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Mt. Chikiani Obsidian and Its Ritual Use on the Javakheti Plateau? (Georgian Caucasus)

Paolo Biagi

KEYWORDS: Georgian Caucasus, Javakheti Plateau, Mt. Chikiani obsidian, surveys, kurgans, rituals

Abstract

The scope of this paper is to describe and discuss two kurgans discovered on the terraces of Mt. Shaori and close to the village of Kavta, near Trialeti, whose surfaces were covered with obsidian artefacts. As far as we know, these are unique cases in the Bronze Age archaeology of Georgia. What do we really know of the use of obsidian in this region of the Caucasus despite the recent discovery of obsidian mining fields along the

slopes of Mt. Chikiani, and the results of nine years of archaeological surveys and obsidian characterisations that have greatly improved our knowledge? The general impression is that obsidian has too often been neglected by archaeologists despite its economic importance. Was it used only for the manufacture of specific types of functional and ritual tools or did it play different roles of which we indeed still know too little?

Zusammenfassung

In diesem Beitrag werden zwei Kurgane beschrieben und diskutiert, die auf den Terrassen des Berges Shaori und in der Nähe des Dorfes Kavta in der Nähe von Trialeti entdeckt wurden und deren Oberflächen mit Obsidianartefakten bedeckt waren. Soweit wir wissen, handelt es sich dabei um einzigartige Fälle in der bronzezeitlichen Archäologie Georgiens. Was wissen wir wirklich über die Verwendung von Obsidian in dieser Region des Kaukasus, trotz der kürzlichen Entdeckung von Obsidianabbaugebieten an den Hängen des Berges

Chikiani und der Ergebnisse von neun Jahren archäologischer Untersuchungen und Obsidiancharakterisierungen, die unser Wissen erheblich verbessert haben? Der allgemeine Eindruck ist, dass Obsidian von den Archäologen trotz seiner wirtschaftlichen Bedeutung zu oft vernachlässigt wurde. Wurde er nur für die Herstellung bestimmter funktioneller und ritueller Werkzeuge verwendet oder spielte er auch andere Rollen, über die wir noch zu wenig wissen?

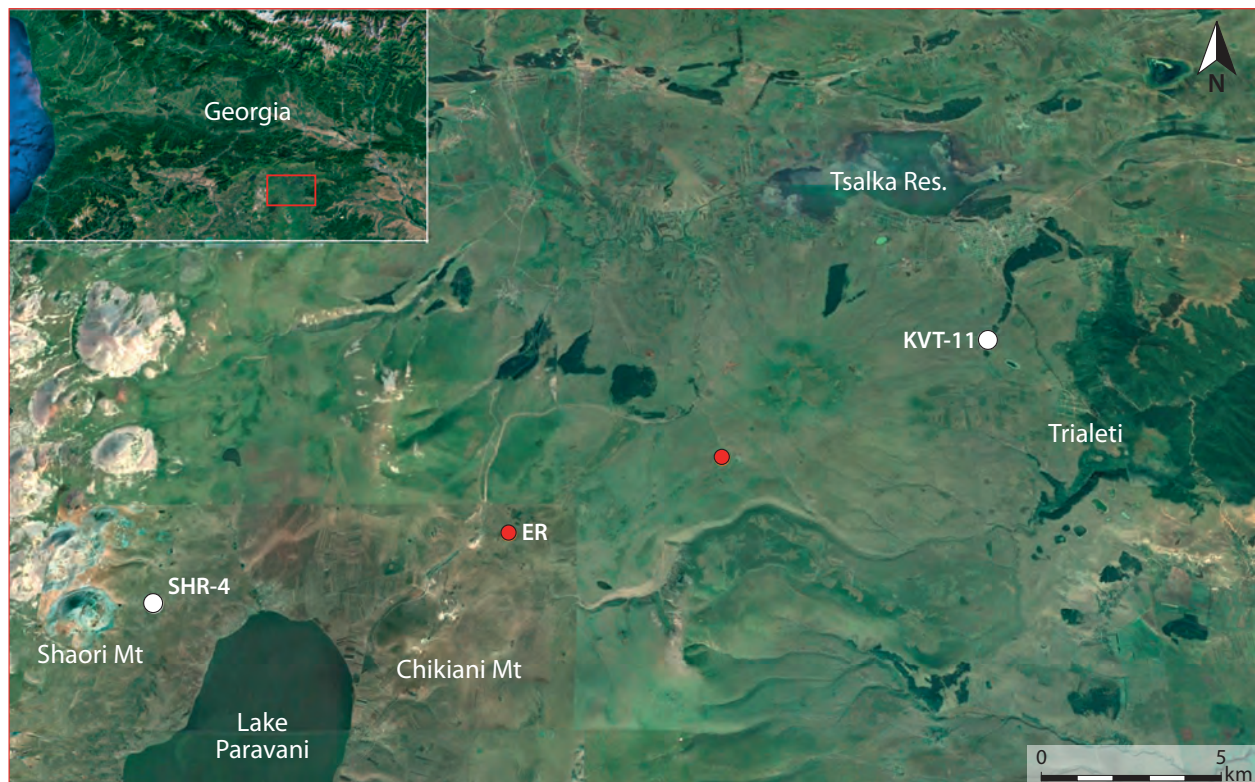


Fig. 1. Location of the two kurgans described in this paper (KVT-11 and SHR-4) in the Javakheti Plateau. The two red dots show the location of the most important obsidian workshops so far discovered in the area.

INTRODUCTION

The discovery of obsidian mining fields and the identification of new groups of Mt. Chikiani obsidian have promoted new fieldwork on the Javakheti Plateau (Biagi and Nisbet 2018). The scope of the new surveys has been to investigate a wider territory, find new sites and collect obsidian samples for LA-ICP-MS characterisation to interpret the routes of obsidian circulation in the region and the ways it was transported from the mining fields and workshops to different localities (Biagi and Gratuze 2016). This is why, during the last three years, fieldwork has been extended to the western slopes of Mt. Paravani, the volcanic area around Mt. Shaori, west of Lake Paravani, and other zones of the Javakheti Plateau which gently slope towards the villages of Trialeti and Kavta (Fig. 1). The characteristics of the geology of this region is well known from decades (Lebedev *et al.* 2008). All the surveyed territory is incised by river courses, punctuated by small lakes, some of which have yielded traces of prehistoric settling, which is shown by the recovery of knapped obsidian artefacts along their shores.

Surveys in the region have been conducted by two to four people, two weeks a year, between July and August 2014–2023. Each site or artefact has been located by

Garmin GPS coordinates, labelled, and photographed from different altitudes with a non-professional ‘dji Mini2’ drone. The presence of some archaeological sites, which had been noticed on Google Earth and professional Black and White satellite images Worldview01, has been checked during fieldwork. All together the investigated area has been extended to an area of c. 300 km². Dozens of new sites and isolated artefacts have been recorded, among which are kurgans, stone-walled villages, megalithic alignments, pits and quarries dug into the bedrock to extract basalt/andesite blocks and schist slabs, and workshops for the manufacture of specific types of obsidian artefacts (Biagi 2023).

The territory around Mt. Chikiani is famous for its archaeological discoveries. Though rescue excavations in the area have been conducted also a few years ago (Narimanishvili 2010; Shanshashvili 2010), most sites and *kurgans* were excavated between 1936 and 1940 thanks to a huge rescue operation promoted and financed by the Committee for the Preservation of Cultural Monuments of the Board of Art of the Georgian Socialist Republic, and were published in a seminal volume a year later (Kuftin 1941).

It is well known that two important Bronze Age Cultures of the Caucasus, Trialeti and Bedeni (Rubinson 1977; Bertram 2010), have been defined thanks to the discoveries made in those years. Moreover, Mt. Chikiani (otherwise called Koyun Dağ) has always been known because of the rich obsidian sources (Chataigner and Gratuze 2014). However, the discovery of groups of obsidian mining pits along the lower slopes of the volcano has been made only a few years ago (Biagi *et al.* 2017a).

Mt. Chikiani (2417 m a.s.l.) rises at the north-eastern edge of Lake Paravani (2073 m a.s.l.), the largest basin in Georgia. The lake is only 2.2–3.3 m deep, and extends over a surface of ca 37.5 km² (Messenger *et al.* 2013). Its northern edge is covered with monumental kurgans (Kvavadze and Kakhiani 2010). The pollen cores extracted from Lake Paravani deposits have contributed to the interpretation of the vegetation changes and tree-line oscillations that took place in the region during the last 12,000 years (Messenger *et al.* 2021).

As far as we know, the case of the Javakheti Plateau monumental landscape is unique in south-eastern

Europe. The general impression is that some of its territories were selected to conduct specific activities due to their location, orientation, natural resources and rock texture. The construction of complex structures, among which are impressive stone-walled villages, stone alignments and kurgans, shows that social transformation was ongoing around the beginning of the 2nd millennium BCE (Furholt 2021) when ore mining and metallurgy began to be practised. We know that social order changed when important economic activities developed and rapidly improved (Stöllner 2016). Apart from the impressed stone structures reported above, in this part of the Caucasus the most evident changes are stressed by obsidian mining, tools manufacture and trade, among which are everyday use of metal artefacts and weapons, and gold mining for the production of jewellery and luxury items (Stöllner 2012). The importance of obsidian mining and circulation has been widely discussed (Badalyan 2010; Erb-Satullo *et al.* 2023) because obsidian “*is a vital production material. Once possessed it is regarded as a necessity*” (Jacobs 1970, 23).

MATERIALS AND METHODS

The surveys carried out in 2021 around the village of Kavta and the small lakes close to it, led to the discovery of several obsidian findspots and a few kurgans. Regarding the latter, an important discovery was made on the top of a hillock facing the gentle slopes that take down to Trialeti. The kurgan, labelled KVT-11 (see Table 1), is located at 1602 m a.s.l. north of a small lake (Fig. 2). On the surface of the structure, c. 16 m in diameter, 263 black obsidian artefacts were collected in three seasons (2021–2023), five of which were characterised as coming from three different Mt. Chikiani sources (one obsidian piece from source 1, two

from source 2a, and two from source 2b; Gratuze pers. comm. 2023). The obsidian artefacts consist mainly of flakes, flakelets and small blocks. One round-based fragment of an almond-shaped bifacial arrowhead was also collected as well as a broken bladelet with sickle gloss. The arrowhead can be referred to type III/1 of Orjonikidze's typological classification (Orjonikidze 2004, 35), which the author attributes to the Late Neolithic (see Fig. 4, top). These types are quite unusual in western Georgia, though they are common in the eastern regions of the country.

Table 1. Most important characteristics of the kurgans KVT-11 and SHR-4, and of the obsidian artefacts recovered from their surface. The distance is approximate from the Mt. Chikiani obsidian mining area.

Site name	Coordinates	m a.s.l.	Distance	Weight (gr)	Artefacts	Black	Red/spotted	Corticated	Complete	Broken	Small blocks
KVT-11	41°33'37.6"N–44°04'50.7"E	1602 m	19.0 km NE	882	263	263	0	19 (7.22%)	44 (16.73%)	214	5
SHR-4	41°29'06.6"N–43°46'21.7"E	2299 m	8.5 km W	380	68	64	4	12 (17.64%)	15 (22.05%)	45	8

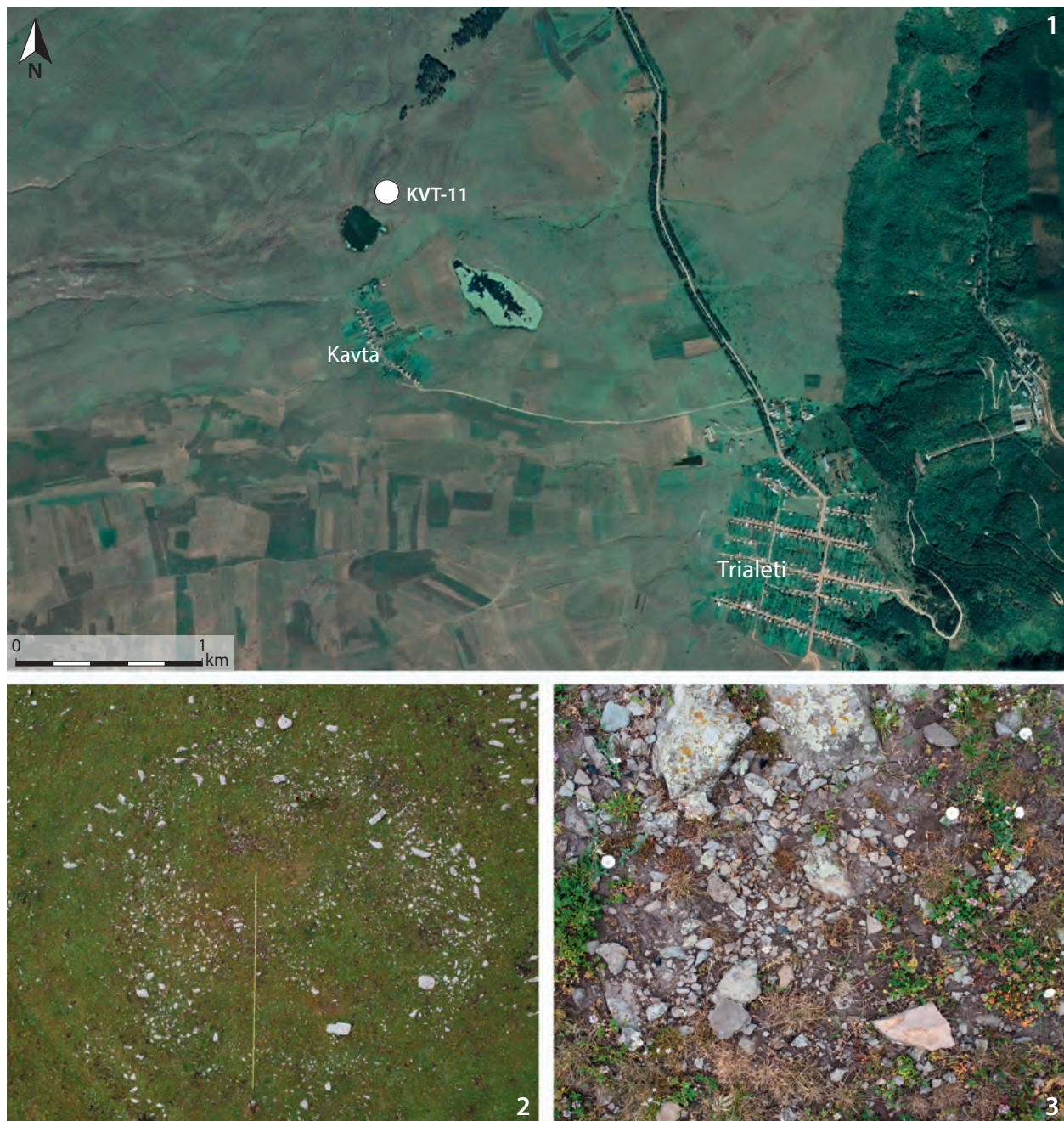


Fig. 2. Kurgan KVT-11: 1 Location of the funerary structure north of the village of Kavta; 2 the kurgan from the air; 3 its surface covered with obsidian artefacts (Drone photos in 2022: Marco Ferrandi).

During the summer of 2023, surveys were extended to the volcanic landscape north-west of the Lake Paravani, more precisely to the terraces around Mt. Shaori, on the top of which the Bronze Age fortress is built (Licheli *et al.* 2022). Some of the terraces showed the presence of many kurgans and impressive stone-walled megalithic villages. The surveyed area yielded just a few obsidian artefacts.

However, the surface of a kurgan, some 15 m in diameter, located at 2299 m a.s.l. (Fig. 3, Table 1), yielded 68 artefacts, mainly fragments, though also a few small blocks, obtained mostly from black obsidian. The percentage of complete, unretouched artefacts retrieved from the surface of the two kurgans is rather similar.

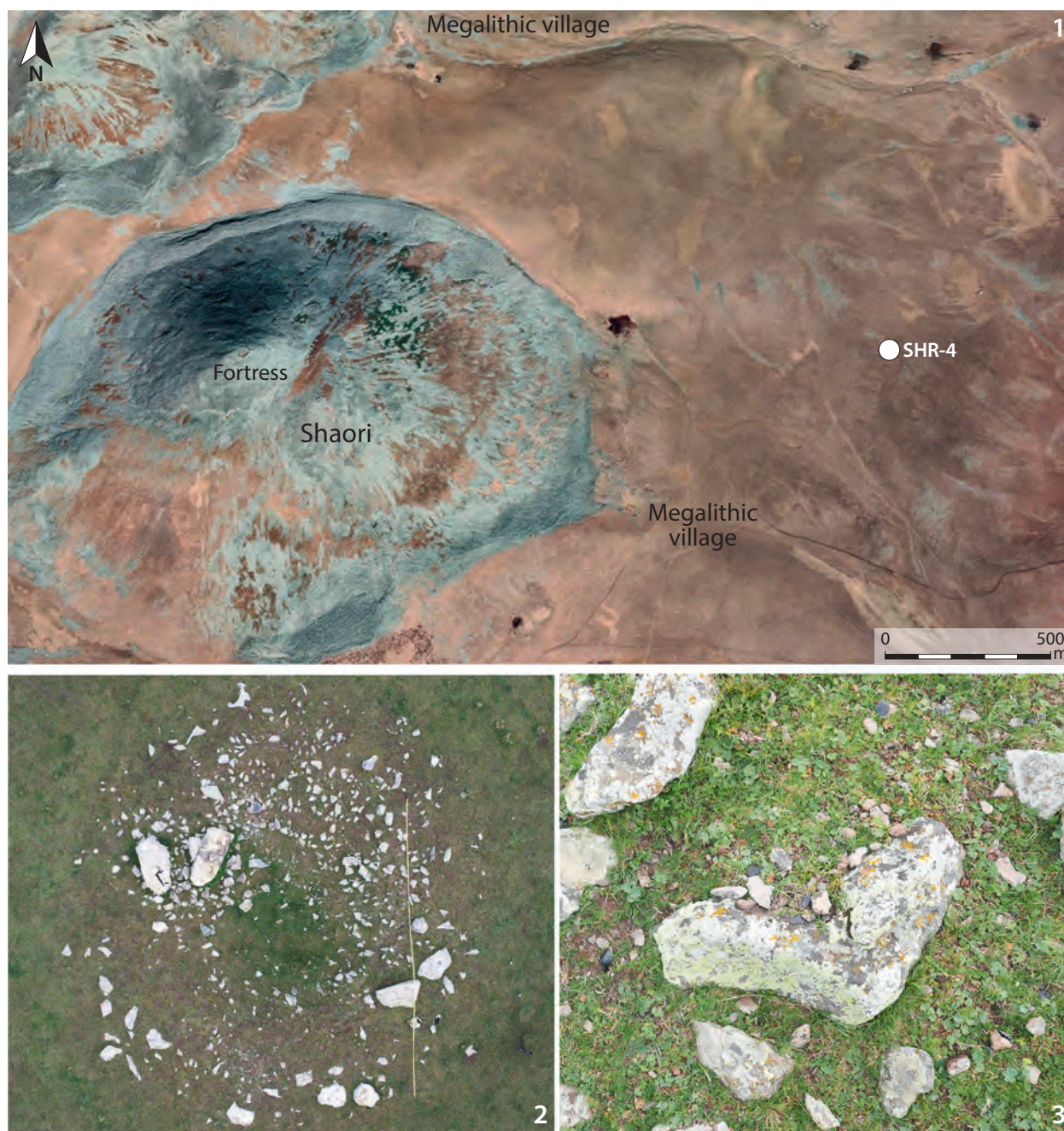


Fig. 3. Kurgan SHR-4: 1 Location of the funerary structure east of Mt. Shaori; 2 the kurgan from the air, 3 its surface covered with obsidian artefacts (Drone photos in 2023: Marco Ferrandi).

The two assemblages consist mainly of fragmented pieces (Table 1). The dimensional diagrams developed measuring the complete, unretouched artefacts, have yielded comparable results (Fig. 5). However, they are different from those obtained from the important ER obsidian workshop located ca 2.5 km north-east of Mt. Chikiani (Fig. 1; Biagi *et al.* in press). The artefacts

from the two kurgans appear to have been detached and fragmented voluntarily by very hard hammering, a procedure that has never been observed elsewhere in the area of the plateau so far investigated. At present, SHR-4 is the only funerary structure discovered in the surrounding of Mt. Shaori to have yielded obsidian artefacts.

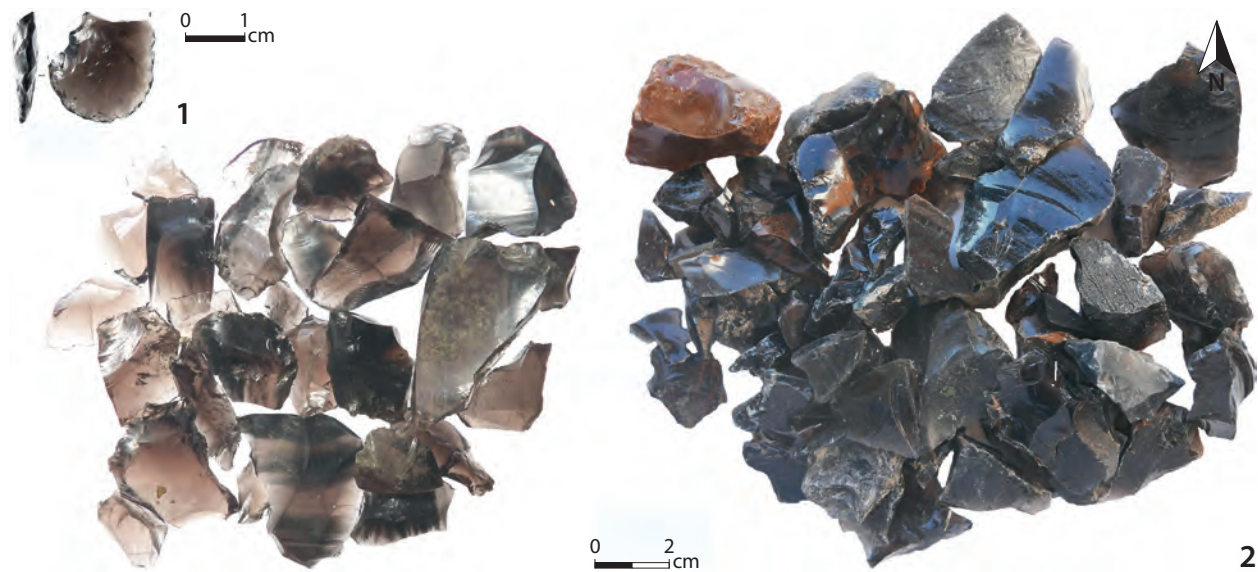


Fig. 4. Obsidian artefacts recovered from the surface of kurgan KVT-11: 1 fragment of a round-based arrowhead; 2 obsidian artefacts from the surface of kurgan SHR-4 (Photos: Elisabetta Starnini and Paolo Biagi).

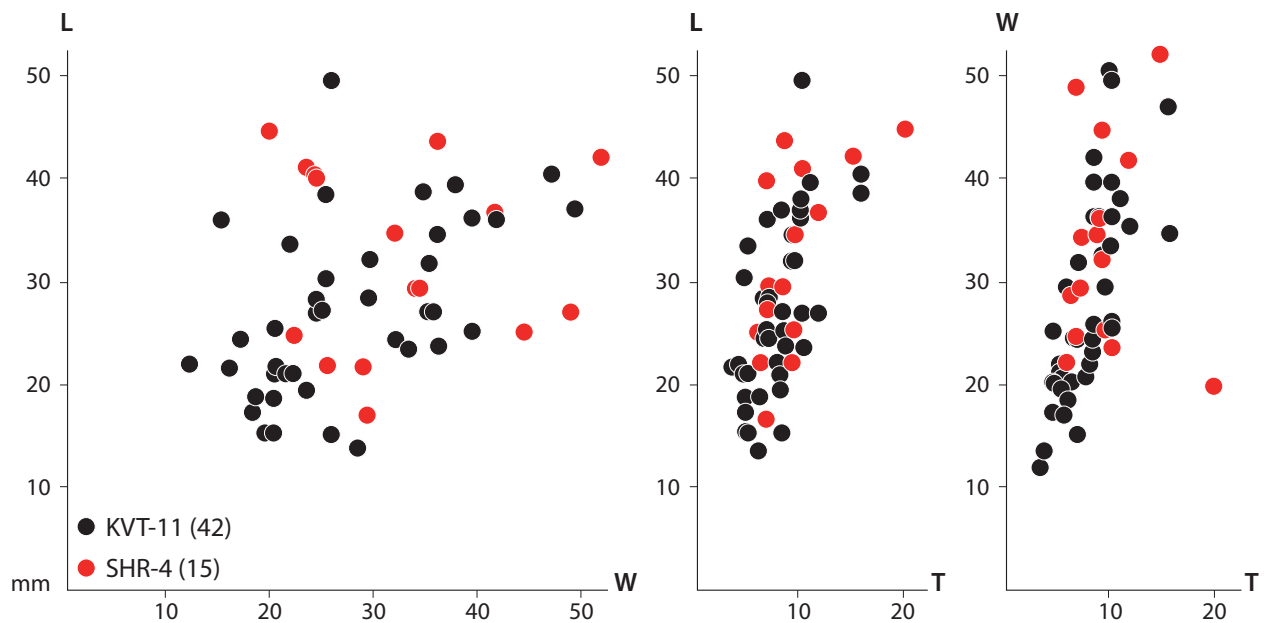


Fig. 5. Length/width, length/thickness, and width/thickness diagrams of the obsidian artefacts retrieved from the surface of kurgans KVT-11 and SHR-4.

DISCUSSION

Despite the presence of a very important obsidian source and the recovery of knapped stone tools from kurgan chambers and archaeological sites (Murvanidze 2016; Anderson *et al.* 2018), the study of lithic assemblages has largely been neglected in Georgia (Kushnareva 1997; Kohl 2007), apart from a few exceptions regarding specific types of artefacts (Orjonikidze 2004).

The surveys carried out during the last decade around Mt. Chikiani and part of the Javakheti highland have yielded important results which help interpret the building of a monumental landscape (Hinz *et al.* 2019) characterised by stone-walled villages, fortresses, different types of kurgans sometimes interconnected by long stone causeways, megalithic alignments, menhirs,

and extended mining fields, marked by groups of mining pits opened to exploit the rich obsidian flows of Mt. Chikiani (Kuftin and Field 1946; Biagi *et al.* 2017a). It has been suggested that this monumental landscape started to be built around the beginning of the metal ages, when the important Mt. Chikiani obsidian sources began to be mined and the material to be traded throughout most of the Caucasus (Badalyan 2010) following modes we are currently investigating. However, many questions are still waiting for an answer. For example, why was obsidian mined during the Bronze Age while it was simply collected from the surface in the preceding periods that is from the end of the Middle Palaeolithic onwards (Biagi 2024)? Did the Bronze Age artisans need unweathered material for better quality tool manufacture (Purdy 1984)?

The obsidian artefacts collected from the surface of kurgans KVT-11 and SHR-4 were undoubtedly carried to the sites and then spread all over the funerary structures for some specific reasons that we do not currently know. The distance between the two kurgans from the Chikiani mining fields is a few hours' walk (see Table 1) throughout a mountain landscape and most probably a difficult terrain (Wilson 2007), across which traces of Bronze Age roads have not yet been detected

CONCLUSION

The discovery of the two kurgans reported above contributes to the study of the complexity of the monumental landscape built in the territory that surrounds Mt. Chikiani, one of the most important obsidian sources of the Caucasus. Following the results obtained from the surveys carried out during the last decade, we can start to interpret the role played by obsidian in the economy of the Bronze Age societies that seasonally settled in the area, of which we still know very little. However, apart from its economic importance, we can suggest that obsidian was used also for other non-functional activities. In this respect we have first to stress the great variability of kurgan types built in the plateau, which undoubtedly hide a great number of information that actually we are not capable to develop.

Moreover, we have noticed that detached obsidian flakes recur in many places of the surveyed Javakheti Plateau, as single specimens or small concentrations. They have been retrieved not only from the top of kurgans, but also within some of the stone-walled villages and other megalithic features and the open landscape from which no evident archaeological feature has been recorded. This is an important element which shows

(Narimanishvili *et al.* 2019). Moreover, we know that small, hard hammered, almost crashed obsidian pieces, do not occur either from the surface of the eastern slopes of Mt. Chikiani (Biagi *et al.* 2017b), where the obsidian mines were dug out, or from the most important obsidian workshops so far discovered in the area. For sure these artefacts do not fit into the lithic production system of the ER workshop (Ericson 1984), which was directed toward the manufacture of bifacial arrowheads and spearheads, though a few bladelet artefacts have also been collected (Biagi and Nisbet 2023).

Does the recovery of obsidian fragments from the surface of mortuary structures (kurgans), open new questions regarding the role played by lithic material in some of the metal age rituals practised in the Caucasus? We know a few cases of "necrolithisation" in the Aegean Bronze Age (Carter 2007), which however cannot be compared with those that eventually took place in the Javakheti Plateau. The same can be said of some historic Central American cases, where the use of obsidian for rituals is well documented (Stemp and Awe 2014; Morton *et al.* 2019) and its symbolic meaning (Earle 1982) plays an important role especially as regards its "*celestial origin*", a concept that is deeply rooted also in the European tradition (Pastrana and Athie 2021).

that the entire plateau was exploited, for reasons that we do not precisely know, although for sure also for hunting purposes, which are suggested by the recovery of isolated specimens of bifacial obsidian arrowheads.

What is the meaning of all these data? and what is the meaning of the scatters of obsidian fragments retrieved from kurgans KVT-11 and SHR-4? It has been observed that objects

"may be widely exchanged within a particular context, because its associated symbolism is appropriate for certain ideological functions." (Hodder 1982a)

Did the two kurgans play a special role in the social structure of the Bronze Age Caucasus? Do the obsidian hard-hammered fragments covering their surface have a symbolic meaning regarding the role of the deceased, or some kind of regional pattern (Hodder 1982b)? All these problems should be approached in the future following broader territorial perspectives. We are aware that research on individual sites can only make a small contribution to the study of territorial exploitation (Torrence 1986).

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