

# Genetic study suggests humans, not Ice Age, killed off European cave bears

August 16 2019, by Bob Yirka



Cave bear skull from Natural History Museum in Belgrad (Serbia) Credit: R. Kowalczyk

A team of researchers affiliated with multiple institutions across Europe has found evidence that suggests humans were responsible for the extinction of cave bears thousands of years ago, not the climate effects of the last Ice Age. In their paper published in the journal *Scientific*

*Reports*, the group describes their mitochondrial DNA study of cave bear remains and what they learned from it.

The cave bear was one of the large species that went extinct at the end of the last Ice Age. Prior research has suggested the bears simply could not cope with the changing climate, and thus met their end. In this new effort, the researchers have found evidence that suggests it was not just the cold that killed off the cave bears—humans appear to have played a large role, as well.

The work by the team involved mitochondrial testing of 59 cave bear remains from across Europe. Study of the data showed that populations of the bears began to decline long before the onset of the last ice-age approximately 40,000 years ago. They also found that the bears managed to make it through prior ice ages without major reductions in population. The researchers note that [modern humans](#) began populating the areas where the bears lived roughly 40,000 years ago. They further note that Neanderthals also lived in the area, but had coexisted with the [cave](#) bears for thousands of years, and are thus unlikely to have contributed to the extinction of the bears.



Cave bear skull from the Buso Doppio del Broion cave (Vicenza-Italy) Credit: Matteo Romandini

The researchers suggest that modern humans likely had more sophisticated hunting skills and were less averse to venturing into caves where bears might have been residing. They note also that modern humans might have killed [cave bears](#) for a variety of reasons, including hunting them for food, using their fur to keep warm, and eliminating them as potential threats. The mtDNA also showed that the bears grew more isolated as their numbers dwindled, making survivors more prone to disease as the gene pool shrunk. Cave bears were also sensitive to a changing climate, the researchers note, because they were not meat eaters—changes in vegetation during the last Ice Age made foraging more difficult. The researchers conclude that humans reducing their numbers made it impossible for the bears to survive the last Ice Age.

**More information:** Joscha Gretzinger et al. Large-scale mitogenomic analysis of the phylogeography of the Late Pleistocene cave bear, *Scientific Reports* (2019). [DOI: 10.1038/s41598-019-47073-z](https://doi.org/10.1038/s41598-019-47073-z)

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