



DNA Tribes® Digest October 28, 2010
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Introduction

Hello, and welcome to the October 2010 issue of DNA Tribes® Digest. This month’s issue will explore genetic relationships near the Caucasus Mountains, in particular looking at the nation of Georgia. These mountains have traditionally divided the more urban civilizations of the south from the wilder Eurasian steppe lands.

Less well known is the role of the Caucasus in the early development of metallurgy and spread of Bronze Age technology, mediated by cultures such as the Hurrians who expanded into the Fertile Crescent. This article will explore some of these links and identify Georgia’s relationships with neighboring world populations.

Best regards and I hope to speak with you soon,
Lucas Martin
DNA Tribes

Georgia and the Caucasus Mountains

Historical Background

The Caucasus Mountains are located between the Black Sea and Caspian Sea. Since ancient times, these formidable mountains have been known as a boundary dividing the nomadic societies of the Eurasian Steppe (to the north) from the urban civilizations of Southwest Asia¹ (to the south). Cultures with origins near the Caucasus have played a key but quiet (or forgotten) role in the development of several surrounding civilizations, as illustrated in **Figure 1**.

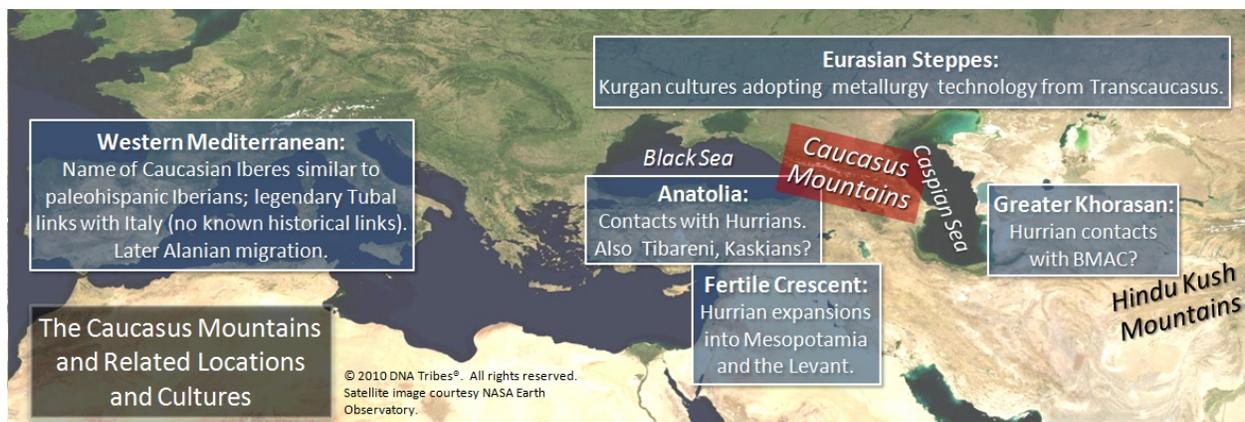


Figure 1: Map of Caucasus Mountains and related locations and cultures.

The ancient Greeks believed that it was here the Olympian gods chained the Titan Prometheus for sharing the secret of fire with humankind. Prometheus was only freed from his chains when Hercules journeyed to these mountains at far end of the world². In the ancient world, the Tibareni or Thobeles (linked to the early Iberians of the Caucasus and the Biblical figure Tubal³) were considered among the early inventors of metallurgy⁴.

¹ More information about Southwest Asian links with neighboring parts of the world can be found in “Basic Genetic Contributions in Southwest Asia” at <http://dnatribes.com/dnatribes-digest-2010-01-29.pdf>.

² When Alexander the Great’s armies reached Afghanistan, the location of the mythical Caucasus at the end of the world was said to be instead the Hindu Kush. Alexander’s multi-ethnic Hellenistic city at this outpost (established near modern Bagram, Afghanistan) was named “Alexandria on the Caucasus.”

³ The comparison of Tubal and the Caucasian Iberians was made by the Hellenistic Jewish historian Josephus, who was well versed in both the Hebrew and Greco-Roman knowledge of his day. His books related Biblical traditions with Greek and Roman legends, providing a learned cross-cultural synthesis of world history as it was understood in Classical antiquity. Medieval rabbinical lore (such as the *Josippon*) further associated the Biblical figure Tubal with early cultures of the Italian Peninsula.

⁴ Confusingly, these early cultures of the Caucasus were also ascribed with legendary links to Spain and Italy, where several ancient non-Indo-European languages (such as Iberian and Etruscan) are attested. However, no direct archaeological or cultural link between the Caucasus and Western Mediterranean is known, aside from myths.

Outside of legend, the Caucasus is known for early development of metals technology during the Bronze Age, a period of change in which multiple cultures were interacting in the Near East, transmitting new technologies and cultural ideas across great distances⁵. For instance, the early Bronze Age Kura-Araxes culture known to archaeologists for its early metallurgy and ceramics originated in the Armenian Highland and spread outwards to the Caucasus, establishing trade contacts with cultures of Mesopotamia and the Levant.

The Kura-Araxes culture was also in contact with the neighboring Maykop culture north of the Caucasus. Maykop was a Kurgan related culture named for a massive burial mound (over 30 ft. tall and 200 ft. in diameter) and distinguished from its steppe predecessors by the use of beautifully crafted bronze metalwork. Although the languages spoken in the Kura-Araxes and Maykop culture zones are unknown, the location of these early Bronze Age cultures suggests the possibility of links with languages of the Caucasus and also with Indo-European languages of the steppes.

Approximately contemporary with the Kura-Araxes archaeological remains, a new culture with origins near the Caucasus began a series of expansions into the Fertile Crescent: the Hurrians⁶. The Hurrians spoke a Hurro-Urartian language unlike the indigenous Afroasiatic or Sumerian languages of other Fertile Crescent civilizations, but thought to be related to some languages spoken in the Caucasus. However, a subset of Hurrian names and vocabulary show evidence of a subgroup of military specialists known as *maryannu*, who had transmitted specialized knowledge of horses and chariotry from Indo-European speaking steppe cultures (perhaps via contacts with Maykop or related cultures). In addition to their reputation as charioteers, Hurrians were also known for skill as copper workers (perhaps reflecting roots in the Kura-Araxes and related cultures). More speculatively, a possible Hurrian link has been suggested for the pre-Indo-European builders of the indigenous BMAC⁷ or Oxus Civilization of southern Central Asia.

The Hurrians expanded into the Fertile Crescent in the wake of faltering agricultural civilizations, establishing more localized economies based on pastoralism. Beginning approximately 2500 BC, Hurrian names appear with increasing frequency in local records throughout the Fertile Crescent, reaching as far as southern Syria and Palestine⁸. Over time, these Hurrian populations and *maryannu* chariot specialists adopted local languages and were assimilated by indigenous societies of the Fertile Crescent and

⁵ See The Rise of Bronze Age Society by K. Kristiansen and T. B. Larsson.

⁶ For more information, see The Hurrians by Gernot Wilhelm.

⁷ The BMAC (Bactria–Margiana Archaeological Complex) or Oxus Civilization is discussed in more detail in The Origin of the Indo-Iranians by Elena E. Kuz'mina. According to Kuz'mina, archaeological findings suggest material continuity with indigenous urban civilizations of Southwest Asia. The BMAC later came in contact with Andronovo steppe pastoralists that Kuz'mina identifies with Indo-European languages in Asia. According to Kuz'mina, all Indo-Iranian cultures (including Mitanni) derived from the Andronovo horizon in the Eurasian Steppe.

⁸ For instance, the Tikunani Prism lists *Habiru* soldiers in the service of a small Mesopotamian kingdom in the 16th century BC. Most of these names were Hurrian, with some Semitic and one Kassite name included. Indic-like "Mitanni" names also appeared among Levantine rulers during this period, suggesting some degree of cultural contact, despite substantial distances from South Asia and the Eurasian steppe. In the Levant, Hurrian and Indic names are found primarily along the inland Syro-African Depression.

At one time, it was thought that the Hyksos invaders of Egypt (described by Egyptians as of unknown Asiatic origins) were Mitanni-Hurrians. Suggestively, the later Egyptian Merneptah Stela referred to southern Canaan as *Hurru*. However, it is now thought that the Hyksos were related to Semitic speaking populations of the Levant (culturally related to the early Hebrews and Phoenicians). This suggests either that the resemblance of names was coincidental, or else that incoming Hurrians had been assimilated by local Levantine cultures.

Anatolia⁹. However, they left an enduring legacy not only in the new chariot technology they helped spread, but also in the religions of the Hittites and other neighboring cultures.

In later history, the Caucasus was home to several kingdoms with links both to southerly civilizations and to northerly steppe societies. Among these were the kingdoms of Urartu, whose language was distantly related to Hurrian, which was eventually conquered by Medes (perhaps recalling earlier Hurrian-Mitanni interactions) and succeeded by Armenian cultures. An early kingdom in lands of Georgia was Colchis, which legends doubtfully linked to Egypt¹⁰ but had possible early links with the Anatolian Kaskians and was later colonized by Greeks.

Nearby ancient Colchis were the kingdoms of Iberia (related to present day Georgian cultures¹¹) and neighboring Albania (also known as *Arran* or *Aluank*). During the more recent Migration Period, the Caucasus was also home to the nomadic Alans. This Scythian or Sarmatian tribe related to modern Ossetians eventually made its way to Gaul, Spain, and North Africa, a journey resembling the unsubstantiated connections with Southwest Europe suggested by more ancient legends.

In summary, both archaeological findings and historical records related to the Caucasus indicate substantial contacts with neighboring cultures, including ancient links with the urban civilizations of Southwest Asia as well as with nomadic societies of the Eurasian Steppe. Other evidence suggests connections with Anatolia and hint at old relationships with more distant locations in Central Asia (such as Greater Khorasan) and (more doubtfully) with the Iberian Peninsula.

⁹ The Bible mentions groups of *Midian* (Midianite) pastoralists associated with copper mining operations in southern Israel (now Timna Valley Park, sometimes thought to be the oldest large scale copper mines in the world), as well as Horites living near the Egyptian frontier. Arab traditions similarly describe *ashabi madyana* (“companions or comrades of Madyan”) associated with lands later known as *Arabia Petraea*. However, no definite connections between these archaic cultures and the Bronze Age Mitanni-Hurrian expansions are known.

¹⁰ Greek writers such as Herodotus reported legends of a Pharaoh “Sesostris” leading armies into the Caucasus (Colchis) and Eurasian Steppe (Scythia). However, the most northerly Egyptian military campaigns reached only into Greater Syria, so these Greek accounts are geographically uncorroborated. However, Greater Syria was associated with earlier Mitanni-Hurrian expansions, so perhaps these legends distantly recall cultural contacts with Egypt in an exaggerated form.

¹¹ The name of Caucasian Iberia has inspired comparisons with Spanish and Basque cultures far to the west, despite no known historical links.

Genetic Analysis of Georgia

Genetic contributions to Georgia were identified. Results are summarized in **Table 1** and illustrated in **Figure 2**.

Region or Sub-Region	Genetic Contribution
Mesopotamian	49.9%
Spanish	16.4%
Scythian	15.3%
Greek	13.5%
Other	4.9%

Table 1: Genetic contributions to Georgians.



Figure 2: Genetic contributions to Georgians.

Discussion: The results summarized in **Table 1** indicate genetic contributions from several surrounding parts of the world, including a predominant Mesopotamian contribution (49.9%) as well as smaller contributions from several European sub-regions (totaling 45.2%). The largest single genetic contribution of 49.9% identified was from the Mesopotamian region that characterizes populations of eastern Anatolia and northern Southwest Asia, associated with the development of early urban civilizations. This is consistent with Georgia's geographical location near eastern Anatolia and suggests the possibility of ancient contacts with populations of the Fertile Crescent.

The Scythian contribution (15.3%) suggests contacts from northerly Indo-European speaking steppe populations, perhaps including populations associated with the Maykop burials and early Indo-Iranian related Mitanni, as well as with later Scythians, Alans, and other Iranian speaking cultures. The Greek contribution (13.5%) might express contacts with the Aegean by way of Anatolia and the Black Sea, including not only Greek colonies but also invasions by Kaskians and other Anatolian peoples.

More mysteriously, Spanish genetic contribution of 16.4% also suggests a possible relationship with the Iberian Peninsula. Several legends and Migration Period history mention cultures such as the Alans migrating from the Caucasus to Iberia. However, neither legends nor history indicate a migration from Spain to the Caucasus. It is possible that these results instead express a reverse relationship (i.e., migrations from the Caucasus to Spain), or that available data from Georgia do not fully characterize populations of the Caucasus. In either case, further data would be needed to confirm a relationship over such a substantial distance.



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