



BIODIVERSITY

Introduction

Many aspects of science are linked to understanding the reasons why particular species exist in specific ecological niches. The Antarctic and subantarctic contain some of the most extreme ecological niches on this planet. To help address this type of question, the AADC has developed a biodiversity database (<http://data.aad.gov.au/aadc/biodiversity>).

- It captures all species and their locations from within the Australian Antarctic Territory, Southern Ocean and the subantarctic islands of Heard, McDonald and Macquarie Islands.
- It holds a reference set of all terrestrial and freshwater taxa for all regions below 45° south latitude. The terrestrial and freshwater data components are used extensively by the Scientific Committee on Antarctic Research (SCAR) programme examining evolution and biodiversity in the Antarctic (EBA – <http://www.eba.aq>) and as such this community contributes content to the database.

The database application that serves the content includes information on taxonomy, collections and observations, bioregions, alien species and details of global publishing systems that the data is exposed to.

Taxonomy

Species names are the key to linking multiple observations and/or specimens. Searching by specific taxa, by taxonomic rank (kingdom to species) or by the person who named the species is possible via the biodiversity database. Taxonomic synonyms can also be used in search criteria. Once particular taxa have been found, you can view:

- which collections it is a part of,
- a map of the current observations or specimen locations can be displayed, and
- images of specimens (if available)

Collections and Observations

Researchers acquire specimens or observations from a wide variety of research activities and field campaigns. Each set is arbitrarily called a collection and contains details of the collector, taxonomic groups, spatial and temporal extents and links to one or more metadata records. You can select part or all of a collection for download into HTML, Excel, Word or KML file formats.

Some of the Australian-owned collections are published to external data aggregators.



Bioregions and Aliens

Patterns in biodiversity distribution can give clues as to how biota evolved. Work is continuing in classifying regions by the types of taxa observed (called bioregions) and to correlate this with environmental factors such as wind, light levels and other variables.

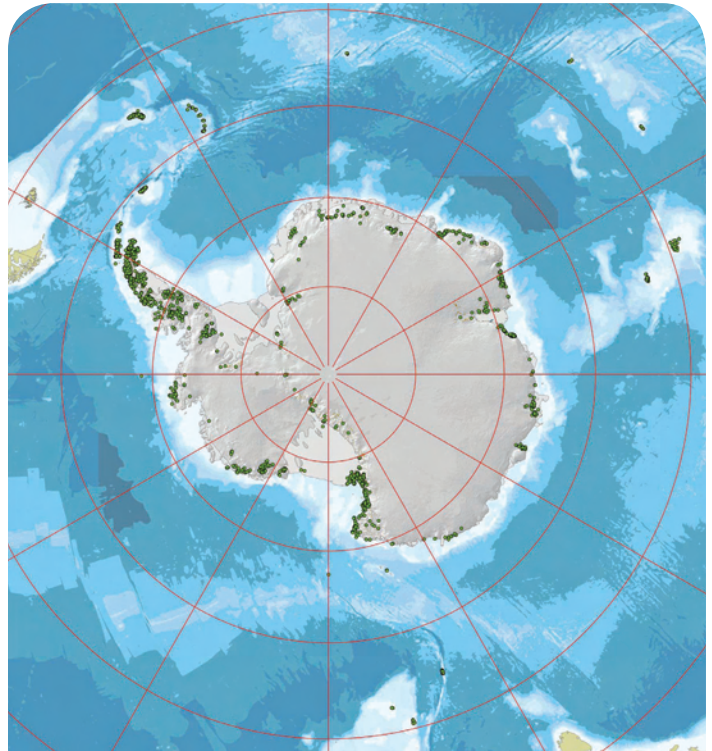
Antarctica and most of the sub-Antarctic islands are regarded as pristine areas. They are, however, still subject to the effects of invasive species. This database contains lists of terrestrial and freshwater species and the regions they inhabit, along with an indication of their 'invasive' nature. This is part of the information that the Committee on Environmental Protection (CEP) uses to manage the control, or eradication of invasive species.

Publication Via Global Data Networks

The Data Centre has been an active publisher of species distribution data to external public websites since November 2003. The three publicly accessible aggregators that acquire AAD biodiversity data are:

- Global Biodiversity Information Facility (GBIF – <http://www.gbif.org>)
- Ocean Biogeographic Information System (OBIS – <http://www.iobis.org>)
- SCAR Marine Biodiversity network (SCAR-MarBIN— <http://www.scarmarbin.be>)

These network sites have varied capabilities to display or extract data. The SCAR-MarBIN site is the most pertinent for the Antarctic community, with links to additional resources such as a validated register of Antarctic marine species and cross-links to other sites holding gene sequences.



Map of Antarctic showing the distribution of terrestrial and freshwater data held in the biodiversity database.
<http://data.aad.gov.au/aadc/biodiversity>

Email aadc@aad.gov.au

Online Log a request online at

<http://data.aad.gov.au/aadc/requests>