

Tell el-Murra (Northeastern Nile Delta Survey): research in 2016–2017



Abstract: The paper deals with the results of excavation in 2016 and 2017 at the site of Tell el-Murra in the northeastern part of the Nile Delta. The investigation focused on Trench T5, where settlement remains dated mostly from the Early Dynastic period were explored in its northern part, and early Old Kingdom structures in the southern part. Settlement remains of Lower Egyptian culture were also excavated in Trench S3B. Continued research on the Early Dynastic cemetery in Trench S3 yielded eight more graves, both pit burials and chambered tombs. In one case, the body was placed additionally in a pottery coffin. The results contribute new data on Early Dynastic settlement architecture and burial customs, as well as the oldest habitation associated with Lower Egyptian culture.

Keywords: Tell el-Murra, Egypt, Nile Delta, Predynastic, Lower Egyptian culture, Early Dynastic, cemetery, settlement

Two seasons of excavation, in 2016 and 2017, were carried out at Tell el-Murra in the northeastern part of the Nile Delta, excavated since 2008 (Jucha and Buszek 2011; Jucha et al. 2013; Jucha, Bąk-Pryc, and Czarnowicz 2014; Jucha, Bąk-Pryc, and Małecka-Drozd 2015; Jucha et al. 2017). The team explored Trenches S3 and S3B in the southwestern and T5 in the northeastern part of the tell. Remains of the oldest settlement of the Lower Egyptian Culture were excavated in Trench S3B. Early Dynastic graves were found in Trench S3. The settlement remains exposed in trench T5 were mostly of Early Dynastic date.

Mariusz A. Jucha¹
Grzegorz Bąk-Pryc²
Natalia Małecka-Drozd³
Magdalena Kazimierczak⁴

^{1, 2, 3, 4} Institute of Archeology,
Jagiellonian University in Kraków

Team

Dates of work: 8 March–14 April 2016; 12 March–12 April 2017

Co-Directors: Mariusz A. Jucha, PhD (Institute of Archeology, Jagiellonian University in Kraków; 2016, 2017), Grzegorz Bąk-Pryc, archaeologist (PhD candidate, Institute of Archeology, Jagiellonian University in Kraków; 2016, 2017)

SCA representatives: El Sayed Abd el Shakour Selim el Sayed (TANIS SCA Inspectorate; 2016), Wafa Ali Ibrahim Ali (TANIS SCA Inspectorate; 2016), Omar Haseeb Omar (TANIS SCA Inspectorate; 2017), Amira Husein Ebrahim (TANIS SCA Inspectorate; 2017)

Archaeologists: Natalia Małecka-Drozd (PhD candidate, Institute of Archeology, Jagiellonian University in Kraków; 2016, 2017), Damian Stefański (Archaeological Museum in Kraków; 2016)

Archaeologist/ceramologist: Magdalena Kazimierczak (PhD candidate, Institute of Archeology, Jagiellonian University in Kraków; 2016, 2017)

Documentalists: Katarzyna Cierlikowska (2017), Konrad Grzyb (2016, 2017), Bartosz Klose (2017), Katarzyna Lajš (2016, 2017), Natalia Puschhaus (2016, 2017), Wojciech Mika (2016, 2017), Jakub Niebylski (2016), Sylwia Siast (2017) (all Institute of Archeology, Jagiellonian University in Kraków), Anna Uhlschmidt (Institute of Archaeology, Leipzig University; 2016).

Archaeobotanists: Agata Bebel (Institute of Archaeology, University of Warsaw; 2016, 2017), Aldona Mueller-Bieniek, PhD (W. Szafer Institute of Botany, Polish Academy of Sciences; 2017)

Archaeozoologist: Dr. Renata Abłamowicz (Silesian Museum, Katowice, 2016)

Photographer: Ewa Kuciewicz (PhD candidate, Institute of Archeology, Jagiellonian University in Kraków; 2016, 2017)

Acknowledgments

The report concerning the 2016 season is the result of implementing a project financed with funds from the National Science Centre, Poland, allocated on the basis of decision number DEC-2013/09/B/HS3/03588.

EXPLORATION IN TRENCHES S3 AND S3B

Investigations in the 2016 season concentrated on Trench S3 in the southwestern part of the tell, where an Early Dynastic cemetery has been explored since 2011 (Jucha, Bąk-Pryc, and Czarnowicz 2014: 141–146; Jucha, Bąk-Pryc, and Małecka-Drozd 2015: 200–208; Jucha et al. 2016: 88–100; Jucha and Bąk-Pryc 2017: 189–195; Jucha et al. 2017: 148–154). In Trench S3B, Naqada III structures explored in previous years (Jucha, Bąk-Pryc, and Małecka-Drozd 2015: 208; Jucha et al. 2016: 100–101; 2017: 154–155) continued to be excavated in the 2016 and 2017 seasons.

TRENCH S3B

Work in Trench S3B, located east of Trench S3, focused on Levels 39 (altitude 2.40 m) to 45 (altitude 1.80 m). Structures explored there were associated with Lower Egyptian culture, the oldest phase of habitation discovered so far at Tell el-Murra. These were found below a relatively thick alluvial layer formed as a result of flooding. The layer leads to the assumption that a large Nile flood most likely destroyed the settlement at the end of the said period, leaving the site unavailable for habitation until at least



Fig. 1. Trench S3B. Structures of the Lower Egyptian Culture settlement (Tell el-Murra Expedition Archive/photo E. Kuciewicz)

the Protodynastic period, that is, Naqada IIIB (Jucha et al. 2017: 158). Such an event could have also affected other Delta settlements, giving Lower Egyptian culture a crushing blow and causing a collapse of its settlement network, which simultaneously facilitated the movement of Naqadians to the north (Jucha 2017). The remains in the described trench include, among others, furrows filled with mud as a result of later flooding. Traces of a lightweight construction, supported on four thin poles, were uncovered in the northwestern part. One should note a completely preserved donkey's jaw found next to it. Fragments of lemon-shaped jars, potsherds decorated with zigzags, as well as numerous fragments of animal bones were found.

A significant concentration of architectural structures was observed from Level 42 (altitude 2.10 m) onwards [Fig. 1]. These include furrows as well as smaller and larger round pits. Some of them were interconnected, creating the outlines of a regular structure. Most of

finds were fragments of pottery vessels as well as small flints and animal bones. Fragments of ceramic vessels were also found *in situ* embedded in pits. These had probably served a stabilising function. In 2016, a rising ground water table resulting from the flooding of farmlands in the vicinity made excavation at Level 44 (altitude 1.90 m) impossible. Work was continued in 2017. A *gezirah* was visible in the eastern part of the examined trench. The remaining area was covered by an irregular layer of grey silt filling in the central section, and poorly legible outlines of features in the western part of the trench. Meriting particular attention is a large, rectangular structure in the northwestern part, continuing north and west beyond the explored area. It was filled with fragments of pottery, fired clay and ashes with numerous traces of incineration. A large-sized round pit was excavated in the southwestern part; its outlines were visible at higher levels. Another fragmentary structure comprised furrows, along with small, circular cavities and post-holes(?). One should also note a small pit with black fill, located close to the northeastern section of the trench. In the course of its exploration, fragments of animal bones were uncovered, as well as one bead. The finds from the described levels include numerous fragments of ceramic vessels typical of the Lower Egyptian Culture, among them small lemon-shaped jars [Fig. 2], potsherds decorated with zigzags, as well as fragments of large vats.



Fig. 2. Lemon-shaped pottery jar of Lower Egyptian Culture (Tell el-Murra Expedition Archive/ photo E. Kuciewicz)

TRENCH S3

Work on the necropolis focused in the southwestern-part of Trench S3: are J22,

squares J23A, J23B (from Level 17; altitude 5.60 m), and the eastern end of square I23B (from Level 14; altitude 4.90 m). Eight burials (Graves 33 to 40) were discovered and examined. Two of them were considered to belong to the second part of the First Dynasty=Naqada IIIC2 (Graves 34 and 40; although the latter could be slightly older). The chronology of two others (Graves 38 and 39) is uncertain due to modest representation of grave goods, but they may have been from the First Dynasty=Naqada IIIC period. Two graves (33 and 35) could be from the second half of the First Dynasty/first half of the Second Dynasty=Naqada IIIC2/D, however their inclusion here is not certain. Two other graves are difficult to date for lack of an assemblage (Graves 36 and 37). Of interest are the mutual stratigraphic relations of Graves 39 and 40. The southwestern corner of the former was cut into the northeastern corner of the latter [Fig. 3].

The chronological distance between them does not seem to be too long. It is quite possible that the location of the older grave was known and such relations were intended.

The burials were represented by both pit graves (Nos 34, 36, 38, 39) and chambered ones (Nos 33, 35, 40). Traces of the decomposition of organic material (matting) lead to the assumption that the interred bodies were usually laid upon and covered with matting. The matting could have also covered the grave goods as well as the internal faces of the walls or sides of the pit, the crowns of walls and the bottom of the grave. Most of burials share similar characteristics regarding grave and body orientation. The body was placed in a strongly contracted position, lying on its left side. The prevailing burial alignment was NE–SW, the N–S orientation being noted only twice (Graves 33 and 35). In one case (Grave 37), a human



Fig. 3. Trench S3: Early Dynastic Graves 39 and 40 (Tell el-Murra Expedition Archive/photo E. Kuciewicz)

skull as well as several individual bones were located along an E–W axis, but the lack of a clear outline of the burial pit is significant here. It cannot be resolved beyond all doubt whether the remains rep-



Fig. 4. Cylindrical jar of travertine from Early Dynastic Grave 40 (Tell el-Murra Expedition Archive/photo E. Kuciewicz)

resent primary deposition or a secondary displacement of the body resulting from the destruction of a nearby grave.

Skeleton bones were very poorly preserved on the whole. In one case, the deceased had been placed in a pottery coffin (Grave 40) [Fig. 5]. Pottery vessels were the most numerous group among the burial goods. Slender wine jars with a rope band (Graves 40 [Fig. 6:d] and 34 [Fig. 6:e]) and beer-jars (Graves 40 [Fig. 6:a], 34 [Fig. 6:c], and 33 [Fig. 6:b]), belonging to later types of such jars, date some graves more precisely. The same can be said of cylindrical jars with or without decoration (Grave 40). Other forms include bowls, a plate, a pot-stand and different types of small jars. The presence of a relatively large vessel, imitating basketwork on a foot with an internal ledge supporting the lid, as well as broken bread moulds



Fig. 5. Trench S3. Early Dynastic Grave 40, close-up view (Tell el-Murra Expedition Archive/photo E. Kuciewicz)

placed intentionally into one of the jars (Grave 40) is also worth mentioning. Stone vessels occurred quite frequently, cylindrical jars of travertine like this one

[Fig. 4] being the most typical (Graves 34 and 40). Other forms include bowls made of travertine or greywacke and barrel-shaped or slender jars made of travertine.



Fig. 6. Early Dynastic pottery grave goods: top row, beer-jars: a – Grave 40; b – Grave 33; c – Grave 34; bottom row, wine jars: d – Grave 40; e – Grave 34 (Tell el-Murra Expedition Archive/photos E. Kuciewicz)

EXPLORATION IN TRENCH T5

During the 2016–2017 seasons work continued in Trench T5 in the northeastern part of the tell. Research was determined by the division of the trench into the northern and southern part, made already in 2015. Most of the work was in the northern part

of the trench (are R7, squares S_{7A,C}, southern ends of squares R_{6C,D} and S_{6C}), where settlement remains from Level 25 (altitude 5.20 m) to Level 32 (altitude 4.50 m) were excavated. The archaeological material confirmed the Early Dynastic chronology of the

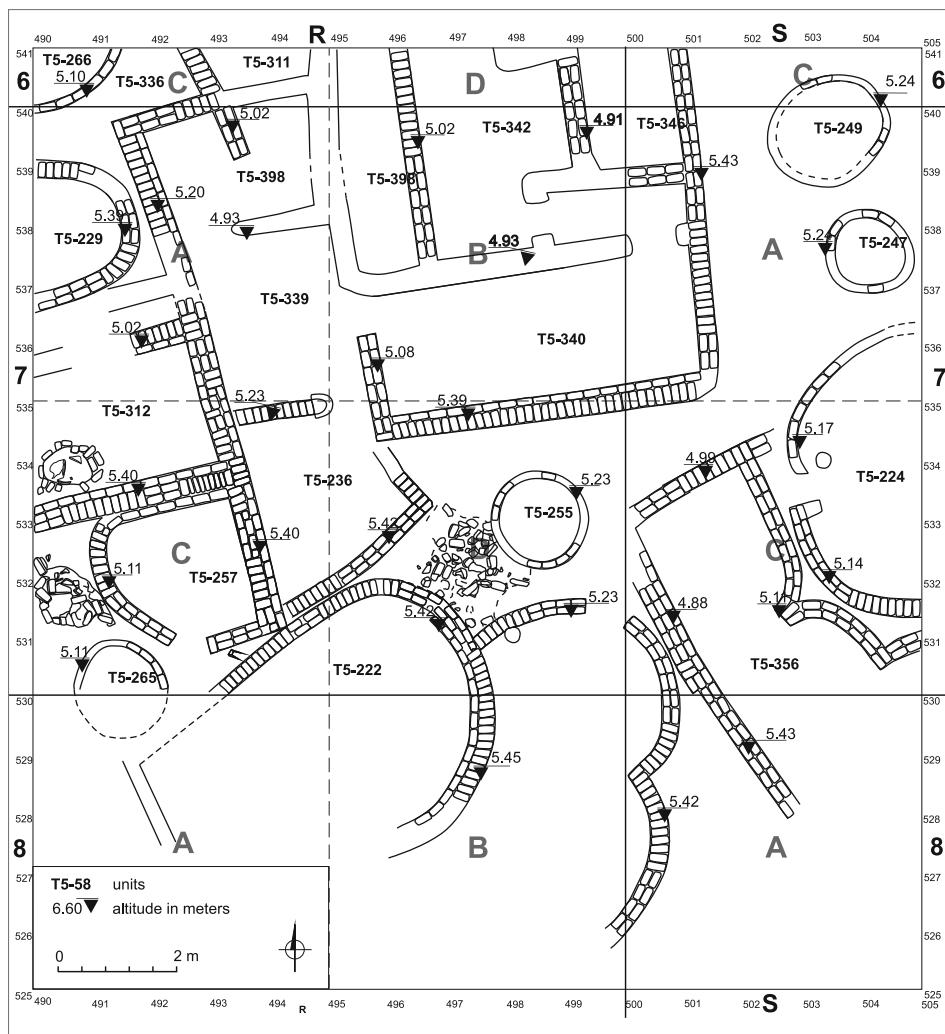


Fig. 7. Schematic plan of structures in Trench T5. Early Dynastic Levels 23–28 (Tell el-Murra Expedition Archive/drawing N. Małecka-Drozd)

structures revealed there, most possibly the later part of the period, that is, Naqada IIIC₂–D (Jucha et al. 2017: 136–140; see below). The southern part of the trench (area R8, squares S8A,C) was explored to a more limited extent, from Level 17 (altitude 6.00 m) to Level 23 (altitude 5.40 m). Excavations yielded archaeological material dated to the early Old Kingdom, confirming a chronology established for this part of the trench during previous research (Jucha et al. 2017: 140–147; see below). Moreover, at least some of the walls revealed at the lowest levels explored in the southern part of the trench during the 2017 season might be related to the Early Dynastic structures exposed in its northern part during seasons 2015 and 2016. These were not excavated to any

significant extent before the end of the 2017 season.

EARLY DYNASTIC Architecture

The oldest settlement remains found so far in Trench T5 were located in its northern part. The first traces of walls, which might be related to structures dated to the Early Dynastic period, were recognized already at Level 20 (altitude 5.70 m) during season 2015 (Małecka-Drozd 2016: 112–113; Jucha et al. 2017: 137). Two seasons later, the general layout of the late Early Dynastic buildings has been established.

One may distinguish several partly interconnected zones [Fig. 7]. Most of the buildings stood throughout the period in question, although some alterations



Fig. 8. Early Dynastic brick installation and silos filled with charred grain in Trench T5
(Tell el-Murra Expedition Archive/photo E. Kuciewicz)

occurred (i.e., deliberate filling of rooms with brick rubble in order to level the floor or, possibly, dismantling inner walls to create a uniform space). Structures on the western side of the trench, apparently extending beyond the trench to the west and north, may have formed a single building (Małecka-Drozd 2016: 112; Jucha et al. 2017: 137–138). Some of the rooms of the building were occupied by brick silos, part of them still filled with charred grain. In the southernmost room, burnt soil, along with accumulations of burnt bricks and fragments of pottery, was recognized in between two silos. It appeared to be an intentionally arranged installation with a well-preserved Early Dynastic beer-jar found next to it [Fig. 8]. One could associate it with some household activities, cooking or brewing, although the specific purpose remains uncertain

at the moment (see Małecka-Drozd and Kazimierczak forthcoming).

A big building in the middle continues north beyond the trench borders and is partly connected to the structures found to the west [see Figs 7, 9]. The upper parts of the outer walls were already exposed in 2015, but no constructions were found inside it (Małecka-Drozd 2016: 112–113; Jucha et al. 2017: 138–139). In the 2016 and 2017 seasons, the inner plan of the building was recognized: a large room located in its southern part and a set of smaller rooms situated further north, all interconnected by doorways with brick thresholds. There was nothing among the finds to identify the purpose of individual rooms as well as the building as a whole.

South and east of the big central building is a partly open space, occupied



Fig. 9. Early Dynastic mud-brick building in the northern part of Trench T5 (Tell el-Murra Expedition Archive/photo E. Kuciewicz)

by several walls of circular and arched outline. In a previous report (Małecka-Drozd 2016: 113; Jucha et al. 2017: 139), this part of the trench was described as an area with silos. After two more seasons of work, the nature of this space appears more complex. Of greatest interest are two adjacent buildings exposed in the eastern–southeastern part of the area. There is a circular structure (approximately 4 m in diameter), which is continued to the east, below the eastern side of the trench. To the west of the circular structure, there is an irregularly shaped room, the northeastern wall of which consists of two interconnected arches [see *Figs 7, 10*]. The remaining walls are straight; it should be noted, however, that the structure stretches into the southern

part of the trench and is not yet fully excavated. In an earlier stage, the circular building was divided into two compartments, filled with spots of burnt, dark earth. Communication between the rooms and the external area was ensured by three doorways: one in the north wall, another between the compartments and a third leading to an irregularly shaped structure to the west [see *Fig. 10*]. At some point, there were changes in the organization of the two adjacent buildings. The northern entrance of the circular structure was abandoned, as well as probably its division into two compartments. Only one doorway remained in use in the last phase; it was the one connecting the circular building with the irregular structure to the west.



Fig. 10. Circular building in the eastern part of Trench T5. Communication through doorways leading north, west and between rooms. Early Dynastic Level 32 (Tell el-Murra Expedition Archive/ photo E. Kuciewicz)



Fig. 11. Early Dynastic mud-brick silo with traces of repair in Trench T5 (Tell el-Murra Expedition Archive/photo E. Kuciewicz)

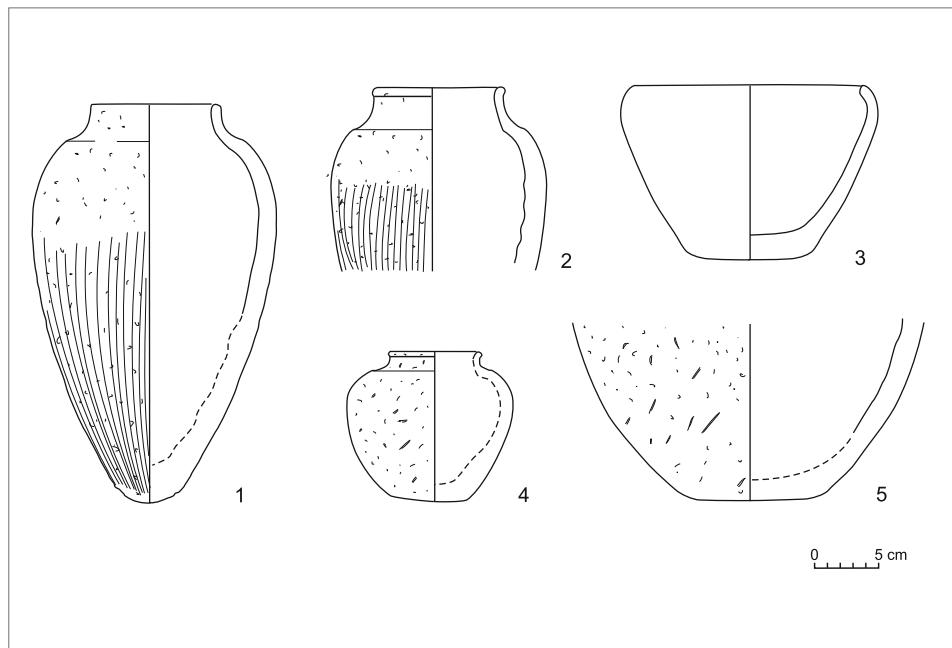


Fig. 12. Early Dynastic pottery from the area with burnt bricks in the northern part of Trench T5 (square R7D) (Tell el-Murra Expedition Archive/digitizing U. Bąk)

The space between the building located to the west, the central building and two structures located southeast of it was subject to more frequent changes. It was an area of intense economic activity and the oval and semicircular structures located in it were repaired and rebuilt several times [Fig. 11]. There were large amounts of burnt earth, including cavities filled with ashes, next to the arched walls. In the last stage of use [see Fig. 7], the space consisted of a set of small silos (about 1 m in diameter), scattered in between the larger structures. In the southern part of the area, there are two buildings or compartments of irregular shape. Their north and east walls run a curved course. Both structures are continued into the southern part of Trench T5 (squares R8A,B and S8A), where the top parts of their walls were exposed during the 2017 season. A probably random accumulation of burnt bricks and large quantities of pottery fragments was attested between the arched walls and one of the silos. Among the ceramic material from

the last mentioned layers were two Early Dynastic beer-jars, a red-polished bowl with angular inner edge of the rim and convex sides, a small rough ware squat jar and the base of a big bowl [Fig. 12]

Pottery

The pottery material collected from the northern part of Trench T5 is not hugely diverse. The domination of vessels related to household activities is evident. The most numerous are bread moulds [Fig. 13A:1], many with thickened internal part of the rim, slightly shallower and wider (diameter between 25 and 30 cm) in shape than later Old Kingdom examples. Together with a few examples of flat trays [Fig. 13A:2, 3] and vats and big bowls [Fig. 13B:4], they show that bread was baked in this area. Fragments as well as complete examples of beer-jars typical of the Early Dynastic period (broad shoulder, simple or slightly thickened rim, flat or rounded base and scraped outer surface) [Fig. 13B:5–8], occurring in large quantities in the northern part of the trench, suggest

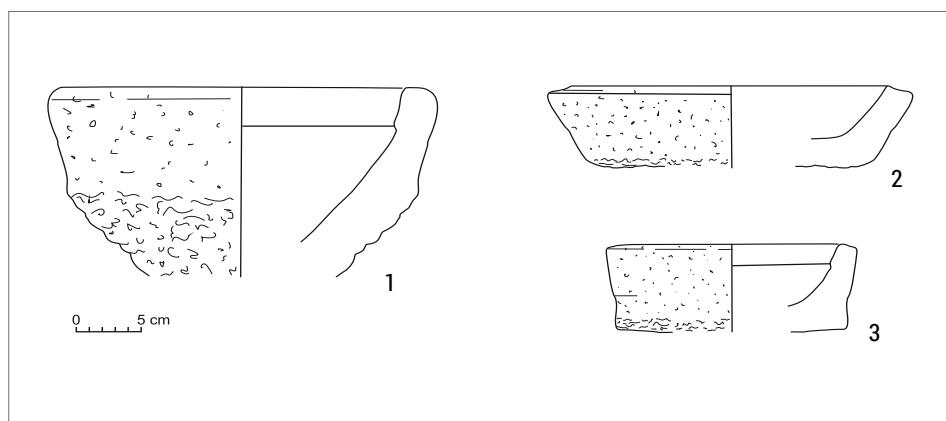


Fig. 13A. Early Dynastic pottery from the settlement in the northern part of Trench T5:
1 – bread mould ; 2, 3 – flat trays (Tell el-Murra Expedition Archive/digitizing U. Bąk)

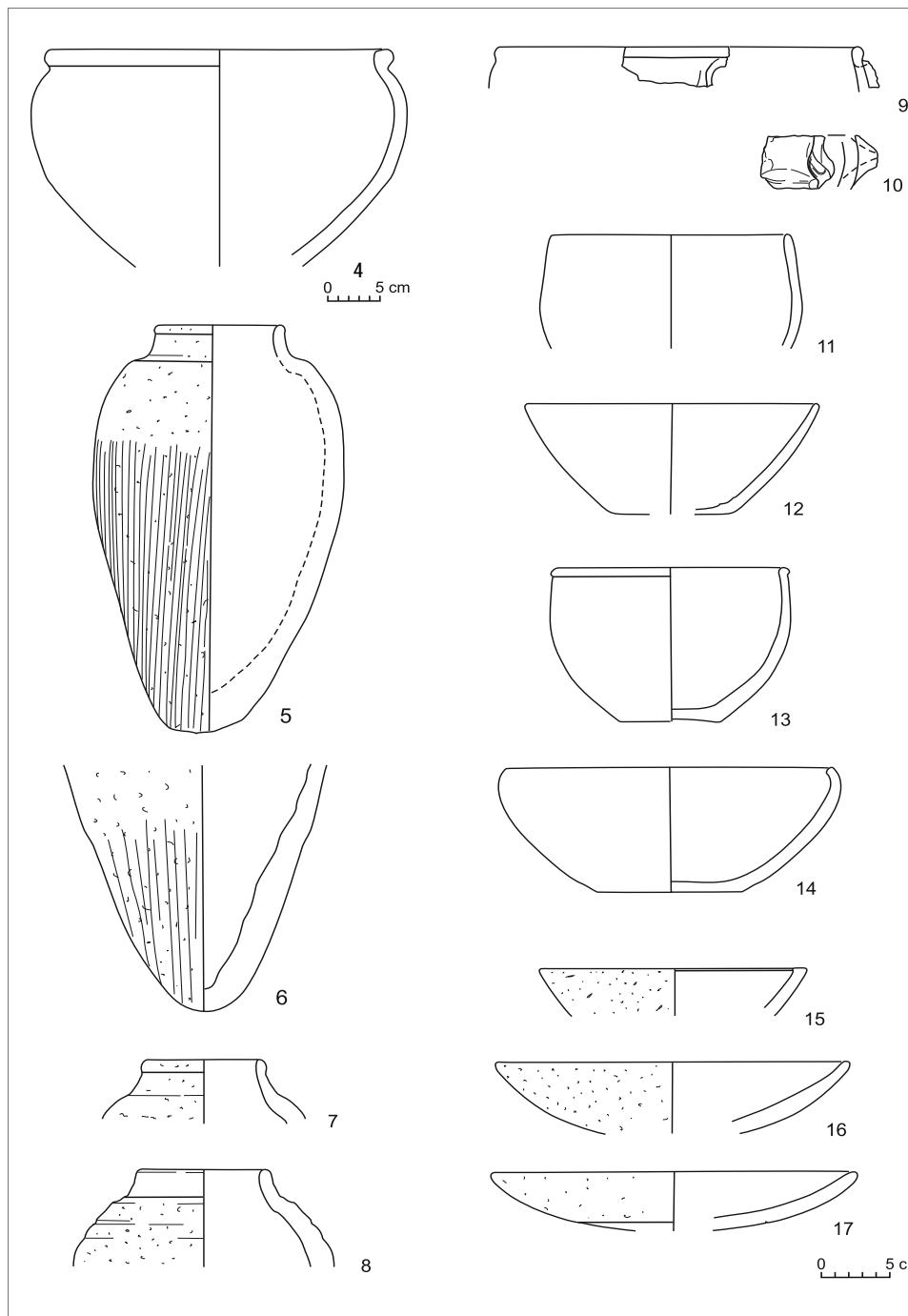


Fig. 13B. Early Dynastic pottery from the settlement in the northern part of Trench T5: 4 – big bowl; 5–8 – beer-jars; 9, 10 – spouted bowls; 11–14 – polished bowls; 15 – lightly smoothed bowl; 16, 17 – red-coated plates (Tell el-Murra Expedition Archive/digitizing U. Bałk)

that beer production may have taken place there as well. Spouted bowls and fragments of spouts [Fig. 13B:9, 10] were probably also connected with the said activities. Thin-walled pottery was also in abundance, among them polished bowls with convex walls and simple rim [Fig. 13B:11, 12], thickened rounded rim [Fig. 13B:13] or angular inner edge of the rim [Fig. 13B:14], lightly smoothed bowls with flattened top of the rim [Fig. 13B:15], as well as red-coated plates [Fig. 13B:16, 17] and a few pieces of plates with ribbed inner surface covered with a light cream slip. All were intended probably for serving and consuming food.

This assemblage suggests a strictly economic profile for the area which could have had some kind of storage and distribution role. The forms are not very symptomatic; they could occur equally well at the end of Early Dynastic period as at the beginning of the Old Kingdom. However, the lack of Meidum bowls, bowls with internal ledge, beer-jars with collars typical of the Old Kingdom period is significant. Keeping this in mind, the presence of bread moulds with thickened internal part of the rim and beer-jar types characteristic of the Early Dynastic period leads to the assumption that this set should be dated to the second part of the Early Dynastic period (not earlier than the second part of the First Dynasty and the Second Dynasty=Naqada IIIC₂-D). It corresponds to phase 6 at neighboring Tell el-Farkha (Kazimierczak and Doros 2018; Jucha 2011: 957–967).

EARLY OLD KINGDOM

Architecture

The southern part of Trench T5 at Levels 17–23 was occupied by structures dated

roughly to the early Old Kingdom. They correspond to layers related to the bakery from the northern part of the trench (Małecka-Drozd 2016: 110–112; Jucha et al. 2017: 139). The layers located there are relatively not very legible. There are bottom parts of walls making up a building complex of the Third–Fourth Dynasties, studied earlier (Jucha, Bąk-Pryc, and Małecka-Drozd 2015; Jucha et al. 2017; Małecka-Drozd 2018), as well as some older structures, preserved very fragmentarily, up to a maximum height of only 0.10–0.20 m. A complex of rooms occupying the eastern and the central part of the discussed area may be recognized conclusively, limited on the west by a rather undeveloped space, a kind of courtyard. Finds from the southern part of the trench are complementary to those excavated in 2015 in the corresponding levels in the northern part (Małecka-Drozd 2016: 110–112; Jucha et al. 2017: 138) and supply evidence of an economic nature characterizing the function of this area at the very beginning of the Old Kingdom. Numerous vessels, such as bowls, plates and so-called beer-jars, are typical of this phase. Bread moulds recognized in a layer of ash and burning in one of the rooms point to a bakery, an interpretation further corroborated by the find of a grinder nearby. Of greatest interest is a series of several round structures with edges formed of mud and interiors filled with dark earth, discovered under a layer of burning. Similar structures could have been used as vessel supports. Burn marks and the type of dishes found in their immediate surroundings may indicate some kind of kitchen activity in this space.

In addition, at the lowest Level 23 (altitude 5.40 m) explored in 2017, a network of walls (squares R8A,B, S8A) can be

associated with the Early Dynastic period and structures exposed in the northern part of the trench at Level 32 (altitude 450 m) [see Fig. 7].

Pottery

Pottery from the southern part of Trench T5 is again suggestive of the economic nature of this part of the settlement. A rela-

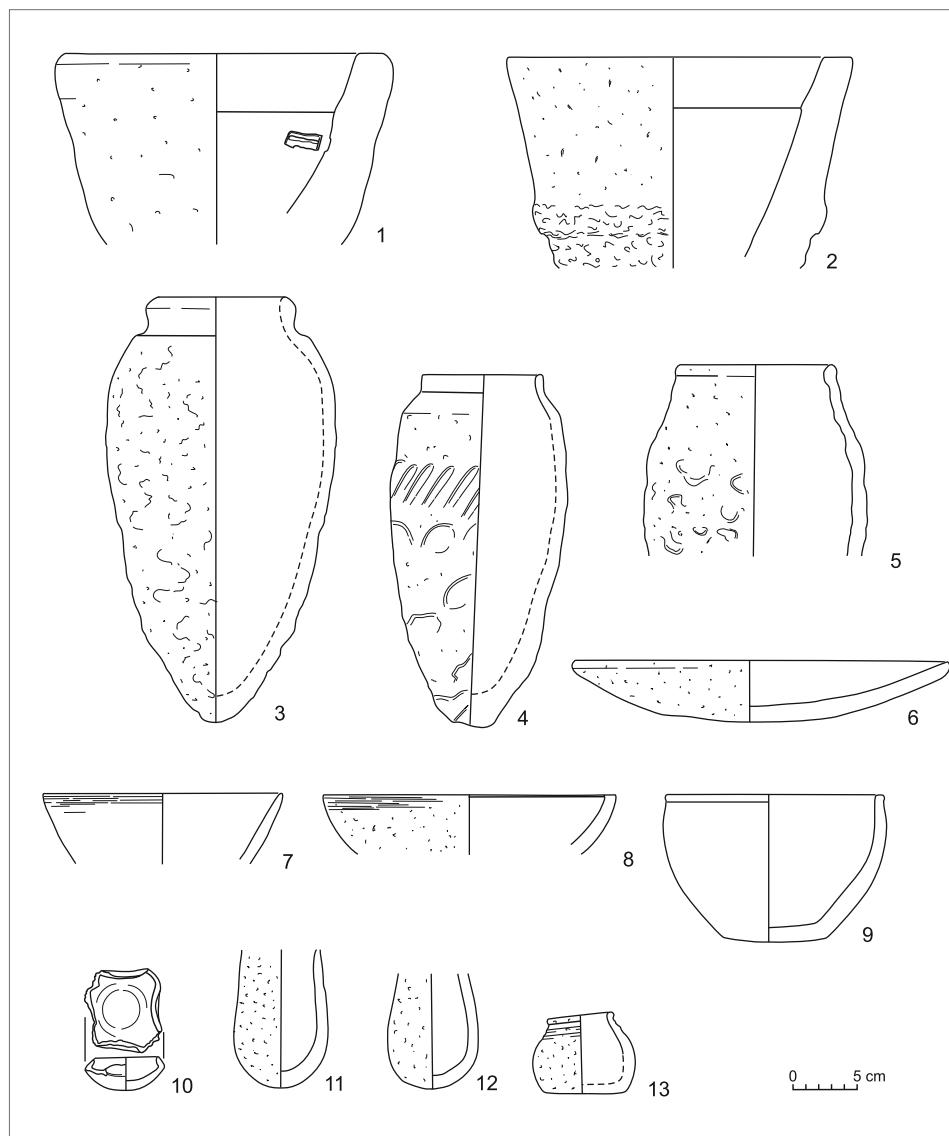


Fig. 14. Old Kingdom pottery from the settlement in the southern part of Trench T5: 1, 2 – bread moulds; 3–5 – beer-jars; 6 – plate; 7–9 – polished bowls; 10 – miniature polished bowl with spouted rim; 11–13 – small rough-ware jars (Tell el-Murra Expedition Archive/digitizing U. Bąk)

tively large quantity of bread moulds [Fig. 14:1,2], as well as large vats and big bowls indicate that bread production was probably continued there in the Old Kingdom period. The occurrence of numerous pieces and a few complete examples of beer-jars [Fig. 14:3–5] of an Old Kingdom type (slender, with narrow shoulders, pointed or rounded base and fingerprints on the surface) is also significant here. Accompanying the rough ware pottery were fineware vessels, including plates [Fig. 14:6] and polished bowls [Fig. 14:7–9] of different shapes, serving probably as

tableware. Moreover, a few miniature vessels were discovered. These include a small polished bowl with spout-rim [Fig. 14:10], two small rough ware jars with rounded bases [Fig. 14:11,12] and a rough ware jar with broad body and flat base [Fig. 14:13]. The assemblage includes also fragments of a fineware vessel made of marl clay. The pottery types from this part of the trench show a close affinity with pottery from structures dated to the beginning of the Old Kingdom (Kazimierczak 2016: 113–121; Jucha et al. 2017: 146–149).

Dr. Mariusz A. Jucha

ORCID 0000-0001-6878-5156

Institute of Archeology,
Jagiellonian University in Kraków
31-007 Kraków, Poland, ul. Gołębia 11
m.jucha@mura.pl

Grzegorz Bąk-Pryc

ORCID 0000-0003-2183-6651

PhD candidate, Institute of Archeology,
Jagiellonian University in Kraków
31-007 Kraków, Poland, ul. Gołębia 11
grzegorz.pryc@uj.edu.pl

Natalia Małecka-Drozd

ORCID 0000-0002-8337-8708

PhD candidate, Institute of Archeology,
Jagiellonian University in Kraków
31-007 Kraków, Poland, ul. Gołębia 11
nbmalecka@gmail.com

Magdalena Kazimierczak

ORCID 0000-0001-6415-8497

PhD candidate, Institute of Archeology,
Jagiellonian University in Kraków
31-007 Kraków, Poland, ul. Gołębia 11
magdakazimierczak@poczta.onet.pl

How to cite this article:

Jucha, M. A., Bąk-Pryc, G., Małecka-Drozd, N., & Kazimierczak, M. (2018). Tell el-Murra (Northeastern Nile Delta Survey): research in 2016–2017. Polish Archaeology in the Mediterranean, 27/1, 149–168.
<https://doi.org/10.5604/01.3001.0013.1970>

References

- Jucha, M.A. (2011). The development of pottery production during the Early Dynastic Period and the beginning of the Old Kingdom: A view from Tell el-Farkha. In R.F. Friedman and P.N. Fiske (eds), *Egypt at its Origins 3: Proceedings of the Third International Conference “Origin of the State. Predynastic and Early Dynastic Egypt”, London, 27th July–1st August 2008 [=OLA 205]* (pp. 953–974). Leuven: Peeters
- Jucha, M.A. (2017). Between South Egypt and Canaan. The development and fall of a settlement of the 4th–3rd millennium BC located on the trade route at Tell el-Murra. Unpublished final report on the completion of NCN project UMO-2013/09/B/HS3/03588
- Jucha, M.A. and Bąk-Pryc, G. (2017). Settlement and cemetery – new research on the 4th/3rd millennium Nile Delta site of Tell el-Murra. In B. Midant-Reynes, Y. Tristant, and E.M. Ryan (eds), *Egypt at its Origins 5. Proceedings of the Fifth International Conference “Origin of the State. Predynastic and Early Dynastic Egypt”, Cairo, 13th–18th April 2014 [=OLA 260]* (pp. 175–197). Leuven: Peeters
- Jucha, M.A., Bąk-Pryc, G., and Czarnowicz, M. (2014). Tell el-Murra (Northeastern Nile Delta survey). Season 2011. *PAM*, 23/1, 141–152
- Jucha, M.A., Bąk-Pryc, G., and Małecka-Drozd, N. (2015). Tell el-Murra (Northeastern Nile Delta Survey). Seasons 2012–2013. *PAM*, 24/1, 199–214
- Jucha, M.A., Bąk-Pryc, G., Małecka-Drozd, N., and Kazimierczak, M. (2017). Tell el-Murra (Northeastern Nile Delta Survey): preliminary report on research in 2014–2015. *PAM*, 26/1, 137–160
- Jucha, M.A. with contributions by G. Bąk-Pryc, N. Małecka-Drozd, M. Kazimierczak, M.F. Ownby, K. Mądrzyk, A. Pankowska, B. Woźniak, R. Abłamowicz (2016). Polish excavations at Tell el-Murra in the Nile Delta. Preliminary report 2013–2015. *Archaeologia*, 65, 85–146
- Jucha, M.A., Błaszczyk, K., Buszek, A., and Pryc, G. (2013). Tell el-Murra (Northeastern Nile Delta Survey). Season 2010. *PAM*, 22, 105–120
- Jucha, M.A. and Buszek, A. (2011). Tell el-Murra (North Eastern Nile Delta Survey). Season 2008. *PAM*, 20, 177–182
- Kazimierczak M. (2016). The pottery from the settlement – trench T5. In M.A. Jucha with contributions by G. Bąk-Pryc, N. Małecka-Drozd, M. Kazimierczak, M.F. Ownby, K. Mądrzyk, A. Pankowska, B. Woźniak, R. Abłamowicz, Polish excavations at Tell el-Murra in the Nile Delta. Preliminary report 2013–2015. *Archaeologia*, 65, 113–127
- Kazimierczak, M. and Doros, U. (2018). Pottery from the southern part of the Eastern Kom at Tell el-Farkha. In K.M. Ciałowicz, M. Czarnowicz, and M. Chłodnicki (eds), *Eastern Nile Delta in the 4th millennium BC* (pp. 115–124). Kraków–Poznań: Institute of Archaeology, Jagiellonian University; Profil-Archeo Publishing House

- Małecka-Drozd, N. (2016). Trench T5 – settlement. In M.A. Jucha with contributions by G. Bąk-Pryc, N. Małecka-Drozd, M. Kazimierczak, M.F. Ownby, K. Mądrzyk, A. Pankowska, B. Woźniak, R. Abłamowicz, Polish excavations at Tell el-Murra in the Nile Delta. Preliminary report 2013–2015. *Archaeologia*, 65, 101–113.
- Małecka-Drozd, N. (2018). The Old Kingdom upcountry settlement architecture in the Nile Delta – the case of the 3rd–4th dynasty building at Tell el-Murra. In J. Kabaciński, M. Chłodnicki, M. Kobusiewicz, and M. Winiarska-Kabacińska (eds), *Desert and the Nile. Prehistory of the Nile Basin and the Sahara. Papers in honour of Fred Wendorf [=Studies in African Archaeology 15]* (pp. 419–435). Poznań: Poznań Archaeological Museum.
- Małecka-Drozd, N. and Kazimierczak, M. (forthcoming). Not by bread alone... Notes on the grain storage and processing during the III millennium BC. In E.C. Köhler, F. Junge, N. Kuch, and A.-K. Jeske (eds), *Egypt at its Origins 6. Proceedings of the International Conference “Origins of the State. Predynastic and Early Dynastic Egypt”, Vienna 10th–15th September 2017 [=OLA]*. Leuven: Peeters.

