

# Carbon dating identifies South America's oldest textiles

April 13 2011

---

Textiles and rope fragments found in a Peruvian cave have been dated to around 12,000 years ago, making them the oldest textiles ever found in South America, according to a report in the April issue of *Current Anthropology*.

The items were found 30 years ago in Guitarrero Cave high in the Andes Mountains. Other artifacts found along with the [textiles](#) had been dated to 12,000 ago and even older. However, the textiles themselves had never been dated, and whether they too were that old had been controversial, according to Edward Jolie, an archaeologist at Mercyhurst College (PA) who led this latest research.

The cave had been disturbed frequently by human and geological activity, so it was possible that the textiles could have belonged to much more recent inhabitants. What's more, the prior radiocarbon dates for the site had been taken from bone, obsidian, and charcoal—items that are known to sometimes produce inaccurate radiocarbon ages. According to Jolie, charcoal especially can produce dates that tend to overestimate a site's age.

"By dating the textiles themselves, we were able to confirm their antiquity and refine the timing of the early occupation of the Andes highlands," Jolie said. His team used the latest radiocarbon dating technique—accelerated mass spectrometry—to place the textiles at between 12,100 and 11,080 years old.

The textile items include fragments of woven fabrics possibly used for bags, baskets, wall or floor coverings, or bedding. They were likely left by settlers from lower altitude areas during "periodic forays" into the mountains, the researchers say. "Guitarrero Cave's location at a lower elevation in a more temperate environment as compared with the high Andean [plain] made it an ideal site for humans to camp and provision themselves for excursions to even higher altitudes," Jolie and his colleagues write.

These early mountain forays set the stage for the permanent settlements that came later—after 11,000 years ago—when the climate had warmed, glaciers receded, and settlers had a chance to adapt to living at higher altitudes.

Jolie's research also suggests that women were among these earliest high altitude explorers. Bundles of processed plant material found in the cave indicate that textile weaving occurred on site. "Given what we know about textile and basket production in other cultures, there's a good possibility that it would have been women doing this work," Jolie said.

"There's an assumption that these early forays into the mountains must have been made exclusively by men," he added. "It appears that might not be the case, though more work needs to be done to prove it."

**More information:** Edward A. Jolie, Thomas F. Lynch, Phil R. Geib, and J. M. Adovasio, "Cordage, Textiles, and the Late Pleistocene Peopling of the Andes." *Current Anthropology* 42:2 (April 2011).

Provided by University of Chicago

Citation: Carbon dating identifies South America's oldest textiles (2011, April 13) retrieved 20

April 2024 from <https://phys.org/news/2011-04-carbon-dating-south-america-oldest.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.