

# Vulnerable giants: Fractured skulls shed light on possible prehistoric hunting patterns

November 15 2022, by Stefan Stöcklin

---



Prehistoric hunters surrounding a glyptodont. Credit: Jorge Blanco

The remains of glyptodonts, a group of extinct giant armadillos, indicate that humans spread to South America earlier than previously assumed. Found in northwestern Venezuela, the fractured skulls could represent evidence of hunting by humans, says UZH paleontologist Marcelo Sánchez. Skilled human hunters are also likely to have contributed to pushing the large, heavily armored animals over the brink.

Northern Venezuela must have been a paradise for flora and fauna. Some 18,000 years ago, mighty mastodons would trudge across the humid landscape, with giant snakes slithering through the jungle and huge sloths slowly moving about in the treetops.

A glyptodont would quench its thirst at a watering hole and then retreat into the shade—and suddenly find itself surrounded by a group of humans, armed with spears and clubs. One of the hunters would raise their arm and take down the prehistoric animal with a single, heavy blow to the front of its skull. It must have been a joyous moment for the hunters, since their prey would have provided them with around 170 kilograms of meat and fat to eat, according to a recent study conducted by UZH paleontologist Marcelo Sánchez and his team.

## **Fractured skulls**

This in many ways remarkable hunting scene can be reconstructed based on an analysis of fossilized glyptodont skulls. They were found near the Caribbean in northwestern Venezuela, which today is a dry and inhospitable area. The researchers analyzed half a dozen skulls, four of which had distinct fracture patterns. They were taken from the well-known archaeological sites of Muaco and Taima-Taima, some 10 kilometers from the coast.

Usually stored in local museums, the remains were dated to between 16,000 and 20,000 years ago. The fossils are evidence that a genus of giant armadillo called glyptotherium once roamed these parts—and these slow-moving animals would have been an obvious target for early hunter-gatherers.

But while earlier studies confirmed that the large, armored herbivores were indeed hunted further south in the Pampas and Patagonia regions in Argentina, there was no evidence of this happening in the north of South

America. "Our study is the first to indicate that glyptodonts were hunted in this region," says Marcelo Sánchez.

The evidence suggests that the hunters' fatal blows were dealt with a stone chopper or club, and not using spears like elsewhere. The hunters must therefore have been brave, with good observation skills and knowledge of their prey, says the UZH paleontologist.

According to the researchers' analysis, the hunters struck the creatures at the most vulnerable part of their skull. Apart from the front part of the head, the prehistoric herbivores, which could weigh up to 400 kilograms, were almost fully protected by a strong carapace.



Armored, but slow: glyptodonts were easy prey for human hunters. Credit: Jorge Blanco

## **Dwindling megafauna**

The findings shed new light on the role of humans in the extinction of terrestrial megafauna species in South America, including giant birds of prey, giant bears and giant saber-toothed cats. Most of these spectacular species have gone extinct, with only a few, such as the capybara (*Hydrochoerus hydrochaeris*), still around today. What role did humans play? Was organized hunting by humans responsible for their disappearance, or was it mainly the result of the dramatic climate changes that occurred at the end of the last ice age?

"It would be absurd to claim that our study identifies humans as the main factor," says Marcelo Sánchez—after all, what are four killed glyptodonts in the grand scheme of things? And yet, the findings show that [early humans](#) in South America hunted megafauna and therefore potentially contributed to their disappearance. "We've provided a piece of the puzzle that humans were capable of killing these [large animals](#)," says the paleontologist.

## **Continental differences in the disappearance of megafauna**

It's also interesting to look further north, to the North American continent. The Isthmus of Panama, which connects North and South America, allowed the giant animals species to move between the two continents. While roughly 82% of megafauna went extinct in South America some 12,000 years ago, in North America only around 70% disappeared.

Paleontologists believe that in North America, humans played a pivotal role, as mass extinction of megafauna largely coincided with the Clovis culture, a prehistoric culture named for stone tools found near Clovis in

present-day New Mexico. According to this interpretation, the Clovis people were highly skilled at hunting the giant animals.

But the [glacial conditions](#), known as the Younger Dryas, that hit the northern hemisphere also contributed to the animals' disappearance. South America, however, wasn't affected by this period of cold weather. In short, the debate about the impact of humans is still ongoing, and we only need to look to Africa to see that the fate of megafauna was by no means a foregone conclusion. "The survival of megafauna in Africa proves that it was possible for giant animals and humans to coexist," says Marcelo Sánchez.

## **Rewriting the history of human settlement**

The paleontologists' study, a joint endeavor by researchers from Zurich, Venezuela and Argentina, also sheds new light on the history of [human](#) settlement in South America. If giant armadillos were hunted and killed 16,000 years ago in what is today Venezuela, this obviously means that humans also lived there at the time. "It's clear that prehistoric people lived in various places across South America even at this early stage," says Marcelo Sánchez.

Not long ago, such a claim would have been met with considerable opposition, as it was previously believed that the earliest human settlers arrived in South America much later, thousands of years after the Clovis culture emerged in North America around 12,000 years ago.

But this chapter of human settlement history is currently being rewritten based on new archaeological sites and genetic analyses. The new version suggests that prehistoric populations rapidly moved south even before and during the Clovis culture and settled across the continent, as far south as Tierra del Fuego.

The UZH paleontologists' findings on glyptodonts in the north of South America fits in nicely with this new picture. The sites where the skulls were found aren't far from Panama, close to the corridors likely taken by the prehistoric people migrating to South America. So the unknown glyptodont hunters may well have been among the earliest settlers in South America, and close relatives of their mammoth-hunting neighbors in the north.

**More information:** Alfredo A. Carlini et al, Damaged glyptodontid skulls from Late Pleistocene sites of northwestern Venezuela: evidence of hunting by humans?, *Swiss Journal of Palaeontology* (2022). [DOI: 10.1186/s13358-022-00253-3](https://doi.org/10.1186/s13358-022-00253-3)

Provided by University of Zurich

Citation: Vulnerable giants: Fractured skulls shed light on possible prehistoric hunting patterns (2022, November 15) retrieved 26 April 2024 from <https://phys.org/news/2022-11-vulnerable-giants-fractured-skulls-prehistoric.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.