



The Pest and Disease  
Image Library

# Annual Summary 2025



2 mm

Brown Fire Long-Horned Beetle (*Callidiellum villosulum*)

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## What is PaDIL?

The Pest and Disease Image Library (PaDIL) is an online repository of over 7,200 records containing high-quality diagnostic images and information on plant pests and diseases, which supports biosecurity decision-making by government and industry stakeholders in Australia and around the world.

For nearly 30 years, PaDIL has been a trusted open-access database of verified images of key pests and diseases, supporting critical biosecurity efforts in Australia and overseas. Images in PaDIL provide diagnostic features of each specimen and a description of the species morphology, with an image comparison tool to assist with specimen triaging and taxonomic identification.

PaDIL supports agronomists, biosecurity officers, diagnosticians, and researchers nationally and internationally to recognise and triage pests and diseases of potentially severe economic and environmental impact, supporting incursion identification and response. Through visual identification, exotic pests can be separated from native or established species to assist with incursion identification, supporting decision-making for both eradication and management efforts.

# PaDIL content

## Biosecurity libraries

- The Australian Biosecurity Library and the Seed Library contain information on established and exotic invertebrates, plants, bacteria, fungi, virus and viroids and phytoplasmas that pose a threat to agriculture, forestry, horticulture, fisheries, and human health.

Information on host species and the domestic and global distribution ranges of pests and diseases is additionally included in the Australian Biosecurity Library, underscoring the importance of verified open-access information to safeguard Australia's industries and environment.

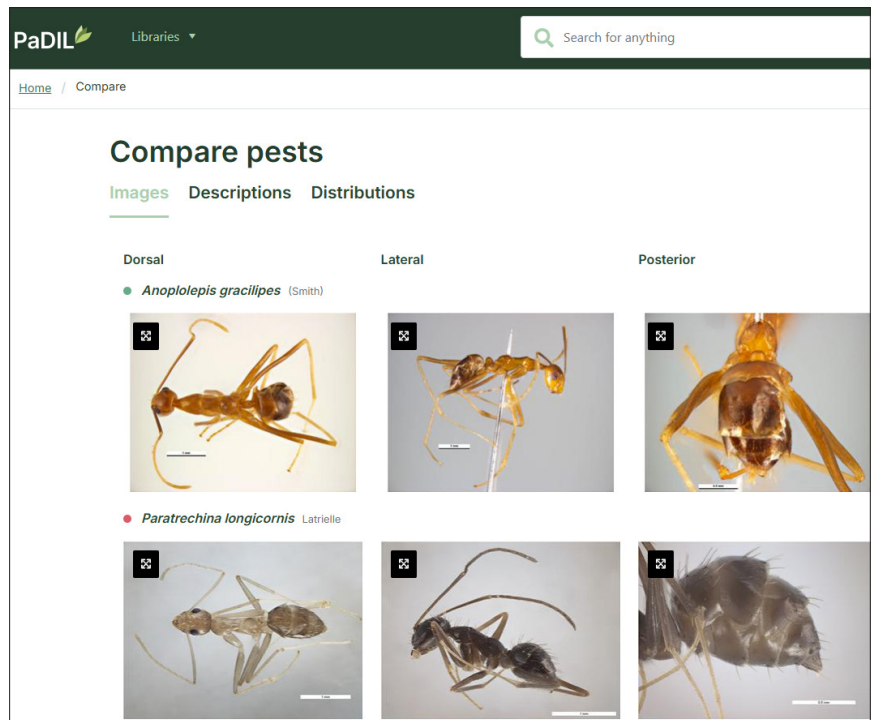
- The Seed Library is used to train key national biosecurity personnel in seed diagnostics.
- In collaboration with the New Zealand Ministry for Primary Industries, PaDIL also hosts the New Zealand Biosecurity Library, providing a comprehensive reference of established and emerging pests and diseases in the southern Pacific.

## Biodiversity libraries

- The Australian Pollinators Library includes over 1,500 native bees and other endemic Hymenoptera.
- The Smut Fungi Library includes all known native smut fungi species of the Australian continent.
- The Barrow Island Library is the world's only open-access digitised collection of all known invertebrate fauna of an island ecosystem.

## Useful layout and tools

- PaDIL content follows specific diagnostic image standards to ensure high quality and effective comparison. Identification of specimens and the development of species records goes through expert verification.
- The PaDIL Compare tool allows the user to take advantage of standardised images. By selecting multiple species records at once and adding them to the 'Compare' function, users can compare images from the same view (e.g., a dorsal view of a particular pest) to help with species identification.
- Facets built into PaDIL libraries allow users to filter species based on a variety of qualities, including taxonomy and distribution, and the lucid key in the Pollinators Library allows users to filter identification of pollinator species based on their features.



PaDIL compare tool with various ant species for demonstration.



# Key PaDIL metrics 2025

## Libraries and records

Biosecurity	Australian Biosecurity Library	1,904
	Seed Library	239
	New Zealand Biosecurity	1,342
Biodiversity	Australian Pollinators	1,636
	Smut Fungi of Australia	300
	Barrow Island	1,781

## Annual usage statistics

Total annual views	73,532
Users	7,299
'Compare' tool users	3,617

PaDIL contains  
7,202 species records

## Most viewed species:

### *Euwallacea fornicatus* (Polyphagous shot-hole borer)

Polyphagous shot-hole borer is a pest beetle which affects over 500 plant species, making it a significant threat to Australian agriculture and environment. Following its initial detection in Western Australia in August 2021, despite a prolonged and extensive response, in June 2025 the National Management Group determined that this pest could not be eradicated, and a transition to management began.

Polyphagous shot-hole borer was PaDIL's most-viewed page for 2025, at approximately 350 views, and PaDIL includes key diagnostic information on this very topical species.



Polyphagous shot-hole borer (*Euwallacea fornicatus*)

# Snapshot: improvements for PaDIL in 2025

## Improvements for users

- In 2025 PHA implemented improvements to image views, for a consistent user experience in viewing pest images. Improvements were made across several other user experience areas, including filtering and navigating.
- PaDIL species records now show details of record verification and updates, improving information transparency and supporting national priorities for data quality and data currency.

## Improvements for content contributors

- PHA implemented improved workflows for drafting and publishing new species records (or updates to existing species records). Content contributors can now more efficiently upload new records and edit existing records.
- Better data validation in the back end of PaDIL creates a better experience for content contributors.

### In 2025

**6 system releases** – this included enhancements and maintenance across themes of search and filtering improvements, improved content creation workflows, fixes to image view functions, and security improvements.

**Over 99% system uptime.**

**ITSM capacity and cybersecurity levelled up** – robust systems and procedures developed and integrated.

## Future improvements and priorities

### System enhancements and technical improvements

- The team at PHA are continuously seeking opportunities for improvement, working with the PaDIL Steering Committee to define annual priorities to enhance and refine technical aspects of the system.
- System enhancements for 2026 are underway, with priorities including investigating integration with other useful resources such as GBIF, and consolidating taxonomic and image categories to support users, content contributors and administrators.

### Data quality and contributions

- Data currency and data quality are crucial themes in our current priorities, and we are working with content contributors and content reviewers to improve efficiencies and accurate record updates.

### Acknowledgements

The PaDIL team would like to thank all stakeholders for their continued contributions to species records and system improvement.

PaDIL is endorsed by the National Biosecurity Committee as nationally significant infrastructure for Australia's diagnostic capability, and is funded by jurisdictional and federal Government contributions.







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