

Extinct carnivorous marsupial may have hunted prey larger than itself

April 9 2014



This is an illustration of Mid Miocene *Nimbacinus dicksoni*. Credit: Anne Musser

The reconstruction of an extinct meat-eating marsupial's skull, *Nimbacinus dicksoni*, suggests that it may have had the ability to hunt vertebrate prey exceeding its own body size, according to results published April 9, 2014, in the open access journal *PLOS ONE* by Marie Attard from the University of New England together with colleagues from the University of New South Wales.

Nimbacinus dicksoni is a member of an extinct family of Australian and

New Guinean [marsupial](#) carnivores, Thylacinidae. Aside from one recently [extinct species](#), the majority of information known about species in this family stems from recovered [skull](#) fragments, which limits species ecology and diversity analysis. Scientists recovered a ~16-11.6 million year old preserved skull of *N. dicksoni* from the Riversleigh World Heritage Fossil Site in northwestern Queensland, Australia, and used it to determine if *N. dicksoni* was more likely to hunt small or large [prey](#). They applied virtual 3D reconstruction techniques and computer modelling to reconstruct the skull of *Nimbacinus*, digitally 'crash-testing' and comparing it to models of large living marsupial carnivores (Tasmanian devil, spotted-tailed quoll and northern quoll), and to the recently extinct Tasmanian tiger, *N. dicksoni*'s close relative.

The authors found that the similarity in mechanical performance of the skull between *N. dicksoni* and the largest quoll, the spotted-tailed quoll, was greater than the similarity to the Tasmanian tiger. The authors suggest that *N. dicksoni*, a medium-sized marsupial (about 5 kg), had a high bite force for its size, was predominantly carnivorous, and was likely capable of hunting vertebrate prey that exceeded its own body mass.



This is a photo of Mid Miocene *Nimbacinus dicksoni* skull and dentition emerging. Credit: Anna Gillespie, University of New South Wales

"Our findings suggest that *Nimbacinus dicksoni* was an opportunistic hunter, with potential prey including birds, frogs, lizards and snakes, as well as a wide range of marsupials. In contrast, the iconic Tasmanian tiger was considerably more specialized than large living dasyurids and *Nimbacinus*, and was likely more restricted in the range of prey it could hunt, making it more vulnerable to extinction." Dr Attard explains.



This is a photo of Mid Miocene *Nimbacinus dicksoni* from Riversleigh half exposed from limestone. Credit: Anna Gillespie, University of New South Wales

More information: Attard MRG, Parr WCH, Wilson LAB, Archer M, Hand SJ, et al. (2014) Virtual Reconstruction and Prey Size Preference in the Mid Cenozoic Thylacinid, *Nimbacinus dicksoni* (Thylacinidae, Marsupialia). *PLoS ONE* 9(4): e93088. [DOI: 10.1371/journal.pone.0093088](https://doi.org/10.1371/journal.pone.0093088)

Provided by Public Library of Science

Citation: Extinct carnivorous marsupial may have hunted prey larger than itself (2014, April 9) retrieved 2 May 2024 from <https://phys.org/news/2014-04-extinct-carnivorous-marsupial-prey-larger.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.