

# 'Jurassic beaver' turns theory on its tail

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Scientists say *Castorocauda lutrasimilis* lived about 164 million years ago in northern China.

WASHINGTON (AP) -- For years the mammals living in the era of dinosaurs have been thought of as tiny shrew-like creatures scurrying through the underbrush. Now the discovery of a furry aquatic creature with seal-like teeth and a flat tail like a beaver has demolished that image.

Some 164 million years ago the newly discovered mammal was swimming in lakes in what is now northern China, eating fish and living with dinosaurs.

"Its lifestyle was probably very similar to the modern day platypus," Zhe-Xi Luo, curator of vertebrate paleontology at Carnegie Museum of Natural History in Pittsburgh, said in a statement. "It probably lived along river or lake banks. It doggy-paddled around, ate aquatic animals and insects, and burrowed tunnels for its nest."

Luo was part of a team led by Qiang Ji of the Chinese Academy of Geological Sciences in Beijing that discovered the remains in the Inner Mongolia region of China. They report their findings in Friday's issue of the journal *Science*.

Thomas Martin of the Research Institute Senckenberg in Frankfurt, Germany, said the discovery pushes back the mammal conquest of the waters by more than 100 million years.

"This exciting fossil is a further jigsaw puzzle piece in a series of recent discoveries," commented Martin, who was not part of Luo's team.

Matthew Carrano, curator of dinosaurs at the Smithsonian's National Museum of Natural History, called the find "a big deal."

An important factor is how specialized the creature was, said Carrano, who was not part of the research group.

"It gives a hint that early mammals were not just these shadowy creatures at the time of dinosaurs" but were having their own evolution. There have been hints of such animals in the past but nothing equal to the remains found by Luo and colleagues, he said.

It's the first evidence that some ancient mammals were semi-aquatic, indicating a greater diversification than previously thought, according to the researchers.

Modern semi-aquatic mammals such as beavers and otters and aquatic mammals like whales did not appear until between 55 million years ago and 25 million years ago, according to the researchers.

The animal is not related to modern beavers or otters but has features similar to them. Thus the researchers named it *Castorocauda lutrasimilis*. *Castoro* from the Latin for beaver, *cauda* for tail, *lutra* for river otter and *similis* meaning similar.

The animal had fur, a broad scaly tail with vertebra similar to those in a beaver or otter, swimmer's limbs and seal-like teeth for eating fish, they said.

The researchers found imprints of the fur, both guard hairs and short, dense under fur that would have kept water from the skin. Scales were also apparent on the tail as well as a suggestion of soft tissues. There was also the skeleton including teeth.

Weighing in at between 1.1 and 1.7 pounds, about the size of a small female platypus, *Castorocauda* is also the largest known Jurassic early mammal.

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