

ARCHAEOLOGICAL RESEARCH AT HAMANGIA III SETTLEMENT FROM CHEIA (2004-2008)

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Archaeological research undertaken in the last decade along the Casimcea Valley pointed out the outstanding scientific potential of this microregion¹, which was signaled even from the 50's and 60's by researchers who have done stratified soundings in the grotas and caves of the carstic Central Dobrudjean Plateau.

The archaeological diggings at Hamangia settlement from Cheia – the village hearth, proved itself to be an inspired one, because, a rich and wealthy material was discovered, constructive details² were identified, complex pluridisciplinary analyses³ were made, which all completed the old, deficient type of settlement from Hamangia. As a result, we considered necessary to present the results obtained in the 2004-2008 archaeological campaigns, the new information enriching the preliminary report (VOINEA, DOBRINESCU 2002-2003; BĂLĂȘESCU, RADU, 2002-2003).

Until nowadays, a surface of approximately 585 mp was excavated, representing the following sections and soundings S.B. (4 x 12 m) / 2001, S.C. (37 x 3 m) / 2002, S.D (2 x 16 m) / 2004, S.E. (6 x 18 m) / 2004 – 2006 (fig. 2/1), S.G. (8 x

¹ Between 1984-1985 surface investigations in the Histrian territory were undergone along the Gura Dobrogei affluents, Grădina and Râmnic (ALEXANDRESCU *et alii*, 1986). Between 2001-2008, saving diggings were made in the late Roman settlement, when the gas pipe and the improvements of the Casian cave pond were constructed. (BĂJENARU, 2002; 2003). The systematic research from Hamangia settlement, Cheia – the hearth village, added into a vaster research theme that aims at Neo-Neolithic from the West-pontic seashore, a project financed by The Cults and Culture Ministry (*The co-evolution of man and environment in the Black Sea basin. The impact of the climatic and geo-morphological changes over the neo-neolithic communities along the West-pontic seaside region - the segment between Mangalia and Tasaul* / 2007-2010).

² The application of the microstratified method allowed the capturing of some unburned down dwelling places.

³ Until nowadays, the Cheia settlement offers the richest faunistic lot for the Hamangia sites. The gathering of the archaeo-zoological and ichthyological material from certain archaeological contexts make possible the seasonal analysis, the identification of some detail elements related to paleoeconomy and diet of the Hamangia communities.

16 m) / 2007 (fig. 2/2), S.F. (4 x 12 m) / 2008 (fig. 2/3), the soundings S.2 (1 x 20 m) și S.3 (1 x 10 m) / 2007 in the interior of the settlement, S.A. (2 x 10 m) / 2001), S.1 (1 x 10 m) / 2007 in the exterior and ST.1 (1 x 30 m), ST.2 (2 x 10 m), in the area of the tumulus situated at aprox. 100 m NW from the settlement (Fig. 1).

Stratigraphy

The impossibility of research on a larger surface⁴, as well as the scattered character of the settlements made difficult the establishing of a general stratigraphy. Until nowadays, we identified most dwelling sequences in the SE and SG sections. The chronological succession of archaeological complexes investigated in the two sections are as follows:

- in the first moment of dwelling the oven was built C.20 (-2,60 / -3,55 m; Fig. 6 - 7).
- the second sequence corresponds the dwelling L.2 (-1,20 / -1,80 m; Fig. 9/2), the holes C.11, C.12, C.13;
- the third section was marked by several holes of larger dimensions C.1, C.2, C.5 (SC), C.8 (SE; Fig.10: 4-6), C.7(SD), C.9, C. 10 (SE; -0,90 / -2,25 m; Fig. 10/1-3).
- the dwelling L.1(-0,30 / -0,70 m; Fig.3/1; 4/1) and the exterior hearth C.21 (0,50 / 0,70 m) correspond to the last dwelling sequence.

Archaeological complexes

The majority of holes of larger dimensions were formed by clay extraction; their irregular outline and the fingerprints kept in negative demonstrated their forming method. (Pl. 10/4,6). Later on, the irregular clay cavities were discovered containing food remains, the filling being made of several layers of sedimentary sediments with heterogenous compositions, very rich in archaeological material (C.8 – Fig./10:5). In many preliminary reports previously published, the large holes were mistakenly considered mud house settlements. Yet, the large sizes of these holes do not represent a sufficient criterion to define the living space inside the mud house. The lack of interior improvements (such as floor, hearth), the irregular outline of larger holes (D >1,50 m) - C.1, C.2, C.5, C.8, C.9, C.22, C.24 determine us to frame them in the categories of clay extraction.

Another category of smaller, circular holes (D < 1,50 m), with a „bell” profile are situated in the vicinity of some combustion structures used for household purposes. Their filling contains ash, coal, hearth tiles. The holes C.3 (D = 0,80 m) and C.10 (D = 1,25 cm), situated inside dwelling L1, cut the first dwelling level and they are covered by the later floor repair (fig. 10/1-3). The hole C.31 (D = 1,15 cm) disturbed the exterior hearth C17 (Fig.5/2).

Out of five investigated hearths, the only preserved one appeared in section SF, at a depth of 0,50 m: the exterior hearth C.21, square-shaped (1,20 x 1,20 m), with rounded edges and a wide-mouthed chime, with no repairs, the thickness of burned tiles being of only 3-5 cm (Fig. 4/2). Other three hearths were detected in profiles:

- hearth C.4, in the south profile of section SC, at a depth of 0,20-0,30 m, situated inside dwelling L1; gravel was used for the improvement bed and for the level of reconstruction (2 constructive phases); L = 1,70 m.

⁴ Most sections were made on private property, that is why, at the end of each campaign, those sections were covered.

-the hearth C.17, in the south profile of the SE section, at a depth of 1,75 m, cut by the holes C.8 and C.31; dimensions: 1,30 x 0,90 m (Fig. 5/1-2).

-the hearth C.25, in the south profile of the SE section, at a depth of 1,65 m, situated inside dwelling L2; L = 0,85 m. Also, inside dwelling L 2, at a depth of 1,50 m, (SG) we discovered a very disturbed hearth C.26.

The stove C.20 was arranged in a ditch of aprox. 1 m deep, carved in loess, detected in the north profile of the SE section (Fig. 7/1-3) and the south profile of the SG section (its basis reaching until - 3,60 m as opposed to the actual treading level). In the open panel in the south profile of SG section (Fig. 6/1-2), the remains of the stove (very disturbed), streched on a surface of 2,30 x 1,60 sqm. In the upper side of the destruction level several fragments from the collapsed ceiling were detected.

The dwelling L1, outlined in the sections S.C., S.E. and SG, at a depth of only 0,30 m, was very disturbed after the abandonment and its constructive details were detected only fragmentary, especially on the profiles (Fig. 4/1). As a result, on the north profile of the SE section and on the south profile of the SG section a foundation ditch was identified C.27 / US. 3127, section SG. (Fig. 3/2-3) and C.29/US. 3070, section SE, destined for a partition wall, which alters our initial observation, the dwelling being partitioned and not unicellular. Fragments from the partition wall (on a length of aprox. 0,80 m) were detected in the SE section (Fig. 3/1). Also, on the profile, four remending of the floor were identified. Later improvements of the dwelling could only have been detected in the shape of a very disturbed hearth C.4, situated in the south side of the dwelling (SC). The archaeological inventory is rich and varied: ceramics, flint microliths, small stone axes and chisels, rings, idols, bone pearls.

The dwelling L 2, partially superposed by dwelling L 1, has a very uneven floor, and underneath the stove C.20 was discevered. The very small and sinked treading level inside the dwelling marks four successive remakings. The destruction level, under the shape of an adobe mass, occupies a surface of aprox. 60 sqm. In the abandonment level, very rich in faunistic remains, the hearth apeared at a depth of 1,50 m (US 3097).

As in the case of dwelling L 1, the walls have not been burnt, after the abandonment being gradually destroyed, which makes impossible the attempt to mark the limits of the construction. The only constructive details that have been detected on the north profile of SG section are : underneath the partition wall between rooms a foundation ditch was delimited (C.30/3088). At its basis, in an alveolate area (C.16) we discovered a ritual sediment – bones coming from a young bovid together with bones from other species (Fig. 8:1-2). The investigation of the dwelling L2 provided us with even greater surprises: on the entire surface skulls and parts of skulls were discovered, coming from species such as: *Equus hydruntinus*, *Bos primigenius*, *Bos taurus*, *Cervus elaphus*, *Capreolus capreolus*, *Ovis aries*, *Capra hircus*, *Canis familiaris* (Fig. 9/1-2; BĂLĂȘESCU 2008). Just as surprising was the archaeological inventory of this layer (US. 3079, 3081, 3094, 3096): together with usual pieces such as ordinary practice vessels, microlyths, flint nuclei, axes and chisels, needles and stitchers, rings, bone beads, cult pieces, some of them unique for the Hamangia culture were discovered. Among these, an idol, a Spondylus anthropomorphous amulet, with its belly area marked by an

opening (Fig. 17/11) and a schematic representation of clay, its fragmentary state making us unable to identify the silhouette.

The lithic industry surprises through the typological variety and through the microlithism. In terms of percentage, the flint tools and weapons represent the largest category so far, being discovered over 2000 pieces. Most of the pieces were cut in brown-beige local flint, also called „Balkanica” flint. Rarely (under 5%), we encounter the microliths made of grey-black flint, similar to those discovered in eneolithic sites in the Varna – Beloslav lakes region.⁵ The „domestic” character of the lithic industry is suggested by the large number of nuclei and chipping splinters. The microlithic pieces obtained through indirect percussion – especially the long and thin blades (aprox. 5 mm) – point out the craftsmanship of the people in the Cheia settlement. Typologically speaking, we find all categories signaled in the other Hamangia sites: vielle arrow points, dihedral burins, blades, micro-graters, blade-graters, splinter graters, knives, geometrical microliths (Fig 12-13; HAȘOTTI, 1997, p. 34; SIRAKOV, 2002; GUROVA, 2002;). The blades used for the sickles have a strongly polished active part (Fig.13/2). Green-gray axes made of granite (brought most likely from north of Dobrudjea) and chisels carefully cut from shale, gritstone and calcite (local rocks) are scarcer (Fig. 13/3-4). Stone perforated pieces are missing. Portable mills and plungers, discovered especially inside the settlements, together with carbonized cereals, complete the picture of household activities linked to the cereal growing.

The industry of hard materials, especially of animal origin was considered for a long time to be not so well developed at Hamangia populations. These objects did not stand out either through their number or through the typological variety (HAȘOTTI 1997, p. 35). The research of Cheia from the 2001-2002 campaigns had not changed this situation (VOINEA, DOBRINESCU 2002-2003, p.12). In return, in the 2004-2008 campaigns, a very rich lot, but not so varied, of bone tools, has been discovered. Their number exceeded 100, being, by far, the most representative sample for the Hamangia culture. This thing may owe also to the research method used as well as to the washing out of a large quantity of archaeological deposit.

The largest category is formed of stitchers (Fig 14/1). Morphologically speaking (after the form of the distal part), they can be categorized into several subgroups: needles with a linear longitudinal section, simple or with head and point, most of them in large sizes, with triunghiular longitudinal section. The ratio between the 2 subgroups is aprox. 5 to 1.

The length of the needles varies between 3 to 17 cm, most of them could be framed between 5-10 cm. Due to their frailty, most of them being already broken for a long time, it is impossible to establish their initial sizes. The distal part of the small pieces (3 to 6 cm in length) is sharpener, thinner, with important traces of blunting from the handles in which they were fixed. Most of the points have been made from animal rib. Two pieces with their proximal side cut uneven: the distal half is thin, with the thickness like most of the stitchers from this group, while the

⁵ In a recent study, L. Manolakis considered that the grey-black flint, discovered mostly in the flooded regions in the lake Varna settlements, was formed through the alteration of beige muddy flint, the light coloured core being kept in the larger pieces (MANOLAKAKIS 2008, p. 117).

other half remained unfinished. One may think that the thicker part could have been spared to serve as handle. Rarely, round bones, empty on the inside, have been used as stitchers, their point being made through oblique cut and sharpening.

The polishers and the spatulae, made of cow ribs and astragali of ovicaprine, were used for polishing the vessels.

From the category of intermediary pieces we can mention the handles, cut very often from bones with medullary canal (bovine, ovicaprine). A less usual piece, probably of the same category, was made of an equine phalanx through the circular perforating of the wall (Fig.14/3).

The *jewellery* made of *Dentalium*, *Spondylus* and *Cardium* shell are exquisite: necklaces, tubular pearls, an anthropomorphous amulet. The same holds good for bone rings, in the course of finishing and stylization (Fig 14/2, 4).

The ceramics

The Cheia ceramics corresponds to the classical phase Hamangia III, best represented by the so far discoveries. The vessels were mostly hand made, the large ones made by the soldering of some clay stripes, whereas the small ones by the moulding of a piece of clay. A singular category is made of objects simetrically shaped, with thin walls, which, suggests, through their quality, the existence of a speed wheel with slow rotation.

The vessels with bottom hollow are very interesting. One can notice, traces of knitting / mats, presumably coming from during the drying process. The profundity of the vegetal prints, especially in the case of smaller vessels, could be explained only through a powerful pressing, the vessel being held on a knitted mat during moulding (Fig. 15/12).

In order to establish the ceramic categories two elements have been taken into consideration – the structure of the paste and the type of burning. As a result 3 groups have been identified:

- A category - homogenous paste, completely burnt;
- B category – paste with impurities, well tempered, completely burnt;
- C category – paste with a lot of impurities, insufficiently tempered and burnt, often exfoliated (VOINEA, NEAGU 2006a, p.11).

On an exhaustive analysis we have noticed that the ceramics discovered in the holes C.1, C.2 and C.3 belongs to the B category (aprox 2 thirds from each of the analised complexes). Although it was not large in number, the A category ceramics stands out through its wonderful quality. The clay was carefully prepared, well tempered, and they used sand as main degreasing substance, and sometimes well pounded fine clay. Exceptionally, mica also appears but it has not been specified if it was added during the technological process or it could have been found in the natural clay deposits. The ceramic objects belonging to the third category are fewer than the other ones.(usually under 10%) (VOINEA, NEAGU 2006a, p.30).

The stylization of the vessels was made with care, the vessels being covered in fine quality engobe, mostly of dark shades from scarlet to black with metallic shine. The ratio between the polished and the non polished vessels is favourable to the former category.

Generally speaking, the colour of the Cheia ceramics proves an uniform, good quality burning. Dark colours predominate, which suggests a closed medium for burning. The discovery of the ceramics in the unburnt complexes excludes the possibility of accidental burning. As a result, the traces of secondary burning appear frequently only on the sphere shaped vessels, covered on the exterior in slurry or incisions, used for food making.

The shapes are those used in the contemporary settlements: shapes with harmonious proportions, balanced ratio between different parts of the vessels, the preference for middle or small sizes. The most frequent open shapes are bowls, and rarely fruit dish with stem. The profiles are close to letter S, the margins being arched towards the exterior, rarely straight or arched towards the interior. The closed shapes, more varied, includes bitronconic vessels (from miniature cups to large, deep bowls), tronconic ones (from glasses to vessels of 20-30 cm in height) and cylindrical vessels (especially glasses – Fig. 15/3), large vessels – pythoi – with the inferior part sphere-shaped, thin neck and the rim arched towards the exterior. This type of vessels has been discovered in the Durankulak necropolis having sometimes prosomorphous lids (*Durankulak* 2002, Teil 2, tabl. 161/3, 196/1). Several fragments of lids have also shown up in the Cheia settlement – „hood” lids (Fig. 15/8), as well as conic, simple or with knobs.

The ornament is impressive through its minuteness. The lines of dots, lines, triangles are organized harmoniously and simetrically. With simple motifs, lines, triangles, rarely with meanders, the potterer proved his artistic craftsmanship; through lines of vertical hollows he managed to amplify the gracious line of the closed vessels in „S”, with the large upper side, largely widen out at the mouth (glasses, vessels with necks) and through its radial ornament he created the illusion of rotation for circular surfaces (bowls, fruit dish, lids, salvers). Fine, parallel or concentric folds create the impression of a painting (Fig. 16). On a ceramic fragment one can notice a human silhouette (Fig. 15/11). This is one of the few anthropomorphous representations from Durankulak necropolis (prosopomorphous lids).

The analysis of the ceramic material from Cheia, starting from typological and stratigraphical observations, points out its uniformity. Although the settlement has at least four dwelling sequencies, we cannot notice variations in the technology of vessel making or in their shape or ornament.

Varia. The clay weights used for the weaving looms have a longitudinal ditch just on the gripping opening, which is an unusual form until nowadays in the Hamangia culture (Fig. 14/5). The miniature vessels like glasses and long-necked vessels, are associated with the ritual practices, similar pieces being discovered in necropoles (Fig. 15/1-2).

Plastics. During archaeological research from Cheia settlement between 2004-2008, a large number of anthropomorphous figures have been discovered. The minimum number of figures exceeds 30, which can be added to those discovered between 2001-2002, and they offer a total number of 40, representing the richest lot offered by a Hamangia settlement. If some of the figures can be seen as classical ones, as defined by D. Berciu (BERCIU 1960) and nuanced by P. Hașotti (HAȘOTTI 1986), others are exquisite representations, unique even, in the general picture of those communities. Those objects have been found not only in the

inside but also in the exterior of the settlement complexes – holes, dwellings.

Most figures have been made of clay, with the exception of *Spondylus* amulet. The paste differs from one figure to the other, there were figures made of dense, well tempered clay, whereas in the case of others a porous, non-homogenous, crumbly paste has been used. As degreasing substance fine clay and sand had been used. In the case of fragmentary pieces, technological details have been noticed – the moulding has been made through the successive adding of clay layers. This is a very interesting aspect from a certain point of view: the origin of the plastic Hamangia culture has several times been traced in the Hacilar tradition. If shape had been one of the arguments in favour of this hypothesis, which is very unlikely, as long as representations similar to Hamangian canons are spread on large areas during the Neolithic period, the moulding of the pieces is totally different, pleading thus in favour of the existence of different roots. The Hacilar figures were made of one sculpted piece of clay (MUSCARELLA 1971, p. 77-78).

The surfaces of most of the pieces has been treated with care, being covered with black or dark brown, polished slips. With few exceptions, the burning process was well made, uniform, contrasting with those figures discovered in necropolises, that were so broken that it made their reconstruction impossible.

Although most figures fall into the three classical categories of the Hamangia plastics, standing, sitting, and with realistic moulded head, the existence of canons is far from hindering the creativity of old artists. New discoveries from Cheia enrich the already known artistic repertory. A 4 cm figure stands out, moulded of crumbly paste, its surface being neglectfully treated. The burning does not seem to be of a good quality. We can only assume what it represents. It may be the image of a character dressed in a long dress and underneath it we can vaguely see its legs. It looks as if it is wearing a mask, and its posture might suggest that of a person taking part in a ceremony. Yet, these are only suppositions.

A figure with *bell-dress* is different (Fig. 17/12), unique so far in the Hamangia area. The way in which it was made brings it nearer to the Boian culture; it could have been imported, but a precise analogy has not been found yet.

Another important piece is an anthropomorphous amulet made of *Spondylus gaederopus* shell (Fig. 17/11). Similar pieces have been discovered in the Durankulak necropolis (VAJSOV, 2002, p. 261 – 262, Abb.255; Durankulak 2002, Teil 2, tabl 105/17).

If we cannot draw relevant conclusions taking into account the discovery context, more elements come to illustrate special practices in which those figures were used.

One first clue is illustrated by the crumbly state in which they can be found nowadays. The breaking of the head, hands and legs is an unlikely hypothesis. Traces of hittings are visible on a large number of them and the favourite area seems to be the stomach. Furthermore, halves of torso have been found, which might be the result of strong, intentional hitting.

The second element that comes to illustrate the using of figures in some special practices is the discovery of lower halves of some figures, which presented

in the genital area evident traces of red ochre.

Conclusions

The results of the researches in the Cheia settlements allow us to complete with new data the type of Hamangia habitat. Situated on the south side of the plateau near the Casimcea river, the settlement has been protected by strong winds and, at the same time, it has had a good visibility, controlling the entrance in the Dobrudja gorge. The wealth of the natural riches allowed the Hamangia communities from here to live for a long time, a proof to sustain this idea are the four stratigraphic sequences. The stratigraphic differences between the sequences suggest the scattered character of the settlement and the successive recurrence of the communities, after short periods of abandonments, the explored regions for clay being later on inhabited. The archaeozoological analyses confirm the field observations: the pastoral character of the economy is showed by the high percentage of domestical animals, especially bovine and ovicaprine. The meat requirements was completed with hunted animals, especially large ones. (equines and cervids).

Apart from the economic level, the animals also played an important role in the religious life of the Hamangia communities. The preference for animal offerings (especially skull parts) exceeds the funeral domain (Cernavoda and Durankulak necropolises), the ritual deposit discovered under the wall of dwelling L2 being related to the foundation rituals.

The mobility of the Hamangia communities along the Casimcea valley – a passage way between the central Dobrudjean karstic zone and the west-pontic zone – is proven by the presence, in the Cheia settlement, of fish and marine mollusks as well as that of grey-black flint, specific for Varna region. The intercultural exchanges Hamangia – Boian, mentioned from the 60's due to the soundings in the La Izvor and La Baba caves, have been confirmed by the discovery, in the Cheia settlement, of some Boian- Vidra imports: ceramic fragments (Fig. 15/13) and most probably, a figure with a „bell” dress (Fig 17/12); (VOINEA, NEAGU 2006b; CĂRPUȘ C., CĂRPUȘ L., 2006; 2007).

The absolute date for a sample of Bos bone (US 3010) obtained at the Belfast University laboratory UB-7276 / 6020 ± 43 BP; (1 sigma) cal BC 4977 – 4975; (2 sigma) cal BC 5020 - 4797⁶ relates to the cronology of the Hamangia III phase (5000 – 4700 BC).

The expanding of the archaeological research in the caves and shelters of the Casimcea Valley region will allow, in the future, a better understanding of the living strategies in close connection to the area natural resources. Thus, the living dynamics of the Hamangia communities will be looked upon through the perspective of co-evolution man-environment, of the changes of the microrelief (the Casimcea flow, the configuration of the Tasaul lake, the marine transgression), all these traits could be indirectly found in the type of habitat and economy.

⁶ The date was obtained in a project ECONET, coordinated by Anne TRESSET – CNRS, and Adrian Bălășescu - MNIR.

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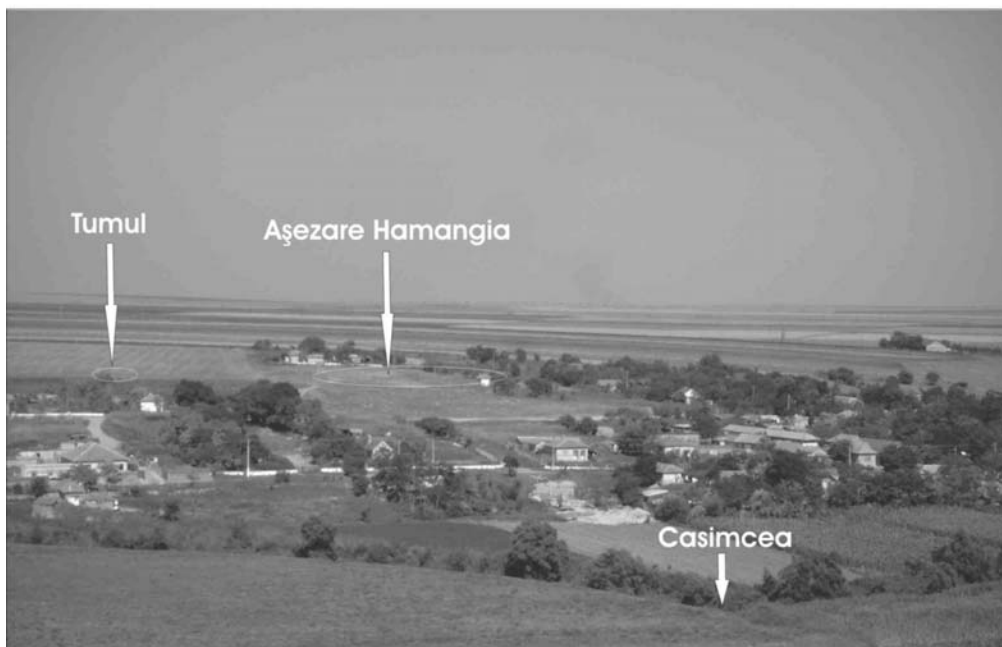
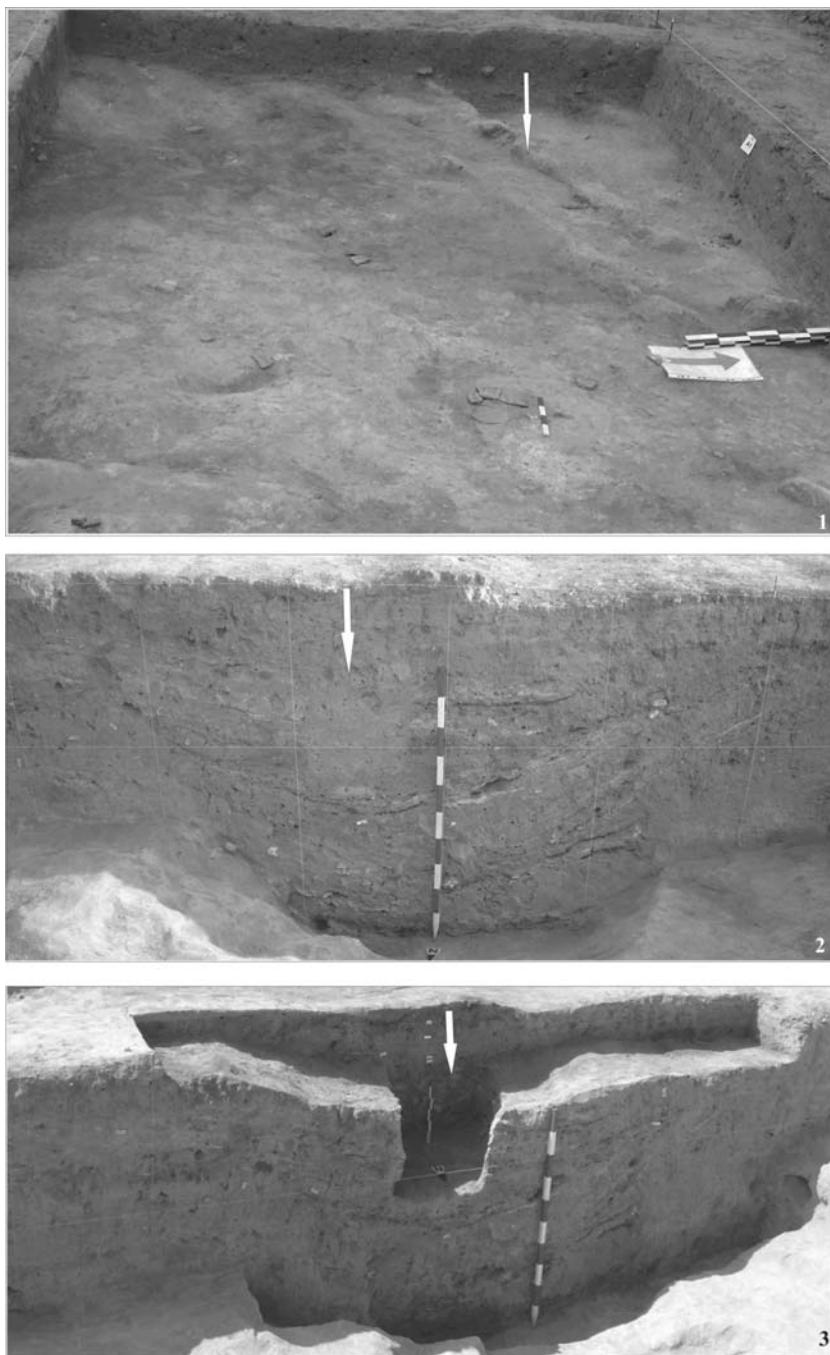


Fig.1 - The Hamangia III settlement from Cheia (Grădina village, county of Constanța).



Fig.2 / 1 – Section SE, view from W; 2 – section SG, view from E;
3 – section SF, view from W.



**Fig.3/ 1 – Partition wall C.27 inside the dwelling L.1, SE section , view from E;
2 and 3 – The foundation ditch C.29 of the partition wall C.27 inside the dwelling L.1,
the S profile of the SG section, view from N.**

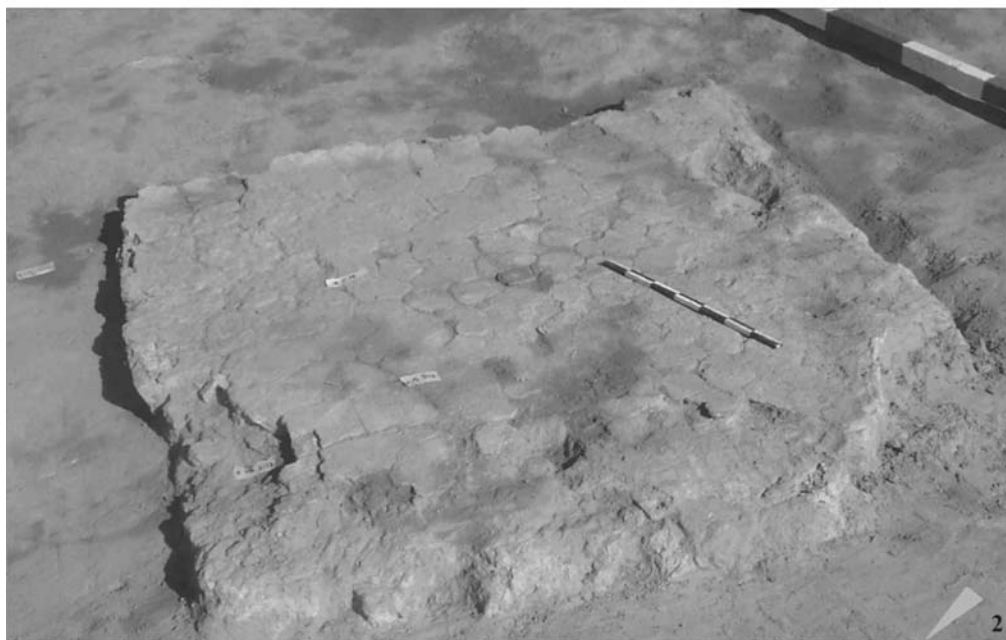


Fig.4/ 1 – Agglomeration of hearth tiles inside the dwelling L.1, section SE, view from S;
2 – Exterior hearth C.21, section SG, view from NW.

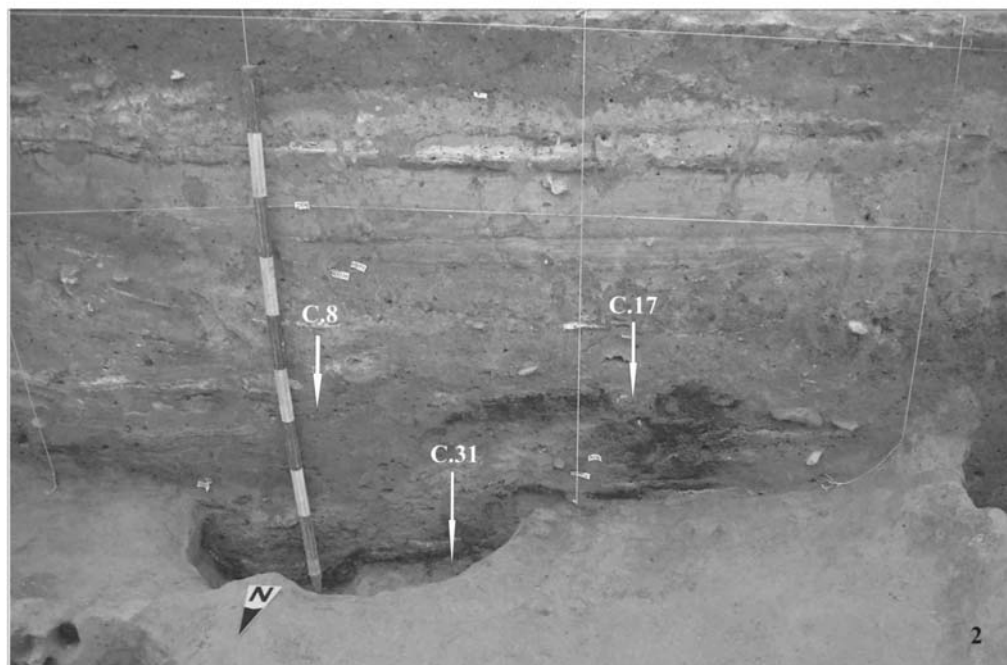


Fig.5/ 1 and 2 – Exterior hearth C.17, section SE, view from NE (1) și N(2).



Fig.6/ 1 – 3 - The kiln C.20, section SG, view from N.

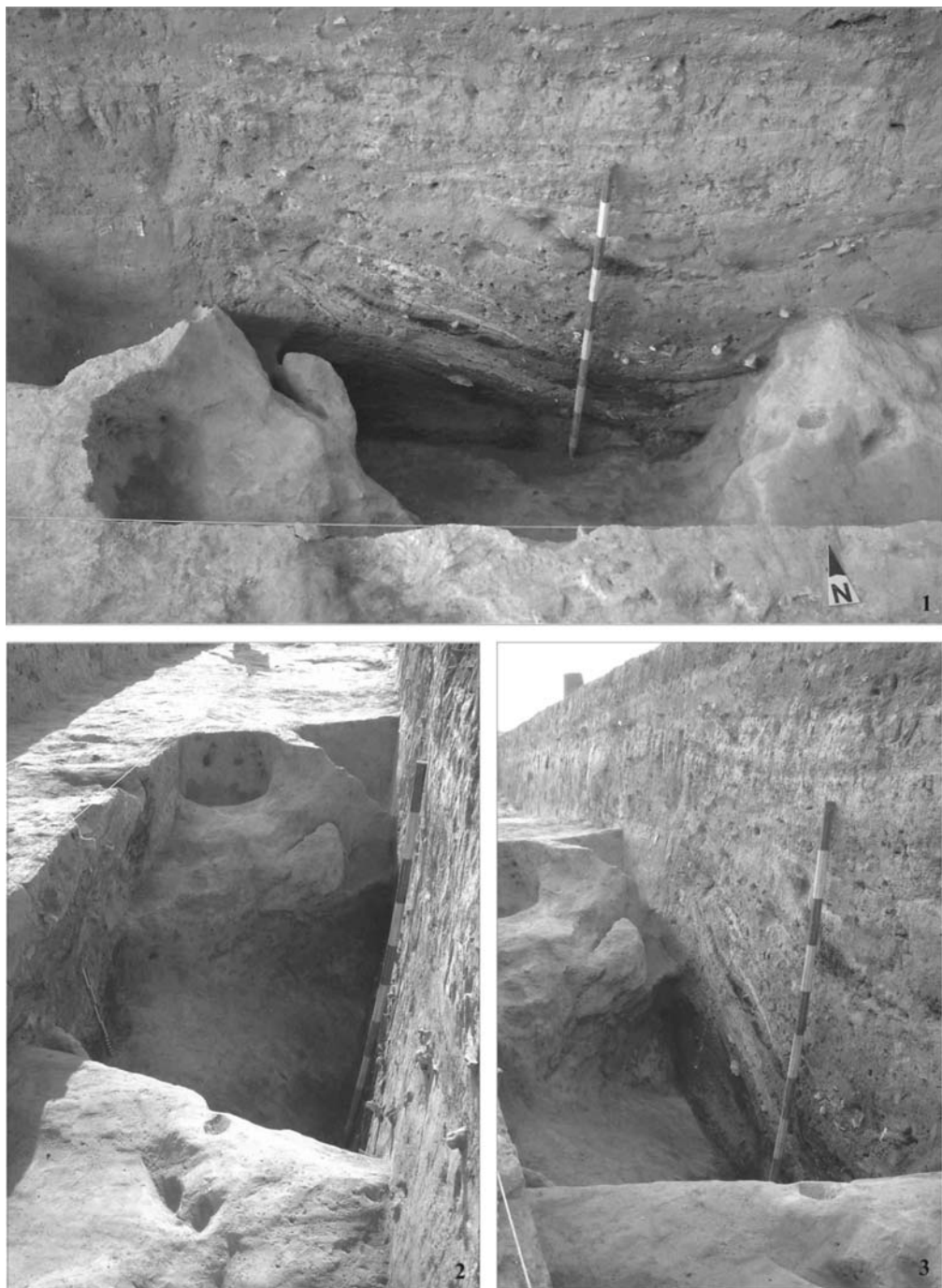


Fig. 7/1-3 - The kiln C.20, section SE, view from S (1) and E (2 and 3).

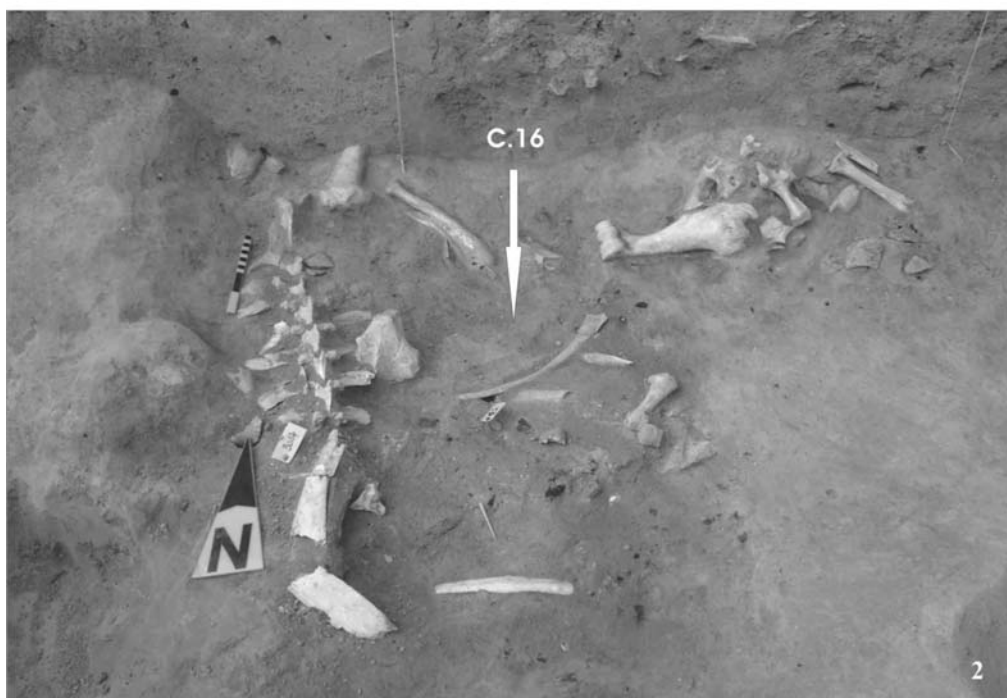
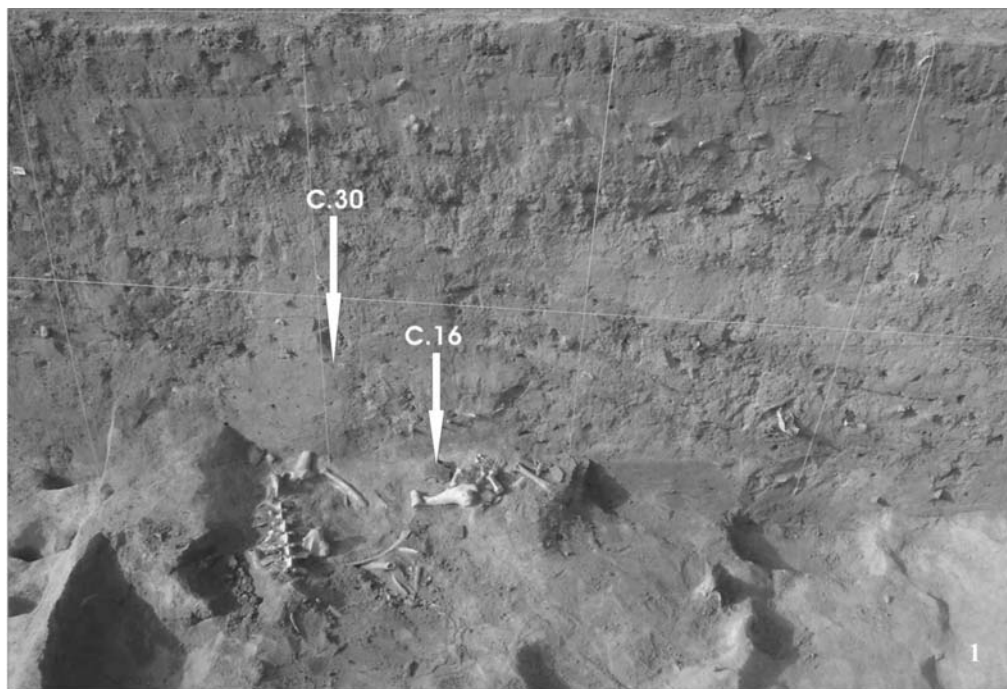


Fig.8/ 1 and 2 – Ritual deposit C.16 under the foundation ditch C.30 of the partition wall, dwelling L.2, section SE, view from S.

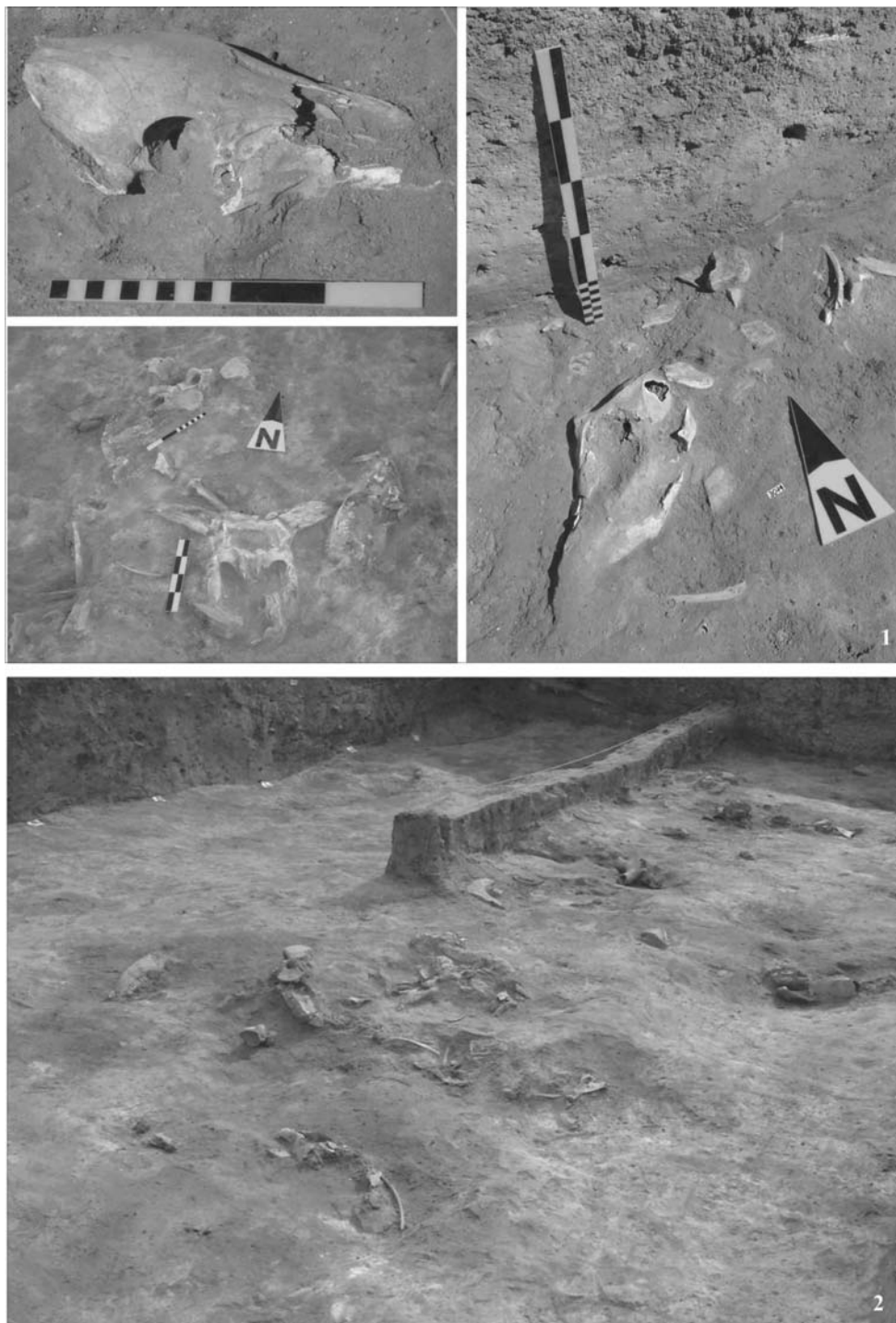


Fig.9 / 1 and 2 – Skulls inside dwelling L.2 (US. 3094), view from SW (2).

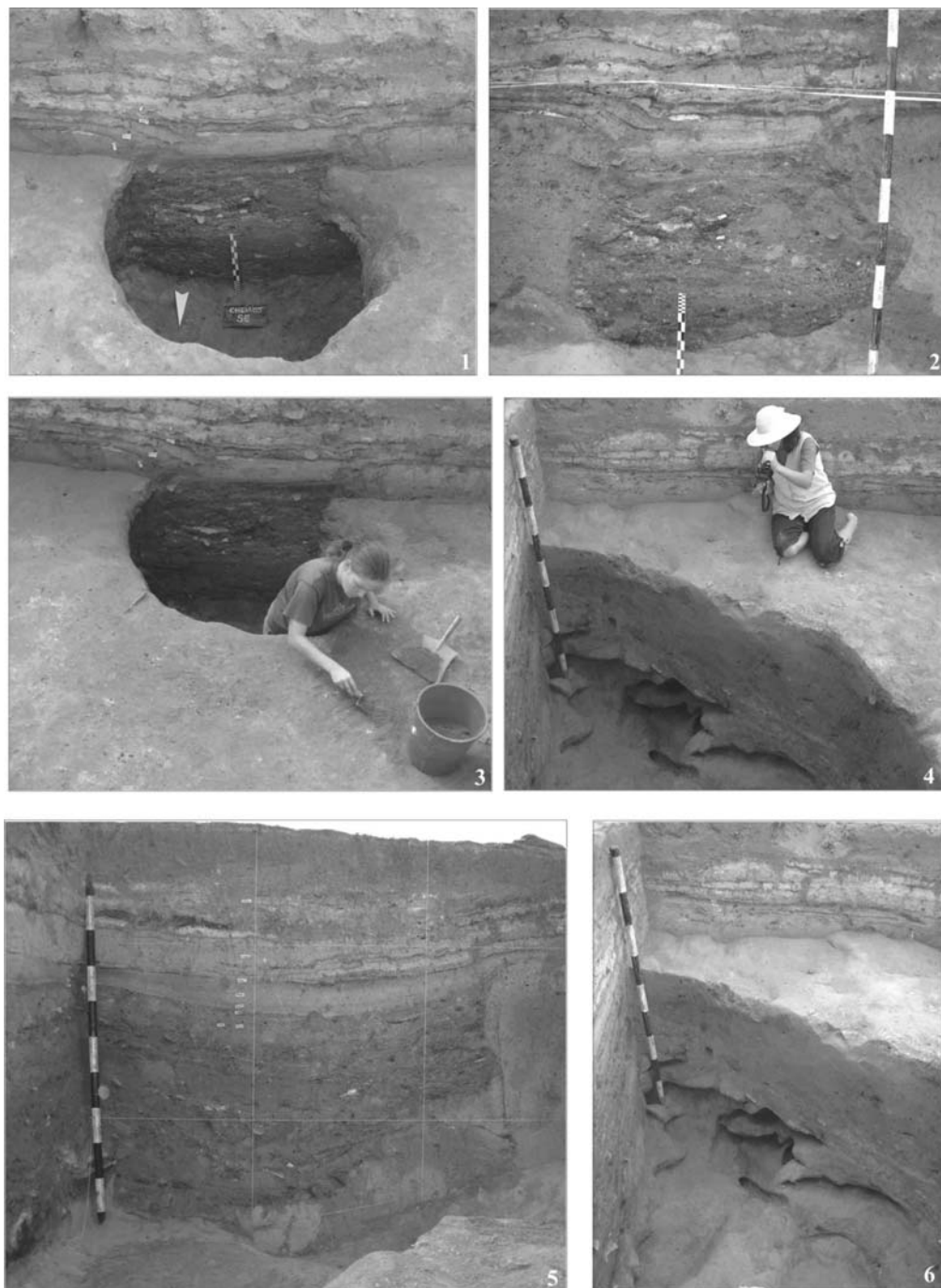


Fig.10/ 1 – 3 - Hole C.10, view from N; 4 – 6 Hole C.8, view from N (4, 6) and W (5).

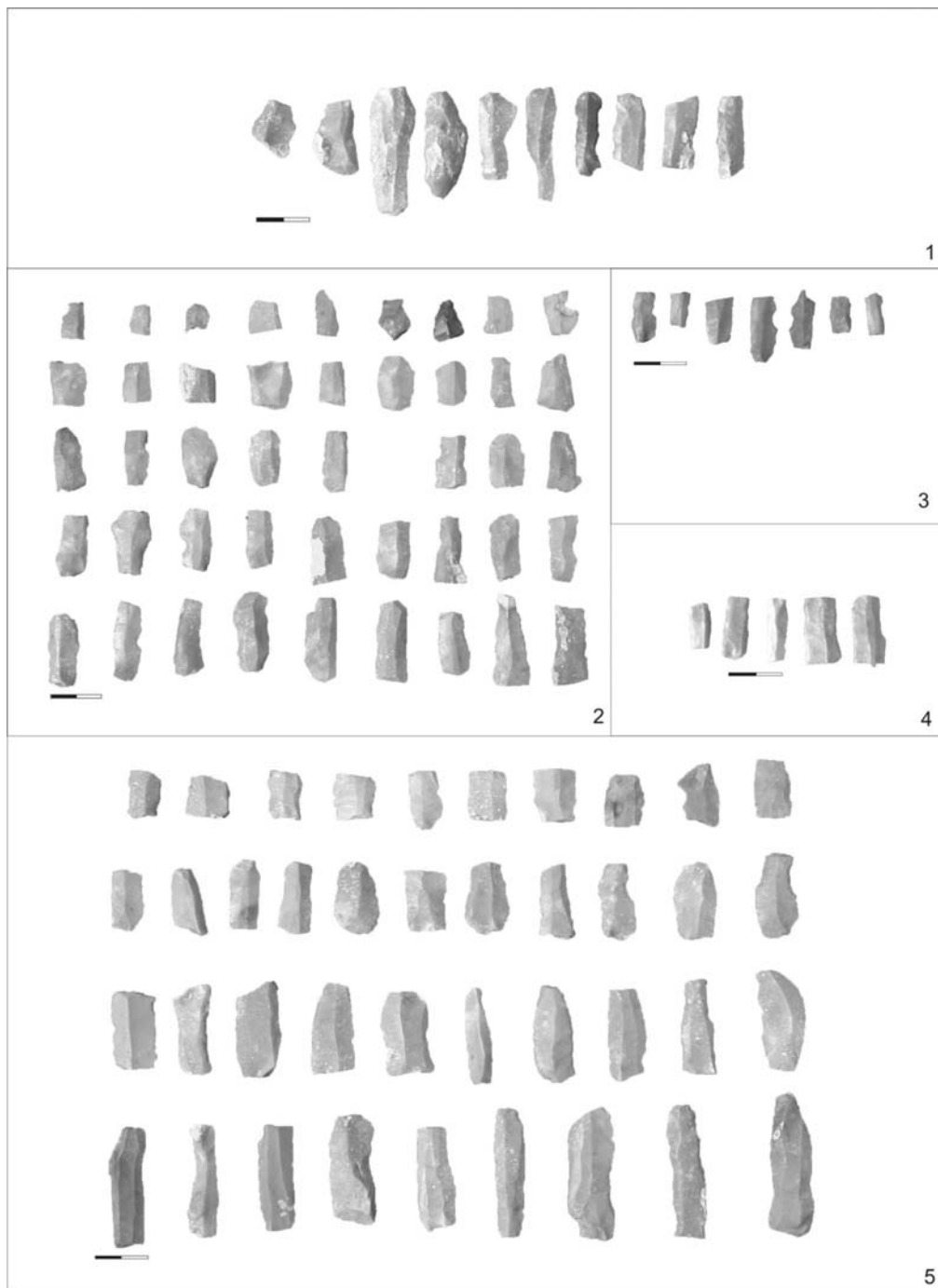


Fig.11/ 1-5 - Flint pieces: microlith blades.

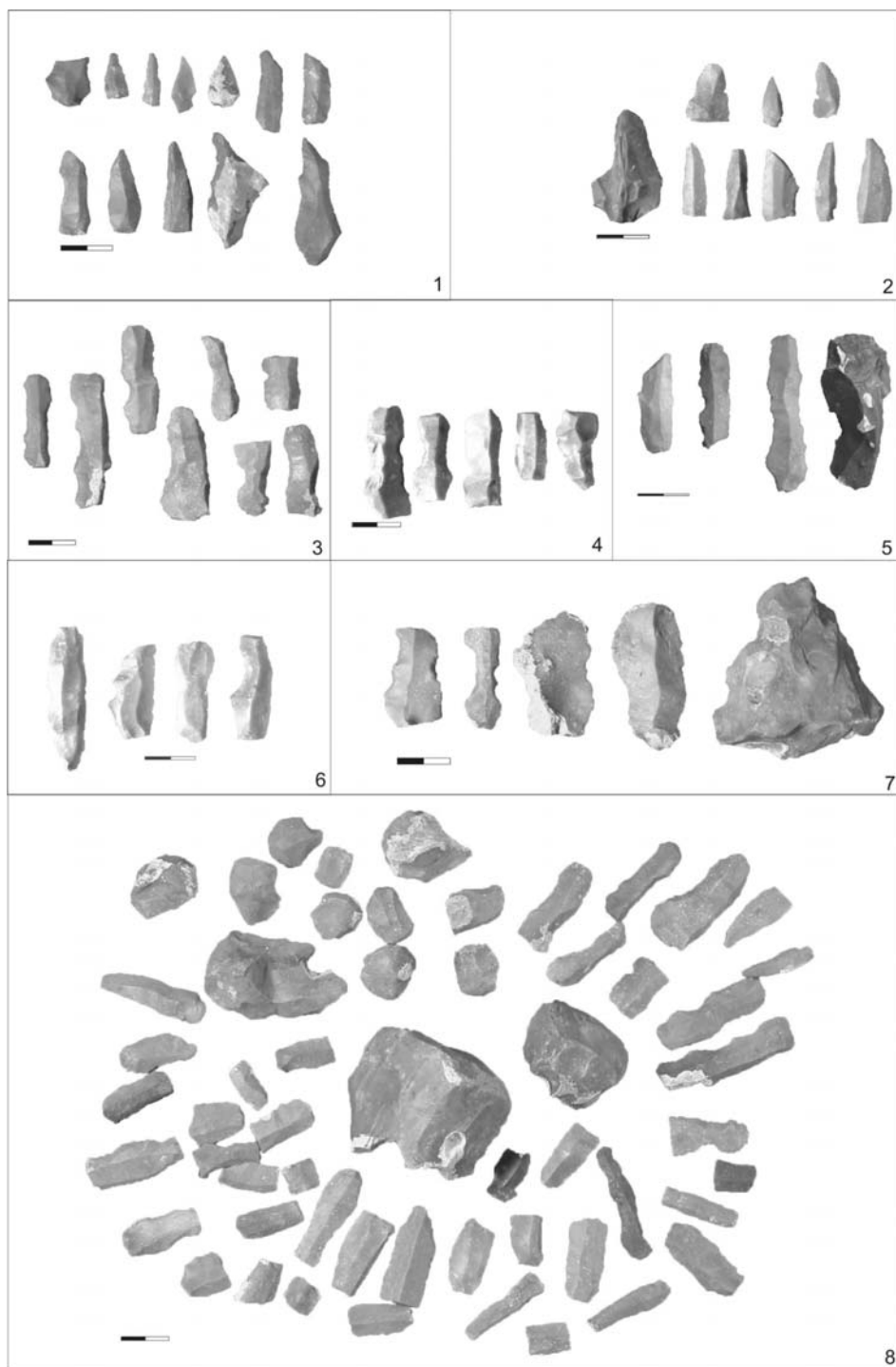


Fig.12/1 – 8 - Flint pieces: points, blades, burins, blade graters, nuclei.

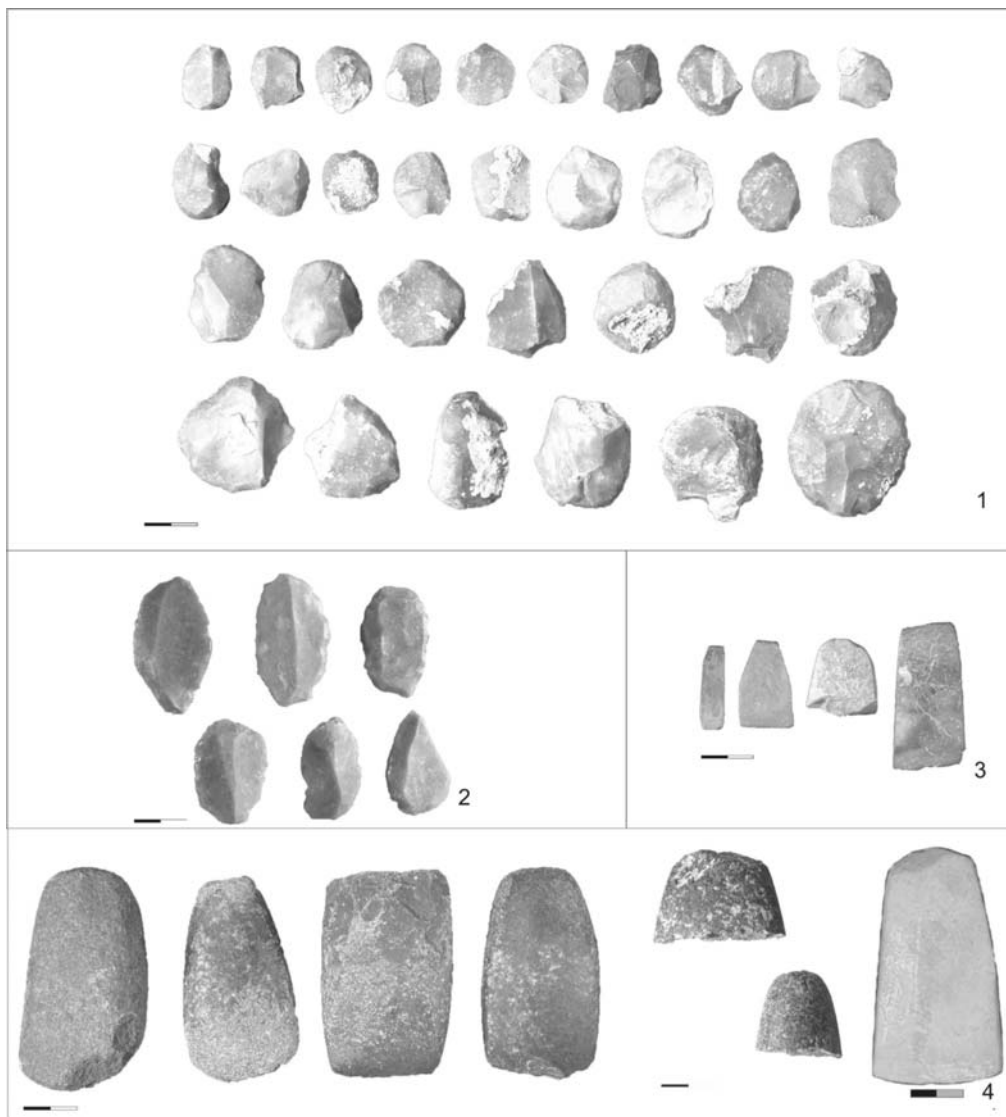


Fig.13/ 1 – 2 - Flint pieces: microliths graters, sickle blades; 3 – 4 stone axes and chisels.

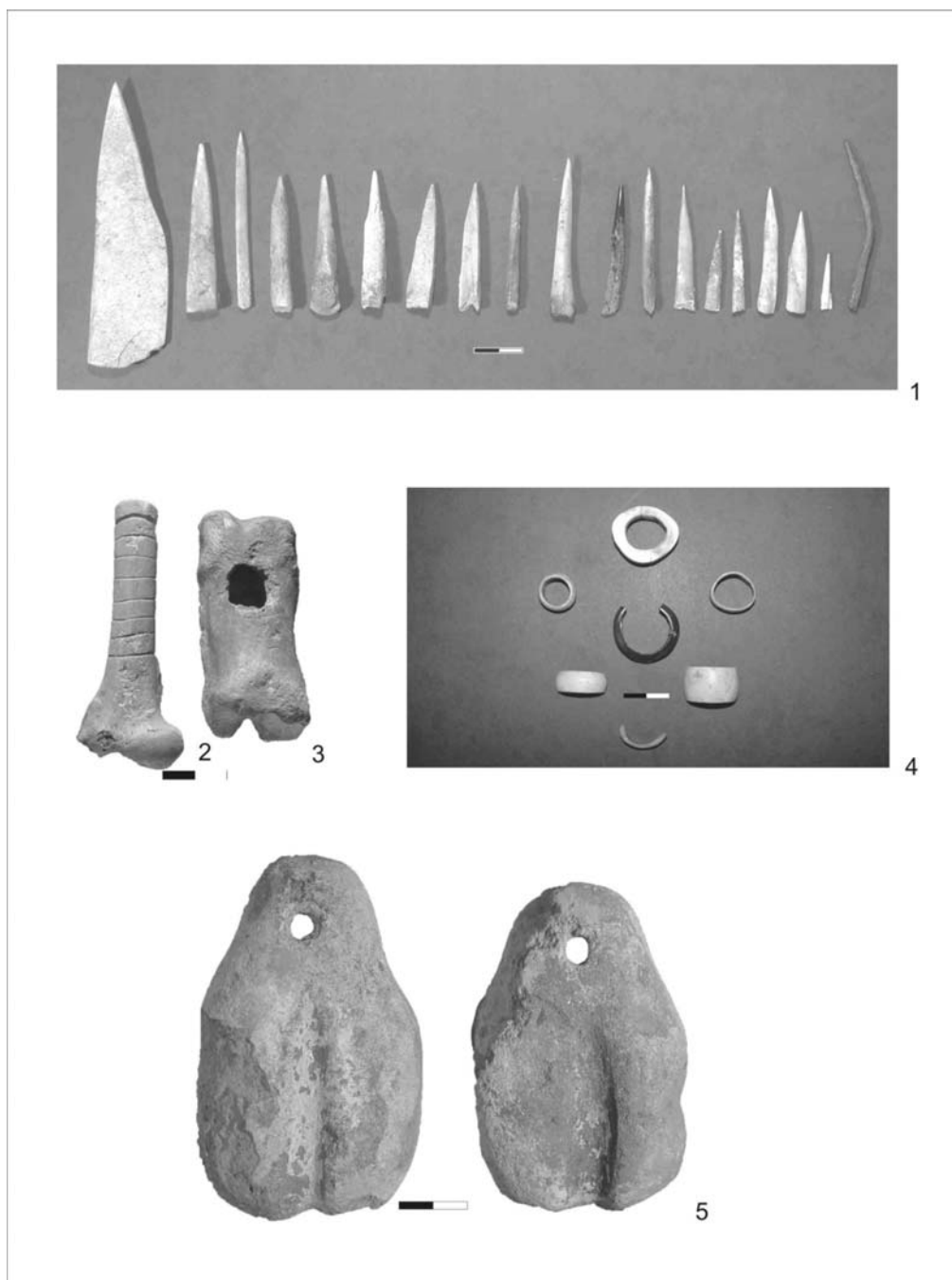


Fig.14/ 1 – Points; 2 – rings in the process of working; 3 – perfored methapod;
4 – bone rings, 5 – weight for the weaving loom.

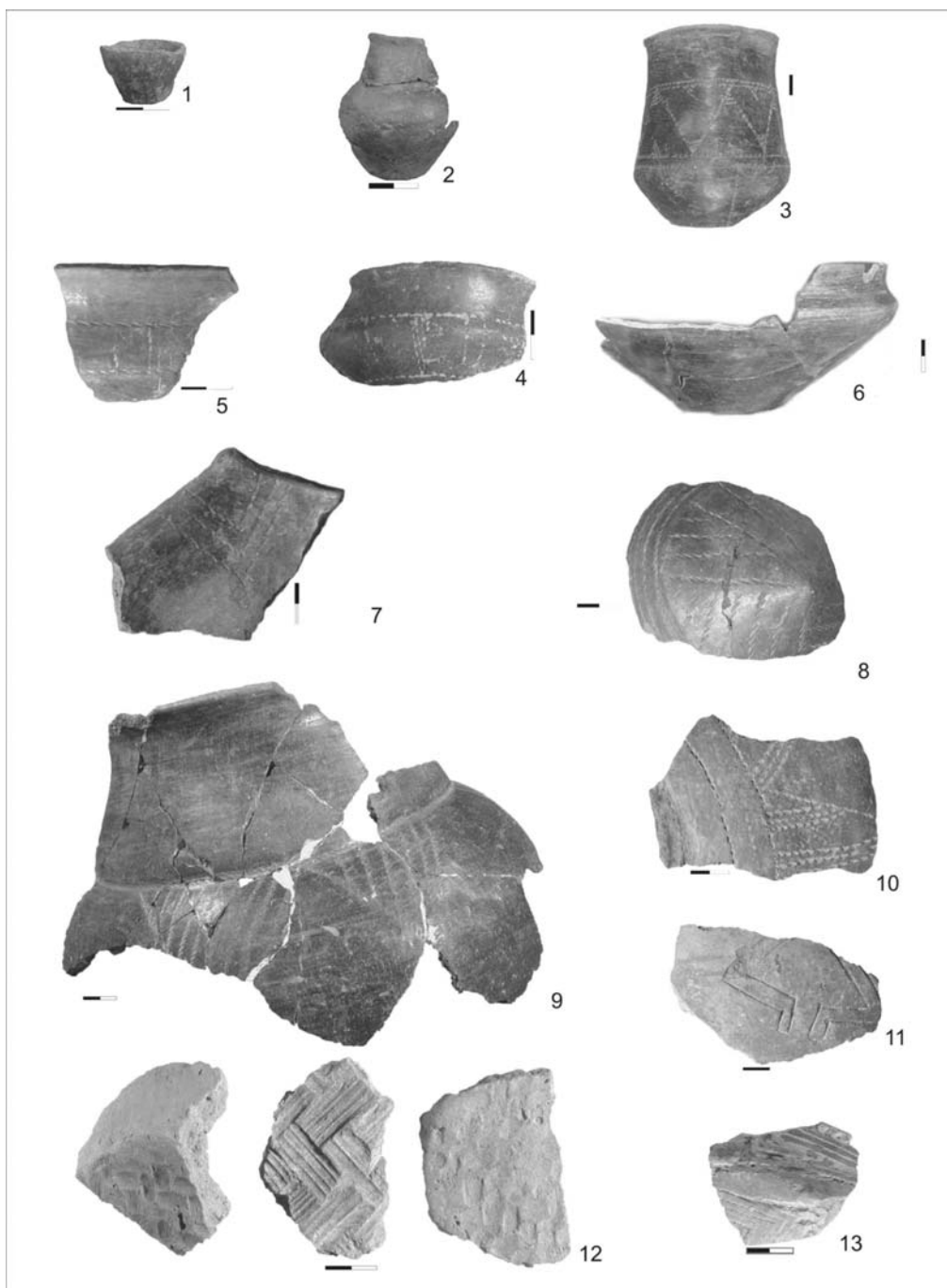


Fig.15 - Pottery; vegetal prints on vessels.

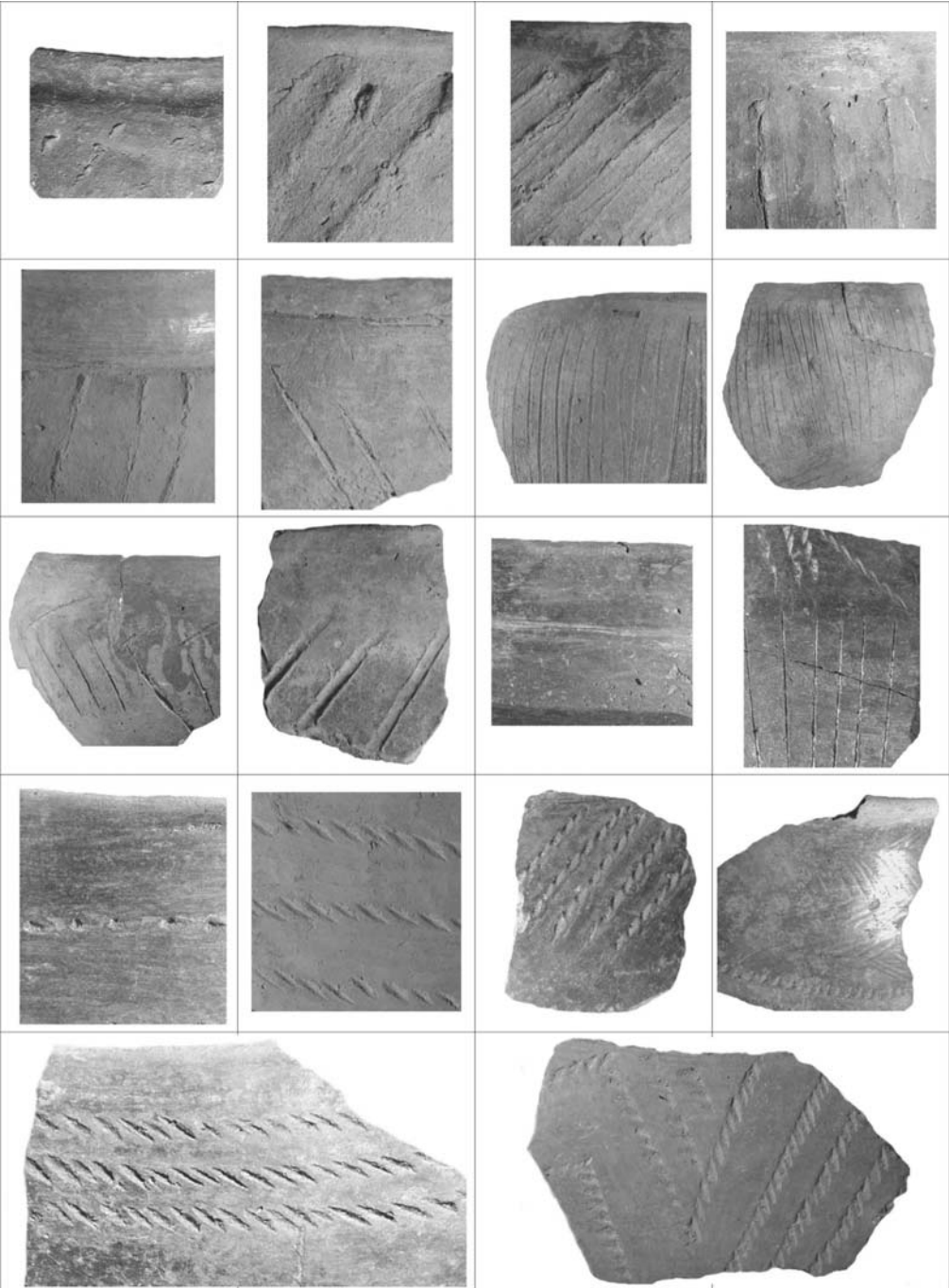


Fig.16 - The decoration of the pottery.

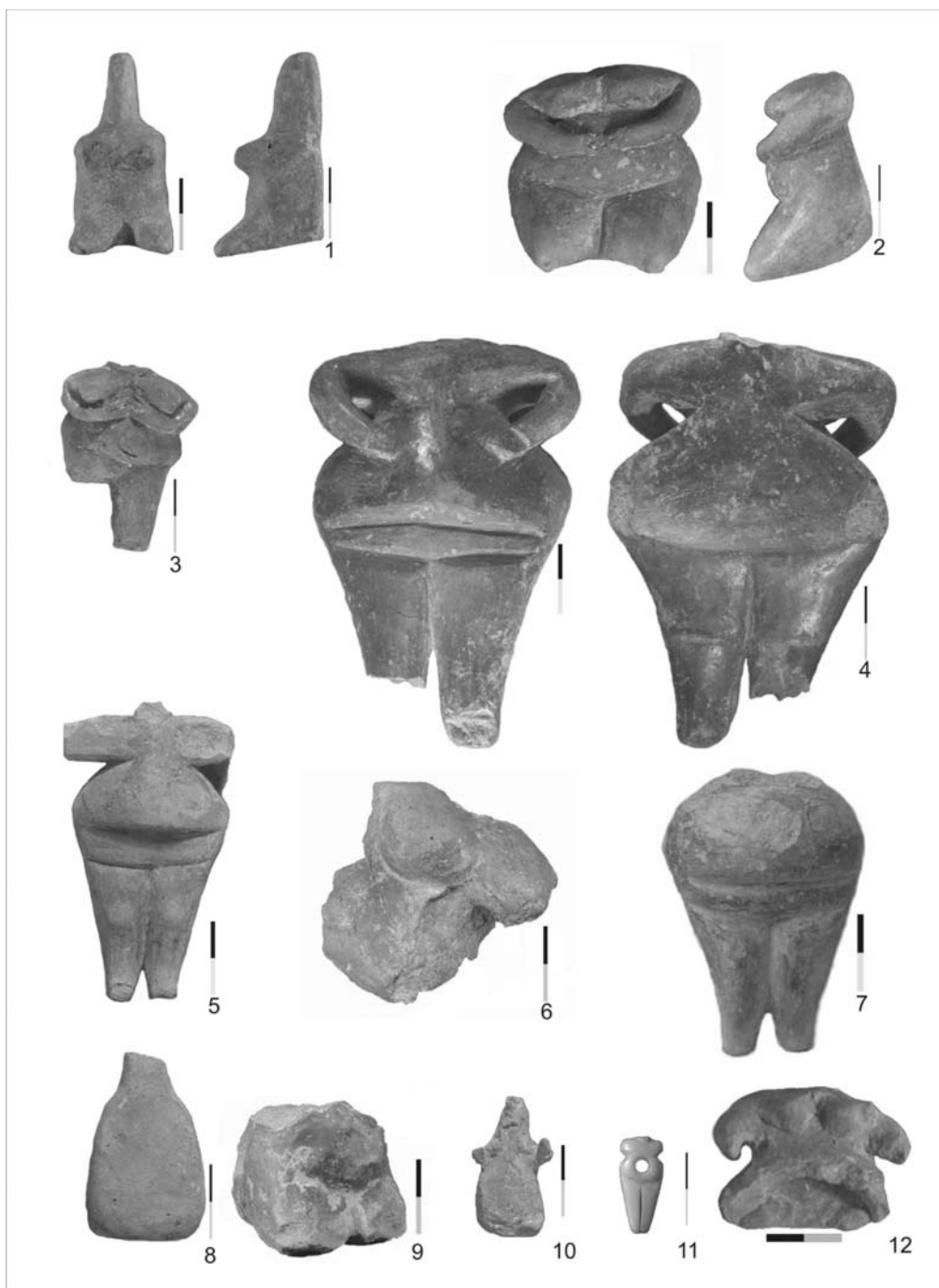


Fig.17 - Anthropomorphic figures: 1-10, 12 clay figures; 11 *Spondylus* figures.