

Arid Zone Monitoring Species Profile

Thorny devil

Moloch horridus

Language names

Arnkerrthe, Irntaakupma, Jirntikurru, Ngiyari, Mayiparttula, Mingari, Miniri, Mirnirri, Ngiyari, Nywerr, Unyerre

National status: Not listed

IUCN Red List: Least concern



Image: Chris Jolly

Thorny devil.

Animal Description

The thorny devil is an unmistakable spiny lizard with short legs and tail, a small head and a large spiny lump on the neck. They can change colour and can be rich orange-red, yellow/olive and grey. The length of their head and body is about 9 cm. They drink by standing still on wet sand, and the water travels up by capillary action along grooves in their skin to their mouth.

Key threats

No major threats, but likely preyed on by cats and foxes.

Habitat

Thorny devils are found in the arid and semi-arid regions of Western Australia, the Northern Territory and western South Australia. Their distribution just extends into south-western Queensland. Thorny devils prefer dune-fields and spinifex grasslands with sandy soil, but can also be found in shrublands. The thorny devil is not found in stony country or mountain slopes as the hard soil stops them from making burrows to shelter in. They are usually active in March-May and in August-December. At other times, thorny devils sleep in their burrows as it is too cold.



An example of thorny devil habitat- grass covered sand-dune with scattered shrubs.

Thorny devil scat

Thorny devils feed only on small black ants, and can eat up to 5000 at a time.



*Image: © Alan Henderson – Minibeast Wildlife
<https://www.minibeastwildlife.com.au/>*

A fresh scat of a thorny devil.



*Image: © Alan Henderson – Minibeast Wildlife
<https://www.minibeastwildlife.com.au/>*

A broken up scat of a thorny devil, showing that it feeds only on ants.

Thorny devil tracks

Thorny devils move slowly with a jerky gait, with their tail held up.



Thorny devil tracks.

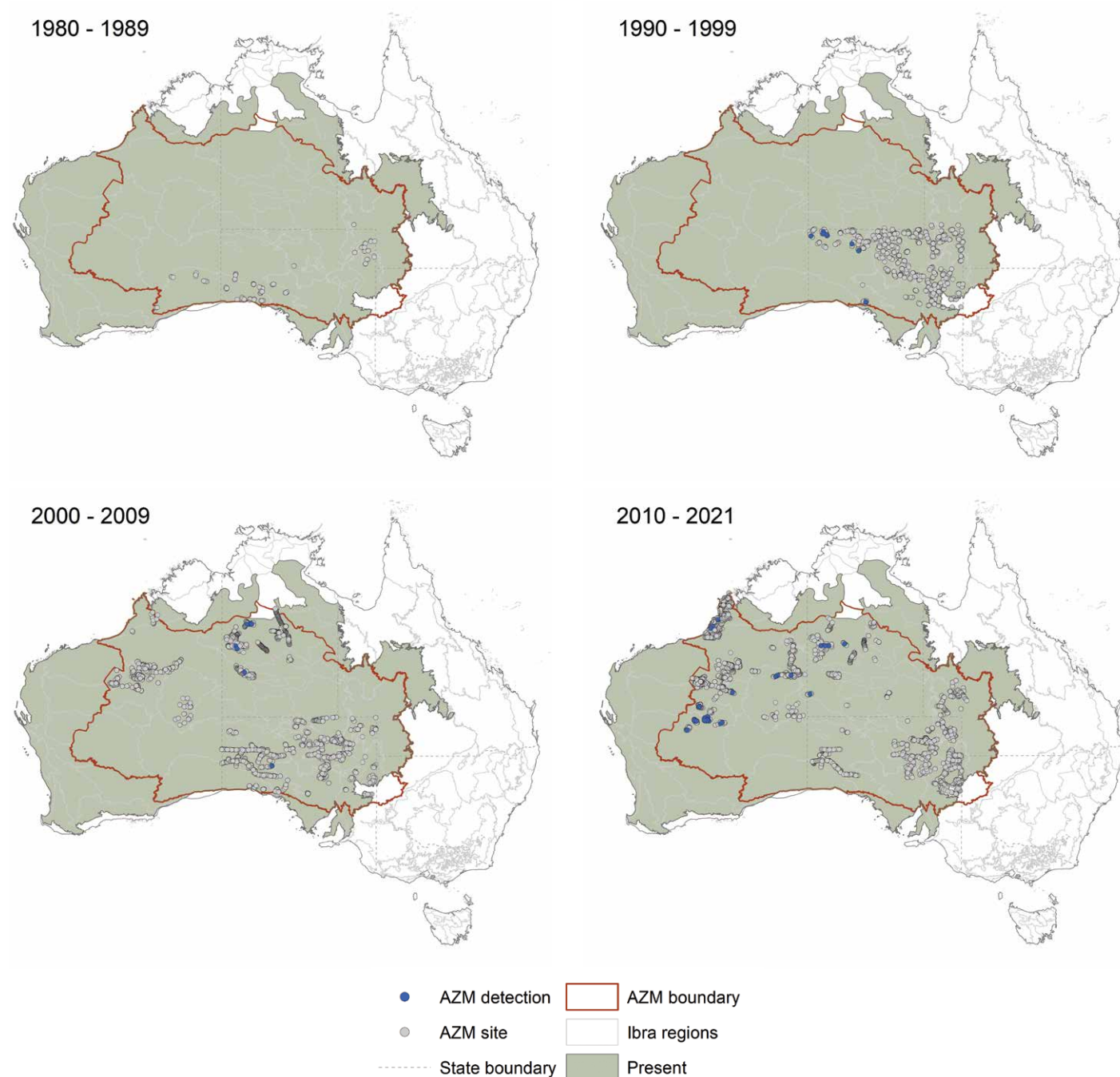
Things to think about when surveying for thorny devils

- Survey during good conditions (in the early morning is best, not too windy or straight after rain).
- Organise to do surveys at regular times every year – for example, before the wet or hot season (October) and in the early dry season or early cool time (April).
- Follow advice of experienced trackers - know how to tell tracks apart from other species before you go to survey.
- If you want to see changes over time, you will need to go back to the same areas to sample over several years. If you want to see if management actions (such as right-way fire) are working, you need to sample many different sites, before and after the action. You might need help from a scientist to make the sampling design strong.

Arid Zone Monitoring project findings

Thorny devil distribution

The maps summarise detections of thorny devils over time in the AZM dataset. It shows that they have been detected at a low rate across a large area of the deserts. Each blue dot shows a survey site where thorny devils were recorded in that decade. The grey dots show all the other sites that were surveyed, but where thorny devils were not recorded in that decade. These records were made by Indigenous Ranger groups, land councils, NGOs, government agencies and university researchers. The information about the overall distribution in the map background is taken from IUCN¹.

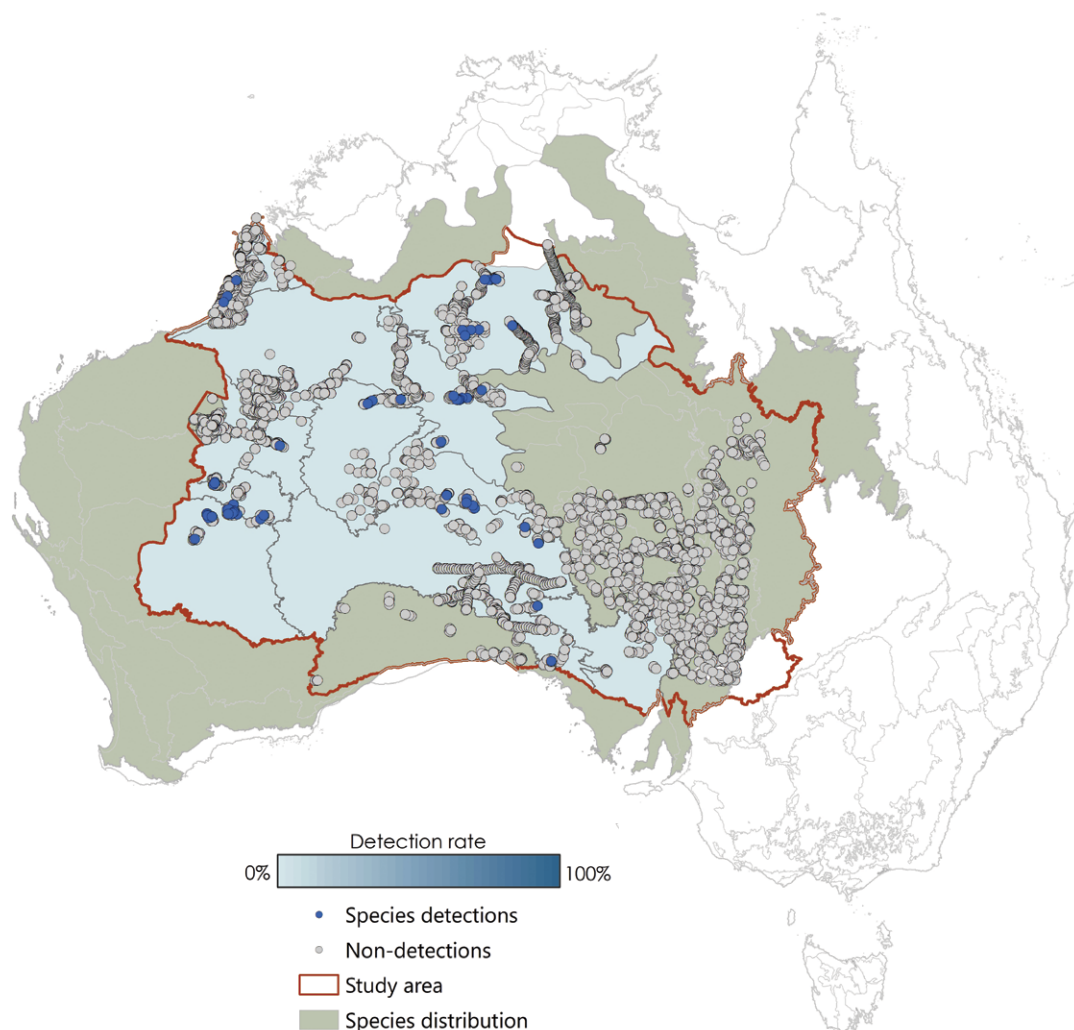


The maps above show data shared by data providers with the AZM project. The data are from track and sign surveys. This method is great for detecting species that live in sandy deserts, but not as good for species that prefer rocky habitats, or species with distributions that are mostly outside the central deserts. The method also works best for larger-bodied animals with tracks that are easily identified.

It is possible that extra surveys have been carried out that have not yet been shared. If you see 'gaps' in the maps that you could fill by sharing your data, let us know.

Thorny devil detection rates

Thorny devils were detected at less than 1% of all surveys in the AZM dataset. It was the 8th most commonly recorded reptile species.



Further information

Arid Zone Monitoring project:

<https://www.nespthreatenedspecies.edu.au/projects/arid-zone-monitoring-surveys-for-vertebrates-across-arid-and-semi-arid-zones>

References

¹ Species distribution information compiled during a 2017 reptile assessment carried out by IUCN

(<https://datadryad.org/stash/dataset/doi:10.5061/dryad.83s7k>), and updated by expert opinion (R. Tingley).



National Environmental Science Programme

This project received support from the Australian Government's National Environmental Science Program.

The Arid Zone Monitoring project is a collaboration between the NESP TSR Hub and over 30 Indigenous ranger groups and Indigenous organisations, 8 NGOs and NRM groups, 5 government agencies institutions, and many individual researchers and consultants. The project has gathered track and sign data from across Australia's deserts, using it to map the distributions of desert species and their threats. The national database includes almost 50,000 species presence records from over 5300 unique sites and almost 15,000 site visits, over the period from 1982 to 2020. The project area was defined by using IBRA subregional boundaries - the project boundary captures Australia's desert subregions where track and sign-based surveys are commonly used. The project showcases the collective work carried out by all groups working across the arid zone, and lays the groundwork for creating ongoing, national-scale monitoring for desert wildlife.

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