URARTIAN MILITARY EXPEDITIONS AND THE IRON METALLURGICAL INDUSTRY IN THE SOUTH-EASTERN BLACK SEA REGION

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Abstract. The Kingdom of Urartu (9th–6th centuries BC), which encompassed the territories of present-day eastern Turkey, Armenia, and northwestern Iran, was one of the most powerful and highly organized states within the political system of the Ancient Near East. Its kings, particularly Argishti I and Sarduri II, actively pursued military expansion toward neighboring regions, aiming both to extend political influence and to acquire strategically important resources.

The southeastern Black Sea region—corresponding to modern northeastern Turkey and western Georgia—had been distinguished since ancient times by its abundant natural resources, especially metals (copper, zinc, silver, gold, and iron), making it an მნიშვნელოვანი target for regional powers. The metallurgical traditions developed in this area, which reached a high level of advancement during the Late Bronze Age and Early Iron Age, indicate a sophisticated level of local production and effective resource utilization.

A combined analysis of archaeological and written sources demonstrates that Urartian military activity in the northwestern direction was not limited to territorial expansion alone. It also involved policies aimed at controlling trade routes and gaining access to metallurgical centers. In some cases, the Urartians not only engaged in military conflict with local populations but also established economic and trade relations.

Numerous metallurgical centers and workshop areas identified within the territory of historical Colchis confirm that the region possessed all the necessary conditions for iron production: a rich ore base, refractory clays, fuel resources, and established technological traditions. Metallurgical products were likely used both for local consumption and within exchange and trade networks.

Thus, Urartian expansion into the southeastern Black Sea region should be understood as part of a complex strategy that integrated military, economic, and commercial interests. Control over metal resources served as a foundation for both strengthening military power and securing economic benefits. Consequently, this region held a significant place within the political and economic system of Urartu.

Keywords: Urartu, Historical Colchis, metallurgy, Black Sea region, military campaigns, economic expansion

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Introduction. The Kingdom of Urartu, which emerged in the vicinity of Lake Van in the 9th century BC, conducted extensive military campaigns of conquest toward the South Caucasus at the beginning of the first millennium BC. One of the regions targeted by these campaigns was the eastern Black Sea coastal area. Within this region, a particularly important place was occupied by the Chorokhi River valley, which represented a crucial communication zone (Melikishvili, 1951, pp. 26–33; Melikishvili, 1965; Melikishvili, 1966; Melikishvili, 1970; Melikishvili, 1954; Melikishvili, 1959, pp. 178–179; Melikishvili, 1960; Melikishvili, 1962; Diakonov, 1963, pp. 11–12).

The campaigns of the Urartian kings to distant lands, including Kulḫa and Diauehi, were driven by several factors: these territories lay along important trade and transportation routes that connected Asia Minor, the Caucasus, and the Near East, and thus their control provided a strategic advantage; Colchis and Diauehi were regions rich in mineral resources, and their conquest ensured the economic strengthening of Urartu; moreover, establishing control over these territories served to assert and consolidate Urartian hegemony (Melikishvili, 1965; Melikishvili, 1954; Melikishvili, 1959; Melikishvili, 1960; Melikishvili, 1962; Berdzenishvili, 1955; Diakonov, 1963).

Methods. In the course of this research, we employed historical-comparative, complex-intensive, observational, and definitional methods. These approaches are primarily based on the analysis of written sources and the data obtained from archaeological materials identified and studied in the region.

Discussion. The region had already attracted particular strategic interest during the period of the ascendancy of the Assyrian Kingdom, when military campaigns directed toward the settlements located along the shores of the “Upper Sea” (i.e., the Black Sea) and the adjacent valleys constituted one of the primary objectives of expansion (Melikishvili, 1954; 1959; 1960; 1962; 1970).

In the inscription of Tiglath-Pileser I, which recounts his campaign against Diauehi—one of the most powerful political entities within the land of Nairi—it is explicitly stated that the king subdued distant territories situated along the shores of the “Upper Sea” (Melikishvili, 1951, pp. 26–33; 1965; 1966; 1970; Diakonov, 1963, pp. 11–12). According to this source, Tiglath-Pileser I advanced into mountainous regions located in proximity to the Black Sea. This information makes it reasonable to assume that the campaign extended into the mountainous zones of southern Georgia.

It cannot be excluded that these movements took place through the mountain passes of southwestern Georgia, particularly those of the Samtskhe–Adjara region, such as Goderdzi Pass, Zekari, and Mepis Tskaro. At the same time, it is equally possible that the campaign routes traversed other historical regions of southern Georgia—namely Shavsheti, Klarjeti, Tao, or Speri—areas from which relatively accessible routes led toward the Black Sea littoral. The source further indicates that the forces of Diauehi operated with chariots and conducted military engagements in mountainous settlements. Such conditions would have been inconceivable without the existence of at least minimally organized communication routes.

It may therefore be inferred that both the attacking and defending sides utilized chariots in areas where the terrain permitted movement, whereas in more difficult and inaccessible zones they were compelled to clear paths manually, using bronze tools. Notably, the same source reports that during campaigns in particularly inaccessible mountainous regions, the army of Tiglath-Pileser I resorted to cutting down trees and constructing bridges. This practice can be interpreted as an attempt to connect fragmented routes into a more continuous network and may be regarded as an early manifestation of infrastructural adaptation to complex natural landscapes (Melikishvili, 1965; 1970; Narimanishvili & Mgeladze, 2007, pp. 70–80; 2011, pp. 5–17).

The improvement of roads and the development of communication networks became especially significant during the period of the strengthening and consolidation of the Urartian state. Urartian kings—

among them Išpuini, Menua, Argišti I, and Sarduri II—conducted intensive and repeated military campaigns against Diauehi during the 9th–7th centuries BC. Diauehi, in turn, represented not merely a territorial unit but a major political center that united various tribal formations (Melikishvili, 1951; 1965; 1966; 1970; Diakonov, 1963).

These campaigns were, in all likelihood, directed simultaneously toward both the Chorokhi (Çoruh) and the Kura (Mtkvari) river valleys. From the headwaters of the Chorokhi River, important communication arteries extended through the river systems of the Euphrates and Tigris, thereby linking the region with the broader networks of the Near East and even more distant eastern territories. At the same time, through the regions of Artani–Javakheti and Akhaltsikhe, the Kura River valley provided access to strategically significant settlements in the direction of the Caspian Sea and, via the Araxes (Aras) corridor, to the Iranian Plateau.

Given that settlements located at such major crossroads carried considerable strategic as well as economic importance, it is natural that they were placed under the control of military authorities and high-ranking secular officials. Evidence suggests that already in the Urartian period, a royal governor was stationed in the city of Artanuji, which occupied a particularly important position within this network of trade, economic, and strategic routes. According to some scholars, this settlement may have been known at the time under the name *Ildamusa* (Narimanishvili & Mgeladze, 2007, pp. 70–80; 2011, pp. 5–17).

During the period of Urartian expansion, its peripheral zones—including the peoples and polities of the eastern Black Sea region and the South Caucasus—gradually came under its sphere of influence. In both Assyrian and Urartian sources of the 10th–9th centuries BC, frequent references are made to the territories of the eastern Black Sea littoral, as well as to the peoples, countries, and rulers inhabiting these regions (Melikishvili, 1951; 1965; 1966; 1960; 1970; Melikishvili, 1954; 1959, pp. 178–179; 1960; 1962; Diakonov, 1963, pp. 11–12).

These sources mention the so-called "land of Nairi," located along the Black Sea coast and in its mountainous hinterland, which was composed of several countries and as many as forty kings. The same sources also refer to a group of twenty-three kings of Nairi, who appear to have concluded a defensive military alliance in order to ensure their collective security. According to Urartian sources, one such coalition was led by the king of the Diauehi confederation—Sieni (ca. 1110–1100 BC), who may have held a superior position as "king of kings" over the rulers of the allied polities. Other rulers known from the sources, such as Utupursi (ca. 786–760 BC) and Asia (ca. 850–825 BC), also played a significant role in the defense of the Diauehi polity. Within the territory referred to as Seseti, among the settlements of Diauehi, a particularly prominent place was occupied by the city of Sasilo during the reign of King Menua (late 9th – early 8th century BC) (Melikishvili, 1959; 1970; Melikishvili, 1960; Melikishvili, 1970, p. 375; Diakonov, 1963).

It should be noted that Assyrian and Urartian sources predominantly describe military campaigns. This raises an important question: why did the Urartians undertake such distant and large-scale campaigns toward the eastern Black Sea region and the South Caucasus, particularly into the territories inhabited by the Kartvelian tribes of the Chorokhi basin? What factors attracted the Urartians to these regions?

Naturally, several interrelated factors must be taken into account. First, the expansionist ambitions of the empire and the need to secure its peripheral zones played a decisive role. Second, it was important to prevent large-scale movements of raiding groups descending from the Caucasian passes and high mountain ranges and to limit their incursions. Third, such campaigns contributed to the economic development of the imperial core, particularly through the accumulation of wealth obtained as war booty. Fourth, the capture of prisoners provided a source of cheap labor (History of the Peoples of the Ancient East, 1988, p. 344).

At first glance, written sources may suggest that the Urartians were primarily interested in acquiring household-type booty from the conquered territories. However, it may be argued that an equally important—if not decisive—factor was the acquisition of specific forms of material wealth, namely access to metal resources and their industrial exploitation. The

functioning of ancient Near Eastern societies was fundamentally dependent on metal. Consequently, in early state systems, metal was highly valued and constituted a key component of trade and economic relations.

In support of this view, it is sufficient to recall the special importance attributed to metal production by the Hittites and its central role in their economic and commercial networks. Scholars do not exclude the possibility that iron was exported to central Anatolia from neighboring regions, particularly from the iron-producing centers of southwestern Georgia, including Colchis (Giorgadze, 1984; 1985; 2001; 2002; Khakhutaishvili, N., 1987, p. 38; Papuashvili, 2003, pp. 63–70).

Thus, metal constituted a crucial economic and military resource in the societies of the ancient Near East. Accordingly, its extraction and processing played a decisive role in determining the strength and stability of early states. Within this context, the iron metallurgy of Colchis attracted particular interest, which likely represented one of the principal motivations behind Urartian military activity in the region (Khakhutaishvili, 1973, pp. 170, 179; History of the Peoples of the Ancient East, 1988, p. 345).

A particularly illustrative example of this is the account of Sarduri II, who, following his victory over the Colchian city of Ildamusa—identified by some scholars with present-day Artanuji—reportedly commissioned the production of an "iron seal" to commemorate his triumph. Significantly, the seal was made of iron rather than of other metals, despite the abundance of various metal resources in the region. This choice may indicate the special importance attributed to iron as a relatively new and strategically valuable material at the time. Notably, this is the only recorded reference to iron in Urartian sources in connection with Colchis. Nevertheless, even on the basis of this single account, scholars have suggested that local metalworkers were highly skilled in iron production, and that Sarduri II deliberately entrusted them with the manufacture of the iron seal (History of the Peoples of the Ancient East, 1988, p. 345; Khakhutaishvili, 1973, pp. 170–179; Khakhutaishvili, 1976, pp. 97–103; Mikeladze, 1974, p. 30; Japaridze, 1955; 1982, p. 63).

This interpretation is further supported by archaeological evidence. All categories of sources consistently confirm that the populations of the South Caucasus and the eastern Black Sea region had achieved a high level of development in the extraction and processing of metals during this period—a fact that did not escape the attention of Classical authors (Iessen & Degen-Kovalevskii, 1935; Lordkipanidze, 1989, pp. 48–57; Lordkipanidze, 2002).

It is noteworthy that ancient Near Eastern and Classical Greek sources regarded the Chalybes and the Tibareni/Tabal-Tibareni—inhabiting northern Anatolia and the southern Black Sea littoral—as among the earliest producers of iron. On the territory of Georgia, however, metal production began at the dawn of human history and continued uninterrupted in subsequent periods (Japaridze, 1955; 1968; 1982; 2003). This is confirmed both by archaeological artifacts and by the numerous ancient production centers and metallurgical furnaces/workshops discovered over the years in the southeast-tern Black Sea region and the Chorokhi River valley (Khakhutaishvili, 1964; 1974; 1976; 1978; 1979; 1980; 1981; 1982; 1995; Rekhviashvili, 1964; Khakhutaishvili, N., 1987; 2004; 2009; Khakhutaishvili, N. & Tavamaisvili, 2002, pp. 34–40; Kha-khutaishvili, D. & Khakhutaishvili, N., 2007, pp. 198–203; Khakhutaishvili, 1974, pp. 339–348; 2009; Kolchin & Krug, 1965, pp. 196–215; Medvedskaia, 1990, pp. 269–273; Burchuladze & Togonidze, 1985; Papuashvili et al., 2021, pp. 127–132).

Archaeological investigations conducted in the territory of historical Colchis have reinforced the view that the eastern and southeastern Black Sea regions constituted one of the principal centers of large-scale iron production at the end of the 2nd millennium BC and during the first half of the 1st millennium BC. According to some scholars, this production was initially oriented primarily toward export and was closely connected with the regions of the Near East, the Aegean world, and eastern Transcaucasia (Khakhutaishvili, 1964; 1987, pp. 6–40; Khakhutaishvili, 1974, pp. 339–348; 2009; 2001, pp. 182–185; 2005, pp. 80–87; 2006, pp. 222–234; 2008, pp. 397–405).

It is important to emphasize that the territory of historical Colchis possessed all the necessary preconditions for the early development of iron production: substantial deposits of refractory clays, diverse types of fuel resources (particularly timber of varying quality), and a wide range of ore materials, including magnetite sands, hematite, and limonite. These factors together created a solid foundation for the emergence and development of major centers of iron production

(Gdzelishvili, 1966; Khakhutaishvili, 1964; 1987, pp. 6–40; Tavadze et al., 1961; 1977; Natural Resources of Georgia, 1935; 1959; Mineral Resources of Georgia, 1933; Poporadze, 2012; Kuparadze et al., 2008; Kuparadze & Pataridze, 2009; Gabunia, 1933; Gamkrelidze, 1949; Inanishvili et al., 1987; Kekelidze et al., 1975; Mineral Resources of the Georgian SSR, 1933; 1937; Natural Resources of the Georgian SSR, 1958; Rokva, 1959; Sigua et al., 1975).

This process was further facilitated by the metallurgical traditions that existed in the region, which were based on a long-standing experience in bronze working. For this reason, it is not unfounded that the Chorokhi basin is regarded as one of the principal centers of non-ferrous metallurgy in the ancient Near East, while the coastal zone of southwestern Georgia is considered the region where the widely recognized Colchian culture of the Late Bronze Age was formed. It appears that in this extensive area, the adoption of iron was significantly supported by the accumulated empirical knowledge of copper and bronze processing. This experience ultimately led to the search for a stronger metal and, eventually, to the discovery of iron and steel smelting techniques (Gdzelishvili, 1964; Mikeladze, 1974, pp. 40–58; Abramishvili, 1961; Japaridze, 2003, pp. 193–218; Lordkipanidze, 1998, pp. 48–57; 2002; Khakhutaishvili, 1995, pp. 66–74; 1987, pp. 71–86; Chavleishvili, 1991, pp. 3–26; 1999).

At the same time, alternative viewpoints exist, according to which the beginning of the Iron Age is associated with the use of naturally occurring, so-called "meteoritic" iron (Wright, 1930, pp. 450–462; Zimmer, 1917).

To date, four major pre-Classical iron production centers have been identified and studied within the territory of historical Colchis. These are located in the valleys of the Chorokhi, Choloki–Ochkhamuri, Supsa–Gubazeuli, and Khobi–Ochkhamuri rivers (Gdzelishvili, 1964; Gdzelishvili & Khakhutaishvili, 1964; Khakhutaishvili, 1964; 1974; 1976; 1978; 1979; 1980; 1981; 1982; 1995; Khakhutaishvili, N., 1987; 2004; 2009; Khakhutaishvili & Tavamaisvili, 2002, pp. 34–40; Khakhutaishvili & Khakhutaishvili, 2007, pp. 198–203; Khakhutaishvili, 1974, pp. 339–348; 2009; Inanishvili, 2007; Khakhutaishvili, 1973; 1977a; 1977b; 1979a; 1979b; 1982, pp. 10–14; 1984, pp. 146–151; 1987).

It is noteworthy that the metallurgical centers of Colchis were distributed across coastal, foothill, and mountainous zones, which indicates a spatial differentiation of production and an efficient utilization of available resources (Gdzelishvili, 1964; Gdzelishvili & Khakhutaishvili, 1964; Khakhutaishvili, 2005, pp. 80–88; 2009, pp. 4–20; Khakhutaishvili, 2009; Inanishvili, 2004; 2014; Erb-Satullo et al., 2018; 2020; Gilmour et al., 2020).

As a result of long-term research, hundreds of workshop sites have been identified in the region, indicating both the large scale and the organized nature of production. Particularly significant is the Chorokhi basin, where a major center of iron production operated during the 2nd–1st millennia BC. This is evidenced by workshop complexes such as "Charnali," "Avgia," and "Khopcho" (Gdzelishvili & Khakhutaishvili, 1964, pp. 59–96; Khakhutaishvili, 2009; Khakhutaishvili, 2006; 2008).

The spatial distribution of ironworking workshop areas clearly demonstrates their close connection with raw material sources, particularly coastal dune zones where magnetite sands were available. In contrast, production centers located in foothill and mountainous regions relied primarily on hematite and limonite ores. Accordingly, these production centers functioned in непосред proximity to natural resource bases (Gdzelishvili, 1964; Gdzelishvili & Khakhutaishvili, 1964; Khakhutaishvili, 2005, pp. 80–88; 2009, pp. 4–20; Ramishvili, 1974; 1975, pp. 36–44; Tavamaisvili, 2012).

Thus, recent research further strengthens the view that Colchis represented one of the major centers of iron metallurgy. Its development was driven both by internal economic needs and by the demands of external markets (Khakhutaishvili, 1987; Khakhutaishvili, 2009; Khakhutaishvili, 2006; 2008; Mikeladze, 1985; Inanishvili, 2004; 2014; Inanishvili, 2007).

Conclusion. Colchis, as one of the major metallurgical centers of the Bronze and Early Iron Ages, played a distinctive role in the economic, social, and cultural development of the South Caucasus. An analysis of archaeological and written sources demonstrates that metal production in the region was not only highly developed but also possessed structural significance in shaping and sustaining local societies.

The advancement of metallurgy directly determined the economic strength of the Colchian tribes, which, in turn, was reflected in their political influence and military potential. These factors largely explain the sustained interest of neighboring states and civilizations in Colchis, positioning the region as an important component within broader international economic and cultural networks.

Moreover, the metallurgical traditions of Colchis—originating in the Bronze Age and reaching a high level of development in the Early Iron Age—indicate both continuity and technological evolution. This process created essential preconditions for the emergence of more advanced metallurgical systems, ultimately contributing to large-scale production and an economy that was, at least in part, oriented toward export.

Today, the metallurgical heritage of Colchis is clearly reflected in both archaeological materials and museum collections, which constitute significant evidence of Georgia's ancient cultural achievements and technological development. The study of this heritage not only facilitates a deeper understanding of regional history but also makes an important contribution to the broader reconstruction of the economic and technological history of the ancient world.

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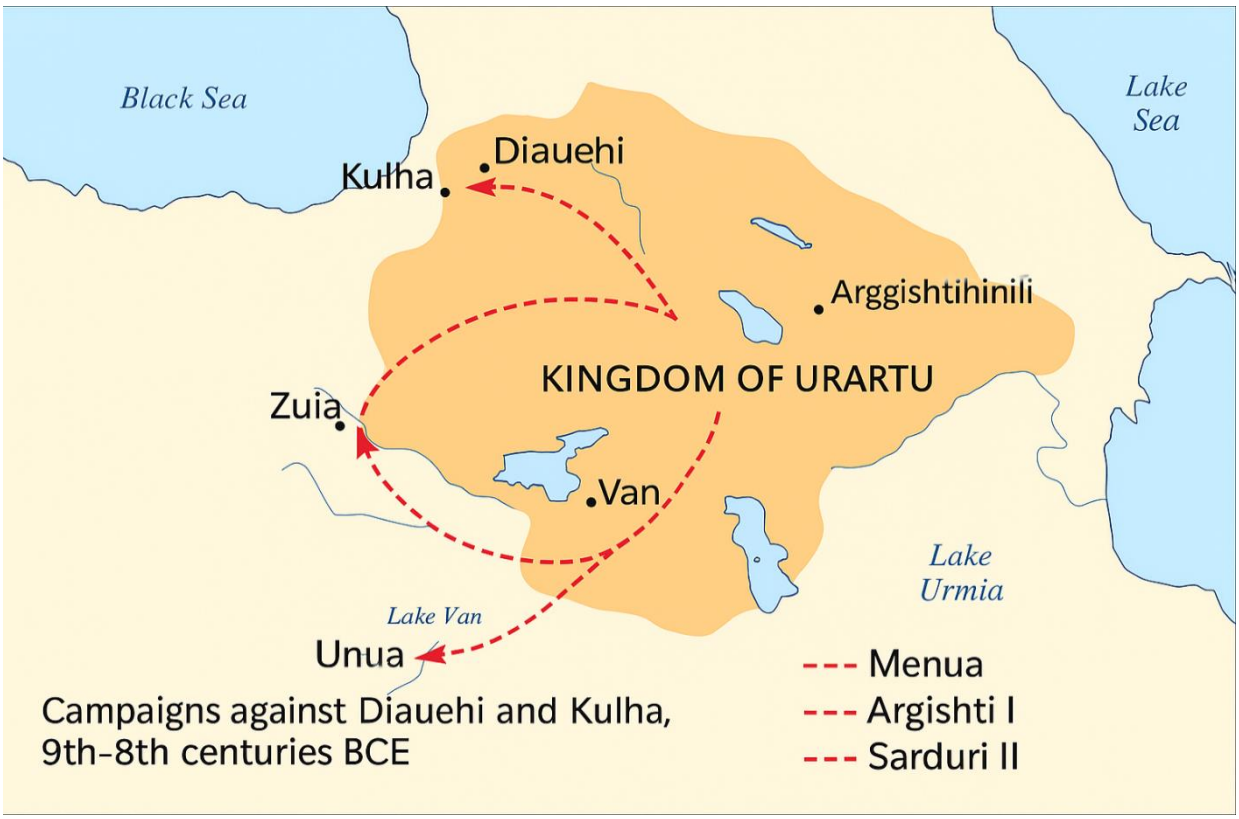

Fig. 1. Map. Campaigns of the Urartian kings in the territory of Kulkha and Diauehi/Diaukhi

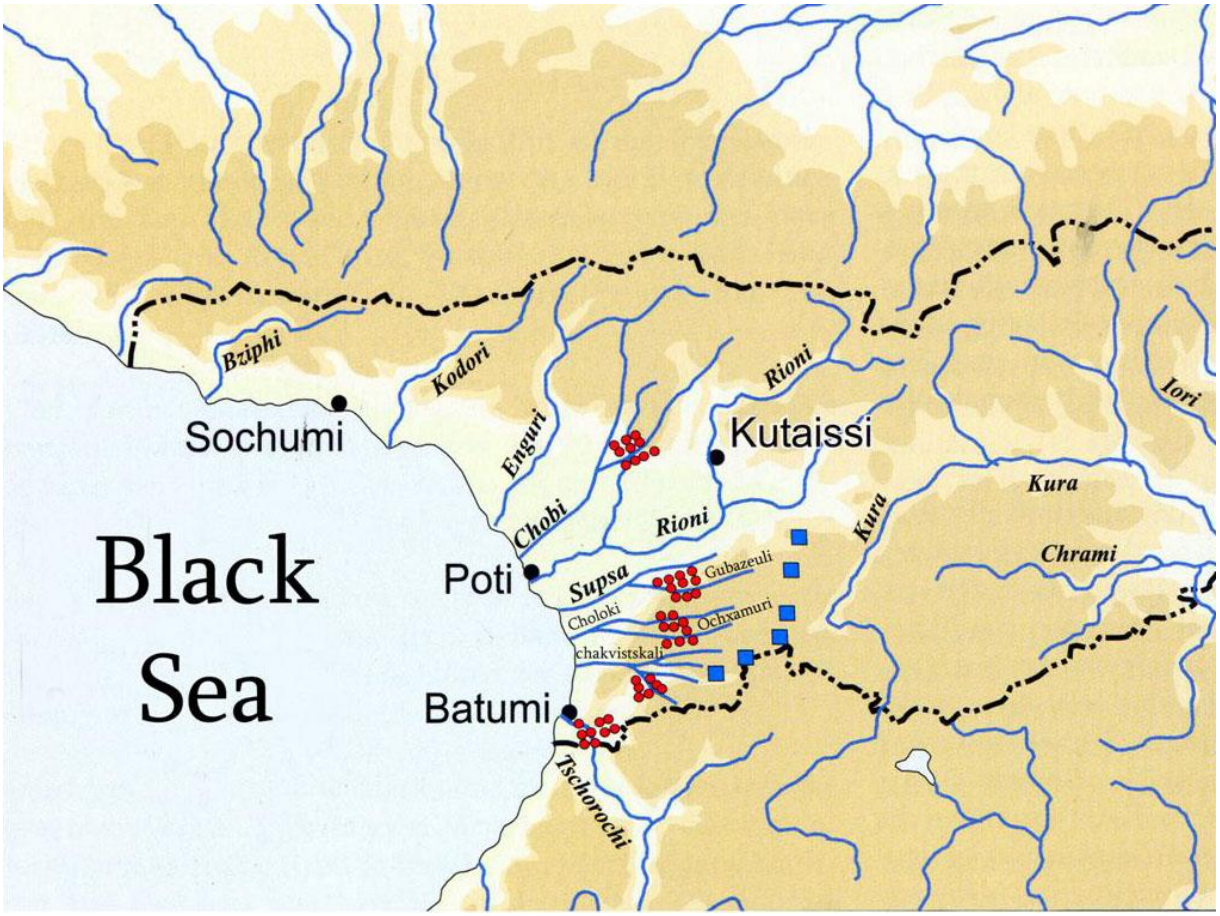

Fig.2. Fig. 2. Iron production sites identified in the territory of historical Colchis (from N. Khakhutaishvili, 2001, p. 182, Fig. 1)

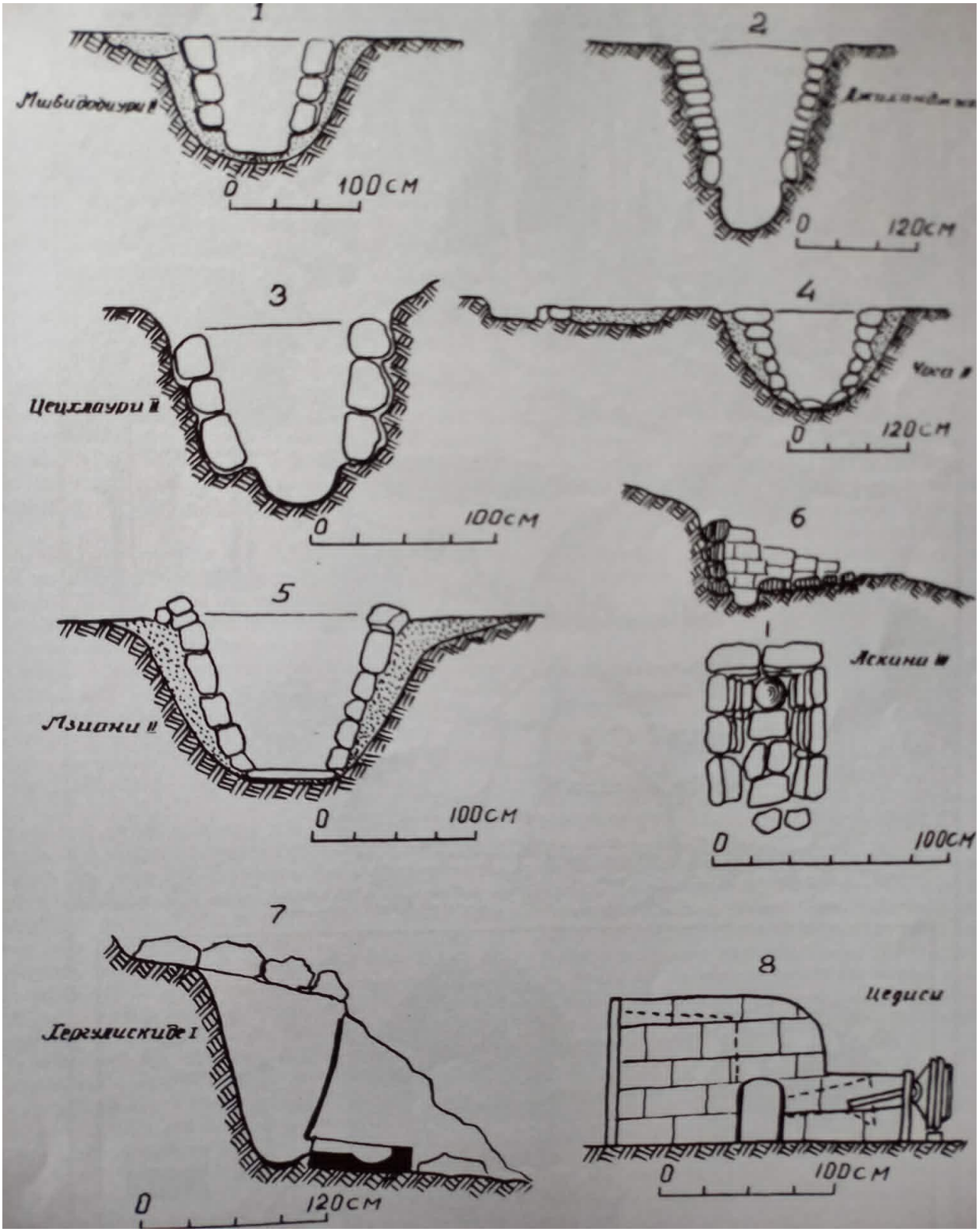

Fig.3. Types of iron smelting furnaces-workshops discovered in Western Georgia (on the territory of historical Colchis): 1-5 – Ancient, 6 - Early Antique. 7 – Early Medieval; 8 – from the 18th-19th centuries in Racha (from Khakhutaishvili D. 2009, 115, Fig. 67)

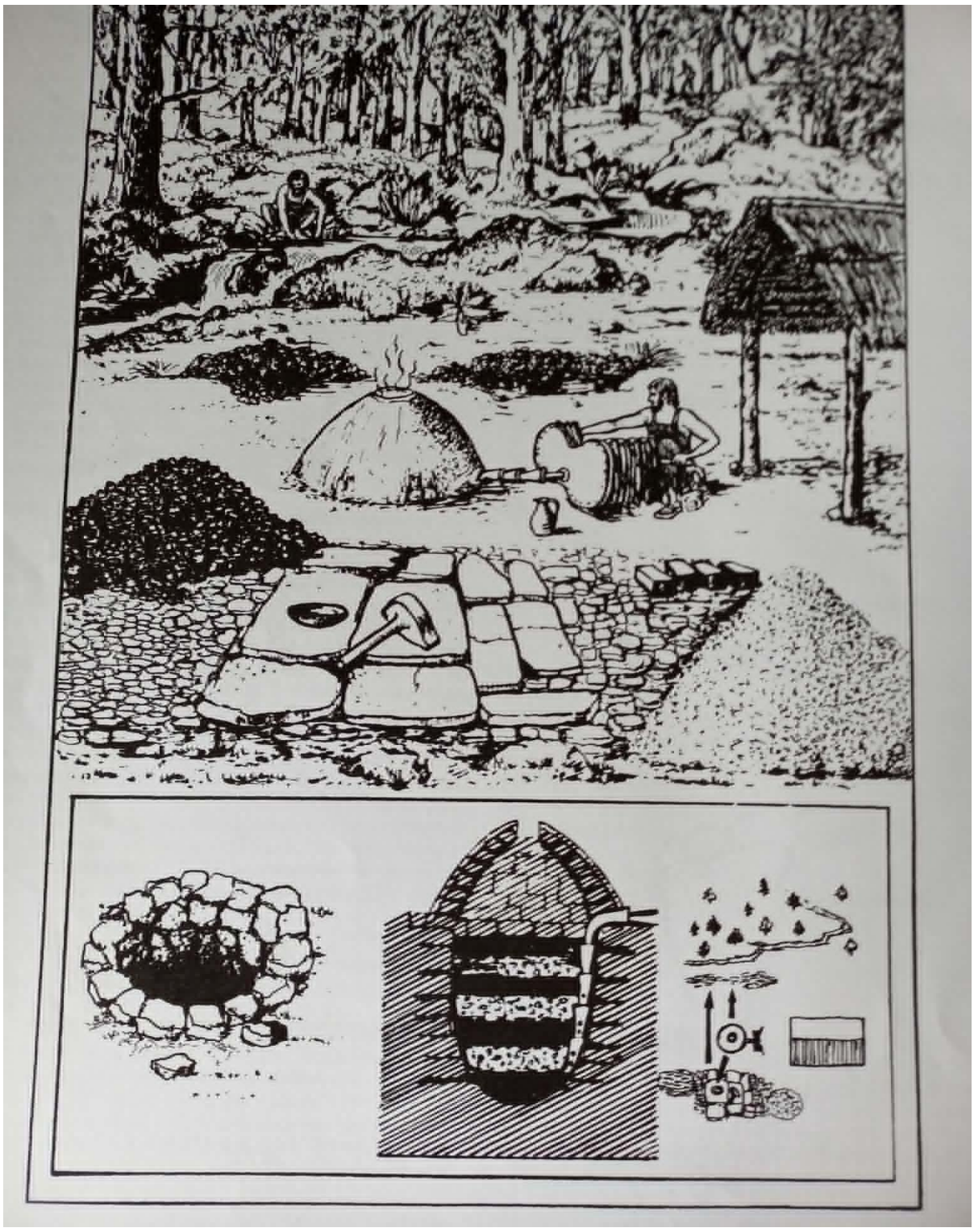

Fig.4. Iron-smelting workshop in ancient Colchis as reconstructed from archaeological data by J. Mikeladze (from Khakhutaishvili D. 2009, 116, Fig. 68)