



BURAN-KAYA III AND SKALISTIY ROCKSHELTER: TWO NEW DATED LATE PLEISTOCENE SITES IN THE CRIMEA

A.A. YANEVICHV, V.N. STEPANCHUK and YU. COHEN

The two sites described here were excavated by A.A. Yanevich in 1990 and by V.Yu. Cohen from 1992 onwards (Figure 1). C¹⁴ dates have been obtained for the first time for occupations attributed to the Shan-Koba culture and the early Upper Palaeolithic in the Crimea. At Buran-Kaya III two dates have also been obtained for Middle Palaeolithic horizons. The samples were collected and processed as part of a joint research programme between the McDonald Institute Cambridge and the Institute of Archaeology of the Ukrainian Academy of Sciences, Kiev. The significance of these results is considered in the light of the ongoing programme of research at both sites.

ACKNOWLEDGEMENTS

The dating of these sites was carried out under the terms of an Agreement between the McDonald Institute for Archaeological Research, Cambridge, and the Institute of Archaeology of the Ukrainian Academy of Sciences, Kiev. The institutional framework is described in a note on "Dating the Palaeolithic in Eastern Europe" published in the *Newsletter of the Centre for the Archaeology of Central and Eastern Europe*, Durham and Newcastle, 2, 1994: 9-10. The C¹⁴ dates were obtained using the accelerator mass spectrometry (AMS) technique at the Research Laboratory for Archaeology and the History of Art of the University of Oxford, as part of the SERC financed science-based archaeological dating programme run by the laboratory with the approval of its Advisory Panel. The samples were collected by Dr P. Allsworth-Jones in 1992 and 1993, during two visits to the CIS which were sponsored by the British Academy and the

McDonald Institute. Translation of Russian language texts was undertaken by him in part during his tenure of a bursary at the British Centre for Literary Translation of the University of East Anglia in 1994.

I. BURAN-KAYA III A new multi-layered site with superimposed Middle and Upper Palaeolithic in the Crimea

(A.A. Yanevich*, V.N. Stepanchuk*)

INTRODUCTION

Buran-Kaya III is situated on the right (eastern) bank of the river Burul'cha, 3 km south of the village of Aromatnoye, in the Belogorsk region of the eastern Crimea (approx. 34° 25' E, 45° 00' N). The site is at the foot of a limestone outcrop, west of two other sites previously excavated by O.N.Bader, known as the cave of Buran-Kaya (I) and Buran-Kaya rockshelter (II). Hence this site was given the name of Buran-Kaya III. Excavations were conducted here by A.A. Yanevich (1990) from 20 July to 21 August 1990. The area investigated is a partially collapsed rock shelter, the present size of which is about 5 x 3 metres. The results described here come from test trench 1, a 4 metre² area immediately in front of the rock shelter, where the ground level is about 8 m above the present level of the river. V.N. Stepanchuk has been entrusted with the study of the material from the lower part of the test trench and his observations are also reported here.

* Institute of Archaeology of the Ukrainian Academy of Sciences, Vidubetskaya 40, 252014 Kiev, Ukraine.

STRATIGRAPHY AND ENVIRONMENT

Test trench 1 has been dug to a depth of about 3.50 metres. The fullest and most reliable section, where the layers are more or less horizontal, was obtained along the northern wall of the trench on the line 9-10-11D (Figure

2). On both the eastern and western walls the layers tend to slope away, sometimes steeply, towards the river. 11 stratigraphic layers and 13 definite archaeological layers (or sub-units of layers) have been recognised. Depth measurements (in metres) are taken from the zero reference point.

STRATIGRAPHIC LAYERS	DEPTH
1. Dark brown humus, with large limestone blocks and rubble. Cultural layers 1 and 2. Late Bronze Age and Eneolithic.	+0.15-0.80
2. Light grey ashy layer with limestone rubble. Cultural layer 3. Late Neolithic.	0.80-1.30
3. Limestone rubble and grey-yellow loam. Cultural layer 4. Swiderian.	1.30-1.45
4. Light grey loam with some fine limestone rubble and ash Cultural layer 5. Shan-Koba.	1.45-1.65
5. Yellow loam, with some medium and large lime stone rubble; large blocks in the mid part indicate a rock fall. Cultural layer 6. Upper Palaeolithic, divided into three sub-units on the basis of the archaeological material contained in the different horizons.	1.65-2.10
6. Limestone rubble, with yellow loam in southern and dark ash fill in northern part. Cultural layer 7. Middle Palaeolithic, divided into three sub-units on the basis of the archaeological material contained in the different horizons.	2.10-2.30
7. Yellow loam with some large stones.	2.30-2.45
8. Fine rubble.	2.45-2.55
9. Light yellow loam, with some coarse rubble and large limestone blocks. Cultural layer 8. Consists of bones only near the top of the layer.	2.55-2.80
10. Light yellow loam and coarse limestone rubble; two dark lenses at depths 2.90 and 3.05. Cultural layers 9 and 10, associated with the upper and lower lenses, respectively. Middle Palaeolithic.	2.80-3.10
11. Yellow sand and pebbles, with lenses of loam and rubble 2-5 cm thick. Bedrock was not reached.	3.10-3.50

In the southern part of the trench the stratigraphy was not so clear. Here beginning from a depth of 1.30 metres below the reference point the layers fell away very sharply towards the river; they were more homogeneously coloured and the distinctions between them were difficult to discern. The excavations were complicated also by the absence of sterile lenses between the cultural layers. These two circumstances may have made for some degree of mixing of the material at the contact horizons between the layers. During the excavations the cultural remains were removed in artificial horizons 5-10 cms thick following the general contour of the layers, in so far as these could be observed.

THE ARCHAEOLOGICAL SUCCESSION

In the deposits 13 definite cultural layers were observed: Late Bronze Age, Eneolithic, Late Neolithic, two Early Mesolithic, three Upper Palaeolithic, and at least five Middle Palaeolithic.

The Late Bronze Age layer contains bifacially worked arrowheads, a few other artefacts of flint, and some fragments of pottery. The Eneolithic layer contains two fragments of pottery with oblique fine comb stamped decoration, plain pottery, and points, endscrapers, blades and flakes of flint. The

Neolithic layer contains trapezes and crescents with dorsal flat retouch, backed points, awls, endscrapers on blades, angle burins on blades, cores, and other flint artefacts. Its characteristics indicate that the complex can be assigned to the second half of the Neolithic in general and to the Tash-Air culture in particular.

The microliths found in the upper of the two Early Mesolithic layers include many Swiderian points, some backed blades and points, a crescent, and several trapezes. All the endscrapers are on blades; angle burins predominate, but there are some dihedral and on truncations. The cores are two-platformed with oblique striking platforms. The materials from the layer are typical for the Swiderian of the Crimea. The artefacts found in the lower of the two Early Mesolithic layers consist of massive crescents, trapezes, backed and truncated blades, endscrapers on blades, angle, dihedral, and truncation burins, massive single-platform cores, flakes, blades, and so forth. The layer represents the middle stage of the Shan-Koba culture.

The Upper Palaeolithic layers at the site have been distinguished on the basis of the morphology of the tools, the microliths in particular. Thus, in the uppermost two excavated horizons (cultural layer 6: 6 and 7) backed bladelets and points were made on comparatively massive blanks by steep retouch which removed part of them. The microliths include microburins. The few endscrapers are made on flakes. The burins are on truncations. In general these horizons have definite Gravettoid characteristics.

The bladelets and points in the next two excavated horizons (cultural layer 6: 8 and 9) were made on smaller blanks using fine edge retouch. They are reminiscent of similar artefacts from Aurignacian sites on the Black Sea. Other tools in the complex have an Aurignacoid character, in particular a high endscraper on a blade. There are also subcircular endscrapers on flakes, dihedral and truncation burins on blades, and a multifaceted burin on a flake. In general these horizons can evidently be included among the Aurignacoid sites of the northern Black Sea coast and the Crimea.

In the lowest of the Upper Palaeolithic excavated horizons (cultural layer 6: 10), which was in contact with the Middle Palaeolithic layer beneath, were found some bifacially worked points similar to those of the Streletskaya culture, two crescents, two endscrapers, an edge burin on a blade, and some backed bladelets. The cultural interpretation of this horizon is complicated by the small number of finds and their heterogeneity.

The lower part of the deposits, beginning with stratigraphic layer 6, contains several Middle Palaeolithic occupations. These include cultural layer 7 (three horizons) and cultural layers 9 and 10, both of which occur in stratigraphic layer 10. Cultural layer 10 however produced only a handful of worked flints and some faunal remains. Some fragmentary animal bones were also found in stratigraphic layer 9, and although they were not accompanied by any flints, this has been provisionally referred to as cultural layer 8.

Cultural layer 7 produced a statistically sufficient number of artefacts, particularly in horizon 7:2, which had about 2000 worked flints. The upper horizon 7:1 produced 490 artefacts, and there were 141 in the basal horizon 7:3. The industry from horizon 7:1 can be regarded as having mixed Middle and Upper Palaeolithic characteristics. Cores are represented by both disc and irregular varieties. The number of blanks is insufficient for a technological analysis, but it is significant that the blade:flake ratio amounts to 1:2.6. There are crested guide flakes in the collection. The tool assemblage includes Middle Palaeolithic as well as Upper Palaeolithic elements (sidescrapers and fragments of points versus endscrapers and truncation burins). It is still unclear what was the basic cause of the mixture of Middle and Upper Palaeolithic elements in the inventory from this horizon. Two explanations are possible: either there was a purely mechanical admixture of materials of different ages, or there was a genuinely transitional industry from Middle to Upper Palaeolithic.

Horizon 7:2 is the most abundant from both the archaeological and the palaeozoological points of view.

Technologically the industry is clearly oriented towards discoidal manufacture, with small sized blanks the basic form produced. The blade: flake ratio is 1:11.5. IF strict 12 and IF large 20 are indicative of the striking platform characteristics. There are 119 tools all together, if we include retouched flakes. Points occupy the leading place among the tools which can be reliably defined, and among these there are many déjeté forms some of which are thinned at the base. In addition there are sidescrapers, knives, notches and denticulates, and a few atypical Upper Palaeolithic pieces. There are also some bifacially worked tools, including points and an atypical knife, which are characteristic of Micoquian inventories.

Thanks to some diagnostic elements (a tendency to microlithisation, the abundance of mainly déjeté points, the relative typological variability of the sidescrapers, and the presence of characteristic bifacially worked tools) the inventory of horizon 7:2 is undoubtedly analogous to the so-called Kiik-

Kobian, as known from the upper layer at Kiik-Koba. Judging by indirect indicators (geological, palaeofaunal, and palaeobotanical) the most recent of the known Kiik-Kobian sites, the upper layer at Prolom I, may date to a time approximately equivalent to Moershoofd and Hengelo (STEPANCHUK, 1992 and 1993).

AMS DATES: IMPLICATIONS FOR THE INTERPRETATION OF THE SITE

Five bone and tooth samples from A.A. Yanevich's excavations of 1990 were collected in 1992 and submitted to the Oxford Radiocarbon Accelerator Unit in 1993. The samples came from different horizons of cultural layers 6 and 7, and their position as projected onto the northern wall of the excavation is indicated in Figure 2. The results obtained were as follows:

NO.	LAYER:HORIZON	SQUARE	DATE
OxA-4126	6:8	11D3	11.900 ± 150 BP
OxA-4127	6:9	11D3	11.950 ± 130 BP
OxA-4128	6:10	10D3	28.700 ± 620 BP
OxA-4129	7:1	11E4	33.210 ± 900 BP
OxA-4130	7:2	9D3	32.710 ± 940 BP

The two dates for cultural layer 6 horizons 8 and 9 (approximately equivalent to the Allerod interstadial) are what would be expected for the middle stage of the Shan-Koba culture represented in cultural layer 5 rather than an Aurignacoid complex. It is possible that the samples do in fact refer to the later archaeological occurrence, since at the point where they were collected the deposits begin to slope steeply away, although a careful rechecking of the records has shown that there was no characteristic Shan-Koba material in this area. Alternatively, the comparatively recent age of the samples may be due to some other factor, and in order to be sure of the real

age of these horizons further dates should be obtained. The date of 28,700 ± 620 BP for cultural layer 6 horizon 10 seems quite acceptable for Upper Palaeolithic material of the kind discovered at this point, and represents an interesting new development for the Crimea.

The dates for the Middle Palaeolithic in cultural layer 7 horizons 1 and 2 are also on the young side, but are not impossible. If the industry in horizon 1 can really be regarded as transitional to the Upper Palaeolithic a date of 33,210 ± 900 BP would not be too surprising. On the other hand, a similar or younger date for

horizon 2 is not what would be expected in view of its stratigraphic position, and the fact that its inventory is quite distinct from that of horizon 1. On the basis of a comparison to Prolom I, a quite different time range could be suggested for a Kiik-Kobian industry of this type. There are two possibilities therefore. The date of $32,710 \pm 940$ BP may be aberrant. Or the industry in this layer may really be late, coinciding with or forming part of the transition to the Upper Palaeolithic. At the moment there are no grounds for preferring one or other of these hypotheses, and to resolve the matter more work at the site is clearly necessary.

CONCLUSION

Although it is obviously only at an early stage of investigation, Buran-Kaya III is an interesting and potentially important site because it has Upper Palaeolithic stratified above Middle Palaeolithic deposits. For the Crimea, this is most unusual. Middle Palaeolithic sites, with material generally similar to that at Buran-Kaya III, are frequent in the peninsula, as are sites dating to the end of the Pleistocene. By contrast, the only significant early Upper Palaeolithic site so far known (with affinities to the Aurignacian) is at Syuren' I (VEKILOVA, 1957). Further investigations are necessary and would potentially be rewarding in relation to a whole number of problems: the development of the late Middle and early Upper Palaeolithic in the region, the transition from one to the other, and the ways in which Final Pleistocene cultures led on to those of the Early Holocene, among others.

REFERENCES

- STEPANCHUK V.N., 1992,
Kiik-Kobian, a distinct Mousterian industry in the Crimea. *Archeologické Rozhledy*, 44: 505-523.
- STEPANCHUK V.N., 1993,
Prolom II, a Middle Palaeolithic cave site in the Eastern Crimea with non-utilitarian bone artefacts, *Proceedings of the Prehistoric Society*, 59: 17-37.
- VEKILOVA E.A., 1957,
Stoyanka Syuren' I i yeye mesto sredi paleoliticheskikh mestonakhozhenii Kryma i blizhaishikh territorii, *Materialy i issledovaniya po arkheologii SSSR*, 59.
- YANEVICH A.A., 1990,
Zvit pro rozviduval'ni roboti Krims'koi mezolitichnoi ekspeditsii v 1990 g. *Naukovii arkhiv Institutu Arkheologii A.N. Ukraini*.

II. SKALISTIY ROCKSHELTER First radiocarbon dates: implications for the chronology of the Final Palaeolithic in the Crimea

(V.YU. COHEN*)

INTRODUCTION

Skalistic rockshelter is situated on the right (northern) bank of the river Bodrak, within the village of Skalistoye, in the so-called third mountain range of the southwestern Crimea (approx. 34° E, $44^{\circ} 48'$ N). The site consists of a relatively flat area beneath a rock overhang and a southward facing slope which falls away to the river beneath. Excavations were first carried out here by Yu.G. Kolosov in 1988-89, when he put down a 9 m^2 trial trench in the central part of the site beneath the rock overhang. In 1992 the western section was re-examined by V.Yu. Cohen and N.P. Gerasimenko and samples for pollen analysis were collected (Figure 1). In 1993 large scale excavations of cultural layers I-III were undertaken; starting from the central part of the site and the trial trench these extended for some 28 m^2 down the slope. The lower cultural layers IV-VII were investigated over about 16 m^2 in 1994, when a complete 3 m^2 column adjacent to Kolosov's trial trench was taken down to bedrock and wet sieved in order to obtain representative samples of microfauna. As a result, a clear idea of the stratigraphy has now been obtained.

* Institute of Archaeology of the Ukrainian Academy of Sciences, Vidubetskaya 40, 252014 Kiev, Ukraine.

STRATIGRAPHY AND ENVIRONMENT

The maximum depth of deposits in the central part of the rock shelter is about 6 metres. As a result of the work carried out in 1994, they have been divided into three broad units, with 9 lithostratigraphical horizons and 7 cultural layers, the third unit in the basal 2 metres being archaeologically sterile. The main component is detrital sand with varying admixtures of limestone rubble. Organic material is well preserved throughout. The first unit contains cultural layers 1-4 which are intercalated and underlain by layers of heavy rock fall. Cultural layer 3 is divided into four distinct horizons corresponding to living surfaces. All these layers are attributed to the Final Palaeolithic Shan-Koba culture. They share a number of features in common, including the presence of hearths and dwelling foundations, as well as artefacts of a similar type. The second unit consists of crumbly fine material without conspicuous layers of rock fall, and contains cultural layers 4-7 which are attributed to the Late Palaeolithic Vishennoye culture.

The excavations of 1993 were concentrated on cultural layers I-III and particularly the individual horizons of layer III, the main features being as follows.

I : No fauna; archaeological material mainly cores and blanks.

II : Southern periphery of settlement which in 1988 produced the remains of two hearths. Organic remains consisting only of *Helix* shells; cores, blanks, and a few tools.

III (1) : Hearths, small indeterminate animal bones, charcoal, and a thick concentration of artefacts indicative of manufacturing activities.

III (2) : Southern portion of a hearth and dwelling foundation (about 1.5 m²) with some fauna, red and yellow ochre, charcoal; cores, blanks, and a few tools.

III (3) : The most clearly differentiated horizon in spatial terms. Southern and eastern boundaries of a dwelling with a diameter in

section of about 5.6 m; floor filled with compacted humic or ashy material up to 0.22 m thick. Charcoal possibly indicative of burnt timbers. Traces of a pit sunk into the floor of the dwelling (0.7 x 0.8 x 0.25 m) containing charcoal, animal bones, yellow ochre, cores and blanks, as well as the broken head of a human femur identified by I.D. Potekhina as that of an adolescent.

III (4) : An oval area of burnt soil 1.2 x 0.8 m marking the base of a hearth; animal bones and artefacts as before; and a red painted pebble.

In general, it seems that the area on the slope in front of the overhang was used primarily for flint knapping, whereas secondary working (reflected in greater numbers of tools) will have taken place in the central part of the settlement, where the living area (and the greater part of the fauna) was concentrated.

The excavations of 1994 revealed several small hearths in layers V and VI. There were abundant artefacts, but few tools, and very little fauna.

SETTLEMENT PATTERNS AND CULTURAL CLASSIFICATION

Layers II-III and IV-VII reveal different settlement patterns on the basis of their distinctive faunal remains. The fauna in layer III consists of a very limited selection of fragmentary long bones (mainly saiga) which constitute essentially food waste. There is no evidence for the in situ butchering of carcasses. The different horizons in this layer were residential sites, and the kill and butchering sites were situated, probably, elsewhere not far away in the valley. Layers IV-VII on the other hand were workshop sites. These are still provisional conclusions, to be tested in further work.

Layers I-III are attributed to the Final Palaeolithic Shan-Koba culture, which has been considered (Cohen, 1993). As a result of the excavations carried out in 1994, it has been concluded that layers IV-VII can be attributed to the Upper Siuren Culture.

Up to now the chronology of the Crimean Late and Final Palaeolithic has been based on the comparative analysis of deposits, fauna, and typology. According to this scheme, it has been supposed that the Shan-Koba culture extended from the end of Dryas II to the beginning of the Preboreal period, whereas the Vishennoye culture was earlier than this. Both belong to the so-called Southern Mediterranean circle of cultures which have analogues also in the Near East. It is now possible to test this chronological scheme on the basis of C14 dates from the site: the dates presented here are the first available from the 1993 season, and more are expected soon.

OxA-4888	12.820 ± 140 BP	OxA-4889	18.380 ± 220 BP
----------	-----------------	----------	-----------------

In his comment, Dr Housley emphasises that these are not repeat measurements on the same bone but rather separate measurements on two different bones. The first date is broadly in line with expectations, although somewhat older than anticipated. The second date is surprisingly old and is rather what would be expected for layer VII at the site. None of the lower layers were excavated in 1993 and therefore the possibility of accidental contamination can be excluded. Evidently it will be necessary to check on the situation. Some further samples for C14 dating were collected in 1993 and 1994 by Professor M. Otte (Liège) and Dr J. Richter (Köln) and two samples of burnt flint from layer III have been submitted for TL dating to Dr J. Rink (McMaster University). Until these results are known, no definite conclusions can be reached about the chronology of the site; but if the date of 12,820 ± 140 BP for layer III were confirmed by the other results, then the beginnings of the Shan-Koba culture would have to be traced back to the Bölling rather than the Alleröd interstadial. Since the inventory at Skalistiy includes a substantial proportion (up to 40%) of geometric points and microliths, this would make it the earliest in Europe with a developed and varied component of this kind. This in turn would have important implications for the whole question of transition from the late Pleistocene to the early Holocene and from the late Palaeolithic to the Mesolithic. Whatever the later results, on the evidence of the work already done,

DATING OF CULTURAL LAYER III: IMPLICATIONS FOR THE INTERPRETATION OF THE SITE

Three long bone fragments from cultural layer III(3), found in square G5 at a depth of 2.05 metres, in the area of the dwelling floor mentioned above, were collected in 1993 and submitted to the Oxford Radiocarbon Accelerator Unit in 1994. The results obtained were as follows:

Skalistiy rockshelter clearly has a key significance in an inter-regional context, and the importance of the site can only be enhanced by further work.

REFERENCES

- COHEN V.YU., 1993,
The genesis of the late palaeolithic cultures : Crimean peninsula. *Archeologické Rozhledy* , 45: 3-9.

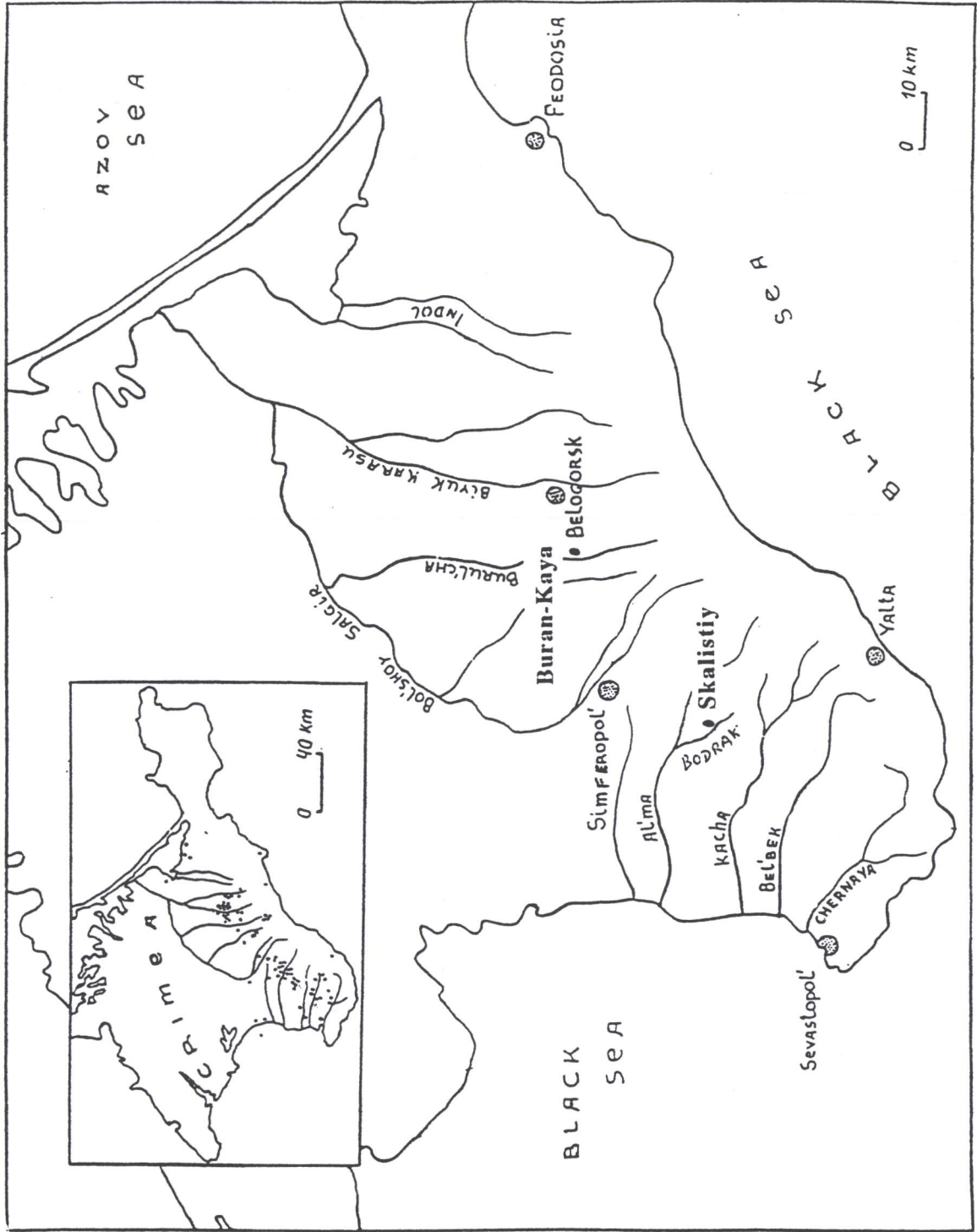
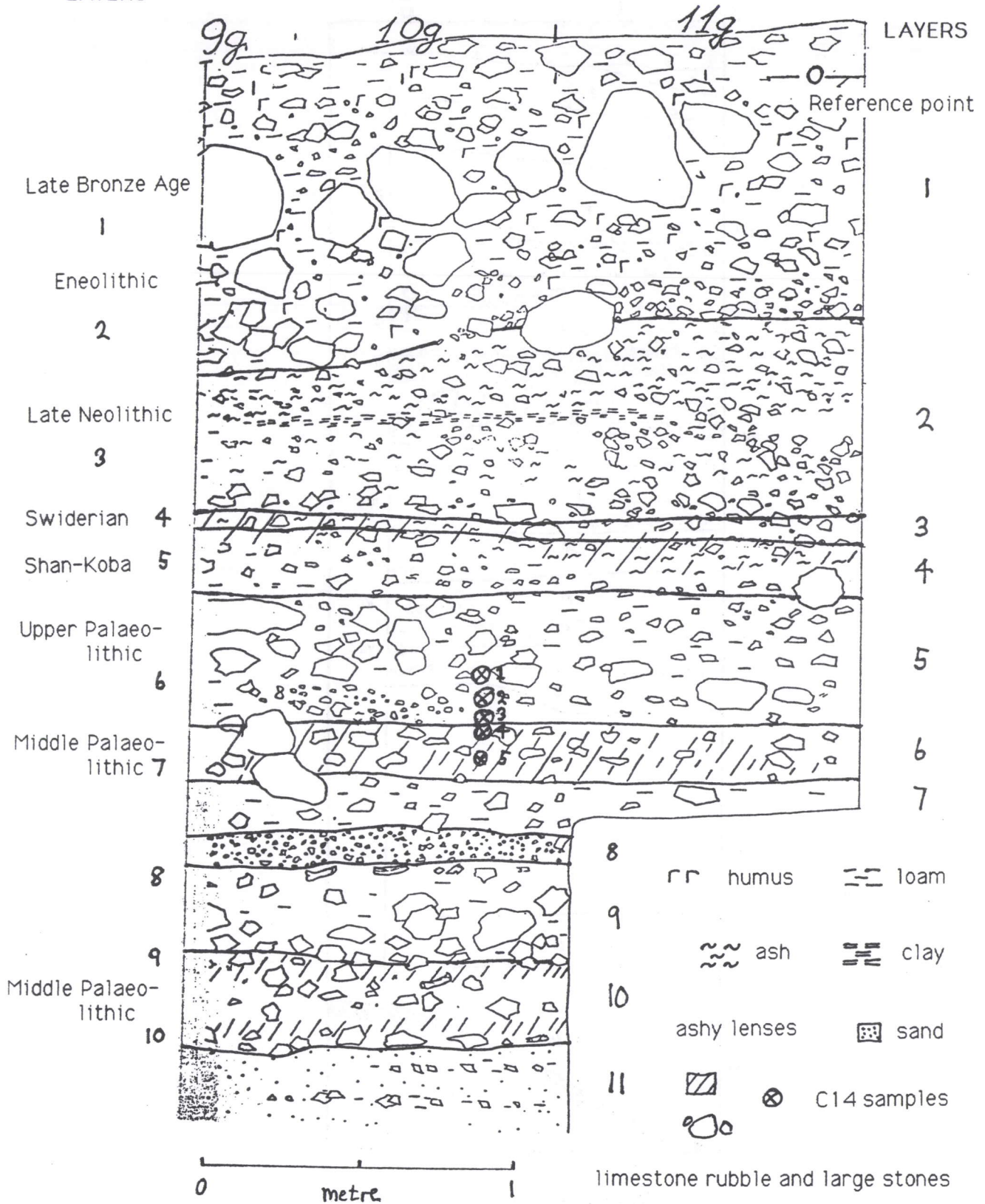


Figure 1 The Crimea: Buran-Kaya III and Skalistiy Rockshelter

CULTURAL
LAYERS

Fig. 2 Buran-Kaya III, test trench I, north wall stratigraphy

STRATI-
GRAPHIC
LAYERS



SKALISTIY ROCKSHELTER
1992 Section

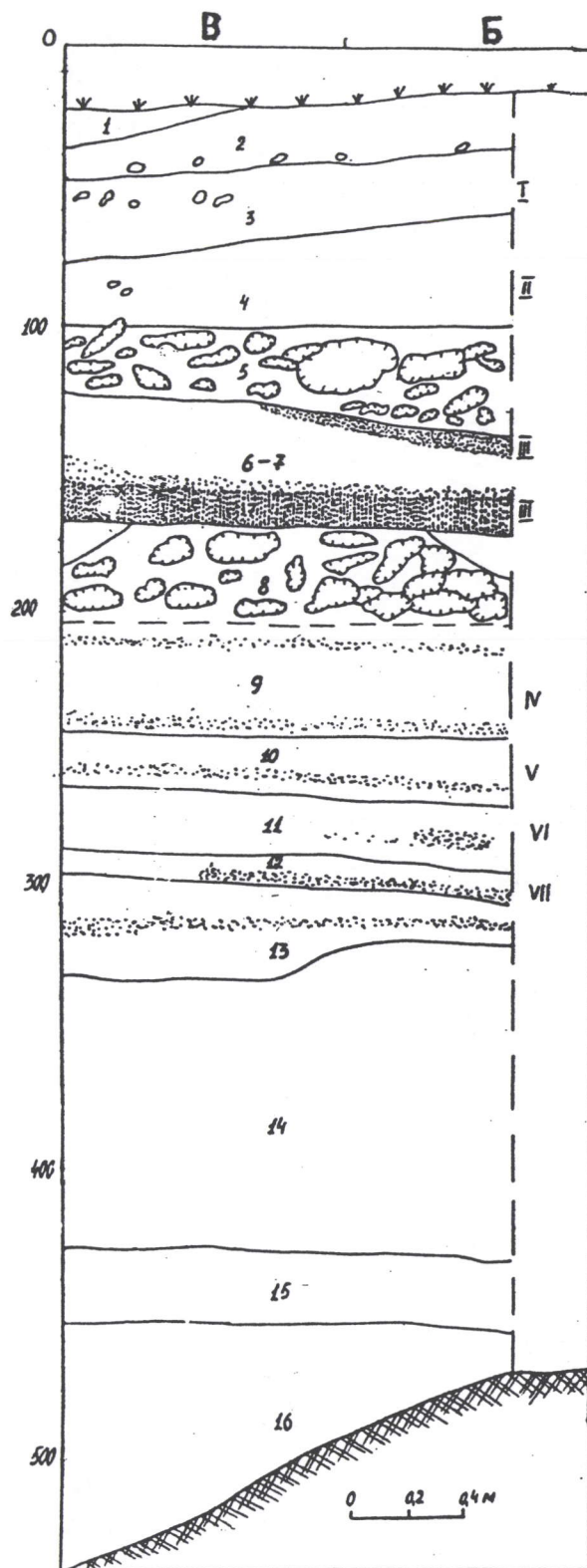


Figure 3 Roman numerals: cultural layers
Arabic numerals: stratigraphic layers