

# Insights into Delivering a Robust and Comprehensive Names Classification for a Living Atlas Using Diverse Taxonomic Sources

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## Abstract

The Atlas of Living Australia<sup>\*1</sup> (ALA) is a collaborative, digital, open infrastructure that pulls together Australian biodiversity data from multiple sources, making it accessible and reusable. The ALA helps to create a detailed picture of Australia's biodiversity for scientists, policy makers, environmental planners and land managers, industry, and the public. It does this by aggregating data that records occurrences of species within Australia's diverse environments.

To enable the most effective use of occurrence data, records need to be placed consistently in a replicable and systematically generated taxonomic hierarchy. At the core of the ALA's taxonomic hierarchy are the Australian national species lists<sup>\*2</sup> (NSLs) for animals, vascular plants, bryophytes, fungi, lichens, and algae.

There is an ever-present lag between newly published species and their addition to NSLs, making it challenging to validate the names of these species when they are received in data. The ALA nevertheless needs to be able to represent these species. Because the ALA is presenting data for research, it also needs to be able to handle informal names, including unpublished names and spelling errors. The ALA needs to reflect the challenges to Australia's biodiversity, including highlighting threatened and sensitive species, as well as noting threats from potential biosecurity species. Newly identified sensitive and threatened species often appear on various government conservation lists before they are added to NSLs. By their nature, potential (but not current) invasive and vagrant species do not appear on NSLs, nor do foreign species that may be held in Australian collections. Even after 10 years of operation, all these issues still challenge automated systems such as the ALA because of scale and complexity.

Considering these challenges, the ALA has been re-evaluating how it constructs its taxonomic hierarchy. We will discuss how the ALA is using NSLs and other resources to

develop a fit-for-purpose taxonomic hierarchy, and how that process incorporates data quality control, data assurance, and source transparency.

## **Keywords**

national species list, checklist, Australia, aggregation, ALA, taxonomy, taxonomic backbone

## **Presenting author**

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## **Conflicts of interest**

The authors have declared that no competing interests exist.

## **Endnotes**

\*1 <https://ala.org.au>

\*2 <https://biodiversity.org.au/nsl/>