



The Origin and Legacy of the Etruscans

A new study reports genome-wide data of ancient Italian individuals to trace the origins of the Etruscans and their contribution to later populations

Researchers present the first comprehensive ancient DNA data retrieved from peoples culturally affiliated with the iconic Etruscans in the journal *Science Advances*, settling a long-lasting debate on the origins of this highly skilled and enigmatic culture

The Etruscan civilization, which flourished during the Iron Age in central Italy, has intrigued scholars for millennia. With remarkable metallurgical skills and a now-extinct, non-Indo-European language, the Etruscans stood out from their contemporary neighbors, leading to intense debate from the likes of the ancient Greek historian Herodotus on their geographical origins.

Now, a new study by a team of scholars from Germany, Italy, USA, Denmark and the UK, sheds light on the origin and legacy of the enigmatic Etruscans with genome-wide data from 82 ancient individuals from central and southern Italy, spanning 800 BCE to 1000 CE. Their results show that the Etruscans, despite their unique cultural expressions, were closely related to their Italic neighbors, and reveal major genetic transformations associated with historical events.

An intriguing phenomenon

With an extinct language that is only partly understood, much of what was initially known about Etruscan civilization comes from the commentary of later Greek and Roman writers. One hypothesis about their origins, the one favored by Herodotus, points to the influence of ancient Greek cultural elements to argue that the Etruscans descended from migrating Anatolian or Aegean groups. Another, championed by Dionysius of Halicarnassus, proposes that the Etruscans originated and developed locally from the Bronze Age Villanovan culture and were therefore an autochthonous population.

Although the current consensus among archaeologists supports a local origin for the Etruscans, a lack of ancient DNA from the region has made genetic investigations inconsistent. The current study, with a time transect of ancient genomic information spanning almost 2000 years collected from 12 archaeological sites, resolves lingering questions about Etruscan origins, showing no evidence for a recent population movement from Anatolia. In fact, the Etruscans shared the genetic profile of the Latins living in nearby Rome, with a large proportion of their genetic profiles coming from steppe-related ancestry that arrived in the region during the Bronze Age.

Considering that steppe-related groups were likely responsible for the spread of Indo-European languages, now spoken around the world by billions of people, the persistence of a non-Indo-European Etruscan language is an intriguing and still unexplained phenomenon that will require further archaeological, historical, linguistic and genetic investigation.

“This linguistic persistence, combined with a genetic turnover, challenges simple assumptions that genes equal languages and suggests a more complex scenario that may have involved the assimilation of early Italic speakers by the Etruscan speech community, possibly during a prolonged period of admixture over the second millennium BCE,” says David Caramelli, Professor at the University of Florence.



Periods of change

Despite a few individuals of eastern Mediterranean, northern African, and central European origins, the Etruscan-related gene pool remained stable for at least 800 years, spanning the Iron Age and Roman Republic period. The study finds, however, that during the subsequent Roman Imperial period, central Italy experienced a large scale genetic shift, resulting from admixture with eastern Mediterranean populations, which likely included slaves and soldiers relocated across the Roman Empire.

“This genetic shift clearly depicts the role of the Roman Empire in the large-scale displacement of people in a time of enhanced upward or downward socioeconomic and geographic mobility,” says Johannes Krause, Director at the Max Planck Institute for Evolutionary Anthropology.

Looking at the more recent Early Middle Ages, the researchers identified northern European ancestries spreading across the Italian peninsula following the collapse of the Western Roman Empire. These results suggest that Germanic migrants, including individuals associated with the newly established Lombard Kingdom, might have left a traceable impact on the genetic landscape of central Italy.

In the regions of Tuscany, Lazio, and Basilicata the population’s ancestry remained largely continuous between the Early Medieval times and today, suggesting that the main gene pool of present-day people from central and southern Italy was largely formed at least 1000 years ago.

Although more ancient DNA from across Italy is needed to support the above conclusions, ancestry shifts in Tuscany and northern Lazio similar to those reported for the city of Rome and its surroundings suggests that historical events during the first millennium CE had a major impact on the genetic transformations over much of the Italian peninsula.

“The Roman Empire appears to have left a long-lasting contribution to the genetic profile of southern Europeans, bridging the gap between European and eastern Mediterranean populations on the genetic map of western Eurasia,” says Cosimo Posth, Professor at the University of Tübingen and Senckenberg Centre for Human Evolution and Palaeoenvironment.

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Title: The origin and legacy of the Etruscans through a 2000-year archeogenomic time transect

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Images:

High resolution images are available at: <https://shh-cloud.gnz.mpg.de/index.php/s/nErr77fyXmieiPe>

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Thumbnail	File name, caption and credits
	<p><i>File name:</i> Fig 1.jpg</p> <p><i>Caption:</i> Picture of skulls genetically analyzed from the site of Casenovole (Grosseto). These individuals represent an Etruscan family of 1st or 2nd degree relatedness</p> <p><i>Photo credit:</i> Stefano Ricci</p>

	<p><i>File name:</i> Fig 7 <i>Caption:</i> A female individual buried at Poggio Renzo necropolis (Siena) dated to around the 7th century BCE and carrying the characteristic Etruscan-associated genetic profile. <i>Credit:</i> Paolo Nannini</p>
	<p><i>File name:</i> Etruscan map <i>Caption:</i> Geographic map of the Italian peninsula (right) including a zoom-in (left) indicating the maximum extension of Etruscan territories and the location and number of individuals for each archeological site newly analyzed in this study <i>Credit:</i> Michelle O'Reilly</p>
	<p><i>File name:</i> Etruscan bronze.jpg <i>Caption:</i> Sleep and Death Carrying off the Slain Sarpedon (cista handle), 400-380 BC, Etruscan, bronze - Cleveland Museum of Art <i>Credit:</i> Daderot, CC0, via Wikimedia Commons</p>
	<p><i>File name:</i> Figura 8 <i>Caption:</i> Reconstruction of a circular tomb excavated in 2009 at Poggio Macchiabuia in Marsiliana d'Albegna (Grosseto). <i>Credit:</i> Duccio Calamandrei</p>
	<p><i>File name:</i> San Germano Tumuli 1-2: <i>Caption:</i> Areal view on two Etruscan tombs from San Germano in Vetulonia (Grosseto) dated to the sixth century CE where human remains analyzed in this study have been excavated. <i>Credit:</i> Paolo Nannini</p>