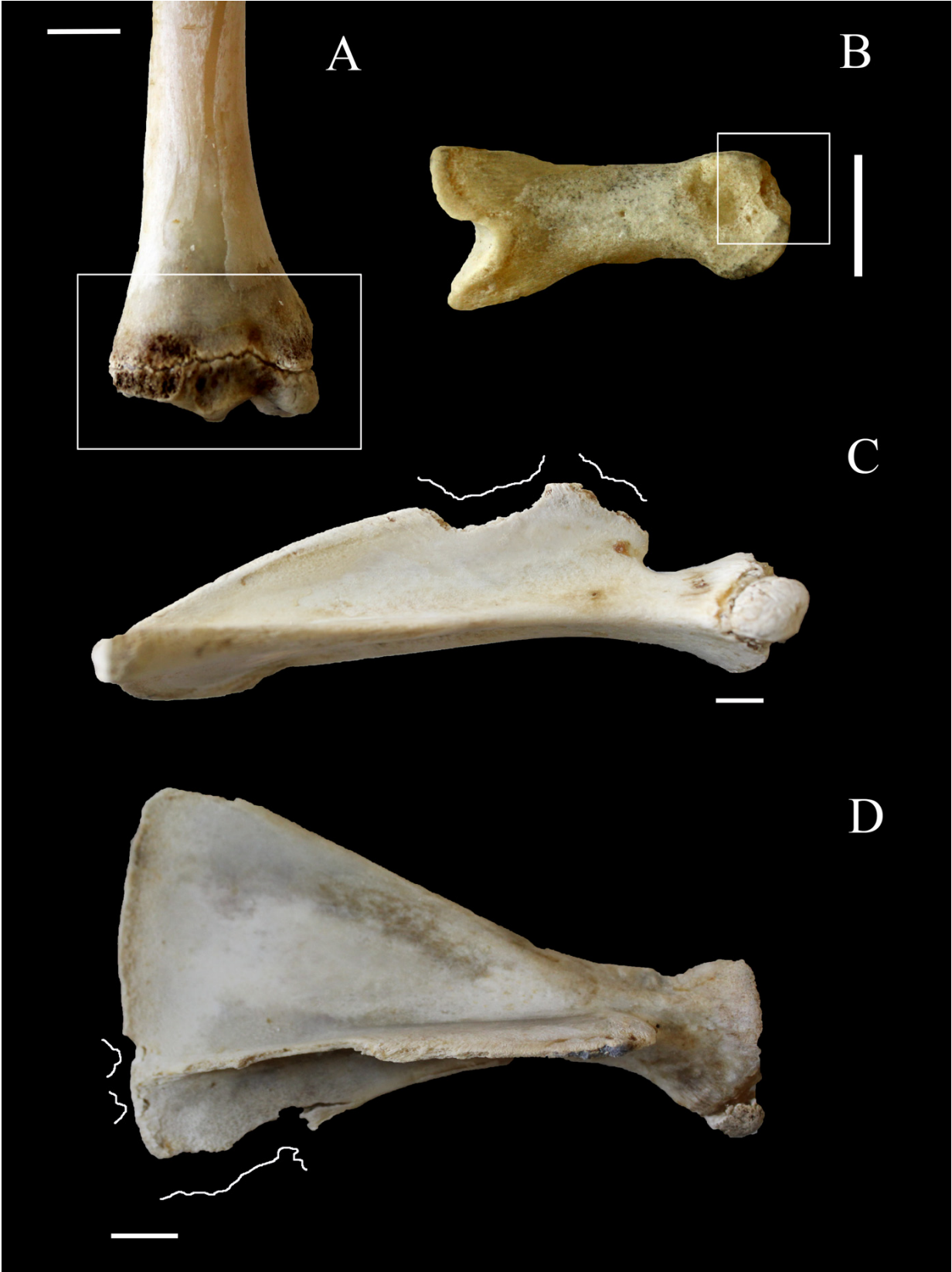


# Tracking down the first chefs

August 3 2016

---



Marks produced by humans when eating meat in the experiment carried out in this research. Credit: Antonio J. Romero / UPV/EHU

A study led by Antonio J. Romero at the UPV/EHU's Department of Geography, History and Archaeology and published in the *Journal of Archaeological Science: Reports* has shown that human bites on bones have distinctive features allowing them to be differentiated from bites made by other animals, and that cooking the meat in advance influences the appearance of these marks. This study provides valuable conclusions for analyzing food remains found on sites.

Archaeological sites speak about the everyday lives of people in other times. Yet knowing how to interpret this reality is not straightforward. We know that Palaeolithic societies lived on hunting and gathering, but the bones found in prehistoric settlements are not always food remnants of the societies that lived there—or at least not exclusively. Many Paleolithic people were nomads and were constantly on the move across their territory. Thus, other predators such as hyenas or wolves, which survived on food remains left by humans, would be a common occurrence. Carnivores could even have sheltered in caves abandoned by Prehistoric peoples, raised their offspring, and left behind the remnants of the animals they caught and ate, leaving teeth marks on bones.

So it is very difficult to identify, for example, a roasted shoulder of mouflon eaten several thousand years ago from a few [bone](#) fragments remaining today. To be able to identify cases like this one, a novel way is to analyse the marks that humans make on bones when eating meat today.

In this respect, the researcher at the UPV/EHU's Department of Geography, Prehistory and Archaeology of the Faculty of Arts Antonio

J. Romero has led a study in which 90 lamb bones —phalanges, radii and scapulae— were examined and the meat of which was consumed by 10 volunteers using only hands and teeth. To control the variables resulting from the processing of the food beforehand, a third of the sample was eaten raw, another third roasted and the rest boiled.

## **What did they eat and how?**

The results, published in the *Journal of Archaeological Science: Reports*, show that over half of the bones bore the marks of human bites, teeth marks as well as fractures caused by chewing. These marks, analysed under a binocular magnifying glass, have a set of characteristics (size and morphology) that allows them to be differentiated from those produced by other animals. Furthermore, as Romero explained, "although the men produced more marks than the women, according to these data, it is not possible as yet to differentiate between them." On the other hand, cooking the meat beforehand affects the appearance of marks: "the teeth marks tend to appear more regularly in the roasted or boiled specimens," says Romero, "while the damage on the tips, edges and crushing tends to be more usual in the bones eaten raw."

"There are similar studies that have explored in depth the damage caused by animals on bones when feeding, but not dealing with the marks that we humans leave behind," he says. Studies of this type have a clear application in the analysis of archaeological remains, in particular for historical eras. So in each case, a whole set of characteristics is studied, such as the location of the damage left on the bones, its morphology and dimensions, which is not always easy to apply to the archaeological record, but "together with other prints of human activity that are more reliable, such as the marks of stone knives, etc., it is possible to complete the interpretation," he insisted. This research constitutes a real breakthrough in the possibility of finding out what kinds of meat foods hominids consumed and in what circumstances (whether or not they

cooked the meat before they ate it). "It allows us to find out more about human beings in the past and the origin of our modern behaviour, about the way we process foods (cooking them or not) and about our way of eating," he concluded.

**More information:** Antonio J. Romero et al, Mammal bone surface alteration during human consumption: An experimental approach, *Journal of Archaeological Science: Reports* (2016). [DOI: 10.1016/j.jasrep.2016.05.061](https://doi.org/10.1016/j.jasrep.2016.05.061)

Provided by University of the Basque Country

Citation: Tracking down the first chefs (2016, August 3) retrieved 4 May 2024 from <https://phys.org/news/2016-08-tracking-chefs.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.