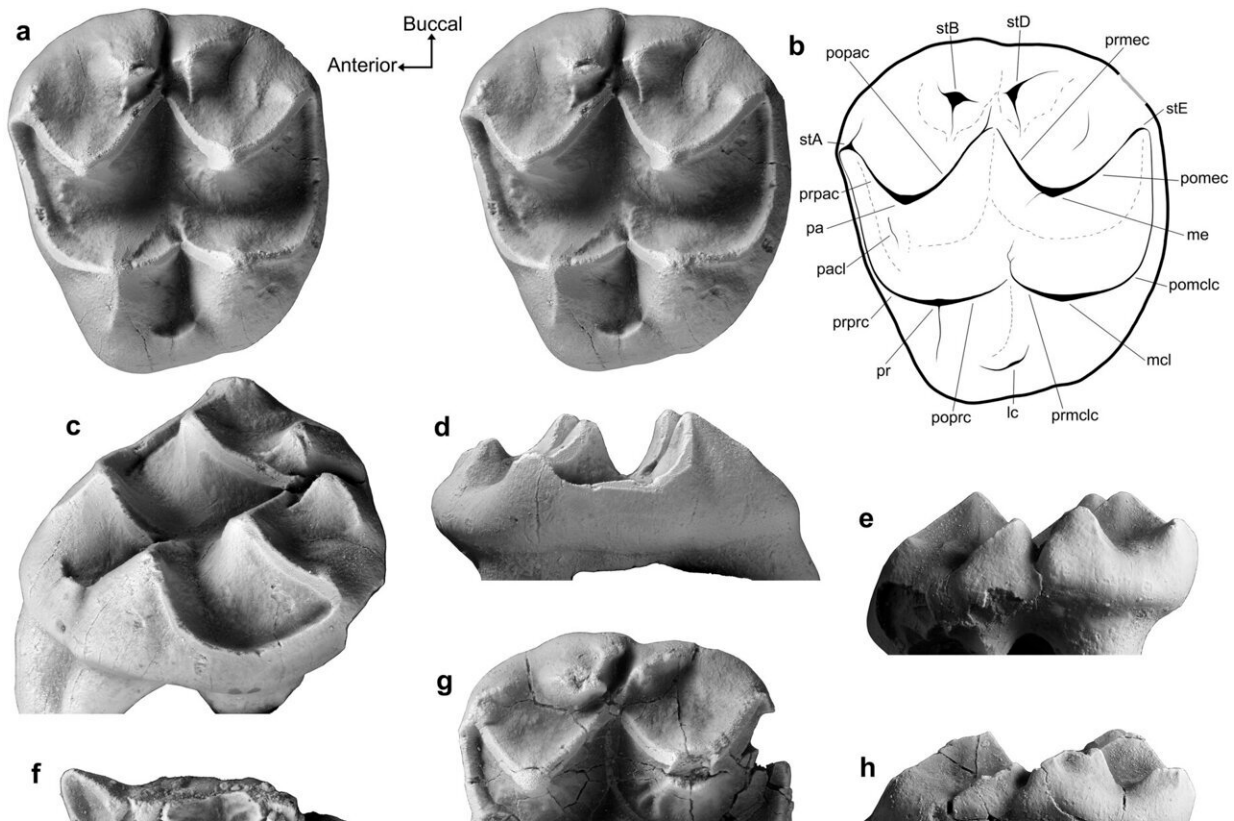


Fossil of oldest-known koala relative unearthed in central Australia

September 5 2023, by Bob Yirka



Lumakoala blackae gen. et sp. nov. upper molars. Left M 2 or 3 (Holotype, NTM P12012): (a) stereo occlusal view, with (b) an annotated line drawing; (c) posterolingually offset occlusal view; (d) anterior view; and (e) buccal view. Anterolingual half of LM1 (Paratype, NTM P12014) in (f) occlusal view. Left M 2 or 3 (Paratype, NTM P12013) in (g) occlusal and (h) buccal views. *Priscakoala lucyturnbullae* left M1–M3 (Holotype, QM F20203), adapted from Black et al. The orientation arrows (Anterior, Buccal) relate only to the specimens in occlusion view. lc lingual cingulum, me metacone, mcl metaconule,

pa paracone, pacl paraconule, pomclc postmetaconulecrista, pomec postmetacrista, popac postparacrista, poprc postprotocrista, pr protocone, prmclc premetaconulecrista, prmec premetacrista, prpac preparacrista, prprc preprotocrista, stA stylar cusp A, stB stylar cusp B, stD stylar cusp D, stE stylar cusp E. Credit: *Scientific Reports* (2023). DOI: 10.1038/s41598-023-41471-0

A small team of evolutionary biologists at Flinders University, in Australia, working with one colleague from the University of Salford in the U.K. and another from the University of California, Los Angeles, has found fossilized evidence of the oldest-known koala relative in a central part of Australia. In their paper, published in the journal *Scientific Reports*, the group describes the fossil, where it was found and how it fits into the history of marsupial evolution in Australia.

The [fossil](#) was excavated in Pwerte Marnte Marnte in Australia's Northern Territory. The study suggests the animal was approximately the size of a modern housecat and that it likely ate soft leaves. Fossils at the site have been dated back approximately 25 million years, during the Oligocene epoch. It was promptly named *Lumakoala blackae*. The find is considered important because it helps to clarify the history of mammalian evolution in Australia, particularly during a 30-million-year gap in the [fossil record](#).

The research team is hoping that the study of *L. blackae* will reveal marsupial evolution during the gap years. To that end, they have used the fossilized remains as a basis for a [computer analysis](#), which suggests that *L. blackae* was a member of what is now the koala family, or perhaps at least a reasonably close relative. They note that despite these findings, *L. blackae* also had features reminiscent of other ancient marsupials, such as *Chulpasia* and *Thylacotinga*.

The research team also notes that the discovery of *L. blackae* could also change our understanding of the evolutionary history of *Chulpasia* and *Thylacotinga*—prior evidence has suggested that they may have been related to marsupials from what is now South America. But *L. blackae*'s existence suggests that the other two creatures may have been early relatives of modern marsupials living in Australia.

The team also notes that two other ancient species of koalas were found at the same dig site. They suggest the finds are likely to have a major impact on the study of marsupial evolution in Australia, because until now, no other fossilized remains of koala ancestors had ever been found in the Northern Territory.

More information: Arthur I. Crichton et al, A probable koala from the Oligocene of central Australia provides insights into early diprotodontian evolution, *Scientific Reports* (2023). [DOI: 10.1038/s41598-023-41471-0](https://doi.org/10.1038/s41598-023-41471-0)

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