Ancient DNA reveals modern humans evolved much earlier than thought

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

In a remarkable technical feat, researchers have sequenced DNA from fossils in Spain that are about 300,000 to 400,000 years old and have found an ancestor — or close relative — of Neandertals. The nuclear DNA, which is the oldest ever sequenced from a member of the human family, may push back the date for the origins of the distinct ancestors of Neandertals and modern humans.

Ever since researchers first discovered thousands of bones and teeth from 28 individuals in the mid-1990s from Sima de los Huesos ("pit of bones"), a cave in the Atapuerca Mountains of Spain, they had noted that the fossils looked a lot like primitive Neanderthals. The Sima people, who lived before Neandertals, were thought to have emerged in Europe. Yet their teeth, jaws, and large nasal cavities were among the traits that closely resembled those of Neandertals.

After two years of intense effort, paleogeneticist Matthias Meyer of the Max Planck Institute for Evolutionary Anthropology has finally sequenced enough nuclear DNA from fossils of a tooth and a leg bone from the pit

They scanned this DNA for unique markers found only in Neandertals or Denisovans or modern humans, and found that the two Sima fossils shared far more alleles—different nucleotides at the same address in the genome—with Neandertals than Denisovans or modern humans. "Indeed, the Sima de los Huesos specimens are early Neandertals or related to early Neandertals," suggesting that the split of Denisovans and Neandertals should be moved back in time, Meyer reported.

Read full, original post: DNA from Neandertal relative may shake up human family tree