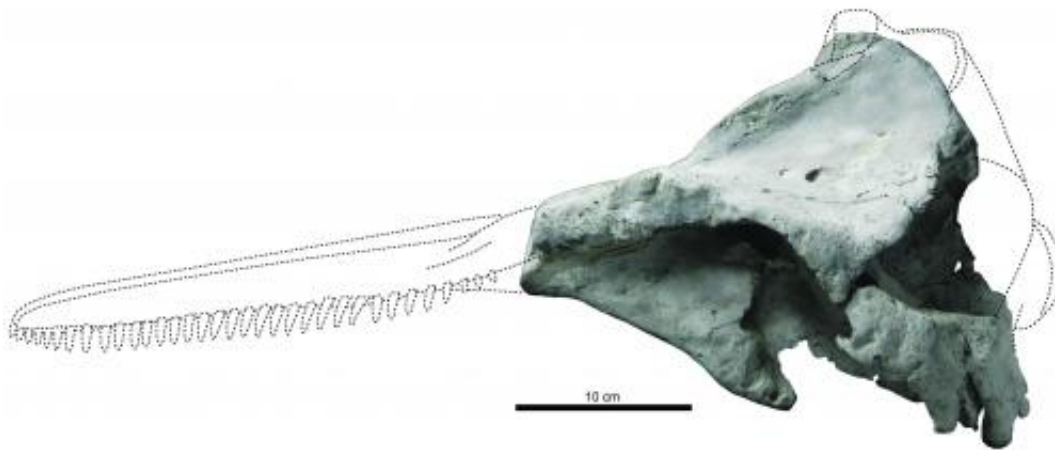


First dolphins appeared millions of years earlier than previously thought

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Skull of *Eodelphinus kabatensis*. Credit: Mizuki Murakami/Society of Vertebrate Paleontology

Japanese researchers have described the earliest species of a true dolphin in the known fossil record: the oldest Miocene delphinid fossil including a skull. Their research has huge implications for our understanding of dolphin evolution.

It may be long dead, but a little known – and potentially crucial – dolphin fossil raised its head above water in 2014 when researchers re-described and renamed it in a scientific article. Their research suggests that true dolphins existed 3-8 million years earlier than was previously believed.

A delphinid fossil was discovered near the Oshirarika River in Hokkaido, Japan and reported in Japanese literature in 1977. It was originally named *Stenella kabatensis*. In 2005, a review article noted that *S. kabatensis* was the only known Miocene epoch delphinid to include a skull.

Researchers at Waseda University in Tokyo began to question the fossil's description under the genus *Stenella* and proposed a new taxonomic assignment within the genus *Eodelphinus*. They published this, along with their morphological phylogenetic analysis, in the *Journal of Vertebrate Paleontology*.

The team, led by Dr Mizuki Murakami and Dr Hiromichi Hirano, narrowed the [fossil](#)'s age to the late Miocene epoch some 13-8.5 million years ago, making it the earliest true dolphin species described. The [fossil record](#) previously showed the oldest true dolphin fossils to be less than six million years old. *Eodelphinus kabatensis* gives us significant insights into the early evolutionary history of dolphins, suggesting they arose in the middle Miocene, possibly in the Pacific Ocean.

The Waseda team is now studying the origin and early evolution of toothed whales, a group that includes dolphins, porpoises and sperm whales.

Provided by Waseda University

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