When Did Humans First Visit the Arabian Peninsula?

Scientists believe they have uncovered evidence that humans inhabited the Arabian Peninsula as far back as half a million years ago. While the scorching temperatures and scarce rainfall make this stretch of land an inhospitable place today, the new research raises the possibility that things weren't always this way.

Primitive stone tools and cut marks on mammal bones were discovered in the region a few years ago, sparking speculation that perhaps the region didn't always suffer from the climate that it does now. Further isotope analysis of the findings reveal that the area was once dominated by grasslands similar to those found in the African savannah and could have been subject to human activity as far back as 500,000 years ago.

Building upon previous research

The new study, published recently in the journal *Nature Ecology & Evolution*, applied carbon and oxygen isotope analysis techniques to the enamel found on teeth believed to have belonged to mammals such as antelopes, elephants and horses from the Pleistocene period. They were discovered by Australian doctoral student Mathew Stewart several years ago in the T'is al Ghadah region in Saudi Arabia.

"I don't think I had realised the gravity of it yet. I didn't realise this would be the oldest evidence of people in the peninsula to date and that no one had found anything like this before," explained Stewart, whose team also came across fragments of stone believed to have been created during tool-making processes. "The stone tools add the nail in the coffin," concluded Stewart.

Corroborating evidence

Fossilised animals can teach us much about how our ecosystem used to be and the latest study added to a growing body of knowledge of what conditions might have been like in the Arabian Peninsula hundreds of thousands of years ago. Since tooth enamel grows in a similar method to tree rings, it can provide information about how an environment changes over time. Data obtained from the carbon isotope analysis gave an insight into the animals' diets, while the oxygen isotope analysis revealed information about water sources, temperature and humidity levels back then.

Both analyses pointed towards a much wetter climate and lusher habitat in the region. This contradicts previous schools of thought which believed that the Arabian Peninsula was too inhospitable for human habitation. However, the new study also suggests that these people were not Homo Sapiens as we are, but rather an earlier form of hominin.

Earliest humans

The scientists' work places the animal fossils at around half a million years old. Given that there are cutting marks on their skeletons, this means the human activity must have taken place around the same time. However, the first known Homo Sapiens did not surface until 300,000 years ago, meaning these dwellers must have been a more primitive form of the species.

However, if the environment was as wet and green as parts of Africa, that also crucially points to the fact that the hominins would not have to had to have undergone any major evolutionary changes in order to survive in the climate. As such, these new findings are providing a whole new insight into not only the history of our planet, but also our species, as well.