

Palaeontologists unearth rare 15-million-year-old bilby

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Bilby (image source: Wikipedia). Inset picture: Fossil teeth of the fossil bilby, *Liyamayi dayi*. Credit: Kenny Travouillon

(Phys.org) —An ancient fossil of the bilby, Australia's answer to the Easter rabbit, has been discovered at the Riversleigh World Heritage site in north west Queensland.

The 15-million-year-old [fossil](#) of the long-eared marsupial, found by palaeontologists from The University of Queensland and the University of New South Wales, confirms that bilbies evolved millions of years earlier than was previously known.

Lead researcher Dr Kenny Travouillon, from UQ's School of Earth Sciences, said the finding would increase understanding of the fossil record and the evolution of Australian marsupials.

"More generally, by understanding how Australia's vertebrates and ecosystems have evolved through time with the changing climate, we can better predict their responses to future climate change and better protect the more endangered lineages against extinction," Dr Travouillon said.

DNA studies on related [species](#) had predicted that the bilby had evolved about 25 million years ago, when it separated from its closest relative, the bandicoot.

Until now, the oldest fossil of the endangered bilby was only about five million years old.

"The species that we have discovered is about 15 million years old, which is more in accordance with the DNA data and will provide insight on how bilbies have evolved over time and adapted to changes in the Australian environment," Dr Travouillon said. The species has been named *Liyamayi dayi*, which is derived from the Aboriginal Waanyi people's language and means 'day's round tooth'.

The "day" refers to UQ alumnus and geologist Dr Robert Day, who funded Dr Travouillon's postdoctoral fellowship at the School of Earth Sciences.

Riversleigh is famous for previous discoveries of extinct Australian animal fossils, such as carnivorous kangaroos, the predecessors of Tasmanian tigers, and tree-climbing crocodiles.

Dr Travouillon and his team, also recovered fossils of a 15-million-year-old species related to modern bandicoots from the same area.

"Just like the bilbies, the previously oldest known ancestor of the modern bandicoots was also about five million years old, and hence this finding also pushes back their age," Dr Travouillon said.

As the new bandicoot species was found in an unusual time period—almost crashing in a time period where it was least expected—the team has named it 'Crash bandicoot', after a video game character.

The fossils were discovered several years ago, and the results of subsequent research has now been published in the *Journal of Vertebrate Paleontology*.

More information: "Earliest modern bandicoot and bilby (Marsupialia, Peramelidae and Thylacomyidae) from the Miocene of the Riversleigh World Heritage Area, northwestern Queensland, Australia." K. J. Travouillon, S. J. Hand, M. Archer, K. H. Black. *Journal of Vertebrate Paleontology* , Vol. 34, Iss. 2, 2014. [DOI: 10.1080/02724634.2013.799071](https://doi.org/10.1080/02724634.2013.799071)

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