

Ancient DNA study reveals the genetic landscape of prehistoric southeastern Europe

Two ancient DNA studies published in February 2018 in the journal *Nature* are the largest-scale ancient genomics studies published to date.

The new papers dramatically increase the number of samples from the population of hunter-gatherers that inhabited Europe before the farmers. One of the new papers also reports ancient DNA from the people who lived at iconic archaeological sites such as Varna in Bulgaria. Another crucial region to prehistoric Eurasian archeology the study evaluates is the modern-day Ukraine. Alexey Nikitin, one of the co-authors of the study, says, “Our team at GVSU has focused on human population dynamics in ancient Ukraine for over a decade. Ukraine was a key conduit in gene and cultural exchange between the Neolithic farming world of west Anatolia/central Europe and eastern Europe and Asia. It was also the heartland from which the post-Neolithic cultural associations such as the Yamna culture complex expanded throughout Eurasia in the Early Bronze Age to spread the post-Neolithic pastoralist economy as well as the branches of Indo-European languages that most of modern-day Europe currently speaks. With the recent state-of-the-art clean lab DNA addition to the GVSU facilities, we were able to greatly expand our research capabilities, resulting in a number of high-quality publications on ancient DNA from Ukraine in recent years, focusing on mitochondrial DNA, which is passed on the maternal line. Through these latest findings detailed in the current report, in cooperation with Harvard Medical School and using whole-genome analysis of ancient DNA, it became apparent that Neolithic Anatolian farmers travelled great distances along the littoral zone of the northern Black Sea from the modern-day Turkey to eastern Ukraine, much earlier than what was previously thought, and that these travelers were welcomed in their new lands, and that they were respected and even given a proper burial alongside the local inhabitants, and that this early intermix between the local hunter-gatherers of Ukraine and the incoming farmers from western Turkey or the Balkan region have contributed to the phenomenon of the Yamna cultural, genetic and linguistic expanse in the post-Stone-Age Eurasia from the eastern European steppe.”

Adds David Reich, the senior author on the paper, “These very large ancient DNA studies, involving intense collaboration between geneticists and archaeologists, make it possible to build up a rich picture of key periods of the past that could only be weakly glimpsed before. Studies on this scale represents a coming of age for the field of ancient DNA—I look forward to what we will learn when similar approaches are applied elsewhere in the world.”

This study was conducted by an international team of 117 archaeologists, anthropologists, and geneticists from 82 institutions across Europe and the United States.

[Mathieson I. et al., 2018. The Genomic History of southeastern Europe](#) (link to the Nature paper)

Read more about Alexey Nikitin’s research in the [Scientific American](#)