Anatolica 33, 185-234. doi: 10.2143/ANA.32.0.2012551

ANATOLICA XXXIII, 2007

PRELIMINARY REPORT ON THE SALVAGE ARCHAEOLOGICAL EXCAVATIONS AT THE EARLY NEOLITHIC SITE YABALKOVO IN THE MARITSA VALLEY, 2000-2005 field seasons[1]

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I. General introduction. Stratigraphy and Topography of the site

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Yabalkovo-Karabyulyuk site[2] is situated in the central part of Upper Thrace, in the valley of the Maritsa River (Fig. 1). The salvage excavations began here in 2000 as a part of the general project for studies along the Maritsa motorway (Leshtakov, K. 1997:11-12), when about an acre was excavated through trenches and the general contours of the Early Neolithic settlement[3] were outlined. In 2002-05 the excavations in the same sector continued and were extended to other areas, as the northern part of the settlement was also crossed by a railway line and a parallel road. This report presents the main results from the 2000-05 excavations, which are essentially preliminary as construction works are still in progress. The prehistoric settlement is known in the literature since the second half of the 19th century in the time of the construction of Plovdiv-Edirne railway. The finds reported at that time (Skorpil H. and K., 1898:88, 98) are kept in the Archaeological Museum in Sofia.

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Studied Early Neolithic settlements in Upper Thrace are not numerous, while unearthed open-air sites are few (Fig 1.). Therefore, the excavations of every new site contribute important new information, ever more valuable in the concrete case. Beyond any doubt, the new topical results correlate the data coming from tells in Upper Thrace localized mainly in the foothills of the Sredna Gora Mountain. The situation of

[1] This paper is prepared due to the financial support of the National Science Fund of the Bulgarian Ministry of Education and Science (Contract No. OHN-1405/2004), in the frames of the international interdisciplinary project 'Neolithization of the river valley of Maritsa and the Balkan Peninsula'.

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[2] Further in the text and elsewhere, the Early Neolithic settlement is designated as Yabalkovo, after the name of the modern village.

[3] The term "Early Neolithic period" is according to the Balkan terminology and corresponds to the Karanovo sequence.

Yabalkovo in the Maritsa valley provides a good opportunity for comparison with the excavated sites in Eastern Thrace and Northwest Anatolia (Roodenberg, J., L. Thissen and H. Buitenhuis 1990:61, 76-77, 99-102; Roodenberg, J. 1999; Özdoğan, M., N. Başgelen 1999) and for the establishment of a link between Anatolia and Thrace in the Early Neolithic period.

Localization and topography of the site

The Karabyulyuk locality falls in the vicinity of Yabalkovo village close to the Maritsa river and covers an area over 50 acres (Fig. 3). The terrain, which is part of the second terrace of the Maritsa valley, is slightly sloping to the west-northwest towards the river bed[4]. The landscape to the south is dominated by hilltops of volcanic origin being the northernmost parts of the Rhodope Mountains. A large spring issues immediately to the east forming small marshes at the present. In antiquity there should have been spacious marshlands formed by the periodical flooding of the Maritsa River. In the southwest direction there are other large springs, flowing into a small stream, which probably limited the built up area. The surrounding hills have served as a quarry since Antiquity and throughout the Middle Ages. The soil covering the slopes of the river valley is pellusdert (or *pellic vertisol* after FAO terminology) more than 1 m thick – difficult for cultivation without agricultural land machines. The uppermost layer is a comparatively late formation, accumulated probably after the mid 5th millennium BC. The virgin soil below is carbonate deposit coloured from beige-ochre to reddish, with Pliocene origin. It is mixed with limestone inclusions different in size and concentration. The soil in the Holocene Maritsa valley close to the river-bed is ustifluvint (or *fluvisol* after FAO) – light and easily worked arable land (Koynov, V., I. Kabakchiev, K. Boneva 1998:159-160, 185-187*)*.

Field surveys in 1991 and 1993 revealed scattered pottery sherds, flint nuclei and artefacts, stone implements and pieces of burnt wall plaster spread over a considerable area – more than 25 acres. The plotting of the artefacts demonstrated the existence of several sites from the Neolithic period, Late Iron Age and Mediaeval times.

Before moving to the results of the excavations themselves, we should map other archaeological sites in the region in passim (Fig. 2). As everywhere else in Upper Thrace life here was dynamic and continued with short breaks from the Neolithic to the Middle Ages. The most significant site, also inhabited from the Early Neolithic onwards is the Cernokonevo tell on the opposite bank of the Maritsa river, ca. 3 km from the excavations. Large open-air settlements existed from the Middle Neolithic onwards to the south of Yabalkovo in the Armutluka and Sav Kolyov Blok localities, occupying low-lying hilly terrains within an area of over 10 acres. According to the published

[4] Today the river Maritsa runs about 1 km north of the settlement, however, in antiquity its bed was probably closer. This presumption is drawn only from the specific topographical features of the region fixed on maps 1:5000 and is not based on geomorphologic surveys.

information, there should also be a mound nearby (Mikov, V. 1933:85; Aladjov, D., 1997:305) but neither could we localize it, nor do the locals know anything about it, hence, it is obviously confused with the Karabyulyuk-site itself. In the mid-distance, near the village of Zlatna livada, is the only large tell in the region. A quarry is localized in the vicinity, which is source of flints, similar to those of Zlatna livada village and the town of Merichleri, exploited as early as the Early Neolithic (cf. infra). It is not possible to present a review of all later archaeological sites in the vicinity of Yabalkovo here. The available information outlines two concentrations of archaeological monuments – around the Hissarya fortress and the supposed Roman *villa rustica* southeast of the village[5].

Methods and strategies of exploration

Because of the huge area with Early Neolithic material, we started digging 5x1 m trenches, with the aim to come upon positive structures, and afterwards to move to full exploration there. Unfortunately, the area had been occupied by oak forests, which were cut down in the late 1950s and the land was ploughed down to 0.70 m, which caused irreparable damage to the archaeological remains. Only the massive accumulations of large stones had preserved the Neolithic debris. No positive results were obtained from the first trenches, north and south of the railway. To the south we covered an area of 12 acres, where gathered a considerable amount of sherds and artefacts, however no structures were preserved in depth. However, in the middle of this zone we came across concentrations of burnt wall plaster, large stones etc., pointing to the presence of better preserved building remains. It was here, over an area of an acre and a quarter that we laid our grid out, excavating 1300 sq. m in 2000. In 2002 this area was expanded and in addition the site was divided into two main sectors – Southwest and Northeast[6]. Afterwards, in 2004-5 we started excavations in Sector North, on the other side of the rail-way. The three sectors have separate topographic schemes and squire-grids, which are easily comparable (Figs. 3-4). Due to specifics of the salvage excavations we failed to link the sectors Northeast and Southwest through trenches: thus the supposition that we are really dealing with one settlement is based only on the comparison of the field scattered materials and not on the tracing of a cultural stratum over the entire area.

[5] A treasure of 40 tetradrachmas of Philip II is a stray find, which should clearly be placed within the context of the Late Iron Age occupation of the Karabyulyuk locality. A Roman sanctuary of Apollo was also located nearby. The traces of Roman buildings with plastic marble decoration (probably a *villa rustica*) could be seen in the Ninjova Chuka hill, about 2 km southeast of the village. A late Roman *reliquarium* has also been found around Hissarya hill. The old name of the village is Almalii ('apple') which is an argument for the identification of the Hissarya fortress as Mediaeval Mileona. A *suburbium* and a necropolis are situated to the north of the fortress (Aladjov, D. 1987: 305-306, with ref.). From a historical point of view, the Gemijata locality situated northeast of the village is of importance, as this was the site of rafts or large boats crossing the Maritsa to take and discharge cargoes. Traditional memories of "cobblestone roads" and 'Old bridges' were associated by natives with the 'Romans'.

[6] Funding was provided by the General Road Agency, Dimitrovgrad municipality and the Sofia University St. Kliment Ohridsky.

Stratigraphy of the Neolithic cultural layer[7]

The cultural strata in the **Southwest sector** have a max. thickness of about 1.50 m. Except for two bottoms of pits from the 4th and 3rd c. BC and some sherds of mediaeval pottery, all structures and materials belong to the Early Neolithic period. On the base of the positions of burnt wall plaster pieces and the finds we were able to divide three successive building levels. The floors of the dwellings have not been preserved in the real sense of the word, due to the soil erosion caused by the sloppy terrain and the seasonal waters. Both pottery and burnt plaster pieces have a washed-out surface and are markedly rounded, even extracted from 1 m depth and found *in situ*. The sterile base is compact clay with limestone admixtures.

In the **Northeast sector** the Neolithic layer was covered only by the arable land in those parts of the site, which have not been affected by mediaeval and Late Iron Age interventions. Two Early Neolithic levels were documented through dwelling floors, furnaces and other utilities, which are well preserved. Observations point to the presence of at least one more level. The cultural layer here reaches 1.50 m depth below the surface. Some structures were dug into the virgin soil as it would be seen in the text below. The sterile base at this part of the site consists of clay, pebble, gravel and sand, which shaped a low hill that extends to the Sector North. Yet, we cannot say any concrete word on its genesis – whether the hill and the natural strata are consequence of the flooding from the Maritsa River, or have a proluvial origin.

The stratigraphy of the cultural layer in **Sector North** is very similar to that of the Northeast sector. Up to three building levels from the Early Neolithic period were established here, covered and largely damaged in most places by mediaeval and LIA features. However, the natural base here is different – the movements of subterranean waters and the stages of swamping of the Maritsa valley are clearly detectable in the sections. Only the hill in the centre of the excavated area was protected from flooding. We suppose that the border of the settlement here lies at its north foot, marked by a line of stone wall ruined in several heaps and a long shallow ditch. From chronological point of view, a novelty is the existence of semi-dug structures in the east part of the sector, dated to the very end of the Early Neolithic (Karanovo II period), thus presenting a continuation in the settlement life that is not recorded in other sectors.

Later materials and structures in the site

Besides the Early Neolithic remains, scarce pottery sherds and small finds from the Chalcolithic and the EBA were recorded, however, out of reliable context. In the same

[7] As in other open-air sites, and mainly due to the poor state of preservation, caused by later disturbance, the stratigraphy of the Neolithic layer could not be presented in a single vertical section but was clarified in separate sections by the juxtaposition of better preserved features, e.g. house floors, hearth and oven basements, etc., and a depth correlation, when appropriate.

time, the excavations, especially in the last two sectors, revealed plenty of features and materials belonging to the historical periods. They are remains of a LIA pit field (6-1 c. B.C.) and a Mediaeval (11-12 c. A.D.) settlement and necropolis.

II. EARLY NEOLITHIC STRUCTURES

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Stone structures in the Southwest sector

Several stone structures, badly damaged by soil cultivation and erosion were excavated in the western part of the sector (Figs. 4, 2; 5, 3). We considered them as wall debris covering an area of more than 500 sq. m immediately below the arable land. According to the masonry and the material two types could be discerned. The first consists of crushed stones of medium and small size, with additions of pebbles and large fragments of burnt plaster. It is difficult to judge whether the last represent the upper part of the ruined walls or had been used as building material in the form of *spoliae*. In some places the walls were better preserved; however they rarely reached more than three stone rows. Small platforms made of pebbles, gravel and sand should be seen in functional connection with them. With some reservation they could be interpreted as bases of destroyed fire-places, the plaster of which was erased by seasonal rains and chilly weather. The materials found around and beneath this type of structure positively date them in the Early Neolithic period (Fig. 6, 1-12). In general, the stone walls of the first type encircle an area facing west but we cannot say that they had fenced up any structures, as beyond them at the same level we came across a dwelling from the Early Neolithic period (Fig. 4, 2). Accordingly, at present we could interpret them with caution as the foundations of buildings with special layouts within the inhabited zone. The second type of structures consists of much larger stones with primary stratigraphic position compared to these of the first type. Only one strip of these stone blocks was better preserved and no wall-face could be seen, contrary to the stone foundations of the first kind. The question about the juxtaposition of the two types of stone structures seems to be clear. The large stone blocks are at a greater depth than the others and should be definitely earlier. What supports the thesis that they are not synchronous are their layouts, which form structures with a different orientation. We did not find foundation trenches in the sections, so the deliberate deeper placing should be ignored.

Dwellings in the Southwest sector

Dwellings of the first building level in the Southwest sector, sq. O_{16-17}.

House debris corresponded in depth with the stone structures described above; however, they were badly damaged by the deep ploughing of the terrain. The dwelling is rectangular in plan, oriented northeast-southwest. The exposed area is approximately 80 sq. m (Figs. 4, 2; 5, 1). The walls were made of beaten clay; the north-eastern wall had a

stone base. The floor level was marked by a baking pot *in situ,* mortars and some concentrations of pottery sherds (Fig. 6, 15-20). The exact outlines of the dwelling could not be determined. Material here, together with the house-debris is washed-out. The complex includes also two (?) stone platforms; perhaps the bases of fire-places. The trial trenches below the floor revealed at least two successive clay-beaten structures (dwelling's debris?) situated respectively at a depth ca. 0.80 m and 1.10 m, which prove the stratigraphy of the site.

Southwest of the dwelling there were other compact concentrations of burnt wall pieces, which covered an area ca. 75 sq. m. Some of them had the imprints of rectangular beams. However, we cannot say whether they indicate separate premises or are part of the same dwelling.

Dwelling in the Southwest Sector, first building level, sq. U_{12-13}.

The western part of the dwelling remains beyond the limits of the area under salvage excavations, while the eastern one falls in the west profile of the site. Stratigraphically the house belongs to the first building level and is comparatively better preserved. The debris area is approximately 60 sq. m. Lengthwise it is orientated northeast-southwest and the structure was probably also rectangular (Figs. 4, 2; 5, 2). The floor was not established by certainty, only marked by the position of a large mortar, some pottery concentrations and several small finds *in situ* (Figs. 5, 2; 6, 13-14).

Data on second and third building levels of the Southwest sector

The information originates only from trenches, i.e. whole structures have not been fully investigated. Besides the two levels beneath the dwelling in squares O_{16-17}, at several other places of the site we came across well preserved pottery sherds, immediately above the sterile layer. Several dug-in features were documented in sq. S_{22}-T_{22} and R_{21-22} at a depth of ca. 0.75 m. Obviously, these shallow irregular pits were formed in the process of digging activities; the terminus of their usage is given by Early Neolithic pottery sherds that have been found inside. Considering the general correlation of the depths of the structures we assigned them to the 2nd building level. Pottery sherds with red slip and some finds were also registered in sq. Z_{26} and sq. BB_{25} at a depth of 1.00-1.20 m from the present surface, i.e. at the level of the 3rd building level, bearing in mind the same general stratigraphical sequence. In both instances white-on-red painted pottery was missing, probably due to the small number of fragments collected.

Early Neolithic Structures in the Northeast sector, first building level

The uppermost layer in this sector was badly damaged by the mediaeval structures and the Late Iron Age pits. That is why we do not have entire plans of dwellings, but only parts, united according to their stratigraphic position and typological similarity of the material. In addition, we documented several hearth-bases, a complex of three grain storages (*pithoi*) and many chaotic heaps of burnt plaster. The last obviously had been

scattered during the digging activities in later times. The pottery of these structures dated from the Early Neolithic period. The pithoi in sq. K_{36} were surrounded by a considerable number of pottery sherds and under them there were numerous finds including several ceramic discs with unknown purpose (Fig. 8).

Dwelling in Northeast Sector, first building level, F_{17-18}-G_{17-18}

The destroyed dwelling area was immediately beneath the surface, and the debris layer is up to 0.70 m thick. The north wall was disturbed by later pits (Fig. 9, 1). The walls were made of beaten clay; the floor was plastered with fine whitish lime substance, entirely covered by charred organic matter (a mat or a carpet). A clay beaten structure, probably composite grain storage (?), was partially uncovered in the central part of the excavated area. Westward there was an accumulation of burnt clay pieces, patterned with relief and painted decoration (over 10 pieces 20 by 40 cm) of meanders and zigzag motifs (Fig. 9, 2). The positive parts of the ornaments are red and black, the negative ones – creamy-white. The reconstruction of the composition (Fig. 9, 3) proposes an organization in vertical panels, whose dimensions are not clear. The pottery in the dwelling is Early Neolithic, including white-on-red painted vessels (Fig. 10).

Structures from the second building level, Northeast Sector

The structures of the second building level are comparatively better preserved, although not all over the place. Several dwellings were almost completely excavated, repeating the main features of the first building level described above.

Dwelling in squares H_{17-18}

Only the north part of the dwelling was partially exposed, the rest remains outside the area excavated. The layout of the dwelling is not clear, however; the excavated part revealed well preserved remains of the north wall (up to 0.60 m height and ca. 3 m long) and a complex of granaries and smaller storage vessels immediately to the south of it. The floor was made of rammed beige-brownish clay. Around the storage complex, a number of house facilities, ceramic vessels and small finds were found including a pair of grinding stones and a collective find of bone tools made of animal ribs. Noteworthy also is the discovery of a large zoomorphic vessel lying on a platform close to the wall (Fig. 11).

Dwelling in the Northeast sector, second building level, square K_{38}

Only the southwest and northeast walls were better preserved (Fig. 12). They were made of beaten clay, supported by timber beams, but mixed techniques could have been used. The floor was trampled and subsequently plastered over with a white limestone substance. An oven was built up in the central area of the northern part; a *pithos* and a second removable storage vessel were put near it. Next to the oven a tripod with broken leg was found *in situ.*

Dwelling in the Northeast Sector, second building level, J_{38-39}-K_{38-39}

The dwelling was partially preserved due to later intervention, only the southern and eastern walls have been documented (Fig. 13). The walls were also made of beaten clay, and the floor was rammed, plastered over with a white lime substance and partly polished. This dwelling is remarkable for the collective find of two clay horned pieces and a ceramic anthropomorphic figurine (Fig. 13, 1-3). Several vessels were found *in situ* in the dwelling, as well as other small finds (Fig. 13, 4-6).

Dwellings in the Northeast Sector, third building level

Dwelling in squares G_{27-29}, H_{27-29} and I_{27-29}

The dwelling is located in the central part of the sector. It is rectangular double-room ground building with an area of ca. 90 sq. m (Fig. 15). Walls were built in *pise* technique and repeatedly plastered with clay. Among the burnt debris massive two-faced wall fragments were unearthed, some bearing clear imprints of timber planks. The house floor was of rammed clay, covered almost everywhere by a thin layer of charred organic matter (mats?). Two hearths have been documented in the southern room. One had a pentagonal shape and carefully smoothed and burnished clay floor. The other one actually comprised of two only partially overlapping hearth basements, the lower one corresponding well to the house floor level and the upper one probably to the succeeding building level. The dwelling facilities also include a round-shaped pithos found in the southern room and a rectangular tripartite clay-beaten feature in the northern room, most probably grain storage container; similar but less preserved features are recorded in both rooms. The inventory consists of two stone mortars built in the floor, some grinding stones and many stone and flint tools, of which noteworthy is a stone pestle covered by red ochre (Fig. 15, 1). Most of the ceramic vessels were found along the west and the south walls of the dwelling, obviously originally standing on wooden shelves. Coarse 'kitchen' ware clearly predominates in the pottery assemblage.

Dug-in structure in sq. K_{40}-K_{41}

A half of dug-in structure was revealed in the easternmost part of the sector. It is rectangular in shape and goes down ca. 0.60 m into the virgin soil (Fig. 16). The excavated area is ca. 12 sq. m. It was with grey-blackish filling, rich in charred organic matter. The floor was rammed yellowish clay. Walls were originally plastered by clay, as normal dwelling walls. A complex of two *pithoi* and a stone mortar was situated in the east part of the structure. The inventory includes fragmented ceramic vessels, a small white-on-red painted 'tulip-shaped' cup, an intact bone 'spoon', two stone pestles (Fig. 16, 1-4) and a number of fragmented bone implements. For the time being, we suppose that the structure was a subterranean part (with storage and food preparation functions) of a ground building, as suggested by the poorly preserved superstructure wall connected with a deep pillar-pit in the north-west corner.

Structures in sector North

Dwelling in squares I_{35-36}/ J_{35-36}, second building level.

Comparatively well preserved part of a dwelling was excavated in the central part of the area, at a depth 0.55 m below the present-day surface. The layout is rectangular, orientated northeast-southwest, and dimensions are 7 to 5 m at least. The walls were made in clay-bitten technique. The floor was of rammed and slightly burnt grey-brownish clay covered by 0.05 m thick layer of carbonized organic matter. Among the interior features, best conserved was a square hearth fenced with clay-beaten border and two periods of functioning. Originally, the hearth was built on a basement of middle-size crushed stones and a 0.10 m thick layer of clay. Over the first plaster, a 0.15 m thick layer of pebbles and clay was put and the top surface plastered carefully with light brownish clay (Fig. 19). A complex of granaries and other storage utilities was uncovered south of the hearth, and a stone mortar lies nearby, built in the floor. Some sherd-concentrations were revealed on the floor, including several vessels of coarse kitchenware.

Freestanding facilities

Several hearth basements and isolated floor-spots were plotted at different places. They could not be associated with certain dwellings. These outdoor features may be interpreted as seasonal places for food preparation, 'cookhouses' functionally related to the nearest dwelling (Fig. 17).

Semi-dug structure in sq. I_{46-47}/J_{46-47}

The structure was recorded at a depth of 0.5-0.70 m beneath the surface as an irregular formation of darker brown soil with higher concentration of tiny clay plaster particles and ceramic sherds. After cleaning, we established that the shape is irregular ellipsoid and dug down the virgin soil to 0.40/0.45 m. The floor was uneven with slanting walls. Within the structure and along its periphery smaller pits were clearly detectable and some of them are obviously bases for wooden pillars (Fig. 20). Stone mortar and some other big stones supported one of them. Traces of poorly preserved hearth-place with stone basement were also recorded. The character of the structure and the quantity of the wall debris suggests a lighter construction. The suggestion, that these ruins are left by collapsed storage or subsidiary hut should not be neglected. Washed-out fragments of shallow bowls, deep bowls and cups with vertical handle ending with plastic projection all point to a date after the period of Karanovo I.

Surrounding ditch and wall

Concentrations of middle-size and small crushed stones were unearthed in sq. H_{46-47} at a depth of 0.5 to 0.7 m below the modern surface. They formed a strip 1.0 to 1.5 m wide and 8.5/9 m long (Fig. 21). Within it, there were heaps of tightly packed stones and pebbles as well as burnt wall debris and pottery sherds. After cutting the west section of

sq. H_{46}, a ditch was observed north of the stone unit. It is deep ca. 0.80 and not less than 1.50 m wide at the top, U-shaped in section, according to the available information. It is too early for any positive conclusions as the complete investigation of both structures is forthcoming, although it might be suggested that the stone features and the ditch mark the north border of the settlement.

Material and techniques of construction

Several types of building material were used in the construction of dwellings of the Early Neolithic – stones, clay with admixtures, sand and wood. The use of stones was already described and it should be only pointed out that this is the first case-study in the Upper Thracian Early Neolithic. We have to outline that the Neolithic inhabitants have used this material in two different techniques only for the lower part of the walls. Probably the walls were raised in height with a wooden structure of beams and clay, pressed in planks. This technique similar to that known as *pisé* occurs rarely in the East Balkan Neolithic. There are several observations that allow us to claim the mass-usage of this technique in Yabalkovo. The wooden construction in this case consists of vertical beams fixed into the ground at a great distance – up to 1 m, contrary to the posts of wattle-and-daub constructions, which have smaller diameters and are more densely fixed. Wattle-and-daub constructions are plastered on both sides with clay coat up to 0.15 m thick and when such a dwelling is fired and ruined the walls fall down in pieces with two faces, separated by the wattle, in which sticks had left clear negatives. The plaster itself is light; whatever is added is chiefly organic matter. Only grain stores and some other house facilities in Yabalkovo were built in this manner. *Vice versa*, the house walls in Yabalkovo were built of heavy clay with only inorganic admixtures – quartz sand and gravel in different concentrations. The wall-pieces are heavy, compact, and without any trace of wattle in the middle[8]. There are also some examples of wall fragments, where the imprints of broad planks on both faces are preserved. As for the timber use in construction work, here we find an advanced technology in carpentry. Besides round posts with various diameters, which are typical for prehistoric Upper Thrace, the Early Neolithic inhabitants of Yabalkovo were able to prepare well elaborated square and rectangular beams as well as boards of various thicknesses. Clearly, they were split, however, the imprints show evenly smoothed surface and well shaped right angles.

The narrow passages between houses were covered with gravel and sand. What is unusual here is the colouring with red ochre in large scale, recorded both in Sectors North and Northeast. In some places several successive levels of ochre were observed, which testify for a long and well established tradition.

[8] When we removed the wall-foundations of the house in sq. J_{38-39}/K_{38-39}, we found out that the bases of the beams had been stabilized by diagonal rods with diameter ca. 2-3 cm. In the higher part of the wall such imprints were absent.

The floor of the dwelling in squares J_{38-39}-K_{38-39} deserves special attention. It was made of trampled hygroscopic clay, and afterwards plastered over by a thin layer of white lime substance with small limestone and quartz intrusions. Due to burnishing to a shiny surface the floor has reached the hardness of a hearth-base. This technique is a novelty for Upper Thrace; clearly, it was not a common practice, as elsewhere the white matter was only rammed and levelled.

III. POTTERY

K. Leshtakov

A brief description of the ware is already given in the literature (Leshtakov, K 2004). Here we should point out only its main specifics.

Not a single white-on-red painted sherd was found in the Southwest sector. However, the surface of most of the sherds is badly damaged and those with preserved slip are few. For that reason, the absence of painted ceramics could not be used as a decisive argument in chronological sense. On the other hand, the wares in better condition had passed through secondary burning, thus the original colours had been lost. In general, the structure of the clay-paste is customary for Upper Thrace; the three main technological groups are recognized, namely fine, semi-fine, and coarse ware. From a functional point of view we could apply the tested classification of vessels for serving and drinking, for food preparation, for storage of food and liquids or *tara*. Traditionally, the tripods are listed in the group of the small terracotta finds, as well as the terio- and anthropomorphic containers, which form a separate group of ritual vessels. Another group comprises of the stationary granaries (*pithoi*), which are an inevitable part of every Neolithic dwelling together with the flat baking vessels or braziers (Fig. 6, 20). They are included in the group of house-facilities.

The pottery repertoire is simple in structure and from a formal point of view consists of bowls, pots, cups and tulip-shaped vessels and containers (Fig. 22). Bowls are quite uniform in shape (Fig. 22, 1-11). Elongated S-shaped profiles of deep bowls were not documented, neither are bi-conical shapes known so far. The rim is rounded, slightly turned outward or softly profiled. Decoration includes plastic bands with fingerprints, fluting, fine dots and white-on-red or white-on-bordeaux/brown painting in isolated cases (Figs. 14, 1; 22, 7-8).

Pots have short cylindrical necks, well shaped straight or oblique shoulders, large bodies, and solid and heavy bases (Fig. 22, 14-16). Small ‘knob-handles’ are placed on the pot-bodies and there is fluting or dotted decoration around them (Fig. 23, 11). Pots vary in size – from the *pithos*-size (Fig. 12, 3) to small containers of fine fabric (Fig. 10, 9). The common decoration is plastic (Figs. 10, 11; 11, 2; 13, 6; 22, 16), however, there are cases of incised patterns, fluting and very rarely – ‘impresso’ (Fig. 6, 9) and white-on-red painting.

The so-called tulip-shaped vessels prevail in the group of fine ware (Figs. 6, 13-14, 17-18; 10, 6-8; 14, 2-11; 22, 12; 23, 8, 14-16). Their walls are several millimetres thick and are coated by a dense red or red-brown slip usually in combination with white painting (Figs. 10, 6-8; 14, 2-11). Some vessels are representatives of the dark fine ware and are decorated with plastic knobs and fine fluting, and we have no reasons to claim a later date for the last (Fig. 22, 12).

Another group of rare vessels that deserves special attention consists of rectangular containers of different form (Fig. 23). One almost complete example represents a footed box-like container or 'pyxis' with multiple decorative patterns and four vertical holes for suspension (Fig. 23, 2). The closest parallels, although not exact, may be found in the so-called 'Fikirtepe' box-like vessels regionally focused on the eastern coast of the Sea of Marmara (Schwarzberger, H. 2005:255 ff., Fig. 2-3, with ref.). The second example is larger, red coated and decorated with incised angular pattern (Fig. 23, 4). Although sharing a general resemblance with the 'Fikirtepe' vessels, unlike them it is footless.

The next techniques of decoration can be listed here: plastic bands with fingerprints, knobs, incised lines, fluting (two types – fine and broader channels), *pointileé*, *kerbschnitt*, '*impresso*', and white painting. There are also several stray sherds with dark-on-red patterns, which may be regarded as an exception confirming the canon. The motifs, in as much they are seen on whole vessels and larger fragments are spiral lines, meander, chess-board ornament, and their combinations (Fig. 10, 6-8; Fig. 14). Little can be said about the entire ornamental compositions. Only on some vessels do we find a fully preserved or restored composition: connected spirals in fluting technique on the lower part of the body of a bowl (Fig. 22, 7); pointed dots in zigzag lines also in the lower part of another bowl (Fig. 22, 8), a system of slanting plastic bands on bowls and pots (Fig. 13, 5-6) or crossing plastic bands (Fig. 7, 15).

IV. SMALL FINDS

K. Leshtakov, V. Petrova

Small finds of stone

The stone inventory from Yabalkovo consists of ground and polished stone tools (Figs. 7, 16-23; 25), grinding stones and mortars, and a small group of adornments. There is a detailed description only on the polished tools here[9], while the other implements should be marked in passim. Grinding stones were found in many contexts, usually near hearths or *pithoi*. Stone mortars, often built in the house floors, have served for crushing

[9] Cf. the part written by O. Özbek in the report.

of foodstuff or powdering minerals (for example red ochre and malachite[10]) with the help of conical stone pestles (Figs. 7, 19-23; 15, 1; 25, 15-18). Oval or circular pestles (Fig. 11, 3) were used in stone and flint processing, while stone polishers made of river pebbles were used in pottery production.

A unique find presents a stone pendant, discovered on the floor of a dwelling in sq. K_{36}, second building level. It is made of light grey-greenish stone[11]; the shape is flat in section with four wing-like projections and a hole in the middle, well smoothed and highly polished surface (Fig. 27, 10). The item is broken and evidently wears very long time on clots. Similar items made of precious or semi-precious stones are known from other Early Neolithic sites in Bulgaria and elsewhere (cf. Hansen, S. 2003 for recent systematization), but the closest parallels are maybe these from Kărdzhali (Pejkov A. 1986:208ff, Fig. 2-3) Kovachevo (Perničeva L. 1990:167, Fig. 14.3), and Azmashka mogila (Höckmann O. 1968:100, Taf. 19, 1088), all in South Bulgaria.

Small finds of bone and horn

Among the bone tools most numerous are awls and needles, different in form and size, with or without pierced end (Fig. 26, 1-7). Chisels made of hollow bones with remarkable standardization in form and dimensions are well presented (Fig. 26, 22-28). Bone artefacts, made of animal ribs and usually designated as smoothing tools or spatulas, show considerable variety in form and probably in function (Figs. 11, 5-6; 26, 12-14). Noteworthy are the intact and fragmented bone 'spoons' (Figs. 16, 1; 26, 18-21) typical for the repertoire of the Balkan Early Neolithic (Georgiev, G. Il. 1958:373-6, Abb. 4-7), and assigned by some authors to a 'well-defined Anatolian set' in the process of neolithization (Perlès, C. 2005:278ff). The best preserved example comes from a primary context – it was found together with a small pot and a fragmented bowl at the bottom of a subterranean structure in sq. K_{40}-K_{41}, nearby two *pithoi* and a stone mortar (Fig. 16, 1). In this case we tend to connect the bone find with the pot, perhaps used as a container for special spices, and not with the mortar. Bone was used also for preparation of other items, presented by single examples at the site, such as hooks, borers and tools of unknown use, which demonstrate high level of elaboration (Fig. 26, 8-11, 15-17). An interesting peculiarity of bone assemblage from Yabalkovo is the almost complete absence of horn and antler artefacts, which highly confirms the bone analysis reported below. The only exception is a horn tool with blunt point, used probably as a flint *retoucher* (Fig. 10, 3).

[10] During the excavations we came repeatedly upon small pieces or crushed substance of copper ore (malachite), in some cases with visible traces of thermal processing.

[11] According to the geologists' expertise the raw material is identical with that of the Kardzhali pendant but before a tin-section and microscope analysis is made, the sort could not be determined positively.

Terracotta small finds

Tripodes and figurines

Numerous complete and fragmented tripods were found in the course of excavations. The context of only two is clear – they are from dwellings of first and second building levels in sector Northeast. The later one (Fig. 18) was built beneath a stone platform in a small shallow pit, in the immediate proximity of a hearth from the dwelling in sq. K_{39}. The position of the find gives us reason to consider that its placing had been deliberate; prior to this the tripod had been broken[12]. The tripod from the second building level (dwelling in sq. K_{38}) was found almost intact, only with a leg broken off (Fig. 12), in the context of a grain store and an oven, on a platform of organic material. A small white stone polisher was used in place of the missing leg, a curious detail which fixed the primary position of the find.

The only intact mini-tripod comes from a dwelling context but because of the poor state of preservation of the structures there nothing more could be said about the association of the find (Fig. 10, 2). Considering the numerous legs and broken pieces of tripods, we could point out the uniformity of the decoration – almost all of them have chess-board ornaments with a few exceptions (Fig. 27, 11-17).

A number of small zoomorphic figurines were found including two almost complete pieces, clearly representing a bull, while it is difficult to define the rest due to their state of fragmentation. In spite of the miniature dimensions they are examples of exceptionally careful modelling (Fig. 27, 5-8). Noteworthy are also two zoomorphic vessels – containers. The large one, modelled in the form of a bull, was found ritually 'killed' among the debris of a dwelling in sq. H_{17} (Fig. 11, 1). The second is a mini-container (Fig. 27, 7). The closest parallel of the bull-shaped vessel is known from Rakitovo (Raduncheva, A. et al. 2002:140, Fig. 24), while the mini-container has analogues in Early Neolithic sites in West Bulgaria and the Central Balkans (Tschochadshiew, M. 1981:Kat.No.70); Karmanski, S. 2005:44, Pls. XL, XLI).

Among the ceramic plastic the greatest attention deserves one coming from a dwelling, sq. K_{39}, second building level (Fig. 13, 1). The steatopigic female figurine was found in the eastern part of the dwelling, placed or fallen on the polished '*terrazzo*' floor, together with two ceramic horned objects (Fig. 13, 2-3). The statuette is almost complete – only one hand is missing. It represents a seated female figure, with massive exaggerated buttocks, carefully shaped by two separate pieces (so-called bipartite kind). The head is modelled in details, yet the torso and the breasts were not given the same attention. Contrary to most of the known Early Neolithic examples, the head of this one has eyes,

[12] It is very curious to note that the missing leg was found in one mediaeval pit far away from the dwelling (ca. 15 m). It seems that after the breaking operation the leg remained in the settled territory of the site. Contrary to this situation we found a clay pintadera, usually interpreted as an item of 'high status', in the rubbish zone of the site, where all dishes out of use were discarded.

rendered by incised line, while the cheekbones are underscored in such a way, that the impression of tattoos is given. Hair falls freely in waves on the back, while the highest part of the head is held by something resembling a bun of coiled hair or a small cap, marked by incised lines and a row of small fine dots on its back. We should emphasize the similarity of the silhouette with Anatolian examples, recently summarized by M. Özdoğan (2001:317). The parallels are numerous but only as a general impression. The details – head, face and hair, have better parallels in the Central Balkan Early Neolithic, for instance in Kovachevo and elsewhere (Makkay, J. 1993:76-77, Fig. 1a-c, 77, Fig. 2c-d; Lichardus-Itten, M., J.-P. Demoule, L. Perničeva et al. 2002:125; Demoule. J.-P., M. Lichardus-Itten 1994:601, Fig. 15, 2). Nevertheless, the Anatolian connection might be supported by horned objects made both in clay and stone[13]. To this group of finds belong also plastic representations of human bodies or separate parts (face, arm) applied on the walls of ceramic vessels (Fig. 27, 1-4), as well as a fragmented clay object in the form of a shoe, probably part of a big hollow anthropomorphic vessel (Fig. 27, 5).

A single terracotta find discovered in a secondary context exemplifies the clay seals – so-called *pintaderas* – a typical item in the Balkan Neolithic repertoire. The find from Yabalkovo has a rectangular base with zigzag stamping motif (Fig. 27, 9) which is among the most popular ones used for stamping with many good parallels (Bačvarov, K. 1999:69, T. 4.7)

Loom weights

Clay loom weights are also present at the site. The collection includes a small number of intact and fragmented pieces of two main types – conical with round or oval base and flat ovoid, both pierced in the upper part of the body (Fig. 11, 4, 7; 15, 3; 26, 29-31). Both types have good parallels at other Early Neolithic sites in South Bulgaria, for instance Rakitovo (Raduncheva, A., et al. 2002:Abb. 31, Abb. 6). The absence of more than one weight *in situ*, as well as the diversity of forms and size of the finds gives grounds to the idea that weaving, altogether practiced at the site, was concentrated in isolated places probably beyond the excavated area.

V. THE FLINT ASSEMBLAGE FROM YABALKOVO

R. Zlateva-Uzunova

The flint collection from Yabalkovo contributes to our knowledge on the technology, typology and raw material basis of the Early Neolithic flint industry in Thrace. A total of 1199 artefacts are included in the present study (Table I). The **flakes** are the dominant type in the quantitative composition (45%), followed by **retouched**

[9]A horned object crudely shaped in stone was found below a fireplace from the first building level in the Sector Northeast, not illustrated here.

tools (18.2%), **blades**, **bladelets** and their fragments (16.2%). **Cores** are considerably less frequent (5.2%). The percentage of natural forms without traces of exploitation, the indeterminate fragments and the fragments of flint pestles is relatively high (15.4%). There are pieces in initial stages of processing (13.8%). Bilateral and less frequently one-sided crests are used as a main means of preparation. Single platform cores are prevalent (43.2%; Fig. 28, 1-2). Double platform cores (15.5%; Fig. 28, 3) and these with changed orientation (13.7%; Fig. 28, 4) are less numerous. There are also five indefinable core fragments (8.6%, Table II).

Blades are presented by 167 examples. The complete artefacts prevail; and 28 examples are intentionally fragmented. 30 items bear use-wear traces. Most numerous is the group of 30-40 mm in length, followed by the groups of 20-30 mm and 40-50 mm. Artefacts of more than 50 mm are rare. Dominant are blades obtained from single platform cores with convex or straight flaking platforms in advanced stage of exploitation. As a rule, they are detached with the help of an intermediary. Double platform core blades and blades from plunging are presented by single examples.

Bladeletes are presented by 10 artefacts; all obtained from single platform cores by pressure, no cortex preserved.

Flakes – a total of 411 pieces: 363 complete items and 9 intentionally fragmented. Dominant are flakes of irregular form, multifacet sections and strait profiles. Sections are mostly triangular, trapezoid and semi-ellipsoid are rare. Most of the flakes are obtained from single platform cores, less frequent are those from cores with changed orientation, while flakes from double platform cores are exceptions. Spatial analysis shows that a considerable part of the manufacture process took place out of the dwelling places.

Retouched tools (Table III): **End-scrapers** – a total of 20 (10%; Fig. 28, 5-7). Prevalent are examples on blades with vault front parts. Most items have semi-steep to steep/high bilateral retouch; blanks are oriented towards the dorsal surfaces. The group includes also four double-scrapers, two atypical, one fan-shaped. **Combined tools** – 8 items (4%; Fig. 28, 10). The group is presented by burins on retouched blades and backed blades, splintered pieces on fragments of retouched blades. **Perforators** – 13 items (6.3%; Fig. 28, 4). The group consists of ten typical, five atypical and one combined example. Points are well made by steep to semi-steep retouches. **Borers –** 4 items (2%; Fig. 28, 8-9). All are typical – on blades and flakes, bilateral steep/high retouch. **Backed tools** – 2 pieces (0.9%; Fig. 28, 15); on blade and bladelet, steep retouch. **Truncated tools** – a total of 18 tools (8.8%; Fig. 28, 11-13); they are mostly on blades and bladelets. **Retouched blades** – 80 pieces (39.2%; Fig. 28, 19, 20). Dominant are tools with bilateral steep/high retouch, followed by unilateral and alternated retouch. Semi-steep retouched tools are rare. **Notched tools** – 9 pieces (4.4%; Fig. 28, 16). Five on blades and four on flakes, semi-steep retouch. **Splintered pieces** – 3 examples (2%; Fig. 28, 7). Bipolar – two on flakes and one on a blade. **Retouched flakes –** 29 examples (14.3%; Fig. 28, 21-23). Dominant are flakes with semi-steep and alternated retouch. **Segments –** 1 example (0.4%; Fig. 28, 26); on a blade fragment, with unilateral semi-steep to steep retouch and a convex edge. **Trapezes** – 2 examples (0,9%; Fig. 28, 24-25); on a blade fragment and a

flake, with oblique truncations. **Side-scrapers** – 9 examples. (4,4%; Fig. 28, 18); on flakes – four transversal, four lateral and one of sub-type "déjetés". **Discs** – 3 examples (2%; Fig. 28, 27-28). They are with large semi-plane, semi-covering retouch in the central part and splintered retouch towards the edges.

The highest percentage is that of blade tools measuring 30-40 mm in length, 10-20 mm in width and 5-15 mm in thickness. Preferable for tool manufacture are semi-fabricates of larger width and thickness, which are poorly presented in the debitage, due to the extensive use of high/steep retouches.

The petrographic analysis of raw materials from Yabalkovo provides data for eleven varieties of flint, three of opal, opal-chalcedony and chalcedony, single types of jasper, zeolite and quartz. The predominant percentage of raw materials with identified origin comes from deposits within the Upper Thrace and Sredna Gora regions (59.4%), followed by the silicate deposits in north Bulgaria (14.0%) and the East Rhodope palaeogenic depression (13.3%). West Rhodope varieties are not numerous (8.3%).

The composition of artefacts is close to most of the Early Neolithic assemblages in the Upper Thrace. Peculiar for Yabalkovo collection is the domination of flakes, as well as the comparatively high percent of cores. Another specific is that a considerable part of the operational chain for flake production and manufacture of flake tools took place in the settlement. Blades and blade tools are made mainly of non-local raw materials, suggesting that they were imported as finished items or semi-fabricates. Dominant types of tools are retouched blades and flakes, as well as end-scrapers, followed by perforators, side-scrapers, truncated tools, borers and combined tools. Burins, backed tools, splintered pieces are rare. High/steep retouches prevail, and this tendency occurs also in other contemporary collections (Zlateva, R. 1995; Gatsov., I., V. Kurcatov. 1997; Gatsov, I., M. Gurova. 2001). Among the specifics of Yabalkovo material are artefacts on bladelets, pointed blades and treating of the ventral surfaces, geometric microliths. Contemporary parallels of the last items are found in the East Rhodope Mountains (Zlateva-Uzunova, R. 2004) and Northwest Bulgaria (Zlateva-Uzunova, R. 2005); later parallels are known as well (Gatsov, I. 2004:69ff). Discs have no direct analogues among the published assemblages from Bulgaria. Similar artefacts are known from the Near East and Anatolia (Rosen, S. 1997). Worth noting is that a similar mode of secondary processing as that of the discs is applied on some of the retouched flakes.

Part of the assemblage characteristics is identical to that of the Early Neolithic collections from settlement mounds (Gatsov, I. 2004; Gatsov, I., M. Gurova. 2001; Zlateva, R. 1995). However, the materials have a number of peculiarities that may be due to the location of Yabalkovo in the contact zone between Upper Thrace and the Eastern Rhodopes (Zlateva-Uzunova, R. 2004).

VI. TYPOLOGY AND TECHNOLOGY OF POLISHED STONE TOOLS FROM YABALKOVO

O. Özbek

The preliminary study of polished cutting tools from Yabalkovo consists of sixty-three objects, which can be classified as *celts* in traditional terms.

Description. The length of the tools is between 15 mm and 129 mm; the width varies from 13 mm to 65 mm; and the thickness values are from 7 mm to 44 mm. In brief, two major length groups are observed in Yabalkovo – one from 40 to 60 mm and another from 80 to 100 mm. The mass values are between 6 gr. and 607 gr., divided in ten mass groups. The group 0 to 50 gr. dominates the others, followed by the group 50 to 100 gr. Length and mass values point to a general preference to small objects. The ground stones from Yabalkovo were tested to see if there is a preference for Length to Width ratio. The overall ratio stands out at the value of ½ for about fifteen tools. For the main group of objects the length values does not exceed more than twice the width values. Cutting edges (extremity distals) are preserved on 60 of the analyzed items. Of these, 63 % had a convex form, which means that the polished cutting tools are in typical condition ready to cut surfaces. This also shows that 63% of these tools were re-sharpened and were ready to be used. Only six of them had flat edges[14].

Typology. For the studies on typology we schematized the general forms of the celts to find out the differences. The main types are axes, adzes and chisels (Fig. 25). We would like to present another tool type, which we refer to as "hoe" (Fig. 25, 11). In strict sense, this tool is defined as a thin, flat blade set across the end of a long handle, used for soil-working like digging, weeding or loosening. This last tool type may not find great support among our colleagues[15]. Among the polished stone tools we observed similar objects and we suggested naming them as "hoes" although with caution, for we need further use-wear analyses and experimental work [16]. From statistical point of view, thirty-one of the total number fall into the group of adzes (49% Fig. 25, 1, 4-8), thirteen examples fall into the group of axes (20% Fig. 25, 9-10, 12-14), four items fall into the group of chisels (6% – 25, 2-3). Four items are tentatively defined as hoes (6%). Some tools (17 % of the objects) were labelled "celts" indicating their uncertain determination.

Technology. Yabalkovo material has the following apparent traces of production techniques: *pecking, pounding, sawing and polishing* as stages of the *chaîne opératoire*. Only a few of the pieces have traces of flaking which may indicate reshaping after an accidental break. This process may not be accepted as a part of the initial stage of

[14] All observations were made with the naked eye and a magnifying glass with a 5x to 10x magnification without using microscopes. Further analysis will be done in the future on traceology of Yabalkovo ground stone tools.

[15] We suggest that this kind of tool may have been used for agricultural purposes. In order to use such a tool for soil, one may use heavily worn or broken pieces of axes or adzes and biggest ones were preferable (Özbek 2002).

[16] In accordance with our observations on Yabalkovo material, the hoes are characterized by the wear traces on their edges, which are much blunted with regrinding marks on these ends. The surfaces of the edges are broken and flake removals are usually seen. This we believe to have happened because of the work with the soil.

production. As already pointed out, the preliminary analysis in this paper includes only finished products. However, there are three rough-outs in the assemblage that show clear marks of flaking without any trace of sawing aiming blank reduction.

The examples showing rounded and eroded cavities frequently on one of their surfaces support the hypothesis that the blank forms of some of the tools were pebbles collected from river beds.

The technique of sawing, applied in the initial shaping of the blanks in ground stone tool production, was recorded in different studies on the Neolithic in Europe (Giot, P.-R. 1952, Cordier, G.1987). According to some researchers, this technique was attested only in certain periods of the Neolithic in some regions of France (Ricq-de Bouard, M., C. Buret 1987)[17]. However, this is not the case with the Yabalkovo tools. Two adzes and a chisel bear clear signs of sawing on one or two sides of their surfaces. These traces are parallel to the longitudinal axis of the pieces. Only one of the tools has a sufficient size to create a second tool after sawing (adze: 72 to 36 mm Fig. Fig. 25, 4). As the sawing technique is not frequent in Yabalkovo, the reason for this operation may be to economize the raw material and to create a new tool. As the tool size diminishes, these smaller tools may have functions different from tree felling[18]. Evidence of sawing may also indicate the preciousness of certain types of raw materials. This was the case in many other Neolithic sites in Europe. In Turkish Thrace, the Neolithic Hoca Çesme site yielded the same type of examples bearing sawing marks. According to petrographic studies, these tools were produced from exotic raw materials (Özbek 2002). On the other hand, the tools manufactured from the common raw material found in the vicinity of the settlement bear no signs of such traces. As the experimental and ethnographic studies suggest, sand is an effective abrasive agent during the sawing of the stone surface (Kelterborn 1991); the same material might have been used in Yabalkovo. In order to obtain the necessary friction force, organic substances like rope or wood would be effective means to cut the stone. We must also bear in mind that the hardness of the raw material is directly related to the length of time for this operation (Pétrequin A. M. and P. 1990). Accordingly, two main initial production techniques – grinding and pecking – could be supposed in Yabalkovo. Although flaking should have been done for the general shaping of the tools, we can not see the clear traces in this case-study. However, grinding (or coarse polishing) and pecking have left many traces on the tools.

Pounding on certain parts of the tools is generally accepted as a preparation for hafting, its roughness being supposed to allow a better adhesion of the blade to its haft. It is generally applied after the polishing process is finished. According to ethno-

[17] This technique is mostly present on the banks of the Swiss lakes starting from the Middle Neolithic period (Buret C. 1983, Willms C. 1980).

[18] Small-sized celts are often argued to be non-functional objects as funerary gifts or exchange items. However, when small-sized celts are first mounted to antler or horn sleeves and then hafted with wood, they may have been used for other purposes as skinning hides.

archaeological studies, this is not always the case. For example, A.- M. and P. Pétrequin show in a study on the axes and adzes from New Guinea that the same blades can be left unpolished or, on the contrary, entirely polished before they were hafted. They also deduced that the effectiveness of the tools does not change too much without pounding for hafting (Pétrequin A.-M. and P. 1990).

Pounding was applied on certain parts of the Yabalkovo artefacts. Polishing process is normally carried out by friction on a mineral abrasive matter, as sand, sandstone or molasses. The back and forth pressing leaves easily locatable traces at the edges, in the form of large, fine, and parallel scratches. Yabalkovo tools demonstrate polishing of high quality. Most of the sides are polished and on some of the tools pounding was applied on the sides in order to maintain a good hafting. By traces of hafting, we understand all the detectable indices of the objects that provide information on the way these blades were fixed. Such traces are visible only by large scale magnification under microscopes. Until now, we did not observe any unambiguous trace on the hafting of the tools. However, the future analysis will tell us more on the subject.

VII. ARCHAEOBOTANICAL REMAINS

Tz. Popova

Database and methods. A total of 123 flotation samples and 189 burnt wall plaster fragments have been analysed, all from Sector Northeast. The quantity of the floated material for each sample is ca. 20 l, taken from different archaeological contexts: ceramic vessels, *pithoi*, floors, hearths, pottery and stone concentrations, as well as post-holes. After flotation macrofossil material was dried, sorted and identified with the help of a Bosch microscope.

Analysis of charred seeds and fruit. The samples from the Early Neolithic dwellings show a wide variety of plant species. The contents of a vessel found inside a dwelling in sq. F17 include einkorn (*Triticum monococcum* L.) and emmer (*Triticum dicoccum* Schrank.), bread/club wheat (*Tritucum aestivo/compactum* Host.), millet (*Panicum miliaceum* L.), lentils (*Lens culinaris* Medik.), as well as some fragments of oak charcoal (*Quercus sp.).* The sample collected nearby another vessel from the same dwelling produced single seeds of bread/club wheat and hulled barley (*Hordeum vulgare var. vulgare*.). The same composition we observe in the contents of a clay bowl from sq. J_{32}/J_{33} – barley, einkorn and bread/club wheat. The sample taken from the hearth floor in sq. G_{19} gave a single seed of barley. Some weed seeds of garden sorrel (*Rumex crispus)* were found in a pottery vessel from sq. J_{40}/K_{40}.

Sampling of *pithoi* contents gave the following results: only a few fragments of oak were found from a pithos in sq. $H_{29}/H_{30;}$ a pithos in sq. H17 yielded fragments of oak's wood and a corn-cockle seed *(Agrostemma githago);* a single seed of bitter vetch *(Vicia ervilia)* was identified in a pithos in sq. H_{18}.

Noteworthy are also the samples taken from house floors. They contained only charred wood material. Oak is dominating, other species include maple *(Acer cf. campestre),* alder (*Alnus sp*.), and poplar (*Populus sp*.).

Samples were analyzed from post-holes in dwelling J38-39/K38-39. They yielded charred fragments of Austrian pine (*Pinus nigra*) and oak. Around the post-holes stray seeds of einkorn and lentils are discovered.

Species composition from the dwellings is shows that eleven species are determined, including five cereals, two pulses, two fruit-trees, and two weed plants. The way of distribution of the plant remains points to accidental depositions; no concentrations of food supplies have been found. In general, the quantity of seed remains is minimal. Dominant are einkorn and emmer, which is typical for the period of the Early Neolithic.

Burnt wall plaster and pisé fragments analysed. A representative number of burnt plaster and pisé pieces were collected from the wall debris of Early Neolithic houses. After close examination a total of 392 plant impressions were detected with clear prevalence of cereals. Dominant are einkorn impressions, followed by barley. There are single examples of emmer, rye and brown grass. Frequent also are ears of wild cereals but the impressions are too unclear to allow determination of type.

Collecting wild plants. They are represented by only two examples – a seed of grape and cherry fragments. The exact identification of the cherry as a domesticated or wild species is too risky because we have only fragments from the pericarpus without clear morphological features. The grape seed is most probably of the wild species *Vitis vinifera spp. sylvestris* Gmell.

Weeds. Some weed plant remains were detected in the samples. Most of them belong to garden sorrel and fat hen (*Chenopodium album*). The last is a typical ruderal species, distributed often with the manure. Corn-cockle is also present, very often it falls among the wheat crops, for the two plant are equal in height.

Analysis of carbonized wood. Ca. 110 fragments are identified belonging to eight species: oak *Quercus petraea* L., *Quercus robur* L, Austrian pine *Pinus nigra*, maple *Acer cf. campestre*, alder *Alnus sp*., poplar *Populus sp.*, elm *Ulmus sp.*, hornbeam *Carpinus sp.* and beech *Fagus sp.*. Oak is dominant, followed by pine. These arboreal species give valuable information for the overall vegetation of the region. Evidently the site was surrounded by oak forests, their composition supplemented also by maple, hornbeam and Austrian pine. Beech was gathered from the hills; poplar and alder grew along the river valleys and were obviously more accessible.

The archaeobotanical study of Yabalkovo shows that the cultivated plants are typical for the Anatolian complex of this period. Species composition is similar to that recorded in many Neolithic and Chalcolithic settlements from Bulgaria – Karanovo Madrets, Stara Zagora – Municipal Hospital (Popova, Ts, 1998; 2001) and Kapitan Dimitrievo (Marinova, E. 2001). Charred wood remains show a wide variety of deciduous

vegetation. The identified species of oak, elm, and hornbeam form the composition of the deciduous forests. This association is typical for wet and warm climatic conditions.

VIII. Animal remains (preliminary results)

N. Spassov, N. Iliev

The study is based on a small sample of the animal remains of the site – ca. 700 bone fragments from sure Early Neolithic contexts. The material is highly fragmentary and difficult for identification, which is due to several reasons: to some extent, bones are destroyed naturally during the taphocenosis itself, but the main reason, is in the archaeological context – bones are obviously 'kitchen middens'. They are broken by the Neolithic inhabitants to very small particles for maximal extraction of nourishing substances (including medulla). Many of them bear signs of heat treatment (burning, partial charring) that are another argument for the interpretation of the faunal remains as food scraps.

Dominant are bones that are more resistant – fragments of metapodials, tibias and distal parts of humeri and femurs (very rarely entire compact bones as astragals and phalanxes). Frequent also are the mass bones of the animal skeleton – ribs, vertebrae and teeth. All this testifies for the use of the entire carcass and not of selected parts. Bones are intentionally broken to pieces by smashing (a primitive technique of processing). The analyzed bone remains bear no positive signs of sawing or special techniques of disarticulating the carcass. Both adult and juvenile/subadult individuals of caprovines and bovines were used for food consumption (no reliable age group ratios are possible at the moment). Domestic pig is presented in the assemblage more frequently by young individuals.

Species composition of the analyzed material is as follows: domestic pig, sheep, goat and cattle. Only a few bone fragments suggest the presence of wild mammals as aurochs and a single one – of red deer. Two hedgehog bones are identified but their colouring suggests a later date (hedgehog holes may have disturbed the archaeological layer). The faunal remains contain also four bird bones. A peculiarity of the sample is the absence of dog bones. This fact may be due to the restricted number of studied bone material, since dog remains are usually less frequent than those of other domestic animals.

This fauna composition is rather unusual and shows the presence of exclusively domestic animals.

Regarding the breed features of the faunal remains, the following observations are made: sheep and goat, as well as pig species are represented by very small size breeds that are typical for the Balkan and Anatolian Neolithic and Chalcolithic (Vassilev, V. 1985; Spassov, N., N. Iliev 1994). Specimens of the small (brachycere) cattle are recorded that is also typical for the period. Only separate bone fragments belong to larger individuals. The extending of the data base would clarify whether they belong to large bulls of the same breed, to aurochs or if they are evidence for *primigenius* cattle and/or its crossings.

Caprovines are dominant in the sample. This feature, according to some scholars, is diagnostic for the Early Neolithic on the Balkans (Bökönyi 1992) and provides arguments for the relation of local cultures with those of Asia Minor (suggested migrations from the east)

Based on this small sample from the bone assemblage of Yabalkovo, several preliminary conclusions could be made, as follows:

- Accumulation of animal bone remains at the site is connected with the use of animals for food (the bones are clearly 'kitchen middens'). The applied technique for meat and bones treatment seems rather archaic.
- Regarding the use of animal resources, subsistence strategies of the Early Neolithic inhabitants of Yabalkovo site show one specific and rare feature, namely, comparatively primitive animal husbandry and absence of evidence for hunting activities. This inference is preliminary and may be influenced by the restricted number of studied bones.
- Stock-farming is relatively primitive and together with breed types of the raised animals it shows features typical for the Balkan Early Neolithic and most probably of Anatolian influence or origin.

IX. Discussion

K. Leshtakov

This report is not intended to consider all Anatolian parallels of building techniques, wall-painting, tools, chipped-stone industry, the figurines etc. Beyond any doubt, they exist and what we could humbly say here is that the new data evidently support the general conclusion of the heterogenic nature of Anatolian parallels (both in chronological and regional sense) as some other parts of the Balkan Peninsula. These 'random' parallels could be explained anyway even if we take the latest conception of the neolithization of the Southeast Europe yet (Perlés, C. 2001, esp. 52-63).

Focussing the attention on this case study we ought to say that any attempt for archaeological generalization of the empirical data would be a precipitance at the current stage of our knowledge. The problem of the precise chronological juxtaposition of the structures in the three research zones at Yabalkovo remains unresolved as we know only the zone of the latest Early Neolithic occupation and we can say nothing on the correlation of the Sectors Southwest and Northeast. If they are synchronous and belong to one settlement unit, this would be the largest Early Neolithic site known in Upper Thrace to this day. The alternative, namely that the settlement had expanded through time, regardless of where its primary core was situated, raises the important question about why some settlements in Upper Thrace had turned to tells, while the inhabitants of others had preferred to build up new dwellings in the immediate vicinity of the ruined ones. Obviously, such pattern was followed not only in the Early Neolithic and there are

numerous examples that support this. The existence of two settlement types in one and the same micro-region without sub-ordination – Yabalkovo flat settlement and the tell near Zlatna livada (more than 12 m high now) does not prove the idea for the crucial role of the ecological environment as a main factor in the settlement-pattern formation. Obviously, there are other factors as well, such as social tradition, supplying strategies, and concrete economic circumstances, yet the arguments in this respect should clearly be examined after profound archaeological and scientific studies.

Concerning the date of the Early Neolithic pottery, the most significant elements for dating are white-on-red painting, high hollow stems, 'knob-handles' and comparatively simple profiles of the bowl-rims. A somewhat later date could be proposed for the fine fluted tulip-shaped vessel, some ornaments around the knob-handles, etc. Thus, it seems acceptable that the second phase of the Early Neolithic period does not only exist in the Sector North. And *vice versa*, there are no solid arguments at present in support of the thesis for an earlier stage of Neolithic than Karanovo I present at the site. Here we have to mention the special chronological position of the fluting on red slipped vessels, incised ornaments etc., already discussed in the literature (Leshtakov, K, 2004).

As it is well argued elsewhere, the white-on-red painted pottery is an emblematic feature of Karanovo I horizon in Upper Thrace. By the presence of this typical decoration on common shapes we could judge for the chronological position and cultural attribution of the Yabalkovo-Karabyulyuk site. Close parallels in white-painted patterns can be easily found in the nearby Early Neolithic sites of Simeonovgrad, Kărdzhali and Krumovgrad (Raduncheva, A. *et al.* 2002:225-243, Taf. 1-5; Nikolov, V. 2001:57-103, Taf. 114-151) and also in Tsiganova mogila near the village of Dositeevo (Leshtakov, K. 1997a:15-28, Stefanova, T. 1997: 29-52, Fig. 6-18) and Klisselika-tell (Leshtakov, K., T. Kancheva-Russeva and St. Stoyanov 2001:16-17, 32-34, Fig. 2-4). It is possible to point out parallels of the tripods, ritual vessels, white painting and some other items also in Central- and West-South Bulgaria – in the Early Neolithic sites of Rakitovo (Raduncheva, A. *et. al*. 2002:Abb. 59-60, 63, 76, 91-93), Kovachevo (Demoule. J.-P., M. Lichardus-Itten 1994:573-574, 577-578, Fig. 15-16, 18-21A; Lichardus-Itten, M. J.-P. Demoule, L. Perničeva et al. 2002:118-122, 123-126, Pl. 11-15, 22), Pernik (Čochažiev, M. 1983), and elsewhere in the Sofia plain. Moving to the south we can find an excellent data-base for correlation of the evidence at the upper levels of Hoca Çeşme site (Özdoğan, M. 1999:205-207, 217-220, Fig. 9-13, 26, 37-41). All parallels listed above could define the place of the Yabalkovo site in the Early Balkan Neolithic milieu and from the other hand outline the strong Anatolian influence – not only in the pottery repertoire but in the general cultural assemblage having traits, which are incognito or alien to the Upper Thracian tells like Karanovo, Kazanluk or Azmashka mogila, even if one has in mind as a contra-argument the insufficiently detailed field publications of these emblematic tells.

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Tables

Technological groups	Number	~%
Cores	58	5,2
Flakes	503	45,0
Blades and bladelets	181	16,2
Retouched tools	204	18,2
Others	173	15,4
total	*1119*	*100*

Table I. Composition of the flint assemblage from Yabalkovo

Type	Number	~%
Pieces with traces of coring	7	12,1
Flakes with traces of coring	1	1,7
Single platform cores	25	43,2
Double platform cores	9	15,5
Cores with changed orientation	8	13,7
Pre-cores	3	5,2
Indeterminate core fragments	5	8,6
total	*58*	*100*

Table II. Typology of cores in the flint assemblage from Yabalkovo

Typological groups	Number	~%
End-scrapers	20	10,0
Combined tools	8	4,0
Perforators	13	6,3
Borers	4	2,0
Backed tools	2	0,9
Truncated tools	18	8,8
Retouched blades	80	39,2
Notched tools	9	4,4
Splintered pieces	3	2,0
Retouched flakes	29	14,3
Segments	1	0,4
Trapezes	2	0,9
Side-scrapers	9	4,4
Discs	3	2,0
Retouched natural flakes	1	0,4
Indeterminate fragments of retouched tools	2	0,9
total	*204*	*100*

Table III. Typology of the retouched tools in the flint assemblage from Yabalkovo

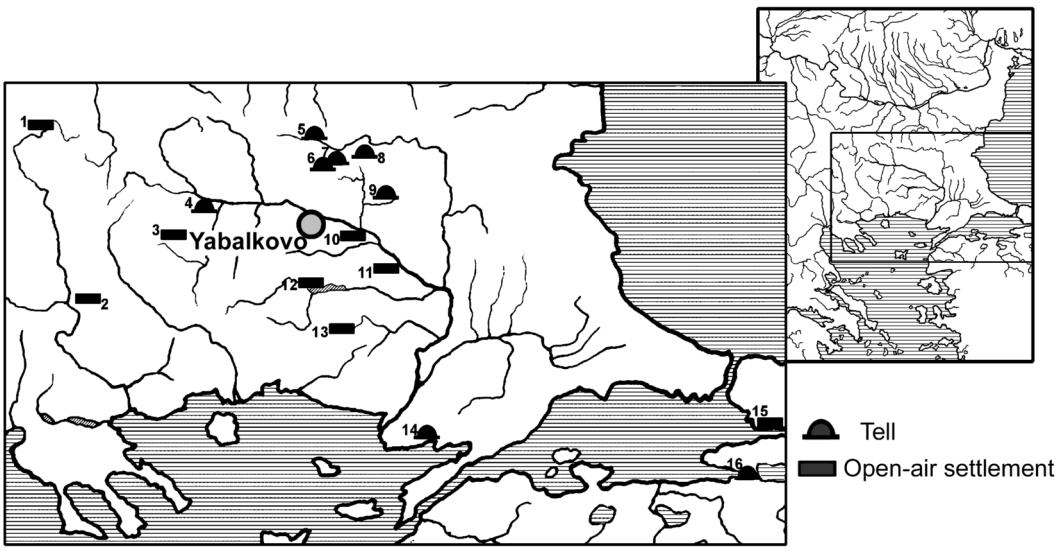


Fig. 1. Map of the Early Neolithic sites mentioned in the text
Pernik; 2. Kovachevo; 3. Rakitovo; 4. Kapitan Dimitrievo; 5. Kazanluk; 6. Stara Zagora; 7. Azmashka mogila; 8. Karanovo; 9. Klisselika; 10. Simeonovgrad; 11. Tsiganova mogila; 12. Kardzhali; 13. Krumovgrad; 14. Hoca Çeşme; 15. Fikirtepe; 16. Ilıpınar.

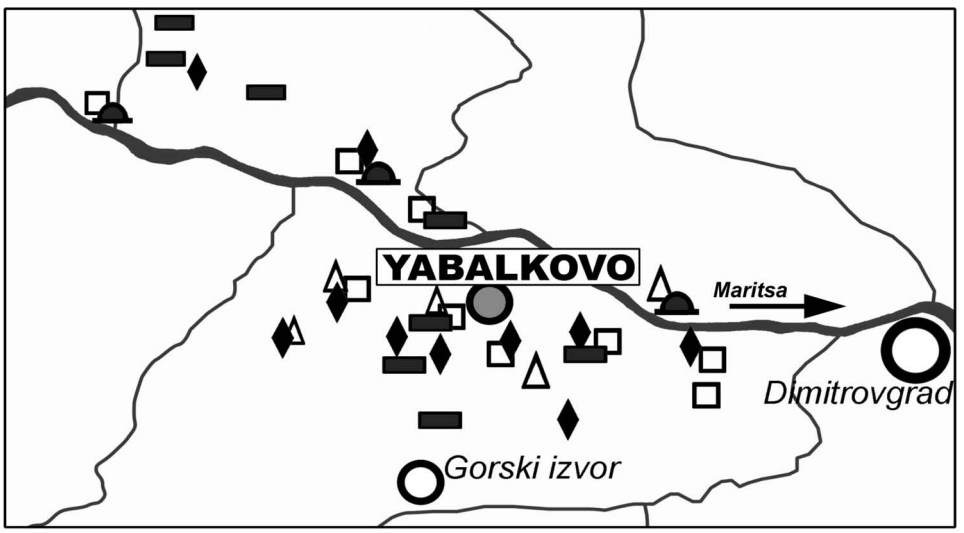


Fig. 2

Tell
Prehistoric open-air site
Iron Age site
Roman site
Mediaeval site
Modern settlement

Fig. 2. Map of the major archaeological sites in the region of Yabalkovo.

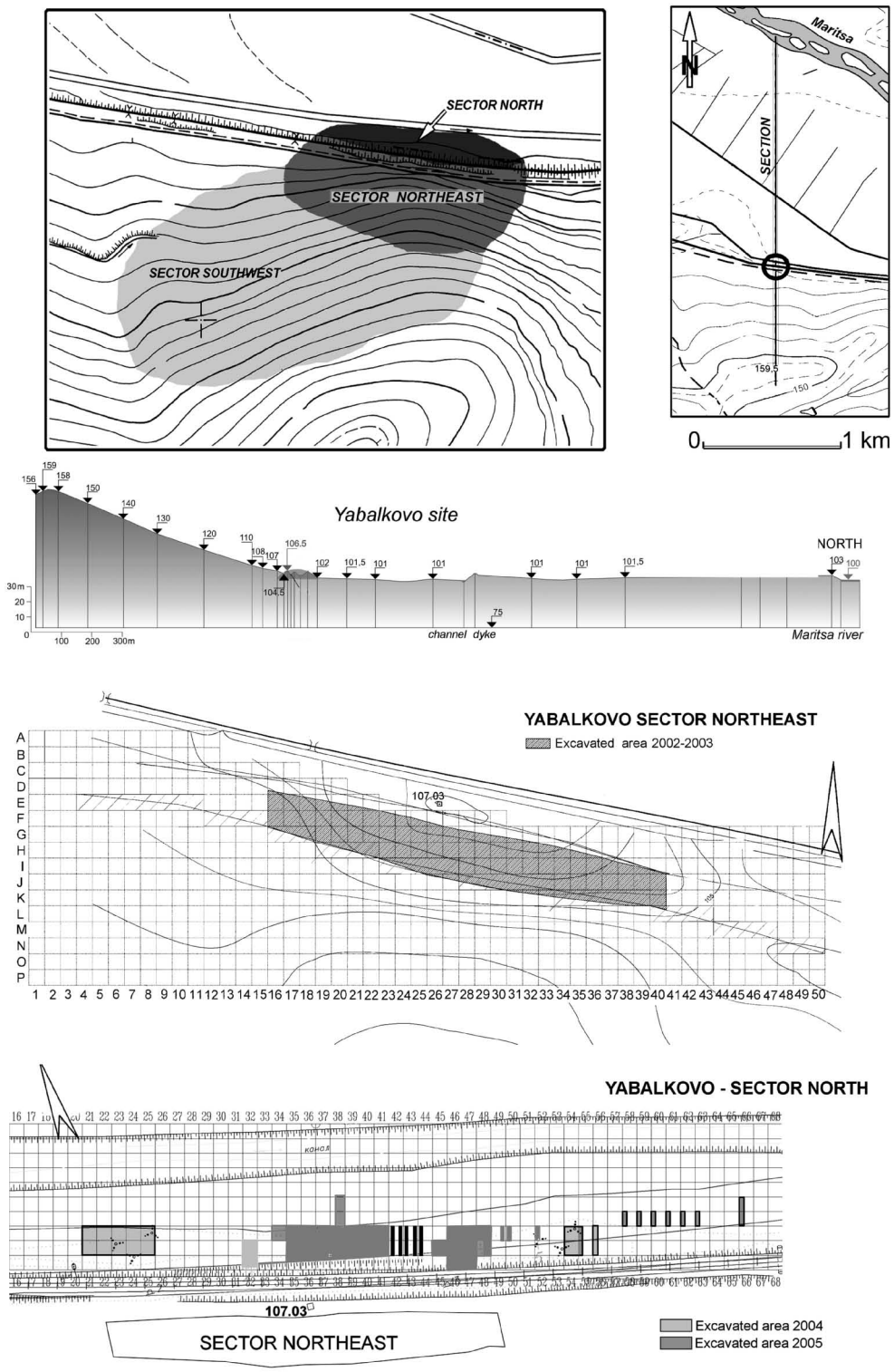


Fig. 3. General topography. Square grids and excavated area of Sectors Northeast and North.

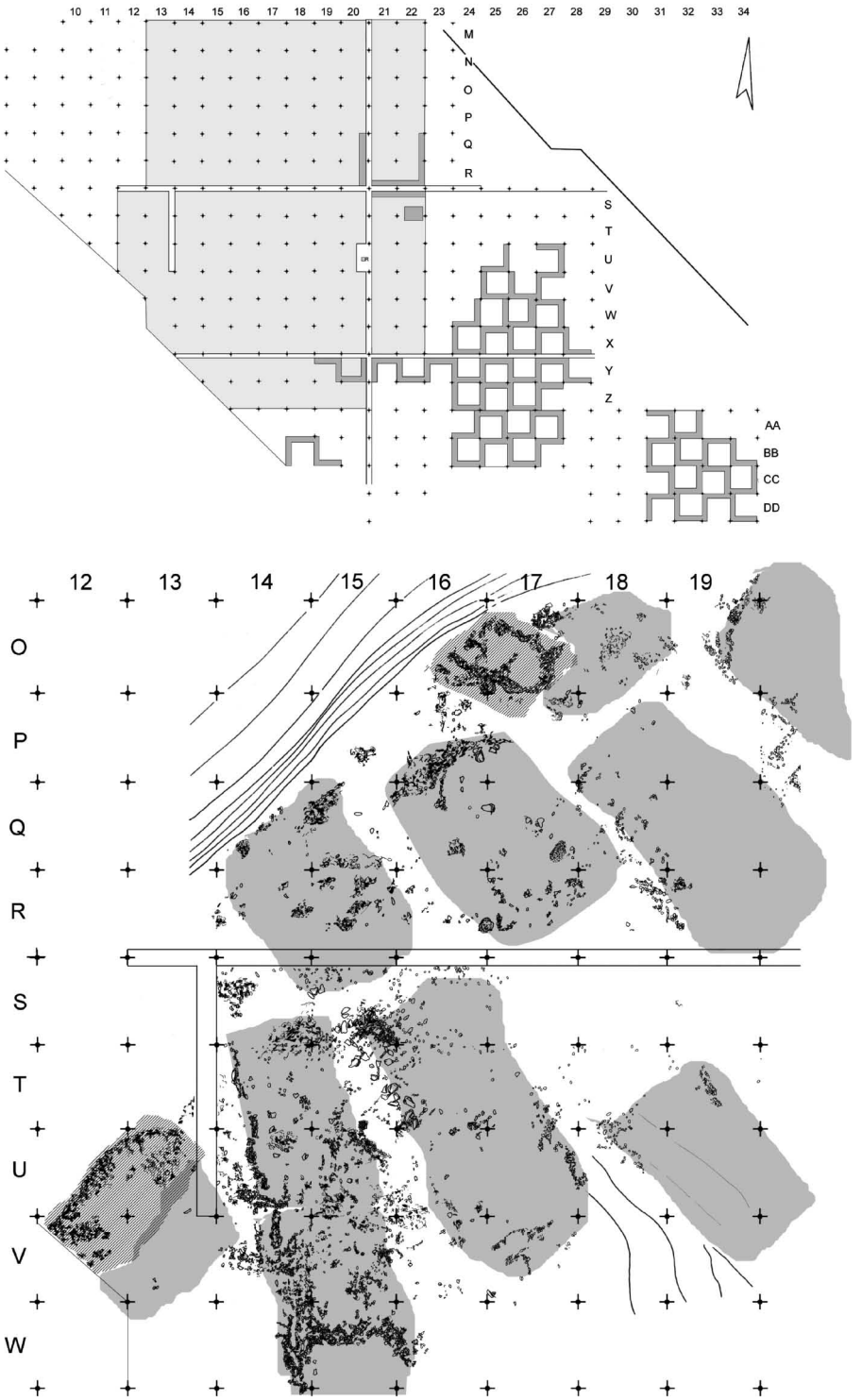
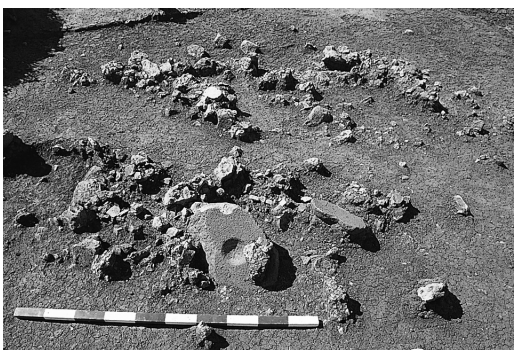


Fig. 4. Sector Southwest. 4.1. Square grid and excavated area. 4.2. General plan of structures – first building level and tentative reconstruction of the building schema.



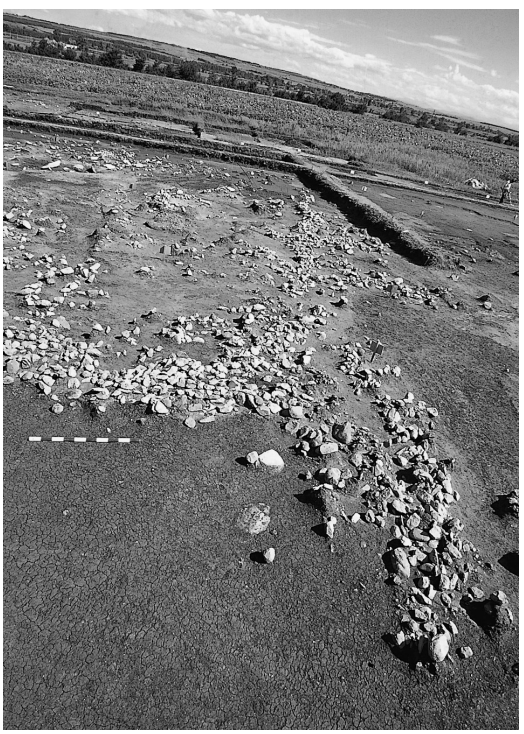


Fig. 5. Sector Southwest. 5.1. Dwelling in squares O16-17. 5.2. Dwelling in squares U12-13 and V12. 5.3. Stone structures.

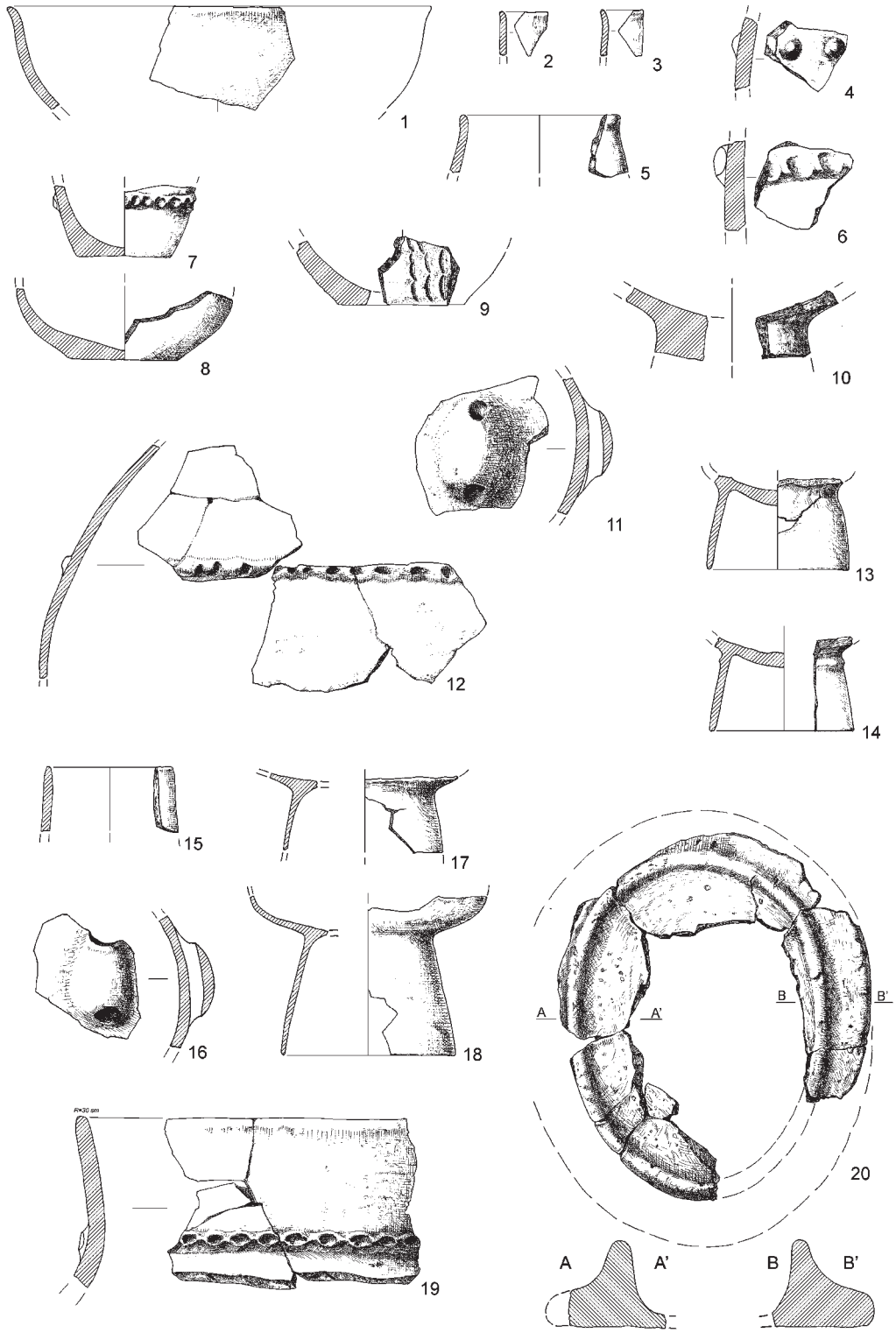


Fig. 6. Sector Southwest. Pottery from dwellings and stone structures. 1-18 – Scale 1:4; 19, 20 – Scale 1:5.

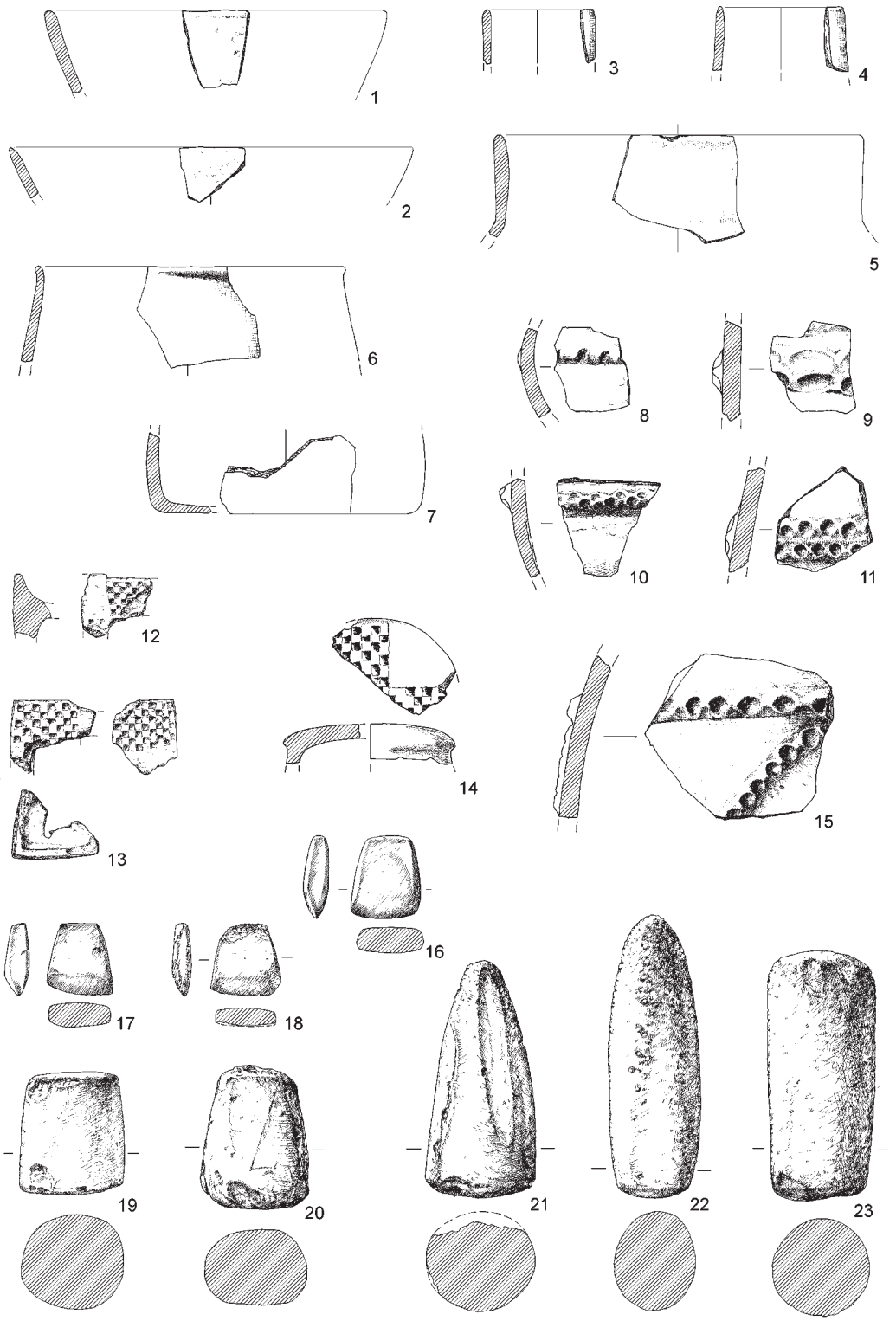
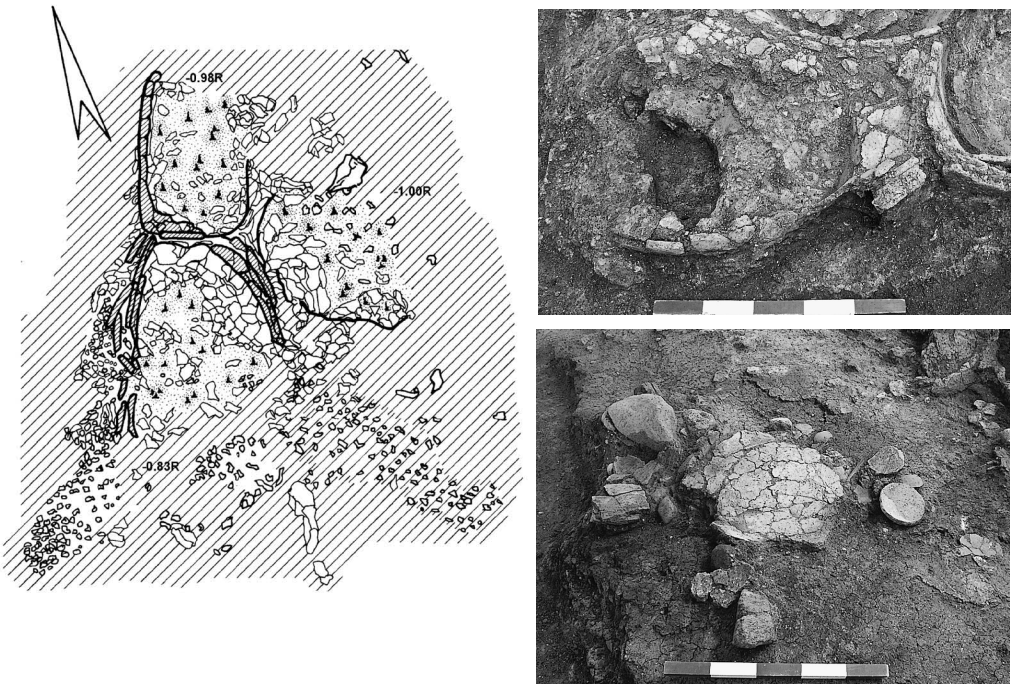


Fig. 7. Sector Southwest. Pottery and small finds. Scale 1:4.



LEGEND

- Grey-brownish loose cultural layer
- Brown compact cultural layer
- Dark brown compact cultural layer
- Dark brown compact layer mixed with wall debris
- Dark brown-blackish loose earth
- Light brown rammed clay
- Light brown rammed clay with wall debris
- Pit filling
- White polished floor
- Whitish trampled floor
- Red ochre
- Ashes and charcoal
- Charred organic matter
- House walls in situ
- Collapsed wall debris
- Plastered wall debris
- Shapeless wall debis
- Hearth/oven floor
- Hearth/oven clay basement
- Pithoi and other storage facilities
- Stones
- Pottery sherds
- Pebbles
- Post-holes
- Timber beams
- Virgin soil

Fig. 8. Sector Northeast. Complex of three pithoi in sq. K36.

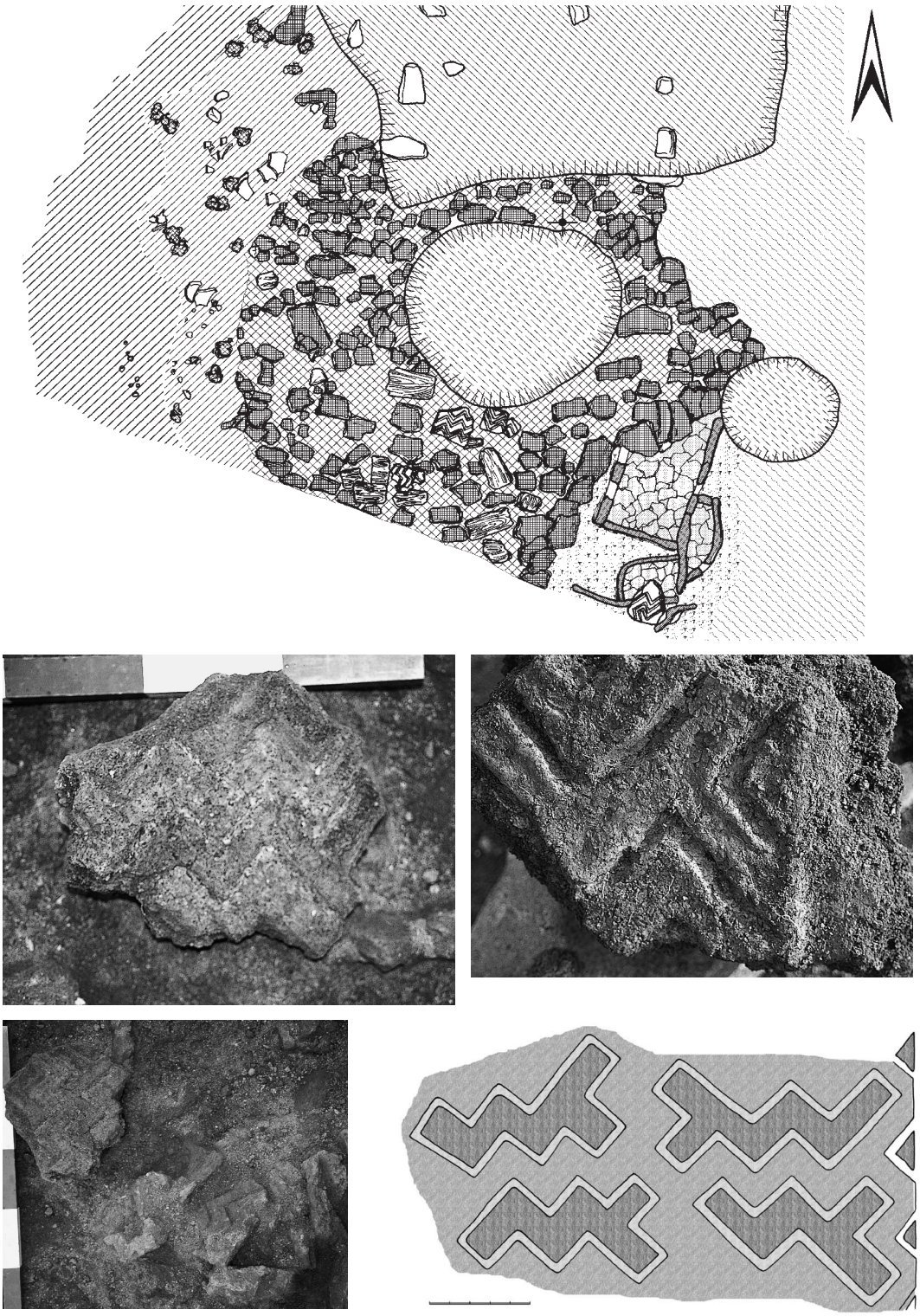


Fig. 9. Sector Northeast. Dwelling in squares F17-18 and G17-18, first building level. Decorated wall plaster pieces and reconstruction of the pattern.

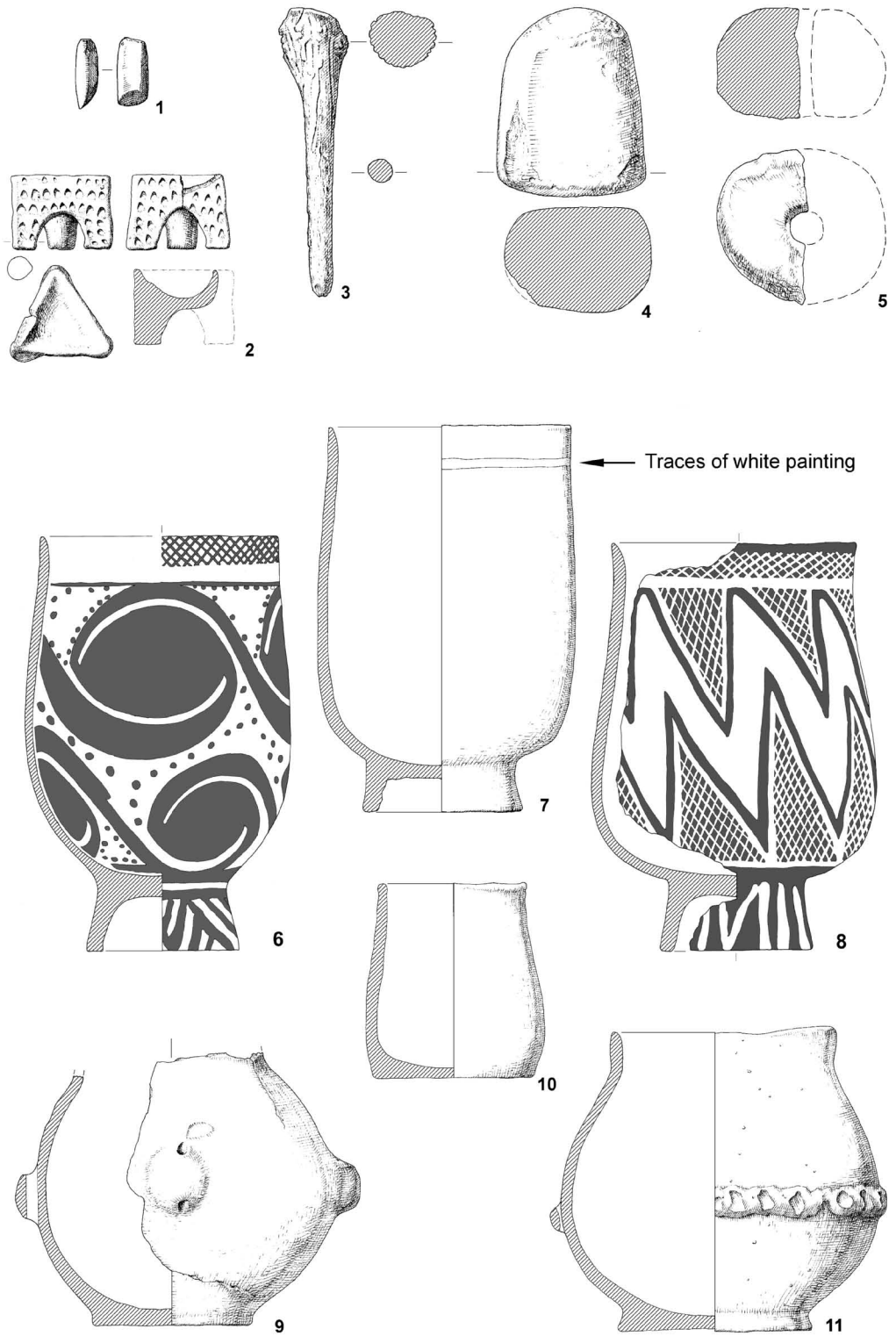


Fig. 10. Pottery and small finds from dwelling in squares F17-18 and G17-18. Nos. 1-5 – Scale 1:3; 6-11 – Scale 1:4. Nos. 6, 8: the red coating is in dark, white painting – in white.

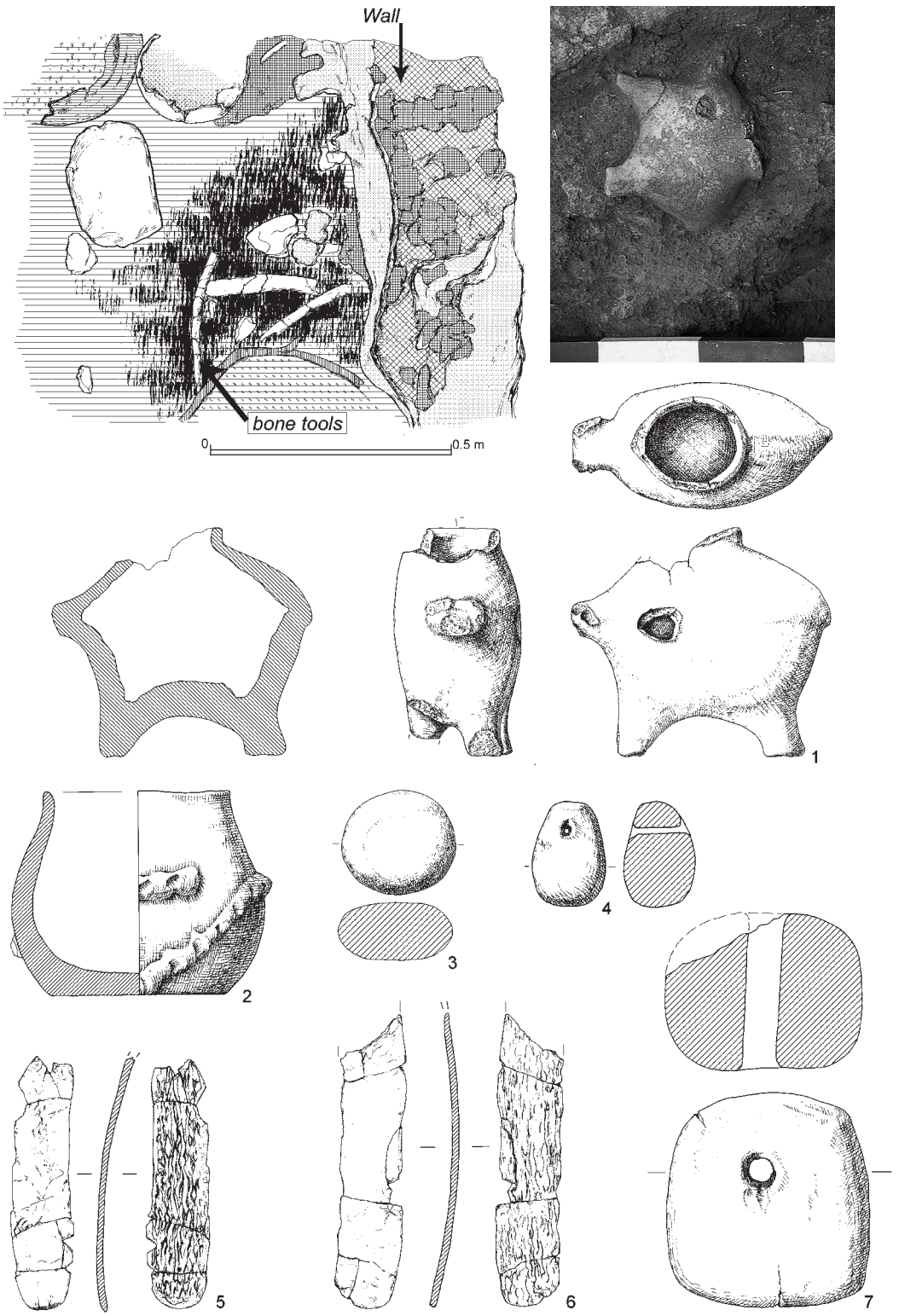


Fig. 11. Sector Northeast. Dwelling in squares H17-18, second building level - detail. Small finds and pottery from the dwelling. Nos. 1, 2 – Scale 1:4; 3-7 – Scale 1:3.

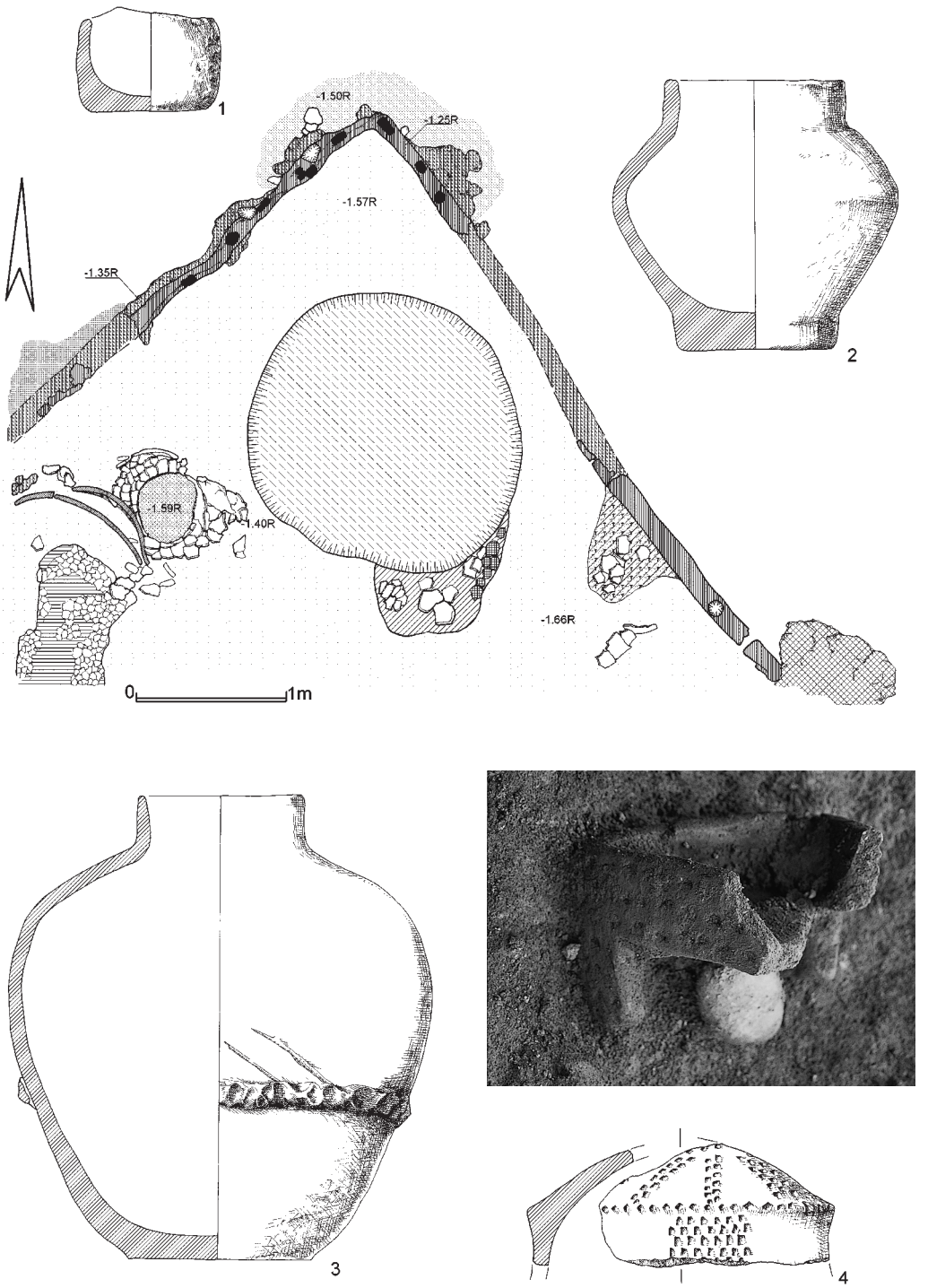


Fig. 12. Sector Northeast. Dwelling in sq. K38, second building level. Tripod in situ, vessels and a lid from the dwelling. Nos.1, 2, 4 – Scale 1:4; 3 – Scale 1:6.

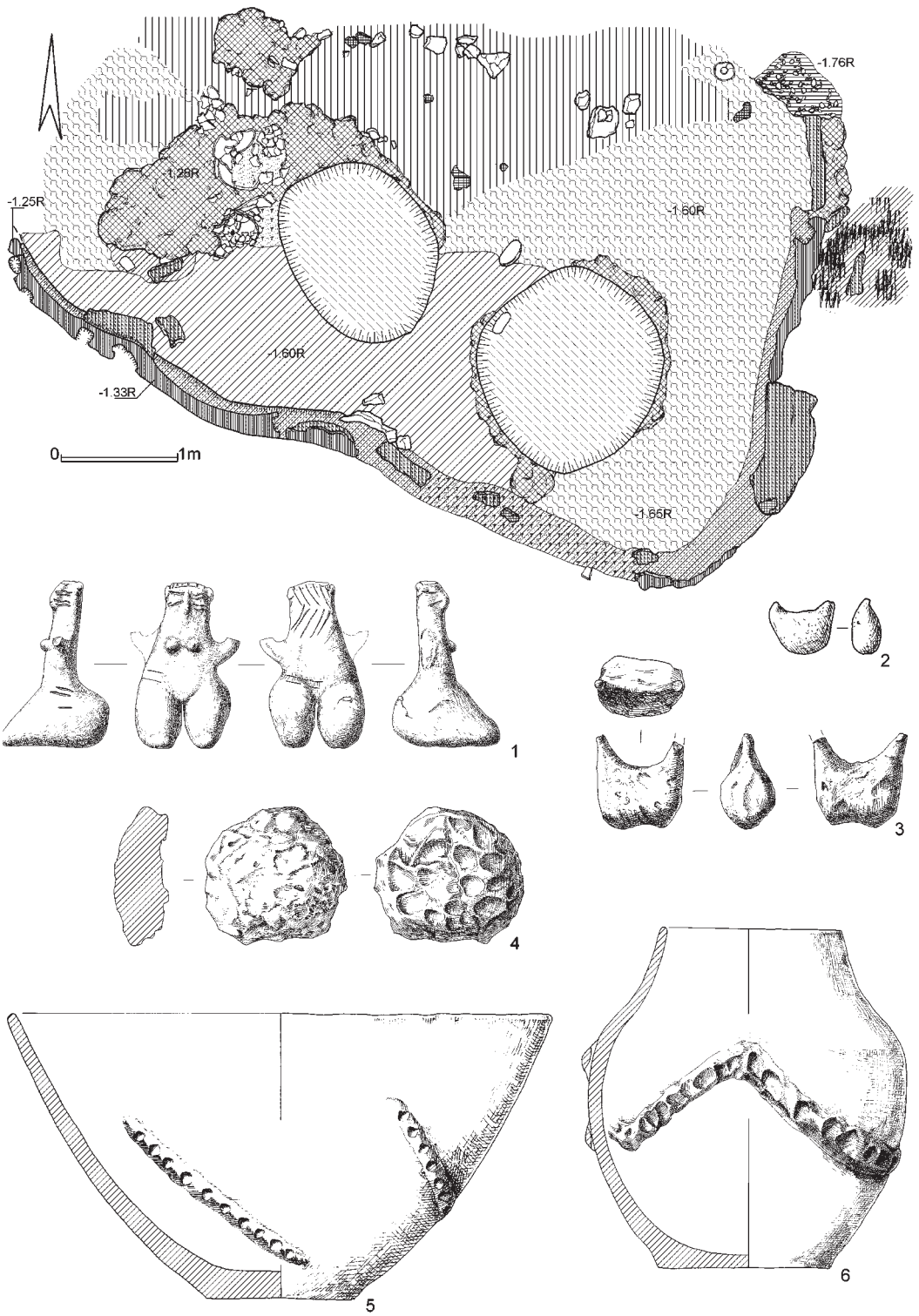


Fig. 13. Sector Northeast. Dwelling in squares J38-39 and K38-39, second building level. Finds and pottery from the dwelling. Nos. 1, 3, 4 – Scale 1:3; 2 – Scale 1:2; 5 – Scale 1:5; 6 – Scale 1:4.

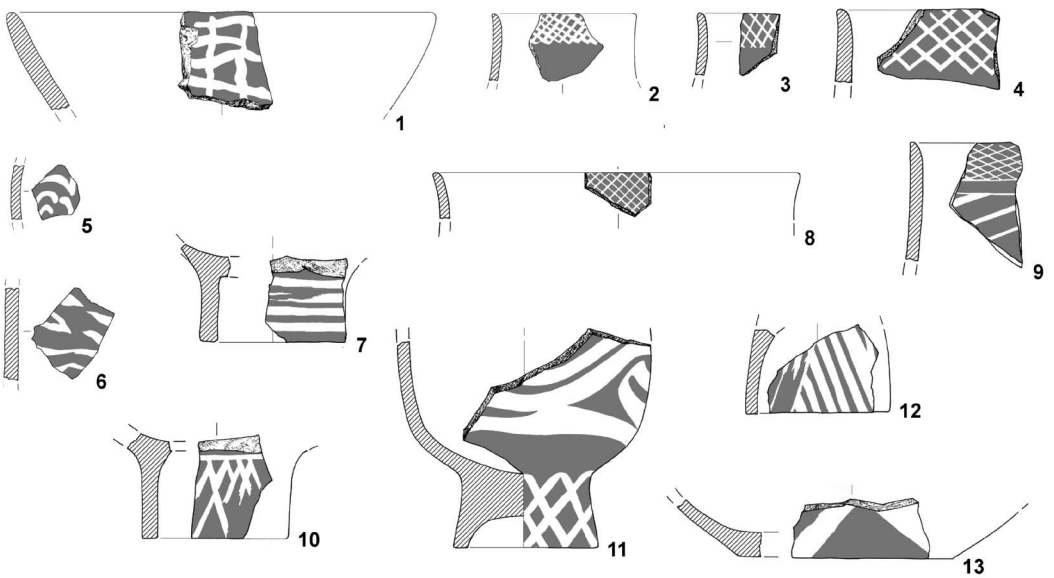


Fig. 14. White-on-red painted sherds from Sector Northeast.

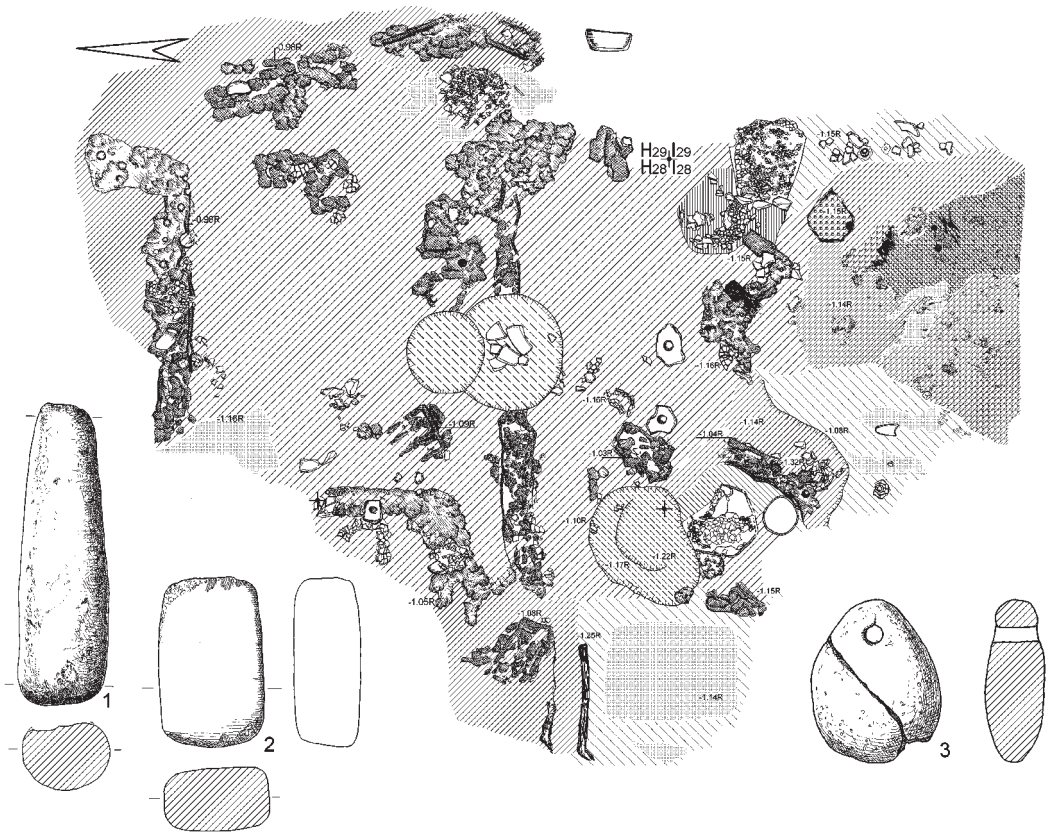


Fig. 15. Sector Northeast. Dwelling in squares H27-28 and I27-28, third building level. Small finds from the dwelling. Nos. 1, 2 – Scale 1:4; 3 – Scale 1:3.

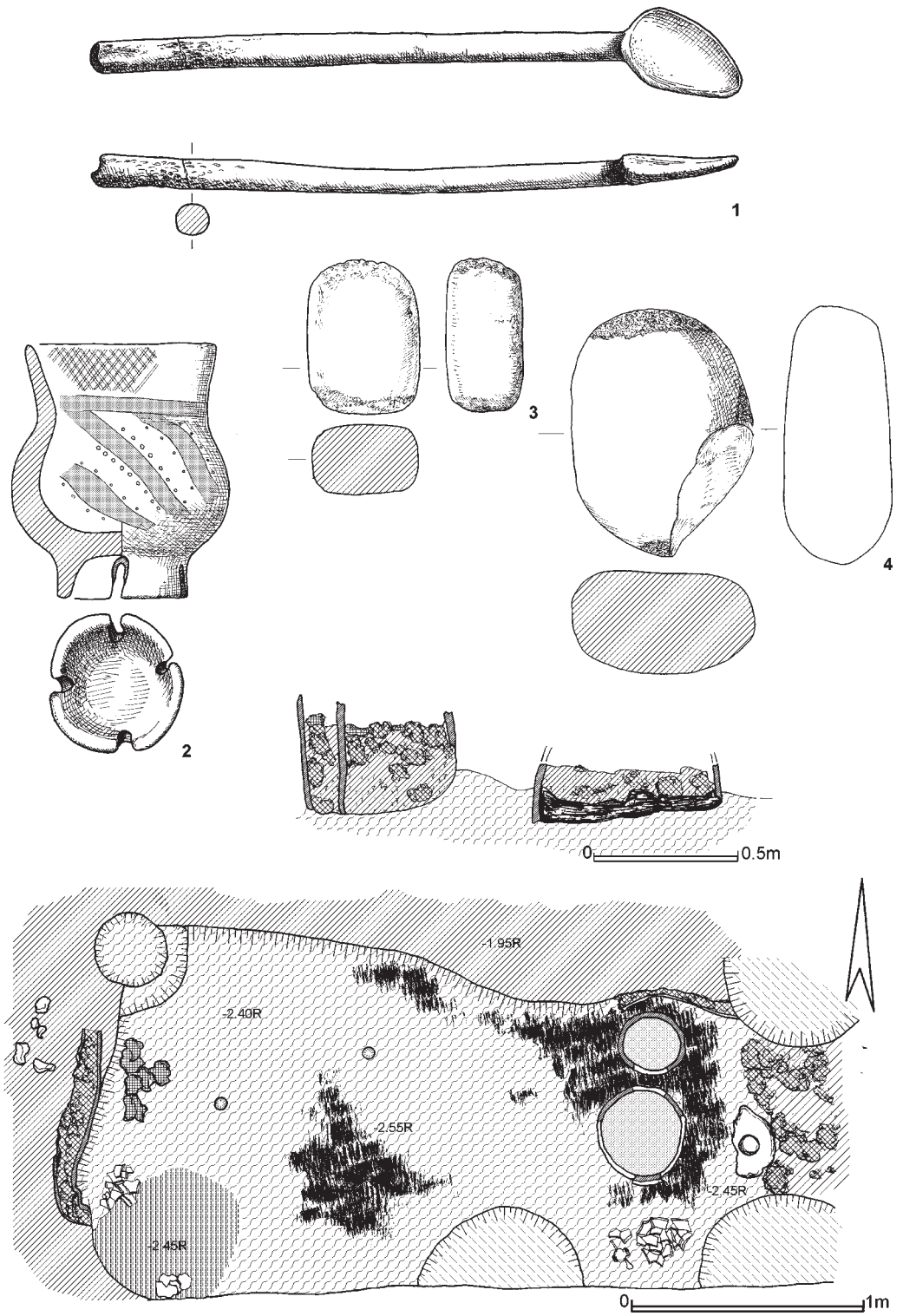


Fig. 16. Sector Northeast. Dug-in structure in squares K40-41 and section of the two pithoi. Small finds and pottery from the structure. Nos. 1, 2 – Scale 1:2; 3, 4 – Scale 1:3.

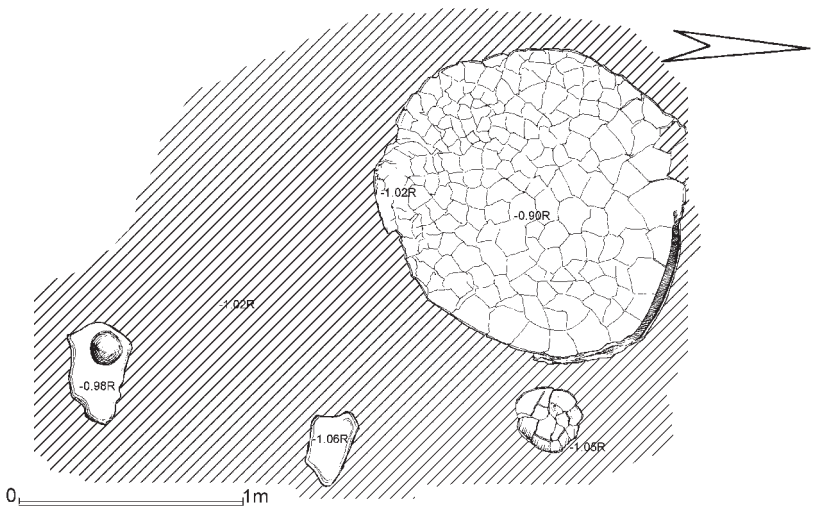


Fig. 17. Sector Northeast. Freestanding hearth in sq. I31, first building level.

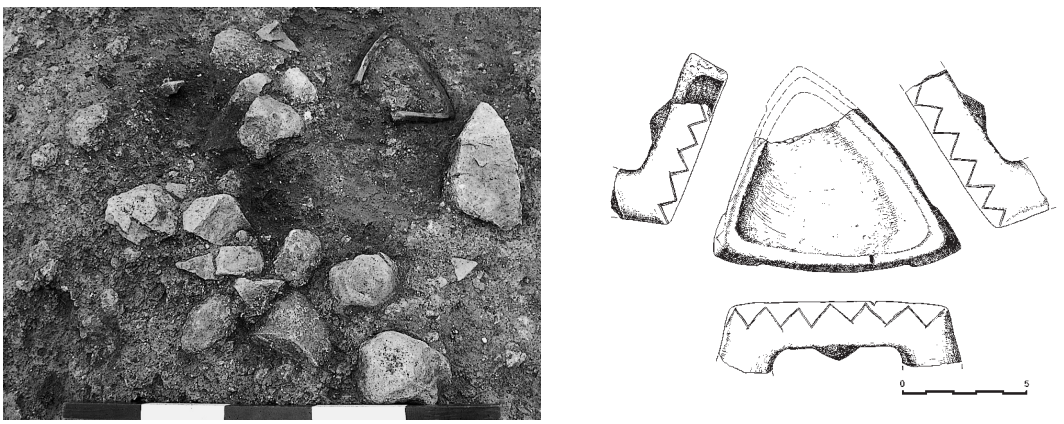


Fig. 18. Sector Northeast. Tripod in a shallow pit in sq. K39.

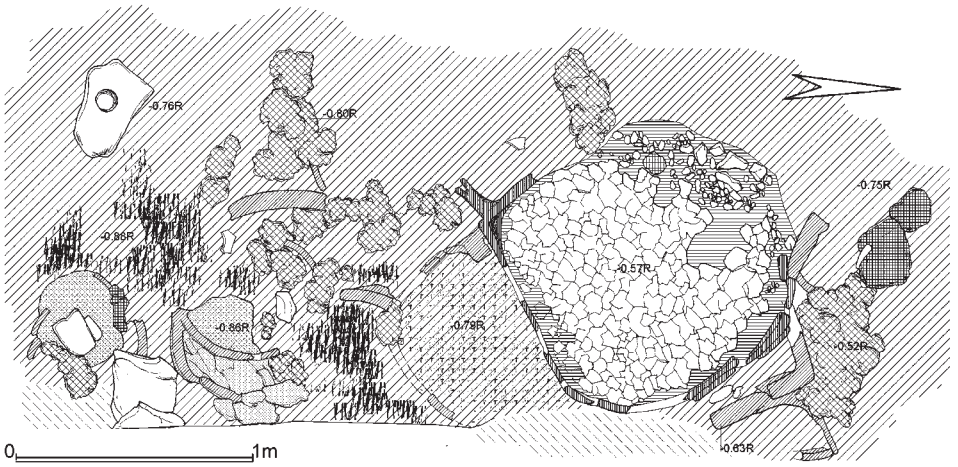


Fig. 19. Sector North. Dwelling in squares I36-J36. Detail.

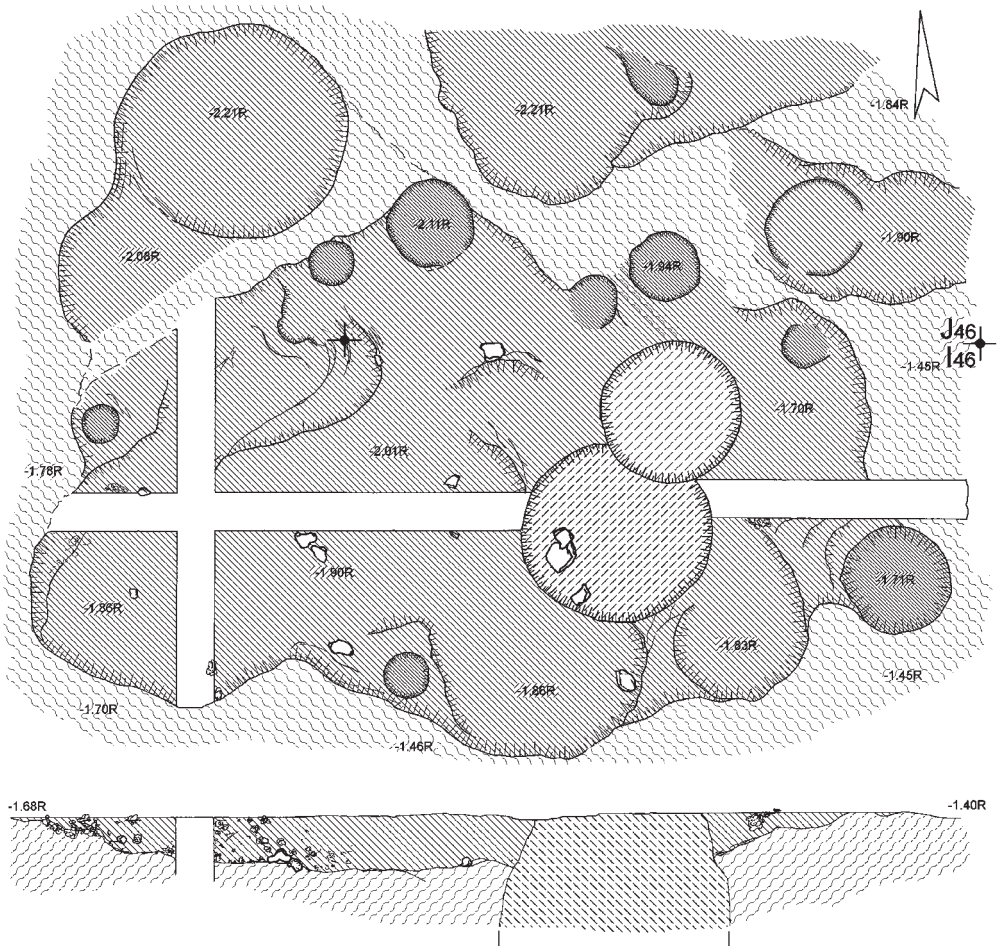


Fig. 20. Sector North. Semi-dug structure in squares I46-47 and J46-47.

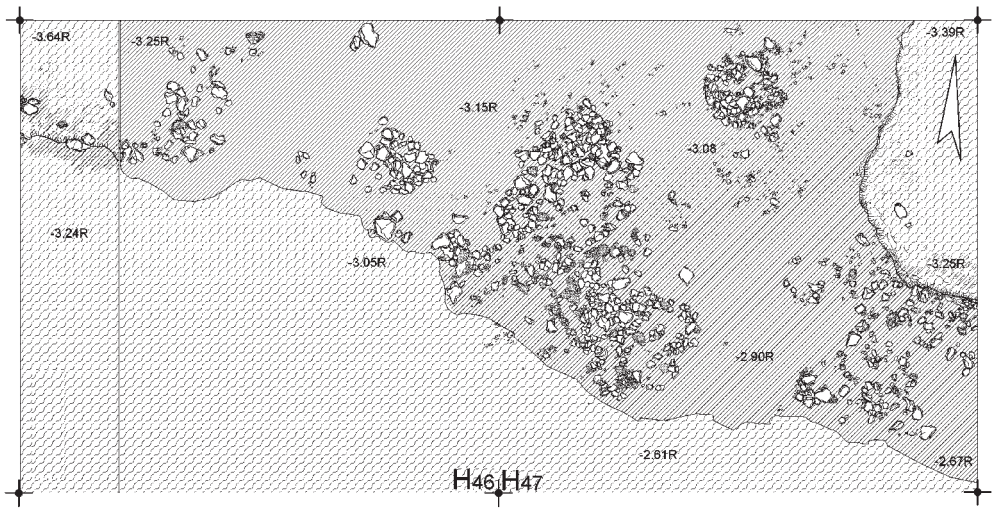


Fig. 21. Sector North. Remains of stone foundations in squares H46-47.

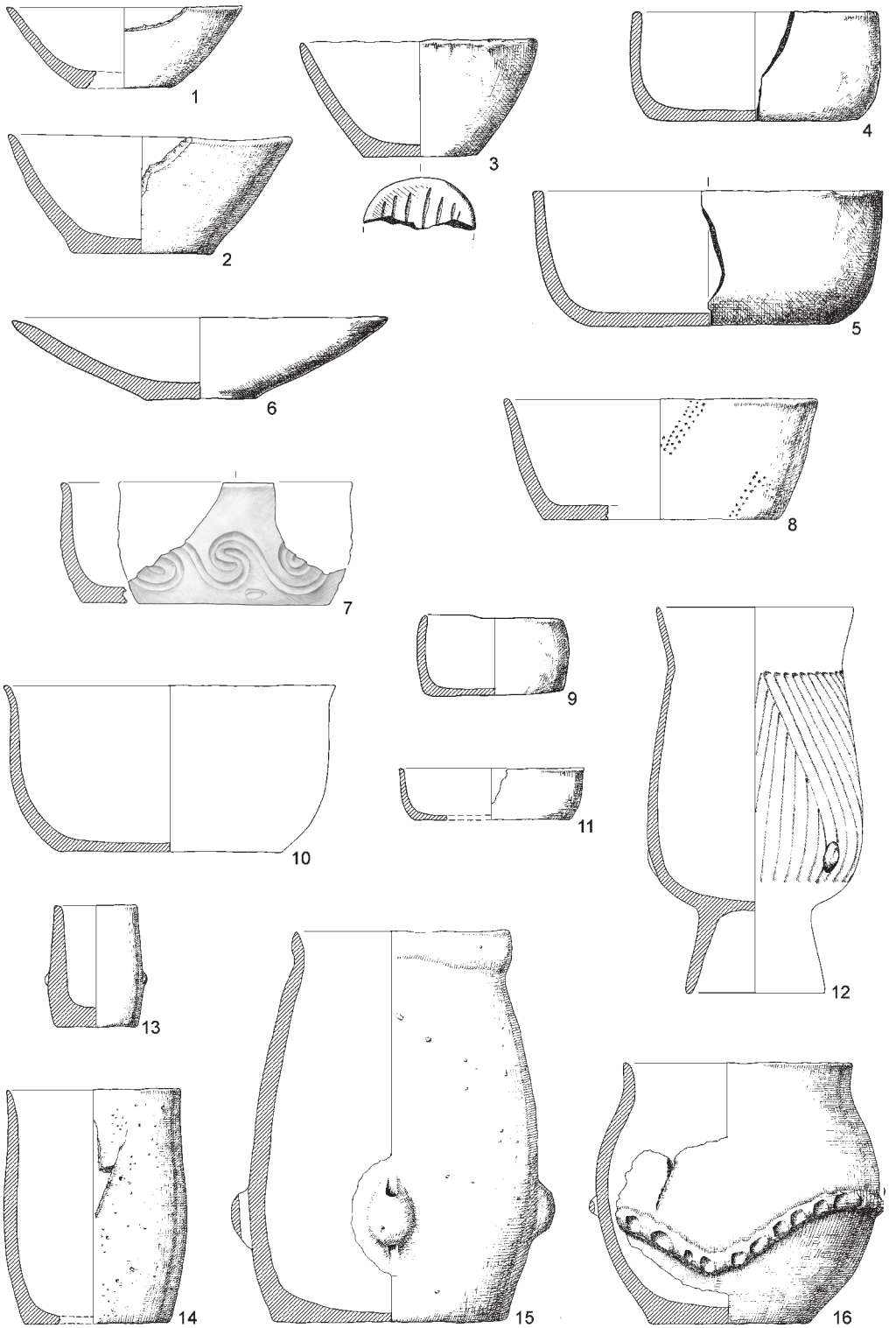


Fig. 22. Pottery from Sectors Northeast and North. Scale 1:4.

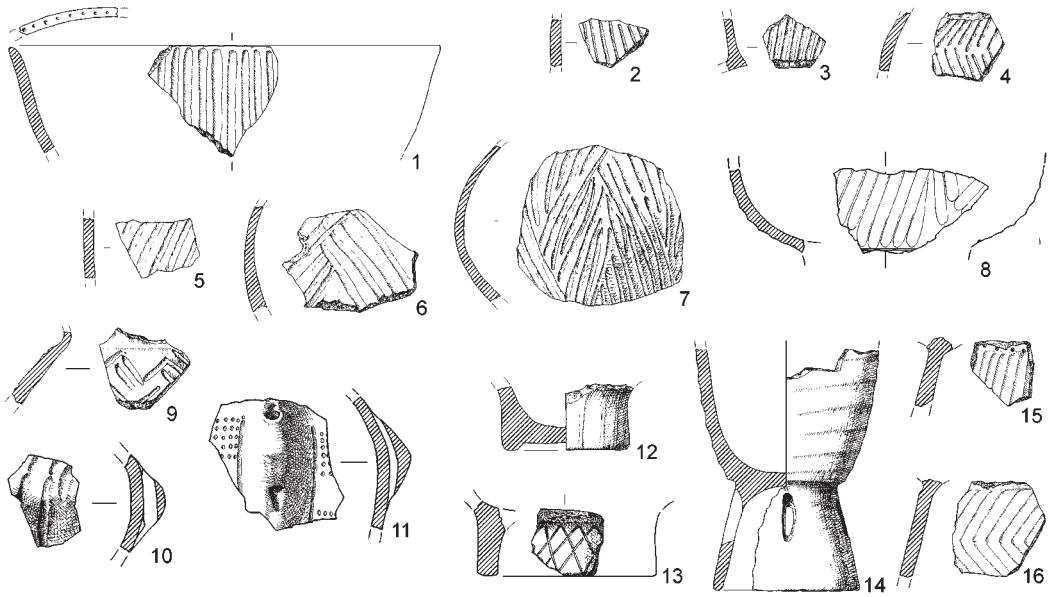


Fig. 23. Pottery with fluted and incised decoration. Scale 1:4.

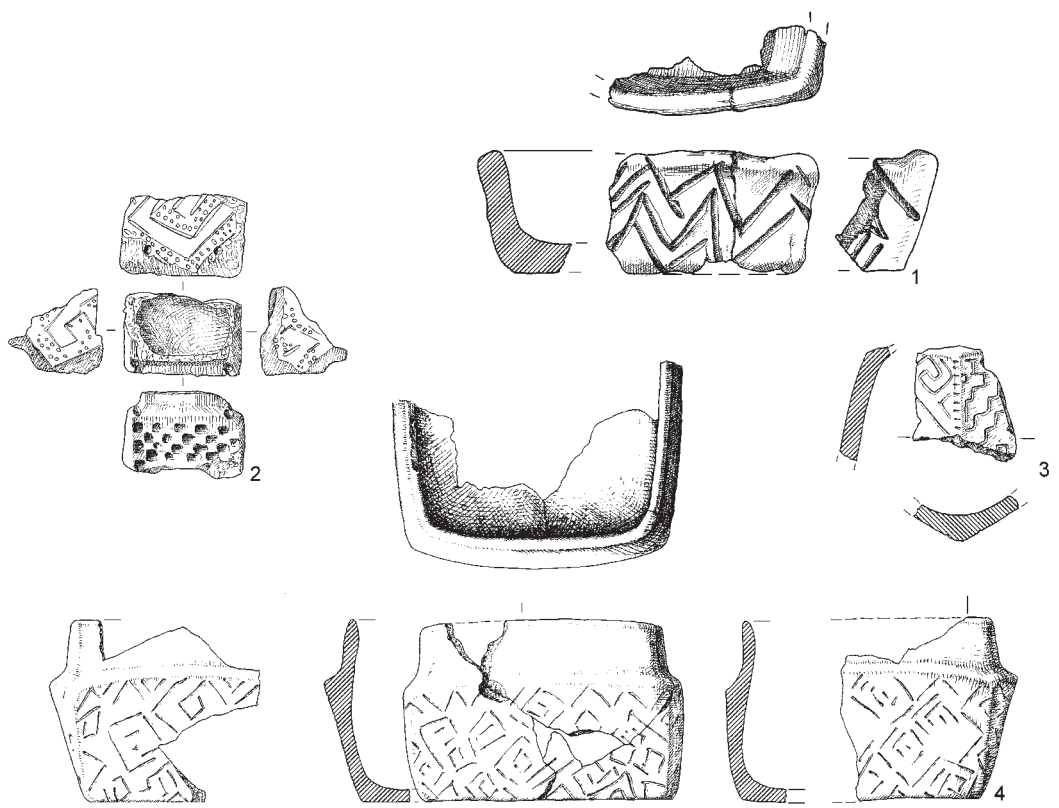


Fig. 24. Rectangular vessels and containers. Scale 1:3.

Fig. 25. Stone tools. Nos. 1-14 – Scale 1:3; 15-18 – Scale 1:4.

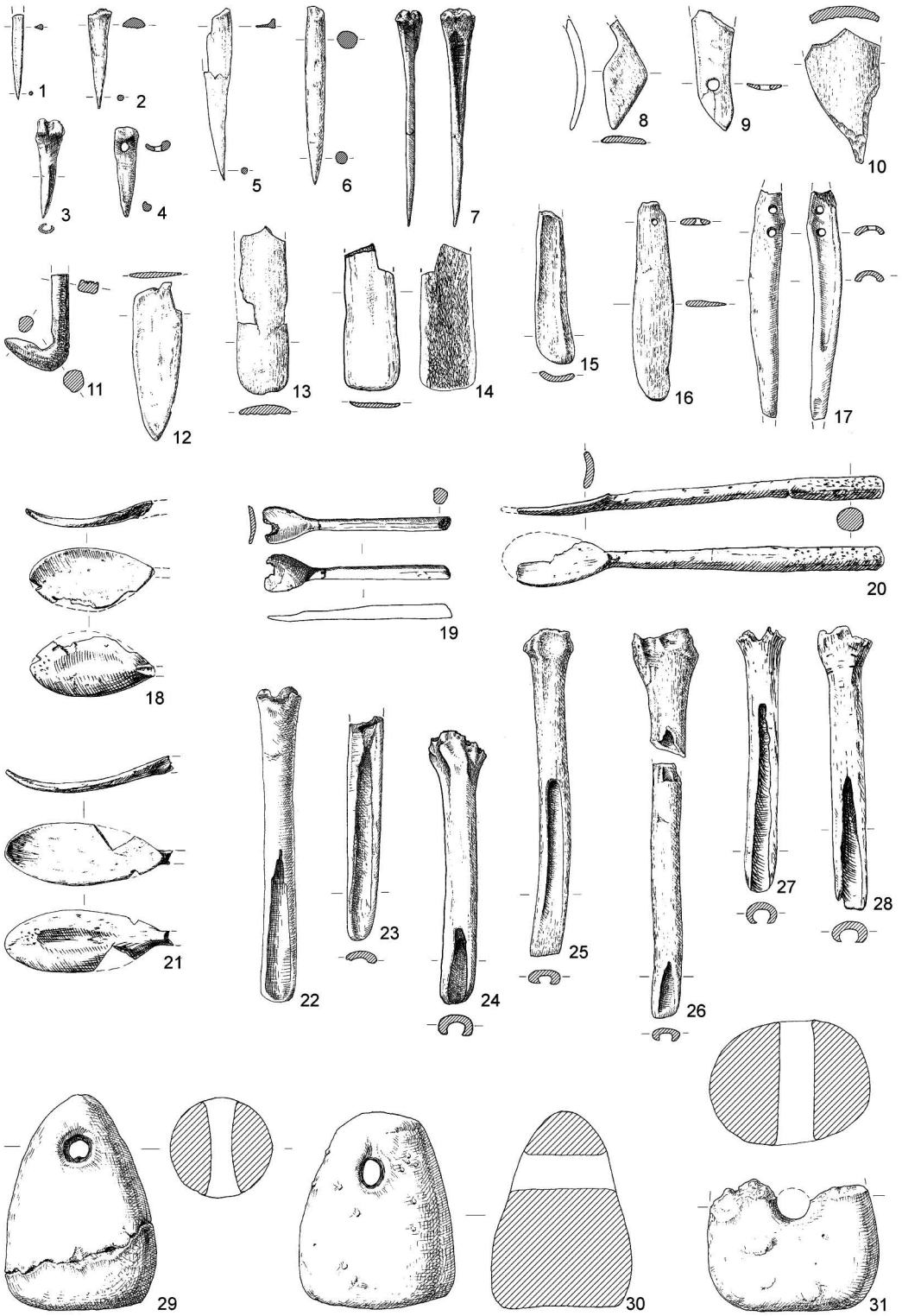


Fig. 26. Bone and terracotta small finds. Scale 1:3.

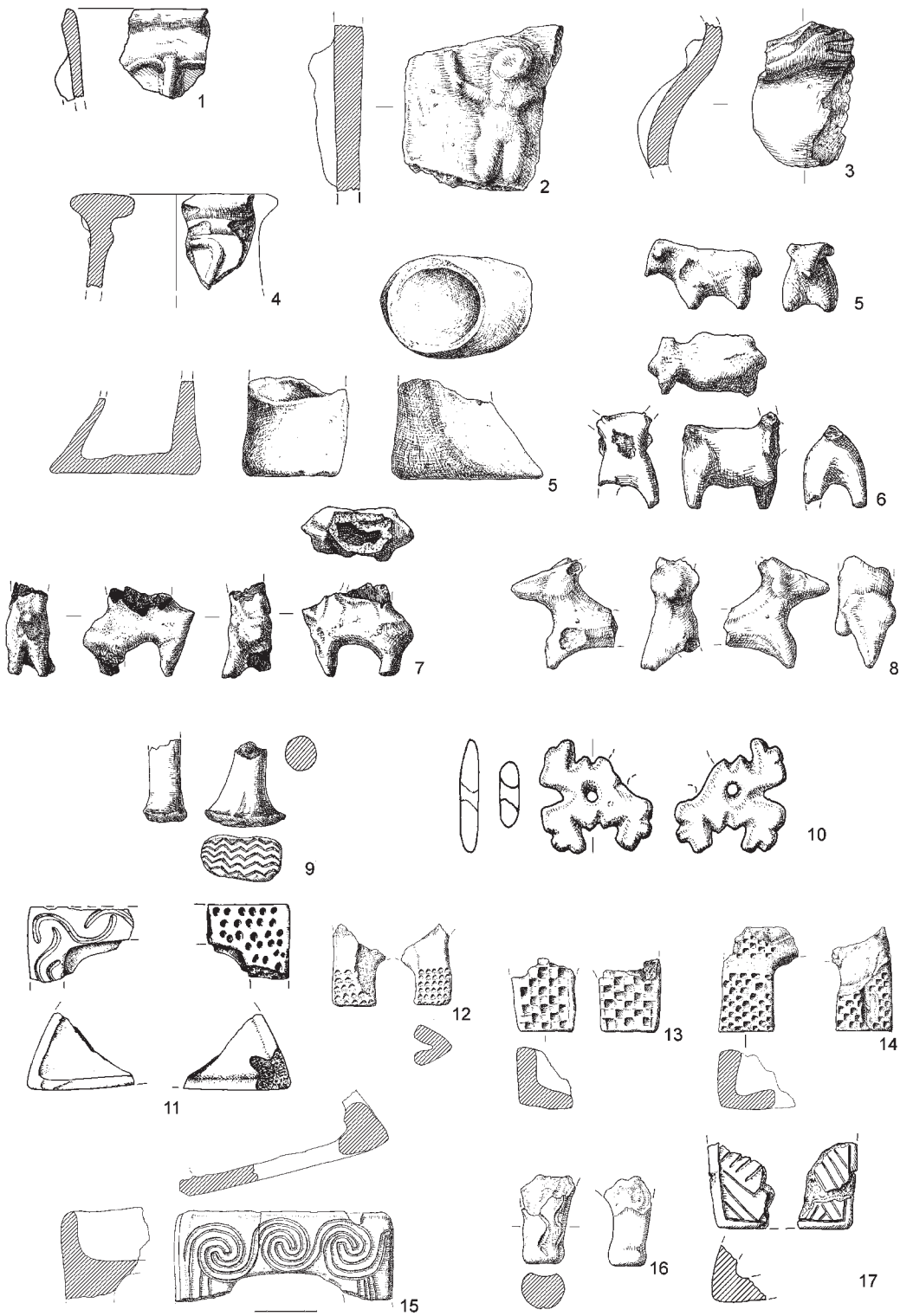


Fig. 27. Small finds. Nos. 1-8 – anthropomorphic and teriomorphic figurines (Scale 1:3); 9 – clay stamp (Scale 1:2); 10 – stone pendant (Scale 1:2); 11-17 – tripods (Scale 1:5).

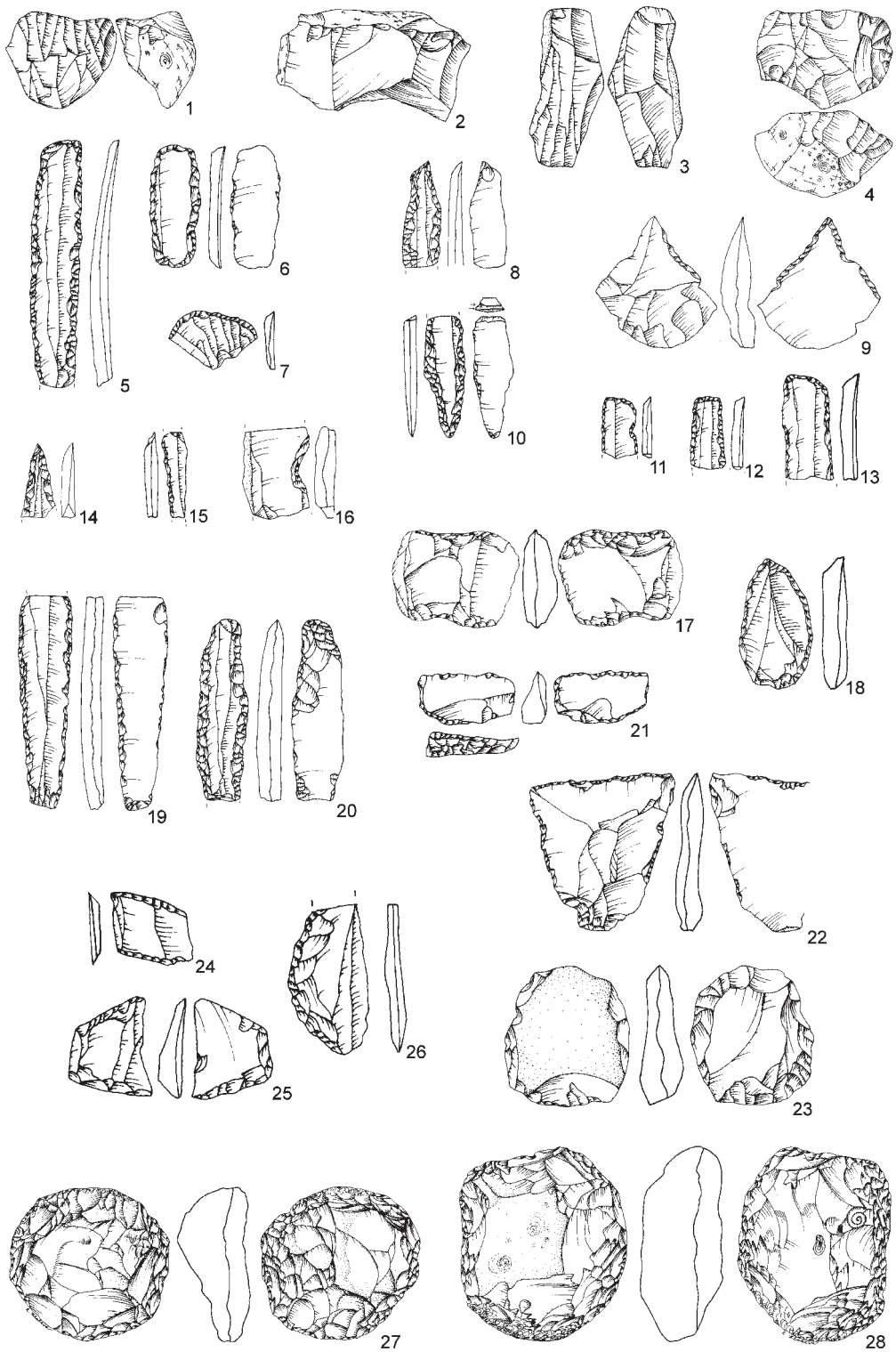


Fig. 28. Flint nuclei and tools. Nos. 1-3, 5-22 – Scale 1:2; 4, 23, 27, 28 – Scale 1:3; 24-26 – Scale 1:1.