

Afghans share unique genetic heritage, DNA analysis shows

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A study by The Genographic Project has found that the majority of all known ethnic Afghans share a unique genetic heritage derived from a common ancestral population that most likely emerged during the Neolithic revolution and the formation of early farming communities. Through detailed DNA analysis of samples from 27 provinces, the Genographic team found the inter-Afghan genetic variability to be mostly attributed to the formation of the first civilizations in the region during the Bronze Age.

The study finds these early civilizations may have differentially assimilated migrations and invasions, thereby increasing inter-population genetic differences and giving the Afghans a unique [genetic diversity](#) in Central Asia. Published today in the journal [PLoS ONE](#), the study was led by principal investigator Pierre Zalloua and Marc Haber, both of Genographic's Middle Eastern regional center.

"Afghanistan embraces a rich diversity of multi-ethnic and multi-lingual communities. The goal of our study was to determine whether the various Afghan groups arose from a common population with different social systems but with the same genetic stock or whether cultural and ethnic differences were founded on already existing [genetic differences](#)," said Zalloua. "We knew that the Afghans were culturally diverse, but we were not sure if their DNA would give us any clues as to how they have evolved. We now know that major cultural evolutions and prehistoric technological advancements, followed later by migrations and conquests, have left traceable records in the Afghans' DNA, giving us an

amazing insight into the origin of this population," said Haber.

Afghanistan's strategic geographical location serves as a major hub for trade as well as a crossroads of many invasion routes. Location alongside cultural developments has shaped the unique [genetic heritage](#) of the Afghan people.

The Genographic Project, launched in 2005, enters its eighth year this spring. Nearly 75,000 participants from over 1,000 indigenous populations around the world have joined the initiative, along with more than 440,000 members of the general public who have purchased a testing kit online, swabbed their cheeks and sent their samples to the Genographic lab for processing. This unprecedented collection of samples and data is a scientific resource that the project plans to leverage moving forward.

Genographic Project Director and National Geographic Explorer-in-Residence Dr. Spencer Wells noted, "This study, the first detailed analysis of Afghan populations, demonstrates the unprecedented geographic breadth of Genographic's sampling. The project is striving to fill in the gaps in our knowledge of human migratory history, and Afghanistan has always been a gaping hole in the map. We now have a much better picture of how these groups relate to each other and to the surrounding regions. "Moving forward, we hope to fill in the details of Afghanistan's demographic history with studies of other genetic markers in these populations."

Provided by National Geographic Society

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