# Arid Zone Monitoring
# Species Profile

## Short-beaked echidna

*Tachyglossus aculeatus*

### Language names

Enewaylenge, Inape, Inarlenge, Kurrujartiny, Minaji, Mingwuwa, Nginu, Nyinawurtu, Tjilkamata, Tjirilya, Wajjingkarr, Yinalingi, Yinarlingi

**National status:** Not listed

**IUCN Red List:** Least concern


*Short-beaked echidna.*

### Animal Description

Echidnas have long protective spines on their back. There is light-brown and black fur between the spines. These animals have a long, tubular and furless snout. They have a very small mouth which opens wide enough for a sticky worm-like tongue to flick out of.

### Key threats

Echidnas have become rarer in some places, mostly due to habitat loss and change beause of too much grazing by feral animals, and changes to fire regimes.

### Habitat

Echidnas live in many different habitats. They shelter in hollow logs, stumps, tree roots, caves or burrows (old burrows dug by another animal, or burrows they dig themselves), and under bushes.

## Echidna scat

Echidna scats are long and cylindrical, often broken into pieces and have fragments of insects such as ants, termites, beetles, worms and soil. Echidnas often leave their scats on rockpiles or in feeding areas. When fresh, they can look shiny because they are covered in a layer of mucous.


*Echidna scat showing ants and termites.*

## Echidna tracks

Echidna tracks show the front feet turning inwards. The long claws of their back toes often leave a drag mark between prints.


*Echidna tracks (arrow shows which way it is going).*

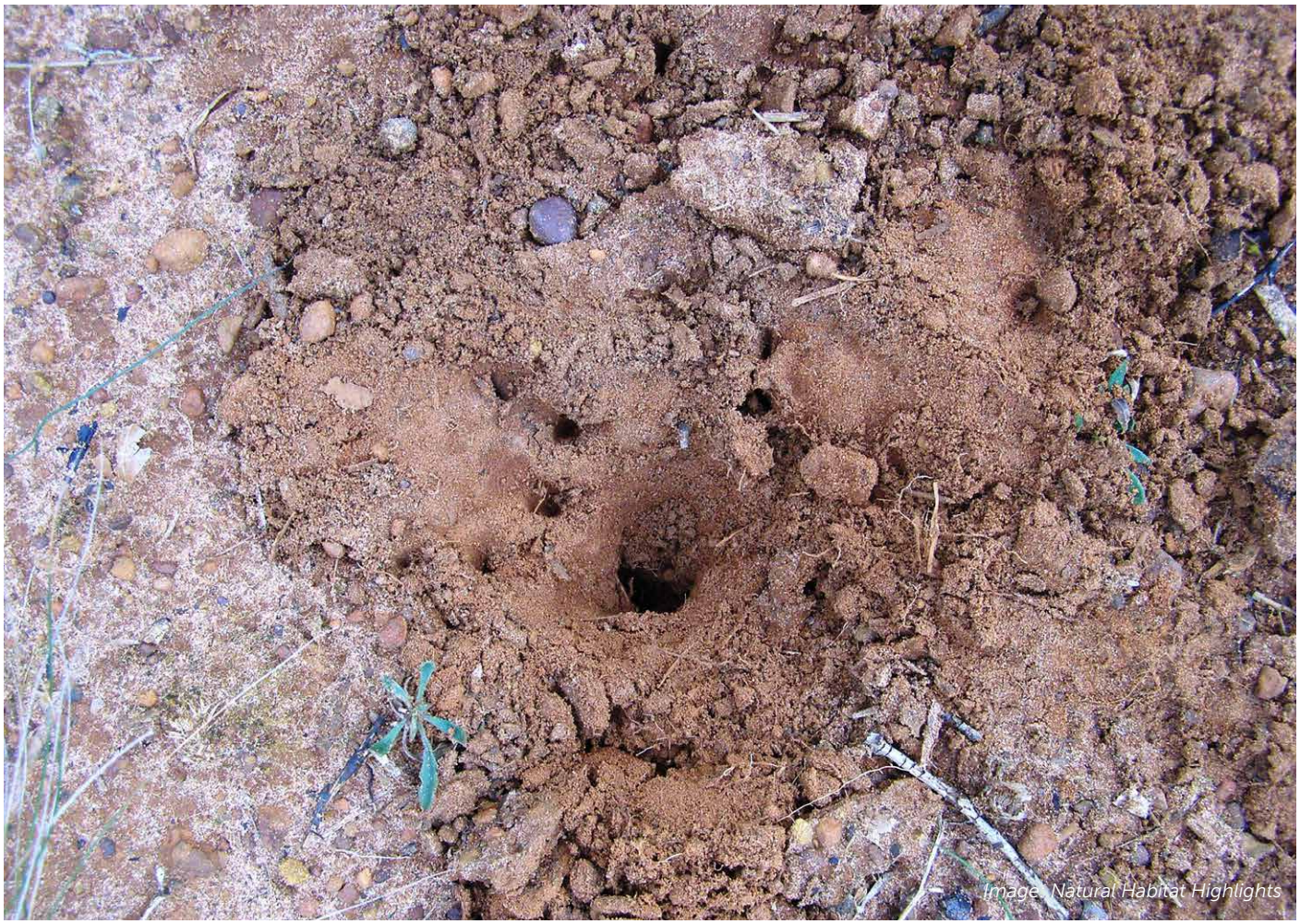

*Echidna feet.*


*Close up of echidna tracks (arrow shows which way it is going).*

## Echidna diggings/feeding signs

Echidnas dig into ant and termite nests to reach their food, leaving conical holes (up to 20cm deep) or deep tunnels in termite mounds and ant nests.

Echidnas also dig into rotting wood, leaf litter and areas of soft soil, leaving small scratches on the ground where soil and litter has been turned over by the echidna's snout in a corkscrew action.

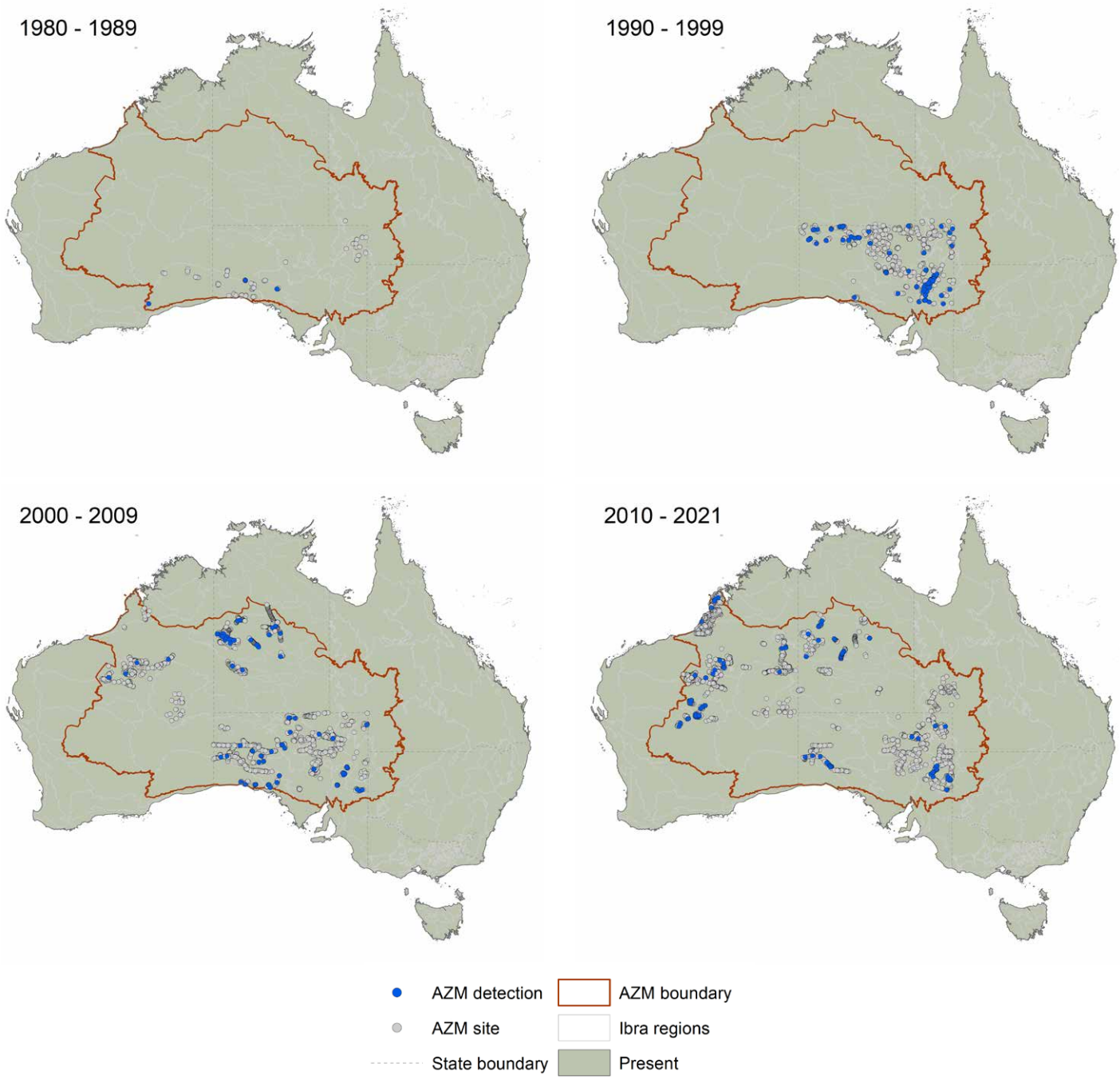



*Echidna diggings.*

## Arid Zone Monitoring project findings

### Echidna distribution

The maps summarise the detections of echidnas over time in the AZM dataset. They show that echidnas have been recorded throughout the AZM project area. Each blue dot shows a survey site where echidnas were recorded in that decade. The grey dots show all the other sites that were surveyed, but where echidnas were not recorded in that decade. These records were made by Indigenous Ranger groups, land councils, NGOs, government agencies and university researchers. Echidnas are also found outside the AZM project area, in all parts of Australia and Tasmania (dark shading on map). The information about the overall distribution in the map background is drawn from the Australian Faunal Directory[1].



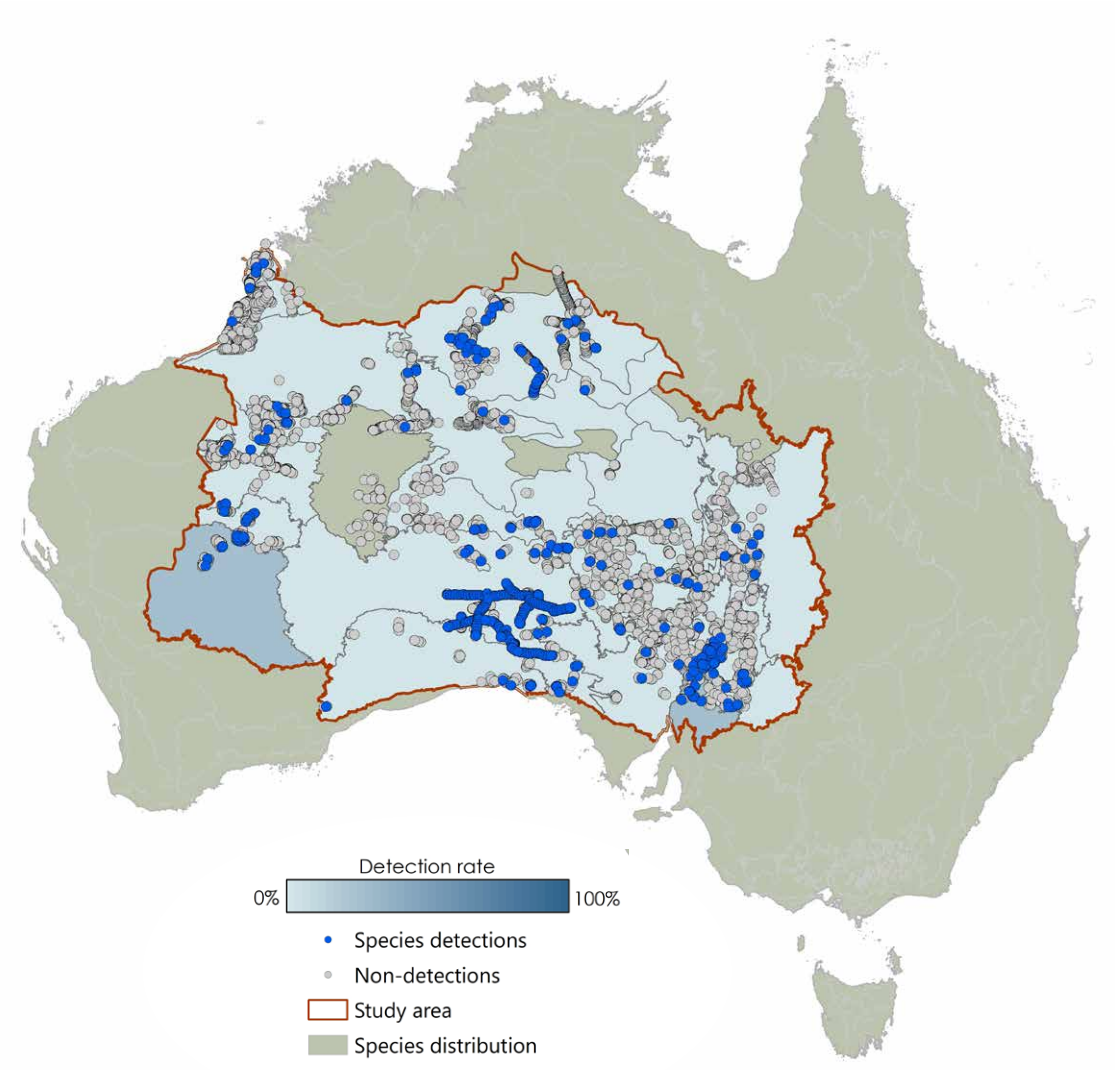

*The maps above show data shared by data providers with the AZM project. The data are from track and sign surveys. This method is great for detecting species that live in sandy deserts, but not as good for species that prefer rocky habitats, or species with distributions that are mostly outside the central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

## Echidna detection rates

Echidnas were detected at over 2% of all surveys in the AZM database. It was the 14th most commonly recorded mammal species, and the 9th most commonly recorded native mammal species.

The map below shows the echidna detection rate across all surveys carried out in each bioregion, since the 1980s. Detection rates for echidnas have been fairly even across the deserts.




## Things to think about when surveying for echidnas

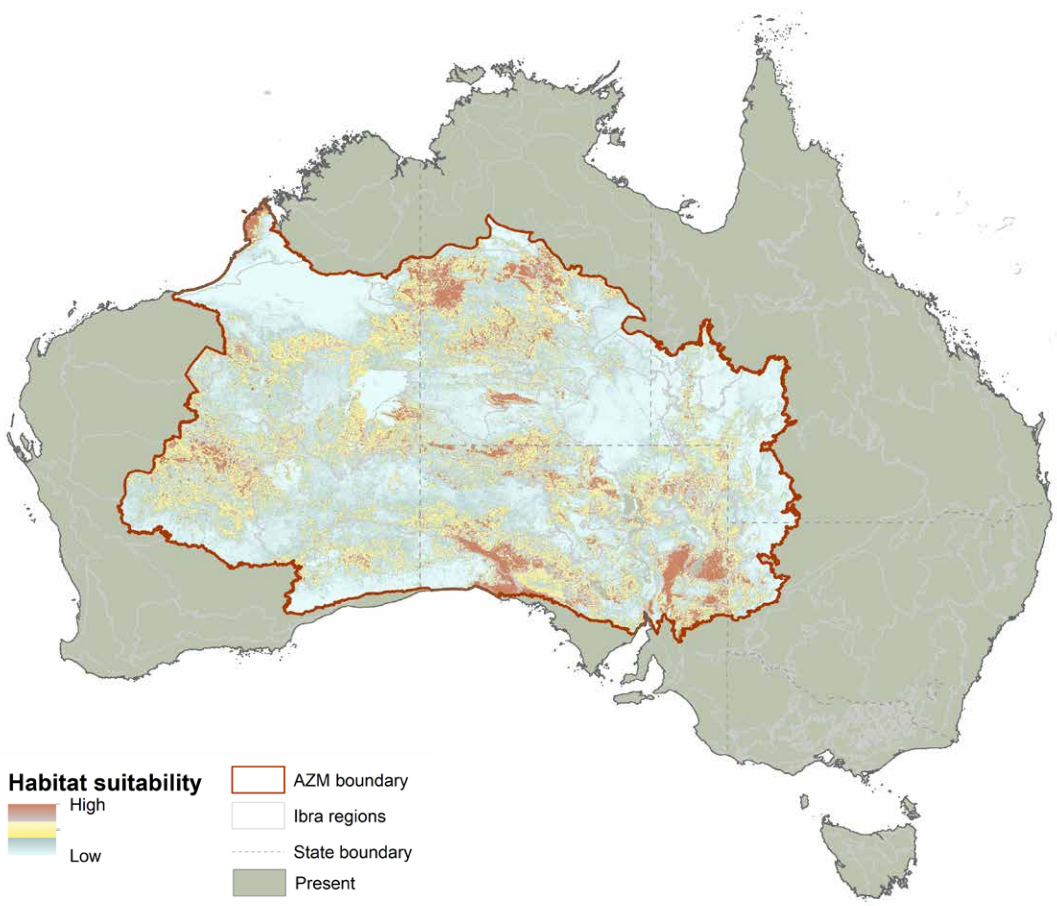
- Survey during good conditions (in the early morning is best, not too windy or straight after rain).
- Organise to do surveys at regular times every year – for example, before the wet or hot season (October) and in the early dry season or early cool time (April).
- Follow advice of experienced trackers - know how to tell echidna 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 (feral animal culling or 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.

## Echidna habitat suitability

The habitat suitability model can tell us about where echidnas are most likely to be found. The analysis considered climate factors like annual, seasonal and daily temperature and rainfall; landform factors like elevation and slope; soil factors; and habitat factors like the amount of vegetation (NDVI) and fire frequency.

The model suggests that echidnas are found throughout the AZM project area, across a range of climate, landforms, soil types and fire frequencies. The map shows that the best places for echidna – shaded as red-brown – are found right across the deserts.

The map only shows habitat suitability inside the AZM project boundary, but echidnas are also found outside the AZM project area, and there could be very suitable habitat here too. The habitat suitability model does not predict well in large areas where there hasn't been any sampling, for example in parts of the Great Sandy Desert or the Great Victoria Desert; getting more survey data from these areas would improve the model.




## 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] 1. Australian Faunal Directory. https://biodiversity.org.au/afd/home. Accessed June, 2021.

Threatened Species Recovery Hub
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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