Dingoes may provide clues to understanding how Australia evolved

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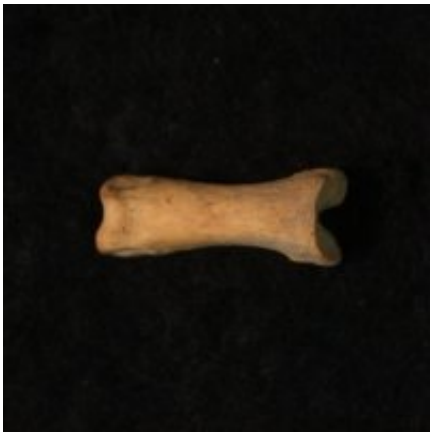

Credit: University of Western Australia

Researchers from The University of Western Australia and the Australian National University have uncovered new evidence that suggests dingoes arrived in Australia between 3,348 and 3,081 years ago, more recently than previously thought.

By the time Europeans came to Australia, Aboriginal people had a well-established relationship with dingoes that provided warmth, protection and assistance with hunting.

A more precise date for the arrival of dingoes in Australia is important as it answers questions about the relationship between dingoes and Aboriginal people and the dingoes' possible contribution to the

extinction of animals such as the Tasmanian devil and Tasmanian tiger on mainland Australia.

The timing of the arrival of dingoes has been the subject of great debate over the years, with estimates ranging from about 4000 years ago based on archaeological deposit dates to as much as 18,000 years ago based on DNA age estimates.

Now direct dates on dingo bones from Madura Cave on the Nullarbor Plain in southern Australia have allowed scientists to paint a clearer picture of when dingoes first inhabited Australia.

Lead researcher Professor Jane Balme from UWA said the scientists had used a precise radiocarbon dating technique to date the bones uncovered from Madura Cave which provides the most accurate indication of dingo arrival in Australia to date.

"The dingo is the only placental land mammal aside from rats, mice and bats to have made it over water to reach Australia prior to European arrival and their arrival provides the only evidence of external visits by people to mainland Australia after first Indigenous settlement 65,000 years ago," Professor Balme said.

"Because Australia is separated from Southeast Asia by water, with the minimal distance between the two more than 90 kilometres, it is extremely unlikely that dingoes arrived in Australia independently of humans," Professor Balme said.

"These new findings indicate it is most likely that dingoes were brought here as tamed animals around 3000 years ago."

Professor Balme said the research also suggested dingoes had spread far more rapidly than previously thought.

"This may have been facilitated by their strong relationship with humans and may have contributed to the extinction of a number of species including the Tasmanian devil and Tasmania tiger on mainland Australia because of the increased hunting pressure," she said.

Professor Balme said the next step would be to examine bone fossils from archaeological and palaeontological sites to identify how dingoes may have changed people's subsistence activities and the impact that dingoes have had on the Australian environment.

"We have made a start on this by dating of dingo bones from the Nullarbor but analysis of dingo bones from other parts of Australia will help test our hypothesis of their rapid rate of spread."

The research will be published in *Scientific Reports*.

More information: Jane Balme et al. New dates on dingo bones from Madura Cave provide oldest firm evidence for arrival of the species in Australia, *Scientific Reports* (2018). DOI: 10.1038/s41598-018-28324-x

Provided by University of Western Australia