Excavations at Shaikh Marif, Iraqi Kurdistan

Preliminary Report of the First Season (2022)

Takahiro Odaka, Osamu Maeda, Takehiro Miki, Yuichi S. Hayakawa,
Perween Yewer *and* Hussein Hama Gharib

ABSTRACT

The Shahrizor Plain is in a mountainous basin in the eastern part of the Sulaymaniyah Governorate, the Kurdistan Region of Iraq, where evidence of prehistoric occupations has been increasingly accumulated by recent investigations. Regarding the chronology of its late prehistory, however, there are some ill-defined archaeological gaps yet to be filled, the most critical of which lies in the early 6th millennium cal. BC. To address this issue, new excavations began at Shaikh Marif in 2022, following investigations at Shakar Tepe in 2019. Our work in 2022 successfully uncovered cultural deposits that yielded artefact assemblages typical of the Late Neolithic period. The dates of the site were estimated to be approximately 6000 cal. BC and thus fill a part of the chronological gaps in the archaeological records of the late prehistory in this region.

KEYWORDS

excavation, Late Neolithic, chronology, regional variability, Shahrizor Plain

INTRODUCTION

The Late Neolithic period in the Near East can be regarded as a bridge between neolithisation and urbanisation, two remarkably significant innovations that first occurred in human history. During the second half of the 7th millennium cal. BC, farming societies began to disperse from the Fertile Crescent into the Mesopotamian Lowland, which had been wilderness. This event set the stage for urbanisation, in which the oldest civilised societies would flourish.

Nevertheless, our understanding of this process is still limited, particularly through empirical research based on archaeological records. To address this issue, the Shahrizor Plain in the Sulaymaiyah Governorate of the Kurdistan Region of Iraq is one of the most ideal research fields (Figs. 1 and 2). This plain is an intermontane basin along the Zagros flanks, located in the eastern wing of the Fertile Crescent. Additionally, it opens into the Mesopotamian Lowland via the Diyala Valley, a

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22 Available online March 2023
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

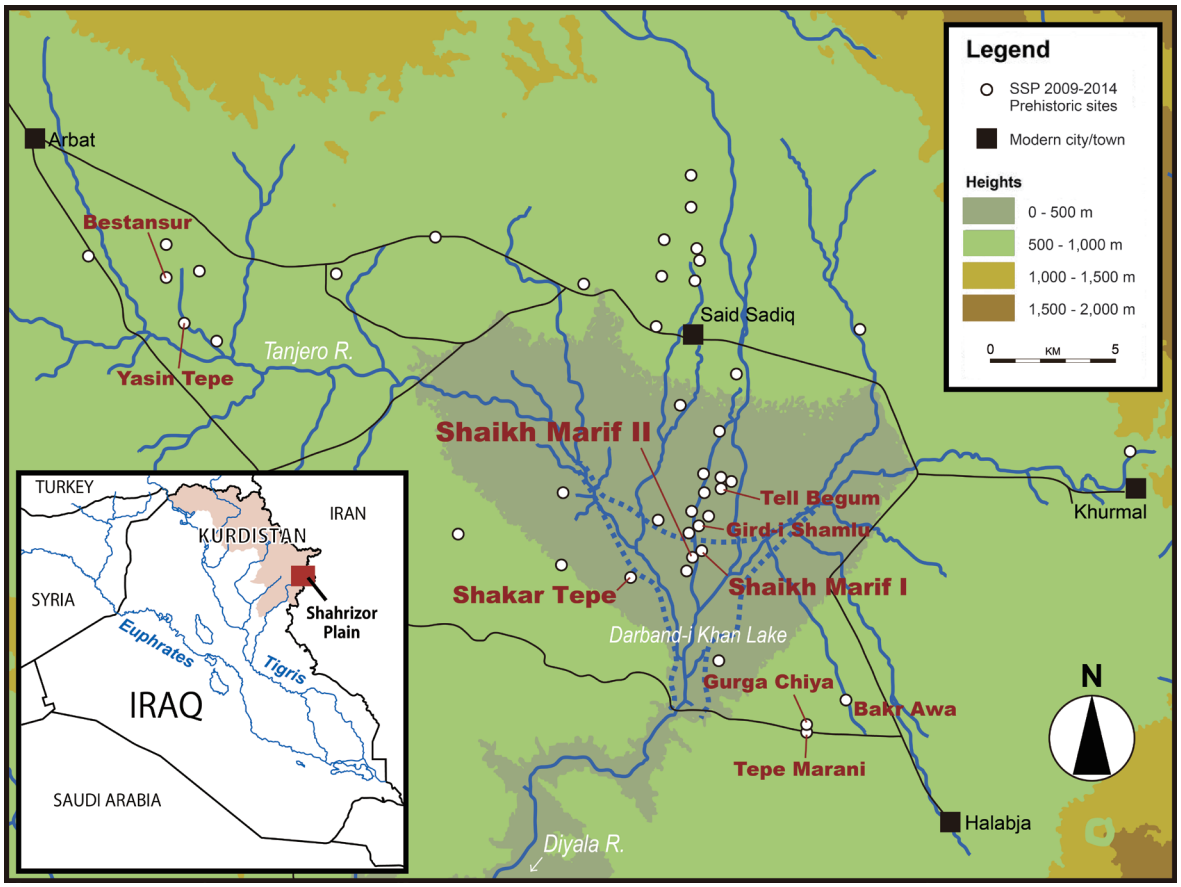

Fig. 1. Distributions of prehistoric sites in the Shahrizor Plain (based on the map by S. Mühl).

major tributary of the Tigris. Recently, archaeological fieldwork such as the Shahrizor Survey Project (SSP) directed by Simone Mühl and subsequent excavations at several sites have revealed rich archaeological evidence in this plain (e.g., Altaweel et al. 2012; Nieuwenhuyse et al. 2016a; Wengrow et al. 2016; Matthews et al. eds. 2020; Carter et al. 2020). However, our understanding of its local history is just beginning to develop, and even basic archaeological studies such as the spatio-temporal framework of material culture, are still on the way to being established.

Especially, there are some ill-defined gaps in the chronology of late prehistory. One of these gaps lies between the 8th and late 6th millennia cal. BC. Although the SSP has identified more than 40 prehistoric sites (Fig. 1), most are dated to the Late Halaf, Ubaid, and/or Late Chalcolithic, ca. 5600-3000 cal. BC (Nieuwenhuyse and Mühl 2016; Nieuwenhuyse et al. 2016b; Nieuwenhuyse 2018). However, only a few sites have provided scarce evidence for 7000-5600 cal. BC. Our provisional survey and study of the artefacts collected by the SSP demonstrated that only three sites had traces of occupations around 6000 cal. BC (Odaka et al. 2019).

Therefore, we submitted a proposal for excavations at these sites: Shaikh Marif I (SSP-37, in the site numbering by the SSP), Shaikh Marif II (SSP-43), and Shakar Tepe (or Gird-i Shakar, SSP-24) to the General Directorate of Antiquities and Heritage in the Kurdistan Regional Government. In September 2019, excavations were conducted at Shakar

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

Fig. 2. Landscape of the Shahrizor Plain. An arial view towards N from Shaikh Marif II, Sep. 2022.

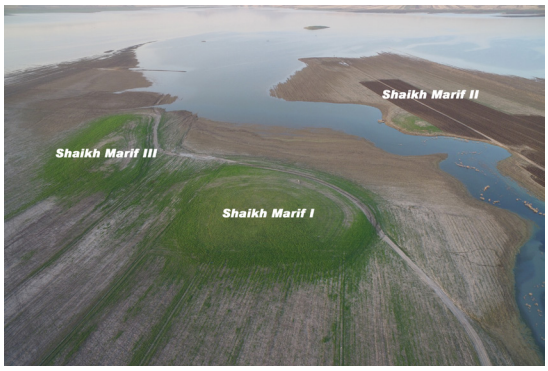

Fig. 3. Three mounds of Shaikh Marif, viewed from NNE, Aug. 2017.

Fig. 4. Shaikh Marif within the dam reservoir, viewed from SSW, Sep. 2019.

Fig. 5. Shaikh Marif II and Wadi Shamlu, viewed from NE, Feb. 2017.

Tepe, which successfully resulted in revealing the Late Neolithic deposit dated to ca. 6400-6000 cal. BC (Odaka et al. 2020, in press). However, we have not yet identified archaeological evidence from the early 7th millennium and the early 6th millennium cal. BC. To identify the latter, we decided to excavate Shaikh Marif II duing the 2022 season.

The excavations were conducted from 27th August to 23rd September 2022 by a team comprising seven people: Takahiro Odaka (director, Kanazawa University), Osamu Maeda (vice-director, University of Tsukuba), Perween Yewer (representative, Slemani Antiquities and Heritage Directorate), Takehiro Miki (archaeology, University of Tokyo), Yuichi S. Hayakawa (geology, Hokkaido University), Max Berghof (archaeology, University of Vienna), and Hussein Hama Gharib (adviser, Slemani Antiquities and Heritage Directorate).

THE SITE

The arhaeological site of Shaikh Marif, located ca. 500 m south of Gird-i Shamlu, was registered by the Iraq Museum (Baghdad) in 1943 (Mohammed 2017: 116-117). In November 2012, the SSP team surveyed along Wadi Shamlu, which flows into the reservoir of the Darband-i Khan Dam directly from the north, and discovered several new artificial mounds near Shaikh Marif. Sepecifically, a cluster of two tiny mounds newly found during the survey, together with Shaikh Marif itself, are

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

called "Se Tapan" ("three hills" in Kurdish) by the local people. Therefore, we designated all three mounds "Shaikh Marif" (Fig. 3) which comprises Shaikh Marif I (the original northern mound, SSP-37), Shaikh Marif II (a western mound also called "Ash Shaikh Marif" by the locals, SSP-43) and Shaikh Marif III (an eastern mound, SSP-38).

This landscape is seasonally cultivated today, and the water of the dam-lake occasionally covers almost all mounds (Fig. 4). Owing to modern cultivation and erosion by flowing water, a large amount of archaeological material was easily observed on the surface. No prehistoric material was identified at Shaikh Marif III. However, numerous Late Neolithic sherds were scattered on the other two mounds, along with materials dated to younger periods.

Shaikh Marif II is located approximately 100 m southwest of the foot of Shaikh Marif I. The eastern half of this tiny mound in a circular plan is surrounded by a stream of Wadi Shamlu (Fig. 5). Because of its low elevation, the entire mound is flooded periodically, whereas it is ploughed when the water level is low.

Among the surface collections from Shaikh Marif II by the SSP, 105 potsherds were dated to the Late Neolithic period, which is over half of all sherds collected (Odaka et al. 2019). Most have light-coloured surfaces often decorated with incisions, and their fabric comprises fine, compact clay (Fig. 6). A similar type of pottery, sometimes called Hassuna incised pottery, was recovered from Qalat Said Ahmadan (Tsuneki et al. 2015) and Tell Shimshara (Mortensen ed. 1970), associated with Hassuna painted pottery and Samarra painted pottery. Such pottery assemblages are known to be dated to approximately 6000 cal. BC. Among the surface collections from Shaikh Marif II, however, no painted Neolithic sherds were identified, whereas a few were observed at Shaikh Marif I. Additionally, the very fine fabric and some specific motifs of incision observed in the pottery from Shaikh Marif II can be considered unique attributes that are distinguished from other "typical" Hassuna incised pottery found

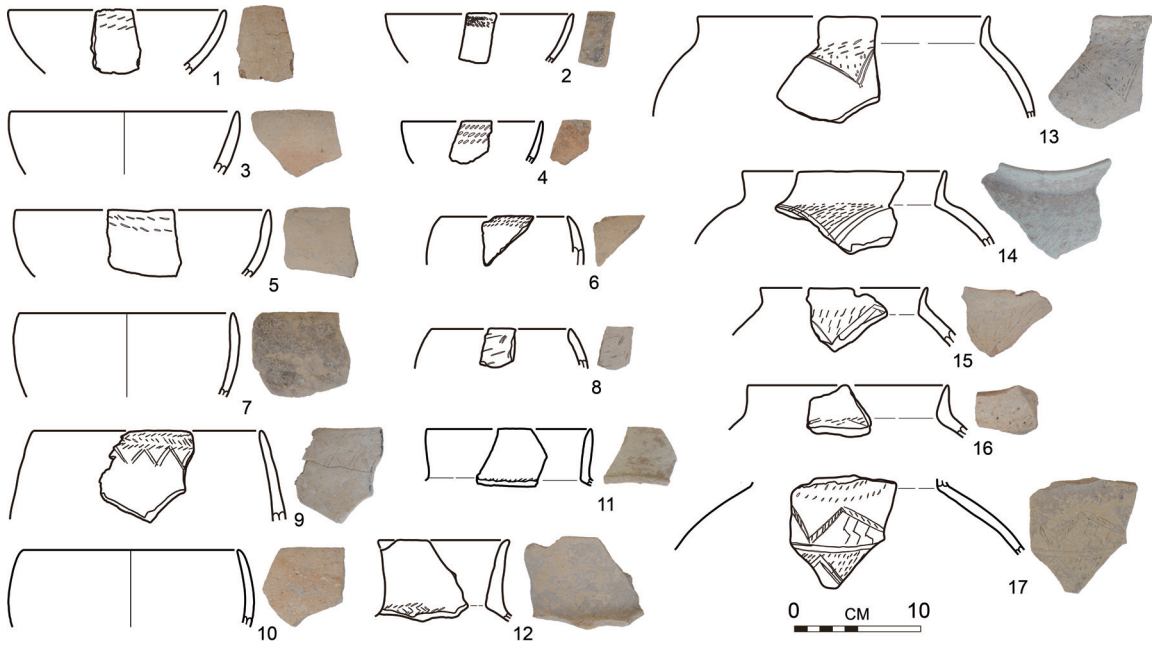

Fig. 6. Late Neolithic potsherds collected from the surface of Shaikh Marif II by the SSP, Nov. 2012.

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

at the sites in the Mosul region, such as Tell Hassuna (Lloyd and Safar 1945), Nineveh (Thompson and Mallowan 1933; Gut 1995) and Yarim Tepe I (Merpert and Munchaev 1993). Furthermore, in the Shahrizor Plain, Early Halaf pottery from the early 6th millennium cal. BC has not been identified (Nieuwenhuyse et al. 2016b). Thus, it can be assumed that this fine ware of Shaikh Marif II directly preceded Late Halaf pottery and dates to the early 6th millennium cal. BC. One of the main aims of our excavations was to test this hypothesis for the ceramic chronology.

TOPOGRAPHIC MAPPING

The mound of Shaikh Marif II is approximately 2 m high, with a circular plan of 70 m in diameter. It is located on the northern coast of the Darband-i Khan Dam reservoir. The surrounding landforms show gently undulating slopes, where slightly-incised meander channels of the Wadi Shamlu, flowing southward, enhance relief.

As lake water was absent in 2022, we performed topographic mapping not only in and around the mounds of Shaikh Marif but also in a wider range that covers Shaikh Marif and Shakar Tepe excavated in 2019, using an uncrewed aerial system (UAS) of the Parrot ANAFI (Fig. 7) and structure-from-motion (SfM) multi-view stereo (MVS) photogrammetry. The UAS was operated with a PIX4Dcapture mobile application. More than 13 flights covering approximately 6 km² were conducted. At each flight, the flight height was set at 150 m above ground, and the flight course was planned to have 80-90 % image overlap. The camera angle was set as a diagonal view (75°) to avoid errors in flat lands using SfM-MVS photo-

Fig. 7. UAS (Parrot ANAFI) in operation at the site.

Fig. 8. GNSS base station and a rover.

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

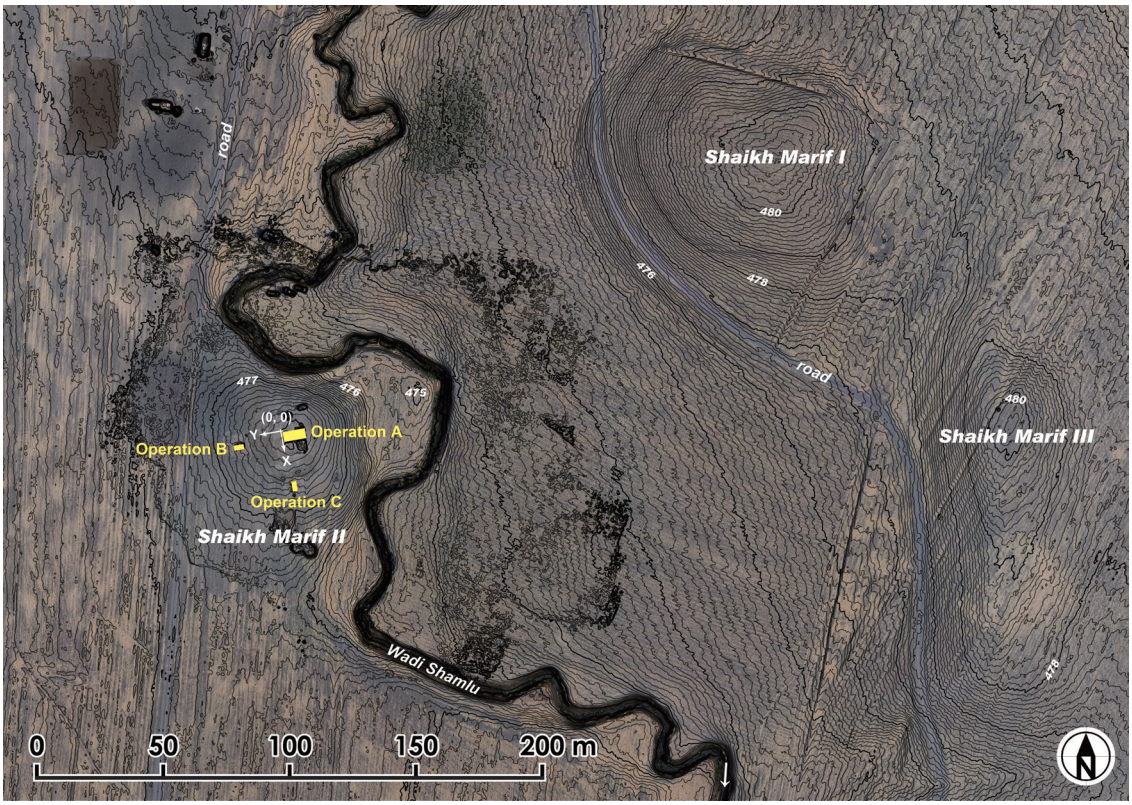

Fig. 9. Orthorectified mosaic image and topographic map (10-cm contour) of Shaikh Marif.

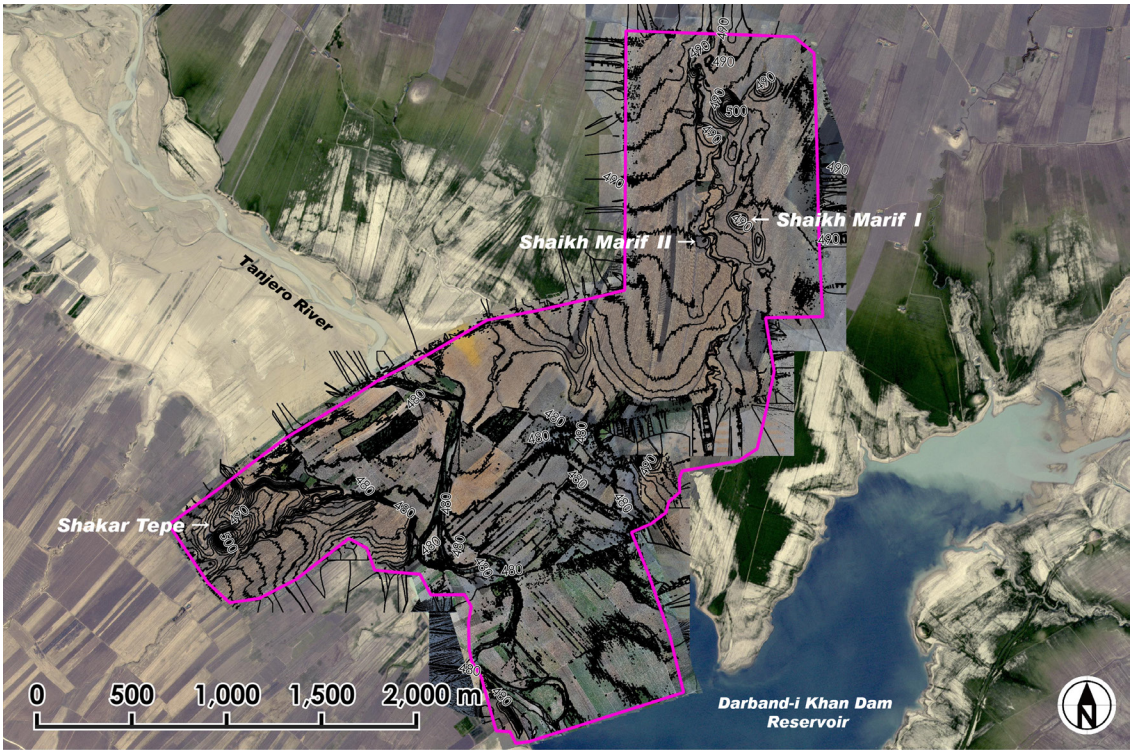

Fig. 10. Orthorectified mosaic image and topographic map (1-m contour) around Shaikh Marif (background: TripleSat satellite image in Nov. 2019).

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

grammetry. The geographic coordinates of multiple ground control points (GCPs, n=13) were measured in the field using global navigation satellite system receivers (emlid Reach, model RS and RTK) with an overall accuracy of 48 cm using post-processing kinematic corrections and SfM-MVS photogrammetry (Fig. 8). The resultant maps from 2,147 photographs (10-cm resolution digital elevation model (DEM), DEM-derived topographic contour lines, and a 5-cm resolution orthorectified mosaic images) are shown in Figs. 9 and 10.

THE EXCAVATIONS

Three excavation areas were designated for excavations at Shaikh Marif II. The first were two squares measuring 4 × 4 m, which were laid on the summit of the mound as the main area (Operation A). Additionally, two 4 × 2 m sounding trenches were opened on the gentle slope of the mound, 15 m to the west (Operation B) and 15 m to the south (Operation C) of Operation A (Fig. 9).

Operation A

This operation, located on the flat summit of the mound, comprises two 4 × 4 m squares arranged in an east-west direction and divided by a 1 m wide baulk (Fig. 11).

The cultural deposits yielding the Late Neolithic materials were recovered below the topsoil, although they were disturbed by several pits from the later period. The stratigraphy can be divided into four layers based on observations of the sections (Fig. 12). The uppermost layer (Layer 1) comprised reddish-brown soft soil. Below it, a greyish-brown soil layer (Layer 2) accumulated. Many artefacts were recovered, particularly from the lower level of this layer. The preceding layer of dark-brown hard soil (Layer 3) also contained many artefacts. However, the lowest cultural layer of yellowish-brown hard soil (Layer 4) yielded much fewer artefacts. We then reached the virgin soil approximately 1.3 m below the modern surface level.

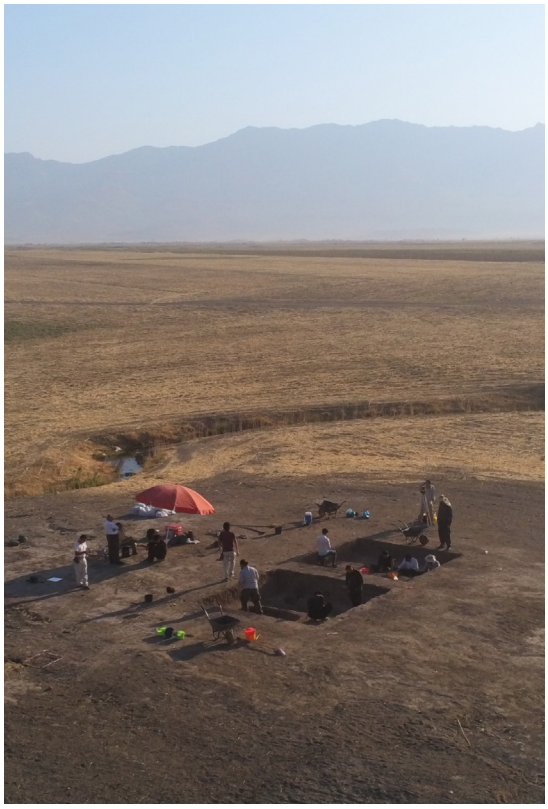

Fig. 11. Operation A, viewed from SW, 3rd Sep. 2022.

For artificial structures, at least 20 pits were discovered in this operation. Most of them were apparently dug from Layer 1 or the uppermost level of Layer 1, that is, the bottom of the topsoil layer. Some of the latter cases are likely to date to a period later than the Late Neolithic and three pits yielded some modern garbage. However, structures belonging to the Late Neolithic period are quite limited. Nevertheless, a very deep cylindrical pit (Str. 013) found in Layer 3 of the eastern square was remarkable (Figs. 13 and 14). At a depth of 2.8 m in this pit, we reached the water table and stopped digging the fill further down to the bottom. Although it was

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

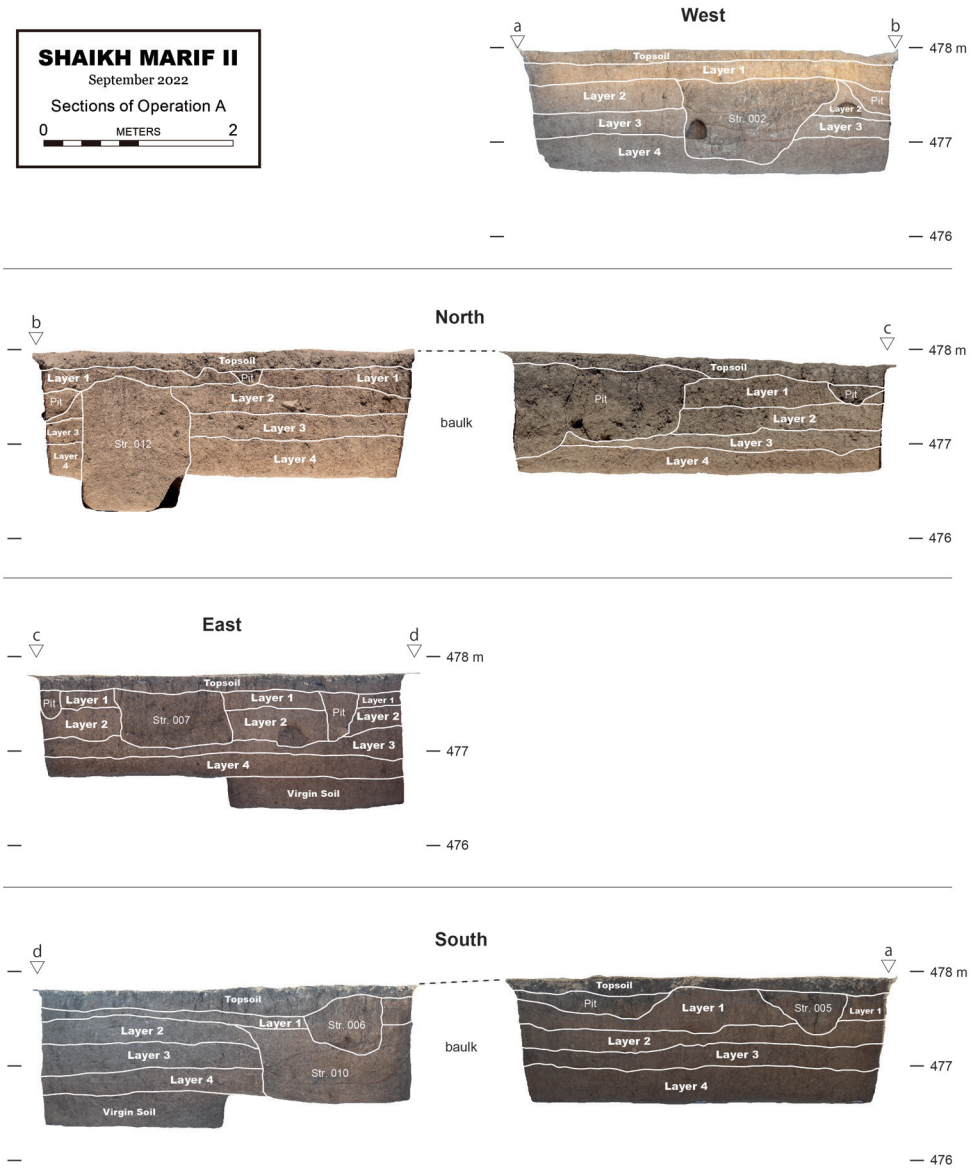

Fig. 12. Section profiles of Operation A.

Fig. 13. Str. 013, water well.

not possible to see the deposit below the water table, probing with a metal stick indicated that the soft fill of the pit continued at least 50 cm further downward. Its plan is circular, with a diameter of ca. 1.0 m at the upper level. At least six niches, probably made by footsteps, were arranged on the wall, and it is likely that this pit was dug as a water well. Although it is not very clear, the well widens at the lower level and then becomes narrower again

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

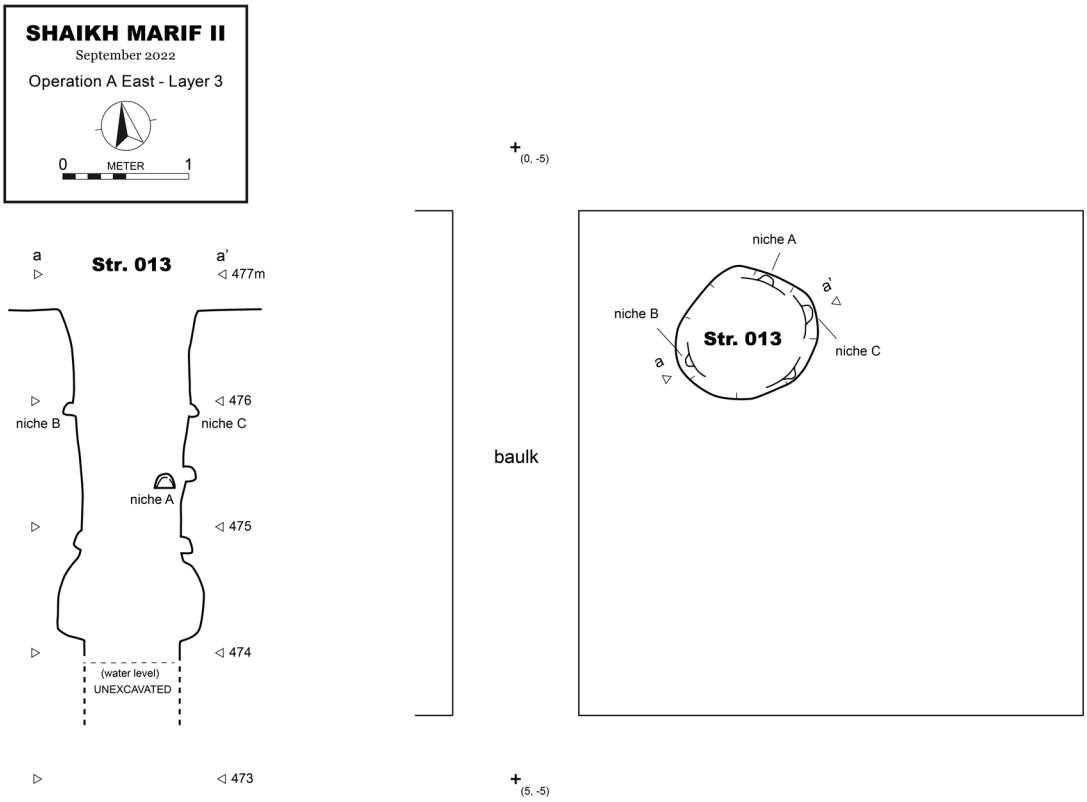

Fig. 14. Layer 3 in the eastern half of Operation A.

to ca. 0.7 m in diameter as it continues downward. It might be that the widened part was the original bottom of the well, which was later dug deeper when the level of the water table was lowered.

Operation B

This operation was arranged on the western slope of the mound between Operation A and a modern path running along the western edge of the mound in the form of a trench measuring 4 m long (east-west) and 2 m wide (north-south).

Although several pits from the later periods are present, the stratified layers are apparently Late Neolithic deposits, as in Operation A. Five cultural layers were distinguished (Fig. 15). Layer 1 was reddish-brown soft soil below the topsoil, and Layer 2 was greyish-brown soil. Both layers are apparently identical to those in Operation A. Layer 3 was comparable to that in Operation A but cannot be observed in the eastern part of Operation B. Layer 4 was greyish-brown soil that lay only in the eastern half of this operation and includes abundant artefacts as well as Layer 3. Layer 5 was a yellowish-brown, hard soil yielding few artefacts, which seemed likely to be identical to Layer 4 in Operation A. Finally, the virgin soil reached some part of the trench at a depth of ca. 0.9-1.0 m below the modern surface.

In addition to the simple pits, we could not identify any solid architectural features in this operation.

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

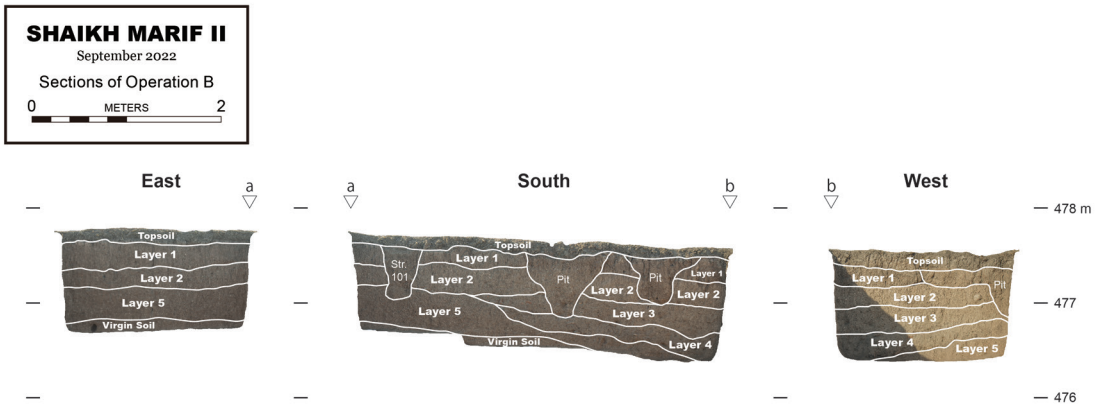

Fig. 15. Section profiles of Operation B.

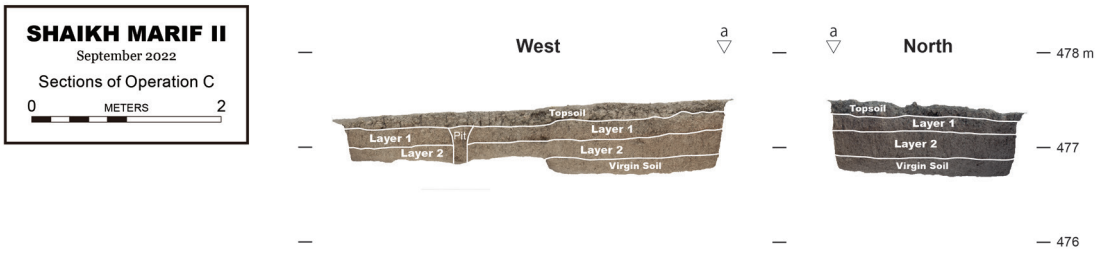

Fig. 16. Section profiles of Operation C.

Fig. 17. Str. 202, water well.

Operation C

Operation C was designated on the southern slope of the mound in the form of a trench measuring 4 m long (north-south) and 2 m wide (east-west).

Cultural accumulation in this operation was approximately 0.5 m thick. It can be divided into two layers, although both commonly comproses compact and crumbly reddish-brown soils (Fig. 16).

We recovered two structural features in Layer 1: one was a shallow simple pit (Str. 201) and the other was a deep cylindrical pit (Figs. 17 and 18). The latter (Str. 202) has a circular plan measuring ca. 1.0 m in diameter. We dug to a depth of ca. 2.5 m but could not reach the bottom level. Three niches, which probably functioned as footsteps, were arranged on the wall. These characteristics are obviously identical to those of Str. 013 in Operation A. Thus, this pit can be regarded as a water well.

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

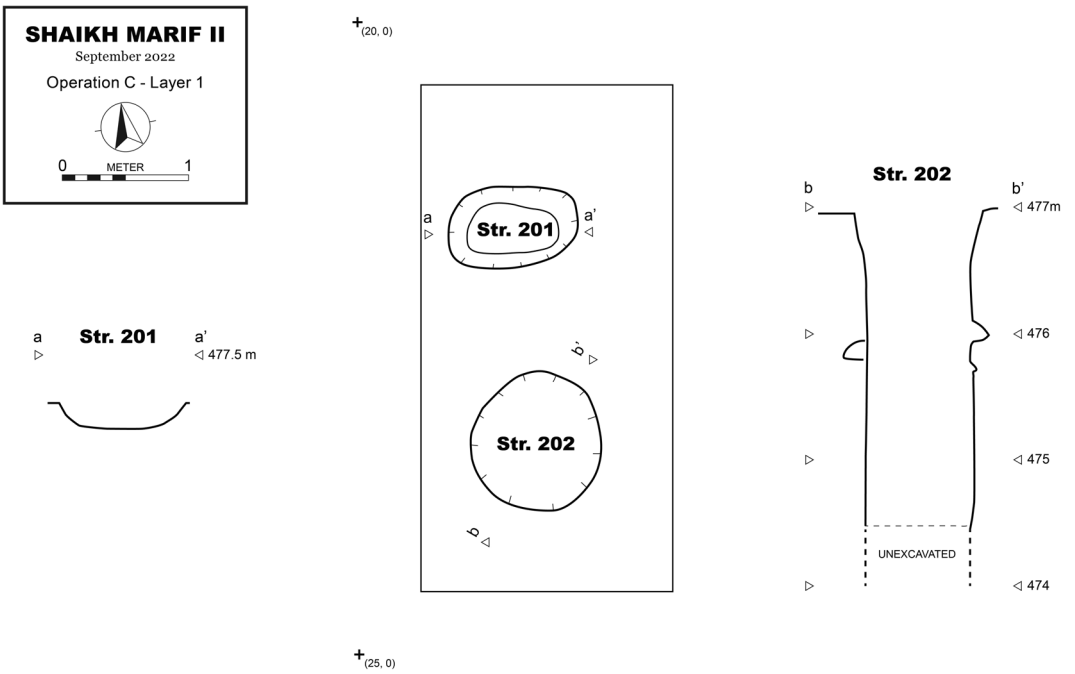

Fig. 18. Layer 1 in Operation C.

THE FINDS

Neolithic Pottery

Potsherds are quantitatively dominant among the artefacts recovered through excavations, and most are dated to the Late Neolithic period. The Late Neolithic pottery assemblage demonstrates two major ware-types: Coarse Plant-tempered Ware (Fig. 19) and Hassuna Standard Ware (Fig. 20).

Coarse Plant-tempered Wares are generally comprise thick-walled, large-sized heavy vessels. A large number of large straws are tempered to the fabric containing mineral particles, and incompletely oxidised dark-core sections are often observed. The sherds are mostly plain, without any decorations, although a few specimens decorated with appliqué were identified (Fig. 19: 7). So-called "husking trays" are included in this ware-type, although the number is quite limited (Fig. 19: 11, 12).

Hassuna Standard Wares have fine fabrics, including a small quantity of sand. The surface was treated with careful smoothing, and its colour varies from buff to orange buff. Sometimes, bitumen adheres to the sherds, which seems to be applied for repairing cracked or broken pottery (Fig. 20: 16, 17). Geometric incisions are often made on the exterior surface (Fig. 20: 1-8, 13-28). Repeated short oblique lines ("slashes") are common in the motif. In addition, a few specimens with geometric paint are present (Fig. 20: 27).

We formerly called the latter ware-type "Fine Clay Ware" (Odaka et al. 2019; Odaka in press) to stress the difference from "typical" Hassuna Standard Ware known in the Mosul region. However, the specimens recovered in the 2022 season showed some variations within the same category. It can be

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

Fig. 19. Coarse Plant-tempered Wares.

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

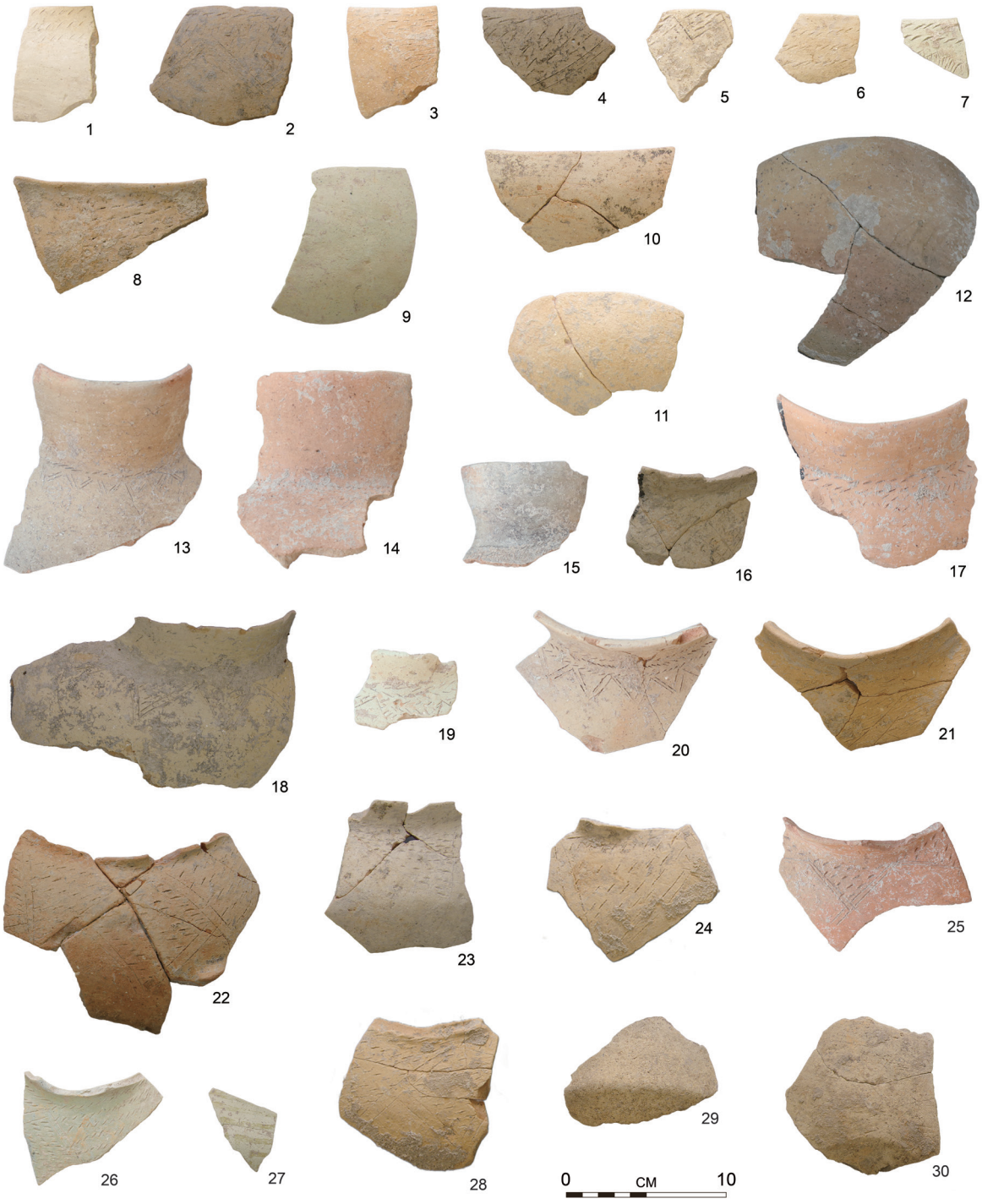

Fig. 20. Hassuna Standard Wares.

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

classified into a few sub-types, and perhaps Fine Clay Ware should be one of them. The fabrics are not always fine and compact. Therefore, we simply follow the traditional terminology and call this ware-type "Hassuna Standard Ware."

Nevertheless, Hassuna Standard Ware recovered from Shaikh Marif II is not identical to that from "typical" Hassuna sites in the Mosul region. The presence of very fine fabric and some specific motifs of incision, such as "slashes" can be considered unique attributes distinguishing them from "typical" Hassuna pottery. It is regarded as a local variant known at a few sites in the Iraqi Zagros foothills, as suggested by the surface collection analysis. Specifically, the examples from Shakar Tepe (Odaka et al. 2020, in press) and Matarrah in the Kirkuk region (Braidwood et al. 1952; Odaka 2019) are most comparable to the Hassuna Standard Ware at Shaikh Marif II.

In addition to the two major ware-types, a few sherds possibly regarded as Fine Plant-tempered Ware were recovered. This ware-type, which was defined at Shaikh Marif I and Shakar Tepe (Odaka et al. 2019, 2020), is characterised by fine fabric including small plants and minerals.

Although a detailed analysis has not yet been conducted, the pottery assemblages seem homogeneous between the layers and operations. Regarding the number of sherds, Hassuna Standard Ware was dominant in all layers. Conversely, the dominant ware-type in the Upper Late Neolithic layers of Shakar Tepe is not Hassuna Standard Ware but Coarse Plant-tempered Ware. In general, the fineware category increased during the Late Neolithic period in the Near East (cf. Nieuwenhuyse 2008). Additionally, only a few fragments of "husking trays" were identified at Shaikh Marif II, whereas they were abundant at Shakar Tepe. These facts suggest that the Late Neolithic assemblage of Shaikh Marif II was chronologically later than that of Shakar Tepe. Provisionally, we can estimate the date to be around 6000 cal. BC for the Late Neolithic deposit at Shaikh Marif II. This will be tested by radiocarbon dating.

Later Pottery

We found potsherds that belonged to periods later than the Neolithic in the surface collection, topsoil, and disturbance pits within the Neolithic deposit. Most of these later potsherds can be classified into two ware-types: buff fine-medium ware with comb-like incisions and reddish-brown coarse ware. In addition, several minor ware-types were also identified.

First, buff fine-medium ware (Fig. 21) has a fabric similar to Hassuna Standard Ware in colour, but it is wheel-made and has horizontal and wavy comb-like incisions either on its body or neck. We confirmed two types of incisions: thin comb-like incisions (Fig. 21: 1, 3-6, 8-9, 11-12, 14, 21) and thick incisions (Fig. 21: 7, 13). Incised wavy lines sometimes forms elliptical circles (Fig. 21: 8-9). Buff wares also include a spout (Fig. 21: 15) and handles (Fig. 21: 10, 17-20). Regarding rim shape, a simple-rounded neck rim was predominant (Fig. 21: 1, 3). A ribbed rim was also observed (Fig. 21: 2). A ring base was identified among base sherds (Fig. 21: 23).

Second, we discovered reddish brown burnished coarse ware in the topsoil (Fig. 22). The fabric colour ranged from reddish-brown to dark-brown. The core of the fabric is dark brown in colour, indicating inadequate firing conditions. The coarse fabric includes coarse limestone sand and grey sand. It has a simple-rounded, short-necked rim (Fig. 22: 2-4). Two lines of horizontal fingernail-like impressions and two to three lines of ridges were applied just below the rim (Fig. 22: 2-3, 11). Various types of handles exist, including long ones (Fig. 22: 1),

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

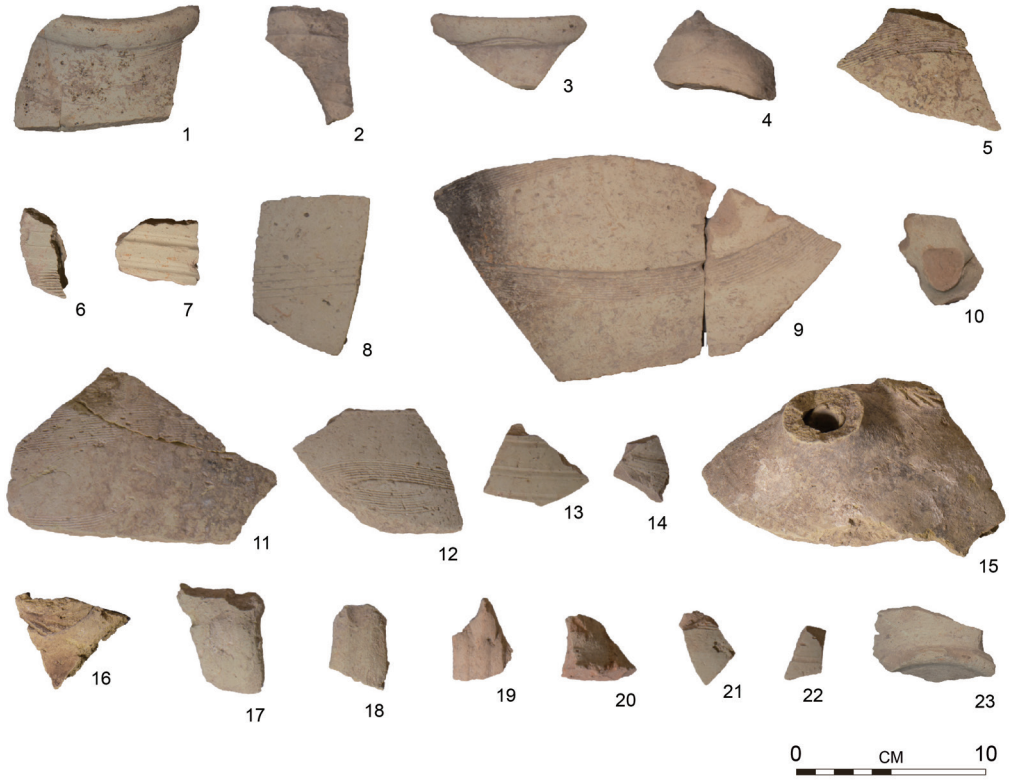

Fig. 21. Buff fine-medium wares.

Fig. 22. Reddish-brown burnished coarse wares.

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

short ones (Fig. 22: 5-6), and a handle with a round clay button in its upper part (Fig. 22: 12). In addition to the handles, a "lug" was also observed (Fig. 22: 10). Its exterior surface was covered by red slip and then sometimes burnished. Although information regarding its base shape is still scarce, a round base was found (Fig. 22: 9). The best parallel ware-type has not yet been discovered. One of the candidates is "Kurdish ware", belonging to the Ottoman period. This ware was reported at the site of Bakr Awa (Miglus et al. 2013: 70, Fig. 41. d). Buff fine-medium wares were often unearthed together with reddish-brown, burnished coarse ware. Whether this implies their contemporaneity or the mixed and disturbing situation of the topsoil of Shaikh Marif II remains uncertain.

Third, other than these two major ware-types, several minor ware-types later than the Neolithic were found, among which are sherds of green-glazed ware (Fig. 23: 4-6) discovered mainly in the topsoil. In addition, although not pottery sherds, small, mould-made clay objects (Fig. 23: 2-3) are unique examples from Shaikh Marif II. These are likely to be parts of Ottoman clay tobacco pipes used from the beginning of the 17th century until their collapse (Al-Houdalieh 2008; Uçar 2019). They are red paste and elbow-shaped, resembling "Elbow-type, red paste pipes" from Kutu Han, Turkey (Uçar 2019: Figure 5, o). This type was likely to have been produced in the 18th-19th century (Uçar 2019: 123).

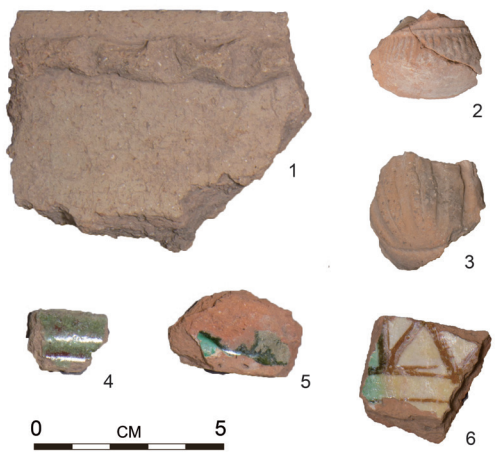

Fig. 23. Miscellaneous ceramics.

Chipped Stone Artefacts

The chipped stone assemblage recovered across Operations A, B, and C in the 2022 season includes 1,650 chert and 47 obsidian artefacts. Some were found in the top layer and in pits from later ages, but their techno-typological features suggest that most are intrusions from the original Neolithic contexts. Therefore, all the chipped stone artefacts recovered in the 2022 season are reported together. No marked chronological change was identified throughout the occupational sequence, and no distinctive differences were observed in the assemblages between Operations A, B, and C.

Chert (and possibly radiolarite) is a major raw material locally available near the site. Its quality varies with colour ranging from grey to reddish-brown and sometimes green (Fig. 24: 1-3). Greyish chert with black flecks is the most common. The type of chert is very similar to that used at Shakar Tepe, which is located on the other side of the Tanjero river valley (Odaka et al. in press).

These chert artefacts clearly represent the flake industry. Over 95 % of all the chert artefacts are flakes and flake cores. A majority of flakes are thick and have multidirectional scars on their dorsal faces, often covered with the cortex. Elongated flakes with a blade-like shape (Fig. 24: 3) are also involved, but the number is very limited. The platforms of the flakes are usually large and flat, and their platform edges were not well prepared before knapping. All the cores are flake cores, and no cores from which regular blades were pro-

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

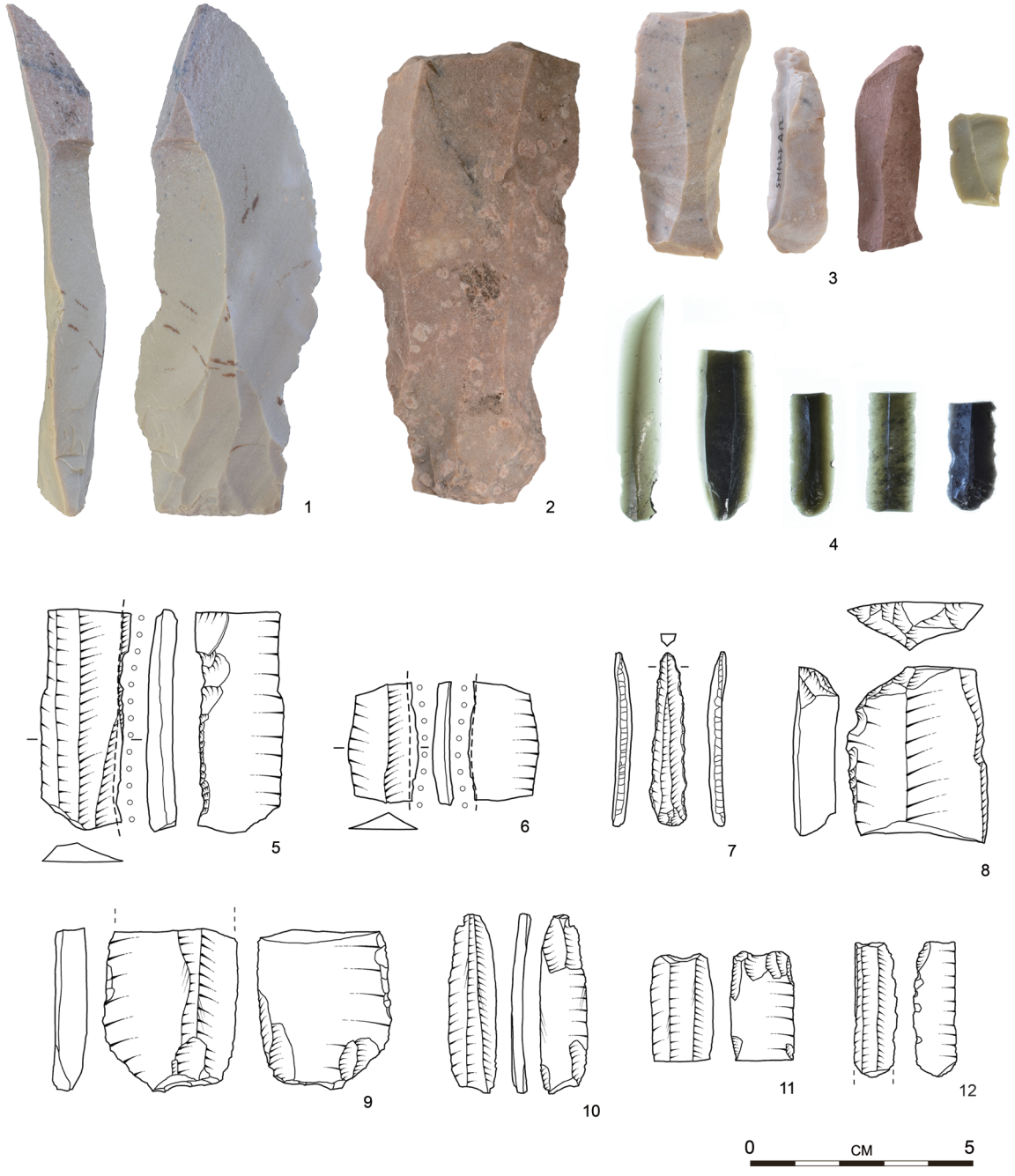

Fig. 24. Chipped stone artefacts.

1, 2: large robust blades (chert), 3: blade-like flakes (chert), 4: pressure-detached blades (obsidian), 5, 6: sickle blades (chert), 7: borer (chert), 8: end-scraper (chert), 9-12: corner-thinned blades (obsidian).

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

duced were identified. Core shaping was rarely performed, and many were abandoned in the early stages of core reduction. These suggest that the flakes were detached as an ad-hoc production by direct percussion using only roughly shaped cores made of local chert. A few regular, pressure-flaked blades, sometimes used as sickle blades (Fig. 24: 5, 6), are also included in the assemblage, but they must have been imported from the outside because there is no evidence for on-site blade production at Shaikh Marif II.

These characteristics of the chert assemblage are echoed by those of Shakar Tepe. The flakes and flake cores from both sites are typologically identical and made of the same type of local chert. At both sites, no bullet cores or other types of pressure-blade cores, which are characteristic of the Mlefatian industry that is typical to the Neolithic sites along the Zagros foothills (Kozłowski 1999), were used. Formal tools such as microliths, backed blades/bladelets, and diagonal-ended blades, which comprise other elements of the Mlefatian lithic tradition, are entirely absent.

Four large and robust blades (Fig. 24: 1, 2) are reminiscent of Shakar Tepe's examples (Odaka et al. 2020), although those from Shaikh Marif II are slightly smaller. They are made of local chert similar to that used for flake production and are knapped by direct percussion without elaborate core shaping and platform edge treatment. Other examples of this type of large, robust blade are known from Matarrah (Braidwood et al. 1952: pl. X).

Obsidian artefacts account for only 2.5 % (47 pieces) of all the lithic artefacts. A great majority has a greenish tinge when examined in transmitted natural light and indicates that it originates from the sources of Bingöl or Nemrut Dağ in southeast Anatolia, about 600 km away from Shaikh Marif. Geochemical sourcing of 23 obsidian artefacts using portable XRF by the Manchester Obsidian Laboratory identified that 19 are from Nemrut Dağ, two from Bingöl A, and two from Bingöl B (the detail of the provenance study will be published elsewhere).

Many obsidian artefacts are in a form of pressure-flaked blades (Fig. 24: 4), which were not produced on-site but imported in the form of blades. Although several flakes are included in the assemblage, there is no evidence of obsidian blade production.

Of particular interest are the three side-blow blade-flakes and the six corner-thinned blades (Fig. 24: 9-12). These are characteristic tool types frequently used in the Late Neolithic, particularly in the Proto-Hassuna and Hassuna contexts in the Eastern Fertile Crescent, where obsidian from southeast Anatolian sources was exclusively circulated (Nishiaki 1993). Three side-blow blader-flakes and five corner-thinned blades from Shaikh Marif II are made of Nemrut Dağ obsidian, and one corner-thinned blade is of Bingöl A obsidian, suggesting a connection between Shaikh Marif II and other sites in the Eastern Fertile Crescent through obsidian circulation. Side-blow blade-flakes have also been recovered from Shakar Tepe, but corner-thinned blades are the first example recovered in the Zagros foothill region and the evidence from the southernmost site in their currently known geographical distribution.

Another characteristic type of tool that indicates a regional connection associated with obsidian circulation is Çayönü tools, also known from sites in the Eastern Fertile Crescent from the Pre-Pottery Neolithic to the Late Neolithic. A single example from Shaikh Marif II is a fragment of the Çayönü tool, reused as a small scraper. It is made on a wide and thick blade of Nemrut Dağ obsidian and has steep inverse retouch on its lateral edges and a ground, matte ventral surface.

To summarise, the chert assemblage from Shaikh Marif II is clearly different from the Mle-

Ancient Civilizations and Cultural Resources, vol. 1 (2023), pp. 1-22
© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

Fig. 25. Small finds.

fatian lithic tradition typical of Neolithic sites in the Kurdistan region. While the obsidian artefacts demonstrate the links between Shaikh Marif II and other sites in the north, suggesting that the site was not isolated at all, the local lithic production at Shaikh Marif II, as well as that of Shakar Tepe, may demonstrate another trajectory in the development of lithic industries in the Late Neolithic period in this region.

Small Finds

The number of small finds is limited, and most were recovered from contexts not associated with structures. Two polished stone objects that have an oblique protrusion (or a curved tang) are notable (Fig. 25: 1). One is made of white stone, possibly marble or limestone, and the other, slightly smaller with its protruding part broken, is made of black stone. A similar example has been reported at Matarrah (Braidwood et al. 1952: Fig. 20, Plate XII; Braidwood and Howe eds. 1960: Fig. 5) which demonstrates a link between the two sites. One conical clay token has a tiny hole on the top that is not perforated through the other end (Fig. 25: 2). Three clay spindle whorls (Fig. 25: 3) show morphological features typical of the Late Neolithic. Several bone implements were also recovered, but all are broken. Three fragments of glass bracelets were also found (Fig. 25: 5) but they are obviously non-Neolithic objects found in the later age pits or disturbed contexts, as in the case of two blue beads (Fig. 25: 4).

CONCLUSION

Our 2022 campaign at Shaikh Marif II documented the cultural remains of the Late Neolithic occupation, which probably covered around 6000 cal. BC. Therefore, this new evidence may provide important data to achieve one of our goals by

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

filling some of the chronological gaps in the local archaeological records of the Shahrizor Plain. Furthermore, the finds imply the existence of a distinctive material culture in this region, which has not yet been clarified. Abundant pottery sherds provide opportunities to examine the details of the local material culture in this period, as well as chipped stone artefacts. In addition, the two water wells are remarkable structures, although other architectural remains are poorly preserved.

Moreover, we succeeded in creating topographic maps covering an extensive range, owing to the extremely low water level of the dam. It includes an area between two sites we have excavated, Shaikh Marif and Shakar Tepe: the area which is usually covered with dam-lake water. This result provides an important clue for examining the topography and environment before the construction of the Darband-i Khan Dam.

At the end of the 2022 season, all excavated areas were backfilled, as we judged that the overall information on the Late Neolithic deposit at Shaikh Marif II was adequately obtained. Next, we plan to excavate a neighbouring Late Neolithic mound, Shaikh Marif I. Bringing together the results and the current data from Shaikh Marif II and Shakar Tepe, we will continue to explore the little-known period of the Late Neolithic in the Shahrizor Plain. This must contribute to understanding the historical role of this region in the oldest transition from neolithisation to urbanisation throughout the human history.

Acknowledgements

First, we would like to express our gratitude to the General Directorate of Antiquities and Heritage in the Kurdistan Regional Government, headed by Mr. Kaifi Mustafa Ali, for their warm understanding and cooperation. Second, we are grateful to the following persons for their kind support: Mr. Nawshirwan A. Mohammed, Mr. Kazuya Shimogama, Dr. Yu Itahashi, Prof. Yoshihiro Nishiaki, Prof. Hirotoshi Numoto, and Prof. Akira Tsuneki. Finally, we thank the local people who worked together with us during the 2022 season. This field study was supported by Grants-in-Aid for Scientific Research (KAKENHI) from the Japan Society for the Promotion of Science (Nos. JP21H00003, JP21H00590, JP19H05030 and JP19K01111).

Takahiro Odaka
Institute of Liberal Arts and Science,
Kanazawa University

Osamu Maeda
Faculty of Humanities and Social Sciences,
University of Tsukuba

Takehiro Miki
The University Museum,
University of Tokyo

Yuichi S. Hayakawa
Faculty of Environmental Earth Science,
Hokkaido University

Perween Yewer
Slemani Antiquities and Heritage Directorate

Hussein Hama Gharib
Slemani Antiquities and Heritage Directorate

REFERENCES

Altaweel, M., A. Marsh, S. Mühl, O. P. Nieuwenhuyse, K. Radner, K, Rasheed and S. A. Saber 2012. New Investigations in the Environment, History, and Archaeology of the Iraqi Hilly Flanks: Shahrizor Survey Project 2009-2011. *Iraq* 74: 1-35.

Braidwood, R. J., L. Braidwood, J. G. Smith and C. Leslie 1952. Matarrah: A Southern Variant of the Hassunan Assemblage, Excavated in 1948. *Journal*

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

of Near Eastern Studies 11(1): 12-75.

Braidwood, R. J. and B. Howe (eds.) 1960. *Prehistoric Investigations in Iraqi Kurdistan*. Study in Ancient Oriental Civilization 31, Chicago, University of Chicago Press.

Carter, R., D. Wengrow, S. A. Saber, S. J. Hamarashi, M. Shepperson, K. Roberts, M. P. Lewis, A. Marsh, L. Gonzalez Carretero, H. Sosnowska, A. D'Amico, W. Sagan and K. Lockyear 2020. The Later Prehistory of the Shahrizor Plain, Kurdistan Region of Iraq: Further Investigations at Gurga Chiya and Tepe Marani. *Iraq* 82: 41-71.

Gut, R. V. 2005. *Das Prähistorische Ninive: Zur Relativen Chronologie der Frühen Perioden Nordmesopotamiens*. Philipp von Zabern, Mainz.

Al-Houdalieh, S. H. A. 2008. Ottoman Clay Tobacco Pipes. *Liber Annuus* 58: 455-477.

Kozłowski, S. K. 1999. *The Eastern Wing of the Fertile Crescent*. BAR International Series 760, Archaeopress, Oxford.

Lloyd, S. and F. Safar 1945. Tell Hassuna: Excavations by the Iraq Government Directorate General of Antiquities in 1943 and 1944. *Journal of Near Eastern Studies* 4(4): 255-289.

Matthews, R., W. Matthews, K. Rasheed Raheem and A. Richardson (eds.) 2020. *The Early Neolithic of the Eastern Fertile Crescent: Excavations at Bestansur and Shimshara, Iraqi Kurdistan*. Central Zagros Archaeological Project Reports vol. 2, Oxbow, Oxford and Philadelphia.

Merpert, N. Ya. and R. M. Munchaev 1993. Yarim Tepe I. In N. Yoffee and J. J. Clark (eds.), *Early Stages in the Evolution of Mesopotamian Civilization: Soviet Excavations in Northern Iraq*, pp. 73-114. University of Arizona Press, Tucson.

Miglus, P. A., U. Bürger, R. A. Fetner, S. Mühl and A. Sollee 2013. Excavation at Bakr Awa 2010 and 2011. *Iraq* 75: 43-88.

Mohammed, N. A. 2017. *Les sites archéologiques de la region de Šāhrazūr dans la province autonome du Kurdistan*. Private Edition, Sulaymaniyah.

Mortensen, P. (ed.) 1970. *Tell Shimshara: The Hassuna Period*. Munksgaard, Copenhagen.

Nieuwenhuyse, O. 2008. *Plain and Painted Pottery: The Rise of Neolithic Ceramic Styles on the Syrian and Northern Mesopotamian Plains*. Brepols, Turnhout.

Nieuwenhuyse, O. 2018. In the Shahrizor. Reassessing the Halaf Ceramic Traditions of Iraqi Kurdistan. In A. Gómez-Bach, J. Becker and M. Molist (eds.), *II Workshop on Late Neolithic Ceramics in Ancient Mesopotamia: Pottery in Context*, pp. 45-57. Monografies del MAC 1, Museu d'Arqueologia de Catalunya, Barcelona.

Nieuwenhuyse, O. and S. Mühl 2016. Halaf and Ubaid Period Settlement: A View from the Central Zagros Piedmont. *Studia Chaburensia* 6: 27-56.

Nieuwenhuyse, O., T. Odaka, A. Kaneda, S. Mühl, K. Rasheed and M. Altaweel 2016a. Revisiting Tell Begum: A Prehistoric Site in the Shahrizor Plain, Iraqi Kurdistan. *Iraq* 78: 103-135.

Nieuwenhuyse, O., T. Odaka and S. Mühl 2016b. Halaf Settlement in the Iraqi Kurdistan: The Shahrizor Survey Project. In K. Kopanias and J. MacGinnis (eds.), *The Archaeology of the Kurdistan Region of Iraq and Adjacent Regions*, pp. 257-266. Archaeopress, Oxford.

Nishiaki, Y. 1993. Anatolian Obsidian and the Neolithic Obsidian Industries of North Syria: A Preliminary Review. In H.I.H. Prince Mikasa (ed.), *Essays on Anatolian Archaeology*, pp.140-159. Otto Harrassowitz, Wiesbaden.

Odaka, T. 2019. Neolithic Potsherds from Matarrah, Northern Iraq: The Collection of the University Museum, the University of Tokyo. In S. Nakamura, T. Adachi and M. Abe (eds.), *Decades in Deserts: Essays on Near Eastern Archaeology in honour of Sumio Fujii*, pp. 251-260. Rokuichi Syobou, Tokyo.

Odaka, T. in press. Tell Begum, Shaikh Marif, and Shakar Tepe: The Late Neolithic Pottery in the Shahrizor Plain, Iraqi Kurdistan. In H. Darabi, T.

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University

Richter and P. Mortensen (eds.), *The Epipalaeolithic and Neolithic in the Eastern Fertile Crescent: Revisiting the Hilly Flanks*. Routledge, London.

Odaka, T., O. Maeda, K. Shimogama, Y. S. Hayakawa, Y. Nishiaki, N. A. Mohammed and K. Rasheed 2020. Late Neolithic in the Shahrizor Plain, Iraqi Kurdistan: New excavations at Shakar Tepe, 2019. *Neo-Lithics* 20: 53-57.

Odaka, T., O. Maeda, K. Shimogama, Y. S. Hayakawa, Y. Nishiaki, N. A. Mohammed and K. Rasheed in press. Late Prehistoric Investigations at Shakar Tepe, the Shahrizor Plain, Iraqi Kurdistan: Preliminary Results of the First Season (2019). In *The Proceedings of the 12th International Congress on the Archaeology of the Ancient Near East*. Harrassowitz Verlag, Wiesbaden.

Odaka, T., O. Nieuwenhuyse and S. Mühl 2019. From the 7th to the 6th Millennium BC in Iraqi Kurdistan: A Local Ceramic Horizon in the Shahrizor Plain. *Paléorient* 45(2): 67-83.

Thompson, R. C. and M. E. L. Mallowan 1933. The British Museum Excavations at Nineveh, 1931-1932. *Annals of Archaeology and Anthropology* 20: 71-186.

Tsuneki, A., K. Rasheed, S. A. Saber, S. Nishiyama, R. Anma, B. B. Ismail, A. Hasegawa, Y. Tatsumu, Y. Miyauchi, S. Jammo, M. Makino and Y. Kudo 2015. Excavations at Qalat Said Ahmadan, Slemani, Iraq-Kurdistan: First Interim Report (2014 Season). *Al-Rāfidān* 36: 1-63.

Uçar, H. 2019. Archaeological Proof of Enjoy at Tire Kutu Han: Clay Pipes. *Mediterranean Archaeology and Archaeometry* 19(2): 119-134.

Wengrow, D., R. Carter, G. Brereton, M. Shepperson, S. J. Hamarashi, S. A. Saber, A. Bevan, D. Fuller, H. Himmelman, H. Sosnowska and L. Gonzalez Carretero 2016. Gurga Chiya and Tepe Marani: New Excavations in the Shahrizor Plain, Iraqi Kurdistan. *Iraq* 78: 253-284.

© Institute for the Study of Ancient Civilizations and Cultural Resources, Kanazawa University