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Hunter-Gatherers Were Making Baskets 9,500 Years Ago, Researchers Say

Dozens of items that were found in a cave in southern Spain more than a century ago date from the Mesolithic era and are much older than previously thought, according to a new study.

By Rachel Chaundler

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Hunter-gatherer societies on the Iberian Peninsula were making sophisticated baskets with decorative geometric patterns 9,500 years ago, more than 2,000 years earlier than previously thought, researchers in Spain have reported.

The researchers also said that sandals that were found in the same cave as the baskets represent the "earliest and most diverse set of plant-based footwear documented in the prehistory of Europe."

Francisco Martínez-Sevilla, a researcher of prehistory at the University of Alcalá and the lead author of a paper outlining the findings that was published this week in Science Advances, explained that carbon-14 dating tests had been carried out on 76 objects that were found by 19th-century miners in the Cueva de los Murciélagos, a cave in southern Spain.

The objects, including Europe's oldest pair of sandals, a wooden stick and mace and exquisitely crafted baskets woven from reed and esparto, were previously believed to have been made by Neolithic farmers.

Exquisitely crafted baskets, woven from reed and esparto, with decorative geometric patterns were previously believed to have been made by Neolithic farmers. MUTERMUR Project

But the carbon-14 testing carried out by Dr. Martínez-Sevilla's research group, which has recently excavated human remains in the cave, showed that the best-preserved baskets were, in fact, crafted by hunter-gatherer communities in the Mesolithic era, 9,500 years ago. Some show signs of sophisticated craftsmanship, with decorative, dyed geometric patterns, and were previously attributed to the Neolithic period, which came more than 2,000 years later.

"My first reaction was, 'Oh my God, that is not possible,'" Dr. Martínez-Sevilla said in a telephone interview, explaining how the discovery suggested that Mesolithic societies may have been more complex than previously imagined. "When we realized the magnitude of the findings, we published the paper with all the analysis in less than a year."

In a statement about the findings, Dr. Martínez-Sevilla added, "The quality and technological complexity of the basketry makes us question the simplistic assumptions we have about human communities prior to the arrival of agriculture in southern Europe."

The entrance to the Cueva de los Murciélagos is tucked into a rock face.
Francisco Martínez-Sevilla

Katina Lillios, an anthropological archaeologist at the University of Iowa, who was not involved in the study, said the research "expands our understanding of the technologies of foraging peoples at the time."

"Being able to trace changes over time in the form and techniques of plant-based technologies is also quite important, especially given how rarely plant-based artifacts are preserved," Professor Lillios said in an email.

The study said the items found in the cave had been preserved over thousands of years because of the lack of humidity in the area combined with the wind that circulated inside, which kept the cave cool and dry, preventing the spread of bacteria.

"The preservation at the site of Cueva de los Murciélagos is truly remarkable," Professor Lillios said, "and it is great to see that archaeologists have been able to date a larger sample of the plant-based artifacts found there."

The research on the artifacts from the Cueva de los Murciélagos, which means cave of the bats, revealed human hair embedded within the fibers of the Mesolithic baskets. "Hair has never been found from this period," Dr. Martínez- Sevilla said.

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Blas Ramos Rodríguez

Dr. Martínez-Sevilla's group now hopes to carry out carbon-14 testing on the human remains excavated in the cave, some of which may also be from the Mesolithic era.

Ruth Maícas Ramos, who is a curator at the National Museum of Archaeology in Madrid, which houses much of the collection, and who is an author of the paper

published this week, pointed out that when a pioneering 19th-century archaeologist, Manuel de Gongora, published his findings about the miners' discovery in 1868, "no one believed at the time they were so ancient" because they were so well-preserved and made with materials and weaving techniques still in use.

In fact, Ms. Maícas Ramos added, "the sandals are not dissimilar to modern-day espadrilles."

Michael Levenson contributed reporting.

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