Atlas of Living Australia

Year in Review

2024–25

NCRIS
National Research Infrastructure for Australia
An Australian Government Initiative

CSIRO

Atlas of Living Australia
ala.org.au

Cover image:
Jewel Flutterer (*Rhyothemis resplendens*)
Graham Winterflood, CC BY SA

Resin pot bee
(*Megachile tarltoni*)
cinclosoma, CC BY NC

Honey Possum
(*Tarsipes rostratus*)
Jenny Thynne, CC BY NC

Acknowledgement of Country

The Atlas of Living Australia acknowledges the Traditional Owners of the land. We pay respect to the past and present Elders of the nation's Aboriginal and Torres Strait Islander communities. We honour and celebrate their spiritual, cultural and customary connections to Country and the biodiversity that forms part of that Country.

Contents

Superb Parrot
(*Polytelis swainsonii*)
Emma Bembrick, CC BY NC

Director's overview

It's a pleasure to welcome you to the Atlas of Living Australia's (ALA) Year in Review 2024–25, in which we showcase our collective achievements and recognise the significant contributions made by our partners and team in supporting our purpose.

In July 2025, the ALA launched its new Strategy 2025–2030, establishing a clear direction for delivering trusted biodiversity data services to support science and informed decision-making. The strategy responds to a suite of new drivers, including the growth in novel biodiversity monitoring technologies, opportunities around the management of sensitive data, increased cybersecurity risk, and improving how we incorporate the richness of Indigenous biodiversity knowledge into the ALA. In parallel, the strategy reaffirms the ongoing commitment to partner with and deliver benefits to new sectors, including industry and biosecurity, to complement our existing partnerships with biological collections, government, citizen science, and ecosystem science partners. Our team are particularly proud of the guiding principles articulated in the strategy, which will shape how we operate. We are grateful to our team, advisory board, and stakeholders who have helped shape our strategy.

There were two major product releases in 2024-25, including the production release of ALA's Biosecurity Alerts Service, and two major releases to the Australian Reference Genome Atlas product. The Alerts Service matured into a robust operational tool, now supporting over 85 users and 36 species lists. Strategic partnerships with CSIRO, the Department of Agriculture, Fisheries and Forestry (DAFF), and local governments were instrumental in supporting its national reach.

The Australian Reference Genome Atlas (ARGA) reached a major milestone this year with the release of its initial platform and the launch of the Genome Tracker—a key feature designed to visualise and explore reference genome data across Australia's biodiversity landscape. Developed in partnership with Bioplatforms Australia, Australian BioCommons and the Australian Research Data Commons, ARGA provides a centralised, accessible interface for researchers to track genome sequencing efforts, identify gaps, and support strategic planning for future genomic initiatives. This release marks a significant step in building national capability for genomic data integration, supporting broader efforts in conservation, biosecurity, and ecological research.

International engagement remained a strong focus, with ALA contributing to the Global Biodiversity Information Facility, Biodiversity Information Standards (TDWG, formerly the Taxonomic Data Working Group), and the Living Atlases community. Staff played active roles in a suite of national conferences, working groups, and standards development, reaffirming ALA's leadership in biodiversity infrastructure. Communications and outreach saw record webinar attendance, increased social media engagement, and widespread media coverage, including ABC interviews and features in The Conversation. Over 350 publications cited ALA data, demonstrating its impact on research in climate change, conservation, and biosecurity.

Our Australian Biodiversity Data Mobilisation Program (ABDMP) continued to deliver strong outcomes in its fourth year, supporting the mobilisation of biodiversity data across Australia. Chaired by Kirsti Abbott from the Museum and Art Gallery of the Northern Territory and guided by an independent review panel, the ABDMP has played a pivotal role in enhancing national biodiversity data availability by supporting both institutional and grassroots contributors. It has also strengthened partnerships across museums, herbaria, research organisations, and citizen science groups, helping to unlock valuable datasets for use in research, conservation, and policy.

Finally, I'd like to acknowledge the contributions of our data partners, whose efforts in digitising, curating, and sharing biodiversity records are foundational to the success of the national infrastructure. Their collaboration enables the ALA to deliver trusted, accessible data that supports research and decision-making across Australia and globally.

We hope you enjoy reading our 2024–25 story as much as we've enjoyed sharing it.

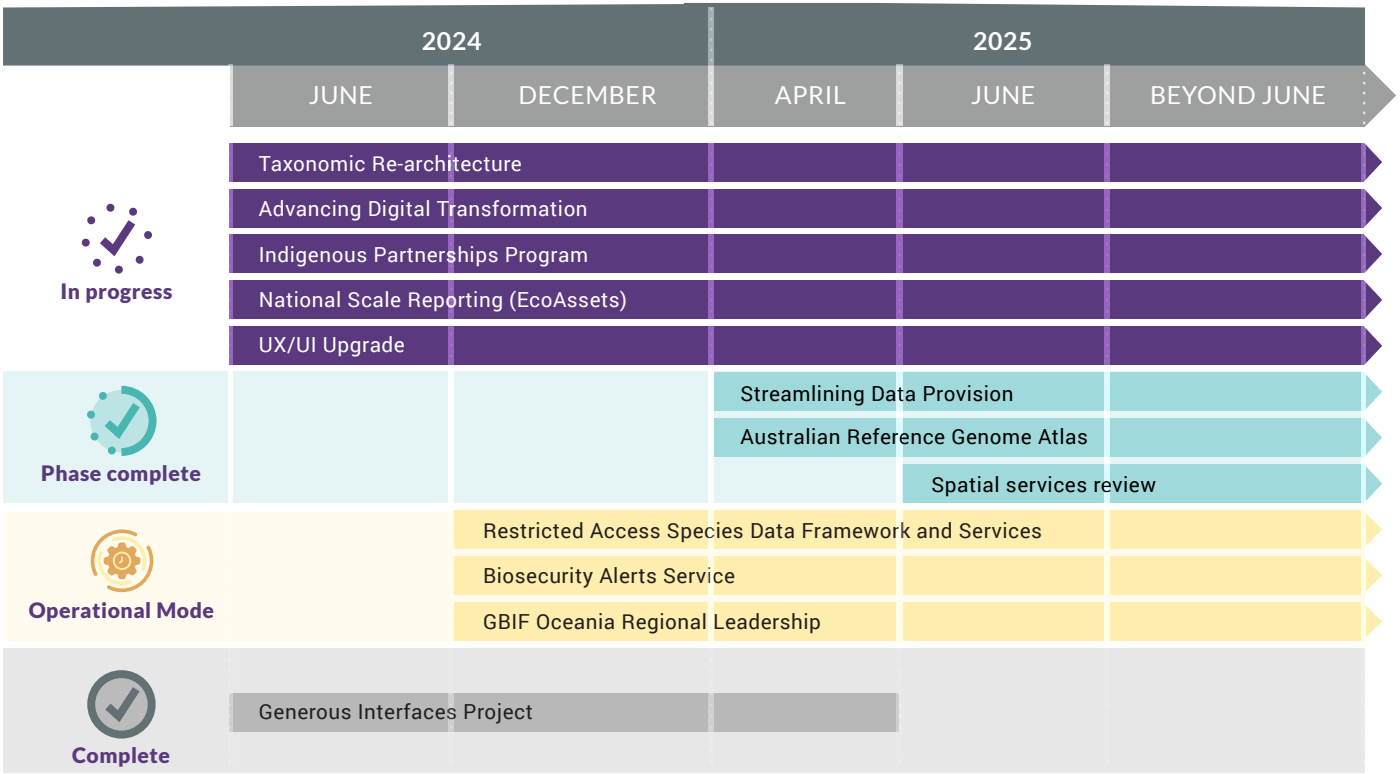
Dr Andre Zerger,
Director, Atlas of Living Australia

Little Pygmy Possum
(*Cercartetus lepidus*)

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 2025–30. The table below shows key activities the ALA team worked on during 2024–25. 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

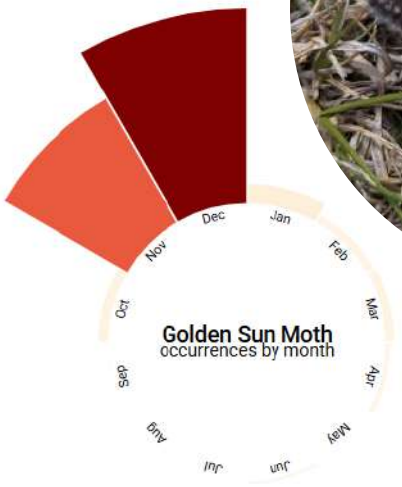
EcoAssets update

The EcoAssets data release represented a major update and the third consecutive year of data releases from this national service. The update contains two datasets: Australian Species Occurrences 1900-2023 and Environmental Monitoring and Observations Effort 2010-2023.

This service brings together environmental data collected from three national research infrastructures – the ALA, the Integrated Marine Observing System (IMOS) and the Terrestrial Ecosystem Research Network (TERN). These infrastructures have partnered with the Australian Research Data Commons (ARDC) to deliver an example of best-practice cross-domain data integration.

EcoAssets aggregates data across infrastructures, to provide biodiversity information at a scale and in a format suitable for environmental reporting at state, territory, or national levels.

Golden Sun Moth (*Synemon plana*)
Will Ford, CC BY NC



The Golden Sun Moth, an endangered moth from the Monaro grasslands, appears only for a couple of months in late spring and early summer.

Generous Biodiversity Interfaces

We partnered with Professors Mitchell Whitelaw and Adrian Mackenzie from the Australian National University to explore how ALA data could be presented in ways that are not only informative but also foster a deeper sense of connection by evoking place and meaning.

This work led to our pilot data visualisation app, ALA Lens, along with three interactive data stories. The Lens interface is designed to encourage exploration and discovery of species, data, and place, offering a more immersive and meaningful experience with biodiversity information. The data stories provide longer-form investigations into ALA data sources, threatened species, and seasonal change.

Golden Stag Beetle (*Lamprima aurata*)
ryan35mm, CC BY NC

Eastern Spinebill
(*Acanthorhynchus tenuirostris*)
judybarnes, CC BY NC

Atlas of Living Australia 2024–25 in numbers

Total metrics

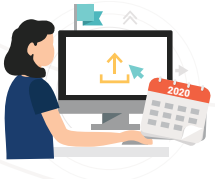
150,966,067
Total species occurrence records (up until 30 June 2025)

99.3%
Total number of records under Creative Commons licenses

1,399
Total number of datasets (from 1 July 2024 – 30 June 2025)

159,743
Total number of ALA registered users (up until 30 June 2025)

Annual metrics



19,986,303
Records first loaded 2024–25

356
Total publications referencing the ALA in the last financial year, **280** of which were journal articles

792
Support tickets resolved throughout the ALA helpdesk in 2024–25

227
Datasets added 2024–25

7,947
Galah® and **6,017** Python package downloads

Connecting with our community

User Satisfaction Survey

The ALA's annual User Satisfaction Survey has been running since 2022 and is a great way for us to understand how users experience our infrastructure and services. Our 2024 survey received responses from 965 participants. It revealed the four main reasons for users accessing the ALA were: research, land management or natural resource management, citizen science and general interest.

We were again very pleased with the results of the survey, with most survey respondents confirming they achieved their goals when using the ALA (84%) and overall, most were satisfied with the ALA (78%). Usability and data quality were two key areas identified by respondents for potential improvement, and we are actively working to address both.

> *"Thorough and helpful resource. Only one of its kind that's accessible to everyone."*
>
> – ALA user and survey participant

Engaging with our stakeholders

Our regular ALA newsletter is how we keep our 107,466 subscribers up to date on the latest ALA news, research impact and events.

The ALA team also delivered three webinars which attracted a total of 998 attendees. These covered:

1. Exploring next-gen biodiversity detection technologies (4 September 2024)
2. Generous interfaces for discovering complex biodiversity data (12 November 2024)
3. Harnessing biodiversity data to support Australian industry (4 March 2025)

Visit **ala.org.au/blog** to watch our previous webinars or read our recent articles.

The ALA on social media

The ALA is active on Instagram, Facebook and LinkedIn. Our content offers updates on ALA systems and platforms, infrastructure, species and collections, data partners and apps, and project and people highlights. Across our accounts, we reached 21,497 followers from April to June 2025.

Our posts are often shared by community groups including naturalists, land management communities and wildlife groups. This was the first full year of our Instagram account, which started with only 327 followers last year.

Followers *(as at 30th June 2025)*

1,826 **2,177** **11,000** **6,022**

Research impact

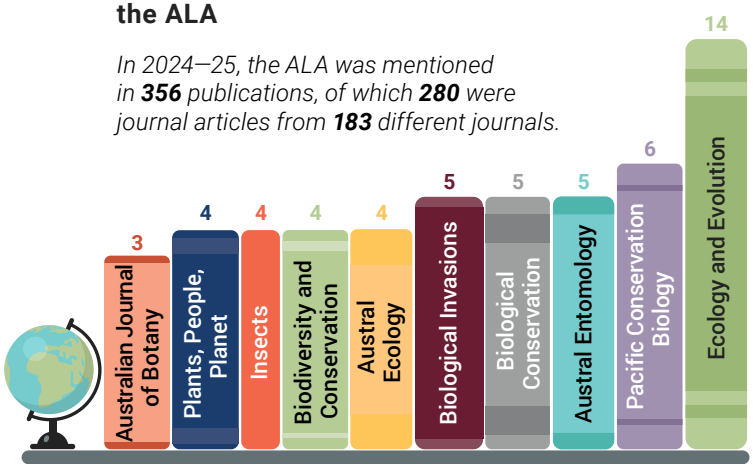
Gippsland Water Dragon
(*Intellagama lesueurii ssp. howittii*)
Deborod, CC BY NC

Publications citing the ALA

If you're keen to see how the ALA's being used by researchers, you can search known journal articles, books and websites that cite data in the ALA or ALA infrastructure. Visit: **ala.org.au/ala-cited-publications**

Top 10 journal titles mentioning the ALA

*In 2024–25, the ALA was mentioned in **356** publications, of which **280** were journal articles from **183** different journals.*



Research highlights

Threatened fauna that use blue carbon ecosystems: A review from Australia. *Biological Conservation* 303: 111030. DOI: 10.1016/j.biocon.2025.111030

Bell et al. (2025) used data from the ALA to assess which species use or require 'blue carbon ecosystems': mangrove forests, seagrass meadows and tidal wetlands. They found 30 threatened species are critically reliant on these ecosystems for survival, and a further 159 use them in some capacity, accounting for 15% of Australia's threatened fauna.

Who's been lost from the landscape? Identifying missing terrestrial fauna to inform urban rewilding. *Pacific Conservation Biology* 31(3). DOI: 10.1071/PC24096

Wauchope et al. (2025) used data from the ALA to find historical fauna records indicative of species that might have historically been present in northern Sydney, but have since been lost. This information is critical as it provides a benchmark against which current species assemblages, and the potential need for reintroduction or restoration activities, can be assessed. This process led to the conclusion that 15 mammal and three reptile species have been lost from the area since European colonisation.

Future climate shifts for vegetation on Australia's coastal islands. *Global Change Biology* 31(5) e70220. DOI: 10.1111/gcb.70220

Coleman and colleagues investigated which plant species were present on coastal islands around Australia, then joined that information with data from the ALA to calculate the probability that species will be able to persist under projected future climates. They found high uncertainty regarding future climate suitability of islands for plants, because while those islands are expected to have higher mean temperatures in future, they are not predicted to have more extreme climates. This suggests island plant populations may be more robust to climate change than we might expect.

The Kangaroo Island Insect Collection is often used for education and community engagement. Here, Dr Richard Glatz speaks to a students from University of South Australia studying conservation ecology. Richard Glatz/D'Estrees Entomology

Mobilising biodiversity data

Our Australian Biodiversity Data Mobilisation Program is a national initiative aimed at making more Australian biodiversity data openly available to support research and decision-making. Since its launch in 2022, more than $1 million has been invested into data mobilisation projects that bring visibility to and standardise existing biodiversity data, often stored in museums, herbaria, research organisations, and government collections, so it can be shared through the ALA.

The program has brought almost 1 million new records into Australia's national biodiversity data infrastructure, making them accessible to scientists, policymakers, land managers, and the public. It has also established new data pipelines with providers we haven't previously engaged.

Through these efforts the program has helped fill major data gaps, boosting beetle (Coleoptera) records on Kangaroo Island by 75 per cent, including both pre- and post-2019-20 bushfire data, which addresses taxonomic and geographical gaps. Historical algae datasets from established expert Dr Gerry Kraft have been mobilised through the program, addressing both taxonomic and temporal gaps.

This project almost tripled the number of records from Kangaroo Island (KI), which is of high ecological value. It has markedly increased the number of taxonomic groups previously listed from KI in the ALA, and provides recent information on a range of rare & endangered species. This data is now available to anyone involved in land management and conservation.

- Dr Richard Glatz, Principal Scientist, D'Estrees Entomology

This work matters because informed decisions depend on good data. Without accessible, reliable biodiversity information, it is difficult to make fully informed decisions on issues affecting Australia's ecological health.

Brown algae (*Sargassum saundersii*) (MEL 2526075A), Royal Botanic Gardens Victoria. Throughout Australia, algal habitats are deteriorating due to warming waters. The ability to track changes to these vital marine ecosystems is dependent on good baseline data about species' diversity, abundance and distribution.

Delivering data: from our data partners to your desktop

We harmonise more than 1,399 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
50,500,900

BirdLife Australia
15,128,293

NSW BioNet Atlas
14,336,439

Ocean Biodiversity Information System
10,275,429

Victorian Biodiversity Atlas
10,079,568

iNaturalist Australia
9,589,504

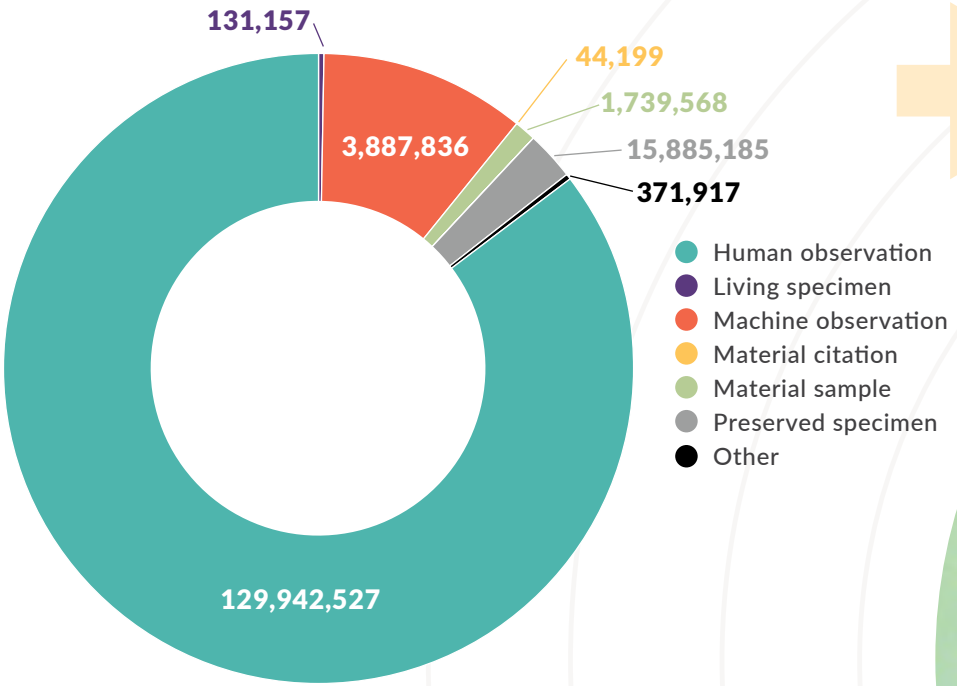
Australasian Virtual Herbarium
6,487,367

Online Zoological Collections of Australian Museums
5,726,973

South Australian Department for Environment and Water
4,098,557

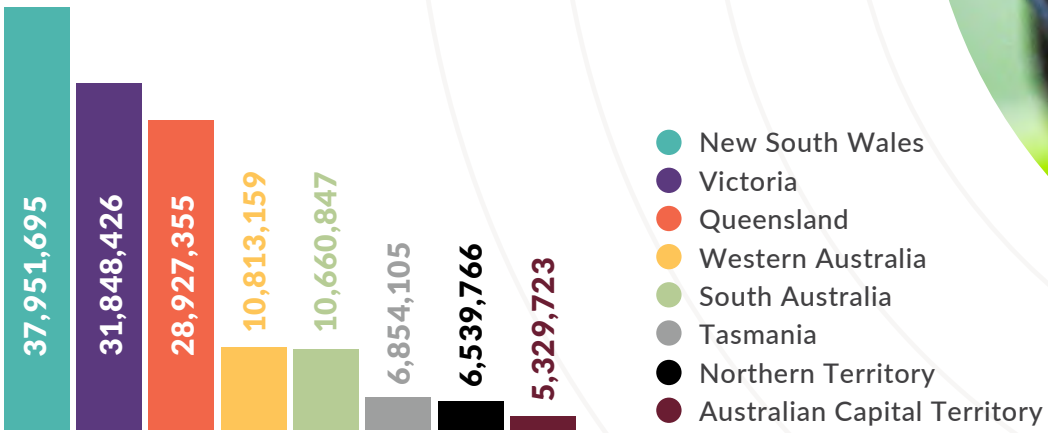
NSW Bird Atlases
3,381,819

Species occurrence record attribution



Feather-horned Beetle (*Rhipicera femorata*) Jenn, CC BY NC

Occurrence records by state and territory

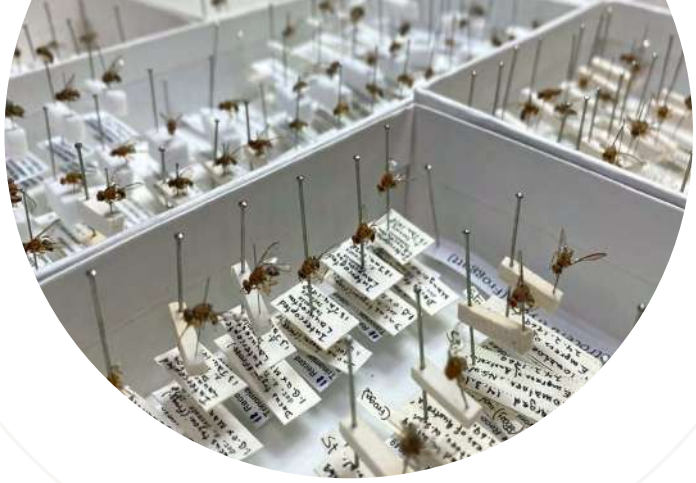


Data partner spotlights

Biosecurity Tasmania

The Tasmanian Agricultural Insect Collection (TAIC) has over 100 years of invertebrate specimen records from across Tasmania, the subantarctic Macquarie Island, and other islands around Tasmania.

As part of our biodiversity data mobilisation program, they delivered 104,286 validated specimen-based records, including more than 450 type specimens. These records covered 2,912 species, across 1,816 genera and 372 families. TAIC also digitised around 1,000 records from previously un-databased specimens.



Tephritidae (fruit flies) pinned in the Tasmanian Agricultural Insect Collection.
Melissa Houghton, Biosecurity Tasmania

> ***These records will provide a significant increase in spatial area of most Tasmanian species, as well as many Tasmanian species that are currently not covered by the ALA. Many of the Macquarie Island species from TAIC's undatabased specimens have not been provided to the ALA from any other source.***
>
> – Guy Westmore, Biosecurity Tasmania

The project enabled a substantial update to TAIC's database taxonomy, including validating species names and identifying and databasing existing specimens, and for record data to be cleaned into a suitable format. This also streamlined the process for providing any future data to the ALA.

This dataset added the first Australian records in the ALA for 312 species, doubled the number of records for another 480 species and substantially increased the number of records for a further 1,164 species. These new records are therefore a significant increase in the ALA's publicly available data for Tasmanian invertebrates. It makes the picture more complete for Australian invertebrate biodiversity data.

Dr. Lynne Forster at work in the Tasmanian Agricultural Insect Collection.
Melissa Houghton, Biosecurity Tasmania

The Wildlife Observatory of Australia

A new dataset sees verified images from wildlife camera traps available in the ALA. But it wasn't just a case of point and shoot to incorporate this new data into the ALA.

The Wildlife Observatory of Australia (WildObs) is a national initiative transforming how Australia collects, processes, and shares data from wildlife camera traps. WildObs is a partnership led by the Queensland Cyber Infrastructure Foundation and supported by our NCRIS colleagues the Terrestrial Ecosystem Research Network (TERN) and the Australian Research Data Commons (ARDC).

> ***Camera traps can capture huge amounts of high-quality data, but their potential is not being fully realised due to lack of standardised national research infrastructure.***
>
> – Dr Zachary Amir,
> Principal Data Scientist at TERN

For our part, the ALA developed a new process for ingesting data in Camera Trap Data Package (CamtrapDP), a new standard that allows richer data capture specifying deployments, observations and media. It's been developed by the Biodiversity Information Standards organisation (TDWG) and adopted by the Global Biodiversity Information Facility (GBIF). The ALA transforms camera trap data into Darwin Core events and occurrences.

This Australian Brush Turkey (*Alectura lathami*) was captured through a wildlife camera trap.
Zachary Amir, CC BY NC

Blueberry Ash (*Elaeocarpus reticulatus*)
debtaylor142, CC BY NC

Data quality at the ALA

In 2024-25, we formed a new cross-team ALA data quality working group. It will prioritise and tackle ongoing issues of data quality. It is working on a new Data Quality Framework looking at our processes for aggregating data and how users filter data. We're also working on a new Data Strategy and roadmap.

We're working to improve user assertions by making system changes and engaging with power users to better understand their requirements. We've also been reviewing datasets from primary data partners such as NSW Bionet and working with these providers to resolve errors such as misattribution, spatial errors, and record duplication. The ALA has worked with external collections teams to upskill collections staff to improve data quality and resolve issues.

International partnership enhances Australian biodiversity data availability

As the Australian node of the Global Biodiversity Information Facility (GBIF), the ALA has strong partnerships with global biodiversity data programs. From GBIF, the ALA was able to source an additional three million records of Australian species to add to the ALA's 150 million records. These additional records have provided the first digital records of 7,914 Australian species. Another 6,177 had the number of records doubled.

While some species have millions of observations recorded in the ALA, many lesser-known species have few or even no public records. The ALA has been working to improve taxonomic representativeness of our data with a little help from the international community.

Importantly, having easily accessible data for more species means scientists can save time and effort searching for data, having positive impacts on conservation assessments and modelling.

Cape York Graceful Tree Frog (*Chlorohyla bella*)
Mark Simpson, CC BY NC

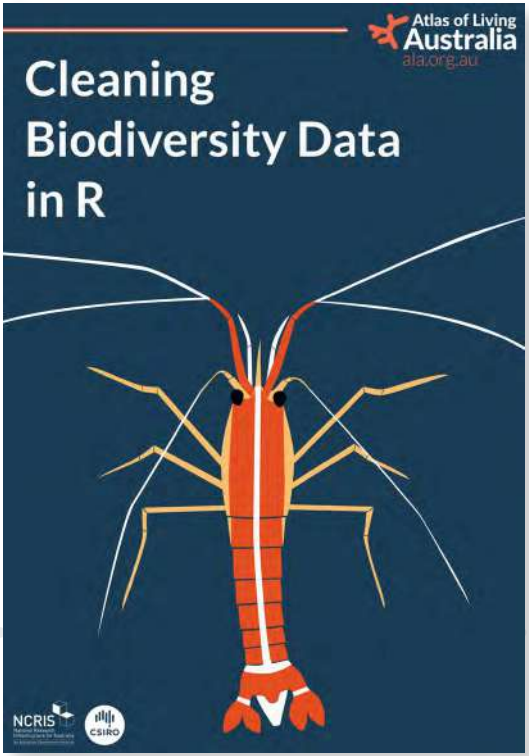
Eastern Ground Parrot (*Pezoporus wallicus wallicus*) raghav16s, CC BY NC

Local data for global impact

A research paper led by the University of NSW found that ALA data supported 2,406 scientific publications from over 9,000 authors (up to 2023).

Most of these papers were open access (63%). They looked at topics such as characterising species, species distribution, and methodological innovations. This research had potential impact for conservation, planning and policy making.

The paper, 'Going global by going local: Impacts and opportunities of geographically focused data integration', was led by Malgorzata Lagisz, with ALA co-authors Martin Westgate and Dax Kellie. *BioScience* 74(9) DOI: 10.1093/biosci/biae070.



Our data cleaning guide. Dax Kellie 2024

Cleaning Biodiversity Data in R – our new guide

Tidying messy ecological data can be tricky! Our Science and Decision Support Team released a new guide, 'Cleaning Biodiversity Data in R', on processes for cleaning biodiversity data for anybody who handles their data using code in R.

We took a deep-dive into recent peer-reviewed research to see how experts cleaned their biodiversity data and came up with this practical guide for cleaning geo-referenced biodiversity data using R.

Our cover features the Pacific Cleaner Shrimp (*Lysmata amboinensis*), a cleaning hero of coral reef ecosystems across the tropics. These shrimps clean parasites and dead tissue from "client" fish, which helps to heal the fish's wounds and improve their health.

Providing robust services

Accelerating the ALA's digital transformation

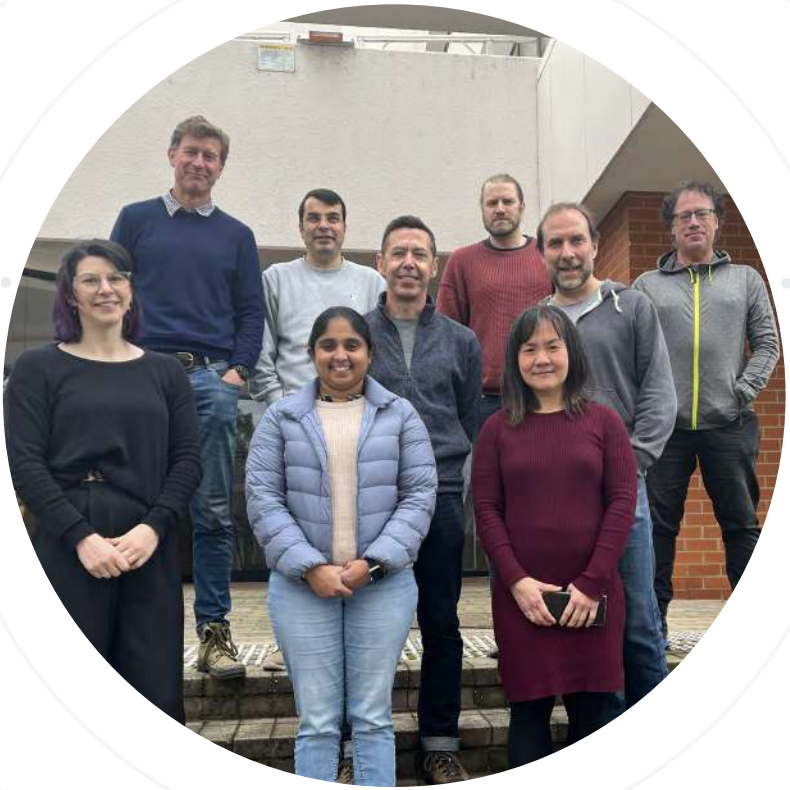
We're accelerating our digital transformation by enhancing resilience, security, and sustainability while building a foundation for a next-generation ecosystem. Our team has made strategic upgrades to improve reliability and prepare for future demands.

Security remains central. Two-factor authentication now secures server access, deployments, GitHub, AWS, and cloud tools, supported by Zero Trust assessments and expanded Web Application Firewall protection. Centralised scanning of web portals and APIs has blocked over 200 million malicious requests, while core credentials have been migrated to a secure secrets management system, heightening security.

Operational excellence is driven by automation and modernisation. Infrastructure-as-code and cloud pipelines enable automated provisioning of networks, databases, storage, and applications. Large-scale upgrades across 117 servers and separation of production and test AWS accounts have reduced risk of disruption to live systems.

We rearchitected four legacy systems as cloud-native and migrated the first application to the Next Gen platform. The Next Gen ecosystem is evolving as a future-ready foundation for scalability and integration with emerging technologies. DeepWiki large language model (LLM) integration has automated documentation and made the codebase interactive.

These initiatives have reduced the ALA's server fleet size, reduced costs and emissions, and resulted in a range of other efficiency improvements.



Members of the ALA's technical team attended Kubernetes training to strengthen our cloud infrastructure capabilities and support scalable, resilient delivery of biodiversity data services.

Left to right, back row: Joe Lipson, Mahmoud Sadeghi, Simon Bear, Matt Andrews
Middle row: Nick dos Remedios, Chris Godwin
Front row: Kylie Morrow, Yasima Kankanamge, Patricia Koh

Delivering trusted data for research

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.

Through harmonising data from hundreds of sources, the ALA is committed to making Australian biodiversity data open and accessible.

The ALA empowers researchers to explore complex ecological patterns, understand species distributions, and model the impacts of climate change to better understand Australian biodiversity landscapes.

Learn more: **labs.ala.org.au/research/highlights**

This data visualisation from ALA Decision Support Program Lead Shandiya Balasubramaniam shows 50 years of tree data for 4 iconic species: the River Red Gum, Snow Gum, Mountain Ash, and Moreton Bay Fig. The figures are read from the inside out, as you would a cross section of a tree trunk, where the number of records for 1976 is shown in the innermost ring, and each subsequent ring is the next year. The colour and thickness of rings represent the number of records for that tree in the ALA, with more records indicated by darker and thicker rings.

Using our coding package {galah} to download data from the ALA, Science Lead Dax Kellie mapped occurrence records of Blue Banded Bees (genus *Amegilla*). Each point represents the total occurrence records per day (1 January 2001 till 7 August 2024)

Supporting decision-making

Genome Tracker

We launched our world-first Genome Tracker tool showing progress on sequencing the genomes of all Australian biodiversity.

The online dashboard is part of the Australian Reference Genome Atlas (ARGA), a platform delivered through the ALA, Bioplatforms Australia, Australian BioCommons and the Australian Research Data Commons.

Genome Tracker has revealed the ancient taxonomic branches currently have just 32 per cent genomic coverage. Improving this will deepen our understanding of how species have diversified and evolved over time. This can help predict how species might adapt in the future and spotlights populations for monitoring, conservation and protection.

Orange-bellied parrot (*Neophema chrysogaster*)
Tom Hunt, CC BY NC

> ***Bioplatforms Australia is proud to be delivering ARGA through this national collaboration. It's a major step forward in connecting genomics-driven conservation, research, and biosecurity.***
>
> – Sarah Richmond, Bioplatforms Australia

Taxonomic descriptors, species occurrence records, and ecotype layering allow researchers to use ARGA to filter and search the indexed genomics data, and to track every species in Australia.

Numbat (*Myrmecobius fasciatus*)
Kym Nicholson, CC BY NC

Green Mantid
(*Orthodera ministralis*)
Matt Tudor, CC BY NC

Ghost Fungus
(*Omphalotus nidiformis*)
Joe Lipson, CC BY NC

Expanded external training

In 2024–25, the ALA expanded its external training offerings, focusing on tailored training products for our strategic partners.

Our ongoing collaboration with the Environment Institute of Australia and New Zealand (EIANZ) supported continued delivery of our flagship course, 'Mastering the ALA for Environmental Practitioners', which is now recognised under EIANZ's national Environmental Practitioner Certification scheme. The course has reached nearly 600 participants from over 250 organisations.

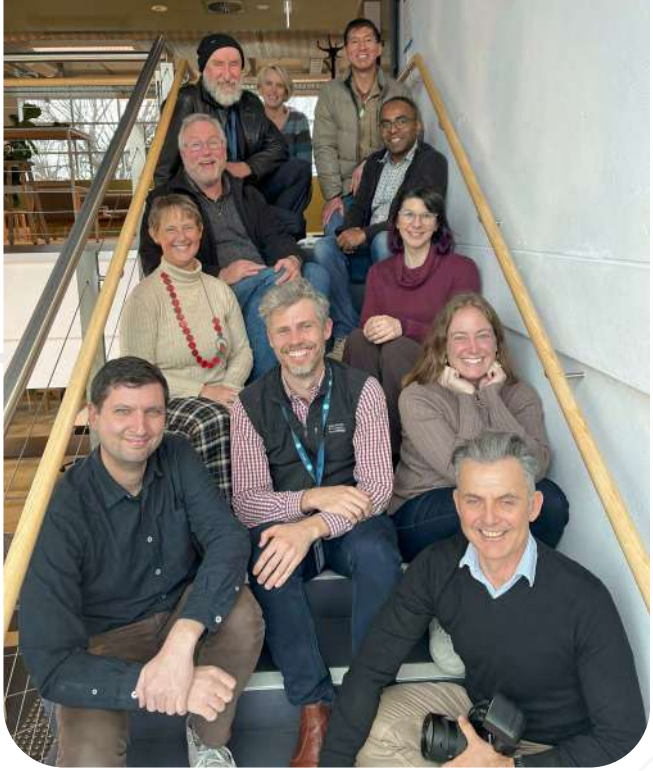
This partnership also sparked interest in bespoke training on sensitive data, taxonomy, and setting up custom alerts for culturally significant species and locations.

Regionally, we delivered training with WA Landcare, engaging participants from the Pilbara to Eagle Bay, which supports efforts to improve data coverage in this ecologically significant but underrepresented area. A 'Lunch and Learn' with the Kimberley Land Council explored ALA use cases, sensitive data handling, and challenges around data standardisation for ranger groups.

Nationally, we ran a half-day session with the Federal Department of Climate Change, Energy, the Environment and Water (DCCEEW), covering programmatic data access using our Python package 'galah', mapping with ALA data, and discussions on sensitive data and taxonomy.

This work is vital to helping environmental practitioners, land managers, and communities confidently access and use biodiversity data to support decision-making, research, and culturally informed land and sea management.

Partnering for impact



Members of our ALA team.

Global biodiversity collaboration

ALA staff participated in the International Congress on Research Infrastructure in Brisbane in December 2024 and hosted an event with the Queensland Museum to engage leaders in global research infrastructure. This event, titled 'Designing nationally distributed collections infrastructure to solve global research challenges' resulted in important discussions about the opportunities and challenges for the sector in harnessing collections data.

The ALA attended the International Congress for Conservation Biology in Brisbane in June 2025 and ran an information booth, facilitating discussions with current and potential collaborators from Australia and overseas.

The ALA also took part in the GBIF Governing Board meeting in Portugal and co-led the GBIF Oceania Regional Nodes meeting (New Zealand, September 2024). We also participated in the first Living Atlases workshop held since 2019 (Spain).

Several ALA team members attended the annual Biodiversity Information Standards (TDWG) annual conference (Okinawa, Japan) and most presented papers and organised or moderated symposia.

We are continuing to work with GBIF and TDWG to develop a use case for the new Darwin Core data packages to enable implementation of the proposed Sensitive Species Extension.

iNaturalist Australia fifth birthday

We celebrated the fifth birthday of iNaturalist Australia in October! Since hosting iNaturalist Australia, we've supported greater recruitment of observers and experts to accelerate observations and identifications.

It took six years (from 2008) for Australia to reach 10,000 total iNaturalist records. Now more than 10,000 new Australian records are uploaded to the platform every day.

Australia ranks third in the world for the number of observations, second for the number of species (behind only the United States), and first in the southern hemisphere across all key metrics.

Peacock Spider (*Maratus occasus*)
Dee Newton, CC BY-NC

ALA Biosecurity Alerts Service goes live

Our innovative National Biosecurity Alerts Service notifies biosecurity agencies and land managers of invasive species detections when they are shared with the ALA.

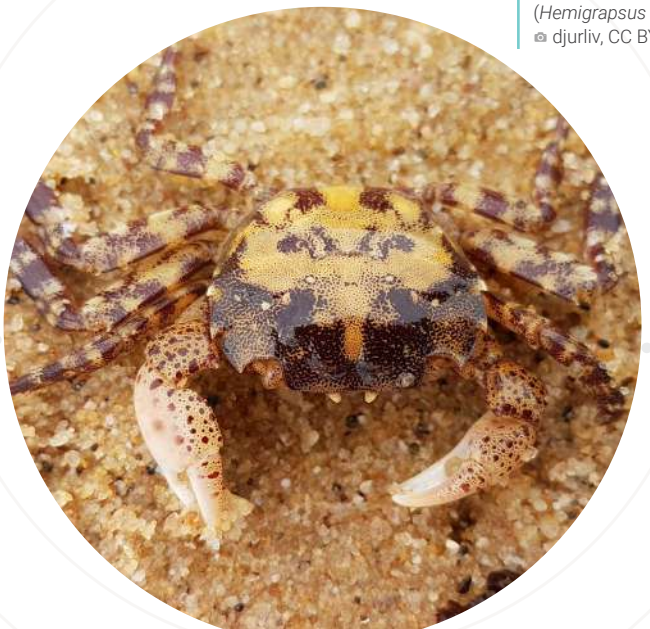
We completed development of the service and integrated the digital tools into core ALA systems leading to the public product release in November.

The alerts service has already helped detect multiple new invasive species incursions in Australia, including some of the first records of the Freshwater Gold Clam *(Corbicula fluminea)* in Queensland and the Asian Shore Crab *(Hemigrapsus sanguineus)* in Victoria.

We partnered with the Australian Department of Agriculture, Fisheries and Forestry (DAFF) and CSIRO's Catalysing Australia's Biosecurity initiative to deliver this general biosecurity surveillance tool.

With DAFF staff we published a journal paper, 'Citizen science delivers high-value biosecurity surveillance and reporting capability', showing how the alerts service is being used by biosecurity agencies.

Asian Shore Crab (*Hemigrapsus sanguineus*)
djurliv, CC BY NC



Young scientists moving from field to future

Plants are the third largest type of occurrence record in the ALA, with over 24 million occurrence records. And scientific collections have a big role to play in helping to tackle plant diseases.

As part of the Australasian Plant Pathology Society's 'From Field to Future, Scientific Collections and Plant Pathology Conference', the ALA offered bursaries to support a number of university students and early-career researchers.

The five bursary recipients are helping pave the way for future research into plant disease science and contributing to online platforms like the ALA.

ALA bursary recipients Vivian Rincon-Florez, Jonathan Haworth, Haixia Guan and Alyssa Martino with the ALA's former Biosecurity Lead Erin Roger (centre).

Partnering for impact

Indigenous Partnerships

In 2024-25, the ALA Indigenous Partnerships Program deepened engagement with Aboriginal and Torres Strait Islander communities through collaboration, knowledge sharing, and support for Indigenous-led science.

The team engaged in national and international forums including the Global Indigenous Data Alliance (GIDA) Conference, the AIATSIS Summit, and CSIRO workshops on Indigenous data sovereignty. These spaces enabled the ALA to listen, learn, and contribute to conversations about the role of data in supporting Indigenous rights, language, land management, and cultural heritage.

The ALA was proud to facilitate workshops at the Indigenous Mapping Workshop, an invitation-only event focused on geospatial capacity building for Indigenous Australians. ALA staff also presented at the Indigenous Land and Sea Forum, where discussions with ranger groups explored how biodiversity data can support storytelling and communication with Western science audiences.

Our partners Denise Smith-Ali (Noongar Boodjar Aboriginal Language Centre, WA) and Bernadette Duncan (Gadji Gadji Garden Project) presented at the International Indigenous Research Conference in Auckland.

The program explored new ways to make biodiversity data more accessible and culturally relevant and collaborated with our Systems Team to test how our 'alerts' function might allow Aboriginal and Torres Strait Islander users to set notifications for culturally significant species and locations.

By supporting Aboriginal-led research, providing open-access to biodiversity data, and creating space for Indigenous voices in science and decision making, the ALA is contributing to a more inclusive and respectful approach to knowledge sharing.

Emu (*Dromaius novaehollandiae*)
James Bennett, CC BY NC

Our Indigenous Ecological Knowledge program has added 3500 Indigenous names to the Atlas of Living Australia for ~700 species. Previously plants and animals often had only a couple of names or one common name and one scientific name. Now, for example, the Emu has 26 names listed in 13 languages from across Australia.

Meet our Science and Decision Support Team

The ALA Science and Decision Support Team develops software, workflows and training resources to make it easier to locate, interrogate and interpret biodiversity data at scale.

The team's major product is 'galah', an R and Python package for efficiently and reproducibly downloading data for biodiversity analysis from the ALA or one of 10 other biodiversity databases around the world, including the Global Biodiversity Information Facility (GBIF).

The team also collaborates with the research sector to deliver ALA labs, a blog series showing how to accomplish common tasks in a coding environment. In 2025, the team moved into a new phase by launching 'galaxias', a cross-language package to help users share data with the ALA and other biodiversity infrastructures.

ALA Science and Decision Support team members, from left to right, Martin Westgate, Shandiya Balasubramaniam, Juliet Seers and Dax Kellie.

ALA Advisory Board update

We were pleased to welcome Marlee Hutton and Professor Dieter Hochuli to the board. Marlee is a Bardi Jawi woman and the Regional Ecologist for the Kimberley Land Council (KLC), based in Broome. Dieter is from the School of Life and Environmental Sciences at the University of Sydney and has joined the board in an ex officio capacity as the President of the Ecological Society of Australia (ESA).

The board met four times from July 2024 to July 2025 in: Townsville (hosted by the Australian Institute of Marine Science), Melbourne (hosted by Museums Victoria), Perth (hosted by the Western Australian Museum Boola Bardip), and online.

Our Board is fortunate to be chaired by Professor David Cantrill, Executive Director of Science, Royal Botanic Gardens Victoria, and board members during the period were: Ron Avery, Kate Brandis, Cathy Byrne, Robyn Cleland, Dieter Hochuli, Marlee Hutton, Margie Jenkin, Toni Moate, Rebecca Pirzl, Stephen van Leeuwen, and Andre Zerger.

ALA Advisory Board meeting in Perth, hosted by the Western Australian Museum Boola Bardip. From left to right: Andre Zerger, Toni Moate, Cathy Byrne, Margie Jenkin, Ron Avery, Dieter Hochuli, David Cantrill, Robyn Cleland, Stephen van Leeuwen.

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 1000 data partners it is a difficult task to acknowledge everyone, so please forgive any omissions.

Advisory Board (2024–25)

- Prof David Cantrill (Chair), Royal Botanic Gardens Victoria
- Mr Ron Avery, Biodiversity Information Systems, NSW DCCEEW
- Dr Kate Brandis, UNSW
- Dr Catherine Byrne, TMAG
- Dr Robyn Cleland, independent
- Prof Dieter Hochuli, Ecological Society of Australia
- Ms Marlee Hutton, Kimberley Land Council
- Ms Margie Jenkin, Australian Environmental Grant Makers Network
- Ms Toni Moate, CSIRO
- Dr Rebecca Pirzl, DCCEEW
- Dr Stephen van Leeuwen, Curtin University
- Dr Andre Zerger ALA CSIRO.

Partners

- Council of Heads of Australasian Herbaria (CHAH) – Australasian Virtual Herbarium
- Council of Heads of Australian Faunal Collections
- Museums Victoria – Biodiversity Heritage Library
- Australian Museum – DigiVol
- Australian Biological Resources Study
- Global Biodiversity Information Facility (GBIF)
- iNaturalist
- Online Zoological Collections of Australian Museums
- Australian Seedbank Partnership – Seedbank Portal.

Collaboration partners

National Research Infrastructure Strategy (NCRIS) facilities

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

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

- Monitoring, evaluation, reporting and improvement tool (MERIT)
- Murray–Darling Basin Authority hub
- National Environmental Science Program
- Citizen Science Bushfire Recovery Project Finder
- EcoAssets for State of the Environment reporting
- Australian Biodiversity Information Governance Group.

International collaboration partners

- International Living Atlases Community
- iDigBio, Global Biodiversity Information Facility (GBIF)
- Biodiversity Information Standards (TDWG)
- Catalogue of Life – ChecklistBank.

Centre for Invasive Species Solutions

- Weeds Australia.

Indigenous ecological knowledge groups

- Kamilaroi, Ngukurr, Noongar Boodjar Language Centre, Olkola and Warriyangga people, communities and Country.

Universities and research organisations

- Australian Institute of Marine Science
- Australian National University
- Charles Darwin University
- CSIRO
- Macquarie University
- Monash University
- Plant Health Australia
- 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)

Beach Stone-Curlew (*Esacus magnirostris*)
Joel Poyitt, 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
- Australian Academy of Science
- Taxonomy Australia
- Environment Institute of Australia and New Zealand.

Data partners

Authoritative and reference data
- Australian Bureau of Agricultural and Resource Economics and Sciences
- Geoscience Australia.

Australian Biological Resources Study projects and services
- Australian Faunal Directory
- Australian Plant Names Index
- 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)
- CSIRO National Research Collections Australia
- National Library of Australia (Trove)
- University herbaria and natural science collections.

International science agencies
- New Zealand Organisms Register.

Australian Government
- Department of Agriculture, Fisheries and Forestry – National biosecurity surveillance alerts service
- 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.
- Western Australian Government, Index of Biodiversity Surveys for Assessments
- Western Australian Government, Index of Marine Surveys for Assessments.

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
- Echidna CSI
- FrogID
- iNaturalist Australia
- NatureMapr
- QuestaGame
- and many more.

Image credits

A Jewel Flutterer *(Rhyothemis resplendens)*
Graham Winterflood, CC BY SA

B Resin pot bee *(Megachile tarltoni)*
cinclosoma, CC BY NC

Honey Possum *(Tarsipes rostratus)*
Jenny Thynne, CC BY NC

p1 Superb Parrot *(Polytelis swainsonii)*
Emma Bembrick, CC BY NC

p3 Little Pygmy Possum *(Cercartetus lepidus)*
David Hancock, CC BY NC

p5 Golden Sun Moth *(Synemon plana)*
Will Ford, CC BY NC

Golden Stag Beetle *(Lamprima aurata)*
ryan35mm, CC BY NC

p6 Eastern Spinebill *(Acanthorhynchus tenuirostris)*
judybarnes, CC BY NC

p7 Blow fly *(Hemipyrellia fergusoni)*
Mark Calabretta, CC BY-NC

Spreading Guinea Flower *(Hibbertia procumbens)*
Annabel Carle, CC BY-NC

Tamar Wallaby *(Notamacropus eugenii)*
Julius Simonelli, CC-BY NC

p8 Gippsland Water Dragon *(Intellagama lesueurii ssp. howittii)*
Deborod, CC BY NC

p11 Feather-horned Beetle *(Rhipicera femorata)*
Jenn, CC BY NC

p14 Blueberry Ash *(Elaeocarpus reticulatus)*
debtaylor142, CC BY NC

Cape York Graceful Tree Frog *(Chlorohyla bella)*
Mark Simpson, CC BY NC

p15 Eastern Ground Parrot *(Pezoporus wallicus wallicus)*
raghav16s, CC BY NC

p18 Orange-bellied Parrot *(Neophema chrysogaster)*
Tom Hunt, CC BY NC

Numbat *(Myrmecobius fasciatus)*
Kym Nicholson, CC BY NC

p19 Green Mantid *(Orthodera ministralis)*
Matt Tudor, CC BY NC

Ghost Fungus *(Omphalotus nidiformis)*
Joe Lipson, CC BY NC

p20 Peacock Spider *(Maratus occasus)*
Dee Newton, CC BY NC

p21 Asian Shore Crab *(Hemigrapsus sanguineus)*
djurliv, CC BY NC

p22 Emu *(Dromaius novaehollandiae)*
James Bennett, CC BY NC

p25 Beach Stone-Curlew *(Esacus magnirostris)*
Joel Poyitt, CC BY NC

p26 Many-lined Delma *(Delma impar)*
Matt Clancy, CC BY NC

Citing this publication

Atlas of Living Australia Year in Review 2024–25, Atlas of Living Australia publication series No.18, Canberra, Australia, 26 pp

DOI: **doi.org/10.54102/ala.37826**

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