

PRELIMINARY REPORT

AKORIS

2014



Before Excavation



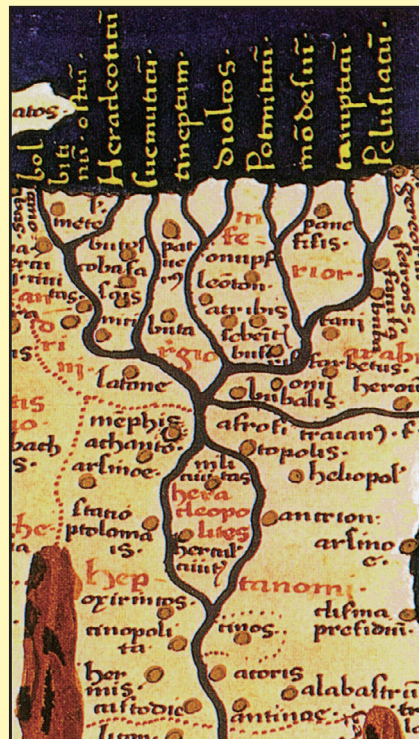
Coffin of Tomb 5



Female Mummy

HISTORY AND ANTHROPOLOGY
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CONTENTS

1	PREFACE	KAWANISHI, H.
2	ARCHAEOLOGICAL INVESTIGATION	
	Settlement in the Southwest Area	KAWANISHI, H.
	Burials	TSUJIMURA, S.
	Finds from the Excavated Area	KAWANISHI, H.
3	INVESTIGATIONS IN THE PTOLEMAIC QUARRY AT NEW MINYA	SUTO, Y.
4	LITHIC OBJECTS FROM THINA EL-GABAL (AKORIS)	ENDO, H.

1 PREFACE

In Egypt, ancient villages have not been archaeologically ascertained through site inspection, though literal data such as the Wilbour and Oxyrhynchus Papyri suggest their existence. Where did most of the ancient common Egyptian live, cities, villages or both?

Site inspections in West Asia, which were launched by R. M. Adams¹⁾, T. Wilkinson²⁾, I. Finkelstein³⁾ and others, shed light on the ancient settlement pattern. According to their findings, villages often exceeded cities in number. In the case of West Asian archaeology, the main focus of investigations has been settlements, especially large cities to which temples, palaces and tombs were attached. Additionally though the examples are not numerous, the excavations of villages, which covered an area of less than 3ha such as Tell Ali Al-Hajj⁴⁾ and Tell Bazi⁵⁾ located beside the middle Euphrates, show us various kinds of data concerning Bronze Age village life.

It is well known that the great yearly flood of the Nile and the longtime gathering of nitrogenous soil, *sebakh*, for fertilizer from ancient settlement caused deadly destruction on them. From the construction of the Aswan Dam in the beginning of 20th Century, the monoculture of cotton promoted for export to England have been especially destructive. Cotton cultivation requires much fertilizer, and consequently until the law of 1951 gradually became effective, the gathering of *sebakh* increased greatly in spite of governmental prohibition⁶⁾. Considering these matters, it is quite possible that many ancient villages had been located on the riverbed close to these resources, but have now disappeared off the face of the earth.

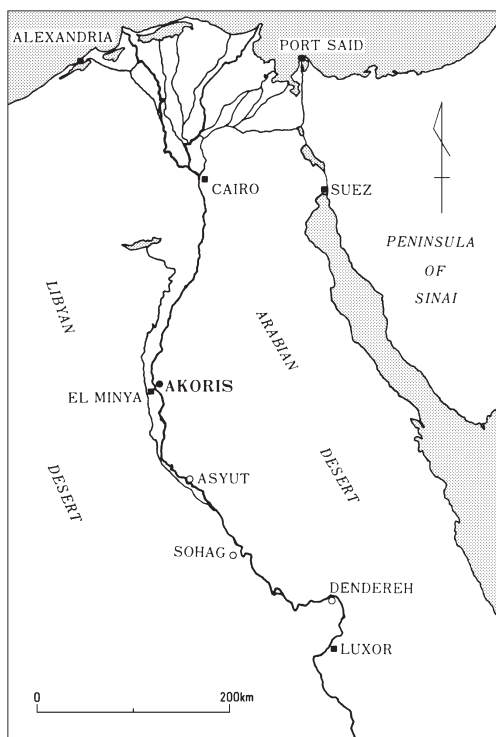


Fig. 1 Map of Egypt.

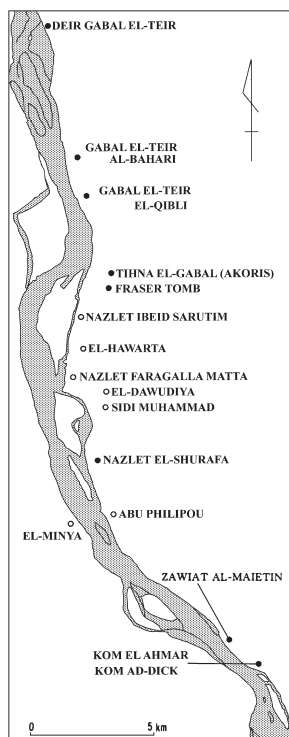


Fig. 2 Sites and villages near Akoris.

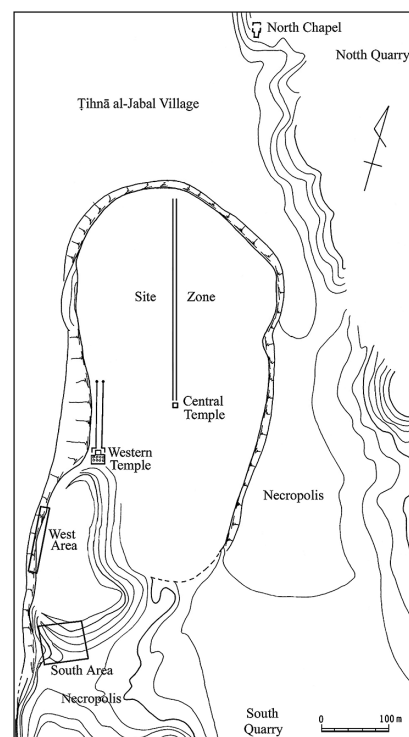


Fig. 3 Map of Akoris.

For two centuries from the rise of Egyptology to the present time, the main targets for investigation have been huge stone temples, rich tombs and large-scale cities. Surely these epigraphical and archaeological investigations have fully explored the ancient history of Egypt, however, except for tomb reliefs and paintings we are almost completely ignorant concerning the diverse phases of the common, illiterate people in villages and cities. This fact means that a deep research gap between Egyptology and West Asian archaeology lies in front of us. And given the recent development of the settlement archaeology in China and other Eurasian places, it can't be denied that traditional Egyptology is isolated and is lacking in balance as ancient historical study. We hope the investigations in Akoris to be somewhat contributory to the dissolution of such a gap, isolation and imbalance. (KAWANISHI)

Notes

- 1) Adams, R. M., 1981 *Heartland of Cities: Surveys of Ancient Settlement and Land Use of the Central Floodplain of the Euphrates*, The University of Chicago Press.
- 2) Wilkinson, T. J. and E. Barbanes, 2000 'Settlement Patterns in the Syrian Jazira during the Iron Age', in Bunnens, G. (ed.) *Essays on Syria in the Iron Age*, Ancient Near Eastern Studies 7 (supplement), pp. 397–422; Wilkinson, T. J., 2006 *On the Margin of the Euphrates: Settlement and Land Use at Tell es-Sweyhat and in the Upper Lake Assad Area, Syria*, The Oriental Institute of the University of Chicago.
- 3) Finkelstein, I., 1996 'The Philistine Countryside', *Israel Exploration Journal*, vol. 46, no. 3/4, pp. 225–242; id., 2000 'The Philistine Settlements: When, Where and How Many?', in Oren, E. D. (ed.) *The Sea People and Their World: A Reassessment*, The University Museum Monographs 108, University of Pennsylvania, pp. 159–180.
- 4) Ishida, K. et al. (eds.), 2014 *Excavations at Tell Ali Al-Hajj, Rumeillah: A Bronze-Iron Age Settlement on Syrian Euphrates*, Memories of the Ancient Orient Museum, vol. IV.
- 5) Otto, A., 2006 *Alltag und Gesellschaft zur Spätbronzezeit: Eine Fallstudie aus Tall Bazi (Syrien)*, Subartu XIX, Brepols Publishers.
- 6) Khater, A., 1960 *Le Régime juridique des fouilles et des antiquités en Égypte*, Imprimerie de L'Institut Français d'Archéologie Orientale, pp. 226–228.

2 ARCHAEOLOGICAL INVESTIGATION

Settlement in the Southwest Area A settlement lies from the south side of a crag protruding from the ancient city zone to the bottom flat of a valley between this crag and the next (Fig. 4 Nos. 1–3). According to our archaeological studies in this area from 2002, the settlement dates from the end of the New Kingdom to the beginning of the Late Period. The excavated area in this season is adjacent to the east side of the 2003 and 2012 areas¹⁾, and measures 8m east-west by 40m north-south in the bottom flat (Fig. 6). The aim of the investigation in this area is to elucidate the actual situation in the settlement and its inhabitants in this period which is the turning point of the Pharaonic Era.

The east-west street confirmed in the 2003 and 2006²⁾ seasons extends further eastward, and takes its somewhat southward bend along the north wall of Room 3. An alley branches off at right angles to it and runs to the south (Fig. 5 Nos. 1, 2 and 5). The north side of the street was destroyed by the construction of furnaces as mentioned below. The extant width of the street is 1.8m while the original width is seen to be 2.0–2.3m. The alley is 1.8m in width though the west side was slightly

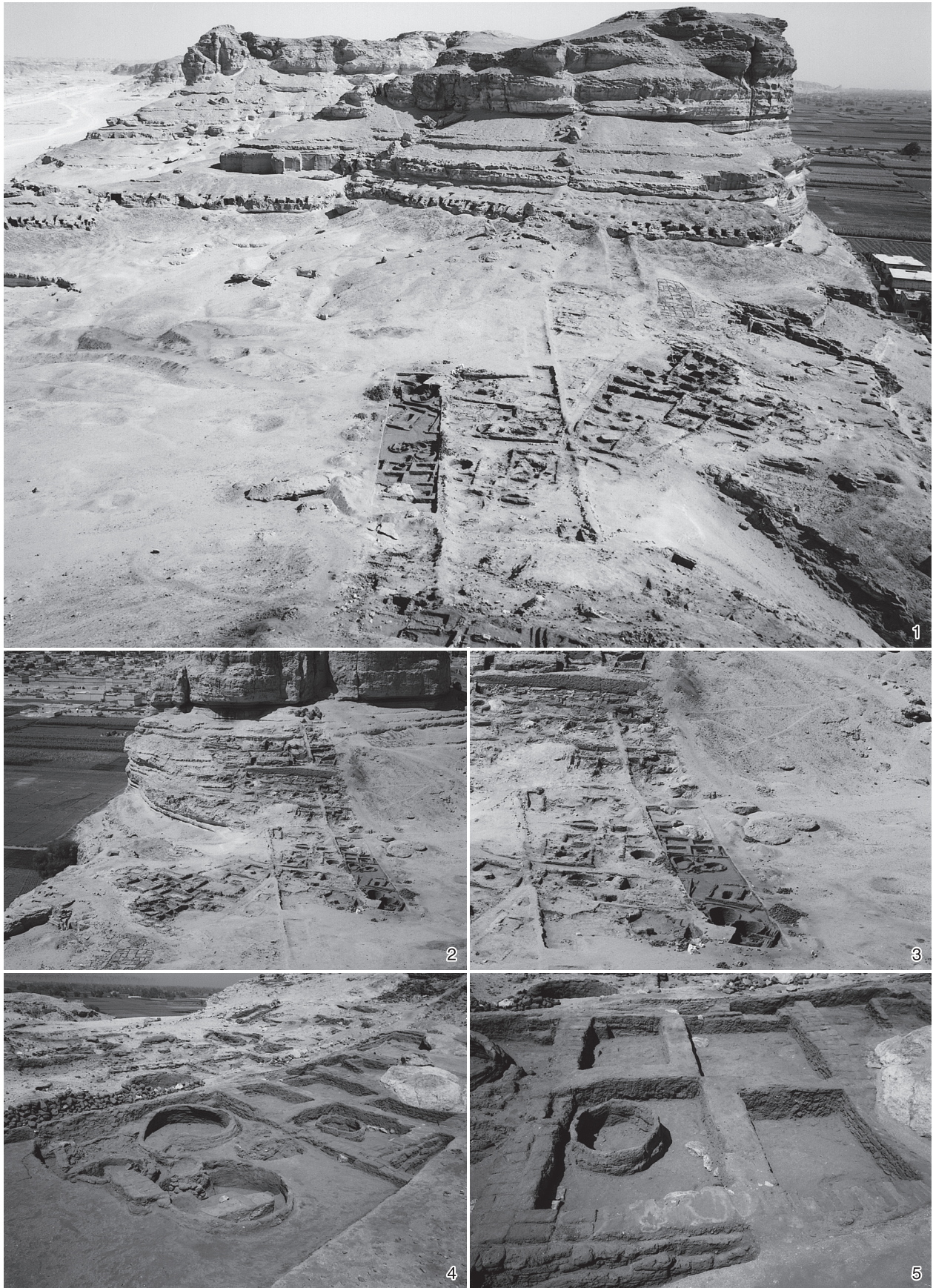


Fig. 4 Southwest Area of the Site. 1: Panoramic view, from north; 2: Panoramic view, from south; 3: Excavated area; 4: North part of the excavated area, from southeast; 5: Room 5, unexcavated cross left in it, from east.

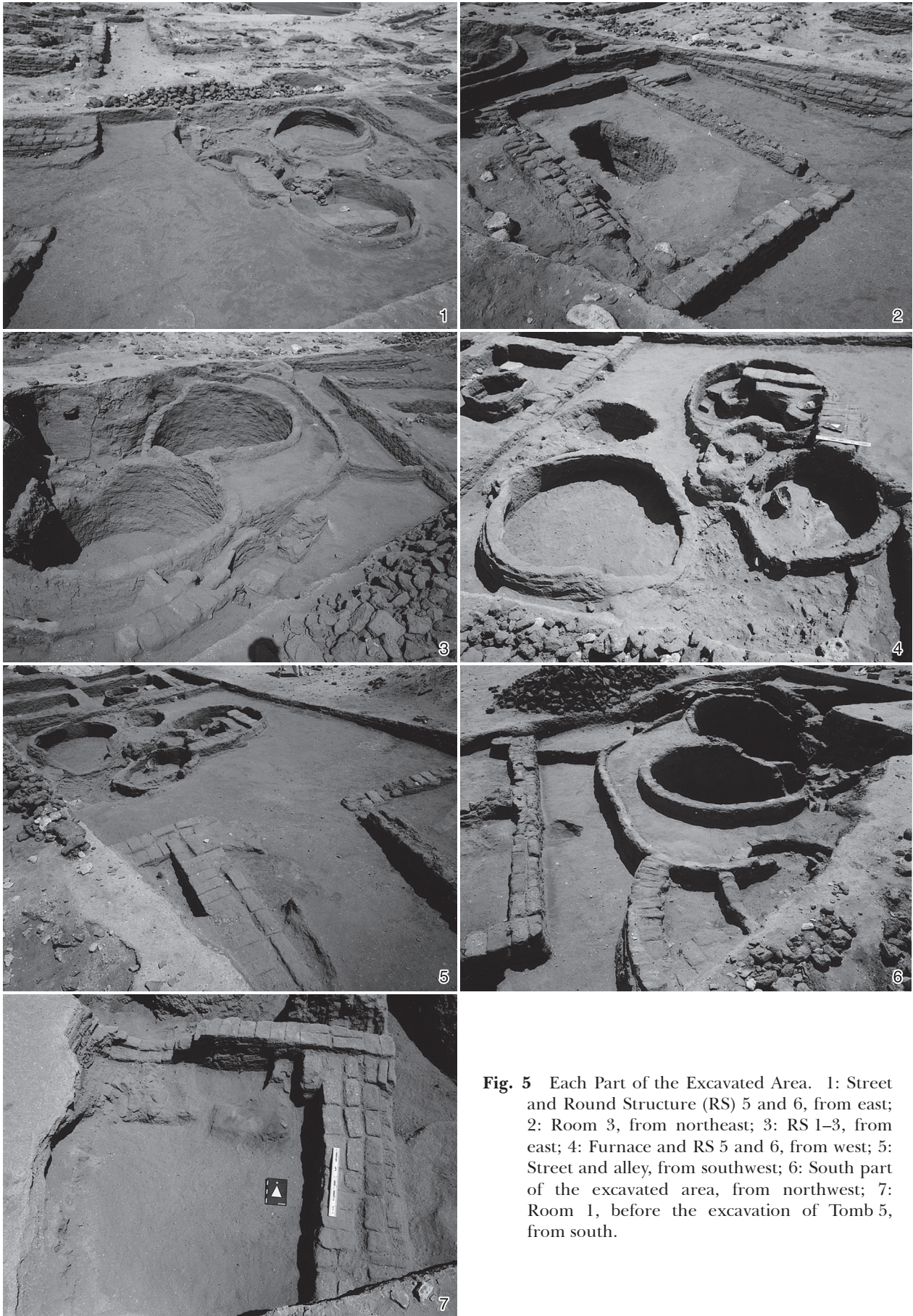


Fig. 5 Each Part of the Excavated Area. 1: Street and Round Structure (RS) 5 and 6, from east; 2: Room 3, from northeast; 3: RS 1-3, from east; 4: Furnace and RS 5 and 6, from west; 5: Street and alley, from southwest; 6: South part of the excavated area, from northwest; 7: Room 1, before the excavation of Tomb 5, from south.

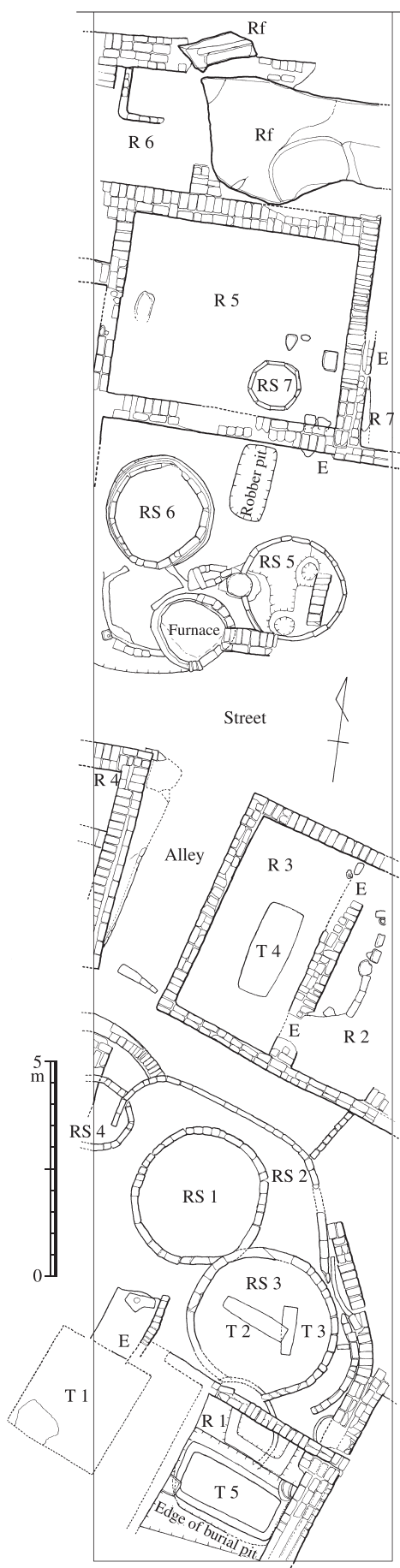


Fig. 6 Plan of the Excavated Area. R: Room; T: Tomb; E: Entrance; RS: Round Structure; Rf: Rock fall.

altered in direction, the earlier side was made parallel to the east side. The north section extending from the street yielded two rooms (R 5 and 6), three round structures (RS 5–7) and one or two furnaces (Fig. 4 No. 4). A large fragment of leather sandal was on the west part of the street.

Room 5 measures 4.3m north-south \times 5.4m east-west and the wall is 0.5m in extant height (Fig. 4 No. 5). It shows at least one altered part in the east and south walls respectively. Of three stepping stones, one beside the east wall and the other two beneath the east end of the south wall, were uncovered. The upper faces of these stones are worn and only the mud bricks of the walls adjacent to or joining these stones are lacking. These facts tell us that an entrance was provided in these two walls respectively, though they left no clue to know the constructural sequence. A small round structure (RS 7) of 0.9m in diameter was revealed in the southeast part of Room 5. Room 6 adjacent to the north side of Room 5 measures 2.8m north-south and at least 2.0m east-west. The west part of the room is subdivided by a thin L-shaped wall, and the east part is occupied by a huge rock fall. In the north outer part of the room a thick white sand layer has accumulated.

Two round structures, RS 5 and 6, show similar dimensions, 2.3m in the inside diameter (Fig. 4 No. 4). The dig did not reach their bottoms because of a shortage of time. RS 6 bears the vestige of a domed ceiling though the top part is missing. RS 5 has no such vestige. The furnace, round in plan, is 1.4m in the inside diameter, and its floor is concave (Fig. 5 No. 4). The inside is glazed, which indicates that the temperature rose to nearly 1000°C in firing. Consider-



Fig. 7 Room 2, from North.

ing that ash issued from it contains much charcoal, firewood or charcoal must have been used as fuel. In addition not even a chip of slag was found around it. These facts suggest that the furnace was used as a pottery kiln. The adjacent west part of it also bears the vestige of a furnace though it was not completely exposed because of the shortage of time. The north side of the street and the south part of RS 6 are cut by the construction of the furnace, while the upper debris in RS 5 was

filled with charcoal and ash derived from the furnaces. No doubt the furnaces were built later than not only the street but also RS 5 and 6. In the 2003 season the adjacent west part was excavated and some furnaces/fireplaces are extant³⁾. Their south sides partially intrude into the street as is the case of the furnaces uncovered in this season. The furnaces/fireplaces excavated in 2003 and 2014 are esteemed to have been a manufacturing zone where high temperature was utilized.

Four rooms (Rooms 1–4) were uncovered south of the street (Fig. 5). Rooms 3 and 4 are at the east and west sides of the alley respectively, and Room 2 is adjacent to the east side of Room 3 (Fig. 5 No. 2). Room 1 lies at the south end of the excavated area (Fig. 5 No. 7). Two large round half-underground structures (RS 1 and 3) separate Room 1 from Rooms 2 and 3 (Fig. 5 Nos. 3 and 6). While Rooms 2 and 4 were partially revealed in the excavated area, their dimensions are unknown, Room 3 is 4.9m north-south \times 2.5m east-west, a ratio of nearly 2 to 1. These walls are 30–40cm in the extant height. In the partition wall between Rooms 2 and 3, two entrances, north and south, were uncovered. The north one bears a limestone door-socket which lies at the northeast corner of Room 3. Considering the position of the door-socket, Room 3 seems to belong to the innermost part of a house. The partition wall was piled over again, and a thin intermediate soil layer is found between upper and lower walls. Judging from the stratigraphy, it seems that the north entrance belongs to the lower wall and the south one to the upper. Interestingly no entrances through to the street and the alley were confirmed, which is similar to the case of other rooms excavated in the previous seasons. A large faience stamp bearing some inscriptions (Fig. 12 No. 1) was found in Room 3. Large pottery sherds as well as two almost a complete vase and a bowl, kept their original position on the floor of Room 2 (Fig. 7).

Of two large round half-underground structures (Fig. 5 Nos. 3 and 6), RS 1 measures 2.8–2.9m in the inside diameter and 2.2m from the extant top to the bottom. The subterranean depth is 1.5m. Many pottery sherds were scattered especially in the lowest level of accumulated debris in it. RS 3 measures 3.1–3.2m in the inside diameter and 2.0m from the extant top to the bottom. The subterranean depth is 1.5m. The accumulated soil contains pottery sherds as well as mud bricks evenly distributed from the top to the bottom. The large foreleg of a horse or donkey was found in the lower half of the fill. The bottoms of RS 1 and 3 reach down to the virgin soil and are plastered with mud on each floor though it is mostly missing now. Observing the parts contacting each other, clearly RS 3 is of an earlier date than RS 1, however it is not denied that both of them served as

silos. A thin arc-shaped wall surrounds the north part of the two. The extant height from the top to the foundation of the wall is 40cm. In the inner part, the skull of goat/sheep and much dung of goat/sheep were revealed, which suggests that it was used as an enclosure for those animals, and if so, it should be antecedent to RS 1 and 3. Other round structures were partially exposed nearby, but the details are unknown due to later disturbance. Room 1 is more than 4.0m north-south \times 2.8m east-west. A fireplace was set against the north wall. The floor of the south part was cut for the construction of a subterranean tomb (Tomb 5). The thick east wall is antecedent to the tomb, and the north and the west walls are coeval with the tomb or somewhat later. A u-shaped fireplace uncovered at the north part extends beneath the north wall, which suggests it to be coeval with the east wall. It is disputable if Room 1 was used as residential space after the tomb was made.

(KAWANISHI)

Notes

- 1) *Preliminary Report Akoris 2012.*
- 2) *Preliminary Report Akoris 2003 and 2006.*
- 3) *Preliminary Report Akoris 2004.*

Burials: Five tombs were unearthed in the excavated area. They are distributed southward from the street, that is, Tombs 1 and 5 are at the south end of the excavated area, Tomb 2 and 3 are on the debris of RS 3, and Tomb 4 is under the floor of Room 3. Tomb 1 has a burial chamber made of mud bricks, Tomb 5 which is adjacent to the east side of Tomb 1, has a large shaft, and each of Tombs 2–4 has a narrow pit for a wooden coffin (Fig. 6).

Tomb 1 was partially exposed in 2012 but had been unfortunately looted before it was investigated (Fig. 8 Nos. 1–3 and Fig. 9). The interior measurement of the burial chamber is 2.45m north-south \times 2.30m east-west. The east and the west walls lean gradually to the inside and form a vaulted ceiling of 1.55m in height. The floor is on the virgin soil. An entrance of 0.7–0.8m in width and 0.85m in height with a wooden breastsummer was equipped on the north wall and piled by bricks of 32 \times 16 \times 8cm, and a very short passage of 0.9m in width extends 1.5m to the north from it. In the passage a bulky woodwork (Fig. 12 No. 33) was placed at the north end like a step, and the left femur of an adult was found near the entrance.

The floor of the burial chamber was partially divided into three spaces by two low, short north-south curtain walls made of mud brick of 38 \times 18 \times 8cm extending from the south wall, one at the center and the other in the west half. The floor was destroyed on a large scale to 50cm deep around the center by looters, who intruded into the tomb from a hole which they made at the southwest corner of the ceiling. They not only damaged wooden coffins but also took out many fragments of coffins and human bones through the hole. The destruction of the floor is presumed to have been executed at that time. In addition to this hole, a hole in the ceiling at the southeast corner of the chamber was found, and heavy damage suffered from looters searching for another burial chamber remains in the center of the east wall. It is not clear that these acts were done at the same time.

A large quantity of fragments of wooden coffins and bones were scattered in the chamber. According to our osteological analysis, human bones including bones taken out by looters could be



Fig. 8 Excavated tombs. 1: Entrance of Tomb 1, from north; 2, 3: Inside of Tomb 1, from north; 4: Bottom of Tomb 5, from south; 5: Tomb 2, from northeast; 6: Tomb 3, from west; 7: Tomb 4, from west; 8: Detail of Tomb 4, from south.

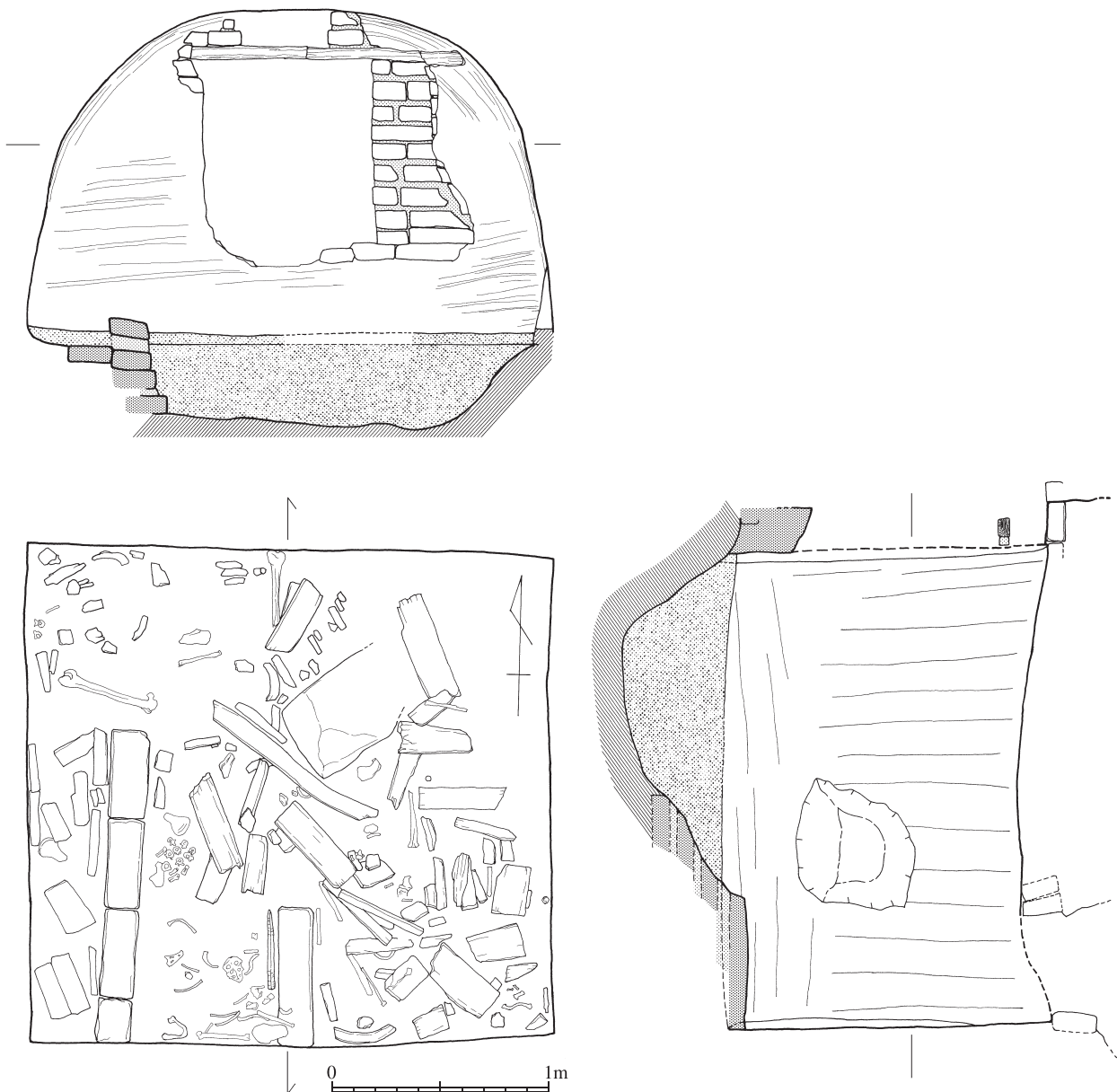


Fig. 9 Plan and elevation of Tomb 1.

confirmed as those of at least five corpses, that is, two mature males, a mature female, a senior female and a teenager of unknown sex. Among the bones there is a female right tibia showing an open fracture and fistulae in the lower part (Fig. 11). The fracture was healed leaving a deformity, however, at the fracture, *fistulae* were formed by *suppurative osteomyelitis* which was caused by an infection of pyogenic bacteria, and possibly the cause of death¹⁾. In addition, pig (*Sus*) bones were found in the chamber and the debris taken out from it. Based on the wooden species and colored plastering of the coffin fragments, at least four coffins can be differentiated. They are anthropomorphic as far as we can judge.

Burial goods are limited to a rectangular amulet (Fig. 12 No. 2) and a few pottery shards. A large dish with a direct rim and two rows of holes at the bottom is supposed to date from the first half of the TIP (Fig. 10 No. 2). A clay human figurine found with bones and fragments of wooden coffins which looters took out from Tomb 1 might also be burial goods (Fig. 10 No. 3 and Fig. 12 No. 9).

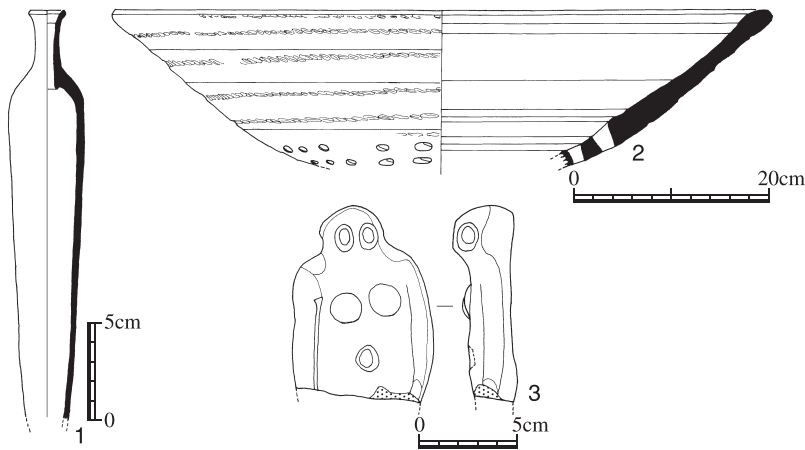


Fig. 10 Finds from Tomb 1. 1, 2: Pottery inside the tomb; 3: Unfired clay figurine beside the tomb.



Fig. 11 Tibia from Tomb 1. Left: Fractured one; Right: Enlarged photo.

Tomb 2 yielded only the bottom boards of a coffin and several human bones just under the surface layer of sand (Fig. 8 No. 5). It measures $1.85 \times 0.5\text{m}$. Though almost all of the burial corpse is lost, it is possibly an adult male judging from the length of tibia, and tibia and scapula located *in situ* show that its head, though now lost, was laid eastward as that found in Tomb 5. The bottom is formed by putting short boards side by side as was the prevailing arrangement. No burial goods accompanied him.

Tomb 3 (Fig. 8 No. 6) was revealed at a somewhat deeper level than Tomb 2 and it seems to be of an earlier date. A rectangular coffin found in the tomb measures 106cm north-south \times $29\text{--}18\text{cm}$ east-west on the inner side. The bottom of the coffin is formed by two long boards laid side by side in the north half and five short boards laid crosswise in the south half. The buried corpse lying with its head in a northward direction is in good condition and a complete skeletal structure remains. According to its developmental stage of dentition, it corresponds with a child of 8–9 years, different than the age suggested by his height. Cloth adheres to its head, femurs and feet. Tomb 2 and Tomb 3 are supposed to date from the second half of the TIP because they were found just under the surface layer.

Tomb 4 (Fig. 8 Nos. 7 and 8) appeared at a 1.1m depth under the Room 3 floor. The burial pit measures 2.2m north-south \times 0.9m east-west. A rectangular wooden coffin measures 1.84m in length and 35cm in the extant height. It is box-shaped, but the width varies, that is, 38cm at the north end, 45cm at the center and 15cm at the south. In a word, the center is somewhat expanded, and then tapers toward the south. The coffin is covered doubly by two kinds of mat plaited by *Phragmites communis* fabrics and is tied up with ropes at three places. One mat is plaited with a technique of twining, and the other mat is twilled. A buried corpse with almost all bones *in situ* and lying with its head to the north is a senior male. *Spondylosis Demormans* was found in Vertebrae lumbalis IV and V. He was 152cm tall at death, but probably had been taller than 160cm at a younger age according to the length of his legs. No burial goods except for some beads were found on or in the coffin.

Tomb 5 (Cover) bears a large anthropomorphic coffin whose dimensions are $1.8 \times 0.5\text{m}$. The

constructional sequence of Tomb 5 is as follows: First, a large shaft, 1.8m north-south × 2.7m east-west × 1.9m in depth was dug in the floor of Room 1 and reaches the virgin soil. Along the way a round structure and a large fireplace made of pottery were destroyed. Second, three logs were laid on the bottom of the shaft (Fig. 8 No. 4). Third, a rectangular enclosure, whose interior dimensions are 88–95cm north-south × 2.20m east-west × 60–67cm in height, was built with mud bricks of 35 × 15 × 6cm on them. In addition the four interior sides in the enclosure are covered with wooden planks. Such compartmental facilities are for protecting a coffin. Forth, an anthropomorphic coffin containing the corpse of an adult female was placed northward in it with the head laid eastward. The coffin measures 182cm long × 43cm wide in max. × 29cm high and a red color remains on the inside. An image on the surface of the multicolored lid is presumed to be a female, judging from the swelling breasts and open hands crossed in front of the chest (Cover, center). Three long boards placed side by side form the bottom and two long boards joined vertically forms both sides except for the east end where two short boards stand side by side. The board at the west end was lost. Fifth, the compartment was completely or partially covered by wooden boards and a mat plaited by *Phragmites communis* fabrics called “hashira” in Egypt was spread on it (Cover, left)²⁾. Sixth, the shaft was completely buried in sandy soil, which is different from the soil dug from the shaft.

The corpse is preserved in good condition though the cloth wrapping is almost lost (Cover, right). It is a female, 147–150cm long and is supposed to be between the late twenties and mid-thirties. Her hair is wavy and a dark brown but changes to an olive color as it is dyed in places. No burial goods could be found in the coffin except for some small glass beads which were not *in situ*. Yet a small fragment of hard reddish sandstone with six or seven hieroglyphic inscriptions (Fig. 12 No. 15) was found inside the west part of the enclosure outside the coffin. The stone is part of a stele though the letters are too exiguous to be deciphered. Generally a stele is not included among funerary goods, so it might be a kind of amulet. As for the coffin, while the inside has been painted red, the lid and outside have various kinds of colored patterns, which partially contain hieroglyphic patterns, but they, as well as those on the coffin in Tomb 1, are not true hieroglyphs. The coffin was so fragile that each part was taken out with great care, and now await our detailed research.

(TSUJIMURA)

Notes

- 1) Medical Dr. Yutaka MURATA suggested to me the cause of fistulae.
- 2) Examples of burials covered with a mat are found not only among wooden coffins including Tomb 5 that will be discussed in detail below but also among jar burials such as No. 6 in 2010. (Tsuji-mura, S., 2014 ‘Third Intermediate Period Burial at Akoris’, *Preliminary Report Akoris 2013*, pp. 14–20)

Finds from the Excavated Area (Fig. 12) No. 1: Faience stamp. Uncovered immediately under the top soil of the Room 3 area. L. 4.0 × w. 2.3 × h. 1.5cm. The stem is pierced through the long axis. *Ra-Horakhty*, cobra and sun-disc are engraved.

No. 2: Amulet. Uncovered from the lowest fill of Tomb 1. L. 1.9 × w. 1.5 × thickness (hereinafter abbreviated to t.). 0.7cm. Probable steatite covered with greenish blue glaze. Recto: cartouche of *Mn-hpr-R^c* (Thotmose III)? and feather of *Ma'at* on the right side. Verso: sphinx and hieroglyphic

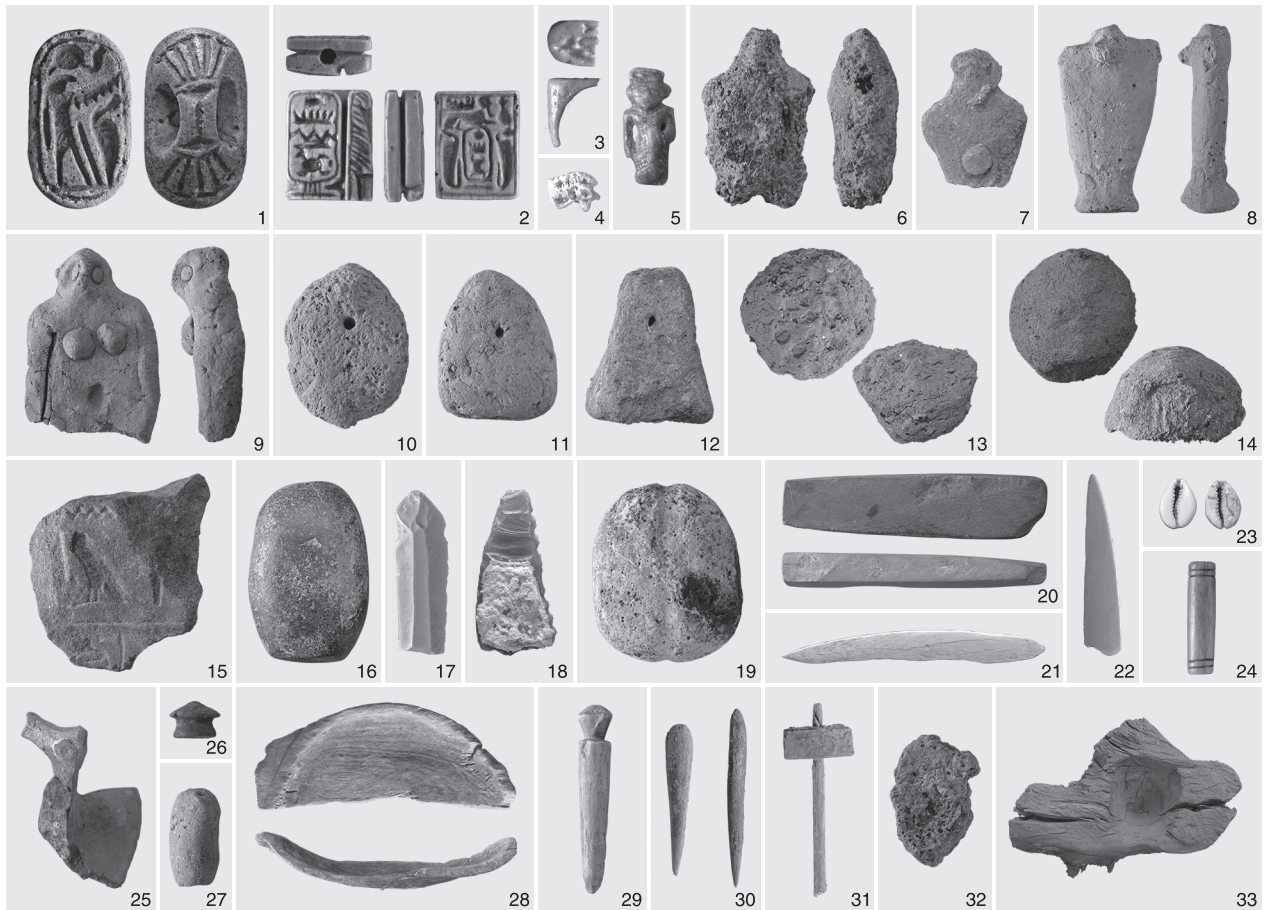


Fig. 12 Finds from the excavated area. 1: Stamp; 2, 4 and 5: Amulets; 3: Ring; 6–9: Figurines; 10–12: Loom weights; 13, 14: Jar sealings; 15: Fragment of stele; 16: Grindstone; 17: Flint blade; 18: Sickle blade; 19: Limestone weight; 20: Whetstone; 21, 22: Bone spatulas; 23: Cowries; 24: Bone cylinder; 25: Cult bowl; 26: Game piece; 27: Clay weight; 28: Wooden shallow bowl; 29–31, 33: Wooden products; 32: Crucible.

signs of *Mn* and *nfr* on the upper row, and the cartouche of *Mn-hpr-R^c* and *uraeus* on either side of it on the lower row.

No. 3: Faience ring. Uncovered from the fill of Room 3. The signet part is 1.0cm in present length and 0.9cm in width. The present height 1.2cm. Lion or cat headed goddess holding papyrus scepter.

No. 4: Faience *Udjat*-eye. Uncovered somewhere from the fill of excavated area. L. 0.6 × h. 0.4 × t. 0.2cm.

No. 5: Faience goddess. Uncovered from the ash fill of RS 5. H. 2.0 × w. 0.9 × t. 0.7cm. The goddess seems to be Hathor.

No. 6: Charcoaled cereal-made anthropomorphic figurine. Uncovered from the lower fill of Room 5. H. 6.1 × w. 3.8 × t. 2.2cm. The cereal seems to be wheat. The position suited to navel is somewhat concave. Possibly a round patch, representing the navel, had been detached from here.

No. 7: Fired clay magical human figurine. Uncovered from the upper fill of the north part outside the Tomb 1 passage. H. 5.8 × w. 4.5 × t. 2.3cm. Head and leg parts are missing. A round patch adheres to the belly¹⁾. Including this, four similar examples were uncovered in this season.

No. 8: Fired clay magical cobra figurine. Uncovered from the fill of Room 5. H. 12.2 × w. 6.9

× t. 4.0cm. The lower end of the leg is inserted to the base. An ornament on the head is missing²⁾. Including this, twenty-two similar examples were uncovered in this season.

No. 9: Unfired clay magical female figurine. Uncovered from the soil moved outside from Tomb 1 by looters in 2013. Lower part is missing. Present height 10.0 × w. 7.0 × t. 3.2cm. Eyes, breasts and a naval are shown by round patches. Face is so protruded as to look like a bird.

No. 10: Sun-dried mud loom weight. Uncovered from the fill of RS 1. H. 8.1 × w. 6.1 × t. 3.5cm. Weight 139g. A narrow hole is pierced and the lower part is swelled.

No. 11: Sun-dried mud loom weight. Uncovered from the fill of RS 4. H. 10.5 × w. 8.5 × t. 5.4cm. Weight 408g. A narrow hole is pierced and the lower end is flat³⁾.

No. 12: Sun-dried mud loom weight. Uncovered from the fill of RS 5. Height 8.9cm, bottom 7.3 × 6.8cm and top 3.5 × 3.7cm. Nos. 10–12 are for vertical loom and belong to the Levantine type, which are demarcated from the Aegean one of spool shape⁴⁾. Compared them with other similar examples, each hole is so narrow. Including Nos. 10–12, eight similar examples were uncovered in this season.

No. 13: Sun-dried mud sealing for jar. Uncovered from the lowest fill of RS 1. H. 7.6cm × diameter 9.6cm. Stamps, probably by a scarab of 1.0 × 0.8cm, are extant on the upper face.

No. 14: Sun-dried mud sealing for jar. Uncovered from the fill of the north part outside RS 2. H. 5.5 × diameter 11.2cm. The diameter of jar lip is 8.8cm. The stamp is rectangular, l. 4.0 × w. 3.0cm, and bears unidentifiable designs consisting of rectilinear relief lines. Including Nos. 13 and 14, fifteen similar examples were unearthed in this season.

No. 15: A fragment of reddish sandstone stele. Uncovered from the west part in the compartment of Tomb 5. H. 9.2 × w. 9.6 × t. 3.9cm. Six or seven hieroglyphic signs are partially visible. It may have been treated as a kind of mortuary offering.

No. 16: Grindstone. Uncovered from the lower sand fill of the north part outside Room 6. L. 10.4 × w. 6.6 × t. 6.3cm. Hard and heavy stone of bluish gray. Roundish rectangular parallelepiped.

No. 17: Flint blade. Uncovered from the ash fill of RS 5. L. 4.3 × w. 1.4 × t. 0.3cm. It is not sure if it belongs to the Third Intermediate Period.

No. 18: Flint sickle blade. Uncovered from the fill of Room 6. L. 5.3 × w. 2.6 × t. 0.5cm. Little bitumen is extant on the ridge. It served for the pointed head of sickle.

No. 19: Grooved limestone weight. Uncovered from the fill of the northeast part in Room 5. L. 11.0 × w. 9.2 × t. 6.4cm. Weight 1506g. It served for fishing or as vertical loom weight.

No. 20: Whetstone. Uncovered from the fill of Room 6. L. 18.8 × w. 4.4 × t. 2.2cm. Bluish gray sandstone. It is wholly abraded.

No. 21: Bone spatula. Uncovered from the fill of Room 3. L. 14.8 × w. 1.7 × t. 0.3cm. Somewhat curved. One end is acute and the other obtuse. It is made of sheep/goat or cow rib. Wholly abraded. Probably it served for pickling out warp of loom⁵⁾.

No. 22: Bone spatula. Uncovered from the fill of Room 6. One end is missing. Present length 9.3 × w. 2.0 × t. 0.3cm. Wholly abraded. Material and use are the same as No. 21.

No. 23: Cowries. Uncovered immediately under the topsoil of RS 1. Left: l. 1.6 × w. 1.2 ×

t. 0.6cm and right: l. $1.7 \times$ w. $1.2 \times$ t. 0.5cm. Their protuberant shells are cut. They served as personal ornaments.

No. 24: Incised bone cylinder. Uncovered immediately under the topsoil of the street. L. $4.9 \times$ diameter 1.2cm. It served for adorning something.

No. 25: Cult bowl with double bird heads⁶⁾. Uncovered from the fill of RS 1. H. 8.6cm. One head is missing.

No. 26: Blackened clay piece of game. Uncovered from the top of the Room 3 or 4 wall. H. $1.7 \times$ diameter 2.3cm. Many similar pieces, large and small, have been found in our fieldwork.

No. 27: Fired clay cylindrical weight. Uncovered from the lower fill of RS 3. L. $4.5 \times$ diameter 2.3–2.4cm. It served for fishnet. Including it, eleven similar examples were uncovered in this season.

No. 28: Wooden shallow bowl. Uncovered from the lower fill of RS 1. Diameter 15.2cm and the extant height c. 2.5cm. Part of horizontal handle is extant.

No. 29: Wooden peg-like product. Uncovered immediately under the topsoil of Room 5. L. $16.6 \times$ w. 2.9cm. There are no scratch traces indicating to have been used as a peg/nail. It served for an ornament or unknown cult when regarding it as an anthropomorphic shape.

No. 30: Wooden products. Uncovered inside a jar fixed at the north floor in Room 2. Left: l. $12.4 \times$ w. $2.2 \times$ t. 1.8cm, and right: l. $14.6 \times$ w. $1.4 \times$ w. 1.0cm. Somewhat curved and wholly abraded. Probably they served for the shuttle of vertical loom⁷⁾.

No. 31: Wooden spindles. Uncovered near Tomb 3. Diameter $4.3 \times$ h. 2.0cm. Axis is l. 12.3cm. Including this, eight similar spindles were uncovered in this season.

No. 32: Pottery crucible. Uncovered from or immediately under the sandy topsoil at the north part outside Room 6. The rim is missing. Present dimensions are l. $10.4 \times$ w. 6.7cm. Copper slug adheres on the inner surface.

No. 33: Wooden product. Fixed on the north end of the Tomb 1 passage floor. L. $80 \times$ w. $52 \times$ h. 30cm. A concave, diameter $28 \times$ depth 20cm, was filled with calcareous soil when it was uncovered. Seemingly it served for the step downward to the tomb passage, though the original use is unknown. (KAWANISHI)

Notes

- 1) Hanasaka, T., 2014 'Clay magical human figurines unearthed from Tihna el-Gabal (Akoris)', *Preliminary Report Akoris 2013*, pp. 7–13.
- 2) Hanasaka, T., 2012 'Clay cobra figurines unearthed from Akoris (Tihna el-Gabal)', *Preliminary Report Akoris 2011*, pp. 4–14.
- 3) Roth, H. L., 1913 *Ancient Egyptian and Greek Looms*, Bankfield Museum, p. 8.
- 4) Janeway, B., 2008 *The Nature and Extent of Aegean Contact at Tell Ta'yinat and Vicinity in the Early Iron Age: Evidence of the Sea People?*, *Scripta Mediterranea* vol. XXVII–XVIII, pp. 123–146; Yasur-Landau, A., 2010 *The Philistines and Aegean Migration at the End of the Late Bronze Age*, pp. 132–135, Cambridge University Press.
- 5) Similar examples are known at the site of Lachish. Sass, B. with excursuses by Gottlieb, Y. and G. Bachi, 2004 'Ch. 23 Pre Bronze and Bronze Age artefacts, Section A: vessels, tools, personal objects, figurative art and varia', in Ussishkin, D., *The Renewed Archaeological Excavations at Lachish (1973–1994)*, Vol. 3, Tel Aviv University, pp. 2011–2012.

- 6) Mazar, A., 2009 'Clay figurines and cult vessels', in Panitz-Cohen, N. and A. Mazar (eds.), *Excavation at Tel Beth-Shean 1989–1996: Vol. 3, The 13th–11th century BCE strata in Areas N and S*, The Israel Exploration Society; The Hebrew University of Jerusalem, p. 550; Guzowska, M., 2009 'Figurines and small finds', in Gadot, Y. and E. Yadin (eds.), *Aphhek-Antipatris II: The Remains on the Acropolis (The Moshe Kochavi and Pirhiya Beck Excavations)*, Emery and Claire Yass Publications in Archaeology, Tel Aviv University, p. 398.
- 7) cf. Roth, op. cit. p. 42.

3 INVESTIGATIONS IN THE PTOLEMAIC QUARRY AT NEW MINYA

A recent report on the limestone quarries in Minya province highlights the extremely harsh conditions under which the local people are working to earn their living¹⁾. The title of the article aptly denotes that “workers at Egypt’s limestone quarries risk amputation at one of the world’s most dangerous jobs.” According to this report c. 45,000 people, including children, work in 1,500 quarries at wages of 7 to 13 dollars a day. We got the same impression when we visited several modern quarries in 2012 in the course of the general survey of ancient quarries near Akoris²⁾. Although the traditional methods employed in the ancient limestone quarries were totally different from the modern systematic exploitation using heavy machinery with dangerous turning lathe, the labor in the quarries must have been no less exhausting also in the Hellenistic times. It is thus all the more interesting to observe the various traces of activities at quarries around Akoris, which provide valuable insight into the economic life in the countryside of Ptolemaic Egypt.

In 2014, thanks to the improvement of situation in Egypt, further investigations were carried out in the Ptolemaic quarry at New Minya (formerly Zawiet Sultan). Our research was focused on Section L located on the upper eastern side of the quarry valley³⁾ (Fig. 13 No. 1). This is one of the several sections we explored at the outset of our investigations in 2005, when our understanding of the recording system of graffiti was quite insufficient. In the light of the observations made at the other sections in the quarry since then, it now seems clear that Section L has the following idiosyncrasies.

(1) Apparently the purpose of the work on this section was to extract large, often flat blocks, the exact size of which seems to have been predetermined. In order to pursue this purpose, deep narrow trenches were cut around the rocks as were the case with the unfinished colossus nearby.

(2) The width of the vertical trenches is almost invariably 0.5m, which roughly corresponds to the basic unit of measurement (royal cubit), while the width of the large blocks is not so standardized.

(3) Greek and demotic texts were written in pairs, often leaving fairly wide space between them. In this section, Greek texts were always put to the right of the demotic counterparts.

(4) Greek texts are composed in the canonical tripartite style, i.e., a single date (regnal year, month, and day), a personal name, and a set of numerals for three-dimensional measuring of volume. But personal names are consistently rendered in genitive case, while that of the Greek graffiti from other sections (except for nearby Section J) are denoted in nominative case.

(5) Demotic texts of the bilingual graffiti show three or two consecutive month names instead of the single date on the Greek graffiti (a regnal year and an exact day). Curiously enough, these

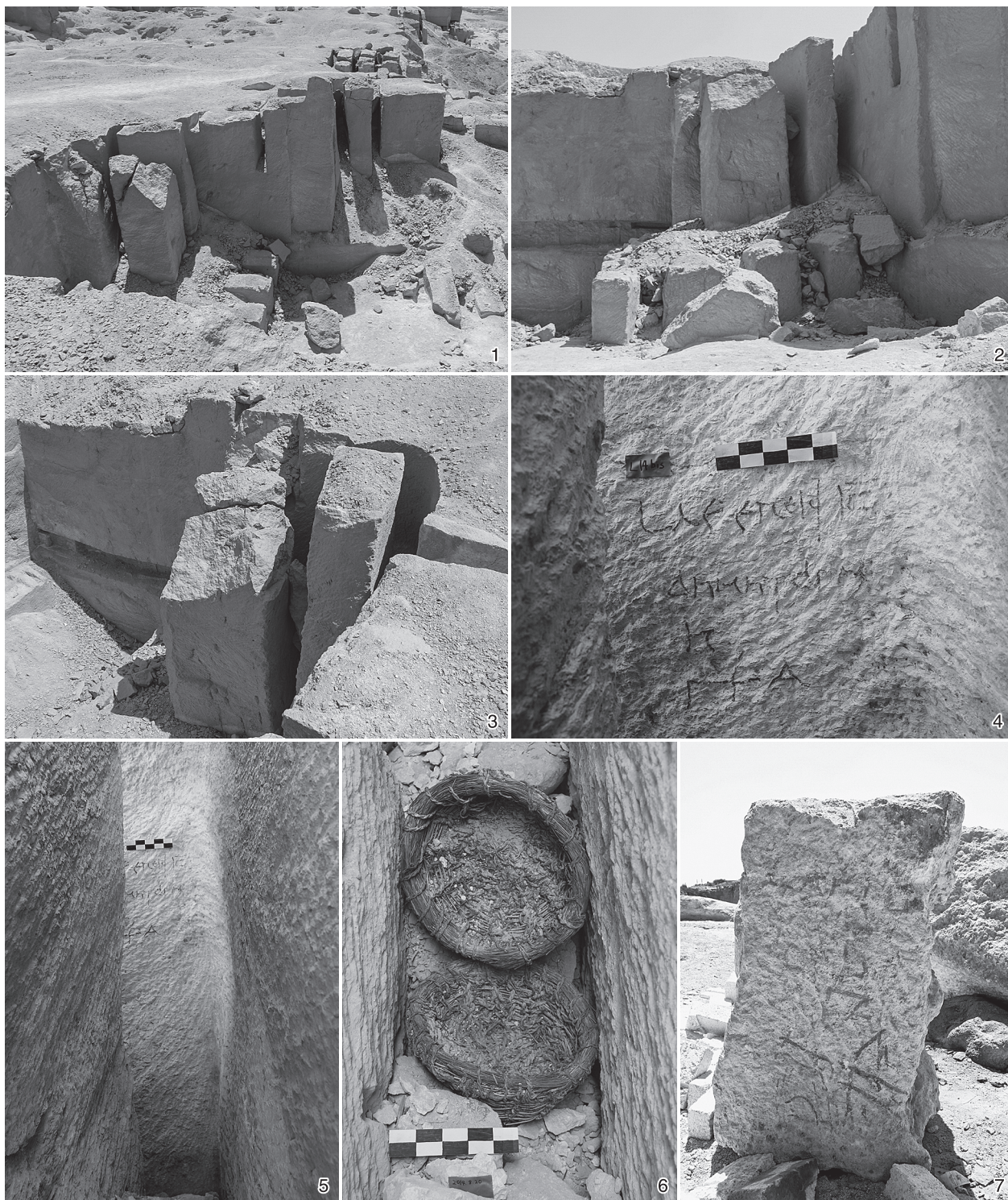


Fig. 13 Details of New Minya Quarry. 1: General view of Section L from the north; 2: Section L from the west showing the vertical trenches surrounding the upright blocks; 3: Section L from above; 4: Greek text of L 14; 5: View of the southernmost trench of Section L from the west with the graffito L 14; 6: Two complete woven baskets found from the inside of the trench; 7: A block with the Greek graffito of year 33 and some enigmatic signs below it.

series of months do not include the month of the corresponding Greek texts. The month of the Greek graffiti is always the *following* month of these months of demotic graffiti. For example three months, 4th peret, 1st shemu, 2nd shemu, are written on the demotic text L 14. But the month

appears on the corresponding Greek text is Epeiph, i.e., 3rd Shemu.

(6) Both Greek (Demetrios, Apollonios etc.) and Egyptian (Toteus, Petosiris) names appear on the graffiti of Section L. There seems to be no such ethnic concentration hitherto observed in Section U (exclusively Greek) or Section F (exclusively Egyptian).

(7) The volume of stones dug out of trenches by a quarryman is relatively large in this section compared with the cases in other sections⁴⁾. Vertical trenches seem to have been negotiable place for the ancient workers to accomplish their duty smoothly.

In 2014, we cleaned the narrow vertical trenches located in the southwestern area of Section L in order to examine these characteristic phenomena in detail (Fig. 13 Nos. 2 and 3). A Greek graffito, the counterpart of the demotic graffito L 14, was newly found in good condition (Fig. 13 No. 4).

Year 35 Epeiph 16

Demetdrn

3 1/3 × 8 × 1

The quarryman, Demetdrn, must be no one but Demetrios son of Dromon on L 15 (demotic) and L 15 (Greek), which is located just to the west of L 14. It is highly probable that this Demetrios was responsible for the digging of the long vertical trench to the south of the flat block continuously (Fig. 13 No. 5), though the reason why the amount of his work must have been recorded in two separate sets of graffiti bearing exactly the same date (5 Sept. 251 BC) remains to be elucidated. It is also not certain whether Demetrios on the graffito L 4 + 5 is the same quarryman or not. Inspections of the work in the vicinity of this trench were conducted also on 13 and 21 of the same month (Table 1).

Two complete baskets were found during the course of the removal of the debris piled up in the southern trench (Fig. 13 No. 6). For the present the date of these objects is difficult to determine.

Many large blocks are scattered on the surface of the gentle slope to the southwest of the quarry. In 2014 we came across a block with a Greek graffito of year 33, the regnal year that had not yet ascertained among the graffiti inside the quarry (Fig. 13 No. 7). This discovery suggests that the system of recording the working process also in Greek had already been introduced by the year 33 of Ptolemy II (253/252 BC). (SUTO)

Notes

I am especially grateful to Mr. Sugihiko UCHIDA for the reading of demotic graffiti and to Dr. Ryosuke TAKAHASHI and Ms. Kasumi ITO for their collaboration in the fieldwork.

1) <http://www.news.com.au/finance/work/workers-at-egypts-limestone-quarries-risk-amputation-at-one-of-the-worlds-most-dangerous-jobs/story-e6frfm9r-1227301605145>

2) *Preliminary Report Akoris 2012*, pp. 17–20.

3) *Preliminary Report Akoris 2005*, Fig. 14

4) Cf. *Preliminary Report Akoris 2013*, p. 6, Fig. 2.

Table 1 Tentative List of the Greek and Demotic Graffiti in Section L.

L	Lang	Year	Month & Date	Calender date	Personal name	No. 1	No. 2	No. 3	Volume
1	G					5 2/3	2 1/3	1	14.16
2+3	D		1 akhet, 2 akhet		tmtryz (Dēmētrios)	3 1/2	3 1/2	1	12.25
4+5	G	35	Hathyr 6	29. Dec. 251	Dēmētriu				
6	D		2 peret, 3 peret		Dd-...Hr-... (Djedhor)	2 5/6	4 2/3	1	13.22
7	G		Pharm 21	12. June (252?)	TE...	2 5/6	4 2/3	1	13.22
8									
9+10	D		4 peret, 1 shemu, 2 shemu		Dhwty-iw (Djehutyiu)	5 1/2	5 1/2	1	30.25
11+12	G	35	Epeiph 21	10. Sept. 251	ê toteōs	5 1/2	5 1/2	1	30.25
13	G	35	Epeiph 21	10. Sept. 251	Simiou	4	11 1/2	1	46
	D		4 peret, 1 shemu, 2 shemu			4	11 1/2	1	46
14	D		4 peret, 1 shemu, 2 shemu		tmtryz (Dēmētrios)	3 2/3	8	1	29.33
	G	35	Epeiph 16	5. Sept. 251	Dēmēt, Drom	3 1/3	8	1	
15	D		4 peret, 1 shemu, 2 shemu		tmtryz (Dēmētrios), tln (Telen)	5 1/2	8	1	44
16	G	35	Epeiph 16	5. Sept. 251	Dēmēt, Dromōnos	5 1/2	8	1	8
17	?								
18+19									
20	D		4 peret, 1 shemu, 2 shemu		tywtwrz (Diodōros)	2 2/3	4	1	10.67
21	G	35	Epeiph 16	5. Sept. 251	Diodōrou	2 2/3	4	1	10.67
22+23	D		4 peret, 1 shemu		tmtryz (Dēmētrios), twzythwz (Dositheos?)	5	8 1/2	1	42.5
24	D		4 peret, 1 shemu, 2 shemu		wzr-... (User...?)	5	4 1/2	1	42.5
25	G		Epeiph 13	2. Sept. 251	Paoitos	5	4 1/2	1	42.5
27	D								
29		35							
30	D		2 peret, 3 peret		Apwnlyz (Appolōnios)	4 5/6	7	1	33.83
31	G	34	Pharm 15	6. June 252	Apollōniou	4 5/6	7	1	33.83
38	D		2 peret, 3 peret		tA-Htr.t (Taheteret?)	5 5/6	1	1	5.83
42	D	?	4 peret, 1 shemu, 2 shemu		pA-ti-wzir (Petosiris), son of Hr-anx (Horankh?)	3 1/2	1	1 2/3	5.83
43	G		Epeiph 21	10. Sept. (251?)	Petosiris	3 1/2	11 2/3	1	40.83
45	D		4 peret, 1 shemu, 2 shemu		AzklpyAz (Asklepios)	4 1/4	3	1	12.75
	G	35	Epeiph 16	5. Sept. 251		4 1/4	3	1	12.75
47	D		2 peret, 3 peret		tmwpylz (Demophilos)	4 1/2	5 2/3	1	25.5
48	G		Mesorē 11	30. Sept. (?)	Dēmophilou	4 1/2	5 2/3	1	25.5
53	D				iw=f-rx (lufrek?)...				

4 LITHIC OBJECTS FROM TIHNA EL-GABAL (AKORIS)

Several lithic objects have been unearthed from the south area of Tihna el-Gabal (Akoris), and this paper focuses on the discoveries made in this region during the 2002–2012 excavation seasons. As shown in the outlines presented below, two types of stone objects, namely blade/flake and ground stone assemblages, were unearthed.

Blade/flake assemblage (Fig. 14) The blade/flake assemblage included intentionally produced cores, blades, and flakes; retouched tools made from blades and flakes; debitage produced in the

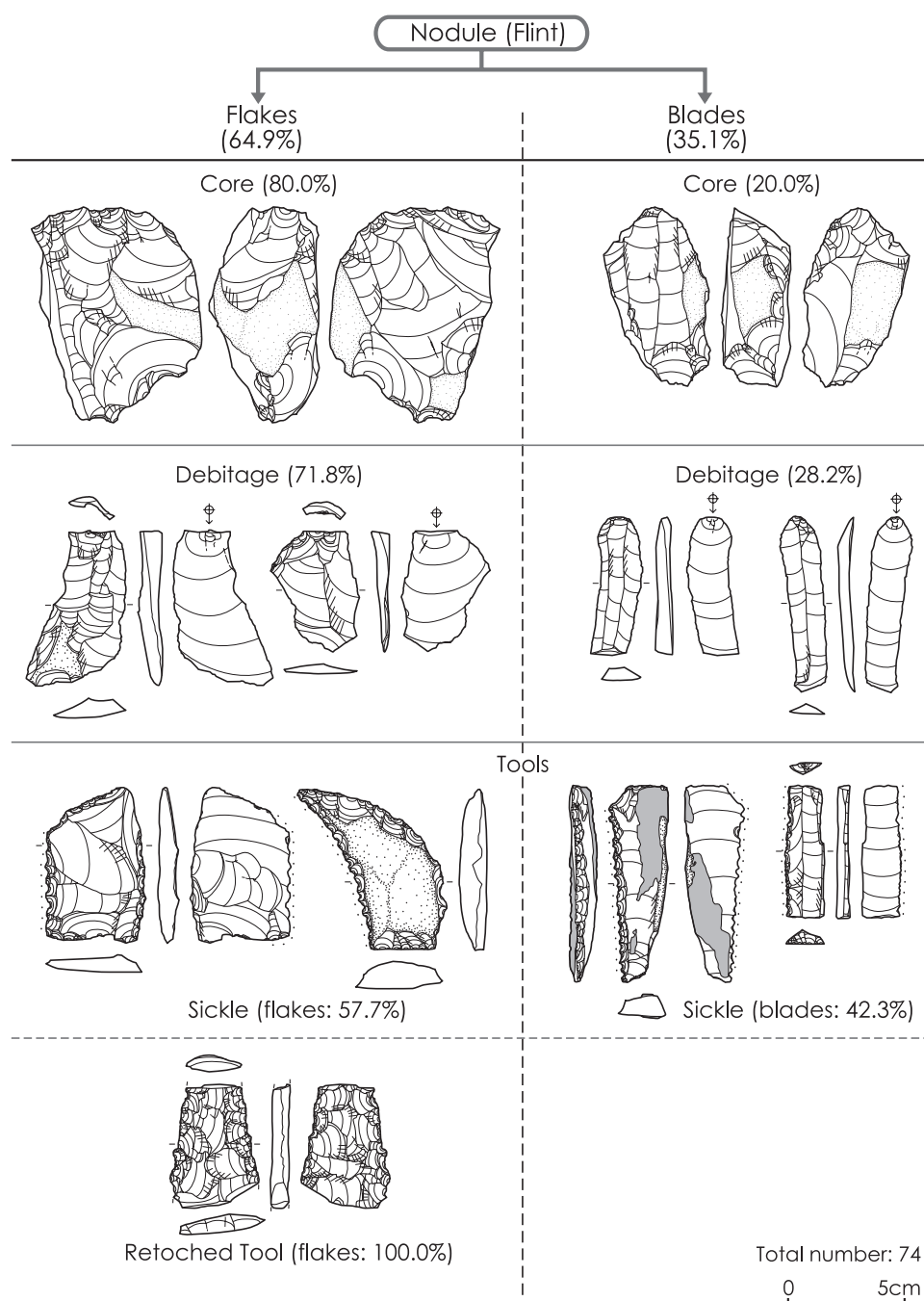


Fig. 14 Variations in Lithic Productions.

process of manufacturing blades; and flakes and retouched tools. Most retouched tools were sickles, whose production was concentrated at this assemblage. The sickles used blades or flakes with sickle-gross on either one side or both sides and were made of flint, which was available relatively near to the site. These facts indicate that nodules or cores were imported into the site and that production occurred at the site.

Seventy-four specimens were unearthed during the 10 excavation seasons; these specimens included five cores, 39 types of debitage (flakes, blades, and debris), and 30 retouched tools. In total, the flake assemblage accounted for 48 specimens (64.9%), and the blade assemblage accounted for 26 specimens (35.1%); lithic production at this site relied primarily on the flake assemblage (e.g.,

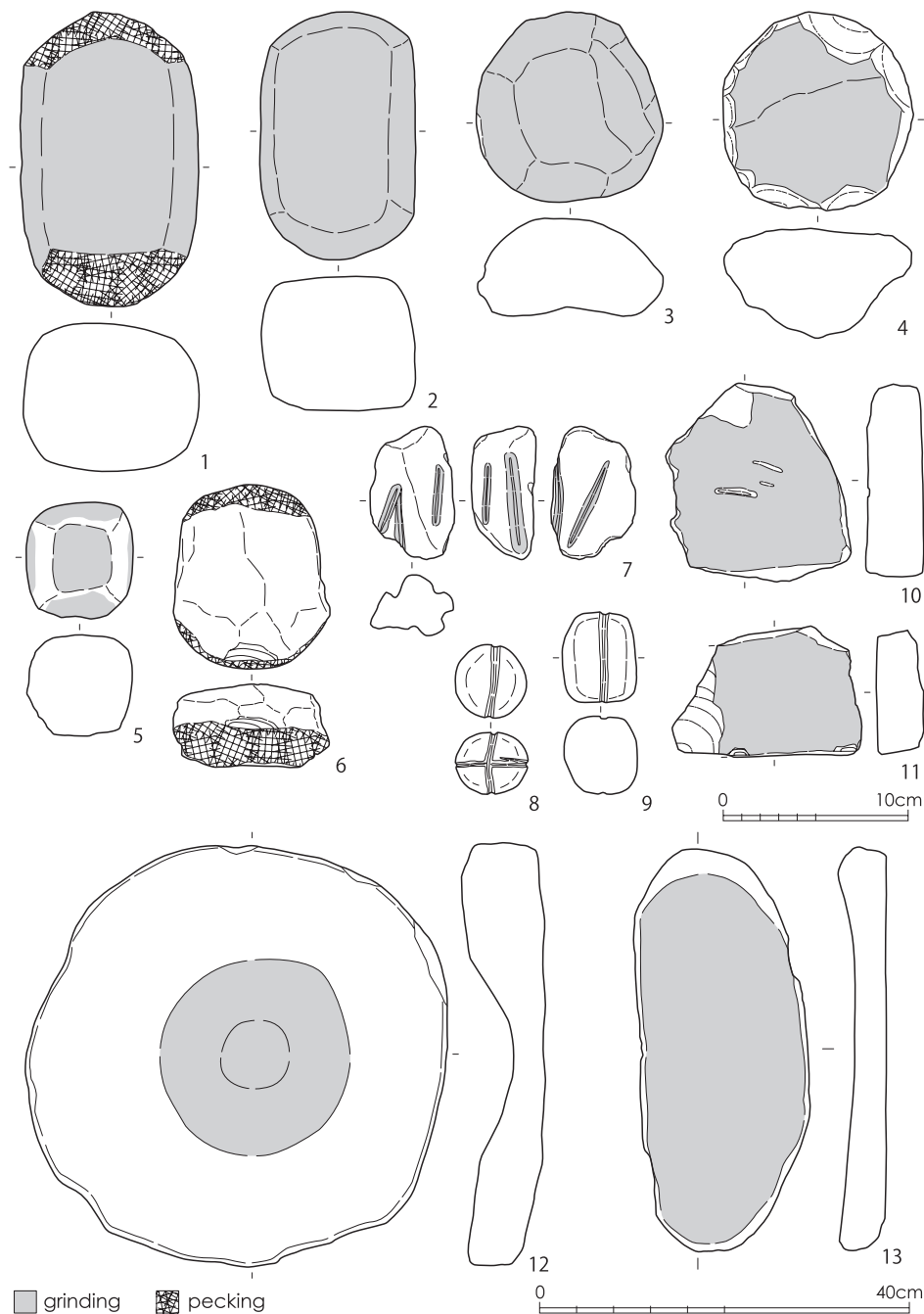


Fig. 15 Ground stone assemblage.

cores: the flake assemblage accounted for four specimens [80.0%], and the blades assemblage for one [20.0%]; debitage: the flake assemblage accounted for 28 specimens [71.8%], and the blade assemblage for 11 [28.2%]; and tools: the flake assemblage accounted for 19 specimens [63.3%], and the blade assemblage for 11 [36.7%]).

Ground stone assemblage (Fig. 15) The ground stone assemblage included pounding stones, stone hammers, querns, grooved grinding stones, and weight stones made of sandstone, limestone, flint, quartzite, basalt, and granite. A total of 201 specimens were unearthed during the 10 excavation seasons, including 79 pounding stones, seven stone hammers, 89 querns, 12 grooved grinding stones, and 14 weight stones. Details about these stones are presented in the following.

Pounding stones, primarily soft stones, were used for grinding certain materials. Their shape varied from spherical to cubical, and they were usually used with a quern (Fig. 15 Nos. 2–5). The stone hammers had traces of pecking in one or multiple sections (Fig. 15 Nos. 1 and 6). The querns were employed to grind certain materials and were used in combination with pounding stones. Their shape varied from rectangular to oblong or circular (Fig. 15 Nos. 10–13), but the rectangular shape was the most common. The grooved grinding stones had traces of grooves in one or multiple sections, and a very soft stone was used for this object (Fig. 15 No. 7). The weight stones had traces of grooves in one or two lines, and their shape varied from circular to oval. It is thought that these objects acted as weights for fishing nets or looms (Fig. 15 Nos. 8–9).

The aforementioned tools, which may have been used for livelihood-related activities such as cooking, came from both near and far. Those that had been transported long distances were not of any special type, but had been frequently reused.

However, the most important discovery in Akoris is that lithic objects were fully utilized between the end of the second millennium and the first half of the first millennium BC. In the future, we hope to present a more detailed analysis of these lithic objects. (ENDO)

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