IMPRESSED VESSEL BOTTOMS FROM ŞOIMUŞ-LA AVICOLA (FERMA 2), HUNEDOARA COUNTY, ROMANIA

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Introduction

Between 16 August and 16 November 2011, during the construction of the A1 Motorway, the segment located between Deva and Orăştie, a joint team of archaeologists from the "Vasile Pârvan" Institute of Archaeology (Bucharest), the Roman and Dacian Civilization Museum (Deva) and the Romanian National History Museum (Bucharest) conducted preventive excavations in the settlement of Şoimuş. The settlement is positioned in the Şoimuş commune, between this locality and Bălata Village (Hunedoara County), at *La Avicola (Ferma 2)*, on the first terrace of the Mureş river (East-West direction). On the maps of the Military Topographic Department from the 1970s, the place where the settlement was researched is called *Dumbrava* (Ştefan 2014, 14, figs. 1 and 2).

Considering the size and archaeological complexity of the excavations, the site was divided into two sectors: "zone A", the Eneolithic core, investigated by the specialists of the Bucharest institutions, and "zone B", a Bronze Age settlement, investigated by the specialists of the Deva Museum. From "zone A" *ca.* 700 features were identified, most of them belonging to the Neolithic, but also to the Bronze Age, Roman, post-Roman and the early Medieval periods (for further details, see Petcu *et al.* 2012, 291-292; Ştefan *et al.* 2013, 49-66; 2015, 183-209; 2016, 171-189; Ştefan 2014, 14-22; 2016, 31-66; Niţă *et al.* 2015, 97-116; Ştefan and Petcu 2015, 117-126; Dobrescu *et al.* 2016, 45-56; Mărgărit *et al.* 2016, 363-397).

In this contribution we present the analysis of some vessel bottoms from Şoimuş which bear traces of vegetal imprints, in order to understand what type of plants were used, in which form and why the Neolithic potter(s) carried out this kind of procedure. These vessels represent *ca.* <1% of the ceramic assemblage. We also present the results of a small-scale experiment to imprint weave patterns on clay.

Artifacts and contexts

Seventeen pot bottom fragments were selected for analysis, all of them bearing traces of vegetal imprints. Some of them have a very clear pattern of the vegetal weave (e.g. see Figures 1, 4 and 16).

1) Pot fragment with impressed bottom, sand- and rock-tempered, semifine fabric and red-brick colour (Figure 1).

Figure 1. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 181 (photo R. Petcu). Insert: location map of the site area.

It was recovered from Feature 181 - a pit with dimensions of 1.8 x 3.9 m and a maximum depth of 0.6 m. It contained pottery and animal bones, had an elongated oval shape and its infill consisted of a brown-greyish soil mixed with ash pigments, daub and yellow clay (Figure 2).

2) Pot fragment with impressed bottom, sand- and rock-tempered, coarse fabric and red-brick colour (Figure 3). It was recovered from Feature 239 which is a ditch with a length of 54 m, a maximum width of 4.1 m and a maximum depth of 2.2 m. It was filled with debris, pottery fragments, anthropomorphic figurines, daub with traces of wattle, clay weights,

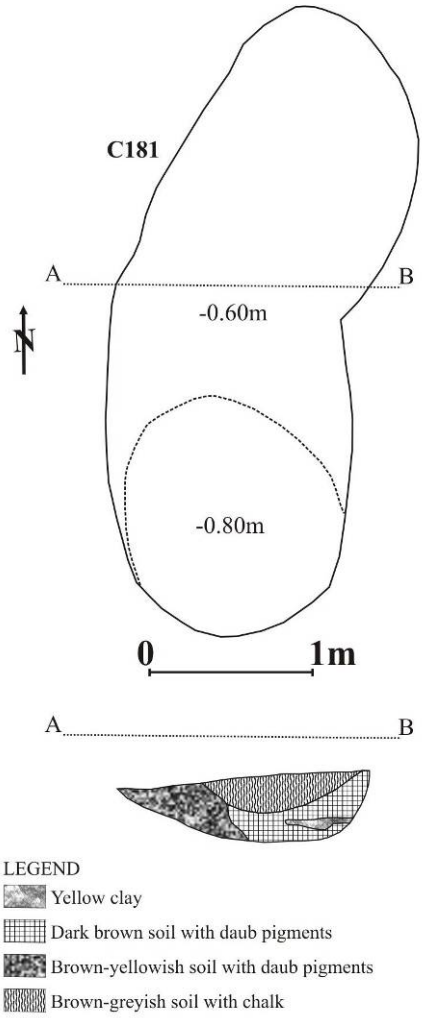

Figure 2. Şoimuş-La Avicola (Ferma 2): Feature 181.

obsidian and flint items, a quern, human bones, animal bones, bone and antler tools, miniature vessels. The ditch was oriented NE-SW, and it had three phases, probably its initial function being for water drainage and after that for enclosing an area or a household (see Ştefan 2014, figs. 16-18).

3) Pot fragment with impressed bottom, sand- and rock-tempered semifine fabric and red-brick colour (Figure 4). It was recovered from Feature 239.

4) Pot fragment with impressed bottom, grog-tempered, coarse fabric and red-brick colour (Figure 5). It was recovered from Feature 353 which is a pit with dimensions of 6.25 × 17.5 m and a maximum depth of 1.6 m. It contained pottery, a clay weight, a strainer, a stone disk, flint and obsidian items, a quern, animal bones and antler tools. After the removal of the vegetal soil, a large area was observed with a brown infill consisting of soil, daub pigment and daub fragments. Due to its irregular shape, the feature may have been a clay extraction pit, later used for the deposition of debris (Figures 6 and 7).

Figure 3. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 239 (photo R. Petcu).

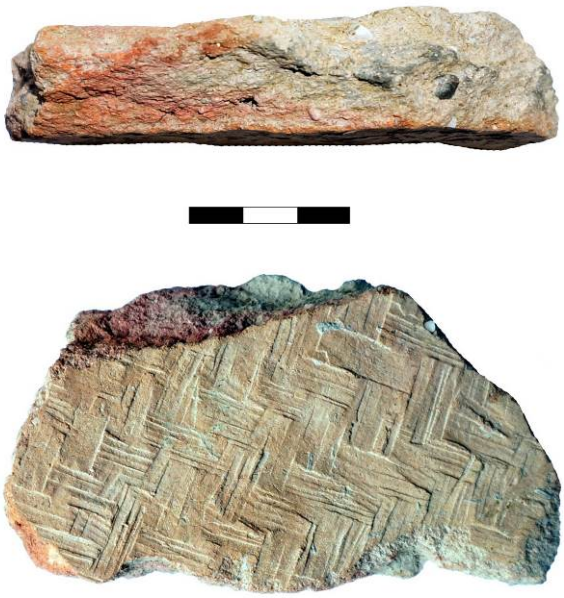

Figure 4. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 239 (photo R. Petcu).

Figure 5. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 353 (photo R. Petcu).

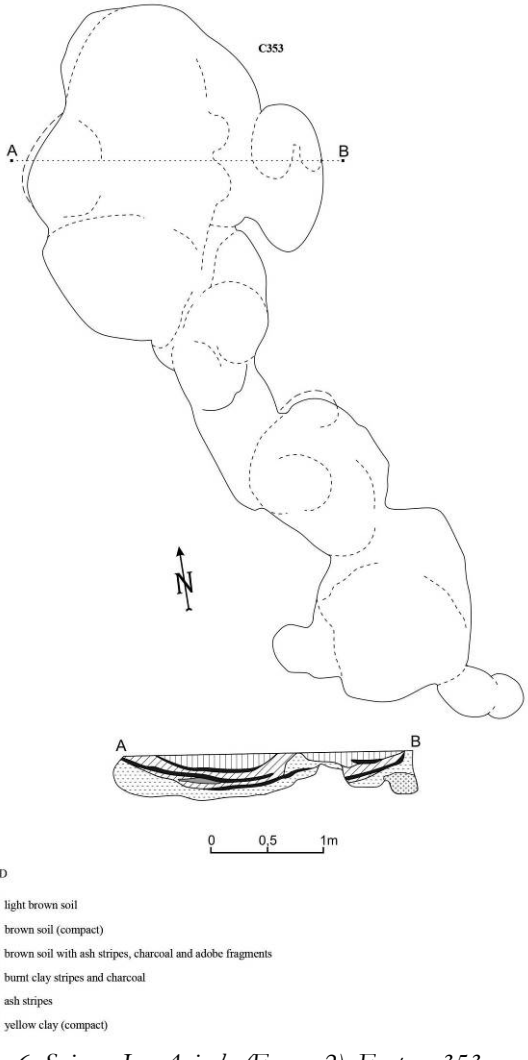

Figure 6. Şoimuş-La Avicola (Ferma 2): Feature 353.

Figure 7. Site of Şoimuş-La Avicola (Ferma 2): Feature 353.

5) Pot fragment with impressed bottom, sand- and rock-tempered, semifine fabric and red-brick colour (Figure 8). It was recovered from Feature 353.

Figure 8. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 353 (photo R. Petcu).

6) Pot fragment with impressed bottom, sand- and rock-tempered, semifine fabric and dark red-brick colour (Figure 9). It was recovered from Feature 354 which is a pit with dimensions of 4.1 × 7 m and a maximum depth of 1.3 m. It contained pottery, a clay weight, flint items, a quern, a stone axe, a stone chisel, bone tools and animal bones. The pit is overlapped from north to south by Feature 238 (palisade). The pit had an irregular, ovoidal shape and its infill consisted of many layers of burnt materials - charcoal, ash and burnt daub. In the middle of the section a post hole with a diameter of *ca.* 0.5 m was documented, which was filled with dark brown soil mixed with daub pigment. The sides of the pit were indicative of several episodes of deformation and soil collapse (Figures 10 and 11).

Figure 9. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 354 (photo R. Petcu*).*

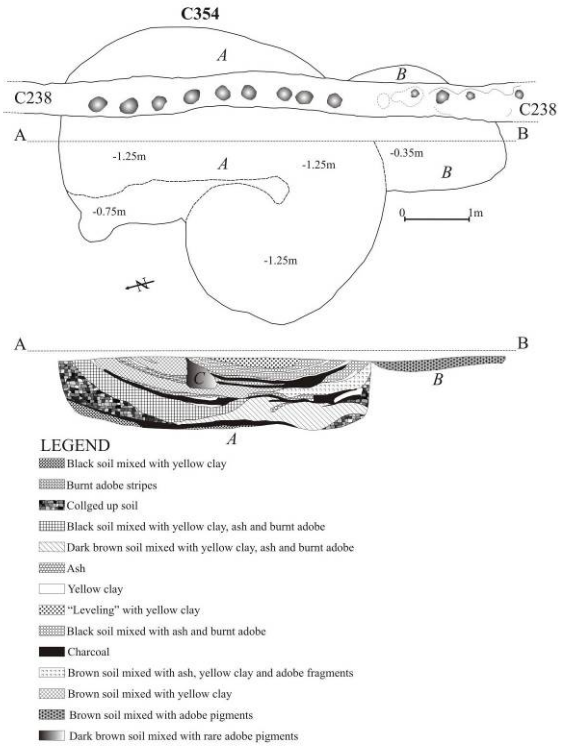

Figure 10. Şoimuş-La Avicola (Ferma 2): Feature 354.

Figure 11. Site photo of Şoimuş-La Avicola (Ferma 2): Feature 354.

7) Pot fragment with impressed bottom, grog-tempered, semifine fabric and red-brick colour (Figure 12). It was recovered from Feature 354.

Figure 12. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 354 (photo R. Petcu).

8) Pot fragment with impressed bottom, grog-tempered, coarse fabric and red-brick colour (Figure 13). It was recovered from Feature 354.

9) Pot fragment with impressed bottom, sand- and rock-tempered, coarse fabric and red-brick colour (Figure 14). It was recovered from Feature 354.

10) Pot fragment with impressed bottom, grog-tempered, coarse fabric and dark red-brick colour (Figure 15). It was recovered from Feature 354.

11) Pot fragment with impressed bottom, sand- and rock-tempered coarse fabric and dark red-brick colour (Figure 16). It was recovered from Feature 354.

Figure 13. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 354 (photo R. Petcu).

Figure 14. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 354 (photo R. Petcu).

Figure 15. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 354 (photo R. Petcu).

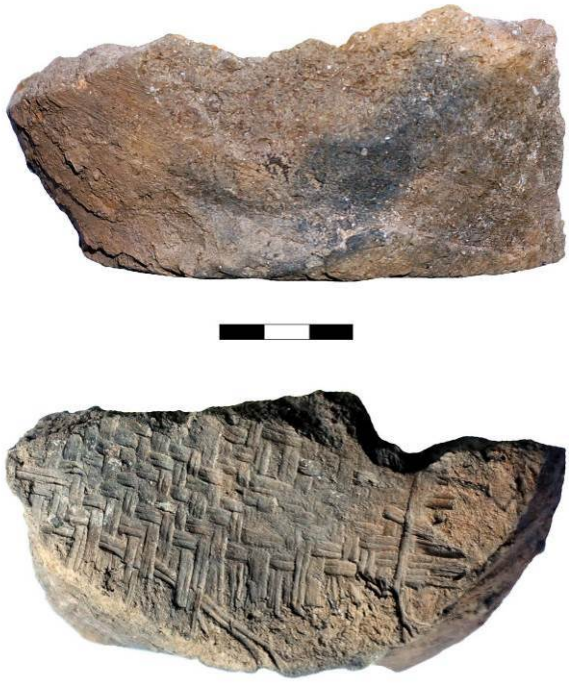

Figure 16. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 354 (photo R. Petcu).

12) Pot fragment with impressed bottom, sand- and rock-tempered, semifine fabric and red-brick colour (Figure 17). It was recovered from Feature 444A-B which is a complex of two pits with a maximum depth of 2.7 m. It contained pottery, anthropomorphic figurines, daub, hearth fragments, flint and obsidian items, a quern, a striker, animal bones, bone tools, antler and shells. Its infill consisted of multiple layers of brown, beige and yellow soil (Figure 18).

13) Pot fragment with impressed bottom, grog-tempered, coarse fabric and dark red-brick colour (Figure 19). It was recovered from Feature 444A-B.

Figure 17. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 444A-B (photo R. Petcu).

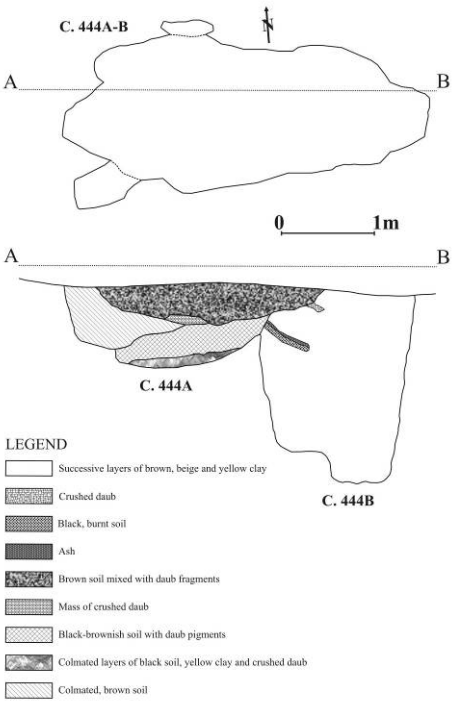

Figure 18. Şoimuş-La Avicola (Ferma 2): Feature 444A-B.

Figure 19. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 444A-B (photo R. Petcu).

14) Pot fragment with impressed bottom, grog-tempered, semifine fabric and dark red-brick colour (Figure 20). It was recovered from Feature 470 which is a pit with dimensions of 1.2 x 1.4 m and a maximum depth of 1.75 m. It contained pottery, hearth fragments, polished tools, bone tools and animal bones. The pit had a circular shape and overlapped Feature 469.

Figure 20. Impressed vessel bottom from Feature 470 (Photo R. Petcu).

15) Pot fragment with impressed bottom, sand- and rock-tempered semifine fabric and red-brick colour (Figure 21). It was recovered from Feature 472 which is a pit with dimensions of 4 x 4.5 m and a maximum depth of 1.45 m. It contained pottery, flint items, a polished stone axe, bone tools, animal bones and antler. The feature had an irregular shape and a few steps at its base. Its infill consisted of successive layers of charcoal and ash in its upper part. Under these layers was a brown-greyish soil mixed with daub, charcoal and ash (Figure 22).

Figure 21. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 472 (photo R. Petcu).

Figure 22. Şoimuş-La Avicola (Ferma 2): Feature 472.

16) Pot fragment with impressed bottom, grog-tempered, semifine fabric and red-brick colour (Figure 23). It was recovered from Feature 474 which is a pit with a diameter of 3.5 m and a maximum depth of 1.3 m. It contained pottery, zoomorphic figurines, flint items, bone tools, animal bones, unworked antler, and shells. On its southern and eastern sides the pit had steps and further east overlapped Feature 377 and was overlapped by Feature 479. Its infill consisted of a sequence of thin, brown-greyish layers, mixed with lenses of daub, ash and charcoal. On the sides, on its lower part, the infill was brown-greyish with few pigments of charcoal or ashes (Figures 24 and 25).

Figure 23. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 474 (photo R. Petcu).

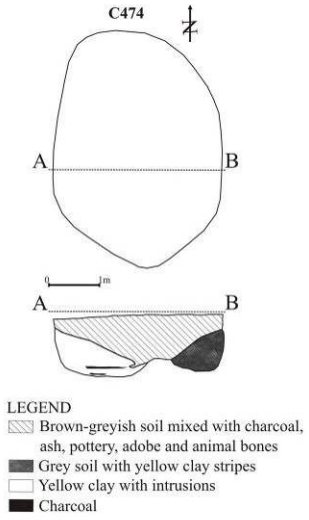

Figure 24. Şoimuş-La Avicola (Ferma 2): Feature 474.

Figure 25. Şoimuş-La Avicola (Ferma 2): Feature 474.

17) Pot fragment with impressed bottom, sand- and rock-tempered, semifine fabric and red-brick colour (Figure 26). It was recovered from Feature 482 which is a pit with a diameter of 1.6 m and a maximum depth of 0.7 m. It contained pottery, daub, a clay weight and animal bones. Its infill consisted of a dark brown-greyish soil mixed with daub pigments (Figure 27).

Interpretation and analogies

All 17 vessels can be attributed to the so-called "kitchen ware" and some of them were recovered from grouped features which can possibly indicate special activity areas.

The impressions from the vessel bottoms belong to patterns made by a "weaving method" (two component systems similar to warp yarns from the textile's structure), from vegetal material like rush or reed. The interposing of vegetal elements followed a special rule (so-called stiffened diagonal) which led us to think that Neolithic people knew the mechanical strength of their products (C. Marian pers. comm.). In the samples discussed above, three main clusters were noticed: clear weaving of vegetal matter (see Figures 1, 3, 4, 9, 14, 16, 19, 20, 21, 23); a slightly

different weave, with an oblique pattern (like a rope in profile) (Figure 17); and lightly woven and/or randomly arranged vegetal material (see Figures 5, 8, 12, 13, 15, 26)(C. Marian pers. comm.).

The settlement of Şoimuş-*La Avicola (Ferma 2)* developed between *ca.* the end of 6th and the beginning of the 5th millennium BC. There are good parallels in terms of relative chronology with other traditions, such as Vinča C, late Boian, Hamangia and Vădastra.

Good analogies for other impressed vessel bottoms are present in styles like Vădastra, eponymous settlement (Dragoman 2013, fig. 3.9/1, 2), Hamangia, at Baia-*Goloviţa* (Berciu 1966, 249, fig. 147/1, 2, 9-11) and Cheia-*Vatra satului* (V. Voinea pers. comm.), Boian, at Radovanu-*La Muscalu* (Comşa 1974, 91, fig. 24), Turdaş, eponymous settlement (von Roska 1941, 198, Pl. LXXVII/4-16) or Vinča, at Liubcova-*Orniţa* (Luca 1998, 185, fig. 19/10). This type of archaeological find is present also in slightly later traditions like Stoicani-Aldeni, at Vulcăneşti (Dragomir 1983, fig. 41/4) and Stoicani (Petrescu-Dâmboviţa 1953, 66, fig. 26/9, 10; 76, fig. 29/1) or Foeni, at Pianu de Jos-*Podei* (Bem 2015, fig. 110/5, 6).

We also observed that at least a part of the collection of vessel bottoms were not put on mat-like vegetal material, but simply on gathered vegetation (as in the case of Figures 12, 13, 15 and 26).

Figure 26. Şoimuş-La Avicola (Ferma 2): impressed vessel bottom from Feature 482 (photo R. Petcu).

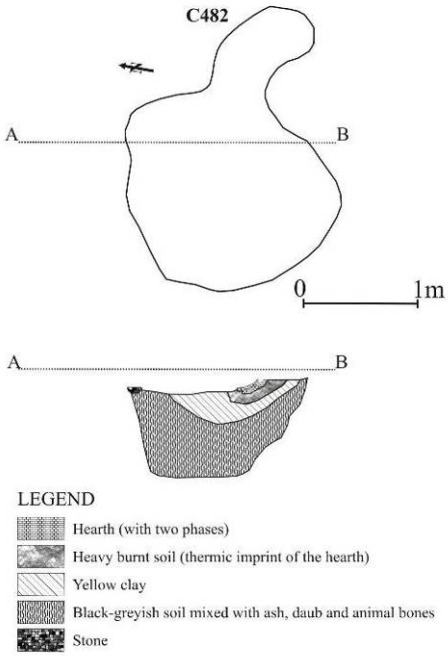

Figure 27. Şoimuş-La Avicola (Ferma 2): Feature 482.

A small scale experiment

We made an experiment with some grey club-rush gathered from a place near Bucharest (*Schoenoplectus lacustris subsp. tabernaemontani*). Grey club-rush is a perennial, aquatic plant from the class of Cyperaceae (Figure 28a); it is still used by local artisans. It has a weed-like aspect and grows as big tufts, rich in leaves. The leaves are linear and cylindrical with a green-greyish colour (Anghel *et al.* 1975, 353-354).

We plaited these leaves in order to make a little fragment of mat (Figure 28b). The next step was to create a vessel fragment from clay and then to imprint the mat on it (Figure 28c-f). This imprint on the soft fabric of the vessel bottom was compared with our Neolithic pot bottoms, in order to observe possible similarities (Figure 28g). Our clay imprint is very different compared with the vessel bottoms discovered at Şoimuş, in terms of the type of plant patterns. The plants used in the Neolithic settlement had wider, leaves, so it is probable that plants other than grey club-rush were used in the process of making pots. We suggest other plants with a wider body, perhaps bulrush (*Typha*) were used.

For the Cucuteni area a wide range of plants were used to make mat-like artifacts: different kind of reed, bulrush, sedge, raffia or cereals (Marian 2009, 57-58). Also, three types of impressions were documented on Cucutenian vessel bottoms: spiral, rosette-like and by a "weaving method" (Marian 2009, 58-71, figs. 35-49).

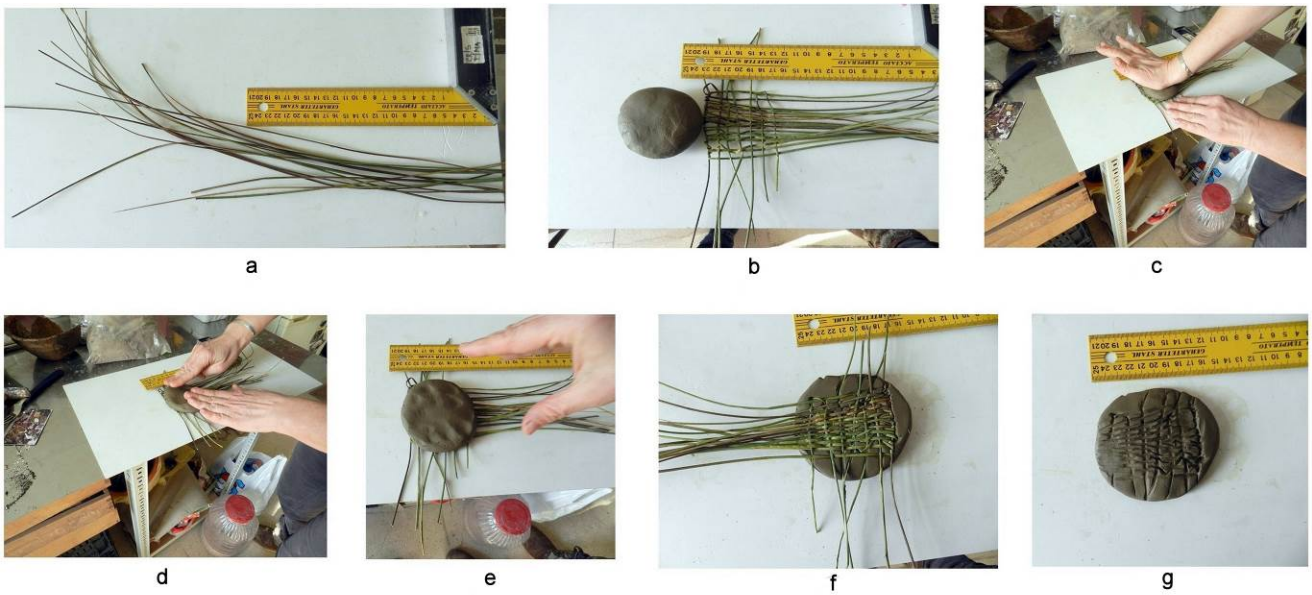

Figure 28. The stages of the experimental imprint (photo C.E. Ştefan).

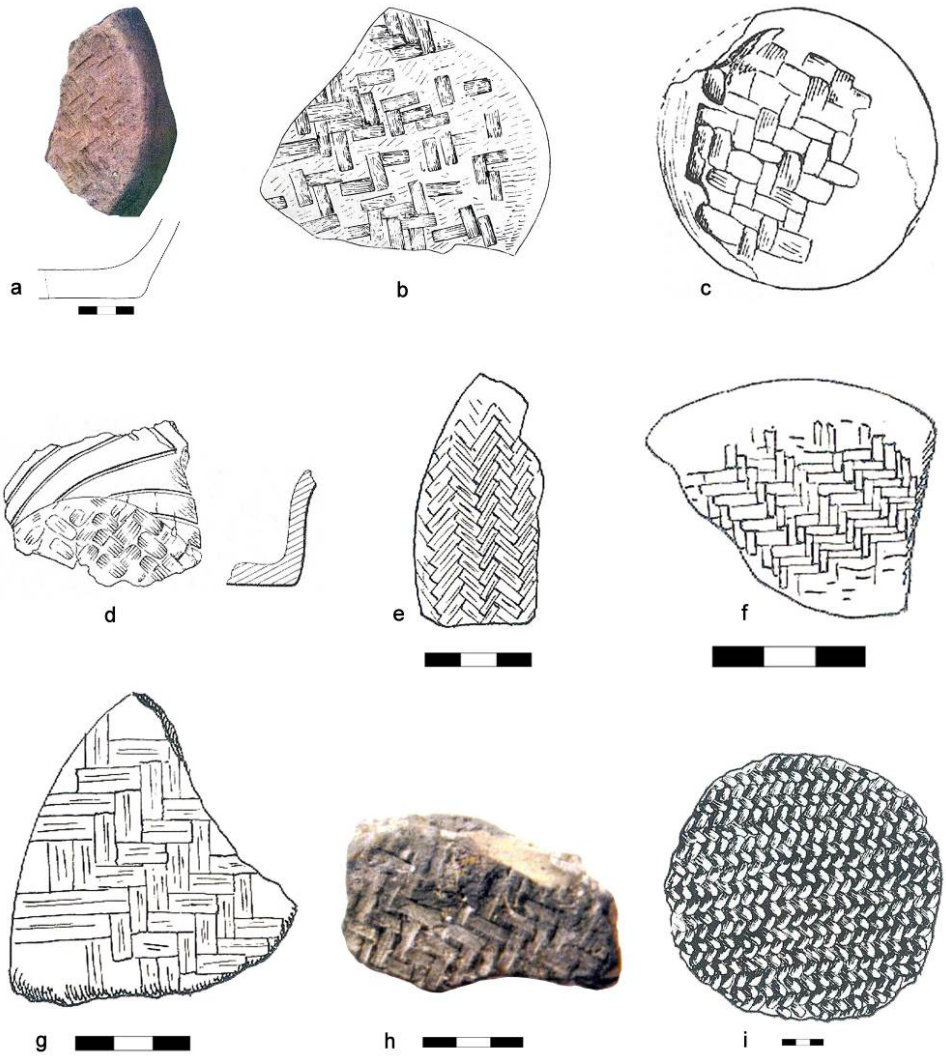

Figure 29. Prominent types of mats present in other Neolithic traditions of the Lower Danube. a: Pianu de jos; b: Radovanu; c-d: Stoicani; e-g: Turdaş; h:Vadastra; i: Vulcanesti.

If we look at our vessel bottoms from Şoimuş we can observe that most of them have a "woven" imprint on them. It appears to be the prominent type of mat present in all Neolithic traditions of the Lower Danube (Figure 29).

Conclusions

Only a small number of the vessels recovered from Neolithic settlements bare evidence of vegetal imprints on their bases. The majority of the pottery had smooth bases. If the goal of placing the vessels on mats was for rapid detachment of the pottery from their support (during firing?) why were all the vessels not put on such mats? Could this be a special stage in pottery making specific only to certain potters?

In our opinion it is important in archaeology to understand the action of prehistoric people. We can access only a small part of their actions by studying some of the enduring materials like clay, stone, bone, etc. A large part of the Neolithic legacy is lost including wooden and vegetal artifacts, but also ideas, concepts, beliefs.

The interesting fact is that the spread of this practice of placing fresh modelled vessels on mat-like material over large geographical areas, from Hamangia in the east to Vinča and Turdaş in the west; this fact could be a result either of travelling potters, or of the spread of a practical idea. Most of the pot bottoms present a weave pattern which could suggest that they were put on a vegetal item similar to a mat. On the other hand, a few of them have a less complex pattern, which would suggest that were laid-down simply on gathered vegetation.

Acknowledgements

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