

# Rainforest essential for world's smallest kangaroo

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New musky rat-kangaroo fossils have been discovered. Credit: PanBK.

(Phys.org) —The discovery of musky rat-kangaroo fossils has prompted experts to call for better protection of tropical rainforests after new links show the tiny marsupial cannot survive outside that environment.

The findings come from a study by The University of Queensland and The University of New South Wales.

Dr Kenny Travouillon, from UQ's School of Earth Sciences, said the fossils showed musky rat-kangaroos were not found outside tropical

rainforests, which suggested the animals never diversified into other environments, such as temperate rainforests.

"We must carefully monitor the tropical rainforest because if climate change does affect it, the musky rat-kangaroo, and possibly other [species](#), will have nowhere else to go," Dr Travouillon said.

"The musky rat-kangaroo, along with the cassowary, is one of only two species essential to the rainforest as seed-dispensers.

"We need to carefully protect its habitat because it is too specialised to be relocated elsewhere and is an important contributor to its environment."

The new fossils indicate that about 20 million years ago multiple musky rat-kangaroo species existed, but today there is just one species that lives in a small rainforest area in north-east Queensland.

"The finding is also significant because such discoveries are extremely rare, with only two other [fossil](#) species of the musky rat-kangaroo recovered previously," Dr Travouillon said

"Such finds help us better understand how animals and ecosystems evolve through climatic change, allowing us to better predict their responses to future climate change and protect the most vulnerable species.

"Scientists don't all agree about what will happen to the [tropical rainforest](#) in Australia as a result of [climate change](#), but the Australian Climate Council reports it can have a major effect."

The research was recently published in the *Journal of Vertebrate Paleontology*.

**More information:** "Three new Miocene species of musky rat-kangaroos (Hypsiprymnodontidae, Macropodoidea): description, phylogenetics and paleoecology." H. Bates, et. al. *Journal of Vertebrate Paleontology*. Volume 34, Issue 2, 2014. [DOI: 10.1080/02724634.2013.812098](https://doi.org/10.1080/02724634.2013.812098)

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