

# Research supports rock structure likely used for bone tool work at Spain's El Mirón Cave

April 17 2023, by Mary Beth King

---



Credit: Unsplash/CC0 Public Domain

As far back as 45,000 years ago, groups of hunter-gatherers lived in what is now called El Mirón Cave near the northern coast of Spain. First discovered for science in 1903 by local archaeologists and surveyed by

University of New Mexico Professor of Anthropology Lawrence Straus in 1973, systematic excavation of the cave began in 1996 when Straus and Manuel González Morales of the University of Cantabria began their major ongoing research in the cave, leading to the discovery of prehistoric remains ranging from the time of the last Neanderthals through the Bronze Age.

In an article titled "Structuring domestic space in the Lower Magdalenian: an analysis of the fauna from Level 115 of El Mirón Cave, Cantabria" in *Antiquity*, lead author and UNM Archaeology Associate Professor Emily Lena Jones tests Straus's hypothesis that prehistoric people who lived in the [cave](#) 20,000 years ago created a partition or workbench where they crafted their bone tools, a rarity among examples of Paleolithic hunter-gatherer structures in caves.

"El Mirón is a huge cave that people lived in over a long period of time, in several parts of the cave. But in Paleolithic cave sites like this, people didn't necessarily live there all the time," Jones explained. "They were hunter-gatherers, who are generally more mobile than people who rely on agriculture. When people weren't in the cave, other critters were in residence. Those other critters, as well as other non-human-related activities like rockfall, influence what we find in cave sites."

That, along with the fact that hunter-gatherers don't construct sites in the same way that non-hunter-gatherers do, can make it difficult to definitively demonstrate how Paleolithic people constructed homes within caves. At El Mirón, hearths, pits, and small structures provide some evidence of Paleolithic home-making.

In addition to these features, the rear of El Mirón Cave contains a linear alignment of rocks that is possibly a wall or a bench. Since the cave doesn't contain other similar areas of large, seemingly aligned fallen rock, it seems likely that this feature was at least used, and possibly

modified or even constructed by the people who lived there, perhaps in relationship to the working of animal bones and stones to make tools. The idea of a wall was first set forth in an article by Straus and Gonzalez Morales in 2018.

In this research, Jones and colleague Ana B. Marín-Arroyo used the bone material that was discarded around the rock feature to test Straus's and González Morales's idea.

"Our hypothesis was that if this feature was used by the inhabitants, the discard around it should show clear patterning. Our analysis showed that this was the case. The stone alignment does seem to have been used in some way, and probably not just to isolate a trash heap," said Jones. "It seems more likely that it is associated with a bone-working area. While probably most of the bones were from animals that initially did provide food for people, by the time the bone fragments were discarded in Level 115 of the cave, they'd also have been broken in ways that suggest people were making tools out of them."

This discovery adds to the small list of known examples of Paleolithic hunter-gatherer structures in caves in that many cave structures seem to be associated with religious or ceremonial activities, but the area in El Mirón looks like it demarcates a working area.

Jones carried out the identification of the fauna from El Mirón's Level 115 as part of a Fulbright Scholar Award in 2017. She worked with Marín-Arroyo, associate professor of Prehistory and leader of the Human Evolution Group (EvoAdapta) at the University of Cantabria in Spain, who conducts much of the analysis of El Mirón fauna. Jones also conducted the statistical analysis. Straus, Leslie Spier Distinguished Professor Emeritus in the UNM Department of Anthropology, and González Morales, Professor Emeritus at the University of Cantabria, directed the project and also completed the analysis of the stone tool

materials.

Straus and González Morales are known for the 2010 discovery of the Red Lady of El Mirón, who died around 18,800 years ago. The skeleton is estimated to be that of someone between 35 and 40 years of age, and her bones were coated with ochre, a red iron-based pigment, hence, her name.

"I am so honored to have had this opportunity to work with Ana, Manolo, and Lawrence, and also to work with material from the legendary site of El Mirón," Jones said. "It was a truly amazing experience and would have been so regardless of what we found. The fact that we were able to find evidence supporting this kind of domestic structure was the cherry on top."

**More information:** Emily Lena Jones et al, Structuring domestic space in the Lower Magdalenian: an analysis of the fauna from Level 115 of El Mirón Cave, Cantabria, *Antiquity* (2023). [DOI: 10.15184/aqy.2023.9](https://doi.org/10.15184/aqy.2023.9)

Provided by University of New Mexico

Citation: Research supports rock structure likely used for bone tool work at Spain's El Mirón Cave (2023, April 17) retrieved 23 June 2024 from <https://phys.org/news/2023-04-bone-tool-spain-el-mirn.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.