

# Tell el-Murra (Northeastern Nile Delta Survey): Research in 2018 and 2022



**Abstract:** Work in the 2018 and 2022 archaeological seasons at the site of Tell el-Murra, located in the northeastern Nile Delta, continued in two areas: the settlement (Trench T5), and the cemetery (Trench S3). The research yielded valuable information on the appearance and function of the settlement, whose origins date back to the 4th millennium BC. It undoubtedly flourished during the Early Dynastic period and in the beginning of the Old Kingdom. This is evidenced by numerous remains of utility and storage buildings, in which a large number of fragments of ceramic vessels, as well as stone and flint objects for grain processing and breadmaking have been discovered. An integral part of the settlement was the cemetery, where the deceased were buried in simple pits and cavity graves, as well as in more elaborate built-up structures.

**Keywords:** Nile Delta, Tell el-Murra, Early Dynastic, Old Kingdom

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## INTRODUCTION

Tell el-Murra is located in the northeastern part of the Nile Delta, in a settlement cluster stretching between the middle and lower courses of the ancient Mendesian and Pelusiac Nile branches (Małecka-Drozd 2021: Fig. 1, Table 1). It is one of a group of sites that provide essential information for reconstructing and understanding the processes taking place in the Nile Delta area at the

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time of the formation of the Egyptian state, i.e., during the late 4th and early 3rd millennium BC (van den Brink 1992; 1993; Köhler 2008; Chłodnicki, Ciałowicz, and Mączyńska 2012; Midant-Reynes and Buchez 2014; Ciałowicz 2018b). The discoveries at Tell el-Murra to date have allowed a pool of data to be collected, making it possible to outline the development of the settlement and answer important questions concerning the history of settlement in the eastern Delta area (Jucha 2014; 2016; 2018; 2020).

The site was identified in the 1980s by a team from the University of Amsterdam (van den Brink et al. 1989). Since 2008, it has been an object of research conducted by the Jagiellonian University and led by Mariusz Jucha (2009; 2010; 2011). The first sondage at Tell el-Murra was dug in 2010 (Jucha et al. 2013; Jucha, Bąk-Pryc, and Czarnowicz 2014), and from 2012 the project was transformed into full-scale excavations (Jucha, Bąk-Pryc, and Małecka-Drozd 2015; Jucha et al. 2016; 2017; 2018). Past research led to the establishment of a general chronology of the site and to distinguishing two main zones within the area under investigation.

Like other neighboring settlements, Tell el-Murra was occupied from the time of the Lower Egyptian Culture, more precisely its later phase dating from about 3500 BC. After a possible hiatus in the Naqada IID2/IIIA1 period, which may have been caused by a catastrophic Nile flood at the end of the Lower Egyptian Culture (Jucha and Bąk-Pryc 2016: 100–101; Bąk-Pryc 2018: 49–51; Jucha et al. 2018: 151–152), the site was reoccupied by people associated with the southern-derived Naqada culture, more specifically

its later phase, Naqada III (Jucha 2014; 2016). The settlement they inhabited survived through the 3rd millennium BC, in contrast to many other sites (Jucha 2016; Małecka-Drozd 2021). The latest traces of activity at the settlement date to the end of the Old Kingdom, i.e. the time of the Sixth Dynasty, about 2200 BC.

The site was divided into two main areas occupying the northeastern and the southwestern parts of the tell. This division was probably related to natural conditions, i.e. the original extent of land protruding above the level of annual flooding. Initially, the entire accessible area was presumably covered by settlement, and no traces of a Lower Egyptian cemetery have been found to date. The structures dated to this earliest period have been identified in parts of the tell located in the southwest (Trench S3B) (Jucha et al. 2016: 100–101; Bąk-Pryc 2018: 49–51; Jucha et al. 2018: 151–152) and southeast (Trench S4). From at least the Early Dynastic (Naqada IIIB) period, the southwestern part of the site was used as a cemetery, but proto-Dynastic and Early Dynastic settlement structures were also identified on the northern and western peripheries of the burial ground. The residential and utility area was located in the northeastern part of the site, within Trench T5, dating at least from the Early Dynastic period. At the beginning of the Old Kingdom, the settlement area at Tell el-Murra was restricted to the northern part of the tell (Jucha et al. 2016: 101). To date, however, no cemetery from this period has been identified.

During the 2018 and 2022 excavation seasons, work on the site continued within Trenches T5 and S3. The main objec-

tives of the research in Trench T5 were to reach the lower layers associated with the buildings of the second part of the Early Dynastic period, and to identify the older structures below. Within Trench S3,

work focused on the exploration of graves whose outlines had been uncovered in previous seasons and on the investigation of the layers below the graves to identify older phases of settlement at the site.

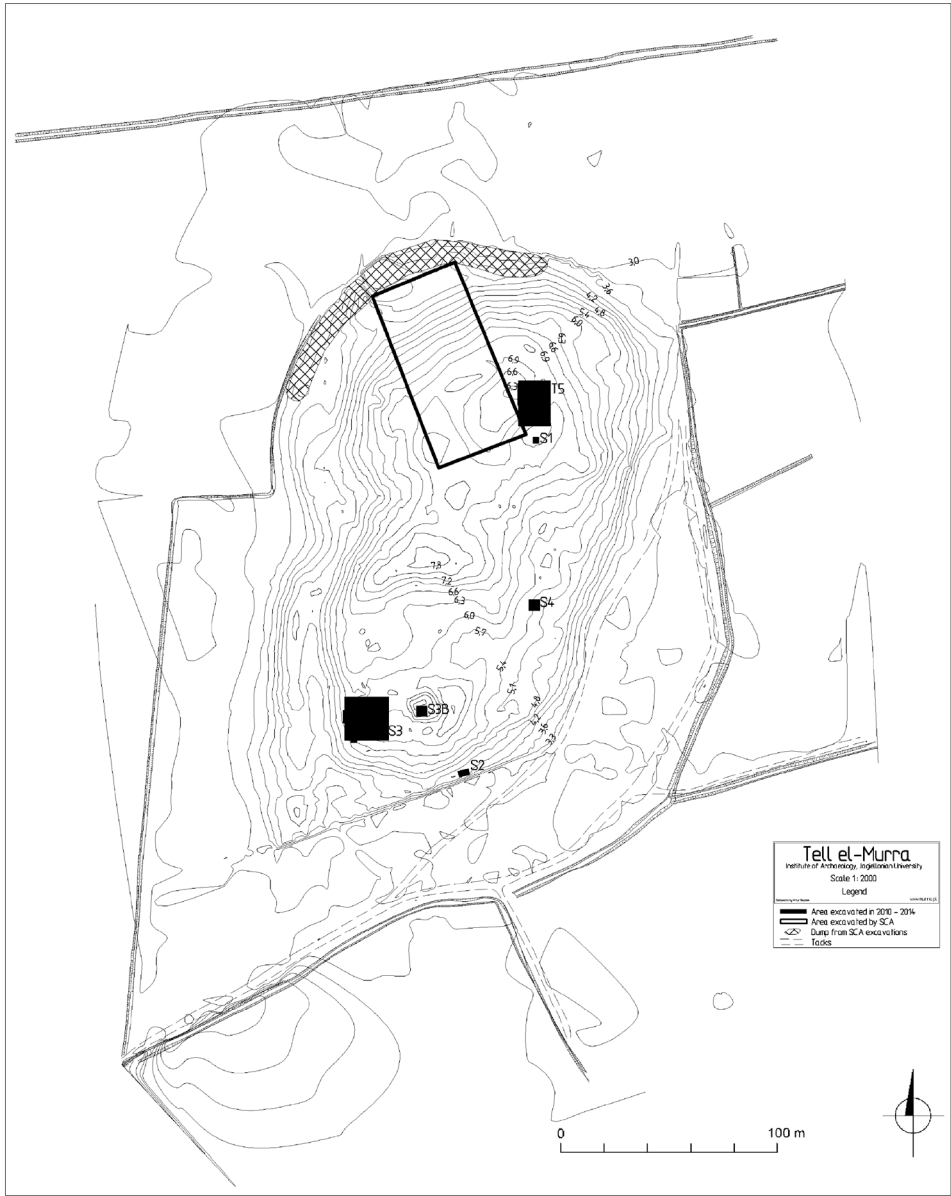


Fig. 1. Plan of the site (Drawing A. Buszek)

## TRENCH T5

Trench T5, located in the northeastern part of the tell [Fig. 1], was only explored during the 2018 season. The division of the excavation into northern and southern parts of the trench, initiated during the 2015 season (Jucha et al. 2017: 138ff; 2018: 156ff), was retained. Most of the work was undertaken in the northern part of the trench (Are R7, Squares S7AC, southern ends of Squares R6CD and S6C), where settlement remains were excavated from Level 32 (altitude 4.50 m) to Level 36 (altitude 4.10 m). The archaeological material confirmed the chronology of the structures revealed there as Early Dynastic, i.e. the later part of the period, or stage IIIC2-D of the Naqada culture (Jucha et al. 2017: 138–142; 2018: 156–163; see below). The southern part of the trench (Are R8, Squares S8AC) was explored to a more limited extent, from Level 23 (altitude 5.40 m) to Level 25 (altitude 5.20 m).

The work carried out in the northern part of the excavations helped to answer some questions related to the phases of use of the settlement in the second half of the Early Dynastic period. However, the detailed relationships between individual buildings and even rooms within them are still unclear. Due to intensive activity within most of them and the resulting complexity of the archaeological record, detailed stratigraphic analysis and studies on different categories of finds are still in progress (see notes on pottery, flints, and paleobotany in this paper). For this reason, the interpretations presented herein should be regarded as preliminary.

At this research stage, the existence of at least three phases of use, divided into a still unspecified number of shorter sub-phases, can be assumed. The youngest phase essentially comprises the remains exposed up to Level L28, and it has already been described in previous reports (Jucha et al. 2016: 111–113; 2017: 139–142; 2018: 157–159). Structures attributed to this phase were also exposed during the 2018 season in the southern part of Trench T5 [Fig. 2]. Lower down, traces were recorded of the deliberate filling of some of the pre-existing rooms with rubble in order to level them and to rearrange other compartments. Levels associated with this phase of use were partly exposed during the 2017 season and early in the 2018 season, as far as Level L33. Finally, on Levels L33–L35, explored during the 2018 season, the floor levels of a large number of rooms were exposed [Fig. 3]. The outlines of structures visible partly on Level L35 and in the ceiling of Level L36, the last one exposed in 2018, suggest that there may have been a change in the organization of buildings between this and the still older phases of settlement, at least in the central and western zones of the northern part of Trench T5.

After breaking through the layers of brick rubble deposited in some of the rooms in the northern part of the excavated area, it became apparent that some of the furnishings of the investigated buildings were preserved *in situ*. This particularly concerned ceramics and some small objects [Figs 4, 5]. In the western zone, the layout of the rooms did not change significantly, although the con-

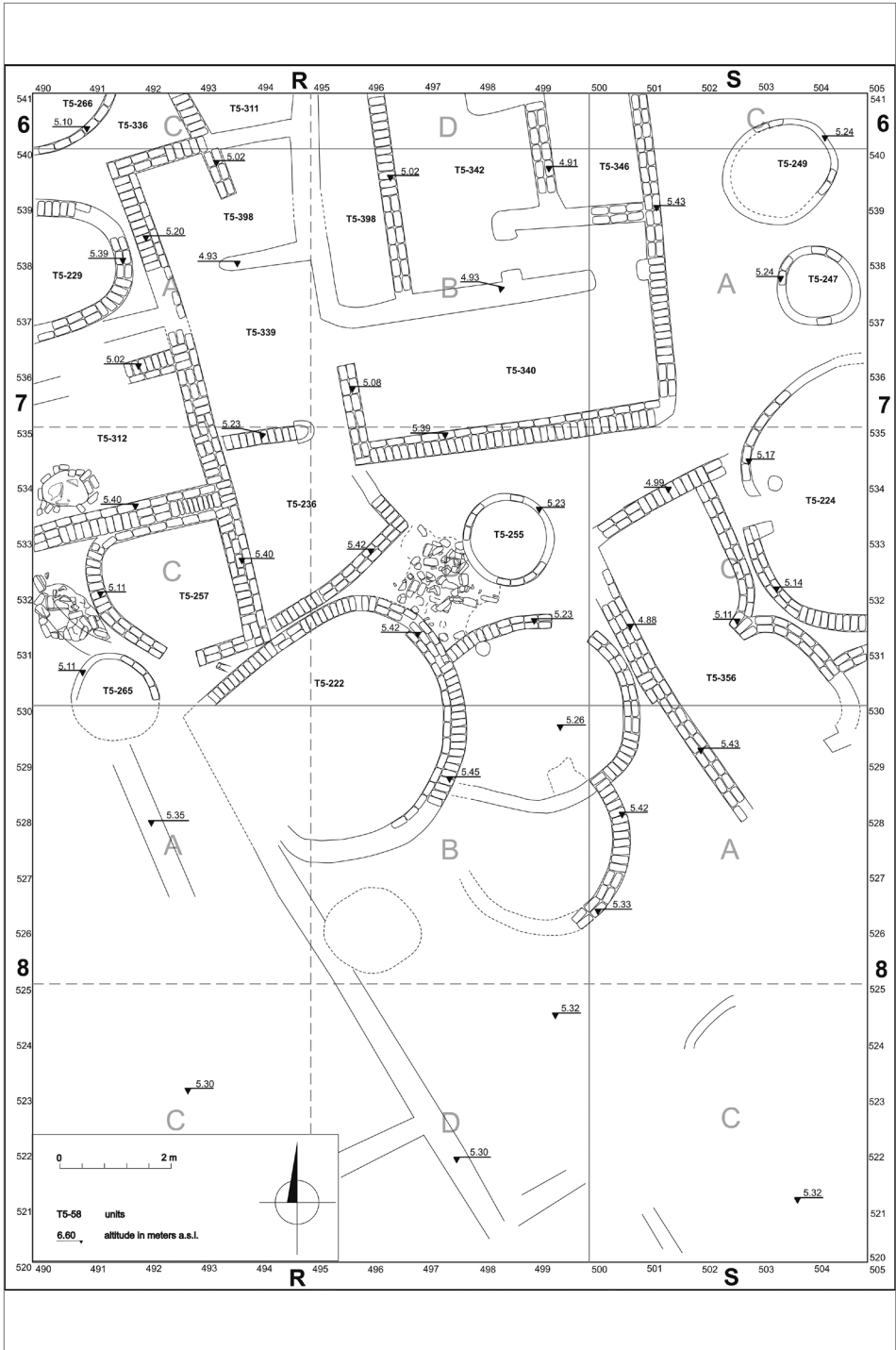


Fig. 2. Plan of Trench T5 (Drawing N. Małeck-Drozd)

nection between this part of the complex and the Central Unit became more pronounced through a series of small compartments in the north and an arched wall in the southern part [see *Fig. 3*]. The central part of this zone of the complex is unfortunately poorly preserved due to a large robber trench (over 2 m × 3 m) that was dug in this location during our absence between the 2017 and 2018 seasons. The most significant changes took place in the southernmost room in this zone. On the site of an earlier silo [cf. *Fig. 2*], a rectangular room was built, and in it were the remains of at least two vats: one was still *in situ*, and fragments of the other were found nearby [see *Fig. 4a*]. Both vats were originally positioned along the southern wall of the room and possibly embedded in a floor level. A small bowl and a flint knife were found next to them.

Fragments of bowls and beer jars were also found in smaller compartments to the north, but were less well preserved.

A relatively well-preserved floor level was also identified within the Central Unit [see *Figs 3, 4b*]. The latter designation refers to a zone recognized within residential houses of the Old Kingdom, especially within the Heit el-Ghurab settlement at Giza (Lehner, Kamel, and Tavares 2009: 17, *Figs 8–9*), but also at other sites (Moeller 2016: 192–213, *Figs 6.2a–6.2b*). However, in light of the findings at Tell el-Murra to date, the residential function of the Central Unit seems unlikely. In one of the rooms open to the compartments located in the western part of the excavated area, a large cluster of ceramic nails was found [see *Figs 5, 6*]. Their purpose is still unclear, but finds from other sites (Tei-



Fig. 3. Architectural structures of Trench T5. Later Early Dynastic period (Photo E. Kuciewicz)



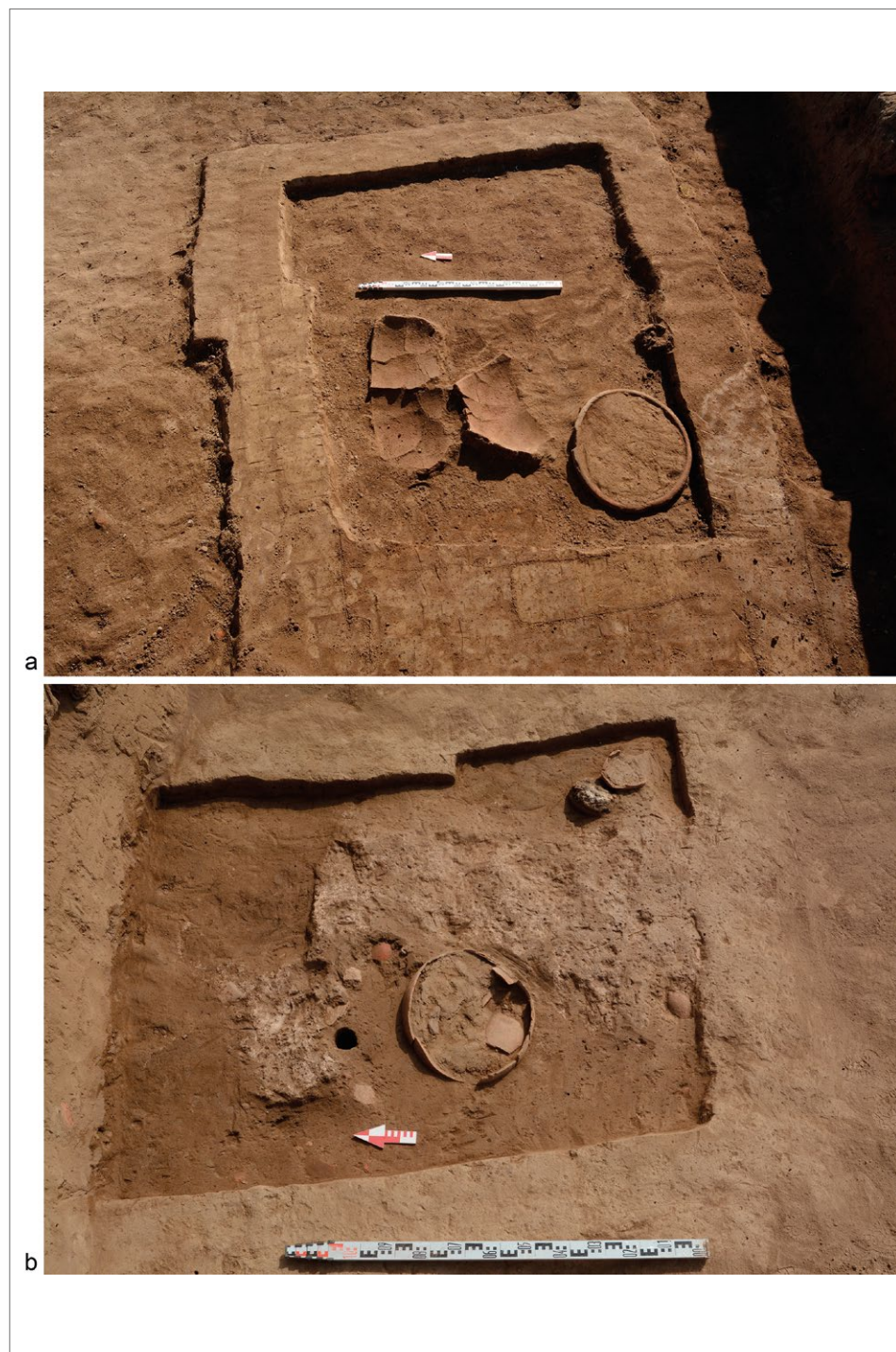


Fig. 4. Early Dynastic floor levels with pots found *in situ* in Trench T5 (Photos E. Kuciewicz)



tge 1997: 232ff; Chłodnicki 2012a: 30–31, Fig. 23; 2012b: 111, Fig. 11) allow them to be linked to intensive economic activity. One of the possible explanations of their presence may be related to salt production (Wilde and Behnert 2002). In another room, located in the eastern part of the building, a large bowl, partly embedded in the floor, was identified alongside a number of other, fragmented vessels [see Fig. 4b]. All of these findings testify to some form of economic activity, perhaps food preparation. In addition, at the time of the deposition of the items described above, or only slightly earlier, the Central Unit had an eastern extension that could be accessed from a room or courtyard located in the southern part of the complex. However, it appears to have been demolished rather quickly and the passage was blocked. Later, the area was built over with arched walls added directly to the Central Unit, or freestanding, circular silos [cf. Fig. 2].

Buildings located in the southeastern zone of this part of the excavation did not undergo any significant changes, while the space between them and the rest of the complex clearly increased again. The irregular room to the west of the oval structure turned out to be more regular in its lower levels, and further exploration confirmed its primary division into at least two rooms. After removing a layer of brick rubble, the northern room revealed a cluster of broken vessels and bones. As for the oval room that extended further east, below the eastern section of the trench, it can be assumed that it was one of the earliest structures in this phase. The possible floor level of the room, together with passages

leading to the north and west, as well as the northern extension, had already been identified slightly below the level of floors exposed in the Central Unit. At the time when these doorways were used, the rooms to the west of the oval structure were not yet erected. An alternative explanation is the existence of a slope in this part of the excavated area, meaning that the ground on which the Central Unit stood was located at a higher level. The most significant find from this building was a clay jar stopper with seal impressions, found in the southern room of the structure. In the northern compartment, a single human mandible was found among the fragments of pottery (mainly bread molds) and fired bricks. The context of the find suggests that it was isolated and not indicative of burials in this part of the settlement.

In the southern part of Trench T5, further walls connected with the structures to the north were exposed during the 2018 season. These findings allowed the reconstruction of the youngest development phase dated to the Early Dynastic period for almost the entire area of Trench T5 [see Fig. 2]. These were primarily curvilinear structures located in the central part of the study area. At this stage of excavations, three interconnected rooms could be identified. It is likely that they were originally incorporated into the rectangular space created between the long wall oriented to the northwest, located to the west of the structures mentioned above, and the irregular rooms to the east, already discussed in a previous paper (Jucha et al. 2018: 158–159). Due to heavy damage and the mixed character of the southernmost part of the excavation, access to at least one of these rooms

was only possible from the north. It is uncertain what the southern surroundings of these structures looked like. The purpose of the curved and oval structures is not entirely clear, and their function as granaries is only one of several possibilities (cf. Malecka-Drozd and Kazimierczak 2021). The western zone (Squares R8AC) was presumably occupied by some kind of open space, perhaps a courtyard, although fragments of masonry of undetermined purpose were found there as well. The buildings identified in the southern part of Trench T5, as well as those located on the southeastern fringes of the northern part of the trench, were probably part of a single building complex, as shown by their uniform orientation and the interconnectedness of the individual structures.

The repertoire of vessels derived from both parts of Trench T5 comprises a narrow range of forms, which indicates mainly production activities in the discussed area. Among them, the most numerous are pieces of bread molds [Fig. 7:1]. They represent specimens slightly shallower in shape and with a bigger rim diameter than the Old Kingdom forms. Some of them have slightly thickened inner parts of the rims, hinting at the beginnings of the internal ledge type. Fragments with potmarks were noted as well. The bread molds were accompanied by large vats [Fig. 7:2] and big bowls, which together constituted a set designed presumably for bread-baking. However, big, open forms could also have been connected with beer production, an activity also indicated by frequently represented



Fig. 5. Cluster of ceramic nails (Photo E. Kuciewicz)

beer jars. The most dominant among them were examples with distinguished shoulders, simple or slightly thickened rims, rounded bases and scraped outer surfaces [Fig. 7:3–4]. However, slender specimens with narrow shoulders, pointed or rounded bases, and fingerprints on the surfaces were also still present in the layers described above. A few examples of the spouted bowl [Fig. 7:10], probably used for pouring beer into jars or for measuring and transferring grain, were also found in the pottery assemblage; there were also sporadic finds of other storage jars, including medium-sized jars with smoothed surfaces and good-quality large jars with very broad shoulders. In addition, worth noting are specimens of a narrow, torpedo-shaped wine jar with a simple appliqué band. They represented

the later types in the sequence of this vessel, occurring towards the end of the Naqada III period. A set of vessels for serving purposes, i.e., used for presentation, preparation and eating food, were represented by coated and polished or burnished bowls with convex sides and differently shaped rims, such as simple, curved inner and thickened outer rims [Fig. 7:3–7], red-burnished plates [Fig. 7:8], and shallow plates with surfaces only slightly smoothed.

The set of vessels is also complemented by several very small bowls of different shapes. The majority of the described forms are not good chronological markers, however, because they were in use over quite a long period and, therefore, occurred over a broad time span. However, some of the vessel types — especially bread molds and beer jars — let us determine the chronology slightly more precisely. This regards, in particular, layers explored within the northern part of Trench T5, which were dated, based on the pottery, to the Naqada IIIC2/D phase (the end of the Early Dynastic period). In turn, analysis of the assemblage from the levels explored in the southern part of Trench T5 indicate that in this area we are probably dealing with a transitional phase between Naqada IIIC2/D and the beginning of the Old Kingdom. The majority of the forms occurring in this zone (such as bread molds and beer jars with scraped surfaces, but also narrow, torpedo-shaped wine jars) are connected with the end of the Early Dynastic period. A few Old Kingdom forms, such as beer jars with wavy surfaces and Meidum bowls, are still present, although in decidedly smaller quantities.



Fig. 6. Ceramic nails. Early Dynastic period (Photo E. Kuciewicz)

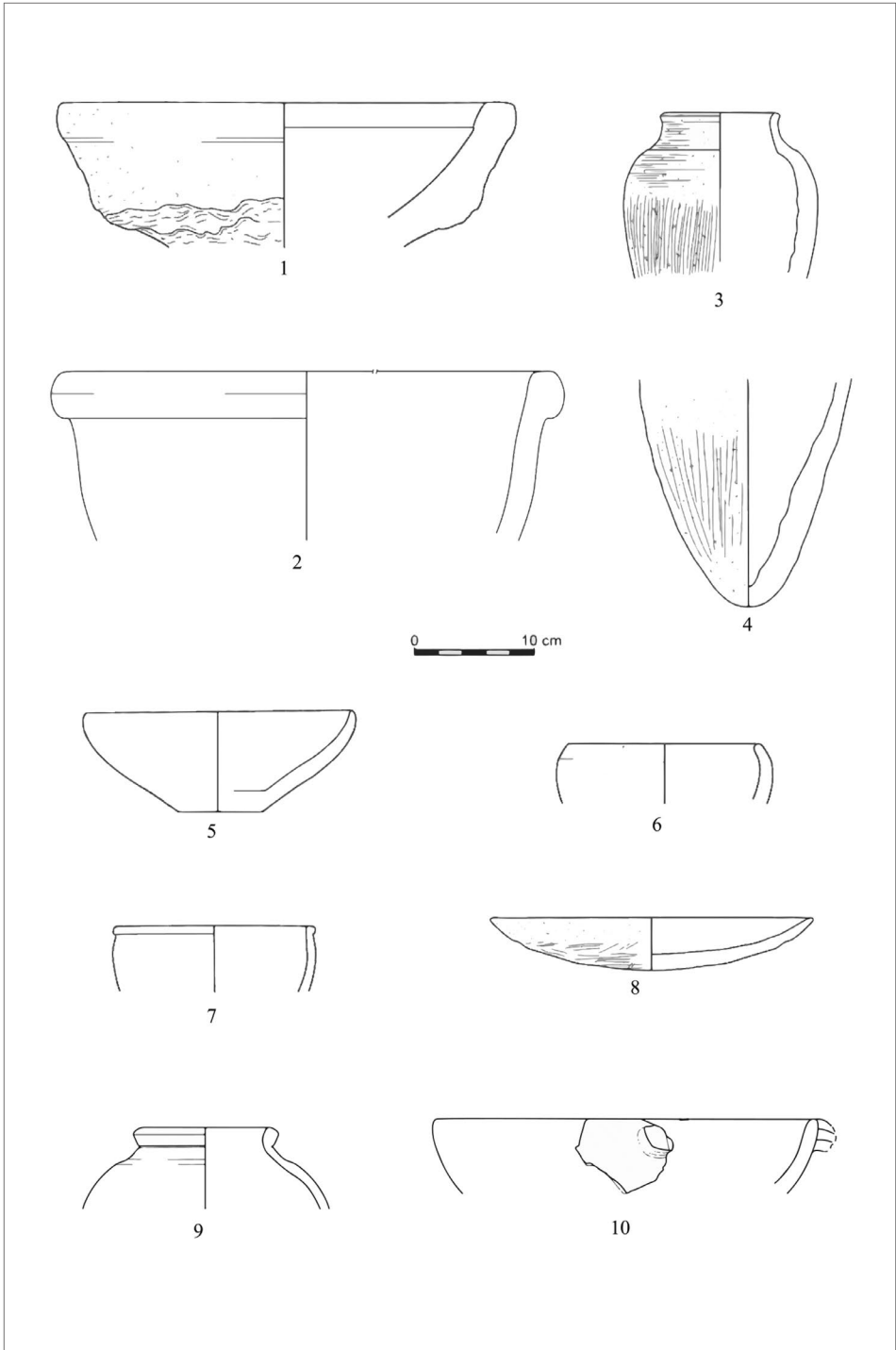


Fig. 7. Repertoire of vessels from Trench T5 (Drawing M. Kazimierzak, digitizing U. Bąk)

In Trench T5, 601 flint artifacts were discovered. These finds can be divided into two main chronological groups. The first one comprises 334 artifacts in an inventory related to the Early Dynastic layers. It consists of 257 tools, 40 pieces of debitage, and 37 non-characteristic forms. The domination of tools is clearly visible. This is typical for inventories dated to the Early Dynastic and Old Kingdom periods, when the vast majority of blanks and tools were not produced on site, but were imported as finished items from specialized workshops (Kobusiewicz 2015: 10–11). The most numerous category of Early Dynastic tools obtained from Trench T5 is that of blade segments: sickle blades (29% of specimens) and blade inserts without sickle gloss (58%). The first type was characterized by bi-truncated ends and denticulated retouching of the working edge with intense sickle gloss. The segments of the second type are similar in shape and form, having truncated short ends and long edges with continuous retouching instead of denticulation and no visible sickle gloss. Other types of tools are far less numerous. Among them, one should mention retouched blades and flakes, flint pounders and grinders, fragments of bifacial knives, so-called razor blades, scrapers, perforators, and combined tools. Early Dynastic



Fig. 8. Flint knives from Trench T5 (Photo K. Lajs-Klose)

bifacial knives found in the settlement represent features typical of knives dated to this period: a hooked handle, curved blade, and concave back [Fig. 8].

The so-called razor blades are akin to the finds known from other sites dated to the same period. These tools were made on massive blades with trapezoidal cross-section, and the shorter edges were formed by retouching the scraping edge in the upper part and truncation in the lower part of the specimen. A less regular retouching on the longer edges is often visible as well [Fig. 9, *left*]. The Old Kingdom flint inventory comprised 200 artifacts. Similarly to the previous period, it contains mostly tools — in total 142 specimens; also 51 forms from the debitage category were identified, and seven non-characteristic artifacts. Among the tools, sickle blades (34%) and blade inserts (50%) were again the most numerous. Other Old Kingdom tools included retouched blades and flakes, pounders and grinders, possible razor blades [Fig. 9, *right*], scrapers, blade knives and less numerous other forms. In terms of typology and technology, the Old Kingdom



Fig. 9. Razor blades from Trench T5 (Photo K. Lajs-Klose)



inventory constituted a continuation of the assemblage of the Early Dynastic period. However, there was a certain decline in terms of standardization and general

quality of the tools. The remaining 66 flint artifacts came from uncertain or disturbed contexts and were therefore excluded from the analysis.

## TRENCH S3

Research in the Early Dynastic cemetery (Trench S3) in the southwestern part of the tell was carried out in the 2018 and 2022 seasons [Fig. 10]. In 2018, the L18 surface level (altitude 4.50 m) of the entire Are J22 was cleared. In the central part,

almost at the junction of all squares, the clearance revealed a fragment of a rim of a ceramic vessel located inside a structure with a regular, nearly rectangular shape and northeast/southwest orientation. Within this vessel, remnants of an

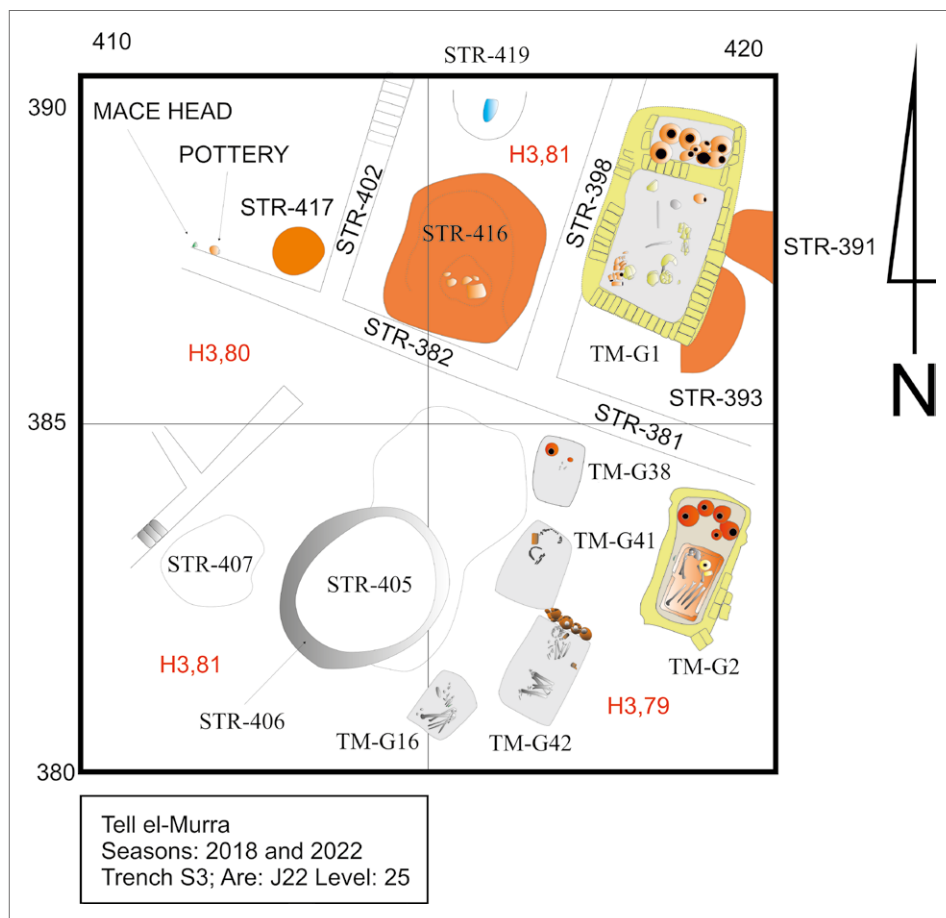


Fig. 10. Plan of Trench S3 during the 2018 and 2022 seasons (Drawing G. Bąk-Pryc)

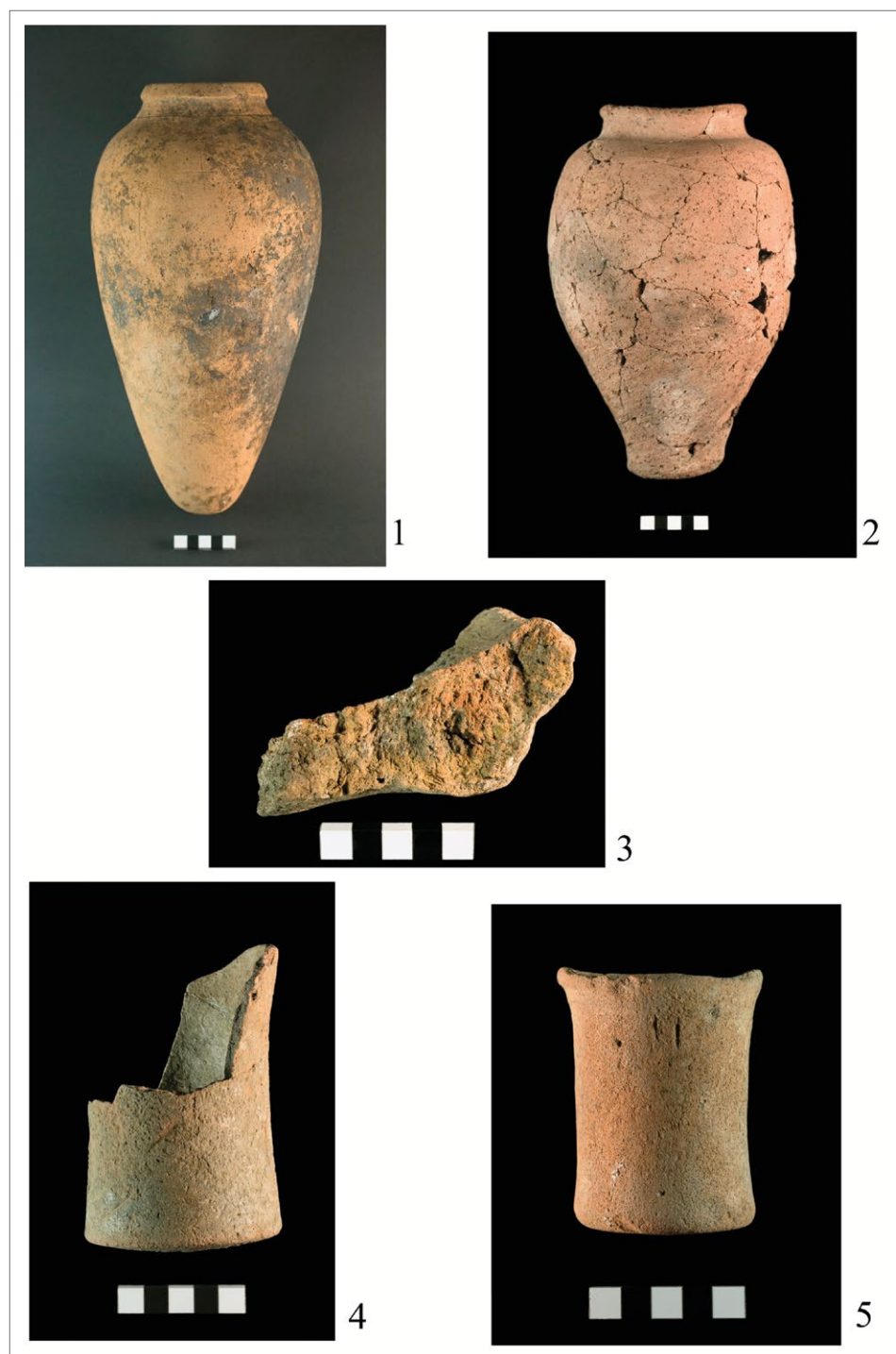


Fig. 11. Pottery from Trench S3 (Photo E. Kuciewicz)

organic mat were preserved in the form of bright, regular and clearly visible precipitates. Further research permitted to identify the structure as Grave 41. It was excavated in layers 5 cm thick, completely exposing the remains of the aforementioned mat, which had originally covered the body of the deceased. The body had been deposited in a shallow, rectangular pit, in a supine position on the left side and with the head to the northwest. At the time of discovery, the state of preservation of the bones was very poor. All that remained was a negative area and a small cluster of skull bones. The equipment deposited with the deceased included a very small, low cylindrical jar [Fig. 11:5]. In addition, dozens of small faience beads were discovered in the area of the head and chest.

After clearing the L19 surface level throughout the excavated area, the outlines of a room with only two visible walls were observed in Square J22B: Wall 231 (distinguished in the 2011 season as Structure 19) was oriented northeast/southwest, and Wall 381 northwest/southeast. In the western part of Square J22A, in turn, a small stretch of wall (382) with a northwest/southeast orientation and a width of one brick was discovered. This wall disappeared in the eastern part of the trench and continued westward and into the main part of the study area. Characteristically, the structures were made of silt bricks. The entirety of these architectural structures was surrounded by sedimentary/cultural layers characterized by loose or cohesive texture, light in color, with numerous traces of burning,



Fig. 12. Grave 42 (Photo G. Bąk-Pryc)

which served as evidence of hearths. In the southern part of the surveyed area was a fairly regular structure, quasi-rectangular in shape and resembling a grave superstructure. Its fill was a strongly cohesive and light-colored layer with silty precipitates (378). A part of this structure continued southward, reaching the main profile of Are J22.

After excavation to Level L19 (altitude 4.40 m), the exposed surface was cleared throughout the entire area under study. In the southeastern part (Square D), the outlines of the rims of three pottery vessels were exposed. On the northern side, they were adjacent to a regular structure with a light-colored and cohesive fill, with silty inclusions. Further excavation permitted to identify this feature as Grave 42 [Fig. 12]. The body of the deceased was deposited in a rectangular pit with a northeast/southwest orientation, in a supine position, on the left side, and covered with an organic mat. The state of preservation of the bones at the time of discovery was in part very poor, although the lower and upper limbs

and skull of the deceased were visible. The funerary equipment consisted of six pottery vessels. Among them were two medium-sized ovoid jars with marked but relatively narrow shoulders and slightly smoothed surfaces [Fig. 11:1]. Both were marked with symbols. One of the vessels had a mark on the rim, while the other bore potmarks on the shoulders. Two other vessels of rough ware were small, broad-shouldered jars with a concave lower part of the body narrowing towards a flat base [Fig. 11:2]. One of these jars had a potmark engraved on the base. All of the vessels were arranged in a row and probably stood outside the pit of Grave 42, directly near its northern border. Excavation of the grave yielded two other vessels placed inside: a fragment of a bread mold [Fig. 11:3] and a very small, low cylindrical jar. A diagnostic rim fragment of a bread mold was found in the right hand of the deceased, which was placed directly opposite his face and mouth. In addition, a very small, low cylindrical jar [Fig. 11:4] was discovered next to the eastern wall of the grave pit. Residues of a white mat visible on the surface of the vessel clearly suggest that the item was covered with this kind of organic material, which was probably also placed over the body of the deceased and the other grave goods inside the pit. Unfortunately, the vessel types discovered in the described graves are not chronological markers of specific phases of the Naqada III period, as they occur over a broad time span covering the First Dynasty. For this reason, it is difficult to date Graves 41 and 42 with precision. However, these burials may have been deposited during the Naqada IIIC period. Thus, they have been assigned to the third chronological group



Fig. 13. Flint knife from Trench S3 (Photo K. Lajs-Klose)



of graves distinguished at the cemetery in Tell el-Murra (Kazimierczak 2021). After the exploration of these graves, further work was carried out in the entire study area, distinguishing sedimentary layers of light color and cohesive texture, with silty inclusions and numerous traces of burning.

During excavations in 2018, 635 flint artifacts were discovered (Trenches T5 and S3), of which 34 were found in the cemetery (S3). This inventory can be dated to the Early Dynastic period. It includes 16 tools, 12 pieces of a debitage, and six non-characteristic finds fitting into the category of chips and chunks. In the category of tools, retouched flakes and blades, as well as two types of inserts for compound tools described above were the most numerous. In addition to inserts, two fragments of blade knives and

one flint pounder were also discovered. The blade knives, contrary to bifacial ones, were retouched only on the edges. The best-preserved specimen has one edge with semi-steep retouching on the dorsal and opposite side, and multiplied flat retouching on the ventral side [Fig. 13]. Similar knives were found, for example, in the Early Dynastic layers in Tell el-Farkha (Kabaciński 2012: 324, Fig. 8: 2, 3). Work in the 2018 season in Trench S3 was completed at Level L22 (altitude 4.10 m).

After a hiatus due to the Covid-19 pandemic, research resumed in 2022 with the clearing of the entire Are J22 at Level L22 (altitude 4.10 m), uncovering structures that had not been investigated in the previous season. In the northern part, the clearly visible outline of the northeast/southwest oriented Wall 382 abutted the corner of the room in which



Fig. 14. Fireplace in Trench S3 (Photo G. Bąk-Pryc)



Grave G1 (explored during the first research seasons in 2010) was constructed at a later date. The bottom parts of this grave's burial chamber walls were still visible, and its southeast corner partly cut a burned layer and fireplace (393), offering an indication of the stratigraphic and chronological relationship between the two features. Grave 1 was clearly later, and it was dug into older structures and strata of sedimentary character. In the central part of Square J22A, a sand brick wall was visible (Structure 411). On the north side, it met the aforementioned Wall 382, forming a corner of perhaps a larger room. Right next to it, on the inside, another fireplace (417) of relatively small size was discovered. It was clearly visible on discovery at Level 25 (altitude 3.80 m). Its shape was very regular and nearly circular. The fill of this fireplace

consisted of typical burnt layers in light, orange, white and dark colors. Inside the fireplace, on its western side, a small hole was visible. Entirely filled with silt at the time of excavation [Fig. 14], originally it might have held a ceramic vessel(?). In addition, a pottery vessel resembling a small jar was discovered to the west of this fireplace. It was found in a settlement layer (409), right next to Wall 382. An interesting observation was made in the central part of the strip between Walls 411 and the room in which the aforementioned Grave 1 was located. In the previous season, a large, ovoid structure with a silty fill had been recognized in this area. After removing a layer 10 cm thick, the fill changed from silty and highly cohesive to a more hearth-like stratum surrounded by an additional rim of light gray. It was visible particularly clearly on the northern,



Fig. 15. Settlement structures in Trench T5 (Photo G. Bąk-Pryc)

western and eastern sides of the structure in question. Isolated fragments of a large pottery vessel were exposed in the central part. The structure was at that point assigned a new inventory number, 416 [Fig. 15]. The exploration of the feature, which might be a large fireplace(?), will be continued next season. The structure was characterized by the presence of small pits with silt edges, very similar to the one discovered in Hearth 417 (see above). To the north of Structure 416, a small, circular pit with a dark brown fill was discovered. This feature partly extended into the northern profile of the trench, but its visible part was found to contain a fragment of a large grinding stone made from quartz sandstone. All of these ob-

jects and features were surrounded by a cultural layer, which yielded more than a dozen fragments of ceramic vessels, animal bones, as well as small stone and flint objects.

Interesting discoveries were made south of Wall 382, in Squares J22C and J22D. The work in the last research season began with the exploration of Structure 386, found in 2018. At the uppermost level, it was quite regular in shape, quasi-rectangular and oriented northeast/southwest. Further research led to its identification as Grave 16. The body of the deceased was deposited in contracted position, in a shallow cavity originally lined with an organic mat. The bones of the skeleton at the time of discovery were



Fig. 16. Silo in Trench S3 (Photo G. Bąk-Pryc)

very poorly preserved. The equipment left for the deceased included a fragment of a copper object—a type of spike—deposited near the hand. The skeleton itself was covered with an organic mat.

In addition, a circular structure (405) approximately 2 m in diameter and surrounded by a wall of silt bricks (406) was discovered at the junction of the southern squares (J22CD). The structure was interpreted as a silo. Fragments of similar features had already been discovered in this part of the tell at higher levels. Interestingly, the layer inside and outside the silo consisted of organic material with white discoloration. It may have constituted the remains of a chaff or threshing floor integral to this structure [Fig. 16]. A series of samples were collected for analysis during excavation. Lastly, a fragment of a narrow wall (422) with a northeast/southwest orientation was discovered in the western part of Square J22C at Level L26 (altitude 3.70 m). Its northern end terminated in the central area of this square, and the southern part continued into the section of the explored trench. All the mentioned features were embedded in a light-colored settlement and cultural layer, highly cohesive, with numerous darker-colored spots and fragments of ceramic vessels, animal bones, and stone and flint objects.

The flint inventory collected from the settlement layers of Trench S3 comprised 36 artifacts: 20 tools, six products of debitage and ten non-characteristic forms. The most numerous tools were sickle blades (35%) as well as retouched flakes and blades, blade inserts, blade knives, and a single backed piece. The

limited size of the inventory does not allow for a detailed analysis, but its character seems to fit in with the rest of the Early Dynastic inventory discovered at Tell el-Murra, and thus also with the assemblages known from other sites of this period.

The pottery assemblage collected within the probable settlement layers of Trench S3 consists of vessel types related mostly to Phase 5 (dated to Naqada IIIB-C1) distinguished at Tell el-Farkha (Ciałowicz 2018a: 7, Table 1), although some of the types also occur in the later part of Phase 4 (dated to Naqada IIIA1-B) (Ciałowicz 2018a: 7, Table 1). The repertoire of the forms is not very diverse, with only a few repeated types. They include, among others, specimens used strictly for food processing, such as bread molds. Their fragments found within the described area probably belong to rather older, shallow and wide specimens, characteristic for the earlier phases of the Naqada III period (Jacquet-Gordon 1981: 12, Fig. 1.1–4; cf. Mączyńska 2012: Figs 18.4–18.5). Fragments of bread molds are among the most frequently occurring forms in the entire collection. In addition, the analyzed material contained storage vessels. They include, among others, very tall, good-quality wine jars, such as examples with applique rope bands (cf. Köhler 1998: Taf. 60–61; Jucha 2005: Pl. 101), or specimens decorated with arches made probably with a finger in the wet clay (excess clay is visible on the upper edges of the arches) (cf. Köhler 1998: Taf. 59: 6–11; Jucha 2005: 102: 3–8). Other types of ceramic containers are medium-sized jars of good quality, with smoothed sur-



faces, as well as cylindrical jars, including an example with ornamentation presumably resembling a cord impression (Petrie 1953: Pl. IX: 48s), although the poor state of preservation of the surface does not allow for certainty. An important part of the ceramic set constitutes forms intended for serving and/or consuming food. The most common were bowls with an angular bend of the sides situated slightly below the rim or near the middle of the vessel (cf. Jucha 2005: Pls 56: 3–7, 57). Their surfaces were burnished and covered with slip. Bowls with convex sides and polished or burnished surfaces were also attested, as were examples with half-burnished outer surfaces. Apart from the abovementioned vessels, a few other forms were present but in very limited numbers. For exam-

ple, there were two almost completely preserved bag-shaped jars (cf. Sobas 2012: Fig. 2: 11, 12, 34). Several pieces of rough ware jars representing Petrie's types L30–31 (1921: Pl. XLVI) and R81, R84–86 (1921: Pls XLI–XLII) were also identified. In addition, among the finds was a single fragment with cut decoration of triangles, presumably belonging to a pot-stand. An interesting and recurrent element of the ceramic set recovered from the discussed strata includes pieces belonging perhaps to gutters or pot-stands (cf. Jucha 2021). The surfaces of their walls as well as their upper and lateral edges were smoothed. Better-preserved examples show that they had a U-shaped profile.

The fieldwork in the last season was completed at Level L27 (altitude 3.60 m).

## RESULTS OF ARCHAEOBOTANICAL RESEARCH

Work on the botanical material conducted in the 2018 and 2022 seasons focused on selected samples obtained from structures within the settlement (Trench T5), discovered and explored during and prior to the season. Soil samples of 2–3 L were taken and subjected to dry sieving using sieves with 0.5 mm and 1 mm mesh. The exception was a sample from the silo area (Are R8, layers of the structure 255, 265B, and 263), which had a volume of 7 L. Thanks to access to running water, it was cleaned by prior soaking. The other samples were cleaned by sifting the dried material through sieves with a mesh size of 0.1 mm and 0.5 mm, or presoaked and sieved. The material was examined under a standard portable stereoscopic magnifier with a magnification of  $\times 10$  in the

eyepiece and  $\times 20$  in the microscopic device. Seeds were the most abundant group of plant remains identified. When the samples were cleaned, a large accumulation of organic remains was observed, so they were selected for further botanical analysis. The material was documented using inventory data as well as photo and drawing documentation of the seeds. The assemblage was then compared with published data from other archaeobotanical collections from the Nile Delta region (Kubiak-Martens 2012: 431–432; de Vartavan, Arakelyan, and Amorós 2010: 153) and the Middle East. Dominant in the studied material were edible grasses and weeds of cultivated plants. The species distinguished within the individual plant groups are presented below [Table 1].

Table 1. Plant species identified among the archaeobotanical remains in the 2018 and 2022 seasons

Identification	Classification	Evidence (types of remains)
Barley	<i>Hordeum vulgare</i> L. [Fig. 17]	Kernels, lateral and central husks charred
	<i>Hordeum vulgare</i> L. var. naked	Charred rachis
	<i>Hordeum vulgare</i> L. var. pleached	Charred rachis
Wheat	<i>Triticum</i> sp.	Charred grain
	<i>Triticum</i> cf. <i>dicoccon</i> L. [Fig. 18]	Charred rachis
Crop weeds	<i>Lolium perenne</i> L.	Charred grain
	<i>Lolium perenne</i> L.	Seed with preserved pituitaries charred
	<i>Lolium temulentum</i> L.	Charred grain
	<i>Lolium</i> sp.	Grains
	<i>Rumex</i> sp.	Charred seeds
	<i>Rumex crispus</i> L.	Charred seeds
	<i>Rumex dentatus</i> L.	Charred seeds
	<i>Polygonum</i> sp.	Charred seeds
	<i>Vicia</i> sp.	Charred seeds
	<i>Poaceae</i> indet.	Charred seeds
	<i>Fabaceae</i> indet.	Charred seeds

At Tell el-Murra, barley occurred in the context of storage facilities. None of the grains bore clear signs of germination around the embryo. The presence of bread molds confirms that bread was produced in the settlement. It is also likely that livestock was fed fodder consisting of barley. The remaining plants were, for the most part, cultivated weeds accompanying grain crops, so it is not surprising

that they were deposited alongside the seeds of edible grasses [Fig. 19]. The large number of forage plants may also indicate the vital role that animal husbandry played in the settlement. The preliminary analysis indicated few wheat grains. However, due to the fact that only selected samples from the entire settlement were examined, the above impression on the minor role of wheat in the daily life of

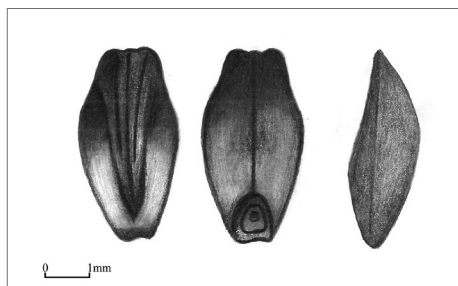


Fig. 17. *Hordeum vulgare*, Object 263 (Drawing N. Puschhaus)

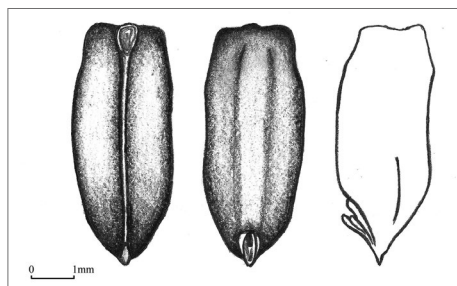


Fig. 18. Grain of *Triticum* cf. *dicoccon* Schrank (Drawing N. Puschhaus)



the inhabitants may be misleading. Therefore, as the research is in progress, the offered conclusions should be considered as preliminary in nature. Future archaeo-

botanical research will verify the data on the share of wheat in the assemblage and provide more detailed information on the botanical material at the site.

## SUMMARY

The results of research conducted in the 2018 and 2022 seasons contributed new information on the functioning and chronology of the site. Preliminary analyses permitted general observations concerning several stages in the development of the Tell el-Murra settlement.

The investigations carried out in Trench S3 enabled the examination of graves below the successive phases of settlement, associated perhaps with the reoccupation of the site immediately following the subsidence of the flood waters. Layers associated with this event have already been found in Trench S3B, and it is essential to check whether they are also present in S3. Preliminary analysis of the material from the 2022 season may indicate that we have reached settlement phases associated with a period prior to Naqada IIIC2/D (the end of the Early Dynastic period). At this moment, however, this is only a preliminary remark,

and more definitive conclusions must wait until further detailed analysis and processing of the material is completed.

The work carried out to date within Trench T5 makes it possible to link this area unequivocally to organized economic activity, dating at least to the Early Dynastic period and the beginning of the Old Kingdom. It appears that the activity that took place there was primarily concerned with the production of bread and possibly beer. This is evidenced by the large number of bread molds bearing potmarks—evidence of external control over the production—and by ceramic forms associated with the production of bread dough, such as vats and bowls. A large number of ash layers and deposits identifiable in parts of some rooms and yards, a brick installation whose form resembled a nest for a vat in which malt was produced, and silos still filled with barley complete the picture (cf. Jucha et al. 2016: 101–127; 2018; Malecka-Drozd and Kazimierzczak 2021). The shapes of the exposed architectural remains (a combination of rectangular buildings, curved walls and circular silos) and the nature of the activity taking place within it (storage and processing of agricultural produce) fit very well into the context of sites dated to this period and identified within the same settlement cluster, such as Tell el-Farkha (Chłodnicki 2012b: 110ff; Chłodnicki and Ciałowicz 2014: 127ff, Fig. 15), Tell el-Rub'a (Adams 2009: 140–156; 2020: 52–54) and Tell Gabbara



Fig. 19. Cultivated weeds accompanying grain crops (Photo N. Puschhaus)

(Rampersad 2015–2016: 83–87). The question remains who controlled the production taking place there. There are various possibilities. Were they local village overseers or communal administrators who managed payments to local farm workers? Or perhaps they were local landlords, descendants of the eastern Delta aristocracy, whose estate (*pr*) included the settlement at Tell el-Murra? Finally, is it possible that, already

in the Early Dynastic period, the site under study was part of an official institution, an estate overseen by a local residence, presumably located at or near Tell el-Murra, referred to in the sources as *hwt* (Moreno García 1999; 2013)? At present, all options are equally likely and only further research will clarify the role Tell el-Murra played in the settlement structure of the northeastern Nile Delta and Egypt as a whole.

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