# Neolithic pottery groups from the Agia Triada Cave, southern Euboea, and the Aegean Late Neolithic: Some remarks

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### Abstract

Στο κείμενο που ακολουθεί παρουσιάζονται τα προκαταρκτικά συμπεράσματα της εν εξελίξει μελέτης του υλικού των ανασκαφών που πραγματοποιήθηκαν κατά τα έτη 2007-2010 στο σπήλαιο της Αγίας Τριάδας Καρύστου. Ταπό τα έως τώρα δεδομένα προκύπτει ότι ορισμένα κεραμικά σύνολα διαφοροποιούνται ως προς τα τυπο-τεχνολογικά τους χαρακτηριστικά από την κεραμική της Νεότερης Νεολιθικής ΙΙ. Η πιο χαρακτηριστική κατηγορία είναι η γραπτή κεραμική με λευκή διακόσμηση σε σκούρο βάθος που χαρακτηρίζει τη Νεότερη Νεολιθική Ι περίοδο των νησιών του κεντρικού, ανατολικού Αιγαίου και άλλων περιοχών. Ο μικρός αριθμός αντιπροσωπευτικών οστράκων και η κακή κατάσταση διατήρησης τους δυσχεραίνουν ιδιαίτερα τη μελέτη.

## Introduction

The Agia Triada Cave is located approximately 5 km north-west of Karystos, near the village of Kalyvia, at the foot of Mount Ochi (Fig. 1). The entrance of the cave (Fig. 2) is relatively small (c.1.5 x 1 m). It opens into a narrow but high corridor that slopes downwards (Fig. 3). The length of the entrance corridor is c.70 m. It turns sharply left and continues for another c.50 m until it ends at a vertical crevasse. A side chamber opens almost at the end of the main corridor at the beginning of the section where the main corridor becomes more leveled. It is only passable by crawling, but further in towards the second part of the side chamber there is a room of no more than c.6 x 4 m, where there was enough space and the ceiling was high enough to allow trenches to be opened. Excavations were concentrated in the side chamber and the level section of the main corridor of the cave (see Fig. 4).

The presence of material dated to the Late Neolithic (hereafter LN) at Agia Triada was noted in the early 1980s, owing to the surface collection conducted by A. Sampson.<sup>2</sup> LN I and II material is mentioned by D. Keller, who also visited the cave; he had visited four additional caves c.30 m below the main cave discussed here, as well as a fifth 200 m higher up and across the gorge from Agia Triada.<sup>3</sup> Survey as well as test excavation in these rock shelters produced no reliable evidence of Neolithic use.

This LN material mentioned by Keller and Sampson represents the earliest currently attested ma-

<sup>1.</sup> I would like to thank my friend and co-excavator of the Agia Triada Cave Dr Ž. Tankosić for his overall help and support. I am also grateful to the archaeologist D. Lambropoulos for his help with sorting the material, as well as to A. Mari, D. Pullen, V. Şahoğlu, P. Sotirakopoulou and K. Vitelli for discussing with me aspects of the material presented in this report.

<sup>2.</sup> Sampson ([1985]1988).

<sup>3.</sup> Keller 1985, 125-127, figs. 63-66.

terial in southern Euboea. It has been claimed that at another cave site near the village of Koilosi, Karystia, even earlier material has been noted;<sup>4</sup> however, only after a more systematic study will it be possible to evaluate these claims.<sup>5</sup> Surveys in Karystia have not yet produced any reliable evidence for human presence earlier than LN II.<sup>6</sup>

Achieving a better understanding of this early material was one of the main reasons for starting an excavation at the Agia Triada Cave. Furthermore, the natural characteristics of the cave,<sup>7</sup> which are different from the caves usually used during the LN I-II in southern Greece, meant it was worth investigating.<sup>8</sup> Agia Triada is not suitable for prolonged habitation by even a small group of people due to its configuration, the lack of light, and the damp (Fig. 3).<sup>9</sup>

Beyond the LN I material, the main phases present in the cave, according to the current state of material study, belong to the LN II<sup>10</sup> and the Early Bronze Age II (hereafter EBA) phases.<sup>11</sup>

# Excavation and contextual information

Distribution patterns of the material stratigraphically detected below the LN II layers (Fig. 4) indicate (Table 1a-e) its concentration in specific layers and units/features. Moreover, characteristic sherds are sporadically present in chronologically later layers, indicating that deeper strata were disturbed either by natural formation processes or by LN II use. According to the excavation data, layer 7, which represented a stone, layered surface with a sub-structure made of rubble securely dated to the LN II Attica-Kephala culture, sealed lower deposits, and any disturbance and intervention from above seems to belong to this phase. This is due to the fact that the EB II burials were apparently placed on the contemporary surface of the cave without any significant digging being undertaken, and thus little damage was caused to the earlier strata; there is therefore a clear distinction between the LN II and EBA II layers. In between these two layers a sandy layer was found that contained few finds from both phases. At least stratigraphically and according to the available radiocarbon dates, there is a gap between the LN II and EB II phases of use.

The deepest layers of the trenches opened inside the side chamber mainly contained sand and pebbles, indicating disturbance caused by water. The cave is still an active underground river. In these layers, traces of burning were identified, possibly indicating the presence of fires (burnt soil and traces of ash) or other activities. <sup>12</sup> They were generally very badly preserved. It is therefore difficult to extract more precise information regarding the character of occupation and the use of the cave in the deposits found below the LN II layer 7. Additionally, based on the quantity of material present in these layers, occupation cannot but be considered sporadic. Beyond some bone tools excavated in the entrance corridor, the overall picture of the material is that of few lithics and small-sized sherds with extremely worn surfaces. This picture is completely different from that presented by the LN II and mainly the EB II material. <sup>13</sup>

<sup>4.</sup> Sampson 1981, 70, fig. 130; Sampson 2002b, 79-94.

<sup>5.</sup> See also Cullen et al. 2013, 7.

<sup>6.</sup> Cullen et al. 2013, 7; Tankosić and Chidiroglou 2010, 11-17; Tankosić and Katsianis, Forthcoming.

<sup>7.</sup> See Mavridis and Tankosić 2009; 2013.

<sup>8.</sup> For the use of caves in the Later Neolithic stages of southern Greece, see Mavridis 2014, 599-610, and also Mavridis et al. 2013.

<sup>9.</sup> Mavridis and Tankosić 2009, 798; 2013.

<sup>10.</sup> Mavridis and Tankosić 2016a.

<sup>11.</sup> Mavridis and Tankosić 2016b.

<sup>12.</sup> As indicated by the geologist of the excavation, Dr P. Karkanas.

<sup>13.</sup> See Mavridis and Tankosić 2016a; 2016b.

The most important pottery groups/concentrations come from trenches 2 and 3 at the main corridor and from trenches 4, 8 and 9 in the side chamber. In trenches 4, 8 and 9 we reached bedrock, and the stratigraphy there consisted of thick deposits in contrast to the main corridor trenches that preserved fewer finds in shallow deposits (Fig. 4). 15

Trench 2 is located at the very end of the main section of the entrance corridor. The stratigraphical sequence as well as the archaeological inventory from this trench is much better preserved and more informative than that from most of the trenches opened in this part of the cave. We were able to discern seven distinct stratigraphic layers based on soil colour, inclusions and consistency—criteria used in the rest of the trenches opened. The most important element of trench 2 stratigraphy is feature 1 (Fig. 5a, b). This feature consists of a roughly circular patch of reddish hardened and burned soil with large pottery sherds (pithos fragments with rope decoration, Fig. 13.5) and flattish slabs of local stone. This small platform extends towards the north-east corner and into the profile of the trench. 16 Roughly below the middle section of the circular feature, we found a prosopomorphic protome handle that belongs to a vessel whose other parts were also found in trench 2 (Fig. 14.4). It appears that such positioning of the prosopomorphic handle was intentional. The handle was found within a leveled layer containing significant amounts of charcoal and ash. The purpose of this feature is unclear. However, on the basis of other excavations in caves such as the Drakaina Cave on Kephalonia<sup>17</sup> and the Leontari (Lion) Cave in Attica, 18 it appears that the intentional placement of certain artefact categories and especially figurines below floors was a common practice. 19 Below feature 1 more sherds were found, some of which have white painted decoration (Figs. 13, 14), dating its construction with reasonable certainty to the LN I. A few obsidian tools were found in the same trench as well as some scattered human bones.

In trench 3 (Fig. 6a, b), a pottery concentration was found (U2/4a) towards the north profile in a loose grey and silty layer related to layer 4 (compact, reddish-brown layer with traces of burning, stones and pottery sherds). This concentration possibly represents a shallow pit cut into layer 4. In layer 4, obsidian tools were found, together with a bone needle (U2/4a) as well as two human vertebrae (one from layer 4, the other from U2/4a). Layers 4b (red clay) and 5a-b (stones) represent an intentional construction, probably a leveled area.<sup>20</sup> Deeper, there was another layer (L6) with traces of burning together with a fair number of sherds (U4/L6). At the bottom of this layer there was another concentration of finds (U5) containing pottery, bone tools and stones. Deeper layers contained only sporadic finds.

Excavations in the side chamber produced the richest prehistoric deposits so far, which date to the LN and the EBA.

The deepest layers consisted mainly of sand and pebbles. Traces of burned soil may indicate the presence of layers of use. Sporadic sherds were present throughout the stratigraphic record (for an example from trench 4, see Fig. 7) with some notable concentrations being present.

In trench 9, layer 11 yielded a fair amount of characteristic sherds. It is a yellowish sandy layer with traces of burning. It contained sherds with dark burnished surfaces among which was found one horn handle and also a few burnt bones and obsidian (one arrowhead). Sporadic finds are present in several other layers as well (e.g. layer 12).

Excavation of trench 8 produced a very interesting selection of pottery and other finds. Layer 9b (yellowish sand with traces of burning and several large stones) produced one spindle whorl, obsidian

<sup>14.</sup> See Mavridis and Tankosić 2016a; 2016b.

<sup>15.</sup> For a description of the cave and the region of its location, see Mavridis and Tankosić 2009; 2013; 2016a; 2016b.

<sup>16.</sup> Mavridis and Tankosić 2009, 51.

<sup>17.</sup> Stratouli 2005.

<sup>18.</sup> Karali et al. 2005; 2006.

<sup>19.</sup> Karali et al., Forthcoming; Mavridis 2014.

<sup>20.</sup> Karali et al., Forthcoming; Karkanas and Stratouli 2008; Mavridis 2014.

(arrowheads) and burnt bones together with dark-faced pottery, mainly body sherds. Layer 13 (silty brown/yellowish layer with pebbles and traces of burning) is of great interest. It contained some burned bones and obsidian as well as a concentration of dark-faced pottery with carinated profiles together with other pottery categories. Characteristic dark, burnished sherds with carinated profiles come also from trench 4, layer 23 and trench 3, layer 5. They were found together with white-on-dark painted sherds. Layers 11 and 12 of trench 8 have more or less the same character but with even fewer finds.

In summary, material found stratigraphically below the well-defined leveled stone layer of the LN II (layer 7 of trenches 4, 8, 9 of the side chamber) comes mainly from layers with traces of burning, possibly representing surfaces of use, but also in some cases from specific features located in the main corridor (possible pits, feature 1) (Table 1a-e). White-on-dark pottery seems to be better attested in the corridor trenches, while black burnished monochrome pottery is in the side chamber. Shouldered bowls seem also to be more closely associated with white-on-dark sherds compared to the rest of the monochrome pottery, an indication that is perhaps of some chronological importance and will be better defined by future work. The presence of different phases of the LN beyond the Attica-Kephala horizon is supported by the radiocarbon dates which point towards the end of the 6th to approximately the middle of the 5th millennium (Table 2).

# Pottery: Wares and shapes (Table 3 a, b)

Pottery presented in this report (Figs. 10-21) was selected on the basis of its morphological/typological and technological characteristics, as a body of material presenting significant differences from that of the LN II. The detailed study of the material and the cave's stratigraphy is ongoing and will be presented in the final publication of the 2007-2010 excavations. Therefore, all results presented here are preliminary.

The pottery selected for this report is basically dark faced, commonly with heavily burnished (mechanical) slip and more rarely smoothed or rough surfaces.

The most characteristic decorated ware is white paint on (usually) burnished ground. The colouring of surfaces ranges from black to shades of grey and brown. The fabric of the LN painted ware from the Agia Triada Cave is characterized by the presence of schist (schist quartz muscovite silty), indicating its local production (Fig. 8a, b).<sup>21</sup> The fabric appears uniform with a non-calcareous, compact clay and whitish inclusions throughout the clay body. Larger inclusions are more frequently present in coarser pots (Fig. 9a, b). This semi-coarse clay with more frequent larger inclusions was also used for the manufacture of most of the carinated monochrome pots found in trench 8, layer 13 (Fig. 17, 19.62, 20). A fair amount of silver and sporadic gold mica is also evident. The firing temperature of the white-on-dark ware is about 800°C (Table 4).

White painted decoration (calcium carbonate) was applied after the burnishing of the surface.<sup>22</sup> In the Aegean, this type of painted decoration usually appears as a relief, placed there after the surface was burnished and before firing, and often only survives as a 'paint ghost'.<sup>23</sup> It seems that when painting was completed with a very liquid clay slip, there is no noticeable difference in level between the painted lines and the background, whereas when the clay slip is less diluted, the result is somewhat dry and crumbly, creating some difference in surface levels.<sup>24</sup>

Generally, laboratory analysis of white-on-dark painted ware from different island sites indicates

<sup>21.</sup> Mavridis 2009, 257.

<sup>22.</sup> See Evans and Renfrew 1968, 40; for the white substance used, see Letsch and Knoll 1983; Vitelli 1999, 39.

<sup>23.</sup> Phelps 2004, 74.

<sup>24.</sup> Thiessen 1993, 223.

that they were locally produced on each particular site.<sup>25</sup> Firing temperatures are relatively high, between 800-1000°C in a reduction atmosphere. The so-called 'sandwich effect' observed in the core of the sherds was achieved through the sudden alteration of temperature.<sup>26</sup> Non-calcareous clays predominate in the Cyclades, together with mechanical slip, whereas calcareous clays with slip are common in the eastern Aegean; however, this distinction is not clear cut.<sup>27</sup> Whether this observation is of chronological or cultural importance can only be verified by future research. Current evidence coming from the Aegean islands as well as coastal Anatolia indicates that white-on-dark ware is present over a long period of time.

Fine ware rim fragments outnumber coarse.<sup>28</sup> As far as one can predict from the few rim sherds preserved, straight-sided bowls are the most numerous (e.g. Figs. 10.54, 17.90, 18.41).<sup>29</sup> In two cases, such bowls bear evidence of lugs with vertical perforation below the rim (Figs. 18.57, 21.84). Rounded bowls are the second most numerous preserved shape (e.g. Figs. 10.23, 10.32, 10.33, 18.63).<sup>30</sup> Everted rim bowls (e.g. Fig. 13.86, 13.106) follow,<sup>31</sup> whereas flaring rim bowls (15.69 is the most characteristic example)<sup>32</sup> are under-represented. Rounded bowls with a rather S-shaped profile are few (e.g. Figs. 17.36, 18.1, 18.89),<sup>33</sup> as are closed bowls (Figs. 11.19, 12.82),<sup>34</sup> and the necks of closed vessels (Figs. 10.46, 12.119, 13.123).<sup>35</sup> Carinated bowls (Fig. 10.74)<sup>36</sup> are rare. One example preserves a carinated body with a horizontal tubular lug (Fig. 19.22).<sup>37</sup> There are, however, no clear-cut limits between different bowl types since there is no standardization in the typological characteristics.

The taphonomic conditions at the Agia Triada Cave were not favourable for the preservation of this material. Sherds were badly worn and it was very difficult to determine which were finally decorated or which pattern was preserved. The syntax of the decoration is therefore difficult to reconstruct. In one case, the surface of a straight-sided bowl was divided into panels by vertical and horizontal lines (Fig. 10.54). Rectilinear motifs predominate. Decoration is found mainly on the outer surface of pots; only in two cases was the interior surface of the bowl decorated (Figs. 10.72, 13.86). Decoration is found on larger, coarser vessels (Fig. 17.16, 18.1, 18.57), something which is also known from Saliagos.<sup>38</sup> Patterns are applied to the entire surface, from rim to base (Figs. 17.16, 18.57, 19.22,<sup>39</sup> 21.2,).<sup>40</sup> Most decorated examples come from upper parts of the rim (e.g. Figs. 11.39, 13.86, 18.41).

Patterns are characterized by a rather standardized repertoire. They range from simple combina-

<sup>25.</sup> Mavridis 2009, 252-261.

<sup>26.</sup> Mavridis 2009, 258.

<sup>27.</sup> Analysis by I. Whitbread and V. Kylikoglou in Mavridis 2009, chapter 11.

<sup>28.</sup> See also the case of Saliagos in Evans and Renfrew 1968, fig. 41, and also Sampson 1987, fig. 57.631 for Rhodes.

<sup>29.</sup> Evans and Renfrew 1968, fig. 49; Hatjianastasiou 1988, figs. 1.2, 3; Mavridis 2010, fig. 6.135; Sampson 1987, figs. 58.639, 59.643, 59.644, 60.655; Sampson 1993, fig. 57.11.

<sup>30.</sup> Benzi 2008, figs. 2, 3; Evans and Renfrew 1968, figs. 35.16, 36.12; Hatjianastasiou 1988, figs. 1.9, 11; Sampson 1987, figs. 53.602, 54.605, 54.607.

<sup>31.</sup> See for example Evans and Renfrew 1968, fig. 50.13, 50.15-17.

<sup>32.</sup> Evans and Renfrew 1968, fig. 51; Mavridis 2010, fig. 6. 109, 6.118, 6.120, 6.138.

<sup>33.</sup> See Evans and Renfrew 1968, fig. 40.3, 40.4; Felsch 1988, figs. 78.F69, 69.381-69.387; Hatjianastasiou 1988, fig. 1.12; Sampson 1987, figs. 56.619, 58.637, 59.645; Sampson 1993, fig. 57.10.

<sup>34.</sup> See for example Evans and Renfrew 1968, fig. 52.5, 52.11, 52.12; Felsch 1988, fig. 54.74, similar to Evans and Renfrew 1968, fig. 12.82; Hood 1981/1982, fig. 130.248, 130.249 necks of closed vases; Mavridis 2008, 4.1. 774, 4.1.777 but with thickened rims, also n. 770; Sampson 1987, figs. 53.603, 56.621, 57.631; Sampson 1993, fig. 57.1, 57.5, 57.6, 57.8.

<sup>35.</sup> See for example Felsch 1988, fig. 51.33, with almost the same pattern beginning from rim; Mavridis 2008, fig. 4.1.775; Sampson 1987, figs. 57.626, 58.634; Sampson 1993, fig. 57.4.

<sup>36.</sup> Carinated shapes at Tigani are rare and not similar to Agia Triada; see Felsch 1988, figs. 51.34a, 54.73a, 61.247, 61.249a; Hood 1981/1982, fig. 34; Mavridis 2008, fig. 4.1.773, 4.1.779; Sampson 1987, fig. 40.409 (monochrome).

<sup>37.</sup> See for example Sampson 1987, fig. 51.573.

<sup>38.</sup> See Evans and Renfrew 1968, 36.

<sup>39.</sup> See Evans and Renfrew 1968, fig. 57.10, 57.12-14.

<sup>40.</sup> See Evans and Renfrew 1968, figs. 36.12, 36.14, 53.11.

tions of straight lines and bands<sup>41</sup> (e.g. Figs. 10.74, 10.93, 12.34, 12.82, 12.83, 13.106, 13.122, 13.123, 18.1) to more elaborate motifs and combinations of different elements: wavy lines (which are the only curvilinear motif),<sup>42</sup> which are rather popular, were used as the main filling pattern inside panels formed by straight lines, in vertical rows, combined with other motifs such as a vertical row of V-shaped motifs (Figs. 10.23, 10.54, 11.19, 11.39, 11.40).<sup>43</sup> Rows of triangles<sup>44</sup> and multiple chevrons<sup>45</sup> (Figs. 11.31, 12.59); squares (Fig. 17.36);<sup>46</sup> lozenges (Figs 10.32, 12.7, 14.130, 14.133, 16.35),<sup>47</sup> either simple or multiple, vertical, horizontal or diagonal (e.g. Figs. 12.119, 14.12—antithetic 14.130, 14.133), are present. Solid motifs (e.g. ladder-like or zig-zag bands, Fig. 20.121) also occur as well as hatched or cross-hatched motifs and intersecting lines (Figs. 16.10, 16.33, 16.35, 16.56).<sup>48</sup> There is also a unique rounded bowl with thick jagged bands (Fig. 19.134), which seems to be closer to motifs known from the crusted ware of Ftelia on Mykonos.<sup>49</sup>

There are very few examples of relief or plastic decoration. The jar with relief bands decorated with finger impressions (rope decoration) (Fig. 13.5) is a well-known element used throughout the LN.<sup>50</sup> A small fragment with evidence of white paint also preserves a curved, thin relief band (Fig. 10.120).<sup>51</sup>

In one case three thin, vertical, shallow, incised lines are preserved, descending from the rim on the interior of a most-probably straight-sided bowl with a black burnished surface (Fig. 11.67).

A well-represented category is the monochrome, undecorated pottery, usually with a heavily burnished surface (a few recognizable examples had smoothed or rough surfaces). The surface ranges in shades from black to grey and brown. Both grey and black wares were made together during the LN, and it is sometimes difficult to decide to which class they belong since only a small portion of the black ware has black fabric; usually a dark grey fabric is evident.<sup>52</sup> The clay is similar to that used for the painted ware. Again, straight-sided bowls predominate (Figs. 15.51, 18.47, 18.50, 20.116). Closed bowls/wide mouth vessels follow (Figs. 12.73, 12.81, 13.128, 14.48, 19.30), while some rounded bowls are also present (Figs. 13.125, 19.44). The everted rim and rounded vessels with S-shaped profile are few.

Carinated shapes are well represented. Taking into consideration their form and the heavily burnished black or grey surface (e.g. Figs. 11, 15.24, 19.60) they appear to belong to the black burnished ware of the LN I of mainland Greece.<sup>53</sup> This is suggested by the bead rim and thickened shoulder, while the separation of the zones of the vase are clear. Different varieties of shouldered closed bowls are present (Fig. 11, 19.60). Parallels for these carinated shapes cannot easily be found in island sites. Shapes with carinated profiles, but not identical to those coming from the Agia Triada Cave, are known from Grotta on Naxos; but here as well as at Saliagos they are rare finds.<sup>54</sup> There are similarities with material from Seimen Mnema and other LN I sites on Euboea.<sup>55</sup> Shouldered bowls exhibit similarities in shape

<sup>41.</sup> See Evans and Renfrew 1968, fig. 34.1, 34.3, 34.5.

<sup>42.</sup> But see Fig. 18.41.

<sup>43.</sup> See also Fig. 18.41.

<sup>44.</sup> Evans and Renfrew 1968, figs. 49.2, 49.6, 51.3, 51.13; Mavridis 2010, fig. 6.130,

<sup>45.</sup> Benzi 2008, fig. 2, 3.31, 3.32; Felsch 1988, figs. 69.382, 72; Mavridis 2008, fig. 4.1.773, 4.1.779, 4.1.781; 2010, fig. 6.8, 6.77, 6.82, 6.89, 6.111, 6.118, 6.119; Sampson 1987, fig. 56.624, 56.625.

<sup>46.</sup> Evans and Renfrew 1968, figs. 48.14, 49.1, 50.6; Hood 1981/1982, fig. 34.205, 34.209.

<sup>47.</sup> Evans and Renfrew 1968, figs. 39.2, 39.4, 49.9, 50.8, 50.11; Mavridis 2010, fig. 6.49; Sampson 1987, fig. 57.626.

<sup>48.</sup> See for example Felsch 1988, fig. 381; Hood 1981/1982, fig. 34.201a; Sampson 1987, fig. 56.623.

<sup>49.</sup> Sampson 2002a, fig. 143.4.

<sup>50.</sup> Sampson 2002a, figs. 76-77, n. 522, similar to the example from Agia Triada; Sampson 2008, figs. 125-127.

<sup>51.</sup> Fine, thin ridges: Evans and Renfrew 1968, fig. 43.1-43.10; Sampson 1993, figs. 164, 165; Sampson 2002a, fig. 73; also from many mainland sites, see for example Mavridis 2006, fig. 68a and Sampson 2008, fig. 116.

<sup>52.</sup> Phelps 2004, 70.

<sup>53.</sup> See discussion in Douzougli 1998; Gallis 1987, 147-162; Holmberg 1964; Mari 2001; Phelps 1975, 203; Sampson 1975, fig. 10; Vitelli 1999, 26.

<sup>54.</sup> Evans and Renfrew 1968, 37.

<sup>55.</sup> Sampson 1981, figs. 38.72-73, 39.33-34, 39.36, 50.214, 62.426-427, 62.429-431, 73.620, 73.717, 73.721. Also, Samp-

with material from Elateia<sup>56</sup> and Aria in the Argolid.<sup>57</sup> These shapes are well known in northern Greece as well, and are widely distributed.<sup>58</sup>

A concentration of carinated vases with particular characteristics comes from trench 8, layer 13 and other associated layers (Fig. 15.65—a lug possibly belonging to a vase similar to that in Fig. 19.17; see also Figs. 17.28, 17.58, 19.17, 19.20, 19.62, 21.37, 21.102). They are made of a slightly coarser clay compared to the fabric used for the fine white-painted sherds with mechanical slip and the shouldered bowls described above, and have relatively larger inclusions and less well-burnished surfaces (this last observation may also be due to their poor state of preservation). They vary in colour from shades of brown and grey to black, and they also contain many mica inclusions both in the surface and the clay body. The example Fig. 19.62 bears traces of a strap handle rising above the shoulder. Two other shapes represent unique examples: one has a carination below the tall cylindrical neck and a small handle joining shoulder and neck (Fig. 19.20);<sup>59</sup> the other is a type of squat pyxis/closed vase with carinated shoulder and three lugs around the perimeter of the shoulder of the pot with vertical string-hole perforations (Fig. 19.17),60 also preserving the base of an additional handle.<sup>61</sup> One example from trench 8, layer 12, preserves the carination of the body and a lug with horizontal perforation (Fig. 17.28). Whether these pots represent a distinct chronological/cultural group remains to be clarified after the completion of the study, for the final publication. Some of these pots were found together with the shouldered bowls and characteristic white-on-dark sherds, in layers below the LN II stone leveled floor. A disturbance that was caused after LN II use cannot easily be supported by the excavation data. It may be of some importance to note here the presence in the deepest layers of the Zas Cave of Aegean/Anatolian elements with characteristic black burnished pottery, especially the type known from Samos.<sup>62</sup> However, the characteristic black burnished motifs well known from the pottery of the east Aegean islands and western Anatolia are not present at Agia Triada. Black burnished medium/coarse pottery reminiscent of the fine black burnished ware of mainland Greece but slightly less finely tempered and finished is known from sites in Anatolia. 63 The description of the material from these sites, such as sharply carinated bowls, slightly concave walls between carination and base, upturned in the carination associated with string-holes,<sup>64</sup> seems to be generally reminiscent of the material from Agia Triada. Additionally, Phelps<sup>65</sup> describes a sub-category of the black burnished ware comprised of a type of thick-walled pot with softer, friable fabric and black slip.

son 1975, 75; Sampson 1977, figs. 9, 11, 27. For the distribution of white-on-dark ware in mainland Greece see also Mari 2001, 72; Phelps 1975, 210.

<sup>56.</sup> Lavezzi 1978, 431; Weinberg 1962, fig. 10.1; see also Weinberg 1937, fig. 26.

<sup>57.</sup> Douzougli 1998, table 31.69.

<sup>58.</sup> Aslanis 1992, table 29.2, 29.4, fig. 34.5; Douzougli 1998, 60; Hauptmann and Milojcic 1969, tables 4.27, 7.18, 7.19, 9.13, 11.12, 19.1, 20.11; Sampson 2008, 104, 107.

<sup>59.</sup> See for example the general resemblance with the carinated pot from Grotta, Naxos (Hatjianastasiou 1988, fig. 1.13). See also the pot from Strofilas, Andros, with conical neck, almost spherical body, carination and four symmetrically placed lugs (Televantou 2006, fig. 7b).

<sup>60.</sup> See for general parallels, Weinberg 1962, fig. 10; small, squat, carinated shapes are well known from the Middle Neolithic of the Balkans and Anatolia. See for example Lichardus and Iliev 2000, fig. 6.4, 6.10, 6.12. For general similarities see Grammenos and Kotsos 2004, table 5.3, and esp. table 6.3; Hauptmann and Milojcic 1969, fig. 2.2. A small closed pot is also known from Tigani, (Felsch 1988, fig. 55.99). General parallels can also be found in later contexts of sites such as Poliochni on Lemnos (Dova 1997, fig. 5), Emborio on Chios (Hood 1981/1982, type 44), Kalythies on Rhodes (Sampson 1987, fig. 45.476). The general idea is also known from the Cyclades and other EBA sites, but lugs are usually different (e.g. Karantzali 1996, fig. 84.MH4060, 107, 161, 162; Pantelidou-Gofa 2005, tables 3.1, 11.4, 17.3, 17.4; Rambach 2000, figs. I-VIII). See also for general similarities, Agio Gala (Hood 1981/1982, figs. 34.209, 35.216), Emborio (Hood 1981/1982, fig. 125.169) and Zas Cave (compare section with Zachos 1987, fig. 8).

<sup>61.</sup> General similarities in Weinberg 1962, figs. 8.1 and 10, also Touchais 1981, fig. 23.

<sup>62.</sup> Zachos 1996, 87; 2001, 86.

<sup>63.</sup> Thiessen 1993, 215.

<sup>64.</sup> Thiessen 1993, 213.

<sup>65.</sup> Phelps 1975, 199.

Of chronological importance is a monochrome semi-coarse pot with asymmetrical rim (early scoop). The shape can be securely reconstructed since joining sherds from the base to the rim have been preserved (Fig. 14.9). Parallels can be found in the LN IA and B phases at the Tharrounia Cave<sup>66</sup> and elsewhere.<sup>67</sup>

Closed shapes are few, beyond the closed bowls/wide-mouthed vessels referred to above. This is also the impression one gets from the site of Saliagos in the Cyclades.<sup>68</sup> Characteristic is one jar with rope decoration (Fig. 13.5),<sup>69</sup> another with a strap handle (Fig. 15.29), and there is also a unique cylindrical neck (Fig. 19.42).<sup>70</sup>

Only one sherd may be considered as belonging to the matt-painted ware (Fig. 12.6), but it is not an absolutely representative specimen. Its presence along with the grey-black burnished sherds may be of chronological significance. Its outer surface is burnished and the interior is rather coarse with many small voids. The clay is fine, with few small-sized white and dark brown inclusions. The decoration is dark grey on pale brown ground, but it is also lustrous. It is an example that may represent an over-fired specimen or a failure during the production process. Matt-painted pottery is defined as iron or manganese-based paint on a buff brown or cream background.<sup>71</sup> Sometimes the decoration of matt-painted pottery may appear glossy as a result of a high firing temperature.<sup>72</sup>

Handles and lugs can be considered standardized. Strap handles of various sizes are well represented (Fig. 15.29, 15.38, 15.112)<sup>73</sup> as well as tubular lugs with horizontal or vertical perforation (Figs. 19.22, 21.84). The knob on the shoulder of a carinated shape also finds parallels from mainland sites.<sup>74</sup> Tab handles are also present. They can be horned, triangular or semicircular in section. One rounded bowl has a wavy rim (Fig. 14.25), whereas in another case the tab handle has a rectangular shape (Fig. 16.109) and rises above the rim (Fig. 12.26).<sup>75</sup> One horned projection has also been identified (Fig. 20.107).<sup>76</sup>

An anthropomorphic projection, rising above the rim of a rounded burnished bowl with white-painted decoration, is unique (Fig. 14.4).<sup>77</sup> The head of the handle is reminiscent of figurines from Kephala on Kea and other sites.<sup>78</sup> The head has a general inclination to the back, resulting in an upturned face that has a rounded triangular shape with an emphasized nose. At the back of the head there is a large horizontal trough. Two vertical relief bands on the body of the bowl to which this projection belongs may represent the legs of the human figure. Several marble EC II folded-arm figurines

<sup>66.</sup> Sampson 1993, figs. 33.43, 78.

<sup>67.</sup> See the examples from Otzaki with horned handles and ring bases (Hauptmann 1981, fig. 47); also Sampson 2002a, fig. 31.215.

<sup>68.</sup> Evans and Renfrew 1968, 35.

<sup>69.</sup> See for example Evans and Renfrew 1968, figs. 42.1-42.4, 42.8-9, 43.12 with most examples bearing bands below the rim; Sampson 1993, figs. 158-162; also Vitelli 2007, figs. 89a, 90.

<sup>70.</sup> See for example Evans and Renfrew 1968, fig. 53.

<sup>71.</sup> For the technological characteristics and other details of this ware, see review in Bonga 2013, 39, 68, 160-165; Mavridis 2008, 118-120; in more detail, Kylikoglou and Maniatis 1993, 440; Phelps 2004, 87.

<sup>72.</sup> Phelps 2004, 71. For the presence of matt-painted sherds at Aegean LN sites, see Evans and Renfrew 1968, 42; Sampson 2002a, 155; Sotirakopoulou 2008.

<sup>73.</sup> See Evans and Renfrew 1968, fig. 44.

<sup>74.</sup> Phelps 1975, 203.

<sup>75.</sup> Evans and Renfrew 1968, e.g. fig. 58.3, 58.11, 58.12, 58.13; Sampson 1993, figs. 48.56, 78.6 of LN IA and B phases. See a characteristic example with two holes and almost square shape (Mavridis 2010, fig. 7.103); also Benzi 2008, figs. 5-8; Felsch 1988, figs. 52.42, 52.48, 61.244, 61.793a-4c; Hatjianastasiou 1988, fig. 2.14; Hauptmann 1981, figs. 12.7, 71.20, 85.5, 96.2; Hauptmann and Milojcic 1969, fig. 6.1a, 6.1b, and especially fig. 11.10; Hood 1981/1982, fig. 105; Sampson 1987, fig. 12.132; Sampson 2002a, fig. 27.75, 27.110; Vitelli 2007, fig. 95.a, 95.g.

<sup>76.</sup> See examples in Evans and Renfrew 1968, figs. 58 and 59; Sampson 1993, figs. 96, 98.10, 98.11, with horn handles of various types. Also Sampson 2008, figs. 99.581, 102 (LNIB phase). For several variations see Sampson 2002a, fig. 111.

<sup>77.</sup> See Mavridis and Tankosić 2009, 52. Anthropomorphic handles raised above rims are known from other sites; see for example Felsch 1988, fig. 66.305, 66.306.

<sup>78.</sup> Coleman 1977, fig. 5.

have the same characteristics of head design and the same emphasis on the nose. Many Neolithic parallels can be found for the long neck of the Agia Triada example—e.g. human figures made on a vessel from Tharrounia<sup>79</sup> and some Ftelia examples.<sup>80</sup> However, the shape of the back of the head, regardless of its intended use or meaning, is a rare element.

The small lugs, rather rounded (Figs. 18.57, 19.17, 19.30) or more elongated in shape (Figs 15.65, 17.58, 21.37) with a vertical perforation, are also characteristic. They are close but not identical to some examples from Saliagos, <sup>81</sup> Aria in the Argolid, <sup>82</sup> Paradimi in Thrace<sup>83</sup> and Ftelia on Mykonos. <sup>84</sup> They also resemble examples dating to the Middle Neolithic, such as that from Liani Ammos and Theologos in Euboea, <sup>85</sup> the Sarakenos Cave in Boeotia <sup>86</sup> or even earlier material. <sup>87</sup> Some resemblance can possibly be traced even to Anatolian Chalcolithic and Balkan sites. <sup>88</sup>

Preserved bases are few. In most cases they are flat (Figs. 17.16, 18.49, 21.2), whereas beveled (Figs. 11.8, 15.80) as well as some low ring bases (Figs 20.117) are also present.

Finally, one straight-sided bowl has a mending hole (Fig. 15.78).

#### Discussion and conclusions

Material collected from the cave prior to the excavations (white-on-dark sherds decorated with multiple chevrons, wavy lines, triangles, etc.)<sup>89</sup> was dated by A. Sampson to the second phase of the Later Aegean Neolithic, with Saliagos being dated earlier.<sup>90</sup> Elsewhere, Agia Triada was dated before the Otzaki phase and after or contemporary to the Arapi-Tsangli phase, between Kalythies I-II, Beyce-sultan 1-2 and Saliagos.<sup>91</sup> The black burnished pottery from Varka with white-painted decoration has been considered different from that coming from Agia Triada and the Aegean islands.<sup>92</sup> According to Coleman, the LN I of mainland Greece is characterized by the Elateia bothros phase, layer 4c of Kitsos Cave, Korykeion Cave, the material from Eutresis, Varka, and the south slope of the Acropolis, situating the white-on-dark ware between Dimini II and III, at about the middle of the LN I, since radiocarbon determination from Saliagos dates the site between c.5000 and 4600 BC.<sup>93</sup> Ftelia is dated between 5000/4900 and 4500/4400 BC.<sup>94</sup> The presence of 'late elements' in phase 3 of Saliagos and especially at Ftelia strongly indicates that it may be a cultural stage that lasts longer, <sup>95</sup> stretching as far as the 'Chal-

<sup>79.</sup> Sampson 1993, fig. 202.

<sup>80.</sup> Sampson 2002a, figs. 145, 148.

<sup>81.</sup> Evans and Renfrew 1968, fig. 57.1, 57.4, 57.5, 57.8.

<sup>82.</sup> Douzougli 1998, tables 26.50, 31.85.

<sup>83.</sup> Bakalakis and Sakellariou 1981, fig. Ic1.

<sup>84.</sup> Sampson 2002a, fig. 95.670.

<sup>85.</sup> Sampson 2002b, fig. 12.

<sup>86.</sup> Sampson 2008, fig. 39.1397, Middle Neolithic but also LNIB; see fig. 97.1810.

<sup>87.</sup> Pantelidou-Gofa 1993, figs. 4.30, 4.63, 7.2-94 8.2-23, 10.2-107, 26; Vitelli 2007, figs. 193.a, 193.b, also a LN II example: fig. 95.h.

<sup>88.</sup> Derin 2012, fig. 5 left; even a small vase from Beycesultan (Parzinger 1993, fig. 164.11), or from Vinca (Parzinger 1993, figs. 46.9-46.10, 19.20).

<sup>89.</sup> Sampson ([1985]1988), figs. 3-5; Sampson 1987, fig. 51.

<sup>90.</sup> Sampson ([1985]1988), table 1.

<sup>91.</sup> Sampson 1984, 240, 248.

<sup>92.</sup> Sampson ([1985]1988), 259, for the presence of white-on-dark painted pottery in mainland Greek sites; for references, Sampson 1981, 120.

<sup>93.</sup> Coleman 1992, 257, 260.

<sup>94.</sup> Coleman 1992, 260; Sampson 2002a, 155-156.

<sup>95.</sup> For the coexistence of Saliagos elements with 'FN traits' or for the longer duration of the Saliagos cultural phase, see Mavridis 2009; 2010, 21; Forthcoming; Mavridis and Tankosić 2016a; also Zachos 1996, 129-130. It seems that it is not a stage characterizing only the late 6th and the early 5th millennia; Tomkins 2007, table 1.1.

colithic Era.'96 Chronological fluctuations have been observed from the study of material from Saliagos, <sup>97</sup> Grotta, <sup>98</sup> Akrotiri, <sup>99</sup> the Antiparos Cave<sup>100</sup> and other sites.

Relatively recent field research in western Anatolia provides evidence of close connections between the so-called 'Middle Chalcolithic' of that region and the Aegean LN.<sup>101</sup> It is a tradition that stretches from the Troad to Lycia with common elements in the material culture such as rounded and flaring rim bowls, open shapes with horned and tab handles, pattern burnish and *pointillé* decoration as well as white-on-dark painted pottery.<sup>102</sup> Red paint may represent another connection between sites such as Saliagos<sup>103</sup> and Gulpinar in the Troad.<sup>104</sup> This tradition is present not only on the eastern Aegean islands but also in the Cyclades and beyond, while links to the Balkans are not insignificant (for example horn handles).<sup>105</sup> Connections mainly between the eastern Aegean islands and western Anatolia are also evident even later, between for example Beycesultan, Emborio VII-VI and Tigani IV.<sup>106</sup>

Radiocarbon dates from the Agia Triada Cave point towards a range from the late 6th to approximately the middle of the 5th millennium. <sup>107</sup> Further documentation is necessary to determine whether this evidence corresponds to the chronological range of use of the white-on-dark ware in the Aegean. Radiocarbon dates from various sites in western Anatolia provide dates for a horizon of dark-faced pottery ranging from c.5300 to 4370 BC. <sup>108</sup> Different sub-periods of this tradition may therefore be present in both areas.

It has been suggested that the LN Saliagos culture represents the western end of an Anatolian sphere of influence, rather than one derived from the Greek mainland, with Naxos and Amorgos being the most likely points of entry, since a notable south-eastern Cycladic focus to the current distribution has been proposed. Death of East. Death of the eastern Aegean rather than in mainland Greece, indicating that the first colonists came from the East. Other scholars point out that the peopling of the islands from the direction of mainland Greece appears likely and could have happened before the Neolithic. Based on pottery typology, many scholars have debated the question of whether the pottery from the site of Saliagos derives from a transformation of elements originating in mainland Greece, or whether it is a case of a local tradition with few external influences. It seems that Saliagos pottery represents a combination of the technological/cultural tradition of the dark-faced pottery of south-eastern Europe with the great variety of decorative elements attested in matt-painted pottery of mainland Greece. Other scholars associate the pottery of the same settlement with that of the Larisa culture of mainland Greece; however, the absence of close similarities leads to the recognition of the Saliagos culture as a local phe-

<sup>96.</sup> Zachos 1996, 129-130; 2001.

<sup>97.</sup> Evans and Renfrew 1968, 37.

<sup>98.</sup> Hatjianastasiou 1988, 20.

<sup>99.</sup> Sotirakopoulou 1999, 90.

<sup>100.</sup> Mavridis 2010.

<sup>101.</sup> See for example Gabriel 2014 and Takaoğlu 2006, 289. Also Benzi 2008, figs. 2-3; Hood 1981/1982, 225, pls. 33d, 40d; Sampson 1984, figs. 2-3; Sotirakopoulou 2008, 535.

<sup>102.</sup> Takaoğlu and Özdemir, Forthcoming.

<sup>103.</sup> Evans and Renfrew 1968, 42.

<sup>104.</sup> Takaoğlu and Özdemir, Forthcoming.

<sup>105.</sup> Thiessen 1993, 210.

<sup>106.</sup> For the gap between the Middle and Late Chalcolithic, see Tuncel and Sahoğlu, Forthcoming,

<sup>107.</sup> See Mavridis 2009; 2010; Forthcoming; Mavridis and Tankosić 2016a.

<sup>108.</sup> See for example Utta-Gabriel 2014.

<sup>109.</sup> Broodbank 1999, 32.

<sup>110.</sup> Zachos 1994, 103.

<sup>111.</sup> Sampson 2002a, 159.

<sup>112.</sup> Otto 1976, 139.

nomenon.<sup>113</sup> Several studies find parallels between the material remains of the Saliagos culture and the south-eastern Aegean,<sup>114</sup> Euboea,<sup>115</sup> Attica and other regions.<sup>116</sup> The opinion has also been expressed that a parallel evolution occurred in different regions, taking on different dimensions in each case.<sup>117</sup>

The new material from Karystos adds to this debate since it represents a new centre lying between the islands and the mainland. Perhaps the south-eastern focus of the Saliagos culture needs to be re-investigated, especially due to the wide distribution of the Middle Chalcolithic tradition in western Anatolia. It is important to consider this in the wider context of the Balkan Karanovo III and early Vinča cultures and the dark-faced pottery traditions in western Anatolia. 118

<sup>113.</sup> Coleman 1974, 333.

<sup>114.</sup> Sampson 1984, 239-240, 245; 1987, 62-63, 116.

<sup>115.</sup> Broodbank 1992, 341; Keller 1985; Keller and Cullen 1992, 341; Sampson 2002a, 161.

<sup>116.</sup> Broodbank 1992, 341; 1999; 2000, 138-140; Davis 2001, 702; Sampson 2002a, 159; Zachos 1994, 99-104.

<sup>117.</sup> Sampson 1987, 40.

<sup>118.</sup> Efe 2000, 175; Erdoğu 2013, 8; Özdőgan 1993; Utta-Gabriel 2014; Şahoğlu and Tuncel 2014; Takaoğlu 2006, 301. See Mee et al. 2014 for a recent discussion concerning the Middle/Late Neolithic transition in mainland Greece.

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Table 1 a

Trench 8	W-O-D	BL/GR BUR	BURNISHED	SM/SCO	TOTAL	
LAYER						
3			1		1	
4B			1		1	
6	1				1	
7			1		1	
8				1	1	
9	1				1	
9B	2				2	
10	1				1	
11			3	3	6	
12	3	1	1		5	
13	2	1	5	1	9	
14			1		1	
L 7 AND L 13			1		1	
L 13 AND L 14		1			1	
15			1		1	
UNIT 9	1		1		2	
16	3		1		4	
18				1	1	
Unid.		1			1	
TOTAL	14	4	17	6	41	

Table 1 b

Trench 9	W-O-D	BURNISHED	SM/SCO	TOTAL
LAYER				
11	2	4	3	9
12	1	1		2
23			1	1
TOTAL	3	5	4	12

Table 1 c

Trench 4	W-O-D	BURNISHED	SM/SCO	TOTAL
LAYER				
2			1	1
8		1		1
14				0
19		3	2	5
20		1		1
23	2	1		3
TOTAL	2	6	3	11

Table 1 d

Trench 2	W-O-D	BL/GR BUR	BURNISHED	SM/SCO	PLASTIC	TOTAL
LAYER						
1	1					1
2	2		1	1		4
3			1			1
4	1		1			2
5	7		1			8
6	2		1			3
6B	3	1			1	5
TOTAL	16	1	5	1	1	24

Table 1 e

Trench 3	W-O-D	BL/GR BUR	BURN.	SM/SCO	PLASTIC	MAT-PAINT.	TOTAL
LAYER							
UNIT 2				1		1	2
3			1				1
3/ UNIT 5		1	1	1			3
2, 3/4A			1				1
4	2						2
4A	8		3		1		12
4B	7						7
4/5B	1						1
4B/5B	5						5
5			1				1
5/ UNIT 5				1			1
UNIT 5		1		1			2
5B	1		1				2
6	5						5
6/ UNIT 5	1						1
8	1						1
TOTAL	31	2	8	4	1	1	47

Table 1 a-e. Distribution of pottery per trench/units/layers.

Sample n°	Nature	Provenance	Lab code	BP value	Calibrated date (95,4%)
S26/4	charcoal	Trench 4, Layer 6	Lyon-7637/SacA-22598	$5060 \pm 50$	3966-3710
S33	charcoal	Trench 4, Layer 10	DEM-2095	$5115 \pm 30$	3980-3800
S26/3	charcoal	Trench 3, Layer 4	Lyon-7201/SacA-20363	$5635 \pm 35$	4539-4367
<b>S34</b>	charcoal	Trench 4, Layer 13	Lyon-7636/SacA-22597	$5645 \pm 50$	4579-4360
S31	charcoal	Trench 4, Layer 9	DEM-2096	$5344 \pm 39$	4270-4040
S41	charcoal	Trench 4, Layer 19	DEM-2097	$5844 \pm 71$	4850-4520
S26	charcoal	Trench 2, Layer 6	DEM-1841	$6278 \pm 25$	5310-5210

Table 2. Radiocarbon dates from the Neolithic layers (after Mavridis and Tankosic 2016a).

Table 3 a

WARE/SHAPE			OP	EN SHAPE				CAR	INATED	CLOSE SHAPE				SPECIAL SHAPE		TOTAL
	ROUNDED BOWL	CONICAL BOWL	EVERTED RIM BOWL	FLARING RIM BOWL	TAB RIM BOWL	OPEN UNID	S-PROFILE	CLOSE	SHOULDER	CLOSE /OPEN MOUTHED	SHOULDER	NECK	CLOSE UNID	SCOOP	UNID	
W-0-D	8 (5.6%)	18 (12.6%)	7 (4.9%)	1 (0.7%)		26 (18.2%)	2 (1.4%)	1 (0.7%)		3 (2.1%)		3 (2.1%)	1 (0.7%)			70 (49.0%)
BL/GR BURN			1 (0.7%)					1 (0.7%)	3 (2.1%)		1 (0.7%)					6 (4.2%)
BUNRISHED	6 (4.2%)	14 (9.8%)	2 (1.4%)		1 (0.7%)	7 (4.9%)	2 (1.4%)	5 (3.5%)	2 (1.4%)	4 (2.8%)		2 (1.4%)				45 (31.5%)
SM/SCO	2 (1.4%)	1 (0.7%)	1 (0.7%)		1 (0.7%)	5 (3.5%)				2 (1.4%)		1 (0.7%)	3 (2.1%)	1 (0.7%)	1 (0.7%)	18 (12.6%)
PLD/IND		1 (0.7%)								1 (0.7%)						2 (1.4%)
MAT-P?													1 (0.7%)			1 (0.7%)
TOTAL	16 (11.2%)	34 (23.8%)	11 (7.7%)	1 (0.7%)	2 (1.4%)	38 (26.6%)	4 (2.8%)	7 (4.9%)	5 (3.5%)	10 (7%)	1 (0.7%)	6 (4.2%)	5 (3.5%)	1 (0.7%)	1 (0.7%)	142 (100.0%)

Table 3 b

WARE/PRT OF POT	RIM	RIM/NECK	RIM/MECK/BASE/HANDLE	NECK	RIM/BODY/HANDLE	RIM/LUG	RIM/BODY/BASE	BASE	BASE/LUG/BODY	HANDLE	HANDLE/BODY	LUG	BODY FRGM	TOTAL
W-O-D	31	1		2	1			2				1	32	70
BL/GR BURN	4											1	1	6
BUNRISHED	28	2	1			3		1	2	2		6		45
SM/SCO	4	1					1	2		1		8	1	18
PLD/IND	1										1			2
MAT-P?													1	1
TOTAL	68	4	1	2	1	3	1	5	2	3	1	16	35	142

Table 3 a, b. Shapes, wares and preserved parts.

		Clay Body			Surface				
Sample	Ware	Calcium	Vitrification	Chemical characteristics	Calcium	Vitrification	Chemical characteristics	Differences clay body- surface	Comments
KUM/5/01	Crusted/ open	calc ~4%		Al/17 Si/54 Fe/10 Mg/3 P/4	noncalc.		Al/19 Si/59 Fe/~10 Mg/3	Surf. Decr.: Ca, P. Incr.: Si, Al.	Red crust does not different. Notably in composition
SAL/1/01	Crusted clos crusted	noncalc		Al/23 Si/55 Fe/8	noncalc	More vitrified (layer<10μm)	Al/21 Si/48 Fe/17 K/5	Surf. Incr. : Fe, K Surf. Decr.: Si, Al.	Incr. percentages in red crust: Fe(13), K(5) και Ca (7)
SAL/2/01	Crusted/ open	calc ~13%		Al/16 Si/47 Fe/13 K/4	noncalc (curved surface contains ~10)	More vitrified (layer<10μm)	Al/18 Si/60 Fe/9 K/~5	Surf. Incr.: Al, K, Si Surf. Decr.: Ca, Fe.	Red crust rich in Fe (42-48)
SAL/12/01	Real paint/ open	calc ~10%		Al/22 Si/53 Fe/4	calc (6-8)		Al/23 Si/53 Fe/7 K/3	Surf. slightly incr.: Al, K, Fe Surf. decr.: Ca.	Red surf. rich in Fe (35), K(6), the white one in Ca (20-49)
TIG/02/17	White on dark	calc	T~900- 1000oC	Al/11 Si/61 Fe/8 K/2 Ca/11	lowcalc		Al/20 Si/58 Fe/6 K/3 Ca/3	Surf. high Al and low Ca.	Slip. Paint calc.
SAL/3/01	White painted/ closed	noncalc	T~750~800oC	Al/24 Si/57 Fe/6-8 K>3 Ca<1	noncalc	More vitrified (layer<5μm)	Al/22 Si/55 Fe/6 K>3 Ca/3	In surf. slightly incr.:Ca while decr.: Al but still remains high. K>3 in clay body and surf.	mechan. Calc. paint.
SAL/4/01	White painted/red burn.	noncalc	Incomplete vitrification	Al/11 Si/78 K>4	noncalc	More vitrified (layer<5μm)	Al/20 Si/61 Fe/6 K>3	Surf. incr.:Στην επιΑl, Fe and decr.: Si	High Al =>very well burn.
SAL/5/01	White painted/ closed/ coarse	lowcalc	Extens. vitrification T~800-900oC	Al/22 Si/56 Fe/7,76 K>3	noncalc	More vitrified (layer<8μm)	Al/21 Si/57 Fe/8 Mg/4 K>3	Al high in surf. and body. In surf. incr. Mg and decr. Ca.	mech.slip
SAL/7/01	White painted/closed/coarse	lowcalc	Extens. vitrification T~800- 900oCC	Al/21 Si/57 Fe/7 K/3	noncalc	More vitrified (layer<10μm)	Al/18 Si/50 Fe/18 K/3	Al high in surf. and body. Surf. incr. Fe and decr. Si, Ca.	mech.slip
SAL/8/01	White painted/ closed	calc ~5%	Extens. vitrification T~800-900oC	Al/21 Si/54 Fe/9	noncalc	More vitrified (layer<30μm)	Al/18 Si/65 Fe/6	Al high in surf. and body. Surf. Incr. Si and decr. Fe, Ca and slightly Al.	Slip. Paint calc.
SAL/23/01	White painted/ closed	noncalc	T~800- 900oC	Al/18 Si/58 Fe/9 K/3 Ca/3	noncalc		Al~18 Si/64 Fe/5 Ca/4	Al high in surf. and body. Surf. incr. Στην Si while slightly derc. of Fe.	

Em/02/12	White on dark.	high calc	Incomplete vitrification	Al/16,22 Si/56,88	low calc	More vitrified (layer~10μm)	Al/19 Si/58 Fe/6 K/5	Surf. incr.:Al, Fe, K, Na , Si and decr. Ca.Mg>2 in body and surf.	surf low calc=>slip
Em/02/15	White on dark.	noncalc	Incomplete vitrification T~700-800	Al/24 Si/52 Fe/10 K/4	noncalc		Al/19 Si/59 Fe/9 K/4	Surf. derc.:Al, Fe while incr. Of Si. Mg>2 in body and surf.	mechan.
Em/02/16	White on dark	high calc	Extens. vitrification T~900- 1000oC	Al/19 Si/52 Fe/5-9 K/3	low calc		Al/20 Si/63 Fe/3	Surf. incr.: Al, K, Na , Si and decr: Ca και Fe.	slip
Em/02/21	White on dark or Pattern burnished?	noncalc	Extens. vitrification T~900- 1000oC	Al/19 Si/63 Fe/9-11 K/3	noncalc		Al/20 Si/58 Fe/3	Surf. slight Incr.: Al, K, Na and decr.: Si, Fe.	
Em/02/22	Pattern burnished or White on dark?	noncalc	T~800oC	Al/19 Si/56 Fe/13 K/3	noncalc		Si/60 Fe/8	Surf. slightly Incr.: Si, K, Na and decr.: Fe.	

Table 4. Examples of technological analysis of white on dark and other neolithic wares from Aegean sites [Kylikoglou and Whitebread in Mavridis 2009]. Table translated and modified by the author. (Kum=Kumelo Cave, Sal.=Saliagos, Tig.=Tigani, Em.=Emborio). Neolithic pottery islands project.

# Figures



Figure 1: The Agia Triada Cave, southern Euboea.

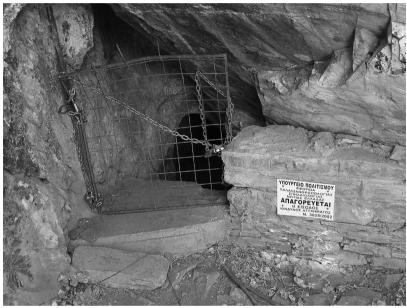


Figure 2: The entrance of the cave.

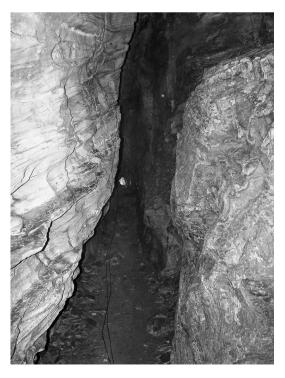


Figure 3: The main corridor.

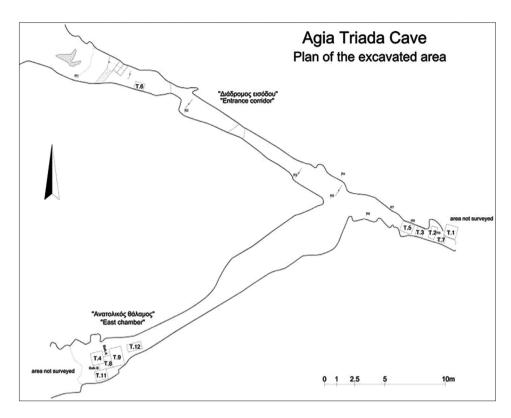
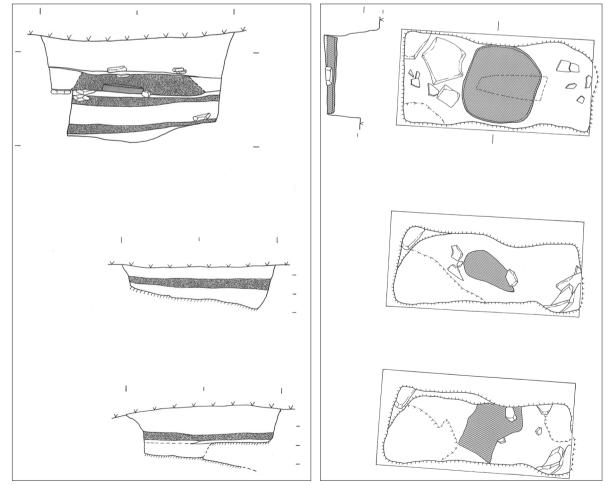
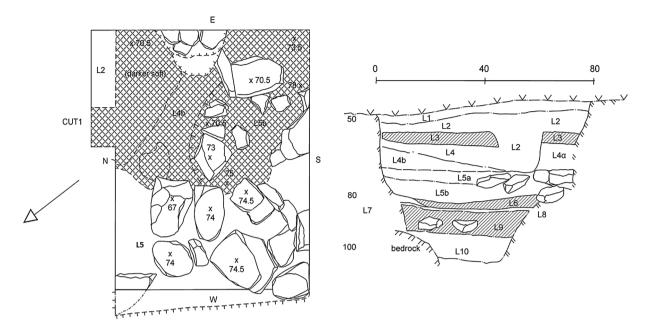


Figure. 4. Plan of the main corridor and the east chamber with the excavation trenches.



Figures. 5 a, b. Trench 2 (stratigraphy north profile and feature) (1:10) (main corridor).



Figures. 6a, b. Trench 3 (stratigraphy east profile and plan 1:10) (main corridor).

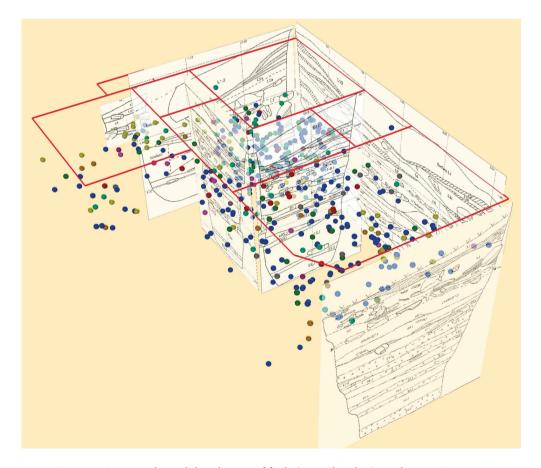
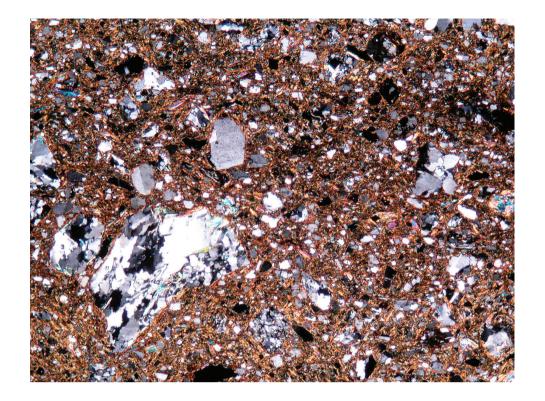
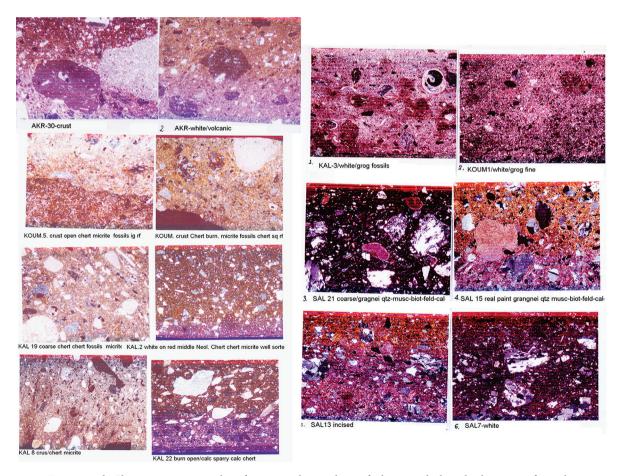


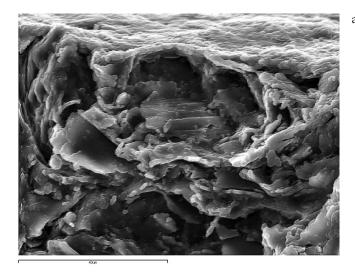
Figure. 7. Stratigraphy and distribution of finds (East Chamber). Author M. Katsianis.





Figures 8a-b. Characteristic examples of petrographic analysis of white-on-dark and other wares from the Agia Triada Cave and other Aegean sites (Koumelo, Kalythies, Akrotiri, Saliagos).

Whitbread and Kylikoglou in Mavridis 2009. Neolithic pottery islands project.



Figures. 9a-b.
Characteristic examples of white-on-dark and red-crusted real paint sherds in the stereomicroscope from Agia Triada and other Aegean sites (Akrotiri, Saliagos). Whitbread and Kylikoglou in Mavridis 2009 and Mavridis, Forthcoming. Neolithic pottery islands project.



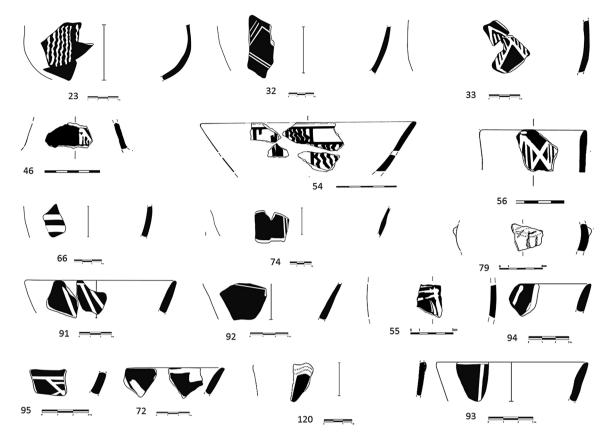


Figure 10. Pottery from Trench 3: layers 4-4b, 5b.

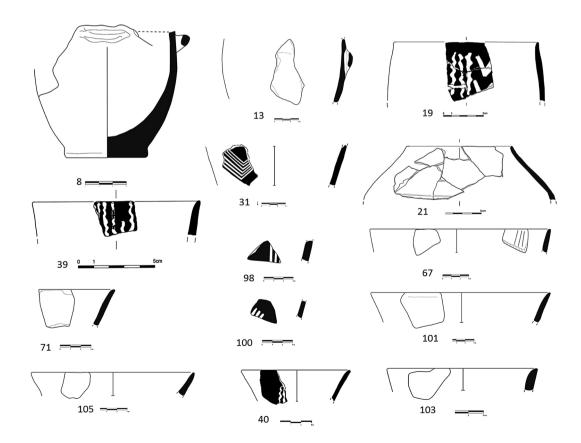


Figure 11. Pottery from Trench 3: layers 3-U1, 4a.

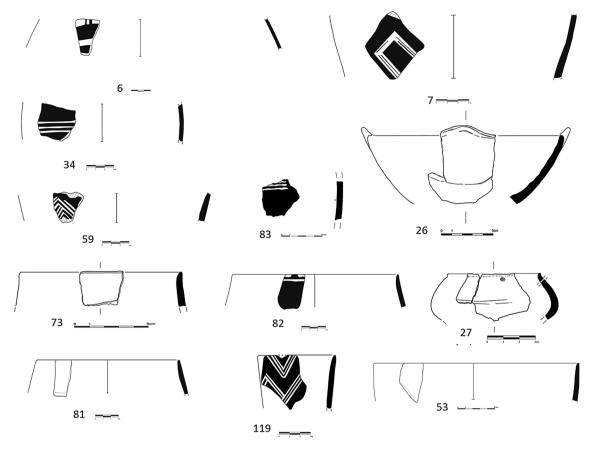


Figure 12. Pottery from Trench 3: layers 5, 6, U5.

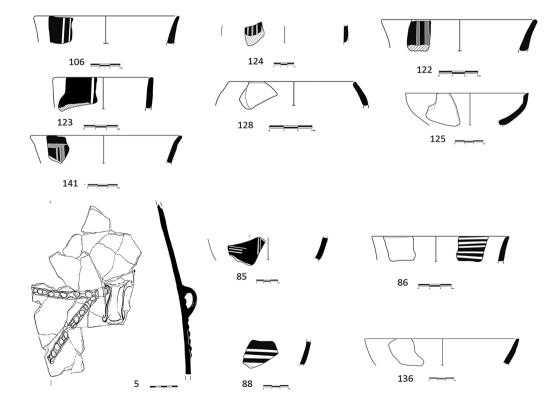


Figure 13. Pottery from Trench 2: layers 6-6b (upper), Trench 2, layer 2 (lower).

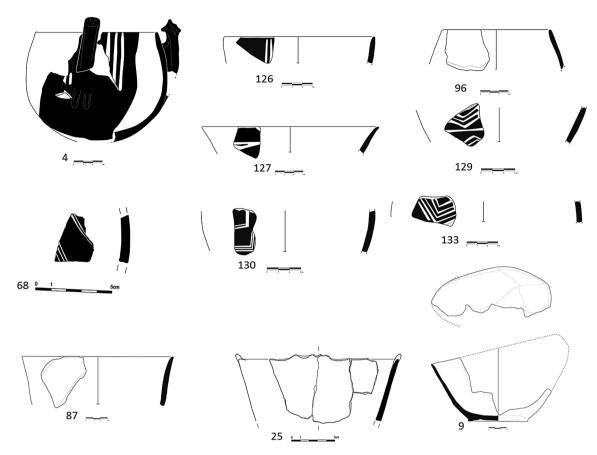


Figure 14. Pottery from Trench 2: layer 5 (upper), layer 4 (87), Trench 3, layer 8 (68), Trench 3 U2 (9, 25).

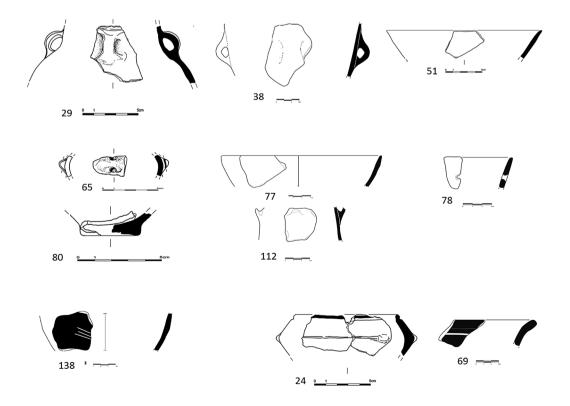


Figure 15. Pottery from Trench 4: layer 2 (29), layer 8 (38), layer 20 (51), layer 19 (65, 77, 78, 80, 112), layer 23 (24, 69, 138).

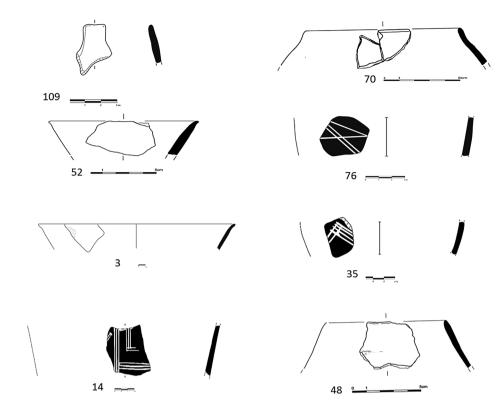


Figure 16. Pottery from Trench 8: layer 3 (109), layer 4b (70), U9 (52, 76), layer 6 (35), layer 7 (14, 48), Trench 8 cleaning of profile (3).

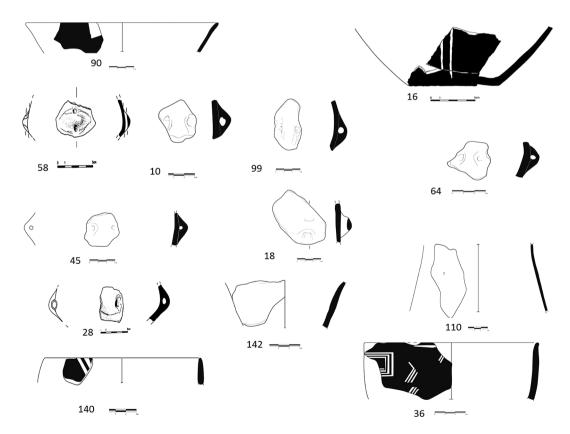


Figure 17. Pottery from Trench 8: layer 9 (90), layer 10 (16), layer 11 (10, 18, 45, 58, 64, 99), layer 12 (28, 36, 110, 142, 140).

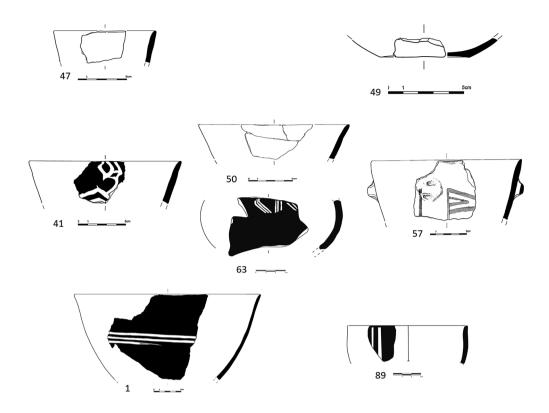


Figure 18. Pottery from Trench 8: layer 14 (47), layer 15 (49), layer 16 (41, 50, 57, 63), layer 9B (1, 8, 9).

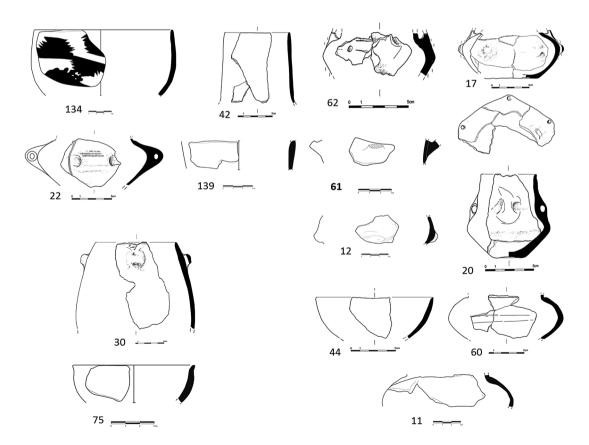


Figure 19. Pottery from Trench 8: layer 13 (11, 12, 17, 20, 22, 139, 61, 42, 44, 60, 61), layer 8-U5b (30, 75).

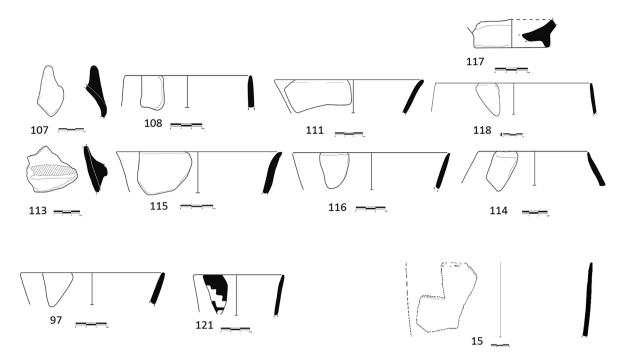


Figure 20. Pottery from Trench 9: layer 11 (107, 108, 111, 113-118), layer 12 (97, 121), layer 23 (15).

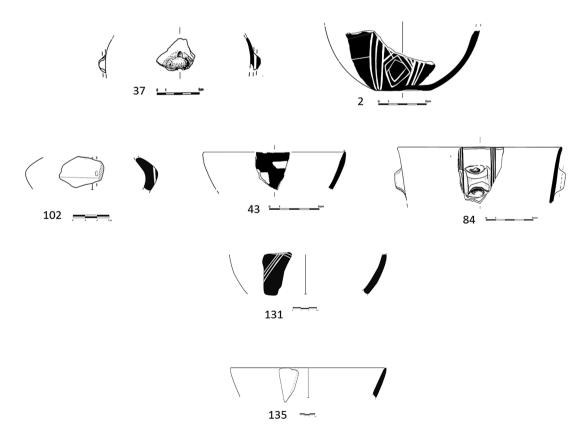


Figure 21. Surface finds.