

ZIRIDAVA  
STUDIA ARCHAEOLOGICA

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# Middle Neolithic at Oradea-Salca “Pepinieră”

Emil Grigorescu

**Abstract:** Following the excavations from 2014, 10 features containing neolithic ceramic were discovered. Based on their typological characteristics, I concluded that part of the ceramic fragments recovered from these features belong to the Middle Neolithic, and that the features are contemporary to the late phase (IV) of the Alföld Linear Pottery. These include the following ceramic styles: Esztár, Szilmege and Bükk. They can be dated around 5250–5000 BC. An obsidian blade was also in one of these features, which was likely part of a sickle used for collecting grain. The considerations which result from this study can be used to argue for connections with the Zemplén and Bükk Mountains as well as with the Tisza Basin.

**Keywords:** Esztár; Szilmege; Bükk; Oradea; Middle Neolithic.

## Introduction and Context

From May till June 2014, due to planned construction in the area, a team of archaeologists and students of archaeology excavated in the area of the Salca site, in the “Pepinieră” point, on the southern bank of the Peța stream. Among other things, the researchers uncovered the remains of a Middle Neolithic habitation sequence.

According to the newest research<sup>1</sup> the peoples of the Neolithic Great Hungarian Plain descended from Anatolian farmers who over the generations settled parts of South-Eastern and Central Europe in Early and Middle Neolithic and mixed more and more with the local hunter-gatherers.

In the area, the habitation begins in the Early Neolithic, featuring finds of the Starčevo-Criș (also called Criș and Körös) along the Criș and Peța riversides<sup>2</sup>. The middle neolithic finds contained in this article belong to the Bükk and Esztár-Raškovec-Lumea Nouă. Late neolithic finds are widespread along Peța’s southern riverside and are presumed as belonging to the Herpály ceramic style group<sup>3</sup> (Fig. 1). The distancing of the settlements from the course of the Criș river can be explained as a strategy to avoid the yearly spring floods generated by snow melt.

In regards to chronology, finds pertaining to the Middle Neolithic at Oradea-Salca “Pepinieră” are typologically similar to those of the Bükk, Esztár and Szilmege pottery styles, thus placing them around the turn of the 6th Millennium BC.

## Feature Description

As the ground had been disturbed by modern agricultural activities to a depth of about 50 cm, this part of the soil was removed with an excavator prior to the archaeological excavation of the features. As a result, most of the features were incomplete. Only pottery fragments with identifiable characteristics were recovered from the site.

### *Feature 21*

The feature was intersected by the border of the research area and therefore has only been partially

<sup>1</sup> Lipson *et al.* 2017.

<sup>2</sup> <http://ran.cimec.ro/sel.asp?descript=oradea-municipiul-oradea-bihor-asezarea-pluristratificata-de-la-oradea-salca-i-cod-sit-ran-26573.08>  
<http://ran.cimec.ro/sel.asp?descript=oradea-municipiul-oradea-bihor-situl-medieval-de-la-oradea-salca-fabrica-de-bere-cod-sit-ran-26573.04>

The settlement at Parcul Petőfi was situated on the northern terrace of the Paris stream, later renamed Pasteur (and currently running in a buried pipeline on a deviated course). On the other hand, the settlement at Pepinieră and Ioșia was situated on the southern terrace of the Adona stream, whose course (channeled at the end of the 19th Century) was used to deviate the Peța stream out of the city. Regarding the toponyms Salca I, Salca II, Ghețarie, Fabrica de Bere, see Fazecaș 2018, 87, notes 90–93.

<sup>3</sup> Savu 2014; Luca 2000; Luca 2001a; Luca 2001b, <http://cronica.cimec.ro/detaliu.asp?k=2041>.

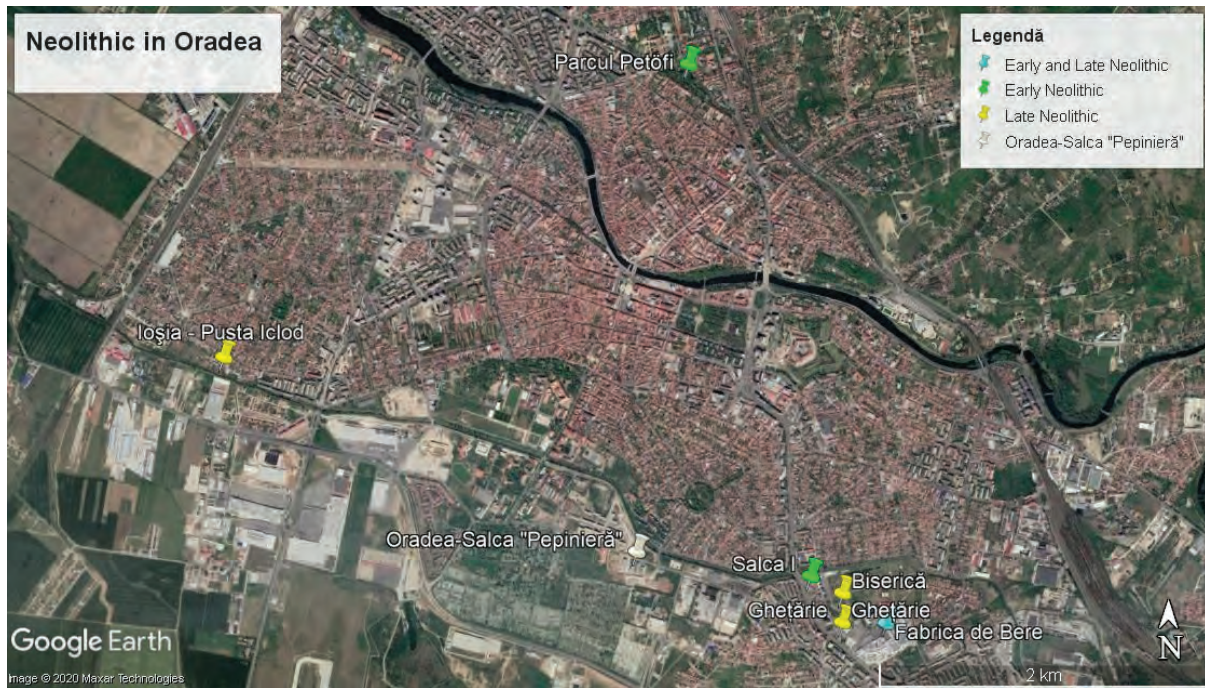


Fig. 1. Neolithic in Oradea.

investigated. The edges of the feature were hard to distinguish due to the similar color of the filling. For this reason we chose to use the grid layout method. Its maximum length was 2,68 m. Its width was 2,0 m. From the level of the mechanical excavation to the bottom, the pit measured 0,70 m. The filling consisted in the upper part of a compact, homogeneous, brown color and in the lower part of brownish yellow clay. A retouched obsidian blade<sup>4</sup> likely part of a sickle, and several ceramic fragments were found therein. The ceramic features similar paste and firing to the Neolithic fragments from other features of the 2014 excavation.

1: rim and body fragment:  $\varnothing = 15$  cm; 10%; outer surface color: 8/4 10YR very pale brown with coating: 3/4 2.5YR dark reddish brown; inner surface color: 8/4 10YR very pale brown; paste color: 5/3 10YR brown; semi-fine ware, oxidative „sandwich“ type firing; smooth surface, coarse paste, temper: very fine sand & fine ceramoclasts; (Pl. 1/2).

2: retouched gray translucent obsidian blade with sickle gloss (Pl. 1/3).

#### Feature 22

The feature has been outlined based on the different color of the fill. At the surface, the pit was somewhat circular and kept this shape throughout the excavation. The walls were curved inwardly. The ground was slightly hollowed. The diameter of the pit's upper edge was approximately 1 m. The maximum depth from this level amounted to 0,36 m. The filling of the feature was composed of yellowish brown, low bulk density soil, with dark grayish earth spots. The inventory consisted of daub and ceramic fragments. The ceramic fragments display a paste similar to the others belonging to Middle Neolithic Esztár-Raşkovce-Lumea Nouă style.

1: ceramic lid fragment (7,5% of rim circumference remaining);  $\varnothing = 20$  cm; outer coating color: 8/6 10YR; inner coating color: 8/4 2,5YR pink; paste color: 6/1 10YR gray; semi-fine ware, reducing „sandwich“ type firing; smooth surface, coarse paste, temper: fine sand (Pl. 1/4).

2: ceramic body fragment; outer surface color: 8/3 10YR very pale brown, inner surface color: 4/2 10YR dark grayish brown, paste color: 4/1 5YR dark gray; semi-fine ware, oxidative firing; even surface, coarse paste, temper: very fine sand very finely crushed ceramic, 8/6 7.5YR reddish yellow; drilled in 6 places (Pl. 1/5).

#### Feature 35

This feature has been observed due to the fill contrasting with the undisturbed soil surrounding it. In the outlining stage, its shape was irregular, elongated along the E-W axis, but eventually turned

<sup>4</sup> See Pl. 1/3.



to be pear shaped. To the west, the walls curved down and descended in steps towards the base, while in the east, they were slightly concave. The ground is also hollow shaped. In the western side of the pit was a semicircular step. The feature measured 1,85 m long, 1,30 wide and 0,50 m deep. The fill has been homogeneous and consisted of rather compact dark brown earth with yellow clay and daub pigments. The inventory consisted of small daub and ceramic fragments which, based on the characteristics of paste and firing, can be attributed to the Middle Neolithic Esztár-Raşkovce-Lumea Nouă style.

Ceramic vessel: body fragment; outer surface color: 8/4 10YR very pale brown, inner color: 8/6 7.5 YR reddish yellow; paste color: 5/1 7,5YR; coarse ware, zig-zag profile texture; oxidative "sandwich" type firing; rough surface; coarse paste, 8/4 10YR very pale brown; temper: very fine sand, fine ceramoclasts; style: Middle Neolithic Esztár-Raşkovce-Lumea Nouă (Pl. 1/1).

#### *Feature 40*

When discovered, the upper edge of the pit was circular. Its walls tapered down, curving near the bottom. The NW side is slightly hollowed out and also shows a concavity at the base. The diameter amounts to 1.30 m, and the maximum depth to 0,44 m. The fill is somewhat homogeneous, consisting of relatively compact, homogeneous pale yellowish gray earth with yellow clay inclusions and sporadic daub pigments. Several ceramic fragments remain. Most were coarse but some also of fine paste, which featured red slip and painted decorations. These belong to the Middle Neolithic Esztár-Raşkovce-Lumea Nouă style (Pl. 2/1, 4). One vessel stands out by virtue of its atypical firing temperature and shape (Pl. 2/3), and could be an intrusive element brought from upper layers of a much later date, however such vessels were reported among finds of Esztár pottery<sup>5</sup>.

1: 2 ceramic body fragments; semi-fine ware; oxidative firing outside, reducing inside; outer surface: texture: polished, color: 8/6 10YR yellow & paint 7/8 2,5YR light red; inner surface: texture: smooth and slightly shiny, color: 4/5B dark bluish gray; paste: temper: fine sand, color: 3/4B dark bluish gray; style: Esztár-Raşkovce-Lumea Nouă (Pl. 2/1).

2: ceramic lobed rim fragment; outer color: 7/8 10YR shiny yellow with patch: 3/4B dark bluish gray, inner coating color: 7/4 5YR pink with patch: 2,5/5B bluish black, paste color: 8/4 10YR very pale brown; semi-fine ware, oxidative type firing; burnished surface; paste: fine; style: Esztár-Raşkovce-Lumea Nouă (Pl. 2/2).

3: ceramic rim, body and base fragments (6 fragments); bottom  $\varnothing = 4,5$  cm; outer surface color: 6/4 2,5Y shiny light yellowish brown, inner surface color: 7/3 2,5Y pale yellow, paste color: 4/5B dark bluish gray; very fine ware, oxidative firing; smooth surface, very fine paste (Pl. 2/3).

4: 4 ceramic rim & body fragments; fine ware;  $\varnothing = 23$  cm; rim: 12,5%; oxidative firing; outer coating: texture: smooth, color: 8/3 2,5YR pink with paint: 7/8 2,5YR light red superimposed with bitum: 2,5/5G dark grayish gray; inner surface: texture: burnished, color: 8/3 10YR very pale brown; paste: temper: fine sand, color: 2/1 10YR black; style: Esztár-Raşkovce-Lumea Nouă (Pl. 2/4).

#### *Feature 46*

Cut in the natural soil, the pit was circular and had slanted walls, slightly leaning down inwardly. The ground was flat, with a few irregularities. The pit measured 1,20 m in diameter at the top and, from the outlining level 0,30 m deep. The fill was made up of at least two different levels. The upper consisted of lightweight, dark brown earth with daub and coals and the lower of rather compact pale brown earth mixed with yellow clay and a high number of ceramic fragments. Between the two there was a thin lens of yellow clay with red pigment. The inventory of the pit was made up of daub and ceramic fragments. One vessel fits very well in the Middle Neolithic Bükk ceramic style (Pl. 3/1). Another vessel shows similarities to Middle Neolithic Esztár-Raşkovce-Lumea Nouă type pottery (Pl. 3/3), while the last one could be associated with Szilmege due to hollowed out band and knob decoration (Pl. 3/4). Based on the profile drawing, it could be that there were in fact two overlapping features, with the later pottery in the upper layer. Despite the layers having been disturbed by the burrowing activity of a small-sized animal, the feature can be dated to the Middle Neolithic.

1: 12 ceramic fragments; fine ware; reducing firing; outer coating: texture: smooth, color: 7/4 10YR with patch: 5/5B bluish gray & inlay: white; inner coating: texture: smooth, color: 7/4B pale yellow; paste: temper: fine sand, color: 3/5B dark bluish gray; style: Bükk (Pl. 3/1).

2: 3 ceramic body fragments; fine ware;  $\varnothing = 10$ ; 20%;, reducing firing; outer surface: texture:

<sup>5</sup> Kalicz 1977, 54.

smooth, color: 8/6 10YR yellow; coating: 3/4 10R very dusky red; inner surface: texture: smooth, color: 4/5B dark bluish gray; paste: temper: fine sand, color: 6/3 10YR pale brown; style: possibly Esztár-Raşkovce-Lumea Nouă (Pl. 3/4).

3: 3 ceramic fragments; fine ware;  $\varnothing = 10$ ; rim: 17,5%; oxidative firing outside, reducing inside; outer surface: texture: smooth, coating texture: polished, color: 8/6 7,5YR reddish yellow, coating color: 5/8 2,5YR red; inner surface: texture: smooth, color: 6/3 2,5Y light yellowish brown; paste:, temper: fine size crushed ceramic, color: 7/1 2,5Y light gray; style: Esztár-Raşkovce-Lumea Nouă (Pl. 3/3).

#### *Feature 70*

The feature has been observed due to the different color of the earth, compared with the surrounding natural yellow clay. Its shape was circular. The walls were relatively straight, slightly curved in some places, and the ground was flat. The diameter of the pit measured in the top part 1,24 m. The pit was considerably deep, namely 1,36 m. The contents were diverse: several layers of filling, as well as thin burn lenses. When emptying, it was observed that the walls present burn marks here and there. When it comes to the fill, a layer of lightweight dark brown earth with abundant daub pigments lay on top of a more compact, yellowish brown layer, just as pigmented as the previous. Another fill appeared in the southern half of the feature, quite substantial, consisting of yellowish clay, but without a lot scattered pigments, yet with clear lenses of burned clay. This level was, most likely, a stage of the collapse of the southern wall. Concluding, the lower part was made up of rather lightweight, pale brown earth, pigmented with daub and with black burn marks. It is distinctly possible that this pit functioned as a storage pit. Alongside the burned remains, which generally consisted of burned pieces of clay and coals, a number of ceramic and bone fragments were discovered. Based on the remains we can attribute the pottery to the Esztár-Raşkovce-Lumea Nouă style (Pl. 4).

1: 6 ceramic fragments; fine ware;  $\varnothing = 12$  cm; oxidative firing; outer surface: texture: smooth, color: 8/6 7,5YR reddish yellow & paint: 7/8 2,5YR light red & bitum 2,5/5G dark grayish gray & white applied and then washed off in patterns with 5/2 10YR grayish brown; inner surface: texture: smooth, color: 8/6 7,5YR reddish yellow; paste: temper:, color: 5/5B bluish gray; style: Esztár-Raşkovce-Lumea Nouă (Pl. 4/2).

2: 1 ceramic fragment; fine ware;  $\varnothing = 36$  cm; oxidative firing; outer surface: texture: smooth, color: 8/3 10YR very pale brown; inner surface: texture:, color: 8/3 10YR very pale brown & paint: 5/3 10R weak red; paste: temper: very fine sand, color: 8/3 10YR very pale brown (Pl. 4/3).

#### *Feature 94*

The pit stood out from the surrounding yellow clay, having a relatively circular shape, curved walls, and a flat bottom with some irregularities. This feature was slightly overlapped by feature 95 in the north. Its diameter was around 1,65 m and its depth 1,12 m. The upper part was filled with somewhat compact brown earth, sparsely pigmented (and with black burn lenses), and the lower part with compact, slightly pigmented, yellowish brown soil. The inventory consisted of several ceramic fragments which could belong to the Middle Neolithic.

4 ceramic fragments: bottom and knob; coarse ware; bottom:  $\varnothing = 11,5$  cm; 100%; firing; outer surface: texture: semi-smooth, color: 8/2 7,5YR pinkish white & patch on knob 8/3 2,5YR pink & bottom 2,5/1 5YR black; inner surface: texture: semi-smooth, color: 8/2 2,5Y pale yellow; paste: temper: coarse sand, color: 5/5B bluish gray; (Pl. 4/1).

#### *Feature 96 A and B*

During excavation it had not been understood that there are two distinct circular features. Their walls were slanting down inwardly. The maximum length of the 96A (the larger feature) amounted to 2,9 m, the depth, from the level where the feature first appeared to the bottom, 0,70 m. The greater part of the fill had been homogeneous, more or less compact dark grayish brown soil with reddish pigments. Feature 96A had been cut by feature 96B in it's north-western part. The fill of the aforementioned feature consisted of yellowish brown earth with many ceramic fragments. The majority of the recovered ceramic material is specific to the Early Bronze Age, most likely from 96B, but there are also some of CernavodăIII-Boleráz/Coțofeni I which should pertain to 96A. There is also a ceramic fragment which exhibits the characteristics of the Middle Neolithic Esztár-Raşkovce-Lumea Nouă (plate 4/5), which could have been brought up into the later CernavodăIII-Boleráz/Coțofeni I layer when the feature was dug.

1: 1 body fragment; fine ware; oxidative firing outside, reducing inside; outer surface: texture:

smooth, color: 8/6 7.5YR reddish yellow & paint 7/8 5YR reddish yellow; inner surface: texture: smooth, color: 5/5B bluish gray; paste: color: 7/2 7.5YR pinkish gray; style: Esztár-Raşkovce-Lumea Nouă (Pl. 4/5).

#### *Feature 102*

The feature has been delineated according to the difference of color between the pit's filling and the surrounding natural soil. It is irregular in shape (vaguely oval), disposed on the E-W axis. In the eastern part, the walls slightly curved inwardly at the bottom, while in the western part the walls were a bit concave. The ground was flat, with small bumps. The size of the pit was 3,40 m × 1,80 m, the maximum depth of the pit was 58 cm. The filling was somewhat homogeneous, formed from more or less compact, dark grayish brown earth, with daub pigments and infrequently coal. Ceramic and bone fragments were found in the filling, as well as stones and some bigger pieces of daub. Based on the ceramic fragments, the feature has been attributed to the Bolerasz/Cernavodă III cultural phase. Among these ceramic fragments are also a few displaying characteristics of the Middle Neolithic Esztár-Raşkovce-Lumea Nouă style, no doubt in secondary position (Pl. 4/1–3).

1: ceramic fragment; fine ware; reducing firing; outer surface: texture: smooth, color: 8/4 7.5 YR pink surface & 6/8 5YR reddish yellow coating & area with 8/2 2.5Y pale yellow surface & 8/4 10YR very pale brown coating & 4/N dark gray patch; inner surface: texture: smooth & slightly shiny, color: 6/B bluish gray; paste: temper: fine sized chaff, color: 6/B bluish gray; style: Esztár-Raşkovce-Lumea Nouă (Pl. 4/6).

2: ceramic fragment; semi-fine ware; reducing firing; outer surface: texture: semismooth, color: 8/4 10YR very pale brown surface & 6/8 5YR reddish yellow coating; inner surface: texture: smooth & slightly shiny, color: 6/B bluish gray; paste: temper: fine sized chaff, color: 6/G greenish gray (Pl. 4/7).

3: ceramic fragment; semi-fine ware; reducing firing; outer surface: texture: semismooth, color: 8/4 10YR very pale brown; inner surface: texture: semi-smooth, color: 6/2 2.5Y light brownish gray; paste: temper: very fine sand, color: 6/B bluish gray (Pl. 4/4).

4: 2 ceramic fragments; fine ware;  $\varnothing = 12$  cm; 18%; reducing firing; outer surface: texture: smooth, color: 8/4 10YR very pale brown surface & 8/4 5YR pink coating; inner surface: texture: semi-smooth, color: 8/4 10YR very pale brown; paste: color: 6/B bluish gray (Pl. 4/8).

#### *Feature 110*

The feature stood out from the yellow clay due to the different color. It was a circular pit. Its walls slanted down inwardly and the bottom was a bit deeper in the center. The pit measured around 1,80 m in diameter and was about 0,60 m deep. The filling consisted of compact, dark yellowish brown soil. A horn belonging to a stag lay on the bottom of the pit. Aside from this, ceramic fragments were found, which are characteristic to Esztár-Raşkovce-Lumea Nouă style.

Ceramic fragment; fine ware; reducing firing; outer surface: texture: semismooth, color: 8/4 7.5 YR pink; inner surface: texture: semi-smooth, color: 7/2 7.5 YR pinkish gray; paste: temper: fine sand & chaff, color: 4/B dark bluish black (Pl. 3/2).

## **Interpretation**

The painted pottery fragments at Oradea-Salca "Pepinieră" point have light-colored outer surface adorned with wide or narrow strips of red paint and black bitumen. One vessel was recovered which was painted in slender, even-sized red strips gradually fading together into broad strokes, over which were fine undulating lines of white color. Although red and black painted pottery from the Oradea-Salca site has been argued in the past<sup>6</sup> to belong to the Late Neolithic Herpály, for the ceramic from features 40 and 46 there is a stronger analogy with those from the Middle Neolithic horizon of Esztár-Raşkovce-Lumea Nouă. That is because of the fine paste, fine slip (Pl. 2/40:1–4), wavy lines in the pattern (Pl. 2/40:4), and because the red/black paint was applied before firing (Pl. 2/40: 1, 4)<sup>7</sup>. It is possible that the fine mug from feature 40 belongs also to this culture due to its high firing temperature and fine paste which gives off a characteristic high-pitch sound when hit on a hard surface. This unusual type of pottery has been reported among finds of the Esztár pottery style<sup>8</sup>. The lobed

<sup>6</sup> Savu 2014; Luca 2000; Luca 2001A; Luca 2001B; Bodea 2019, fig. 10.

<sup>7</sup> Kalicz *et al.* 1977 Taf. 118/7, 9; 144/18; 176/20a, b.

<sup>8</sup> Kalicz *et al.* 1977, 54; 123/13.

fragment from feature 40 also finds analogies in the ALP<sup>9</sup>. Furthermore, Oradea-Salca is found within its distribution area<sup>10</sup>. Though highly fragmentary, it could be presumed that also other fragments belong to this style due to their high degree of similarity in paste and firing (Pl. 1/35:1; 1/21:1; 1/22:4, 5; Pl. 2/40: 1, 2; Pl. 3/46:4; Pl. 4/70: 2,3; 94:1; 96A&B:5; 102:4,6,7,8).

The breast-shaped pottery fragment in feature 46 (Pl. 3/46:5), is an example of hollowed knob and bands decoration of the Szilmege pottery style<sup>11</sup>. Several other ceramic fragments from feature 46 (Pl. 3/46:2) exhibit an intricate incised geometric decoration inlaid<sup>12</sup> with a white substance<sup>13</sup>. The pattern consists of dashed zig-zag and oblique lines. In actuality, the zig-zag scheme is the same as that of the much earlier Bükk style pottery, which also features incised decoration inlaid with a white mixture of kaolinite, quartz and feldspar<sup>14</sup>. The Bükk culture is dated around the turn of the 6th Millennium BC<sup>15</sup>. These fragments may very well be part of an imported vessel from the Bükk mountain area.

In feature 21 an obsidian blade fragment was found (Pl. 1/21:3), bearing minute traces of abrasion (sickle gloss) over all its surface. This type of wear occurs as a result of repetitively cutting plants in the harvest season<sup>16</sup>, which can indicate that it was a part of a sickle. Furthermore it is retouched on one side. In Central and Eastern Europe, obsidian implements are mostly found in Neolithic features. Their use decreases in the Copper Age, but persists into the Bronze Age<sup>17</sup>. The eastern Bükk Culture seems to be in connection with the production of obsidian implements in the Middle Neolithic<sup>18</sup>. Possible sources of obsidian nearest to Oradea-Salca are in the Zemplén Mountains, north-east of Miskolc and in the Ukrainian Carpathians (Gertsovtse – Fedelehovtse, Khust, Mukačevo and Beregovo localities). Translucent, grey, glassy obsidian, such as this one is more often found in South-East Slovakia<sup>19</sup>. Furthermore, a number of studies done on obsidian implements show that from Early to Middle Neolithic, the Zemplén Mountains and the Ukrainian Carpathians were the main source of obsidian, primarily for the Carpathian Basin, but not only<sup>20</sup>. These have continued to be used into the Bronze Age<sup>21</sup>. In the time period between Vinča A and B1 (shown to be contemporary to Esztér and Bükk) in the Timiș River Basin south of the Mureș River, the material was imported from Čejkov in the Zemplén Mountains<sup>22</sup>. Such a connection sounds plausible also due to proximity and the similar pottery (Bükk), which can also be found in that area<sup>23</sup>. Given all these considerations, the origin of the obsidian seems to be the South-Eastern Slovakian Zemplén Mountains<sup>24</sup>.

Based on thickness, diameter and decoration, we can assume that the fragmentary painted bowl from feature 40 (Pl. 2/40:4) was used for food serving, while the small bowls from features 46, 70, and 102 (Pl. 3/46:1,3; 70:2; 102:8) and the fine cup (Pl. 2/40:3) for drinking. The knobbed vessels from features 35 and 94 (Pl. 1/35:1; Pl. 4/94:1) might have been used for cooking or food storage.

The absolute chronology of Esztár is an ongoing debate. Hertelendi dated in 1995 Szakálhát-Esztár-Bükk between 5260 to 4880 cal. BC<sup>25</sup>. From Pólgár-Ferenci-hát there is a dating between

<sup>9</sup> Kurucz 1989, 22–23.

<sup>10</sup> Raczky, Anders 2003, fig 1.

<sup>11</sup> Kalicz *et al.* 1977, 372, Taf. 176/20 for the hollowed knob and Taf. 175/19, 24 for the hollowed bands.

<sup>12</sup> In many publications the word used is erroneously “encrusted”, or “incrusted” because of the similarity of these words to the Hungarian and Romanian synonyms of the English “inlay”, see Virag 2013; Mihály *et al.* 2010; Szilágyi 2014.

<sup>13</sup> Virag 2013, Pl. V/3, VIII/2, 5; Kalicz 1977, 46.

<sup>14</sup> Mihály *et al.* 2010 Fig. 1/EBDE–132, EBDE–133.

<sup>15</sup> Piatničková 2010.

<sup>16</sup> Vardu *et al.* 2010.

<sup>17</sup> Thrope 1978, fig. 5.3, 177–178.

<sup>18</sup> Kaczanowksa *et al.* 1994, 61.

<sup>19</sup> Thrope 1978, 146–177; Biró 2006, 272.

<sup>20</sup> Burgert 2015, Obr. 2; Glascock *et al.* 2017, 180; Biagi *et al.* 2007, 141 (although in this study the dating is uncalibrated, and the lack of exploitation sites in the Early Neolithic Zemplén Mountains might be due to a lack in research: see Mester *et al.* 2010); Dobrescu *et al.* 2016, fig. 12; Boroneanț *et al.* 2018A, fig. 6; Boroneanț *et al.* 2018B, 21. Even contemporary obsidian tools found on the territory of modern day Bulgaria and the Wallachian Plain seem to be originating in the Zemplén Mountains: Bonsall *et al.* 2017A; Boroneanț *et al.* 2019; Bonsall *et al.* 2017B, 51.

<sup>21</sup> Glascock *et al.* 2017.

<sup>22</sup> Glascock *et al.* 2015, 47; Glascock *et al.* 2016, 80.

<sup>23</sup> Csengeri 2015.

<sup>24</sup> Also called Prešov Mountains, and by specialists Carpathian 1 (see Biró 2006: 271–272).

<sup>25</sup> Hertelendi *et al.* 1995, table 1.

5293–5068 cal. BC<sup>26</sup>. A correlation of Vinča A to B1 and Esztár finds at Satchinez in the Mureş River Basin places the dates at 5180/5040–5130/5040 cal BC<sup>27</sup>.

## Conclusion

The Middle Neolithic finds from Oradea-Salca “Pepinieră” are, for the time being the first ones for Oradea to be identified as such for this area. Initially, Middle Neolithic finds from Oradea-Salca were thought to belong to the Late Neolithic<sup>28</sup> Herpály II-III phases, but upon closer inspection, stronger analogies are found in the Middle Neolithic, with a dating around 5250–5000 BC. They probably constitute a small part of a settlement, most of which was destroyed in the construction works on the western side of the excavation area. The settlement was plausibly connected with the Zemplén Mountains area, from which they procured the obsidian for harvest works as shown by the obsidian sickle blade fragment. Further connections are evidenced with the Bükk Mountains area and the Tisza River Basin.

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<sup>26</sup> Raczky, Anders 2009, 45.

<sup>27</sup> Horváth *et al.* 2013, 118, for another dating of Vinča A and B1, see Draşovean 2014, tab. 1.

<sup>28</sup> Bodea 2019, fig. 10.

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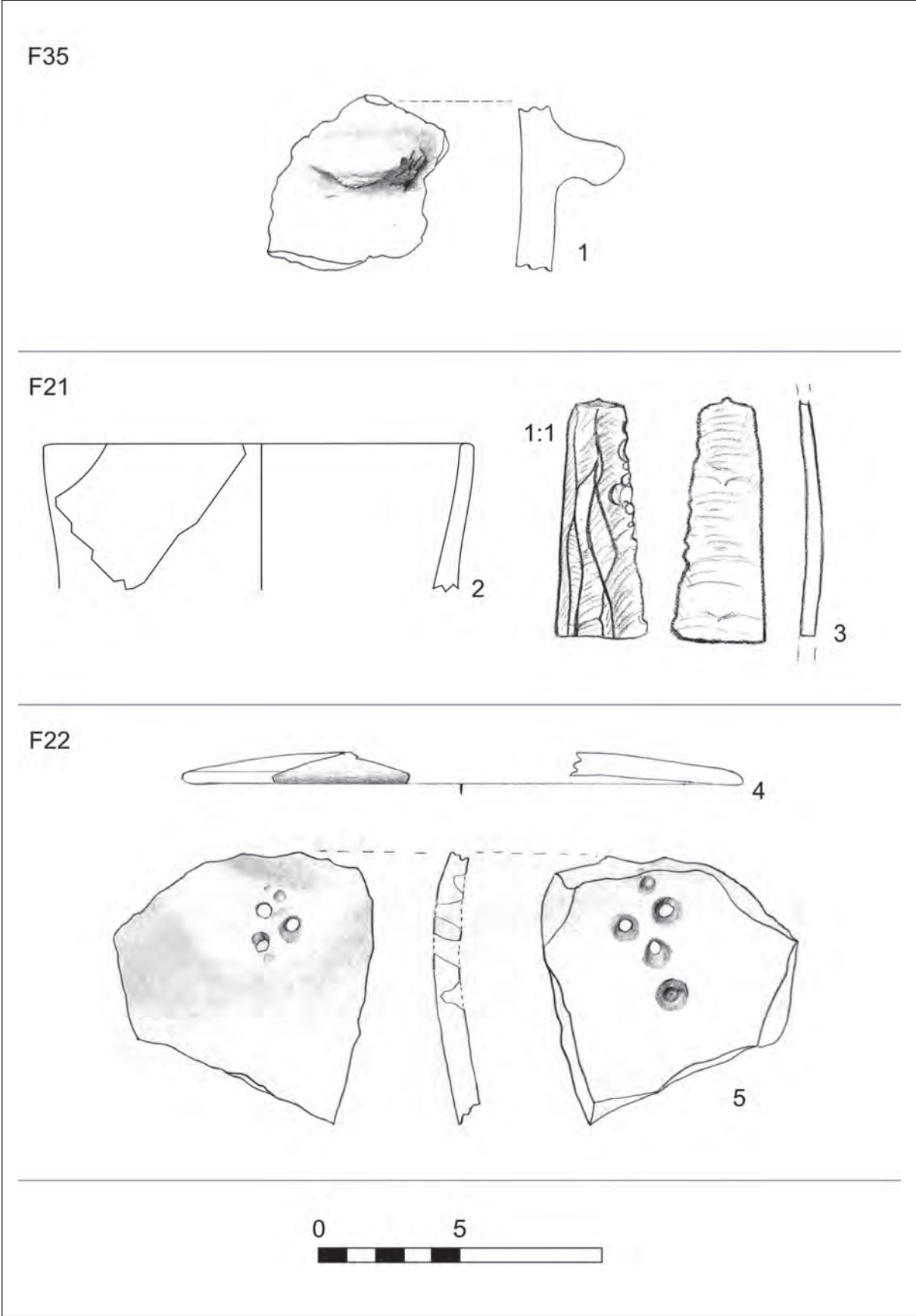


Plate 1. Inventory of the features 35, 21, 22.



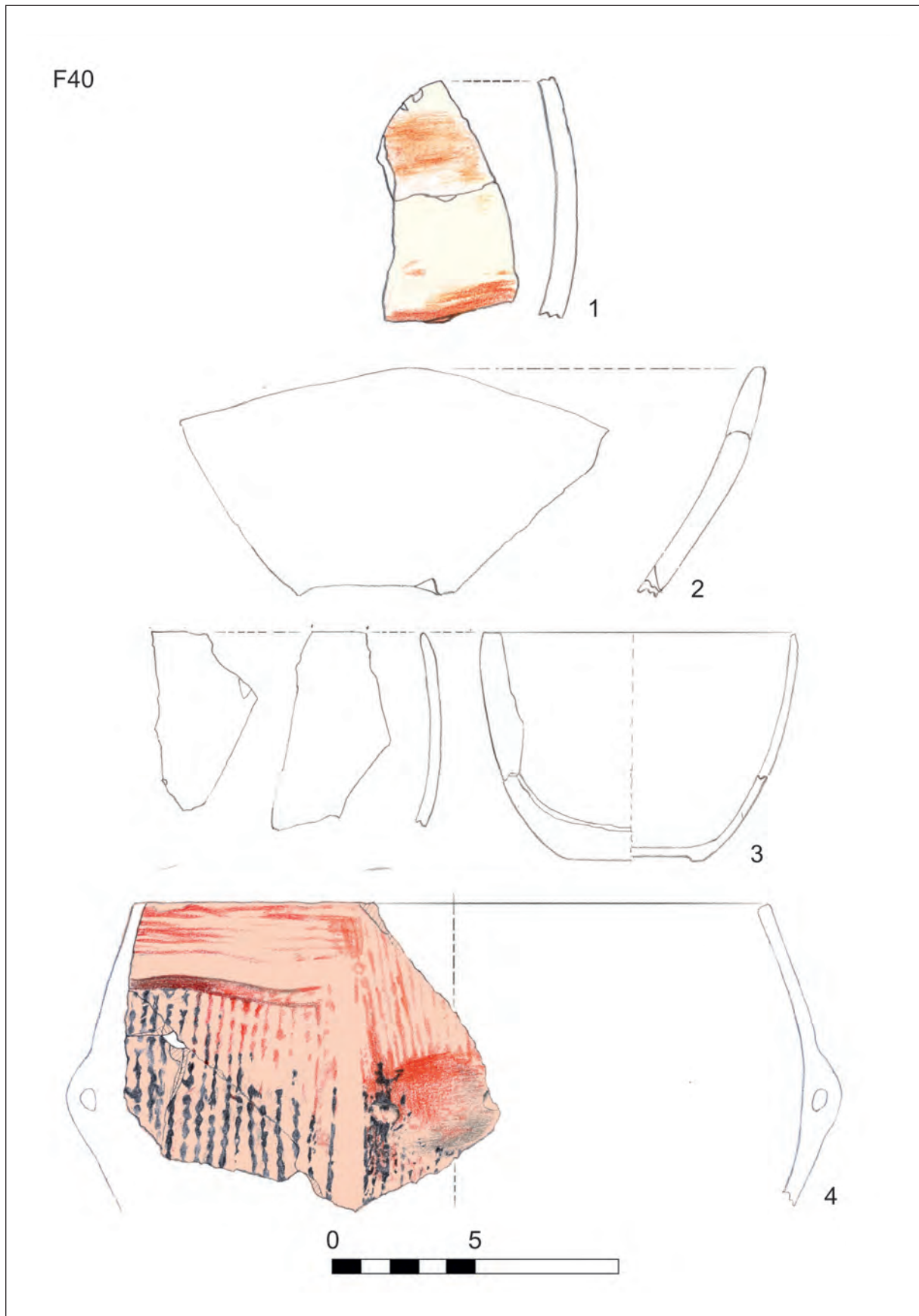


Plate 2. Inventory of the feature 40.

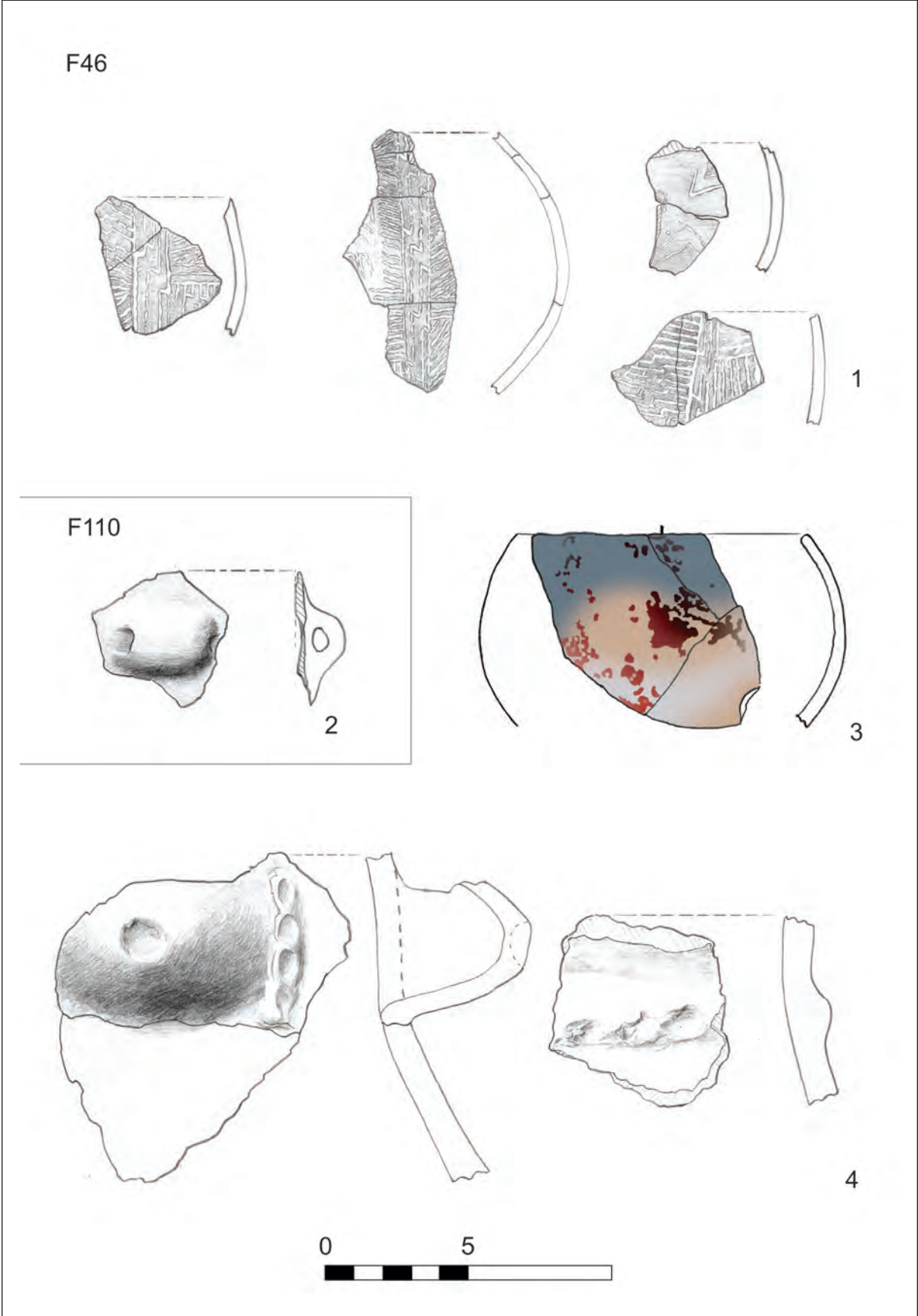


Plate 3. Inventory of the features 46, 110.

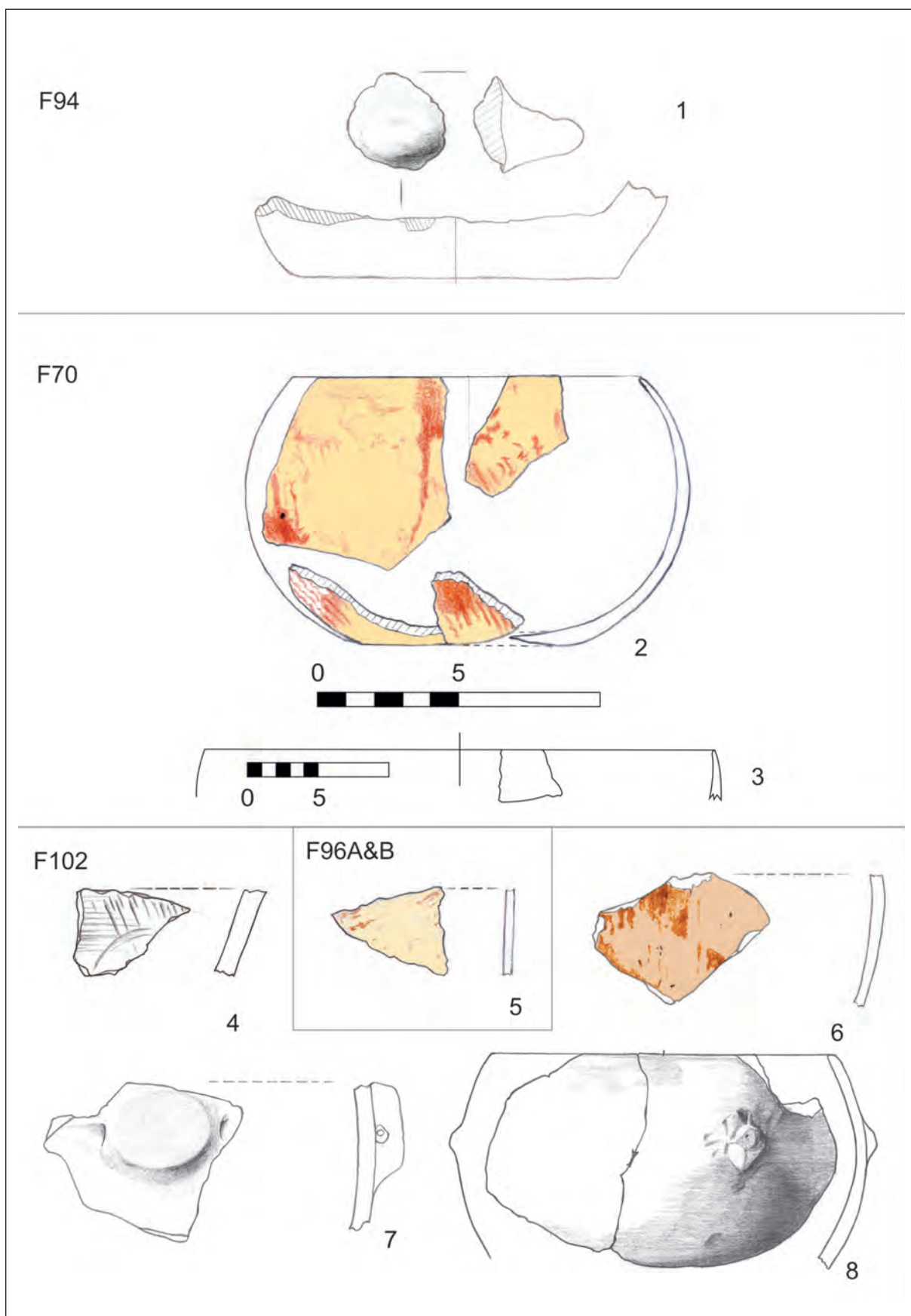


Plate 4. Inventory of the features 94, 70, 102, 96 A&B.

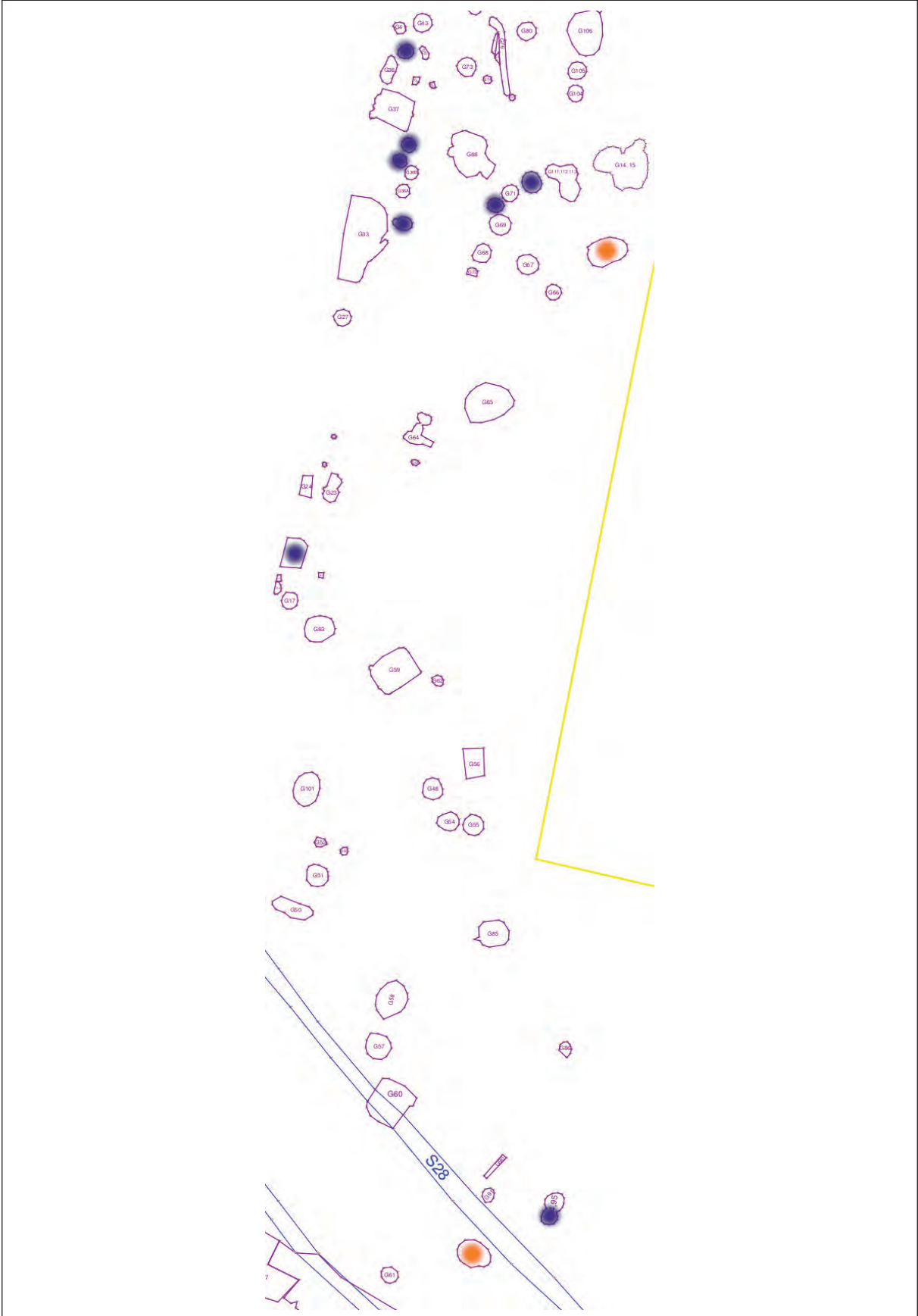


Plate 5. General plan of the features in the area uncovered in 2014 (blue-Middle Neolithic, brown-Middle Neolithic in secondary position).

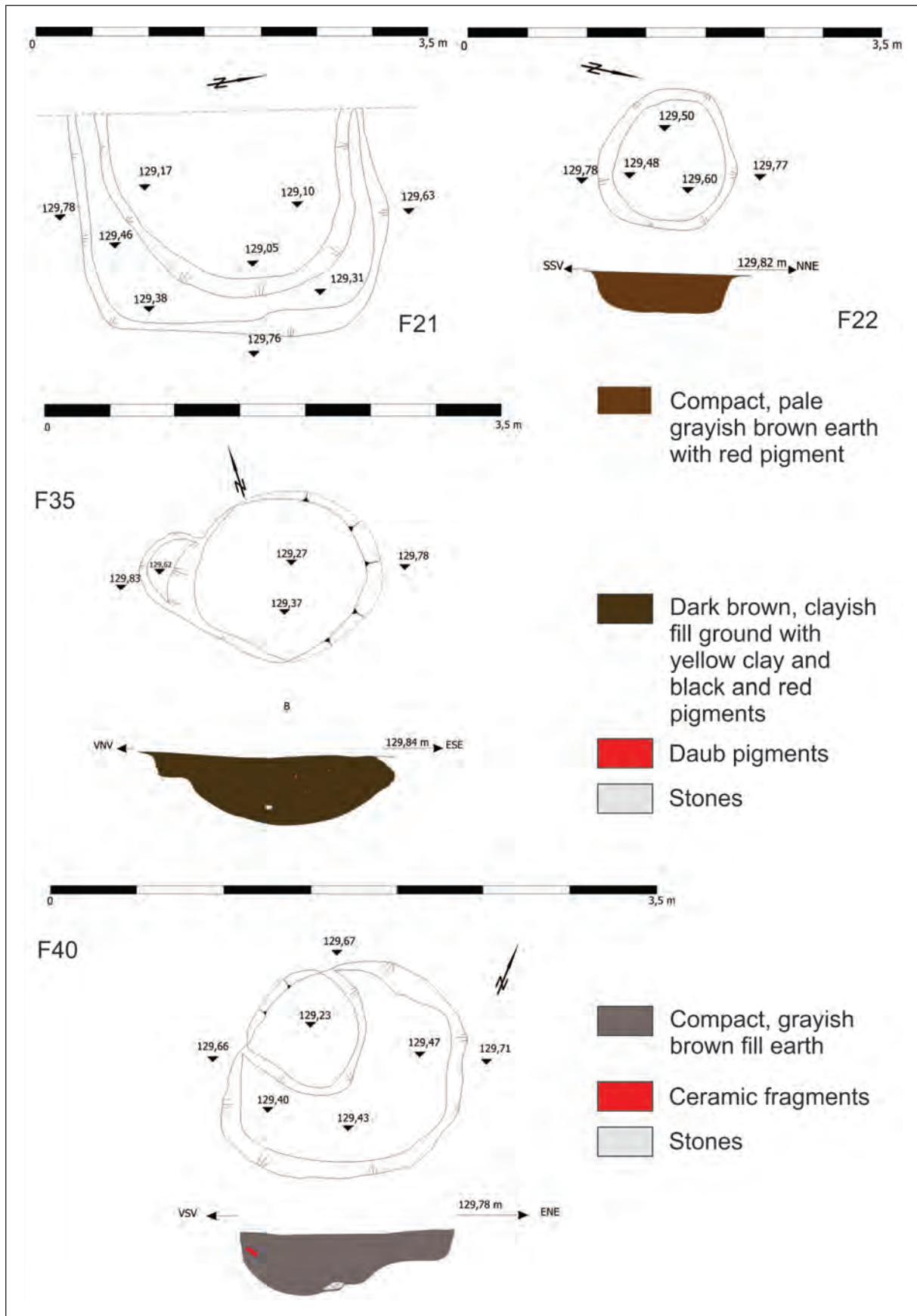


Plate 6. The plan and profile of the features 21, 22, 35, 40.

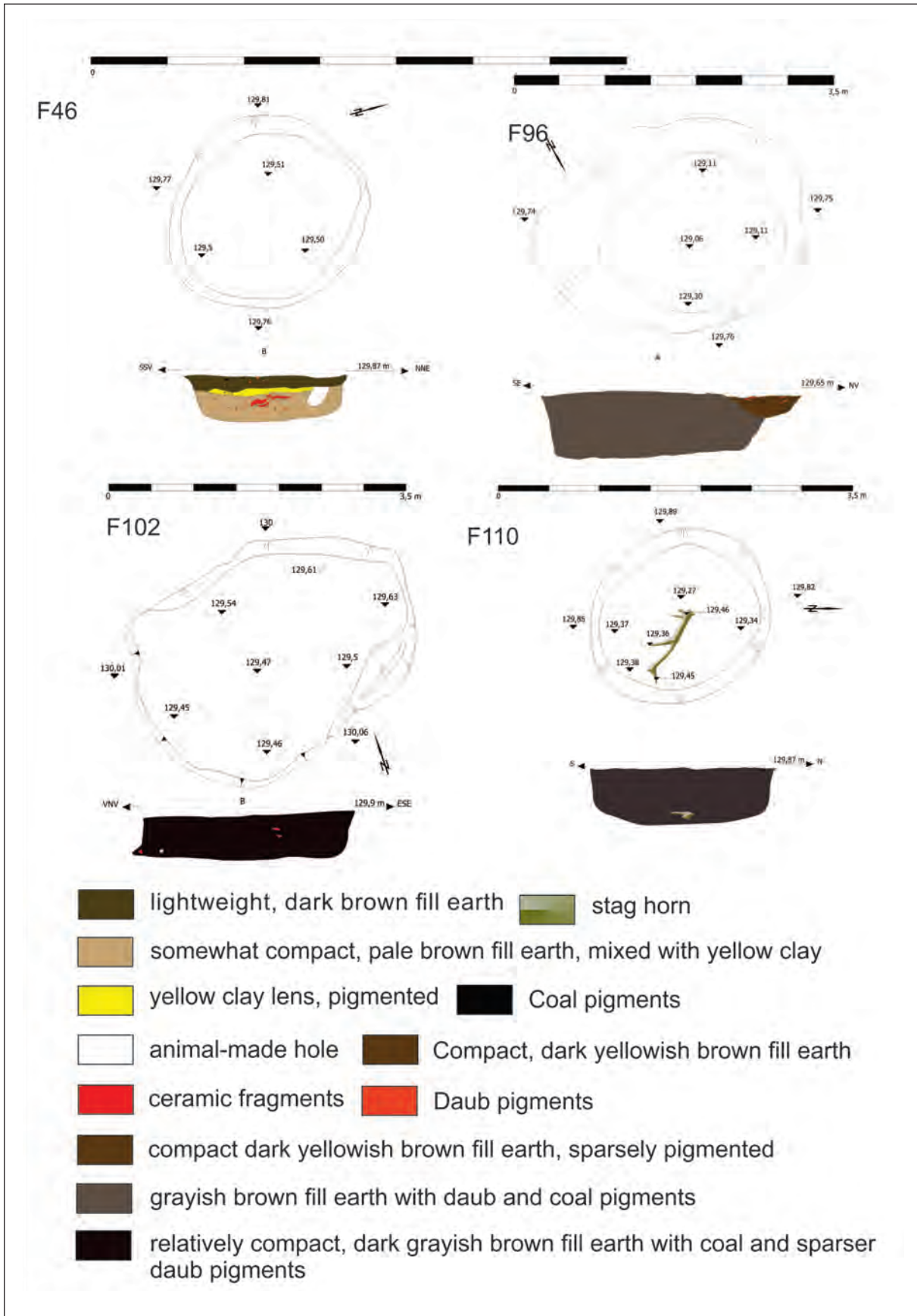


Plate 7. The plan and profile of the features 46, 96, 102, 110.

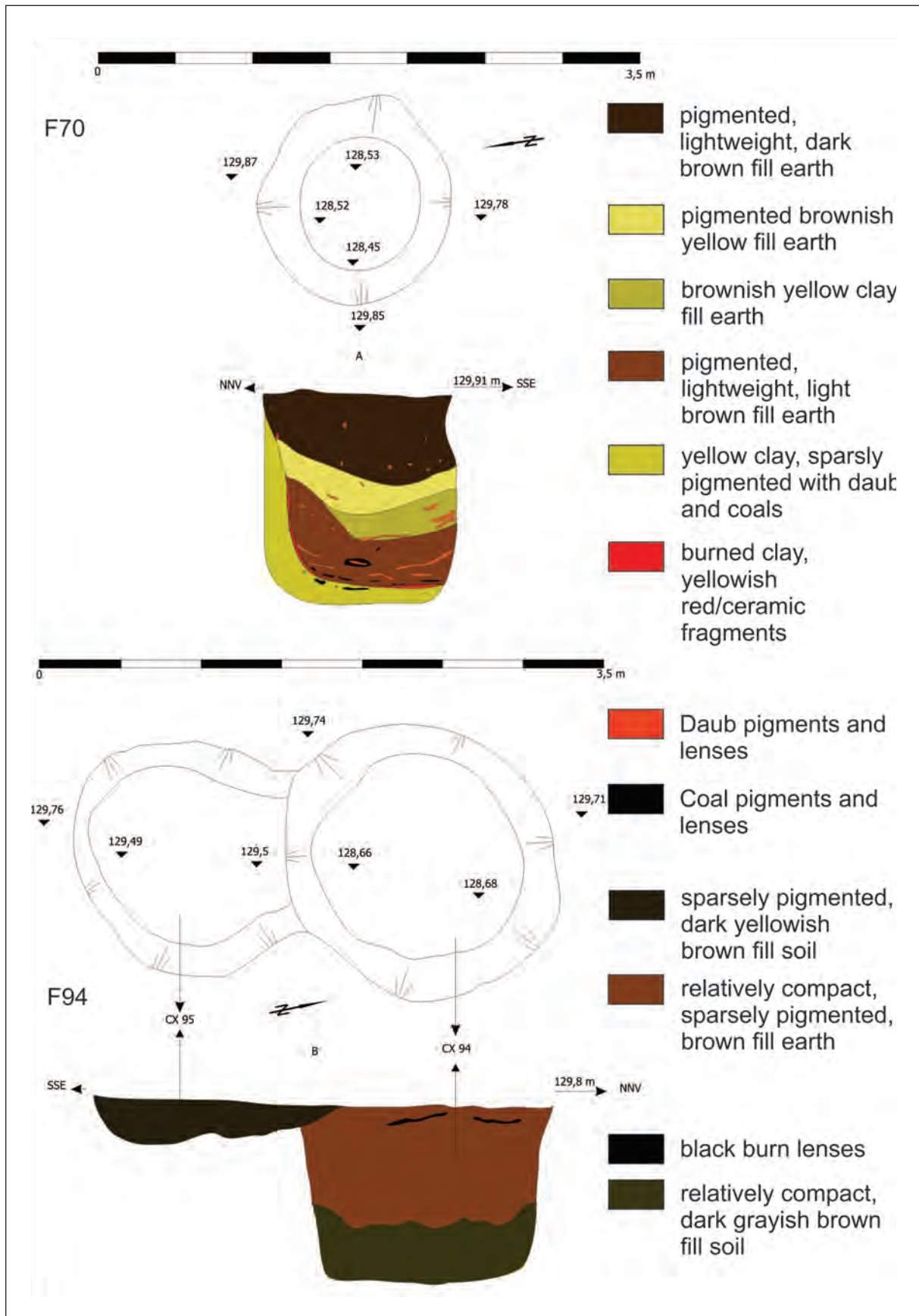


Plate 8. The plan and profile of the features 70, 94.





# Abbreviations

ActaArchHung	Acta Archaeologica Academiae Scientiarum Hungaricae.
AAC	Acta Archaeologica Carpathica, Cracow.
ActaMN	Acta Musei Napocensis, Cluj-Napoca.
ActaMP	Acta Musei Porolissensis, Zalău
AnArchRessoviensia	Analecta Archaeologica Ressoiviensia, Rzeszów.
AAS at CEU	Annual of Medieval Studies at CEU, Budapest.
Apulum	Acta Musei Apulensis – Apulum, Alba-Iulia.
Alba Regia	Alba Regia, Székesfehérvár.
Antaeus	Antaeus, Budapest.
Arrabona	Arrabona, Győr.
ArhMed	Arheologia Medievală, Cluj-Napoca, Brăila, Reșița.
ArchBaltica	Archaeologia Baltica, Vilnius.
Arch.Inf	Archäologische Informationen.
ATS	Acta Terrae Septemcastrensis, Sibiu.
ArchÉrt	Archaeologiai Értesítő, Budapest.
Banatica	Banatica, Reșița.
BBMÉ	A Béri Balogh Ádám Múzeum Évkönyve, Szekszárd.
BUFM	Beiträge zur Ur- und Frühgeschichte Mitteleuropas.
BCMI	Buletinul Comisiei Naționale a Monumentelor, ansambluri situri istorice. București.
CommArchHung	Communicationes Archaeologicae Hungaricae, Budapest.
CCA	Cronica Cercetărilor Arheologice, Comisia Națională de Arheologie, București.
CIL	Corpus Inscriptionum Latinarum, Berlin.
CMA	Complexul Muzeal Arad.
Dolgozatok	Dolgozatok az Erdélyi Múzeum érem- és régiségtárából, Cluj.
Dolg.	Dolgozatok a Magyar Királyi Ferencz József Tudományegyetem Archaeologiai Intézetéből, Szeged.
Dolg. ÚS	Dolgozatok az Erdélyi Múzeum Érem- és Régiségtárából, Új Sorozat. Cluj-Napoca / Kolozsvár.
EphNap	Ephemeris Napocensis, Cluj-Napoca.
HOMÉ	A Hermann Ottó Múzeum Évkönyve. Miskolc.
JAHA	Journal of Ancient History and Archaeology, Cluj-Napoca.
JAM	Jósa András Museum, Nyíregyháza.
JPMÉ	Janus Pannonius Múzeum Évkönyve.
JRGZM	Jahrbuch des Romisch-Germanischen Zentralmuseums, Mainz.
KRRMK	Kaposvári Rippl Rónai Múzeum Közleményei, Kaposvár.
LMI	Lista monumentelor istorice, updated in 2015.
MittArchInst	Mitteilungen des Archäologischen Instituts der Ungarischen Akademie der Wissenschaften.
MOL	Magyar Olaj- és Gázipari Részvénytársaság / Hungarian Oil and Gas Public Limited Company
Marisia	Marisia, Târgu Mureș.
NyJAMÉ	A nyíregyházi Jósa András Múzeum Évkönyve, Nyíregyháza.
PBF	Praehistorische Bronzefunde. Berlin.
Przegląd Archeologiczny	Przegląd Archeologiczny, Wrocław.
Rad	Jósa András Museum, Archaeological Archive
RégFüz	Régészeti Füzetek, Budapest.

RKM	Régészeti Kutatások Magyarországon/Archaeological Investigations in Hungary, Budapest.
RAJ Arad	Repertoriul Arheologic al Mureşului Inferior. Judeţul Arad. Timişoara 1999.
RAN	Repertoriul Arheologic Naţional.
Sargetia	Sargetia. Acta Musei Devensis, Deva.
SCIV(A)	Studii şi Cercetări de Istorie Veche şi Arheologie, Bucureşti.
SGB	Studii de Geografie a Banatului, Timişoara.
SIB	Studii de Istorie a Banatului, Timişoara.
Slavia Antiqua	Slavia Antiqua, Poznań.
SlovArch	Slovenská Archeológia, Nitra.
SMK	Somogyi Múzeumok Közleményei, Kaposvár.
SovArh	Sovetskaja Arheologija, Moskva.
SRTM	Shuttle Radar Topography Mission.
StudiaUBB Historia	Studia UBB Historia, Cluj-Napoca.
SzKMÉ	A Szántó Kovács Múzeum Évkönyve, Pécs.
Századok	Századok, Budapest.
Terra Sebus	Terra Sebus. Acta Musei Sabesiensis, Sebeş.
Tibiscum S. N.	Tibiscum S. N., Caransebeş.
TransRev	Transylvanian Review, Cluj-Napoca.
ZalaiMúz	Zalai Múzeum, Zalaegerszeg.
ZSA	Ziridava. Studia Archaeologica. Arad.
Živa Antika	Živa Antika, Skopje.