

The Atlas of Living Australia: Integrated Biodiversity Information

The Atlas of Living Australia (ALA) is a national initiative to bring together information, and in particular research data, about Australian plants, animals, fungi and microorganisms.

Existing information about Australian species is distributed across countless databases, specimen catalogues from museums and herbaria, printed literature, images and other multimedia, and hundreds of web sites.

The ALA is working to integrate this dispersed information to provide as complete a picture as possible for each species, and to make it easier to record, manage and analyse biodiversity data.

Data and Tools for Biological Collections and Research

The ALA is delivering key infrastructure for the integrated management of biodiversity information in support of research, policy and education, including:

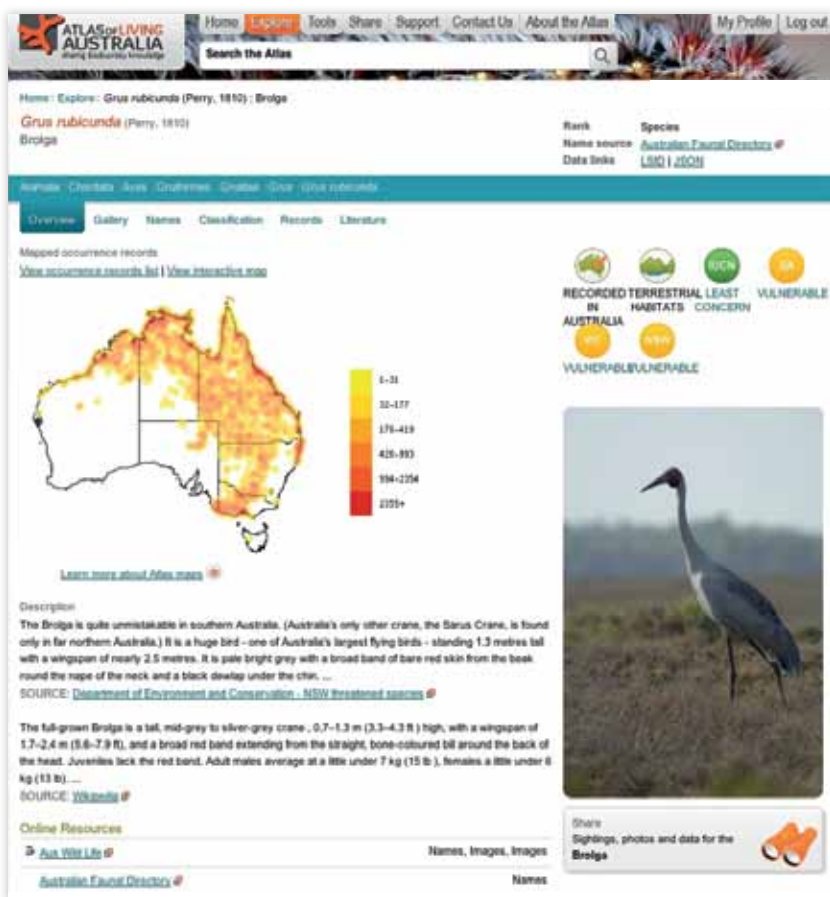
1. The most comprehensive and authoritative list of Australian species ever produced, including the names and synonyms for all described Australian plant, animal and fungal species.
2. Consistent management and integration of primary distributional records (which species have been recorded in which locations on which dates) from all sources for any Australian species.
3. Standardised quality control and record review processes, and appropriate handling of records of species considered sensitive from the standpoints of conservation and biosecurity.

4. Management of additional properties associated with these records, including images, sounds, molecular sequences, links to site- and project-based metadata, descriptive characters and functional properties.
5. Rich GIS capability and mapping tools integrating species distribution records with gazetteer entries and more than 350 layers.
6. Significantly enhanced capacity for Australia's natural history collections (herbaria, faunal, entomological and microbial collections) to database and image specimens and to present these data online through the ALA.
7. Integrated digital repositories for biodiversity images, literature, barcode sequence data, identification keys, species interaction data and species fact sheets.
8. Flexible tools to support citizen-science and other field-based data recording using accepted standards.
9. Web pages for accessing all of these resources for any Australian species.

These combined capabilities are making Australia a world leader in biodiversity and ecological data management.

The ALA is working with the Australian taxonomic community to build a comprehensive list of the described species known to occur in Australia. This list provides the Atlas with the structure needed to organise all other information on Australian biodiversity and is a valuable resource for many other uses.





Species Pages

The species page for the Brolga (*Grus rubicunda*) includes a distribution map, image gallery, descriptions, access to occurrence records, literature and information about the Brolga's ecological conservation status, classification and names. Occurrence records can be sorted and filtered by dataset, State or Territory, biogeographic region and date.

Help build a better picture of Australian biodiversity

Researchers and community members interested in Australian biodiversity are invited to contribute observations and photos to the ALA site at www.ala.org.au

Field-based Data Recording

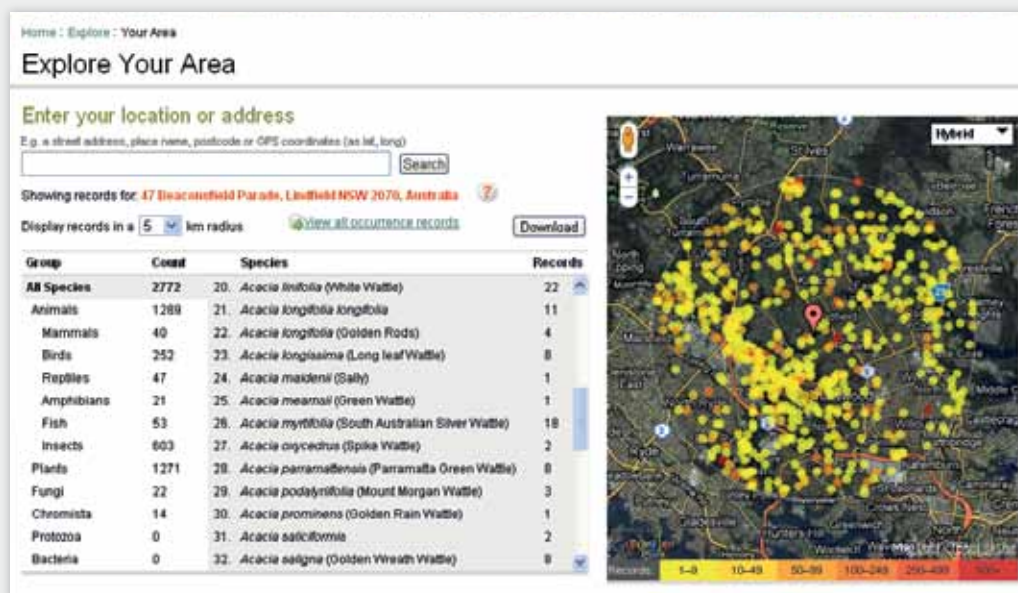
The ALA has developed software for research teams and other groups to set up biodiversity survey projects, and then view and analyse their data.

Museum Victoria, Queensland Museum, Birds Australia, ClimateWatch and the Great Eastern Ranges Initiative are already using these citizen science tools.

In the first year of collaboration between the ALA and Birds Australia, 1,226 volunteers used the ALA online tools to record 4,750 sightings of the endangered Carnaby's Black Cockatoo.

Explore Your Area

A list and map of the many species recorded within 5kms of a street address in north Sydney.



The ALA – Bringing it all Together

DIGITISATION

USES: taxonomy, collection management, crop development, biosecurity, resource management, land-use planning, education

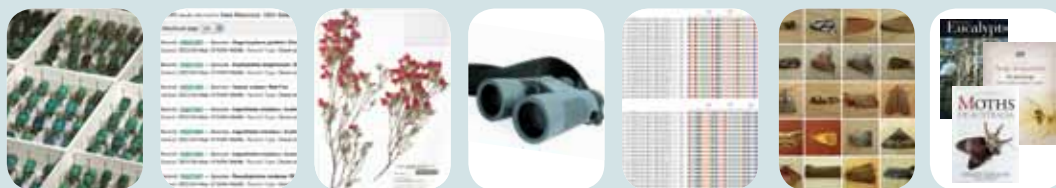


TOOLS: species pages, explore your area, analyse and map species



METADATA: ownership, location, collection method, permissions, quality control, data sensitivity

DATA: collections, field observations, images, literature, molecular data, expert knowledge



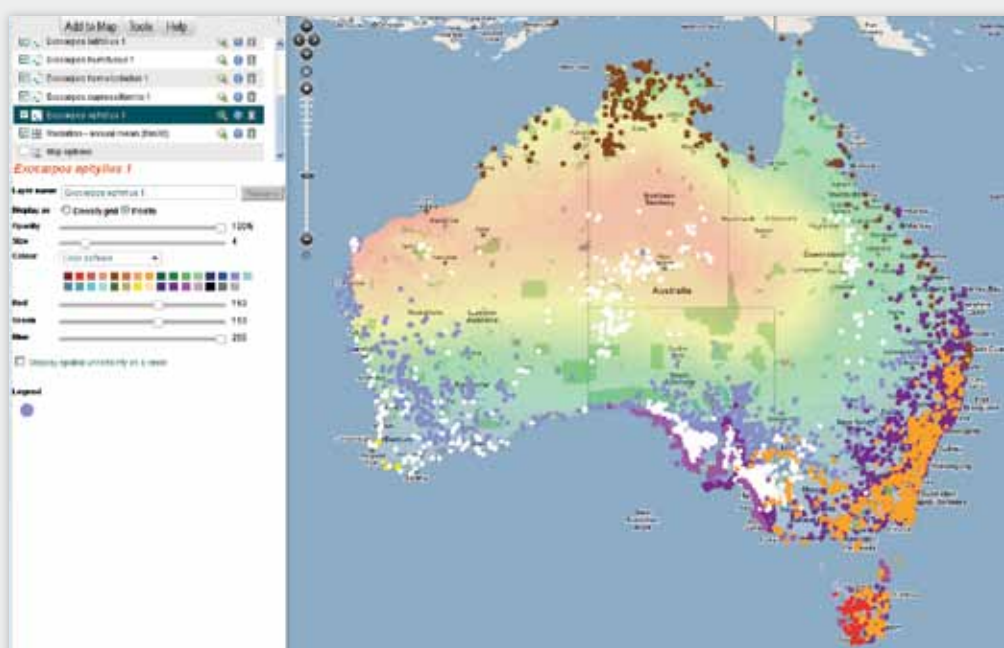
Public involvement
• Citizen science
• Volunteer portal
• Annotations

Links to international projects



Analyse and Map Species

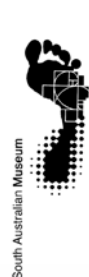
Distribution of records for all species of the genus *Exocarpos* (Native Cherry), mapped on a background showing variation in annual mean solar radiation across Australia. ALA mapping tools incorporate over 350 environmental and other layers, including rainfall, temperature, soils, vegetation catchments, ecoregions and political boundaries, soil moisture, NRM region, fire and vegetation.





www.ala.org.au

ALA Partners



CSIRO, Australian Museum, Museums and Art Galleries of Northern Territory, Museum Victoria, Queensland Museum, South Australian Museum, Tasmanian Museum and Art Gallery, Western Australian Museum, The Council of Australasian Museum Directors (CAMD), The Council of Heads of Australasian Herbaria (CHAH), The Council of Heads of Australian Collections of Microorganisms (CHACM), The Council of Heads of Australian Entomological Collections (CHAEC), The Council of Heads of Australian Faunal Collections (CHAFC), Southern Cross University, The University of Adelaide, The Department of Agriculture, Fisheries and Forestry (DAFF), The Department of Sustainability, Environment, Water, Population and Communities (SEWPaC).

Funding and international linkages

The ALA project is funded by the Australian Government under the National Collaborative Research Infrastructure Strategy (NCRIS) and the Education Investment Fund (EIF) Super Science Initiative until June 2012. ALA partners also contribute substantial in-kind resources.

The ALA plays a key role within the suite of NCRIS- and EIF-funded infrastructure capabilities, supporting the management of biodiversity data within the Terrestrial Ecosystem Research Network (TERN), the Integrated Marine Observing System (IMOS) and the Australian Biosecurity Intelligence Network (ABIN).

As an organising hub for biodiversity data, the Atlas has natural linkages to the Australian National Data Service (ANDS) and other components of the NCRIS/EIF e-research infrastructure investment.

The ALA serves as a gateway for data sharing between Australian and international biodiversity informatics programs, including the Global Biodiversity Information Facility (GBIF), the Encyclopaedia of Life (EOL), the Biodiversity Heritage Library (BHL), IdentifyLife, Morphbank and the Barcode of Life Database (BOLD). It is an overseas partner of the European Union's Distributed Dynamic Diversity Databases for Life (4D4Life) and the Data Observation Network for Earth (DataONE).



An Australian Government Initiative
National Collaborative Research Infrastructure Strategy

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Photo credits PAGE 1

1. Rainforest tree and vine by Thomas Brenton.
2. Teliospores of *Sphaerophragmium quadricellulare* on *Acacia pennata* subsp. *kerrii* by Dr Roger Shivas, Queensland Plant Pathology Herbarium.
3. CSIRO researcher examining a daisy specimen in the Australian National Herbarium. Photo by CSIRO.
4. *Clavaria* sp. by David Catchside.
5. Caterpillar of Lesser Wanderer, *Danaus chrysippus petilia*, by John Tann.
6. Botanist Val Stajsic from the National Herbarium of Victoria examining a Bur-reed at Darlots Creek. Photo by Mark Norman, Museum Victoria.

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1. Whistling Kite, *Haliastur spheurnus*, by Leo Berzins.
2. Sundew, *Drosera peltata*, by Leo Berzins.
3. CSIRO researcher verifying specimen identification and checking type specimens at the Australian National Insect Collection. Photo by Gavin Jackson, canberra photography.
4. A juvenile Stripey, *Microcanthus strigatus*, by Richard Ling, Flickr.

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1. Gippsland Water Dragon, *Physignathus lesueurii howittii*, by Leo Berzins.
2. CSIRO volunteer pinning and labelling accession specimens at the Australian National Insect Collection. Photo by Gavin Jackson, canberra photography.
3. A male Gang-gang Cockatoo, *Callocephalon fimbriatum*, perched in a *Callitris* tree. Photo by Leo Berzins.
4. Common Planigale, *Planigale maculata*, by Eric Vanderduys, CSIRO.
5. Firewheel Tree, *Stenocarpus sinuatus*, by Arthur Chapman.
6. Researcher photographing a specimen from the Australian National Insect Collection. Photo by CSIRO.

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