

# Kobuleti site: the evidence of Early Holocene occupation in Western Georgia

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**ABSTRACT** – *In the 1970–1980s the fieldwork in the Kobuleti Village revealed more than 30 000 artefacts associated with the Early Neolithic period. However, recent fieldwork in Kobuleti, carried out by the authors, demonstrated that the cultural layers of the site belong to the Early Holocene period. The stone industry of the site has indicated the use of blank removal. The conic and bullet shaped cores were used in order to get bladelets and microblades. The complex of flint and obsidian tools consists of numerous retouched blades, bladelets and microblades, burins, and chisels. There are series of bladelets and microblades with abrupt retouch. Generally speaking, the typology of the complex indicates that the site was used as a temporary hunting camp.*

**KEY WORDS** – *Kobuleti; Early Holocene period; hunter-gatherers; stone tools; migration*

## **Najdišče Kobuleti: dokaz o zgodnje holocenski poselitvi v zahodni Gruziji**

**IZVLEČEK** – *V 70. in 80. letih 20. stoletja so pri izkopavanjih v vasi Kobuleti odkrili več kot 30 000 najdb iz obdobja zgodnjega neolitika. Novejša izkopavanja, ki so potekala pod vodstvom obeh avtorjev, so pokazala, da lahko kulturne plasti postavimo v čas zgodnjega holocena. Na najdišču so ohranjeni dokazi o uporabi odstranjevanja polizdelkov kot del produkcije kamnitih izdelkov. Konično in kroglasto oblikovana jedra so uporabljali za izdelavo klin in mikroklinic. Kompleksni zbir orodij iz roženca in obsidiana je sestavljen iz številnih retuširanih klin, klinic in mikroklinic in različnih dlet. Nekatere kline in mikroklinice imajo sledove strmih retuš. Na splošno tipologija tega zbira kaže na to, da je bil prostor uporabljen kot začasni lovski tabor.*

**KLJUČNE BESEDE** – *Kobuleti; zgodnji holocen; lovci in nabiralci; kamnita orodja; migracije*

## **Introduction**

The Kobuleti site is located in western Georgia (Fig. 1). This area belongs to one of the regions of the South Caucasus, situated by the Black Sea. This area played an important role in the development of the neolithization processes in Eastern Europe. The South Caucasus used to be a transit region through which the Neolithic innovations from the Near East were transmitted. Recently a large number of Early Holocene sites on the territory of Armenia and Georgia has been studied, and their materials indicate that

their culture originated in the areas of primary neolithization (Arimura et al. 2009; Kadowaki et al. 2016).

Concurrently, we observe that the process of migration to Caucasus from Anatolia, Iran, and Iraq had begun long before the development of the Neolithic culture. The Trialetian Kotias Klde complex (Meshveliani et al. 2007) gives us some evidence of the migration from Anatolia. Its complex is similar to Hal-

lan Çemi (Rosenberg 1994) in North-East Anatolia and indicates the movement of Trialetian Early Holocene inhabitants from Anatolia to the South Caucasus. Excavations of the Kobuleti site have determined that this case was not the only one, since the materials from Kobuleti reflect an undoubted connection with the migration of the Early M'lefaatien population, which was also still in the Pre-pottery phase of development.

The site became known in 1960 as a result of research by Nino Berdzenishvili and Lamara Nebieridze (Berdzenishvili, Nebieridze 1964). However, excavations were only undertaken many years later, between 1971–1986. These were carried out by Sergo Gogitidze, who uncovered about 600m<sup>2</sup> of the site (Gogitidze 2008). The result was a collection of stone artefacts (more than 30 000), including about 2000 tools. The research results were published, but this publication left numerous questions unanswered. The author was unable to ascertain the cultural affiliation of the site, failed to establish the stratigraphy of the site, or to determine the connection between the in-depth artefacts and materials of the Stone Age.

Materials from this site have been associated with the Early Neolithic in Georgian historiography, although there are no reasons for this.

Excavations of the site were resumed by the expedition of the Batumi Shota Rustaveli State University in 2019. The authors of this article studied an area of 32m<sup>2</sup>.

### The geographical position of Kobuleti

The Kobuleti site is located on the territory of the Kobuleti Village in Adjara (Georgia), on a cape on the left bank of the Kintrishi River. The cape, surrounded by two riverbeds, occupies an area of about 50x50m, towering 16–25m above the river level. The cape is situated 60m a.s.l. The cape is composed of basalt rocks (Fig. 2), and only its upper part is associated with sediments of the paleo-soils layer.

Geographically, the site is situated on the Colchis Plain, which occupies a part of the coastal territory. The Kintrishi River flows along the southern part of the plain, at the very boundary with the foothills. Currently, the Colchis Plain belongs to the subtropical climate zone, but this does not mean that the climate was the same at the beginning of the Holocene, when the site was abandoned. At the beginning of the Holocene the territory of Western Georgia was characterized by a rather temperate climate; coniferous species of trees, including fir, spruce, and pine, were widespread.



**Fig. 1. Early Holocene sites with bullet-shaped cores and with microblades with abrupt retouch. Map of sites location.**

The inhabitants of the site, therefore, had chosen a strategically convenient place for settlement, only 15km from the sea coast, on the banks of a river flowing into the Black Sea, on the boundary of two landscape zones – the valley and the foothills.

### Stratigraphy of the site

During the excavations Gogitidze paid little attention to stratigraphy. He pointed out that the discoveries were related to the bottom of the humus layer on top of a brown loam layer at the depth of 0.5–1.0m. Gogitidze's descriptions indicated that the site is not stratified. However, in 2019, in the central part of the cape, we managed to find an area with clearly defined stratigraphy. We were able to



make a trench in an area with a concentration of basalt stones, which had created a kind of stratigraphic trap for deposits.

As a result, we were able to distinguish layers of loams of various shades of brown under a layer of humus. We recorded the following stratigraphy in the central part of the excavation site:

- ❶ 0–0.2m: a layer of black humus with sand;
- ❷ 0.2–0.3m: a layer of dark brown loam with an admixture of humus;
- ❸ 0.3–0.45m: a layer of brown loam;
- ❹ 0.45–0.65m: a layer of light brown loam with a large amount of basalt gravel;
- ❺ Below 0.65m: a layer of yellow loam.

The cultural layer was found in the brown loam layer, while the yellow loam layer was absolutely sterile. The stratigraphic layer 2 had been the most affected by various kinds of destruction, including flushing and using the land for agriculture. Nevertheless, the lower boundary of the layer was determined very clearly. The layer contained many basalt stones, and its lower boundary made it possible to clearly separate complexes of different time periods. The same method enabled us to separate the stratigraphic layers 3 and 4.

Thus layers 2–4 are cultural layers of different time periods. The cultural layers have been assigned the following numeration: 0 (layer 2), 1 (layer 3) and 2 (layer 4). In the process of the excavations we discovered 12 pits with diameters of 0.7–0.9m and depth of up to 0.5m. Pit 5 is connected to layer 0, pit 6 to layer 1, and pits 1–4, 7–12 were connected to cultural layer 2 (Figs. 3, 4).

Therefore, we can see that the site had existed for a very long period of time, enough for the deposition of a layer of brown loams with a depth of up to 0.45m.

### The chipped stone industry

We will summarize the information about the stone industry from the site. A total of 1533 artefacts have been discovered, 938 made of flint and 595 made of obsidian (see Table 1).

The technique of blank removal is used to obtain blades and microblades by the method of manual



*Fig. 2. Kobuleti: general view from the south.*

pressing. Out of the 625 blade blanks and their segments, only 25 are associated with blades. We have discovered 194 bladelets and 139 microblades. The absolute majority of bladelets and microblades have a width of 0.5–1.2cm. To obtain such bladelets and microblades, bullet shaped cores were used (Fig. 5.1). The discoveries of round tablets are also associated with the same cores (Fig. 5.2), with the negatives from removing flakes to correct the working platform.

In general, we can say that flint flaking occurred mainly outside the site. This theory is supported by the evidence of the ratio of blades and flakes. There are more blades presented than flakes. This fact indicates that most of the artefacts were brought to the site already ready. Only a small number of bladelets and microblades were produced on the territory of the site (it is important to note that the proportions of blades and flakes on our excavation area are similar to the proportions found by Gogitidze). This conclusion is supported by having discovered only an extremely small number of flakes, chips and chunks. They are also smaller than the blades. This suggests that the site was visited periodically, and that the base camp of the visitors was in a different place.

There are 262 tools in the complex, 105 of them made of flint and 157 made of obsidian. The most numerous are the retouched blades, bladelets and microblades, as well as their segments (89). Most such artefacts have a small semi-steep retouch along the edge (Fig. 5.28,31), but there are some with alternative retouching (Fig. 5.22). There are a lot of blades with notches (27). There also are marked artefacts with single wide notches (Fig. 5.25) and arte-



**Fig. 3. Kobuleti: pit 7.**

facts with 2-3 edge notches (Fig. 5.26-27,29-30, 33-35).

The burins are presented in a large series (62), and are characterized by great typological diversity. There are some burins on truncated faceted blades (Fig. 5.11,13-15), including bilateral burins (Fig. 5.14). There are many angle burins on broken blades (Fig. 5.12,16,19,24), such burins are often double (Fig. 5.12,16). There also is a symmetrical dihedral burin (Fig. 5.23). All of the listed burins are made on blades. All the transverse (Fig.5.22) and dihedral angle burins (Fig.5.17-21) are made on flakes. There is one combined tool: a burin on a truncated faceted blade-endscraper.

There are very few scrapers (15) in comparison to burins. All of them are made on flakes and are end-scrapers (Fig. 5.3-7). There is a series of chisels (15) made on massive segments of blades (Fig. 5.9-10). Some of the retouched flakes were probably used as scrapers and chisels (9).

Truncated blades were also found (19), including blades with oblique truncation (Fig. 5.8.37) and a negative of a microburin spall on a blade with oblique truncation (Fig. 5.36).

We can observe quite a representative complex associated with hunting tools. This is a series of bladelets and microblades (25) with abrupt retouch. These artefacts fall into two groups according to the width of the working blank. These are microblades and bladelets with a thickness of about 1mm (Fig. 5.38, 40,42-47, 51-54,57-58), and massive microblades and bladelets with a thickness of up to 3mm (Fig. 5.39,41,48-50,55-56).

We have concluded, based on the results of a use-wear analysis, that these artefacts are associated with hunting tools. We don't see any traces on the edges of these tools that would indicate intensively using them as knives. On the other hand, we observe the traces on the retouching surfaces of these tools, indicating that they were inserted into the bone artefacts. In our opinion, the backed bladelets and microblades with abrupt retouch were made to be inserted into bone points. We know of discoveries of such points in Early Holocene complexes of the South Caucasus. For example, such a point was found in the Early Holocene complex of Kvachara (*Bader, Tsereteli 1989.Fig. 62.20*).

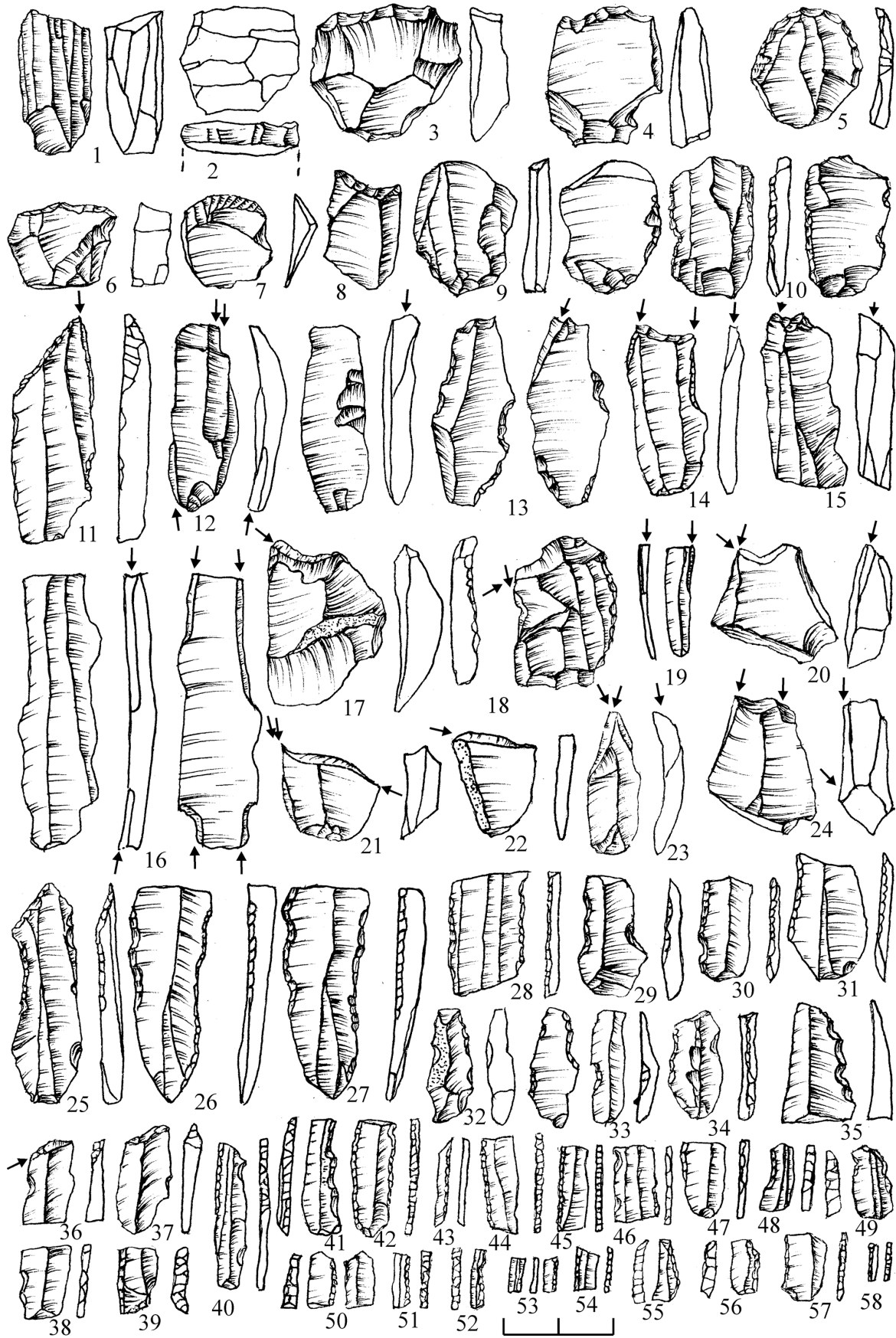
The use-wear analysis of flint and obsidian artefacts was carried out in the laboratory of Traceological Department at Georgian National Museum. The artefacts were studied in two stages. The first was the microscopic study of the surface of the sample. Different types of completely natural traces are left on the surface (lines, scratches, polishes, blunts, *etc.*) of the tools after usage (*Semenov 1957; Semenov, Korobkova 1983*), for the study of which binocular (MBS-9) and metallographic (Olympus) microscopes were used. The second stage of the research concerns the functional analysis of artefacts, which results in the classification (*Korobkova 1987; Esakiya 2005*) of tools, on the basis of which the economy, its leading and secondary industries, site functions, economic characteristics and so forth are revealed.

In general, the typology of the complex indicates that the site was used as a temporary hunting logistic camp, and very few production activities were carried out here.



**Fig. 4. Kobuleti: outlines of pits 7-12.**





**Fig. 5. Kobuleti: lithic artefacts. Flint: 1-2, 4-9, 11, 14-18, 20-21, 23-28, 32; obsidian: 3, 10, 12-13, 19, 22, 29-31, 33-58.**

### Cultural affiliation of the site

The question of the origin of the Kobuleti industry cannot be solved as it is based only on the local materials. At the end of the Pleistocene, there was simply no single industry on the territory of South Caucasus that could have had a connection with the Kobuleti complex.

When we compare the M'lefaat industry with the Kobuleti complex, we must refer to the materials of the earliest M'lefaatien sites. This is because the appearance of the Kobuleti industry was not accompanied by starting cattle breeding and agriculture. Meanwhile, traces of cattle breeding in the M'lefaat complexes can be traced back to the 9<sup>th</sup> millennium BC (Zeder 2008). Therefore, only migrants during the very beginning of the Holocene could have brought the traditions of a hunting society. Because of this, it is essential for us to compare the materials of Kobuleti with the complexes of M'lefaat (Dittermore 1983), Karim Shahir (Howe 1983), and the lower layers of Chaga Sefid (Hole 1977). We can see a developed pressure technique in the materials of these sites. Based on the use of conical and bullet-shaped cores, we observe a combination of types of truncated blades and bladelets with abrupt-retouched edges. Other types of tools (burins, scrapers, notch tools) are also common within the Kobuleti industry. It is worth noting that the burins with bilateral forms are similar in both cultures. In addition, the Early M'lefaatian sites are undoubtedly older than Kobuleti, since almost all of the listed sites are dated as the Final Pleistocene. At the moment, we have only one absolute date for Kobuleti (layer 2, pit 7): 8670±100 uncal BP (SPb-3084).

Thus, the industry of Kobuleti and the early M'lefaat have many similarities, so we can presume there was a migration of some of the M'lefaatian population to the territory of the South Caucasus.

This migration was the first step in the spread of the pressing flaking techniques in South Caucasus and the South of Eastern Europe (Crimea, the Steppe zone of Ukraine and Moldova), where the Kuk-

rek Culture with the same characteristics of the conical cores and tools developed from the first half of the Preboreal (Manko 2013; 2015).

At the same time, we must understand that M'lefaatian migration did not lead to the spread of animal domestication in the region, since at the beginning of the Holocene carriers of the M'lefaatian industry also did not practice reproductive economy methods (Zeder 2008).

### Possible M'lefaat migration to the Caucasus

The theoretical basis for the search for arguments about the possibility of migration and its starting and ending points was the theory of Lev S. Klein (1999) about the archaeological criteria of migrations. Klein gives the basic criteria of migration in archaeology as legality (complex similarity of two complexes of cultures of the initial and final point of migration), unpreparedness (spontaneity, abrupt change of cultures) and a contact in time and space. He believes that the simultaneous application of all the criteria is excessive, because it can only happen in an ideal situation, when the archaeologist has a comprehensive source base. However, when analysing the migration of the M'lefaatian population to the territory of Western Georgia, we can apply all

Type	Flint	%	Obsidian	%	Total	%
cores	2	0.21	1	0.17	3	0.20
tablets	3	0.32	1	0.17	4	0.26
blades	17	1.81	8	1.34	25	1.63
bladelets	110	11.73	84	14.12	194	12.65
microblades	83	8.85	76	12.77	159	10.37
flakes	180	19.19	92	15.46	272	17.74
primary flakes	5	0.53	1	0.17	6	0.39
chunks	156	16.63	65	10.92	221	14.42
chips	271	28.89	107	17.98	378	24.66
burin spalls	6	0.64	3	0.50	9	0.59
tools	105	11.19	157	26.39	262	17.09
burins	32	30.48	30	19.11	62	23.66
scrapers	6	5.71	9	5.73	15	5.73
burin-endscraper	1	0.95	0	0.00	1	0.38
chisels	9	8.57	6	3.82	15	5.73
retouched flakes	5	4.76	4	2.55	9	3.44
retouched blades, bladelets, microblades	30	28.57	59	37.58	89	33.97
notched blades, bladelets, microblades	10	9.52	17	10.83	27	10.31
truncated blades, bladelets, microblades	7	6.67	12	7.64	19	7.25
microblades with abrupt retouch	5	4.76	20	12.74	25	9.54
<b>total</b>	<b>938</b>	<b>100/61.19</b>	<b>595</b>	<b>100/38.81</b>	<b>1533</b>	<b>100</b>

**Tab. 1. Kobuleti: typology of flint and obsidian artefacts.**



three criteria. Of course, we cannot consider the application of all the criteria excessive, because we only have stone tools for analysis.

We estimate the similarity of Kobuleti with M'lefaat complexes as almost complete. We find the following types of artefacts that are common:

- ❶ Conical cores for obtaining bladelets and microblades with the use of the pressing technique;
- ❷ Bladelets and microblades with abrupt retouch; truncated faceted bladelets;
- ❸ Blades with flat ventral retouch;
- ❹ Bilateral burins on truncated faceted blades;
- ❺ Occasional use of the microburin technique in the process of truncating faceting.

The criterion of spontaneity is also almost ideal. In the territory of Western Georgia, the emergence of the Kobuleti industry comes as a surprise. The culture appears in fully completed form at the beginning of the Holocene. The previous development of the archaeological cultures of Western Georgia does not allow us to study the participation of some groups of the indigenous population in the genesis of the Kobuleti industry. The development of the pressing technique was an innovative feature that was not characteristic of any of the previous archaeological cultures of the Caucasus.

Absolutely innovative were the forms of cores and hunting weapons. The only archaeological culture that could theoretically act as a precursor to the Kobuleti industry was the Epigravettian, which disappeared in the Western Caucasus before the advent of the Kobuleti industry. Even if we assume that some part of the Epigravettian population was involved in the formation of the Kobuleti industry, the huge number of innovative features cannot explain it. Moreover, one of the latest sites of the Caucasus, the Kasoghsky Cave, has no signs of using pressing flaking technologies to obtain blades (*Golovanova, Doronichev 2012*). Thus, the spontaneity of the emergence of the Kobuleti industry in Georgia is unquestionable.

The criterion of contact in time and space can also be traced. The available absolute dates convincingly show that the M'lefaat industry appeared earlier than the Kobuleti industry, but also coexisted with it. Such chronological evidence indicates that the migration vector could be directed only from the territory of Iran and Iraq to the territory of Georgia. Mapping of the oldest complexes of all three indu-

stries clearly shows the route of the movement of migrants, on which there were no significant obstacles.

Thus, we have all the theoretical prerequisites to draw conclusions about the possibility of global migration of the M'lefaatian population in the Caucasus.

## Conclusions

The migration of the M'lefaat population led to the spread of the pressing technique, first to the territory of Western Georgia, and then to the territory of Ukraine and Moldova (the so-called Kukrek Culture). Later, the carriers of this technology became the founders of the Neolithic culture on the territory of the South Caucasus and the south of Eastern Europe.

In Georgia, the sites of Anaseuli 1 and 2, Gurianta (*Nebieridze 1972*), Darkveti layer 6 (*Korobkova 1996*) appeared when the Kobuleti traditions were developing on the Neolithic stage. On the territory of Ukraine, Neolithic Sursk and Donetsk cultures appeared on the basis of the Kukrek culture.

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