

Who's your daddy? Hippo ancestry unveiled

February 24 2015



A hippopotamus swims in its enclosure at the San Diego Zoo, in California, on January 13, 2015

A great-great grandfather of the hippopotamus likely swam from Asia to Africa some 35 million years ago, long before the arrival of the lion, rhino, zebra and giraffe, researchers said Tuesday.

Analysis of a previously unknown, long-extinct relative also confirmed that cetaceans—the group to which whales, dolphins and porpoises

belong—are in fact the hippo's closest living cousins.

"The origins of the hippopotamus have been a mystery until now," Fabrice Lihoreau, a palaeontologist at France's University of Montpellier and co-author of the study, told AFP.

"Now we can say that hippos came from anthracotheres"—an extinct group of plant-eating, semi-aquatic mammals with even-toed hooves.

Until now, the oldest known fossil of a hippo ancestor dated from about 20 million years ago, while cetacean remains aged 53 million years have been found.

Scientists had long lumped hippos with the Suidae family of pigs based on palaeontological finds, but DNA later suggested they were the kin of whales instead.

Yet the huge age gap between hippos and cetaceans in the fossil record has left the experts stumped.

"It meant that either we have never found ancestors of hippos, or we didn't recognise them among the mammal fossils we already had," said Lihoreau.

Now the remains of a 28-million-year-old animal discovered in Kenya has provided an important piece of the puzzle, according to a study in the journal *Nature Communications*.



A hippopotamus swims in its enclosure at the San Diego Zoo, in California, on January 13, 2015

Named *Epirigenys lokonensis* ("epiri" means hippo in the Turkana language and Lokone after the discovery site), it was about the size of a sheep, weighing in at 100 kilogrammes (220 pounds), which is about a twentieth the size of today's "common hippopotamus", a sub-Saharan giant.

It may have spent much of its time immersed in water.

E. lokonensis was not a direct forefather of today's hippo, belonging instead to a side branch.

But it lived much closer in time to the ancestor from which they both

branched off, thus allowing for inferences to be drawn about the ancient animal.

Dental analysis led the team to conclude that *E. lokonensis* and the hippo both came from an anthracothere forefather, which migrated from Asia to Africa about 35 million years go.

As Africa was then an island surrounded by water, it likely swam there.

All this means the ancestors of hippos "were among the first large mammals to colonise the African continent, long before those of any of the large carnivores, giraffes or bovines," all of which arrived only about 18 million years ago, said a statement.

The modern-day hippo thus evolved independently in Africa, and is a creature truly endemic to the continent, according to the research paper.

"We filled a gap in the evolutionary history of the hippo, bringing us closer to the point of divergence from their modern-day sister group of cetaceans," and thus a more accurate reconstruction, said Lihoreau.

© 2015 AFP

Citation: Who's your daddy? Hippo ancestry unveiled (2015, February 24) retrieved 20 March 2024 from <https://phys.org/news/2015-02-daddy-hippo-ancestry-unveiled.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.
