Modern humans out of Africa sooner than thought

14 October 2015

Human teeth discovered in southern China provide evidence that our species left the African continent up to 70,000 years earlier than prevailing theories suggest, a study published on Wednesday said.

"The model that is generally accepted is that modern humans left Africa only 50,000 years ago," said Maria Martinon-Torres, a researcher at University College London and a co-author of the study.

"In this case, we are saying the H. sapiens is out of Africa much earlier," she told the peer-reviewed journal Nature, which published the study.

"Judging by the cave environment, it may not have been a living place for humans," lead author Wu Liu from the Chinese Academy of Science in Beijing told AFP.
Why not Europe?

The study, published in the journal *Nature*, also rewrites the timeline of early man in China.

Up to now, the earliest proof of *H. sapiens* east of the Arabian Peninsula came from the Tianyuan Cave near Beijing, and dated from no more than 40,000 years ago.

The new discovery raises questions about why it took so long for *H. sapiens* to find their way to nearby Europe.

"Why is it that modern humans—who were already at the gates—didn't really get into Europe?", Martinon-Torres asked.

Wu and colleagues propose two explanations.

The first is the intimidating presence of Neanderthal man. While this species of early human eventually died out, they were spread across the European continent up until at least some 50,000 years ago.

"The classic idea is that *H. sapiens*... took over the Neanderthal empire, but maybe Neanderthals were a kind of ecological barrier, and Europe was too small a place" for both, Martinon-Torres said.

Another impediment might have been the cold.

Up until the Ice Age ended 12,000 years ago, ice sheets stretched across a good part of the European continent, a forbidding environment for a new species emerging from the relative warmth of East Africa.

"*H. sapiens* originated in or near the tropics, so it makes sense that the species' initial dispersal was eastwards rather than northwards, where winter temperatures rapidly fell below freezing," Robin Dennell of the University of Exeter said in a commentary, also in *Nature*.

Human upper teeth found from the Fuyan Cave, Daoxian. Credit: S. Xing

Martinon-Torres laid out some of the questions to be addressed in future research, using both genetics and fossil records.

A near miss

"What are the origins of these populations, and what was their fate? Did they vanish? Could they be the ancestors of later and current populations that entered Europe?"

She also suggested there might have been "different movements and migrations" out of Africa, not just one.

Besides the prehistoric panda, called *Ailuropoda*....
baconi, the scientists found an extinct species of a giant spotted hyaena.

"By thinking about the cave environment, we realised that human fossils might be found there," he told AFP by email. "So we started a five-year excavation."

More information: Nature, DOI: 10.1038/nature15696

© 2015 AFP