

## Two Romanian researchers sign article in Nature journal: Neanderthals passed genes to first modern humans

**Researchers Oana Teodora Moldovan and Silviu Constantin from the "Emil Racovita" Institute of Speleology of the Romanian Academy recently signed an article in Nature journal, together with an international team of archaeologists and speleologists, that shows that there was a genetic transfer, resulting from the interbreeding between the Neanderthals and the first anatomically modern humans to arrive in Europe.**

Titled "Initial Upper Palaeolithic humans in Europe had recently Neanderthal ancestry", the article was occasioned by the discovery, in 2020, by a team of specialists from the National Institute of Archeology of the Bulgarian Academy of Sciences and the Max Planck Institute for Evolutionary Anthropology in Leipzig, of human remains and stone tools characteristic of the beginning of the Upper Paleolithic in the Bacho Kiro Cave near the Bulgarian city of Veliko Tarnovo, informs the Romanian Academy.

The two Romanian researchers point out, in a statement quoted by the Academy, that the international team they were part of sequenced the genomes of the oldest modern humans in Europe, who lived about 45,000 years ago in the Bacho Kiro Cave, the findings suggesting that the interbreeding between modern humans and Neanderthals was by no means an exception for the first modern humans to arrive in Europe from Africa.

"The oldest fossil bones dated by the radiocarbon method were 43,000-46,000 years old, making them the oldest known modern human remains at mid-latitudes in Eurasia. Until now, it was believed that humans from the early Upper Paleolithic disappeared without contributing to the genetic baggage of modern humans who later arrived in Europe. Now, researchers have shown that the oldest individuals in Bacho Kiro or related groups passed on their genes to modern humans. Surprisingly, this contribution is more important to people in East Asia and America than to European populations," the researchers said.

The two Romanian specialists were requested based on their special experience in this field, as both were involved in the research of human remains discovered in 2002 in Romania, in the Cave of Bones near Anina (southwestern town in Caras-Severin County), estimated at an age of 40,500 years and considered the oldest in the European space.

The research has revealed ever since the idea that modern humans and Neanderthals lived together and crossed paths, and the findings resulted in the publication in the same prestigious journal Nature, on June 22, 2015, of the first article on the subject.

Carried out by researchers from the "Emil Racovita" Institute of Speleology of the Romanian Academy, the "Max Planck" Institute for Evolutionary Anthropology in Germany, Harvard Medical School in the USA and the Laboratory of Vertebrate Evolution and Human Origins in Beijing, China, the 2015 study overturned the postulate, over 100 years old, according to which the Neanderthal human would have disappeared completely without leaving genetic traces and showed that "Romania was a migration path for human populations to Europe".

The article published on April 7, 2021 in the journal Nature confirms the theory formulated six years ago and brings new scientific arguments, based on research conducted with innovative methods, on human remains in the Bacho Kiro Cave in Bulgaria.