Press Release

Ungulates with claws lived in Europe 11.5 million years ago

Fossils of Chalicotheriidae with horse-like heads and long arms with claws found at Hammerschmiede site

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From today's perspective, they look like a cross between a horse and a gorilla: Chalicotheriidae had a massive body and a horse-like head; their arms were much longer than their legs and equipped with claws. They belonged to the group of odd-toed ungulates and are related to modern rhinoceroses, horses and tapirs. They died out around two million years ago.

Finds from the Hammerschmiede excavation site in Germany's Allgäu region show that they also lived in what is now southern Germany 11.5 million years ago. A team of researchers from Tübingen and South Africa has now examined the finds and published the results in the journal *PalZ*.

As Panagiotis Kampouridis, a doctoral student at the University of Tübingen and first author of the study, reports, fossil teeth and finger bones of the genus *Anisodon* were recovered. These extraordinary herbivores lived in densely wooded areas and are considered to be knuckle-walkers - like modern apes. They probably used their enormous claws to pick leaves and branches from trees, scrape off bark or even tear out smaller trees.

In addition, a second group of clawed animals lived in the region 11.5 million years ago, as the finds of a kneecap and a skull fragment show. The arms of the Schizotheriinae were only slightly longer than their legs and they were much better runners in open terrain.

As both groups had similar diets, they rarely lived in the same habitat. The Hammerschmiede site proves that both animal species lived in the same region. However, they were recovered from different find layers, which presumably represent different habitats.

"Our results provide an insight into the relationship between these two closely related groups," says Kampouridis. "The findings also support the hypothesis that these two groups could only live in the same ecosystem

at the same time under certain ecological conditions."

Excavations have been taking place at the Hammerschmiede fossil site since 2011 under the direction of Professor Madelaine Böhme from the Senckenberg Centre for Human Evolution and Palaeoenvironment at the University of Tübingen. Over 150 different species of extinct vertebrates have so far been recovered from river sediments.

Publication:
Panagiotis Kampouridis, Josephina Hartung, Thomas S. Lechner, Nikolaos Kargopoulos & Madelaine Böhme: "Disparate occurrences of a chalicotheriine and a schizotheriine chalicothere (Mammalia, Chalicotheriidae) at the Late Miocene hominid locality Hammerschmiede (Germany)". *Paläontologische Zeitschrift (PalZ), 30. April 2024;*
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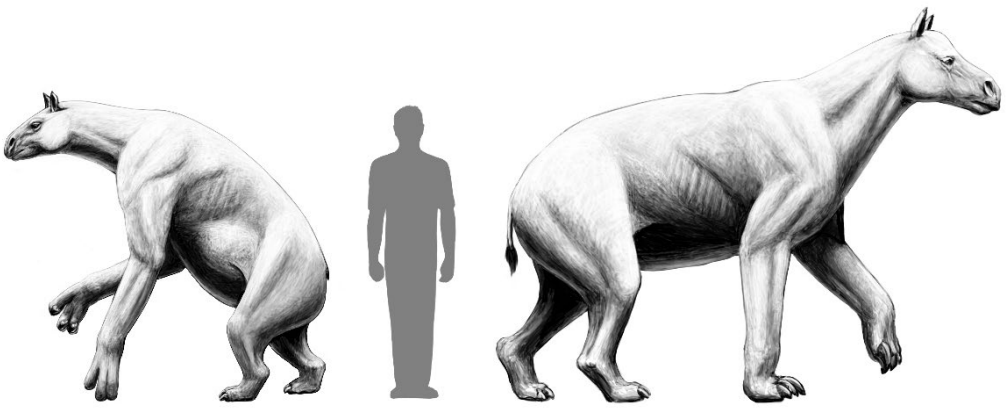

Clawed ungulates such as Chalicotheriinae (left) and Schizotheriinae (right) lived in southern Germany 11.5 million years ago. They were related to today's rhinoceroses, horses and tapirs and became extinct around two million years ago. Image: Peter Nickolaus