

## Extinct giant kangaroos did not hop...they walked

An extinct giant kangaroo, which walked instead of bouncing, may have been wiped out by agile human hunters, researchers suggest



Modern kangaroos are one third of the size of ancient species Photo: Alamy

By Sarah Knapton, Science Editor

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Huge kangaroos which roamed the Australian outback 100,000 years ago probably walked instead of bouncing, researchers have concluded.

The enormous rabbit-faced creatures were three times the size of modern kangaroos, and lumbered along on two feet like humans.

But their gentle plodding may have made them a target for hunters who could easily out-manoeuvre the enormous creatures.

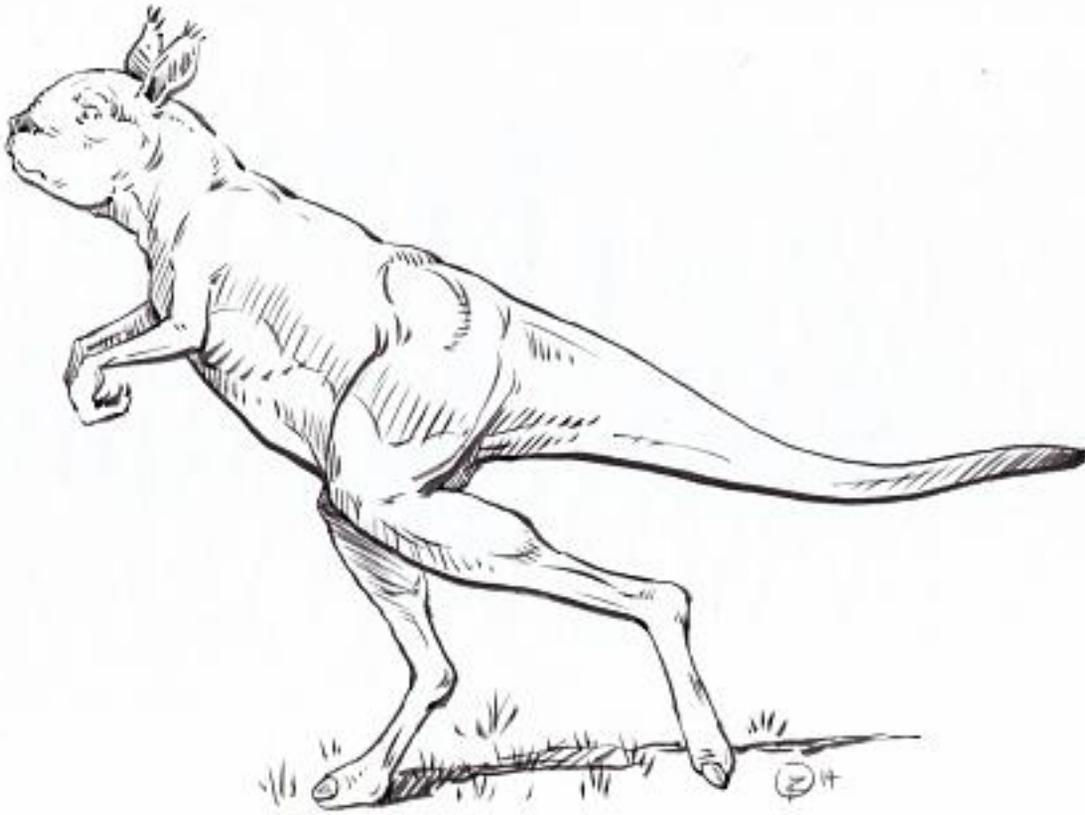
Researchers have been studying fossilised bones of Sthenurine kangaroos which lived in the Pleistocene era and compared them with the skeletons of modern animals.

As well as discovering that their hind limbs and spines were different to the red and grey kangaroos of today, the team realised that it was unlikely that an animal that weighed 550lbs would be able to hop.

It is unknown if they evolved to be bipedal or they originally jumped but became too large.

"I don't think they could have gotten that large unless they were walking," said Christine Janis, professor of ecology and evolutionary biology at Brown University, US.

"We need to consider that extinct animals may have been doing something different from any of the living forms, and the bony anatomy provides great clues."



Today's kangaroos hop at fast speeds and move about on all fours for slow speed travel which requires a flexible backbone, sturdy tail, and hands that can support their body weight.

Researchers found that Sthenurines do not have any of those attributes making them anatomically ill-suited for hopping but well suited for bearing weight on one leg at a time.

In walking and running animals, such as dogs and horses the lower end of the tibia (shinbone) has a flap of bone which wraps over the back of the joint and provides extra stability. Modern kangaroos do not have a flap but Sthenurine kangaroos.

Sthenurines also had proportionally bigger hip and knee joints and their larger pelvis bones would have helped them balance when moving from one foot to another.

Previous researchers had already observed that Sthenurines' hands were not suited for supporting the kangaroo for all-fours but were instead specialized for foraging.

The latest study also found that the ancient species had larger bones, which would have made it more

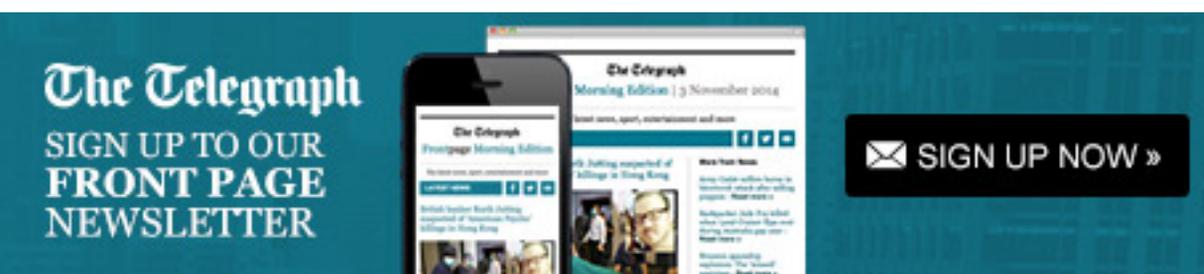
difficult to jump.

"If it is not possible in terms of biomechanics to hop at very slow speeds, particularly if you are a big animal, and you cannot easily do four legged locomotion, then what do you have left?" added Prof Janis.

"You've got to move somehow."

Their slow locomotion may explain why the creatures became extinct 30,000 years ago as they struggled to evade human hunters. Early modern humans arrived in Australia between 60,000 and 40,000 years ago.

The research was published in the journal PLoS One.



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