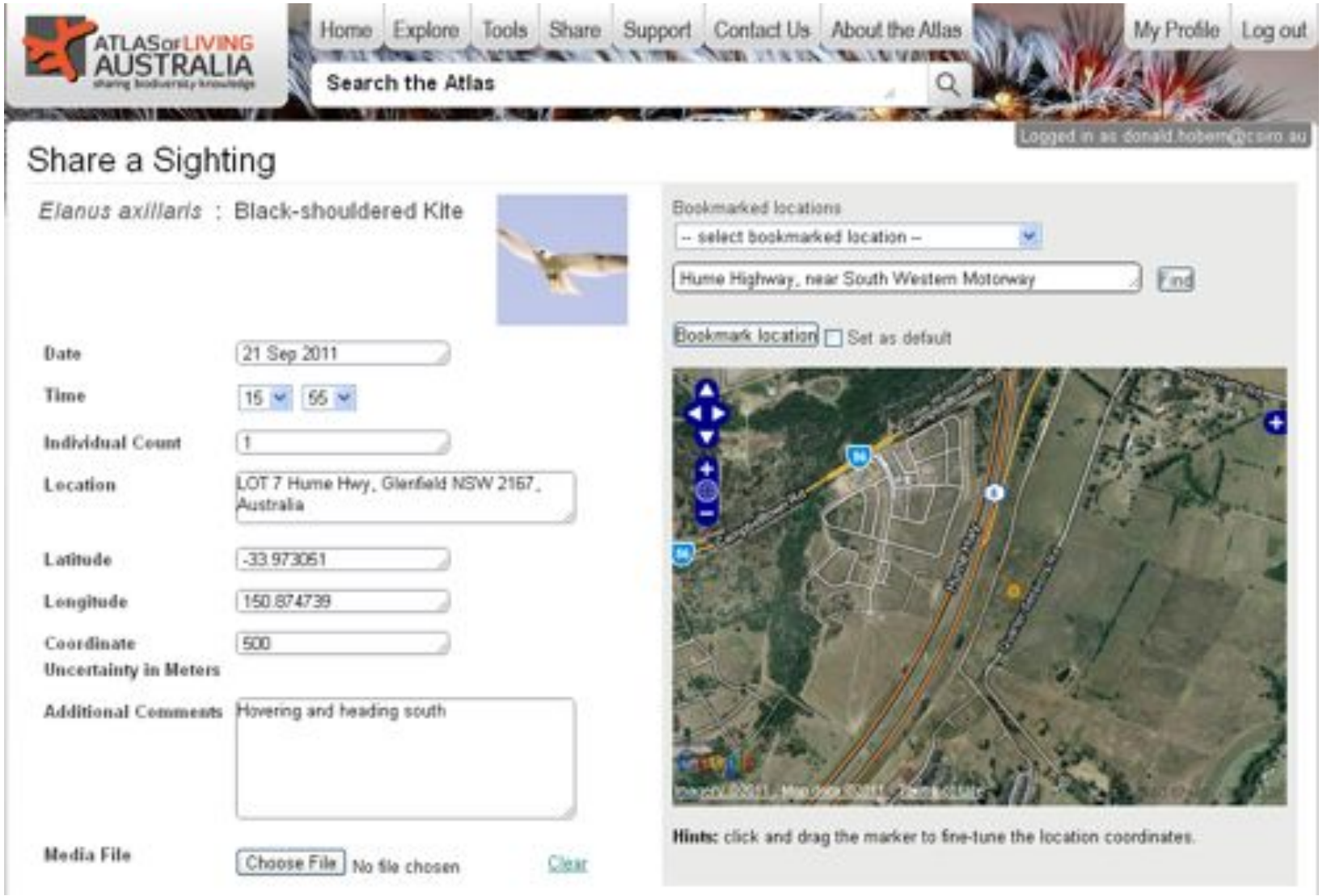
Data on Biological Collections



Heritage Literature

Heritage Literature

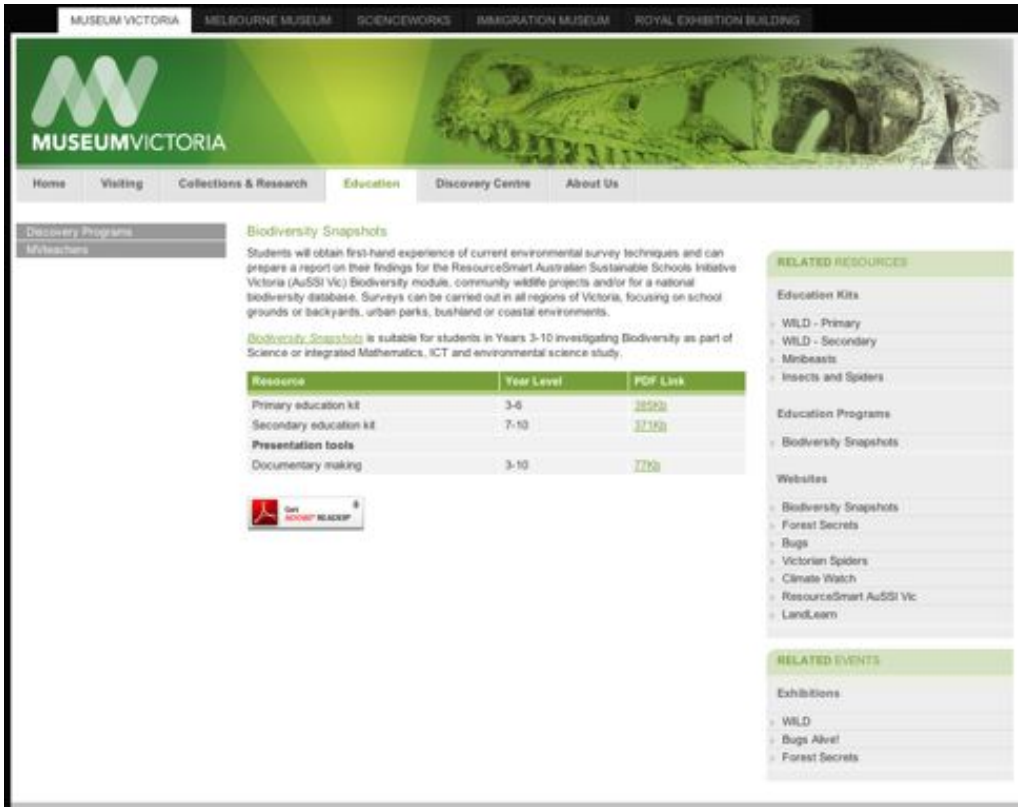
Citizen Science - Add a Sighting



Examples Using ALA Software

- Biodiversity Snapshots – Museum Victoria and Vic Dep Education and Early Childhood Development.
- Wild Backyards - Queensland Museum.
- Birds Australia – Carnaby's Black Cockatoo Recovery, Bird Atlas, Shorebirds 2020. Mention EAGLECAM.
- ClimateWatch
- Great Eastern Ranges – 12 projects eg. squirrel glider
- Atlas of Life in the Coastal Wilderness – Merimbula.

Biodiversity Snapshots

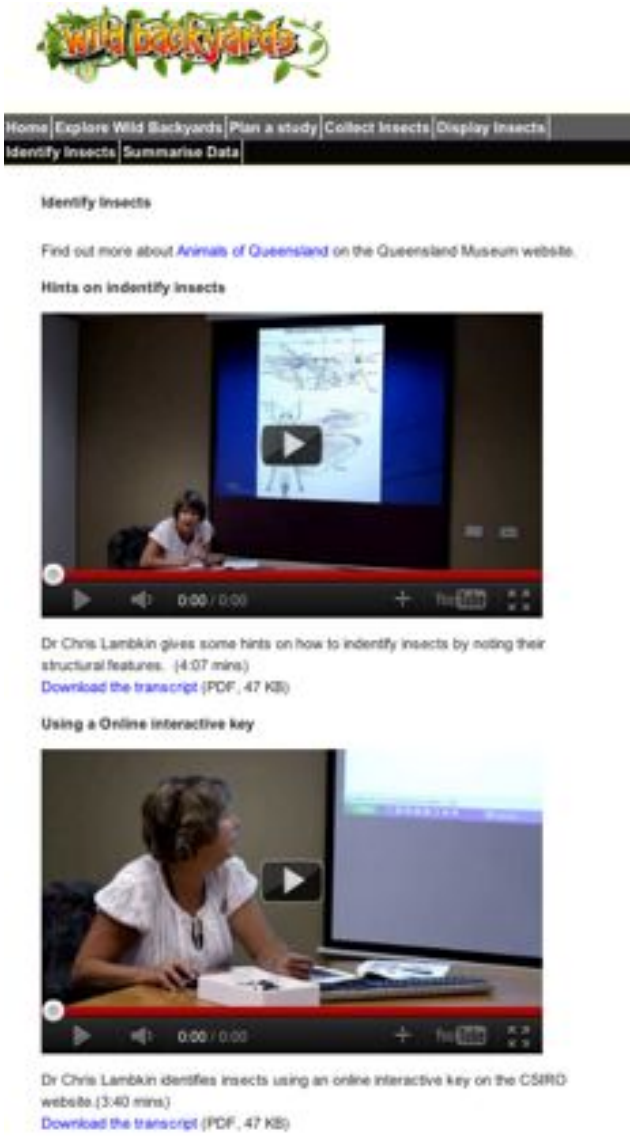


Citizen Science – Birds Australia

Citizen Science – Birds Australia

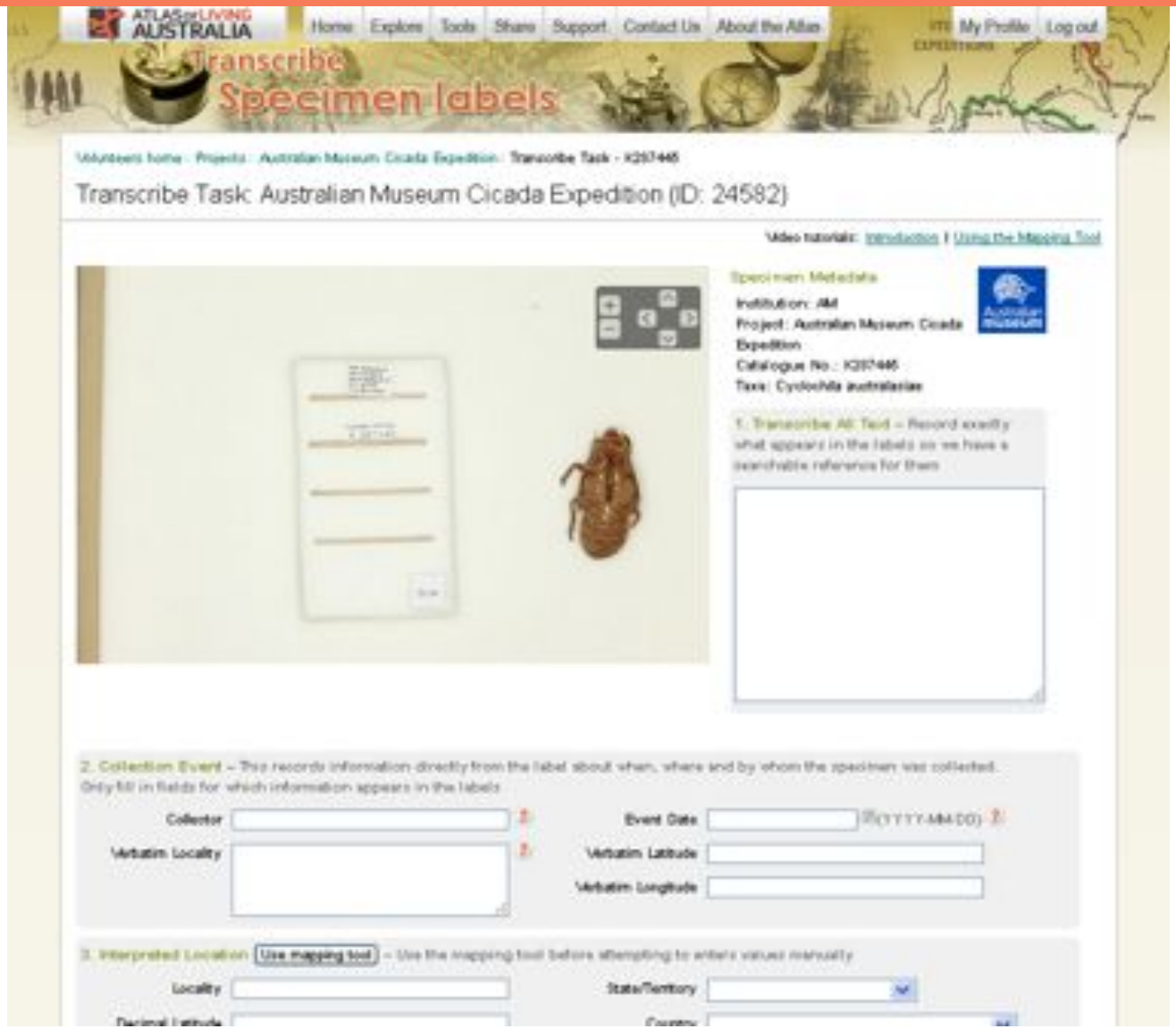
Citizen Science – Wild Backyards

Citizen Science – Wild Backyards

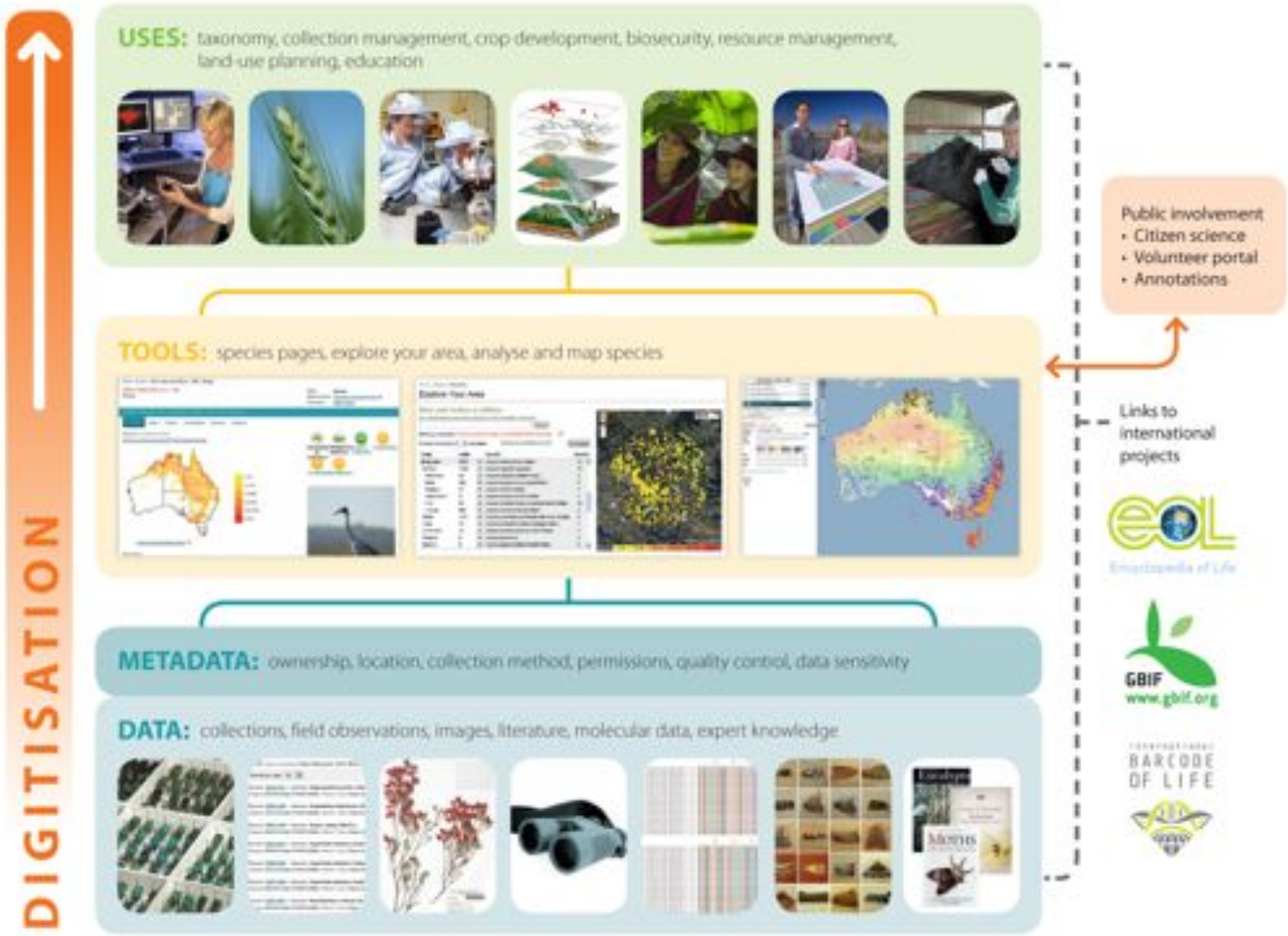


Volunteer Involvement

Volunteer Activity



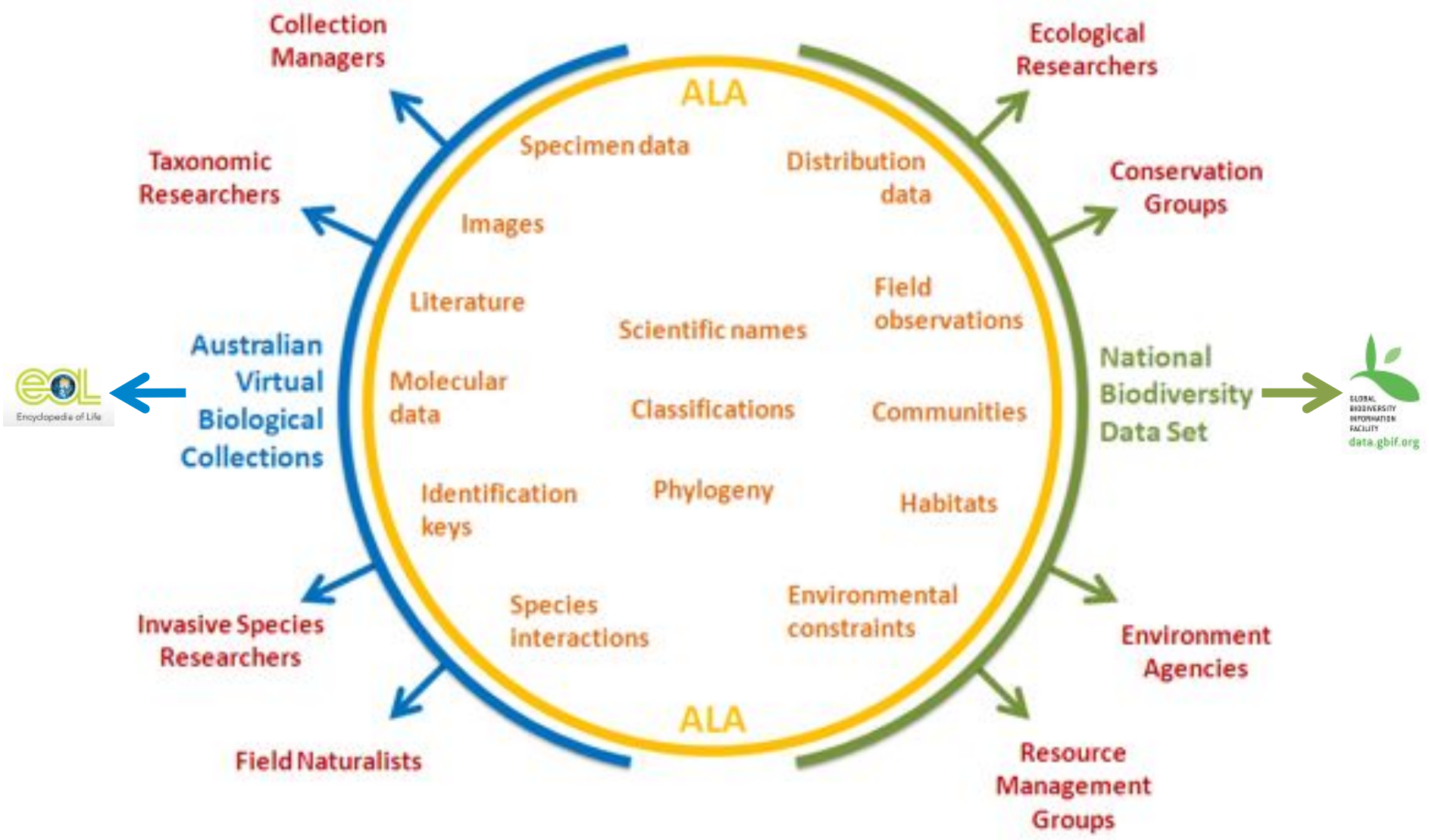
Integrating it all



ALA November 2011

- Has delivered its core infrastructure and a range of powerful new tools.
- New software has been developed for recording and managing biodiversity data and photos in the field.
- ALA is being used in:
  - research projects
  - urban biodiversity surveys
  - museum outreach activities
  - science education
  - biosecurity monitoring
  - and natural resource management and reporting.

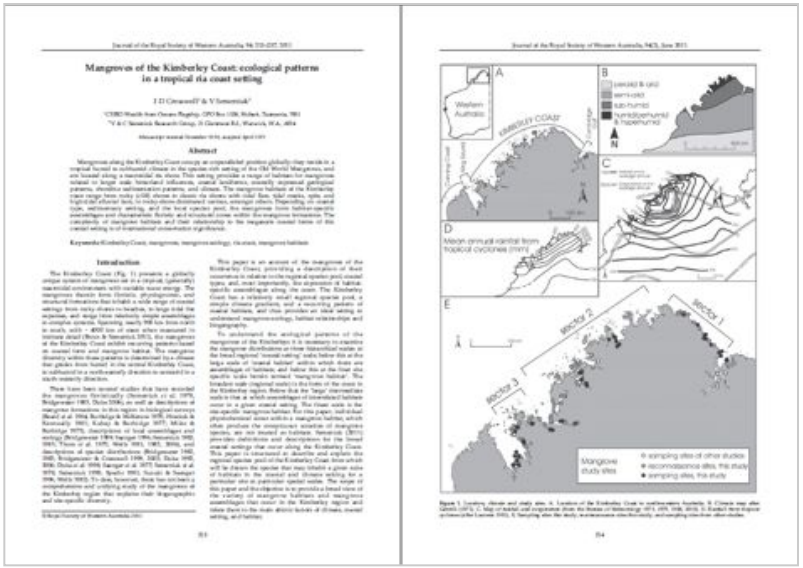
ALA and user communities



Adoption of ALA by users

ALA tools and services adopted for Great Eastern Ranges restoration corridor activities

ALA mentoring activity with Indian Biodiversity Information Facility



Mangroves of the Kimberley Coast: ecological patterns in a tropical coast setting - paper referencing data accessed through ALA

Web visits per week July 2010 to September 2011

The Atlas of Living Australia Team – or some of it…

www.ala.org.au

ATLAS OF LIVING AUSTRALIA
sharing biodiversity knowledge

An Australian Government Initiative

National Collaborative Research Infrastructure Strategy





The Atlas of Living Australia Participants

www.ala.org.au

Australian museum
nature culture discover

MUSEUMVICTORIA

Queensland Government

qm queensland museum
www.qm.qld.gov.au

Tasmanian Museum & Art Gallery

Tasmania
Explore the possibilities

Australian Government
Department of the Environment, Water, Heritage and the Arts

ABRS

CSIRO

Australian Government
Department of Agriculture, Fisheries and Forestry

THE UNIVERSITY OF ADELAIDE
AUSTRALIA

CHAH
Council of Heads of Australasian Herbaria

Southern Cross UNIVERSITY
A new way to think

South Australian Museum

MUSEUM AND ART GALLERY NORTHERN TERRITORY

Northern Territory Government

museum

ATLAS OF LIVING AUSTRALIA
sharing biodiversity knowledge

The Council of Heads of Australian Faunal Collections (CHAFC)

The Council of Heads of Australian Entomological Collections (CHAEC)

The Council of Heads of Australasian Collections of Microorganisms (CHACM)

The Council of Australasian Museum Directors (CAMD)

An Australian Government Initiative
National Collaborative Research Infrastructure Strategy

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