

# Last of the giant camels and archaic humans lived together in Mongolia until 27,000 years ago

March 24 2022

---



Credit: Pixabay/CC0 Public Domain

A species of giant two-humped camel, *Camelus knoblochi*, is known to have lived for approximately a quarter of a million years in Central Asia.

A new study in *Frontiers in Earth Science* shows that *C. knoblochi*'s last refuge was in Mongolia until approximately 27,000 years ago. In Mongolia, the last of the species coexisted with anatomically modern humans and maybe the extinct Neanderthals or Denisovans. While the main cause of *C. knoblochi*'s extinction seems to have been climate change, hunting by archaic humans may also have played a role.

"Here we show that the extinct camel, *Camelus knoblochi*, persisted in Mongolia until climatic and [environmental changes](#) nudged it into extinction about 27,000 years ago," said Dr. John W Olsen, Regents' professor emeritus at the School of Anthropology of the University of Arizona, Tucson, US.

Paradoxically, today, southwestern Mongolia hosts one of the last two [wild populations](#) of the critically endangered wild Bactrian camel, *C. ferus*. The new results suggest that *C. knoblochi* coexisted with *C. ferus* during the late Pleistocene in Mongolia, so that between-species competition may have been a third cause of *C. knoblochi*'s extinction. Standing nearly three meters tall and weighing more than a ton, *C. knoblochi* would have dwarfed *C. ferus*. The precise taxonomic relationships between these two species, other extinct *Camelus*, and the ancient *Paracamelus* aren't yet resolved.

Olsen said, "*C. knoblochi* fossil remains from Tsagaan Agui Cave [in the Gobi Altai Mountains of southwestern Mongolia], which also contains a rich, stratified sequence of human Paleolithic cultural material, suggest that archaic people coexisted and interacted there with *C. knoblochi* and elsewhere, contemporaneously, with the wild Bactrian camel."

## **Steppe specialists driven into extinction by desertification**

The new study describes five *C. knoblochi* leg and foot bones found in Tsagaan Agui Cave in 2021, and one from Tugrug Shireet in today's Gobi Desert of southern Mongolia. They were found in association with bones of wolves, cave hyenas, rhinoceroses, horses, wild donkeys, ibexes, wild sheep, and Mongolian gazelles. This assemblage indicates that *C. knoblochi* lived in montane and lowland steppe environments, less dry habitats than those of its modern relatives.

The authors conclude that *C. knoblochi* finally went extinct primarily because it was less tolerant of desertification than today's camels, *C. ferus*, the domestic Bactrian camel *C. bactrianus*, and the domestic Arabian [camel](#) *C. dromedarius*.

In the late Pleistocene, much of Mongolia's environment became drier and changed from steppe to dry steppe and finally desert.

"Apparently, *C. knoblochi* was poorly adapted to desert biomes, primarily because such landscapes could not support such [large animals](#), but perhaps there were other reasons as well, related to the availability of fresh water and the ability of camels to store water within the body, poorly adapted mechanisms of thermoregulation, and competition from other members of the faunal community occupying the same trophic niche," wrote the authors.

Towards the end, the last of the species may have lingered, at least seasonally, in the milder forest steppe—grassland interspersed with woodland—further north in neighboring Siberia. But this habitat probably wasn't ideal either, which could have sounded the death knell for *C. knoblochi*. The world would not see giant camels again.

## **Preyed upon or scavenged by humans**

What were the relations between archaic humans and *C. knoblochi*?

Corresponding author Dr. Arina M Khatsenovich, senior researcher at the Russian Academy of Sciences' Institute of Archeology and Ethnography in Novosibirsk, Russia, said, "A *C. knoblochi* metacarpal bone from Tsagaan Agui Cave, dated to between 59,000 and 44,000 years ago, exhibits traces of both butchery by humans and hyenas gnawing on it. This suggests that *C. knoblochi* was a species that Late Pleistocene humans in Mongolia could hunt or scavenge."

"We don't yet have sufficient material evidence regarding the interaction between humans and *C. ferus* in the Late Pleistocene, but it likely did not differ from human relationships with *C. knoblochi*—as prey, but not a target for domestication."

First author Dr. Alexey Klementiev, a paleobiologist with the Russian Academy of Sciences' Siberian Branch, said, "We conclude that *C. knoblochi* became extinct in Mongolia and in Asia, generally, by the end of Marine Isotope Stage 3 (roughly 27,000 years ago) as a result of climate changes that provoked degradation of the steppe ecosystem and intensified the process of aridification."

**More information:** Alexey M. Klementiev et al, First Documented *Camelus knoblochi* Nehring (1901) and Fossil *Camelus ferus* Przewalski (1878) From Late Pleistocene Archaeological Contexts in Mongolia *Frontiers in Earth Science* (2022). [DOI: 10.3389/feart.2022.861163](https://doi.org/10.3389/feart.2022.861163)

Provided by Frontiers

Citation: Last of the giant camels and archaic humans lived together in Mongolia until 27,000 years ago (2022, March 24) retrieved 26 April 2024 from <https://phys.org/news/2022-03-giant-camels-archaic-humans-mongolia.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.