

Invertebrates

Conservation's forgotten critters

Fact Sheet, June 2023

Key Messages

- Invertebrates are essential for healthy ecosystems
- Our knowledge of invertebrates is poor and they are often ignored in conservation
- From ants to yabbies, invertebrates are amazing.
- Everyone can contribute to invertebrate conservation

"... we need invertebrates but they don't need us. If human beings were to disappear tomorrow, the world would go on with little change. [...]. But if invertebrates were to disappear, I doubt that the human species could last more than a few months."

- E. O. Wilson, 1987

Invertebrates are important

Invertebrates make up approximately 97% of all animal species on earth yet are often ignored or neglected in conservation efforts. Invertebrates are vital to functioning ecosystems. They are key pollinators of native and agricultural plants, they are decomposers, they are predators of pests and they have their own intrinsic value. At ARI we are investigating ways to overcome the barriers that prevent regular inclusion of invertebrates in conservation planning.

Our knowledge of invertebrates is poor

Terrestrial invertebrates are a particularly neglected group. This is largely due to lack of public support,

knowledge, ecological expertise and research funding compared to other groups, particularly vertebrate animals and vascular plants. Our knowledge about the diversity and distribution of invertebrates is poor. It is estimated that only about 30% of Australia's invertebrates have been described compared to 87-99% of vertebrates (numbers for Victoria are unavailable, Figure 1). This translates to a lack of information about the number of threatened invertebrates and consequently what threats may be impacting on these species with our knowledge. In Victoria only 2% of invertebrates are listed as threatened, compared with around 21% of vertebrates. Conservation planning and action requires an understanding of the diversity and distribution of species. Therefore, there is a clear need to enhance our understanding of invertebrates in Victoria.



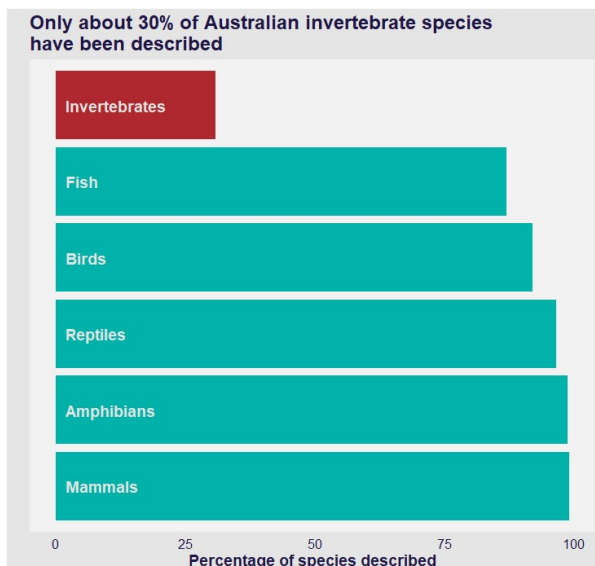


Figure 1. Estimated percentage of described species.

Source: Chapman (2009) Numbers of living species in Australia and the world. Department of the Environment, Water, Heritage and the Arts, Canberra, ACT. [Link](#)

ARI has a long history in invertebrate conservation

ARI has led many invertebrate conservation projects since its inception in 1970. The institute has particular expertise in aquatic invertebrates such as freshwater crayfish and mussels.

Recently ARI researchers were involved in projects investigating the response of native bees to the 2019/20 bushfires in East Gippsland. Related work explored the vulnerability of invertebrates to disturbances, cost effective management options for threatened invertebrates and the addition of over 300,000 new invertebrate records to the Victorian Biodiversity Atlas.

Current ARI research includes investigating the relationship between spider diversity and vegetation condition in endangered grasslands and monitoring the threatened Golden Sun Moth in reserves to the west of Melbourne. Our work is strengthened through

collaborations with leading invertebrate researchers across the sector.

Everyone can help

There are many things that community members can do to contribute to invertebrate conservation:

- **Collect records** – We need to know more about the diversity and distribution of invertebrates in Victoria, contributing to databases like [iNaturalist](#) is a great way to do this, you don't even have to know what you are looking at, there are people who can help with identifications.
- **Create an invertebrate friendly garden** – Plant a variety of native plants (grasses, herbs, shrubs and trees) that flower at different times of the year and create micro-habitats within your garden. This will benefit other native animals too. Have a look [here](#)
- **Stop using pesticides** – Pesticides kill beneficial invertebrates as well as the pesky ones, try alternatives such as fly screens.
- **Get involved** – Join a local conservation group.
- **Be an advocate** – Let your family and friends know how great invertebrates are.

Further reading

DELWP (2021). Biodiversity Response and Recovery Supplementary Report: An assessment to prioritise medium term conservation actions and identify knowledge gaps. Department of Environment, Land, Water and Planning, East Melbourne, Victoria. [Link](#)

Bruce, M. & Bryant, D. (2022). Terrestrial invertebrates. In Biodiversity response and recovery supplementary report: bushfire impacts on species in Victoria. Department of Environment, Land, Water and Planning, Melbourne, Victoria. [Link](#)

For further information contact Matt Bruce (matthew.bruce@delwp.vic.gov.au)

Banner Photo: Ancient Greenling *Hemiphysalia mirabilis* (Reiner Richter) & Jumping Spider *Helpis* sp. (Matt Bruce)

We acknowledge Victorian Traditional Owners and their Elders past and present as the original custodians of Victoria's land and waters and commit to genuinely partnering with them and Victoria's Aboriginal community to progress their aspirations.



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