

# Eating nuts caused tooth decay in hunter-gatherers

January 6 2014, by Kerry Sheridan

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Researchers say eating nuts and acorns may have helped hunter-gatherers survive 15,000 years ago in northern Africa but the practice wreaked havoc on their teeth

Eating nuts and acorns may have helped hunter-gatherers survive 15,000 years ago in northern Africa but the practice wreaked havoc on their teeth, researchers said Monday.

Fermented carbohydrates in the nuts caused cavities, tooth decay and bad breath, said the study led by British scientists in the *Proceedings of the National Academy of Sciences*.

The findings offer the earliest evidence of nut harvesting and storage among African [hunter-gatherers](#), and are based on dozens of hole-riddled dental remains found in Morocco's Taforalt Cave.

Dental woes have long been believed to originate in later farming cultures some 10,000 years ago, when people began eating processed foods on a wide scale.

Toothaches were presumed rare among hunter-gatherers. But this research suggests they arose earlier than previously thought by several thousand years.

The study pointed to an "exceptionally high prevalence of caries," or dental disease, found in 51 percent of teeth among the adult remains.

That is far higher than the rate of [tooth decay](#) generally seen in hunter-gatherers, which has ranged from zero to 14 percent, and much closer to the level seen in prehistoric farmers, said the study.

"The majority of the people's mouths were affected by both cavities in the teeth and abscesses," said co-author Isabelle DeGroote of Liverpool John Moores University.

"They would have suffered from frequent tooth ache and [bad breath](#)."

The latest analysis was done on a total of 52 adults whose remains were found in the 1950s as well as during more recent excavations that were begun in 2003.

Scientists used [accelerator mass spectrometry](#) to date the remains and potent microscopes to identify the fossils of plant material which included acorns, pine nuts, juniper berries, pistachios and wild oats.

There were so many remnants of acorns that researchers came to the conclusion that they must have been harvested and stored for eating as a staple food all year long.

Long esparto grasses were also identified in the excavation, and were likely used to weave baskets for carrying nuts, storing them and even cooking them, the study said.

"This is the first time we have documented this set of behaviors in the Iberomaurusian," a distant culture that thrived in the Maghreb, said lead author Louise Humphrey of The Natural History Museum of London, in an email to AFP.

"It is the earliest documented evidence of systematic exploitation of wild plant resources in hunter-gatherers from Africa."

Iberomaurusian people inhabited Taforalt some 13,000 to 15,000 years ago.

They are described as "complex hunter-gatherers" who performed elaborate burials of their dead, used grindstones to prepare food and engaged in harvesting and storage of wild nuts, the study said.

**More information:** "Earliest evidence for caries and exploitation of starchy plant foods in Pleistocene hunter-gatherers from Morocco," by Louise T. Humphrey et al.

[www.pnas.org/cgi/doi/10.1073/pnas.1318176111](http://www.pnas.org/cgi/doi/10.1073/pnas.1318176111)

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