58-million-year-old footprints show when mammals began paddling in sea

LIFE 13 May 2021

By **Krista Charles**

The hippo-like mammal Coryphodon
Anton Wroblewski

An extensive set of fossilised footprints shows that prehistoric large mammals were gathering by the sea millions of years earlier than we thought.

Anton Wroblewski at the University of Utah and Bonnie Gulas-Wroblewski at the Texas A&M Natural Resources Institute photographed and examined the footprint site, which Wroblewski first stumbled upon in 2019 while mapping rocks that formed on an ancient coastline that now lies in Wyoming.

Plant fossils in the layers above where the tracks were found indicate that the footprints are about 58 million years old, making them the earliest direct evidence of mammals using marine environments. For instance, the earliest evidence of marine-dwelling whales comes from rocks that formed 9.4 million years later.

Fossilised mammal footprints that date back to 58 million years ago or earlier are very rare: the new discovery is just the fourth site worldwide where they have been found, and the first in which the prints have been found near a former coastline.

“The other track sites have a few dozen footprints. This one actually has thousands of footprints, so it provides really important insight into how these animals were moving, what they were doing,” says Wroblewski.

Read more: Fossil footprints reveal our modern walk in the making

The pair recorded footprints in four layers of sediment that each represents a different time when the tracks were made in the environment. At the time the area was a coastal delta.

“We don’t know how much time is represented by these layers, but it’s almost certainly thousands to tens of thousands of years,” says Wroblewski. “So, these four layers of rock tell us that these animals didn’t just come into the marine environment once. They did it many, many times over tens of thousands of years. And that’s why we think this was a habit of theirs – this is something they were doing regularly.”

At least two types of animals made the footprints. While the four-toed footprints couldn’t be matched to any animals known to have existed in that period, the five-toed footprints were likely to have been made by the hippo-like animal *Coryphodon*.

“In a way it’s a range extension in time for *Coryphodon*,” says George Engelmann at the University of Nebraska Omaha. “The fact that you’ve got this environmental association means that it might be possible to look in other areas where those environments are preserved to see if tracks might be identified there.”

Read more: https://www.newscientist.com/article/2277563-58-million-year-old-footprints-show-when-mammals-began-paddling-in-sea/#ixzz6v0TXEeYX