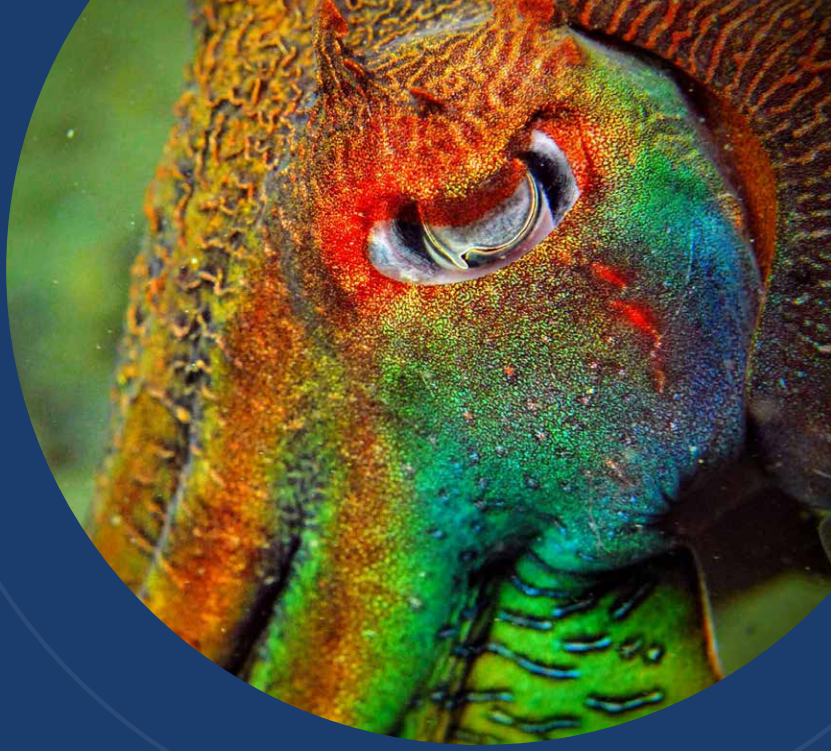


Atlas of Living Australia

Year in Review

2022–23

NCRIS
National Research Infrastructure for Australia
An Australian Government Initiative

CSIRO

Atlas of Living Australia
ala.org.au

Cover image:
Giant Australian Cuttlefish *(Sepia apama)*
David Spencer Muirhead CC BY NC

Orange Pore Fungus
(Favolaschia claudopus)
Reiner Richter
CC BY NC SA

Red-rumped Parrot
(Psephotus haematonotus)
Dennis Hocking CC BY NC

Director's overview

It's a pleasure to welcome you to the Atlas of Living Australia's (ALA) Year in Review 2022–23, in which we showcase our achievements and celebrate the significant contributions made by our partners in supporting our mission.

I'm reflecting on 2022–23 shortly after attending Australia's pre-eminent science awards program, the Eureka Prizes hosted by our partners at the Australian Museum in Sydney. It's a remarkable event that showcases what's being achieved in our innovation system and highlights the fundamental role research infrastructure, such as that provided by ALA's parent National Collaborative Research Infrastructure Strategy (NCRIS) program plays.

The ALA's mission is to harmonise Australia's biodiversity data and make it available globally as open data to support world-class science and decision-making. In addition to delivering data, a large component of the ALA's portfolio focuses on co-designing, building, and supporting operational biodiversity data products and services. This year we were proud to release two new national capabilities including both the Restricted Access Species Data Service and the Australian Seedbank Portal which collectively will become important new enablers for Australia's biodiversity data community. I'm grateful to our collaborators who have helped the ALA enable these and look forward to supporting their adoption and growth.

The ALA's focus has traditionally been on native biodiversity, driven by early science drivers. Over the past decade, however, we've increasingly learnt that the greatest threat to Australia's native species are invasives. This year we launched our flagship biosecurity program, supported by the release of the ALA biosecurity hub to support users from this sector and also to work with new data partners to grow ALA's biosecurity-related data capability. We've established fantastic partnerships with the Department of Agriculture, Forestry and Fisheries, state and territory stakeholders and research teams, and look forward to cementing these further. Our growing program and related capabilities have also attracted international interest which is important given the international context of biosecurity risk, further validating the importance of our partnership with the Global Biodiversity Information Facility (GBIF).

The ALA was born from a need identified in Australia to improve discoverability, access and re-use of data pertaining to biological collections in research collections, museums and herbaria. These have for centuries, provided the basis of classical taxonomy, been used to catalogue biodiversity, and been a valuable resource for studying changes in ecology and evolution. Novel techniques in genomics, advanced imaging, and artificial intelligence/machine learning mean that more information than ever before can be obtained from physical-biological specimens. We've partnered with our stakeholders this year to better understand future drivers, system-wide needs and the step change required across the sector. This initiative began with a national workshop we jointly hosted in May that brought together more than 70 stakeholders to chart a way forward, that will be refined in the coming year.

I'd like to finish by thanking our ALA team who in collaboration with our data partners both institutional and individual, are so fundamental to delivering on our mission. We've continued to expand our geographic presence with team members now in Hobart and Adelaide, in addition to Perth, Canberra, Melbourne, Brisbane and Sydney. This growing distributed national model offers new opportunities for engagement so I encourage you to reach out if we can further support your work.

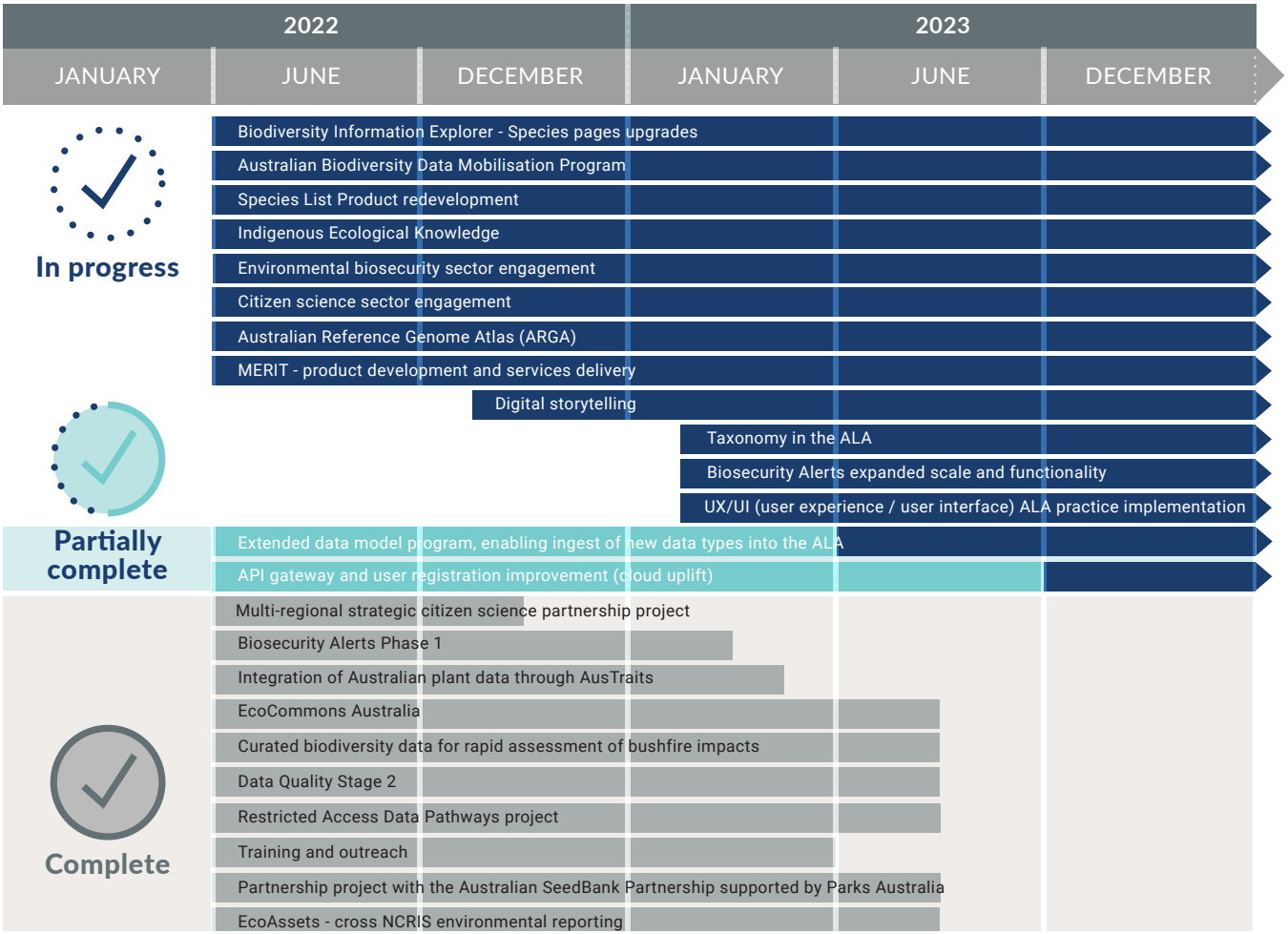
We hope you enjoy reading our 2022–23 story as much as we've enjoyed telling it.

Dr Andre Zerger,
ALA Director

How are we tracking?

Checking in with our work plan

Our annual work plan details the projects, activities and major investments planned to deliver on the strategic priorities outlined in the ALA Strategy 2020-25. The table below shows key activities the ALA team worked on during 2022–23. You can view our full annual work plan on our website ala.org.au/publications.



For more details, visit **ala.org.au/publications**

Work plan highlights across 2022–23

Dr Terry Miller from the Queensland Museum Network working through the Cribb Australian Fish Trematode Collection

Round 1 Australian Biodiversity Data Mobilisation Program (ABDMP)

In 2022, the ALA launched the first round of the ABDMP grants program to improve the scientific understanding of Australia's remarkable biodiversity. The program was designed to support Australian museums, biological collections, herbaria, and research teams to digitise historic physical collections making them available as national data assets.

In our first year of the program, the following six projects were supported:

1. New South Wales Department of Primary Industries, NSW – mobilising plant pest and disease data from the NSW Biosecurity Collections (~600,000 records).
2. South Australia Museum (SAM), SA– mobilise the SAM's Australian Biological Tissues Collection of 39 donated frozen tissue collections of Australian freshwater fishes (around 90% of all known species and ~46,000 records).
3. Queensland Museum Network, QLD – mobilising and enhancing data from the Cribb Australian Fish Trematode Collection (>20,000 records of >1,000 fish species).
4. Tasmanian Museum and Art Gallery, TAS – mobilising wildlife molecular and tissue data (> 8,500 sample vials and 1,650 formalin fixed specimens in the histology collection).
5. Edith Cowan University, WA – mobilising plant and fungi data from the Robert Brown Herbarium.
6. Botanic Gardens and Parks Authority, WA – mobilising data in the Kings Park and Botanic Garden Herbarium collection (18,200 specimens).

We are pleased to have been able to continue this program in 2023, funding a further six projects.

ALA Cloud Uplift Project

As part of the ALA's five-year strategic plan, we have developed an IT Roadmap which articulates the systems and services required to support Australia's national biodiversity data infrastructure and its users.

As part of the IT Roadmap, the ALA Systems Team developed the Cloud Uplift Project to bolster the ALA's underlying authentication protocol to ensure and enhance security, efficiency, and cost-effectiveness with ALA IT infrastructure. Working with partners such as Amazon Web Services (AWS), the ALA's Cloud Uplift project team has implemented several key enhancements including OpenID Connect (OIDC) authentication protocol, a more robust and scalable user management system, and a managed API gateway.

As a result of the improvement to ALA's IT systems from this project, it is now possible to create, publish, maintain, monitor and secure our 150+ web services at any scale. By empowering both internal and authorised external developers with API tokens/keys, we've enabled more efficient and secure access to ALA's data and services.

The introduction of products like Amazon Cognito user management system with enhanced audit and encryption features, Multi-Factor Authentication (MFA) and updated social sign-in options improves user experience and security for more than 100,000 of the ALA's users.

Atlas of Living Australia 2022–23 in numbers

Total metrics (as at 30 June 2023)

124,655,899
Total species occurrence records

874
Total number of datasets

>874
Data partners: across research, government and community groups

99.9%
Total number of records under Creative Commons licenses

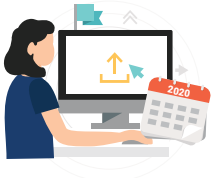
1,793,286
Species with the most records in the ALA: Australian Magpie *(Gymnorhina tibicen)*

961
Number of support tickets resolved through the ALA helpdesk in 2022–23

Annual metrics

124,598
Total number of ALA registered users

18
Datasets added 2022–23



15,120,916
Records first loaded 2022–23

272,919
Most recorded species for 2022–23: Australian Magpie *(Gymnorhina tibicen)*

421
Total publications referencing the ALA in the last financial year, **294** of which were journal articles

4,264
Number of Galah (R & Python package) downloads

Short-beaked Echidna *(Tachyglossus aculeatus)*
John Sear CC BY NC

Connecting with the ALA

Newsletter

The ALA Newsletter is dispatched quarterly to a distribution list of almost 100,000 users. It covers topics such as ALA program updates, news and events. The newsletter grows by an average of 3,000 users per quarter.

Which countries read the ALA newsletter?

1. Australia
2. USA
3. Sweden
4. UK

Webinars

Sharing scientific knowledge and facilitating discussion is in ALA's DNA. We bring together experts from across the country to share news and discussions on key topics of interest through free virtual webinars.

Topics this year we've discussed:

- Advances in Biodiversity Modelling
- Genomics in Biological Collections
- Safeguarding Sensitive Species

Socials

The ALA manages three social channels – Facebook, X (formerly known as Twitter) and LinkedIn. In the past financial year we have grown to an audience of more than 16,000 across the three ALA platforms.

Give us a follow! @Atlaslivingaust

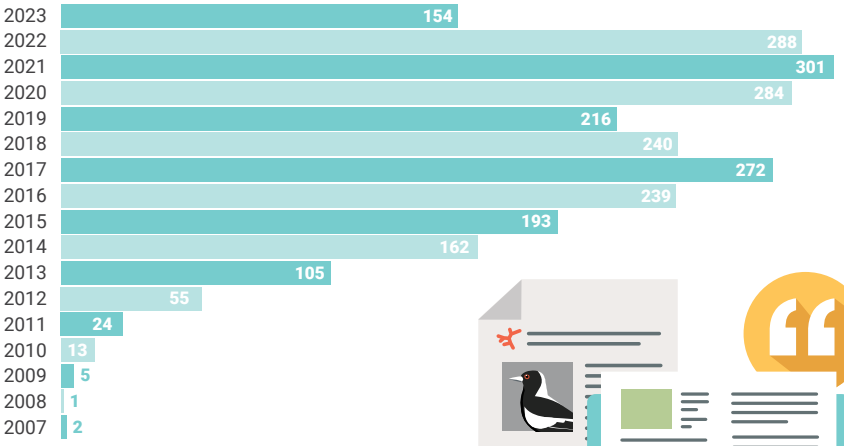
Research impact

Publications citing the ALA

In 2020, we released a new online bibliography. It lists known journal articles, books, websites etc that cite data in the ALA or ALA infrastructure.

You can browse or search the publication list and also let us know how you have used the ALA.
ala.org.au/ala-cited-publications

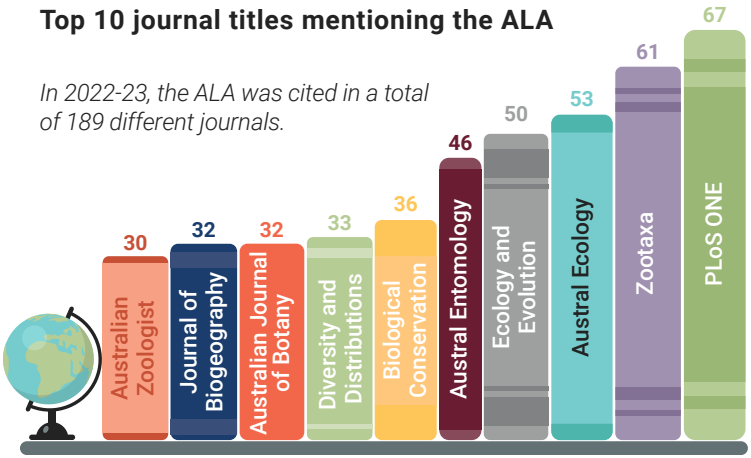
Annual number of journal articles citing the ALA



Australasian Little Egret
(Egretta garzetta ssp. nigripes)
warningherebedragons CC BY NC

Top 10 journal titles mentioning the ALA

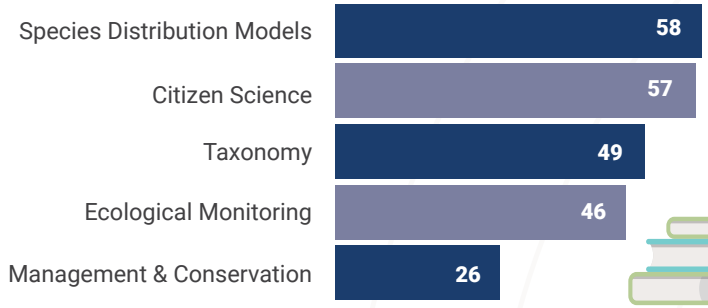
In 2022-23, the ALA was cited in a total of 189 different journals.



Ground Beetle *(Carenum elegans)*
Kstenman CC BY NC

Research domains citing the ALA

The ALA is used by researchers across many different research domains from ecoinformatics and taxonomy as well as education, social science and the arts.



Getting more out of data in the ALA

The ALA software package 'galah' was released in 2021 in the R programming language. Galah was designed to make it easier to locate and download occurrence records, taxonomic information and associated media and sounds from the ALA. The galah software package enables greater flexibility when working with data in the ALA when creating data visualisations, models and integrates with other Living Atlases around the world.

Following the success of the original galah release, the Science and Decision Support team released a Python programming extension of galah to allow for wider access and usability of the software.

Since its release, the Python extension of galah has been downloaded **over 450 times!**

Which countries are downloading the Python extension of galah?

1. USA
2. China
3. Australia
4. Hong Kong
5. Japan

Galah *(Eolophus roseicapilla)*
Geoff Walker CC BY NC

Delivering data: from our data partners to your desktop

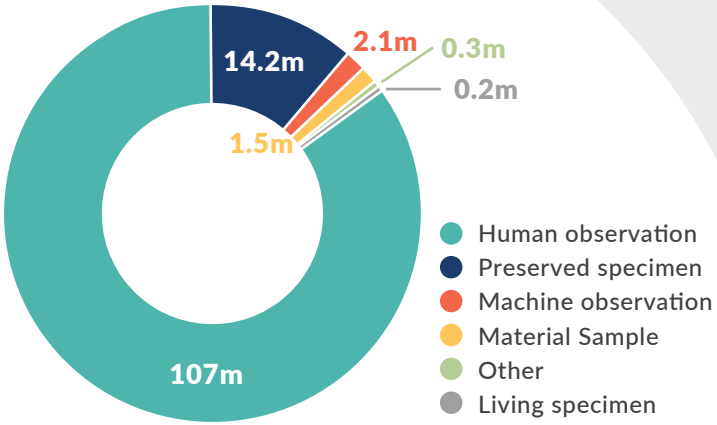
We harmonise more than 800 datasets from many different data providers across museums, collections and herbaria, universities, science organisations, government departments, Indigenous communities, industry and community groups.

Data in the ALA

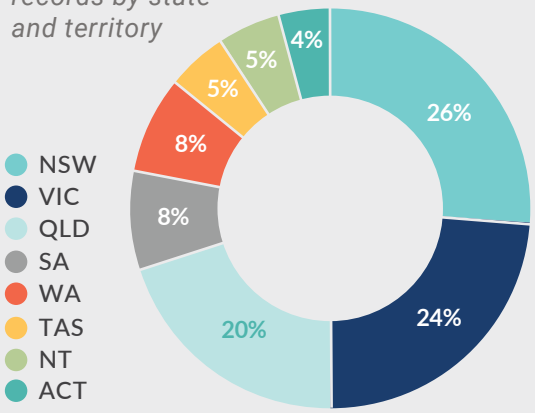
Top data providers by biodiversity occurrence record count

- eBird Australia **40.7m**
- BirdLife Australia **15.1m**
- NSW BioNet Atlas **13.5m**
- Victorian Biodiversity Atlas **9.8m**
- Australasian Virtual Herbarium **6.1m**
- Ocean Biodiversity Information System (OBIS) **5.6m**
- Online Zoological Collections of Australian Museums (OZCAM) **5.6m**
- iNaturalist Australia **4.9m**

Basis of record



Occurrence records by state and territory



Data partner spotlight

Insect Investigators

Insect Investigators is a citizen science project that has collaborated with more than 50 regional schools around Australia to collect and DNA barcode insects and other arthropods on or near their schools. Insect Investigators has worked with the ALA to bring DNA barcodes and occurrence records from the Barcode of Life Database into the ALA, making this information broadly accessible and findable.

By partnering with the ALA, thousands of insects and other arthropods, with associated images and DNA data, can be accessed by researchers outside of the DNA barcoding community, and also be easily viewed and used by the public. By partnering with the ALA, it has data collected through Insect Investigators to be combined with existing specimen records and citizen science observations to produce most complete picture possible of Australia's biodiversity.

We hope that having our dataset on the ALA gives the students and teachers from our partner schools, but also their local communities, the opportunity to find the 'dots on the map' related to the specimens they collected, and see the amazing contribution they have made to increasing the number of records of arthropods in their area.

– Dr Erinn Fagan-Jeffries,
Project Manager,
Insect Investigators

Queensland school lead Dr Andy Howe setting up a Malaise trap with Mount Molloy State School students

The Atlas of Living Australia has been a crucial pathway for eBird data to make it into places where it can be useful to inform research and decision-making across the continent. We are delighted with our active and ongoing partnership with ALA, enabling eBird data to be put to work. Join today at ebird.org/australia and make your birding count!

- Rich Fuller,
eBird Australia

Australian Brush-turkey
(Alectura lathami)
Rich Fuller CC BY NC

eBird

eBird is an online platform where birdwatchers can share their observations with the world. Across Australia, more than 20,000 people have submitted over 2 million lists of birds observed during their birdwatching trips. These lists can range from a 5-minute count in someone's backyard or street corner to the results of an arduous trek in the remote bush. The data are continuously checked and verified by an active team of reviewers based all around the country.

Victoria's Riflebird *(Ptiloris victoriae)*
Geoff Walker CC BY NC

Our data partners: highlights for 2022–23

Biodiversity Heritage Library

BHL Australia is a national project working to digitise Australia's biodiversity heritage literature and make it freely available and discoverable online. It is funded by, and operates as a co-investment between, Museums Victoria and the ALA.

- **42** contributing organisations across Australia (4 new in 2022–23)
- **568,474** pages of Australia's biodiversity literature made openly accessible online (at June 30 2023)
- **106,849** pages uploaded from 1,205 volumes onto the BHL website (including 65 new titles)
- **345,985** total page views at June 20 2023 (65,375 in 2022-23)
- **134,333** total individual users at June 20 2023 (23,825 in 2022-23)

DigiVol

Digivol enables volunteers to capture data and digitise collections held within museums, libraries, archives and herbaria. It is managed by the Australian Museum and powered by the ALA.

- **23,767** volunteers
- **17,262,513** transcriptions
- **36%** increase in transcriptions from the previous year

iNaturalist Australia

The ALA manages the Australian node of iNaturalist – the world's leading social network for biodiversity. iNaturalist Australia uses community expertise and image recognition to help users identify species and share observations.

- **72,182** observers
- **5.9 million** observations
- **51,822** identified species

International Living Atlases

Software code originally developed by our Australian team is now in use by countries around the world to help manage their national biodiversity databases. The network of biodiversity data infrastructures is called the Living Atlases community.

- **20** live instances including ALA
- **7** instances in development
- **7** instances in discussion

Australasian Virtual Herbarium

AVH

The AVH provides access to collection data for plant, algae and fungi specimens held in Australian and New Zealand herbaria. It is powered by the ALA.

- **26** herbaria that provide data
- **7.1 million** records

MERIT

Australian Government

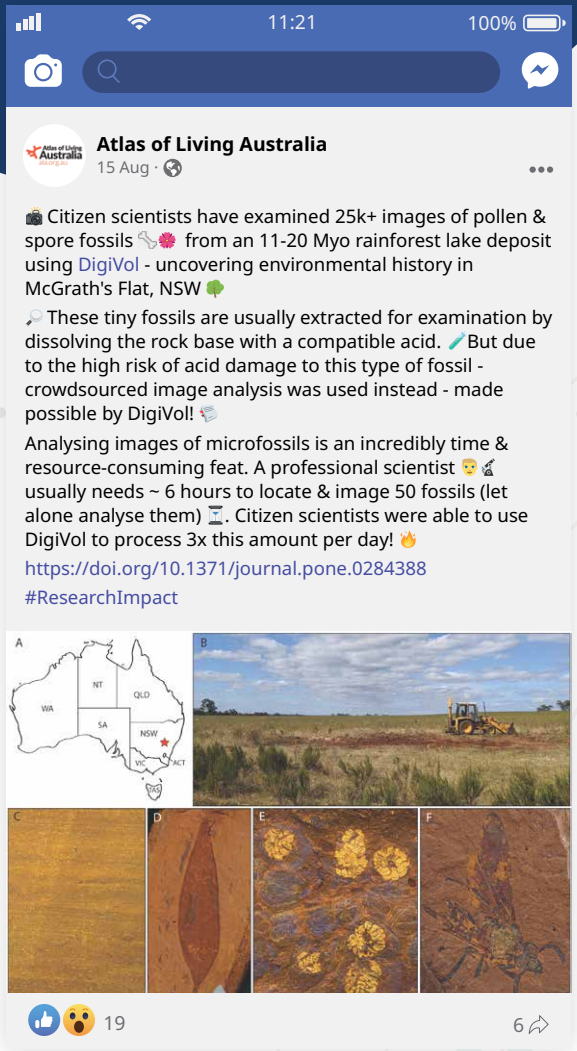
MERIT is the Department of Climate Change, Energy, the Environment and Water's (DCCEEW) online reporting tool and is powered by the ALA. It is used to collect and store planning, monitoring and reporting data associated with natural resource management grants projects funded by the Australian Government.

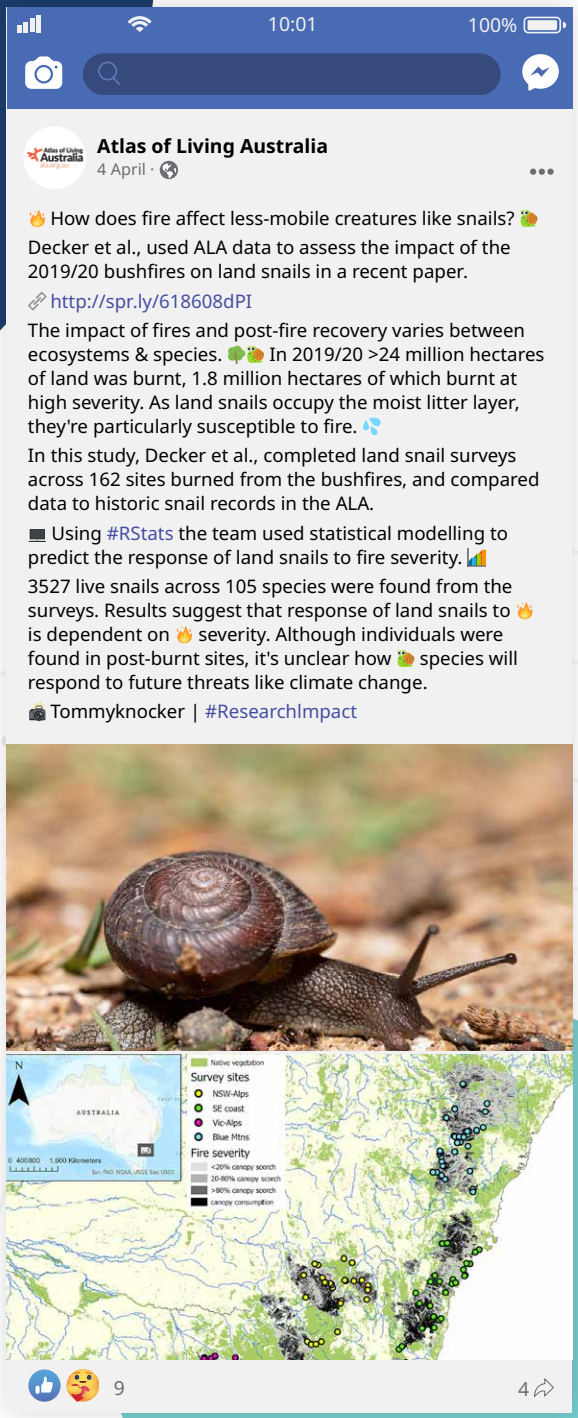
- **2,308** projects
- **23** programs
- **110** subprograms

Eastern Spiny-tailed Gecko *(Strophurus Williamsi)*
James Bennett CC BY NC

Delivering trusted data for research

Throughout the year, we packaged up some bite-sized summaries of recent research papers that have used data within the ALA. These posts were shared across the ALA social channel to showcase the research impact and scale that data within the ALA has.





R-tistry through coding

Throughout the year, the Science and Decision Support team used the ALA galah for R-Studio tool to create some incredible data visualisations. Sometimes data in the ALA yielded unexpected results, resulting in coding R-tistry!

6:42 100%

Atlas of Living Australia
31 May ·

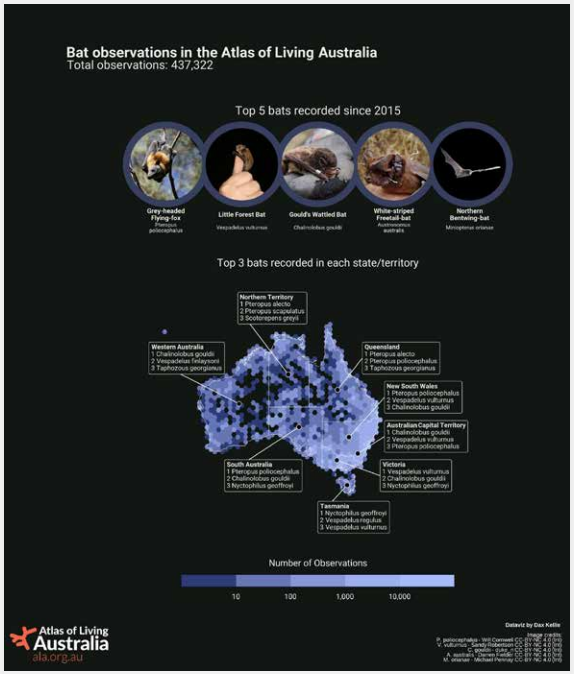
In the world of #dataviz sometimes art meets science! 🖌️👩‍🔬
We plotted parrot data in the ALA to celebrate #WorldParrotDay🦜 using the dominant plumage shades for each genus 🌈 and created some accidental art in the process!
Watch out Monet 🎨@accidental aRt
#rstats #Rtistry

337 19 112

14:05 100%

Atlas of Living Australia
21 April ·

🦇 Are you batty for #data?
🌱As some of the most important pollinators in Aussie ecosystems, bats (Chiroptera family) can be found all cross the country.
Check out this amazing #datviz using #RStats by @daxkellie to see the most recorded bats in the ALA by region. 😍



11 1

Supporting decision-making

By harmonising biodiversity data from many data partners across research, industry, state and local governments, and community groups, the ALA is well positioned to support national biodiversity and environment programs.

Bushfire Data Challenge Project

The 2019/2020 Australian bushfires had a devastating impact on natural landscapes, threatening our native biodiversity. More than ever, decision makers require access to curated, open-access biodiversity data to respond effectively to future bushfire events.

The ALA collaborated with Invertebrates Australia and CSIRO's National Research Collections Australia teams to collate biodiversity datasets that can be used for off-the-shelf bushfire assessments and modelling. The two datasets contain information on underrepresented taxa that were severely affected during the bushfires: invertebrates (insects, molluscs, spiders) and vascular plants. These datasets are now openly accessible via the CSIRO Data Access Portal.

This project was part of the Australian Research Data Commons Bushfire Data Challenges project, aiming to support bushfire resilience through data sharing.

> ***We know many invertebrate species were severely impacted by the 2019-2020 fires, but data deficiencies present barriers to interpreting fire impact and predicting which taxa are vulnerable to future fire. The availability of these biodiversity datasets for off-the-shelf bushfire assessments and modelling provide important mechanisms to start addressing some of these gaps for data-poor taxa, and allow researchers to better include invertebrates in conservation***
>
> – Dr Jess Marsh, Conservation Manager, Invertebrates of Australia

Christmas Jewel Spider
(Austracantha minax)
Simon Grove TMAG CC BY NC

Golden Wattle *(Acacia pycnantha)*
Andamooka CC BY NC

Australian Seed Bank Partnership

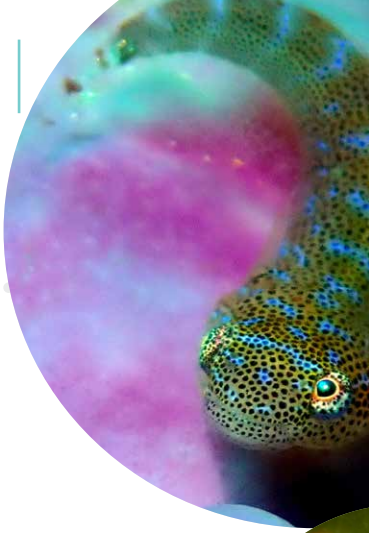
Across the 2022/23 financial year, the ALA partnered with the Australian Seed Bank Partnership to develop the Australian Virtual Seed Bank (AVSB) portal. The AVSB enables partnership members to share important information about the collection and storage of native plant seeds, as well as the results of seed germination trials.

The AVSB project was an excellent collaboration resulting in a world-class modern web application hosted on ALA infrastructure. It links seed bank data with images, taxonomic and occurrence data in the ALA and also collection and genomic data from other sources. The AVSB is also the first ALA application to implement a new ALA database which allows for complex relationships between different types of data and seed bank activities to be accurately represented and navigated. Learn more: **seedbank.ala.org.au**.

The Australian Seed Bank Partnership is an alliance of 14 organisations, bringing together expertise from Australia's leading botanic gardens, state environment agencies and NGOs. Developing and sharing knowledge is a high priority for us and working with the ALA on the new AVSB portal gives Partners an opportunity to share significantly more data than we have in the past. We can't wait to share the portal with the conservation community in the coming months.

– Dr Ameila Martyn Yenson A/g National Coordinator
Australian Seed Bank Partnership

Common Fringe-Lily
(Thysanotus tuberosus)
Reiner Richter CC BY NC



Eastern Cleaner Clingfish
(Cochleoceps orientalis)
Harry Rosenthal CC BY NC

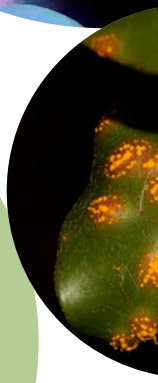
Partnering for impact

Indigenous Ecological Knowledge program

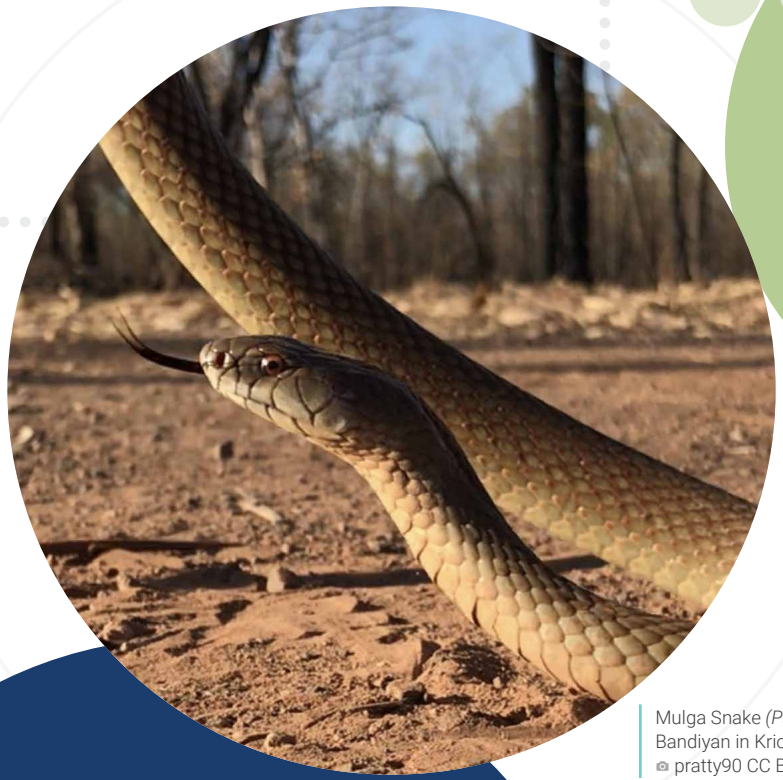
The ALA's Indigenous Ecological Knowledge (IEK) program collaborates with our Aboriginal and Torres Strait islander partners to promote Indigenous ecological knowledge and language by linking them to western science in the ALA.

In 2022-23, the IEK program added 2,500 local names, in eight languages, for 295 native plants and animals. This was the result of six years of work by Macquarie University's Emilie Ens and the Yugul Mangi Rangers of South-Eastern Arnhem Land to find and document the plants and animals in their area. Through the ALA this information is now widely accessible and discoverable.

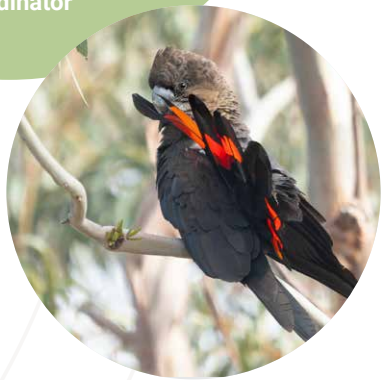
Yugul Mangi Assistant Ranger Coordinator Julie Roy, who speaks Ngalakgan and Ngandi languages, said the work not only offered shared scientific benefits but also helped support keeping local languages alive.



> ***It was very interesting for me to learn both the scientific names and local language names for the species and it's also good for the kids to be able to search these species online to learn more about local languages.***
>
> **– Julie Roy, Yugul Mangi Assistant Ranger Coordinator**



Mulga Snake *(Pseudechis australis)*
Bandiyan in Kriol language
pratty90 CC BY NC



Glossy Black-Cockatoo
(Calyptorhynchus lathami)
Zebsphotography
CC BY NC

> ***It is important to have a resource that is not only accessible by government and researcher sectors, but also by citizen scientists to be able to better identify emerging threats before their impact becomes widespread.***
>
> **– Dr Ken Walker, Museums Victoria Senior Curator**

Myrtle Rust *(Austropuccinia psidii)*
Pete Woodall CC BY NC

Biosecurity

With over 7.6 million hectares of land and 60,000 km of coastline, Australia is vulnerable to the introduction of new biosecurity threats every day. As Australia's national biodiversity data aggregator, the ALA currently holds information on more than 2,300 introduced species and almost 2 million occurrences of pests, weeds and agricultural diseases.

To better strengthen Australia's resilience to biosecurity incursions, we've collaborated with CSIRO, government, industry, land holders, national resource managment groups and researchers across projects such as Australian Biocontrol Hub, The Biosecurity Commons, Catalysing Australia's Biosecurity Program, WeedScan and the ALA's Biosecurity Alerts System. In 2022-23, we've developed the Biosecurity Hub to act as a one-stop-shop for discovering information about the ALA's biosecurity species, projects and partnerships. Find out more here ala.org.au/biosecurity.

EcoAssets has over 120 registered users, with over 400 downloads of the datasets to date.

EcoAssets

High-quality biodiversity data is needed to accurately represent the state of Australia's environment, coastal systems and natural landscapes. EcoAssets was developed to better support Australia's environmental reporting needs. The project was launched in August 2022 as a collaboration between three NCRIS research facilities (the ALA, the Terrestrial Ecosystem Research Network (TERN) and the Integrated Marine Observing System (IMOS) with co-investment from the Australian Research Data Commons).

EcoAssets supports government decision-making by enabling simple, standardised access to environmental data. To date, EcoAssets has delivered seven publicly accessible datasets, the biggest being the Australian Species Occurrence data asset which utilises data within the ALA.

EcoAssets data has been used to inform the 2021 State of the Environment Report as an independent, evidence-based assessment of Australia's environment. Additionally, EcoAssets has been used to inform the 2023 State of the Forests Report by the Australian Bureau of Agricultural and Resource Economics ab Sciences (ABARES). Find out more here ecoassets.org.au

Dr Kristen Williams, a CSIRO principal research scientist and a lead author of the Land chapter of the report, said;

> ***The aggregation of introduced species location data across time and space, combined with information on invasiveness, enabled reporting on status and trends with unprecedented granularity.***
>
> ***When further combined with contextual data, such as land-use zones and bioregions, a wide range of interpretive products could be developed.***

People highlights

Dr Ely Wallis,
ALA Engagement
Team Leader

Meet our Engagement Team

The ALA Engagement Team are responsible for managing ALA's key sector engagement projects and partnerships. These include working with the collections community (including museums, herbaria and libraries) and supporting a range of activities focused on citizen science, biosecurity, restricted access species and Indigenous Ecological Knowledge. The team is also involved in international biodiversity data infrastructures and initiatives such as the Biodiversity Heritage Library and Biodiversity Information Standards (TDWG).

The team is led by Dr Ely Wallis whose background includes research in crustacean neurobiology and extensive experience working with the collections sector through her time at Museums Victoria. Ely is supported by Nicole Kearney, Tania Laity, Javier Molina, Nat Raisbeck-Brown, Erin Roger, Cameron Slatyer and Andrew Turley.

Internship highlights

ALA internships offer the opportunity for students to gain hands-on experience working on bioinformatics, coding, modelling and data visualisation with the ALA team.

Across 2022-23, the ALA supported five internships for undergraduate university students.

Across summer, the ALA hosted two Indigenous students as part of the National Collections and Marine Infrastructure (NCMI) Indigenous Scholarship Program. Students were from University of New South Wales (UNSW) and University of Western Australia (UWA).

Likewise, the ALA also hosted three students from UNSW as part of a 12-week program from spring-summer 2022.

All students were hosted by the Science and Decision Support team and Data team in the ALA.

Hinged-Beaked Prawn
(Rhynchocinetes serratus)
Harry Rosenthal CC BY NC

> ***The Engagement team is a highly skilled and knowledgeable group of peers. We love a challenge, and love tackling big projects that require complex solutions.***
>
> –Dr Ely Wallis, ALA Engagement Team Leader

Leaf Green Tree Frog
(Ranoidea phyllochroa)
James Bennett CC BY NC

ALA conferences

Conferences and events well and truly picked up in 2022-23, with the ALA having representation at both international and domestic events such as:

- eResearch Australasia (Brisbane)
- Ecological Society of Australia (ESA) & Society for Conservation Biology Oceania conference (Wollongong)
- Biodiversity Information Standards Taxonomic Databases Working Group (TDWG) conference (Bulgaria)
- 29th GBIF Governing Board Meeting (Brussels).

Dax and Shandiya at Ecological Society of Australia conference

Governance

ALA Advisory Board

The ALA Advisory Board supports high-level direction and delivery of the ALA by providing vision, advocacy and advice. We are pleased to have 10 current ALA Advisory Board members, chaired by Professor David Cantrill.

Across the year, the Advisory Board met four times in Brisbane, Adelaide, Canberra and Darwin. It was brilliant to connect face-to-face, and we are grateful both to the Board and to our hosts at each location. At the conclusion of ALA Advisory Board meetings, 'Board Communiques' were distributed to summaries the key discussion topics and outcomes of each meeting. For a full list of current Advisory board members and to view past Communiques, please visit ala.org.au/governance

Pink Robin *(Petroica rodinogaster)*
Simon Grove CC BY NC

Acknowledgements

We thank each and every organisation, community and individual for your contributions and support. The ALA would not be possible without you. However, with more than 820 data partners it is a difficult task to acknowledge everyone, so please forgive any omissions.

Advisory Board (2022–23)

- Prof David Cantrill (Chair), Royal Botanic Gardens Victoria
- Ian Cresswell (former Chair)
- Dr Kate Brandis, UNSW
- Dr Bek Christensen, Ecological Society of Australia
- Dr Robyn Cleland, Independent
- Ms Margie Jenkin, Nature Australian Environmental Grant Makers Network
- Mr Matthew Miles, South Australian Department for Environment and Water
- Ms Toni Moate, CSIRO
- Dr Stephen van Leeuwen, Curtin University
- Mr Anthony Whalen, Australian National Botanic Gardens
- Dr Andre Zerger, Atlas of Living Australia

Partners

- Council of Heads of Australasian Herbaria (CHAH) – Australasian Virtual Herbarium
- Museums Victoria – Biodiversity Heritage Library
- Australian Museum – DigiVol
- Australian Biological Resources Study (ABRS) – Flora of Australia
- Global Biodiversity Information Facility
- iNaturalist
- Council of Heads of Australian Faunal Collections (CHAFC) – Online Zoological Collections of Australian Museums (OZCAM).

Collaboration partners

National Research Infrastructure Strategy (NCRIS) facilities

- Australian Research Data Commons (ARDC)
- Australian Urban Research Infrastructure Network (AURIN)
- Bioplatforms Australia
- Integrated Marine Observing System (IMOS)
- National Computing Infrastructure (NCI)
- Terrestrial Ecosystem Research Network (TERN)
- National Imaging Facility (NIF).

Australian collaborative projects

- EcoCommons
- Collaborative Species Distribution Modelling.

Department of Climate Change, Energy, the Environment and Water (DCCEEW)

- Monitoring, evaluation, reporting and improvement tool (MERIT)
- Murray–Darling Basin Authority hub
- Biosecurity Monitoring Through ALA Network
- National Environmental Science Program
- Citizen Science Bushfire Recovery Project Finder
- Collaborative Species Distribution Modelling
- EcoAssets for State of the Environment reporting.

International collaboration partners

- International Living Atlases
- iDigBio.

Western Australian Government

- Index of Biodiversity Surveys for Assessments (IBSA)
- Index of Marine Surveys for Assessments (IMSA).

Centre for Invasive Species Solutions

- Weeds Australia.

Indigenous ecological knowledge groups

- Kamilaroi, Ngukurr, Noongar-Wudjari, Olkola and Warriyangga people, communities and Country.

Universities and research organisations

- Australian National University
- Charles Darwin University
- Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- Macquarie University
- Monash University
- University of Adelaide
- University of Canberra
- University of Melbourne
- University of New South Wales
- University of Western Australia
- University of Queensland
- University of Sydney
- Western Australian Biodiversity Science Institute (WABSI)
- Plant Health Australia
- Australian Institute of Marine Science (AIMS).

Royal Spoonbill *(Platalea regia)*
Anne Love CC BY NC

The ALA is made possible by contributions from its partners, is supported by NCRIS, hosted by CSIRO and is the Australian node of GBIF.

Peak bodies
- Australian Citizen Science Association
- Environmental Consultants Association Western Australia
- National Academy of Sciences
- Taxonomy Australia.

Data partners

Authoritative and reference data
- Australian Biological Resources Study (ABRS)
- Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)
- Geoscience Australia
- Australian Faunal Directory (AFD)
- Australian Plant Names Index (APNI)
- Australian Plant Census
- AusFungi
- AusMoss.

Natural science collections, museums, herbaria, galleries and libraries
- All state and territory natural history collections
- Council of Australasian Museum Directors (CAMD)
- Council of Heads of Australian Faunal Collections (CHAFC)
- Council of Heads of Australasian Herbaria (CHAH)
- National Research Collections Australia (CSIRO)
- National Library of Australia (Trove)
- University herbaria and natural science collections.

International science agencies
- New Zealand Organisms Register.

Australian Government
- Department of Agriculture, Water and the Environment
- Department of Education, Skills and Employment
- Department of Industry, Science and Resources.

State, Territory and Local Governments
- ACT Government
- Brisbane City Council
- New South Wales Government Department of Planning, Industry and Environment
- Northern Territory Government Department of Environment and Natural Resources; Central Land Council
- Queensland Government Department of Environment and Science
- South Australia Department for Environment and Water
- Tasmanian Government Department of Primary Industries, Parks, Water and Environment
- Victorian Government Department of Environment, Land, Water and Planning; Office of the Lead Scientist
- Western Australian Government Department of Environment and Energy; Environmental Protection Agency.

Non-government organisations, community groups and conservation groups
- BirdLife Australia
- ClimateWatch
- Earthwatch
- eBird
- Greening Australia
- Landcare
- MangroveWatch.

Citizen science apps and projects
- Birdata
- Butterflies Australia
- eBird
- Echidna CSI
- FrogID
- iNaturalist Australia
- NatureMapr
- QuestaGame
- and many more.

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David Spencer Muirhead CC BY NC

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Reiner Richter CC BY NC SA

p2 Red-rumped Parrot *(Psephotus haematonotus)*
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p6 Short-beaked Echidna *(Tachyglossus aculeatus)*
John Sear CC BY NC

p8 Australasian Little Egret *(Egretta garzetta ssp. nigripes)*
warningherebedragons CC BY NC

p9 Ground Beetle *(Carenum elegans)*
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p9 Galah *(Eolophus roseicapilla)*
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p13 Eastern Spiny-tailed Gecko *(Strophurus Williamsi)*
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p16 Christmas Jewel Spider *(Austracantha minax)*
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Andamooka CC BY NC

p17 Common Fringe-Lily *(Thysanotus tuberosus)*
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p18 Mulga Snake *(Pseudechis australis)*
Bandiyan in Kriol language
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p18 Glossy Black-Cockatoo *(Calyptorhynchus lathami)*
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p18 Eastern Cleaner Clingfish *(Cochleoceps orientalis)*
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p19 Myrtle Rust *(Austropuccinia psidii)*
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p20 Hinged-Beaked Prawn *(Rhynchocinetes serratus)*
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p20 Leaf Green Tree Frog *(Ranoidea phyllochroa)*
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p21 Pink Robin *(Petroica rodinogaster)*
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p24 Hibiscus Harlequin Bug *(Tectocoris diophthalmus)*
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Contact us
support@ala.org.au

Atlas of Living Australia
ala.org.au