PRELIMINARY REPORTS OF THE SYRIA-JAPAN ARCHAEOLOGICAL JOINT RESEARCH IN THE REGION OF AR-RAQQA, SYRIA, 2008

INTRODUCTION

Michel AL-MAQDISSI*
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In February of 2007, the Syria-Japan Archaeological Joint Research in the Bishri Region started the field works in the region of Ar-Raqqa. Since then, seven times of the joint works in the field were carried out until December of 2008 as follows:

The 1st season of field works: February 15 to March 3, 2007
The 2nd season of field works: May 6 to 30, 2007
The 3rd season of field works: August 1 to 29, 2007
The 4th season of field works: November 8 to December 12, 2007
The 5th season of field works: March 3 to April 5, 2008
The 6th season of field works: April 25 to June 6, 2008
The 7th season of field works: October 10 to December 2, 2008

Composed of 18 research teams listed below, specialized in natural and cultural sciences, this multi-diciplinary joint research aims to clarify, through harmonized cooperative field works in the Bishri region south of Ar-Raqqa, changes of natural environment, patterns of settlement, subsistence patterns, architectural styles, artistic styles and social relationship, thereby clarifying how ancient pastoral nomadic tribes contributed to the formation of agriculture-based urban societies along the Middle Euphrates, North-East Syria.

1) Supervising Team "Archaeological Research in West Asia based on Integrated Research Methods"(Director: Katsuhiko Ohnuma)
2) Research Team "Relationship between the Behavioral Evolution and the Process of Sedentalisation during the Palaeolithic Period in West Asia" (Director: Hiroyuki Sato)
3) Research Team "Expansion Process of Food Production Economy and Formation of Community in the Arid Area of West Asia" (Director: Yoshihiro Nishiaki)
4) Research Team "A Comparative Study on the Burial Patterns of the Pastoral Nomadic Tribes" (Director: Sumio Fujii)
5) Research Team "A Study of the Process of Urbanization in West Asia" (Director: Akira Tsuneki)
6) Research Team "Integrated Research on the Assyrian Civilization in Northern Mesopotamia" (Director: Hirotoshi Numoto)
7) Research Team "Establishment and Development of the Civilization of Sumerian Writing System" (Director: Kazuya Maekawa)
8) Research Team "Development of City-States and the Tribes in West Asia" (Director: Akio Tsukimoto)

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9) Research Team "Environmental History of the Middle Euphrates based on Environmental Geology, Environmental Chemistry and C14 Dating" (Director: Mitsuo Hoshino)
10) Research Team "Biological Features of the Ancient Inhabitants of the Middle Euphrates and its Peripheral Region" (Director: Hidemi Ishida)
11) Research Team "Zoological and Botanical Archaeology in the Prehistoric to the City-State Societies of West Asia" (Director: Hitomi Hongo)
12) Research Team "A Study on the Styles and the Genealogy of Masonry Techniques in Ancient West Asian Architecture" (Director: Yasuyoshi Okada)
13) Research Team "Basic Structure and Re-arrangement of the Bishri Mountains Tribal Culture in the Ancient Oasis City, Palmyra" (Director: Saeko Miyashita)
14) Research Team "Developing Data-base of Archaeological Sites of West Asia: An Investigation through the Analysis of Satellite Images" (Director: Ken Matsumoto)
15) Research Team "An Archaeological Study on the Nomadic Tribal Communities in Northern Eurasia: A Comparative Study" (Director: Shu Takahama)
16) Research Team "A Study of the Process of Urbanization in the Steppical Border of Syria in the Third and Second Millennia B.C." (Director: Michel Al-Maqdissi)
17) Research Team "A Study of the Bronze Age Pottery Obtained by the Syria-Japan Archaeological Joint Research in the Region of Ar-Raqqa" (Director: Michel Al-Maqdissi)
18) Research Team "New Perspectives of Anthropology and History towards Arab Tribal Systems" (Director: Masayuki Akahori)

The members who participated in the seven times of the joint works are as below:

Syrian Party: Michel Al-Maqdissi (Superviser), Anas Al-Khabour (director), Shaker Al-Shbib (director), Ahmed Sultan (Director), Ayham Al-Fahry, Mahmmod Al-Hassan, Ibrahim Musa, Mohamad Ali Jajan, Mohamad Ibrahim and Aed Issa.

Japanese Party: Katsuhiko Ohnuma (Superviser and Director), Hiroyuki Sato, Masanobu Tachibana, Yoshihiro Nishiaki, Tomoyasu Kiuchi, Sumio Fujii, Takuro Adachi, Kae Suzuki, Akira Tsuneki, Atsunori Hasegawa, Hirotoshi Numoto, Shogo Kume, Izumi Yoda, Harumi Horioka, Haider Urebi, Mitsuo Hoshino, Tsuyoshi Tanaka, Toshio Nakamura, Hidekazu Yoshida, Takeshi Saito, Kazuhiro Tsukada, Yusuke Katsurada, Ken-ichi Tanno, Lubna Omar, Chie Akashi, Yasuyoshi Okada, Naoko Fukami, Ryuichi Yoshitake, Yo Negishi, Panagiotis Tokmakidis, Shouko Ueda, Natsuko Fujikawa, Saeko Miyashita, Hitoshi Hasegawa, Tomoya Goto, Shu Takahama, Toshio Hayashi, Ryuji Matsubara, Toshiki Yagyu, Kenichiro Takao and Yoshihiko Nakano.

In the 1st season of field works, we undertook surveys of archaeological sites and *bir*s in the research region, and confirmed that there is a bias in the dates of the sites distribued on the Euphrates plateau between the towns of Mansura and Ghanem al-Ali. We also confirmed that most of the sites in the western part of the research region are dated to the Roman, Byzantine and Islamic periods, while in the eastern part only a few sites are distributed, several of which are dated to the Early Bronze Age.

On the basis of these archaeological surveys, we chose Tell Ghanem al-Ali and Tell Hammadin in the 2nd season as candidates for future excavations.

And in the 3rd season, trench excavations were started at the site of Tell Ghanem al-Ali, and they were continued in the 4th and 7th seasons. Survey of cairns along the northern edge of the Mount Bishri was also started in the 3rd season.

In the 5th season, we carried out intensive surveys of archaeological sites in the research region to clarify the EBA land-use patterns around Tell Ghanem al-Ali, in order to gain further records of population history in this region since earlier times. We also carried out sondage at Rujum Hedaja

near Bir Rahub in the 5th to 7th seasons, with a view to exploring the pastoral background of the EBA society in the middle Euphrates river basin.

In the 5th to 7th seasons, we also carried out surveys at the Early Bronze Age hilltop tombs around the village of Ghanem al-Ali, in order to shed light on the funerary aspect of the EBA settlement of Tell Ghanem al-Ali.

During the surveys above, our geolo-geographical team confirmed that the site of Tell Ghanem al-Ali is situated on the 1st river terrace of the Euphrates among the 1st to 4th terraces in the research region.

Features of the objects, obtained during the series of field works and related surveys, demonstrate that the site of Tell Ghanem al-Ali, the tombs near Tell Ghanem al-Ali, and the cairn graves at Rujum Hedaja are altogether dated within the Early Bronze Age (EB III to EB Iva) periods, leading us to expect that the research to continue will clarify how ancient pastoral nomadic tribes contributed to the formation of agriculture-based urban societies along the Middle Euphrates, North-East Syria.

The papers presented here are the three working reports of the 5th to 7th field works in the forms of their submission to the Syrian Directorate General of Antiquities and Musems (see Al-Maqdissi, Ohnuma, Al-Khabour, *et al.* (2008) for the working reports of the 1st to 4th field works).

Dr. Bassam Jamous, Director General of the Syrian Directorate General of Antiquities and Musems kindly understood this joint research and have been constantly cooperating towards its success, and we express our sincerest gatitude to him for his heart-warming cooperation.

31/December/2008

ARCHAEOLOGICAL RESEARCH IN THE BISHRI REGION — REPORT OF THE FIFTH WORKING SEASON —

Katsuhiko OHNUMA*
Anas Al-KHABOUR**
(April 5, 2008)

INTRODUCTION

The fifth working season of the Syria-Japan Archaeological Joint Mission to the Bishri Region started on March 3 and ended successfully on April 5, 2008. The members of the joint mission from the Syrian and Japanese parties were as follows:

Syrian party: Anas Al-Khabour (Director), Ayham Al-Fahry, Mohamad Ali Jajan, Ahmad Sultan.

Japanese party: Katsuhiko Ohnuma (Director), Sumio Fujii, Takuro Adachi, Kae Suzuki, Lubna Omar, Takeshi Saito, Kazuhiro Tsukada, Hirotoshi Numoto, Yoshihiro Nishiaki, Shogo Kume, Seiji Kadowaki.

First of all, we would like to express our sincerest gratitude to Dr. Bassam Jamous, Director General of the Syrian Directorate General of Antiquities and Museums, and Dr. Michel Al-Maqdissi, Syrian Supervising Adviser for this joint mission and Director of Archaeological Excavations and Research at the Syrian Directorate General of Antiquities and Museums, whose warm-hearted cooperation was essential to the success of this field season.

The objective of this field season was manifold. To begin with, we conducted a limited sounding at Rujum Hedaja 1, a large cairn field on the northern flank of Jabal Bishri, with a view to exploring the pastoral background of the EBA society in the middle Euphrates river basin. The second objective was to analyze faunal remains from Tell Ghanem al-'Ali. Third, we carried out a reconnaissance survey of shaft tombs around the village of Ghanem al-'Ali, in order to shed light on the funerary aspect of the EBA settlement of Tell Ghanem al-'Ali. Fourth, we made a geological investigation around Tell Ghanem al-'Ali, which addressed the stratigraphy of the basal part of the tell. Fifth, we undertook intensive surveys of archaeological sites in an effort to clarify the EBA land-use patterns around Tell Ghanem al-'Ali and Tell Hammadin and also to gain further records of population history in this region since earlier times. It is needless to say that these operations were intended to contribute to a better understanding of the archaeological implications of Tell Ghanem al-'Ali, the main target of our mother project. The following are brief summaries of the five operations.

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The Research Area

1. A BRIEF SOUNDING AT RUJUM HEDAJA 1

Sumio FUJII (Professor, Kanazawa University)

A brief sounding at Rujum Hedaja 1, a large cairn field on the northern flank of Jabal Bishri, was conducted for about three weeks from March 3 through May 20 of 2008. The objective of this short-term investigation was to shed new light on the pastoral background of the EBA society in the middle Euphrates river basin. The investigation revealed a large cist-type burial cairn with a double enclosure, which may be tentatively dated, on the basis of a line of evidence referred to below, to the Bronze Age, its final phase in particular.

The Site and Site-setting

The site of Rujum Hedaja 1, or RHD-1 in our site registration code, is one of the four cairn fields (i.e. clusters of cairns) that were first found in our general survey conducted in May of 2007 (see our previous report). It was located on a flat-topped limestone hill ca. 5 km east of Bir Rahum, a small village that was newly founded along a local main road in the latter half of 1970s (Fig. 1.1). This table-like hill is ca. 30–50 m higher than the surrounding terrain and protruded westward for ca. 1 km, thereby commanding a fine panorama of the Bir Rahum area (Fig. 1.2).

Our previous survey had confirmed that the site contained a total of fourteen burial cairns, and that most of these were lined along the southern edge of the flat hilltop. This suggested a possibility that a long techno-typological sequence within the same site would be established. In addition, they included some large-scale, relatively well-preserved examples that were often accompanied with small features. It is for these reasons why we embarked on the sounding of the site. The accessibility from the local main road was also among the reasons for the site choice.

The Sounding of BC-10

Due to time constraints and an unexpectedly bad weather, the sounding of Rujum Hedaja 2, another site scheduled for investigation, was postponed until the next field season. Instead, our sounding focused on Burial Cairn No. 10 at Rujum Hedaja 1 (or RHD-1/BC-10). It was one of the largest and best-preserved burial cairns, being located at the western edge of the site.

The sounding was conducted based on a 5 m by 5 m grid and locus system that covered BC-10 and some of its surrounding features. In order to combine the efficiency of investigation and the preservation of the site, we adopted a half-cut excavation method along the north-south axis passing through the center of the mound. Since no triangle point was available nearby, a bench-mark was set up arbitrarily at the center of the grid system. Its elevation is estimated ca. 550 m according to a geographical map published in Syria.

We employed up to ten local workers at Bir Rahum, whose diligent workmanship was among contributing factors for the success of this field season. The operation took place under the supervision of some qualified persons including Ayham Al-Fahry and Mohamad Ali Jajan, both representatives from the Raqqa branch office of the Department of Antiquities and Museums. Their sincere cooperation was also highly appreciated.

The Mound and Internal Structures

BC-10 consisted of a large mound and a few internal structures. The mound was pear-shaped in general plan, measuring ca. 15 m in the N-S major axis, ca. 13 m in the E-W minor axis, and ca. 1.2 m in relative height. It contained a large volume of undressed limestone cobbles up to ca. 30 cm long as well as rubble and silty soil. Similar cobbles covered the mound surface, probably a device to protect it from erosion. It appears that these construction materials were procured from the surrounding edges of the flat hilltop where similar stones are still abundantly available.

The half-cut excavation revealed the following three internal structures underlying the mound: a cist, an inner enclosure, and an outer enclosure (Fig. 1.3). All of these were constructed by means of a dry walling technique without using any mortar. Even small rubble as adjustment material was rarely used. This is not to say, however, that they were inferior in construction quality. As described below, the cist realized a height of ca. 1.2 m and the outer enclosure was elaborately finished using dressed chalky limestone cobbles.

The cist, a core feature of BC-10, occupied the center of the mound and had a pear-shaped plan with its round tip being oriented to the south. It was relatively large in size, measuring ca. 6.5 m in the NNW-SSE major axis, ca. 5 m in the ENE-WSW minor axis, and ca. 1 m in height. The floor size was a little smaller, being ca. 5.5 m in the major axis and ca. 4.5 m in the minor axis. Technologically, it was based on a rubble foundation layer ca. 0.2 m thick, on which the pear-shaped masonry wall, a single stone-row wide and up to five to six courses high, was constructed. The foundation course of the wall contained larger boulders up to ca. 70 cm long, which were usually arranged in stretcher bond. The upper courses, on the other hand, consisted of smaller stones arranged largely in header bond. The wall was slightly inclined inward partly due to the use of a header bond technique for the upper courses.

Interestingly, the cist incorporated four stone-lined rectangular chambers that were arranged crosswise (Fig. 1.4). In contrast to the cist wall, the chamber complex had an orientation slightly rotated clockwise from the four cardinal points. Unfortunately, they were subject to later disturbance, but a total of five concentrations of human skeletal remains were confirmed (Fig. 1.5). Due to the disturbance, the finds were limited to a few snail and marble objects and several pottery sherds, although the surface and upper fill layers produced a bronze fibula and a Roman coin.

The inner enclosure had a similar profile to the cist, being ca. 13 m in the NNW-SSE major axis, ca. 10 m in the ENE-WSW minor axis. Technologically, it was constructed with a masonry wall a

single stone-row wide and preserved up to a height of five to six courses or ca. 1 m. In comparison with the cist and the outer enclosure, it was much inferior in construction quality, suggesting its *ad hoc* nature. The use of both smaller and less standardized construction materials may also support this assumption. No entrance was found at least within the excavated squares.

Two small graves were found within a wide corridor sandwiched between the cist and the inner enclosure. Grave A was constructed leaning against the northern wall of the inner enclosure (Fig. 1.6), whereas Grave B against the eastern wall of the cist. Both of these interments took place on a semi-circle stone pavement fringed with larger stones, being covered with a small cobble mound. Grave A produced human skeletal remains only, but Grave B yielded a small bronze bracelet as well as a number of fragmented human bones (Fig. 1.7). Their casual appearance and peripheral location suggest that they were incidental burials associated with the main interment within the cist.

The outer enclosure was another highlight of this burial cairn. As with the other two components described above, it was also pear-shaped, being ca. 16 m in the NNW-SSE major axis, ca. 13.5 m in the ENE-WSW minor axis, and preserved up to a height of two to three courses or ca. 0.5 m. Two kinds of construction materials were used: partly dressed limestone boulders up to ca. 60–70 cm long for the foundation course, and finely dressed standardized chalky limestone cobbles for upper courses (Fig. 1.8). While the former was arranged in header bond, the latter were piled up on them in stretcher bond. What attracted our attention was the fact that the latter construction materials often retained traces of chiseling on their upper or lower surface, and that some dozens of examples were decorated with herringbone patterns (Fig. 1.9) or animal designs (Fig. 1.10). There is no doubt that these designs were engraved by means of metal implement. (Local workers provided the information that similar stones are available at a hill some kilometers south of the site, but we have not yet confirmed it.) In view of the volume of fallen examples, it appears that these elaborate construction materials were piled up at least to a height of a few courses. There is little doubt that such an attractive wall formed the outer edge of the original mound. Here again, no entrance was confirmed within the excavated squares, but it seems more likely that the two enclosures were not equipped with it from the beginning.

Surrounding Features

A total of fourteen small stone-built features were confirmed around BC-10. Some of these were substantially buried in the ground, suggesting the possibility that they were as early as BC-10. For this reason, the following three examples were excavated either entirely or partly.

What most interested us was Feature 01, an elongate wall ca. 75 m in total length that was located ca. 20 m to the east of BC-10 (Fig. 1.11). This wall, ca. 1 m wide and a single stone-course (or ca. 20–30 cm) high, was extended roughly in the north-south direction, crossing the western edge of the flat hilltop. Since fallen stones were scarce, it appears to retain the original height. Technologically, it was constructed with two rows of limestone cobbles with smaller rubble being compacted in between. Nevertheless, such a careful construction was limited to the southern half nearer to BC-10; the northern half was reduced into irregular stone alignments without any core fillings. Our limited excavation showed that it was roughly coeval with BC-10 in terms of site stratigraphy. Given this, it follows that BC-10 formed a complex accompanied by several small features including Feature 01. Aside from a few undiagnostic flint flakes, no finds were recovered. Nothing specific can be said about the function of this unique feature, but it may have served as a psychological boundary to delineate the sacred lot with BC-10 as the core.

Feature 05, being located ca. 10 m NE of BC-10, was a small oblong structure with a floor size ca. 1.8 m in the NNE-SSW main axis and ca. 1 m in the ENE-WSW minor axis (Fig. 1.12). It was constructed with a single row and course of upright stones that were arranged leaning against the side surface of a shallow pit ca. 0.2 cm deep. It opened toward the NW, the lee side of the

predominant southerly wind in this area. This feature also turned out to be coeval with BC-10 in terms of site stratigraphy. Several flint cores and blades were found *in situ* on the floor, suggesting that flint production took place within the feature. In addition, a well-fired, fine textured, orange buff-coloured pottery sherd with pale buff wash occurred on the floor. It is our present view that this small feature provided a temporary shed or windbreak during the construction of BC-10.

Feature 06 was located ca. 3 m NE of BC-10 or ca. 5 m south of Feature 05 described above. It had much in common with Feature 05 including the stratigraphy, general plan, construction method, and orientation, although no in situ finds were recovered from this feature.

The Finds

Sine the cist was heavily disturbed, the *in situ* finds from BC-10 were scarce. Aside from a large number of decorated construction materials and human skeletal remains, they were limited to a dozen pottery sherds, several flint artifacts, five adornments made of bronze, snail or marble.

The pottery sherds fall into three groups (Fig. 1.13). The first group consisted of well-fired, finely-textured ware sherds with orange-buff core and pale-buff wash. They included an example decorated with a horizontal band of black paint. The second group was represented by poorly-fired, grit-tempered coarse ware sherds usually with light brown core and thick reddish-brown slip. The third group contained miscellaneous examples that do not belong to either of the two. It is noticeable that the first group included a small carinated bowl fragment with an everted rim, a trait that first appears in the EB-MB transitional period. In addition, the occurrence of a goblet probably with a collared rim also deserves special emphasis in that it may fall into the pottery repertoire of the final phase of the EB.

The flint artifacts contained retouched blades, a tabular scraper, an angle burin as well as a few blade blanks and undiagnositc flakes. They were difficult to date, but the existence of the tabular scraper suggests a date of the Chalcolithic or the EBA for this assemblage.

Of interest was a bronze bracelet from Grave B, which was ca. 6 cm in diameter and decorated with several incisions at both flattened ends (Fig. 1.7). Grave B also produce a small fragment of a bronze object, which was also probably a part of an adornment. The dating of these bronze artifacts must await further study, but it appears that the bracelet belong to a relatively early stage of the Bronze Age. In addition to these bronze objects, a marble artifact and two snail products occurred at the cist (Fig. 1.14). All of these were perforated at their center, suggesting the use of beads. Many parallel examples have been reported from EB or MB sites along the middle Euphrates river basin.

Although it is difficult to date BC-10 on the basis of such a limited number of *in situ* finds, it seems that the in situ finds suggest, overall, a date from the final phase of the EB or the EB-MB transitional period. It is needless to say, however, that this remains a working hypothesis until further evidence is obtained.

In addition to BC-10, Feature 05 produced several pottery sherds and flint artifacts. They had much in common with the finds from BC-10, suggesting the synchronism between the two.

Concluding Remarks

The sounding at BC-10 of Rujum Hedaja 1 has shed new light on the archaeological implications of burial cairns that are concentrated on the northern flank of Jabal Bishri. Available evidence suggests that the area formed an extensive pastoral background of the final EBA society in the middle Euphrates river basin. This finding may open the way to approaching the specific picture of *Mar-tu* or *amurru*, the early pastoral population that Sumerian and Akkadian texts referred to as being based on the Jabal Bishri (or Basa'al) area. Nevertheless, the sounding of this season was too limited to address such a far-reaching issue. The next investigation, scheduled for June of 2008, is to try to grasp an overall picture of the site.

2. PRELIMINARY ANALYSIS OF FAUNAL REMAINS FROM TELL GHANEM AL-'ALI

Lubna OMAR (Doctoral student, The Institute of Cultural Heritage, Nara)

The main purpose behind the sorting of the faunal assemblage which has been retrieved during the excavation in November 2007, is to reconstruct the exploited animal resources at the site. During the excavation season at the site in August 2007 the first faunal remains appeared all over the excavated area. The assemblage was relatively small in size it consisted approximately of 300 specimens. This study focused on combining the results of the latest excavation with the previous analysis of the faunal resources at the site, in order to clarify the role of animals at the settlement.

Materials

The faunal remains belong to the main squares at the site, Square 1 and 2 where several architectural features have been revealed. These constructions date back to the early bronze period according to the pottery styles which were present at the site.

The bones have been retrieved by hand picking. The soil was not sieved which would affect the representation of the small mammals at the assemblage. The latest excavation produced around 450 animal bones, the preliminary analysis of these materials concentrated on identifying a sample of this collection. The sample consisted of 150 fragments.

Methods

The analysis of the faunal remains concentrated on determining the number of the identified bones in the assemblage and recording all sort of modification related with the economical activities which took place at the site, such as food processing activities, disposal, and trading and herd-keeping. It was not possible to record the weight of the different species present at the site.

It is an essential part of the analysis to observe the contributions of each species to the assemblage through the number of the bones and fragments and the weight of the bones, and it would be concluded in the next study.

Results

The studied sample of faunal assemblage showed that more than 96% of the bones belong to domestic animals category which was represented by sheep, goat, cattle, and domestic donkey. The wild animals which have been identified included the gazelle (gazelle subguttrosa), roe deer, hare, and possibly wild-ass.

The identification of the equid specimens requires better representation of the bones. Most of the post-cranial remains consisted of heavily fragmented elements, except for a complete tibia, which according to its small measurements falls in the domestic ass category.

Previous studies in Euphrates valley described the exploitation of the wild onager during the Bronze Age period in Tell Um-Al Marra, and the Tell Es sweyhat. The identification of equids is very substantial aspect of any zooarchaeologcial research in Near East area.

Some of the remains at tell Ghanem al-'Ali might belong to the wild species of Equids, but until we obtain better persevered elements we won't be able to get a complete picture of the exploitation of equids at Jabal bishri region during the Bronze Age.

Sheep and goats contributed more than half of the assemblage around 54% sheep was more present than goats.

Cattle followed the sheep and goat, and its remains formed more than 10% of the sample.

Sorting the materials of the winter season gave us the chance to observe new species which didn't appear in the previous seasons.

Shell was present in small numbers, and shaft of turtle long bone were retrieved from square 2.

The majority of the faunal remains belong to adult and sub-adult individuals. Unfuesd fragments were scarce, as for the teeth aging no deciduous or milk teeth were found.

Determining the age classes at the site requires a bigger collection of bones which could provide a non-biased view of the composition of the herds living at the site, or in the pastoral areas around it.

The same applies for indicating the sex of the animals at the site, several horn cores and one antler were retrieved, but these remains don't indicate a preference of a specific sex either in hunting or herding.

The distribution of elements at the site showed that hind and fore limbs were the most abundant at the site, but we should note that skull and mandible fragments were retrieved in considerable amount about 34% of the studied sample, while ribs vertebrates came at last.

Conclusion

This preliminary exam of the faunal materials at Tell Ghanem al-'Ali site indicated that the subsistence strategies which were practiced in this area focused on herding sheep, goat, and cattle. Hunting was a part of the diet and it depended on the steppe animals.

We are still waiting for the final interpretation related with the function of the structures at the site, in order to achieve a better understanding of the activities which took place in the discovered structures.

The distribution of elements proved that all type of bones were present at the site, but it's worth mentioning that the considerable number of cranial elements at the excavated area might indicates that this area was a disposal area, but still we can't confirm the function of the place without examining the complete assemblage.

3. A BRIEF SURVEY OF THE EARLY BRONZE AGE TOMBS IN THE WADI SHABBOUT AND THE WADI DABA AREAS

Hirotoshi NUMOTO (Professor, Kokushikan University, Japan)

An one-day scanning survey for the Early Bornze Age (EBA) tombs was conducted in 25 March 2008. Goals of this brief survey were to illustrate an overview of the EBA tombs in the surroundings of Tell Ghanem al-'Ali, and to document conditions of looting activities in the areas.

Selected survey areas were two clusters of tombs situated in the Wadi Shabbout and the Wadi Daba, since these areas were already identified as EBA cemeteries by Professor A. Tsuneki (Tsuneki Pers. comm) in the 2007 field season of the Syro-Japanese mission to the Bishri mountainous area.

More than 50 tombs were identified in the Wadi Shabbout area. Almost all tombs were looted, but at least three burial types were defined, including shaft graves, stone chamber graves and cist graves. On the other hand, the area of outfall of Wadi Daba produced 30–40 intensively looted tombs, which contain chambers dug into a slope of the Wadi indicating a sort of shaft graves. No other types of burials were identified in the area.

Unfortunately, this brief survey revealed most tombs of both areas were seriously damaged by lootings. The contrast of burial types in these two areas, however, possibly implies an internal differentiation represented by mortuary practices (i.e. class, gender or ethnicity, for instance) in the EBA community. Further detailed investigations consist of cleanings/excavations of the tombs, and documentation of the distribution of particular burial types in these areas are scheduled from the end of April to May 2008, in order to understand regional variability of burial patterns in the Middle

Euphrates Valley and the nature of burial practices in the EBA community in context.

4. GEOLOGICAL AND GEOGRAPHICAL FIELD SURVEY

Takeshi SAITO (Associate Professor, Meijo University)
Kazuhiro TSUKADA (Assistant Professor, Nagoya University)

In the fifth working season, our geological and environmental research team carried out a short field survey (24^{th}–27^{th} March, 2008) focusing on the basal sediments of Tell Ghanem al-'Ali. Two sites were selected for the survey: Site 1 is the western foot of the tell and Site 2 is the section in the factory under construction southeast of the tell (Fig. 4.1). We would like to report the outline of the stratigraphy of the basal sediments of the tell.

We re-dug down the 1 × 1 m pit into 2.1 m deep (Figs. 4.1, 4.2) at western foot of Tell Ghanem al-'Ali, which was turned over in the forth working season. The sediments of the pit are composed of muddy sand and include many artifacts such as earthenware and stone instruments. Detailed description of the pit wall is shown in Fig. 4.3.

Upper part of the pit walls are well stratified caused by bricks and sand layers. On the other hand, lower part is massive and includes many charcoal spots exhibiting indistinctive layers. Many of the sediments of the pit walls are likely to be anthropogenic especially in the upper part. We took seven samples for environmental study and ^{14}C dating from the lower part of the profile.

Site 2

We found a good section showing the basal sediments of Tell Ghanem al-'Ali in the factory under construction southeast of the tell (Figs. 4.1, 4.4). The sediments consist mainly of ill-sorted muddy sand with charcoal fragments. Detailed description of the profile is shown in Fig. 4.5.

Upper part of the section contains several charcoal layers, suggesting intensive human activity in and around Tell Ghanem al-'Ali. On the other hand, fluvial gravel layer (Figs. 4.6, 4.7; "conglomerate" in Fig. 4.5) is intercalated in the lowermost part of the section. This gravel layer indicates the basement horizon of the tell.

We took 20 sediment samples from the section. Most of them include charcoal fragments available for ^{14}C dating. We will do the dating for selected samples. The oldest age of the samples suggests the dawning period of the Tell Ghanem al-'Ali.

Relationship between Sites 1 and 2

Topographic map of Fig. 4.1 and our filed observation suggest that the altitude of the bottom of the pit at Site 1 would be ca. 229 m, and that the altitude of the fluvial gravel layer at the Site 2 is ca. 228 m. In addition, we were not able to find fluvial sediments at Site 1. These facts indicate that the section at Site 2 is stratigraphically lower than that at Site 1.

5. ARCHAEOLOGICAL SURVEY AROUND TELL GAHNEM AL-'ALI

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The fifth working season involved archaeological surveys (March 26 to April 3) in the areas around

Tell Ghanem al-'Ali. Building on the results of earlier surveys, we aimed at an intensive reconnaissance of archaeological sites and traces of land use in the targeted areas. For this purpose, we searched the survey areas on foot, navigated with topographic maps and high-resolution satellite images, which allowed us to make detailed records of the survey paths and discovered sites (Fig. 5.1). The intensive field-walking resulted in 1) the collection of artifacts of a wide chronological range—from the Palaeolithic to the Islamic period, 2) the discovery of occupational sites of the Palaeolithic and probably, the Early Bronze Age (EBA), and 3) a record of the distribution of mound tombs in broad areas at the northern fringes of the Bishri Plateau. These results could contribute to a better understanding of the settlement patterns and land use of the EBA inhabitants at Tell Ghanem al-'Ali and Tell Hammadin, as well as the local settlement history of the Middle Euphrates.

Objectives of the survey

Earlier investigations in our project reveal that the lowlands along the Euphrates River were the central loci of major EBA settlements, such as Tell Ghanem al-'Ali and Tell Hammadin. On the other hand, German excavations at Abu Hamad and the Syria-Japan joint surveys at Tell Shabbout and Jezra indicate that the EBA communities based at these tell sites appear to have used the uplands or the northern edges of the Bishri Plateau mainly as cemeteries. Using these earlier insights into the link between the Euphrates lowlands and uplands during the EBA, our survey was designed to obtain further archaeological evidence regarding prehistoric land use in this region; our target region was the areas around Tell Ghanem al-'Ali and Tell Hammadin. Through this survey, we also aimed to provide basic information about the population history of the target region by recording the locations of sites of a wide chronological range starting from the Palaeolithic period.

Survey areas

The survey areas covered the northern edges of the Bishri Plateau and the upper terraces of the Euphrates River, measuring 15 km E-W by 8 km N-S, along the southern bank of the river (Fig. 5.1). The western limit of our survey was a protruding terrace, used as a cemetery in the village of Jibli, while the eastern border was near Jezra. The satellite image showed a clear contrast between the Euphrates uplands and lowlands (Fig. 5.1). The latter are green and widely used for agricultural fields. On the other hand, the river-terraces (uplands) are populated by modern villages, and to their south lies the Bishri Plateau with very sparse vegetation. These terraces and the northern fringes of the plateau are incised by a series of north-south tributary valleys of the Euphrates River. While these wadis usually stretch over a few kilometers in length, Wadi Kharar, situated between Ghanem al-'Ali and Tell Hammadin, stands out for its length (ca. 20 km) and well-developed terraces. We surveyed the Euphrates terraces and the plateau primarily by walking along the wadis. However, the survey of the Euphrates terraces was difficult as these areas are heavily populated with modern villages, which left only a few open spaces for survey. Even these areas were found to be used as cemeteries or orchards, which considerably modified the ground surfaces. Thus, our survey focused more on the higher areas, i.e., the northern ends of the plateau.

Survey techniques

In order to achieve an intensive reconnaissance of archaeological sites, our survey was primarily conducted on foot, using high-resolution satellite images and a compass to navigate. This allowed us to record the survey paths and discovered sites (Fig. 5.1.). The surveyed wadis and areas were assigned numbers (no. 1 to 24). For survey paths and discovered sites within each area, an alphabet was attached to the number. Thus, survey paths and sites are identified by the combination of the area number and alphabet, such as 20A or 16K (Fig. 5.1, Table 5.1). A survey path fundamentally corresponds to a single topographic unit, such as a terrace of a wadi. However, a survey path was

divided when we encountered an archaeological site during the survey. The identification of archaeological sites was primarily based on the density of artifacts; the reason being, apart for tomb mounds and cairns, we rarely encountered features on the ground surface. We collected artifacts from the survey paths and archeological sites. At the archaeological sites, we measured the extent of artifact distribution and general topography around the sites. When we encountered mound tombs, the extent of their distribution was sketched on hard-copies of high-resolution satellite images.

Sites and finds

Following eight days of pedestrian surveys, we had investigated 82 paths and discovered 32 sites, as listed in Table 5.1. Dating of the sites is still in the preliminary stage as the collections of artifacts are currently under analysis. Our survey discovered several locations that are densely distributed with archaeological sites. We present the results of the survey by describing the focal sites of study and their findings rather than grouping the sites by their chronological order.

Wadi Shabbout East (Areas 20A, 20B, and 20D)

This wadi is situated ca. 500 m east of Tell Shabbout, stretching 600–700 m in the N-S direction with its mouth at the cliff of the plateau. Despite its small size, the wadi has a fairly flat terrace on the right bank. Along this terrace (Fig. 5.2), we discovered three spots that were distributed with chipped stones and only a few pottery sherds (Areas 20A, 20B, 20D). From the three spots, Area 20A is the most extensive (100 m × 15 m), with the densest scatter of artifacts. Area 20A is located at a bend of the wadi, which may have provided a cozy, enclosed basin for a camp.

At Area 20A, we collected more than 100 chipped stone artifacts, most of which were cortical flakes. Retouched tools were limited to a few pieces with marginal retouch. Preliminary observations of these pieces and cores indicate that water-rolled cobbles were used as raw material for the production of flakes (Fig. 5.3). According to the geological investigation of this project, such flint cobbles are available from the gravel layers in the Euphrates river-terraces. In fact, we often came across fist-sized flint cobbles during the survey on the terraces of the Euphrates. Technologically, many flakes retain cortex on their platforms, suggesting that core reduction rarely involved the preparation of striking platforms. Similar technological characteristics and the use of raw materials are observable in the collections from Areas 20B and 20D. More importantly, these technological features also apply to the chipped stones from Tell Ghanem al-'Ali and Tell Hammadin, as found by the preliminary comparisons of the assemblages, suggesting EBA dates of the survey collections.

Jezra (Areas 23H and 23J)

Jezra, located ca. 3 km southeast of Tell Ghanem al-'Ali, has been reported as an extensive cemetery area with a large number of mound tombs, which probably date to the EBA. This area also has a large stone-walled building (ca. 150 × 100 m) earlier reported as an Islamic fortification. We surveyed a small wadi, located to the immediate west of this large stone structure. This wadi at Jezra is steeply incised near its lower end, forming a V-shaped cross section. However, a little upstream is associated with terraces, providing inhabitable areas. On one such terrace is a small tell-like mound (Area 23H), where abundant chipped- and ground-stone artifacts and pottery sherds were collected (Fig. 5.4).

Although at this point it is difficult to determine how much of this mound contains anthropogenic deposits, a large amount of pottery sherds, food processing tools (i.e., grinding slabs and pestles), and chipped stones indicate that occupations at the site were clearly more permanent than in transitory camps (Fig. 5.5). A dozen robber pits had been opened at the site, suggesting that this site yields a great deal of cultural objects that attract the attention of robbers. The collected chipped stones include a segment of what is probably a Canaanean blade, as well as flakes and cores with water-rolled cortex (Fig. 5.6). The flaking technology of the latter group is similar to that of the collections from

Area 20A and Tell Ghanem al-'Ali. These collectively suggest the date of the site as EBA, which appears consistent with the general characteristics of the pottery sherds (Fig. 5.7).

We also visited the large building structure (Area 23J), situated on the hilltop immediately to the east of Area 23H. The building partially exposes the external surfaces of the walls, while the inside is filled with sediments up to or above the height of the other walls (Fig. 5.8). Unexpectedly, we found that the surface of the deposits inside the building was associated with mound tombs and densely strewn with chipped stones, once again including what is probably a Canaanean blade (Fig. 5.9). The pottery sherds collected from this location are currently being analyzed to determine their date (Fig. 5.10).

Wadi Kharar (Areas 16C, 16D, 16E, 16F, 16I, 16J, 16K, 16M, 16N, 16O, 16P, 16Q, 16R, 16V, 16W, 16AI, 16AK, 16AM, 16AO)

Wadi Kharar is situated between Tell Ghanem al-'Ali and Tell Hammadin, and is the largest tributary valley of the Euphrates in the survey area, stretching ca. 20 km in the N-S direction (Fig. 5.1). Our survey covered the lower 7 km of this wadi, resulting in the discovery of a series of Palaeolithic sites on the wadi terraces. Most sites are located on the terraces at or near the confluence of Wadi Kharar and its tributary wadis. Of these locations, particularly noteworthy is an area with broad terraces (ca. 80 m × 50 m and ca. 200 m × 60 m) associated with a spring (Fig. 5.12), which is ca. 4 km upstream from where Wadi Kharar drains into the Euphrates lowlands. On the terraces in the spring, we recorded dense distributions of chipped stone artifacts at four areas (Areas 16M, 16N, 16O/P, 16Q) and collected about 400 pieces, including more than ten end scrapers, several burins, ca. 40 blades/bladelets, and some bladelet cores, some of which are characterized by carinated forms (Fig. 5.13).

These techno-morphological characteristics indicate the Early Epipalaeolithic or Late Upper Palaeolithic period. Epipalaeolithic occupations were also discovered on the terraces ca. 1 km downstream of the spring. This location, at the confluence of Wadi Kharar and a tributary wadi, consists of two terraces of different elevations. Area 16I sits on a lower terrace, where we collected ca. 50 pieces of chipped stones, including two lunates, one end scraper, and several blade/lets, which indicate the Natufian period (Fig. 5.14). On the other hand, the upper terraces (16J and 16K) yielded no lunates. Instead, several rectangular microliths were collected along with blade/lets and a unipolar bladelet core, suggesting their chronological precedence in the Epipalaeolithic. Concentrations of Epipalaeolithic artifacts were also recorded further downstream at Areas 16C, 16D, and 16R.

The survey in Wadi Kharar also encountered concentrations of lithics that can be techno-morphologically dated to the Middle Palaeolithic (Fig. 5.15: 16F, 16AI, 16AM, and 16AO). These artifacts are on the upper terraces of Wadi Kharar, which are located 4– 6 m above the lower terraces, where Epipalaeolithic artifacts were often recovered.

Isolated finds

Although no archaeological sites were found in many survey paths, we came across a rain of artifacts during the field-walking and collected them by survey paths. These collections sometimes include tool types of chronological markers and hence, are also worth an analysis. They can provide subsidiary evidence for land use in prehistory. For example, lunates were collected in isolation in Areas 16AE and 10M, suggesting the use of these areas during the Natufian period. Isolated finds were also recorded in the collections from other sites, as indicated by distinct tool types, production technology, raw material types, and different degrees of patination. Closer examinations are necessary to accurately assess the chronological representations of the collected artifacts.

Mound tombs and cairns

The intensive field-walking also enabled us to record the distributions of mound tombs (probably EBA) in previously unknown areas. Investigations of the mound tombs have been carried out mainly in the areas near Tell Ghanem al-'Ali, such as Tell Shabbout and Jezra. However, the present survey encountered the comparable density of tomb distribution in the plateau areas that overlook Tell Hammadin (Fig. 5.16). These areas are located along several wadis, including Wadi 'Ain and Wadi Qutena, which flow towards the direction of Tell Hammadin. The tombs at these locations show a similar range of structural types as those near Tell Shabbout. Pottery sherds were strewn on the ground surface indicating that many of the tombs were looted. The collected sherds are under analysis for comparison with those from the graves near Tell Shabbout.

In one of the cemetery areas above Tell Hammadin, we came across a cairn at about 1 km south of the northern edge of the plateau (Area 9D; Fig. 5.17). It measures ca. 6 m in length, ca. 3.5 m in maximum width, and ca. 1 m in height, forming a key-hole shape in plan. It is surrounded by stone alignments, which could be structures associated with the cairn. Very few artifacts were collected, preventing us from determining its date. However, given that cairns are usually distributed further south near the Bishri Mountains, the discovery of a cairn near the northern edges of the plateau (and among mound tombs) could raise an interesting question about its social context, particularly if the cairn is contemporary to the mound tombs.

Summary and discussions

Intensive pedestrian surveys allowed us to discover new sites of a wide chronological range and record their distributions. This also suggests that perhaps many more sites still remain to be discovered in this region. Analyses of collected artifacts are currently in progress, and thus, the dating of sites is still tentative. However, the results of our surveys indicate the possibility of diachronic changes in land use patterns. For example, we encountered Palaeolithic occupations more frequently on the terraces of Wadi Kharar than in smaller N-S wadis to the east and west of Wadi Kharar. In the latter areas, we encountered temporary camp sites (Areas 20A, 20B, and 20D) rather than permanent occupations (Area 23H), and dense distributions of mound tombs, likely to date to the EBA. On the other hand, there are few traces of Bronze Age activities in and in the vicinity of Wadi Kharar.

Advantages in the use of Wadi Kharar are evident in the availability of water and the travel routes. On the other hand, the apparent decline in the use of Wadi Kharar during the EBA may merit some discussion. This may be explained by geomorphogical reasons. The relatively active Wadi Kharar may have either eroded away the traces of Bronze Age activities on lower terraces or covered them with sediment. However, this may not explain the sparse distribution of tombs in this area. The second possibility is the absence of N-S wadis in the areas to the immediate east and west of Wadi Kharar. This is because Wadi Kharar has its tributaries running in the E-W direction. Since the E-W wadis are obstacles to the N-S travels, these areas may not have attracted Bronze Age inhabitants.

Another possible reason is that the EBA land use patterns were spatially linked to the tell sites in the lowland, i.e., Tell Ghanem al-'Ali and Tell Hammadin. The dense distribution of mound tombs appear to make two clusters, each spatially associated with the locations of the tells. In particular, the mound tombs tend to be located along the wadis that overlook the tells. This applies not only to Tell Shabbout areas but also to Jezra and the grave areas above Tell Hammadin. If we date more securely the occupational sites in small wadis, such as at Areas 20A and 23H, in order to examine their contemporaneity with Tell Ghanem al-'Ali, we can address questions regarding the settlement patterns and land use during the EBA, as well as the relationship between the communities at Tell Ghanem al-'Ali and Tell Hammadin. An investigation of these issues requires further analysis of collected artifacts and surveyed sites.

Table 5.1 List of paths and sites surveyed in the 2008 spring season.

Area	Bag	Bag type	Site/Wadi/Village Name	Notes	Pottery sherds	Chipped stones
1	A	Path	Village (Tell) Sharida		0	1
3	A	Path	Village Jibli		0	0
4	A	Path	Village Jibli		0	0
5	A	Path	Village Jibli		0	0
6	A	Path	Village Jibli		0	2
7	A	Path	Village Jibli		0	0
8	A	Path	Village Jibli		0	1
9	A	Path	Village Jibli		0	1
9	B	Site	Village Jibli	Small scatter of chipped stones on the Euphrates terrace	0	17
9	C	Path	Unnamed wadi		0	0
9	D	Site	Unnamed wadi	Burial cairn associated with structures	2	4
9	E	Path	Unnamed wadi		3	24
9	F	Path	Unnamed wadi		22	0
9	G	Path	Wadi Qutena		0	9
9	H	Path	Wadi Qutena		0	0
9	I	Path	Wadi Qutena		0	1
10	A	Path	Wadi 'Ain East		0	1
10	B	Path	Wadi 'Ain East		0	0
10	C	Site	Wadi 'Ain East	Mound tombs, probably Bronze Age	6	2
10	D	Site	Wadi 'Ain East	Mound tombs, probably Bronze Age	0	0
10	E	Path	Wadi 'Ain East		0	11
10	F	Path	Wadi 'Ain East		0	11
10	G	Path	Wadi 'Ain East	Including a corner-thinned blade (obsidian)	2	13
10	H	Path	Wadi 'Ain East		1	4
10	I	Path	Wadi 'Ain East		0	0
10	J	Path	Wadi 'Ain East		0	8
10	K	Path	Wadi 'Ain East		0	3
10	L	Path	Wadi 'Ain East		0	24
10	M	Path	Wadi 'Ain East	Including a lunate	0	1
10	N	Path	Wadi 'Ain East		1	1
11	A	Path	Unnamed wadi (Several Wadis situated in north of village Zor Shanmar Foqani)		0	9
11	B	Path	Unnamed wadi (North of village Zor Shanmar Foqani		0	0
11	C	Path	Unnamed wadi (North of village Zor Shanmar Foqani/ Tributary of the Wadi Kharar)		2	208
11	D	Path	Unnamed wadi (North of village Zor Shanmar Foqani/ Tributary of the Wadi Kharar)		0	21

12	A	Path	Village Zor Shanmar Foqani	Modern graves	0	0
13	A	Path	Village Zor Shanmar Foqani		0	0
14	A	Path	Wadi Kharar		0	7
14	B	Path	Wadi Kharar		0	11
14	C	Site	Wadi Kharar	Scatter of chipped stones (15 × 3 m) on upper terrace	0	24
14	D	Path	Wadi Kharar		0	13
16	A	Path	Unnamed wadi (Tributary of the Wadi Kharar)		0	5
16	B	Path	Wadi Kharar	Including a blade and a burin (prob. PPNB)	0	4
16	C	Site	Wadi Kharar	Scatter of chipped stones (30 m × 3 m) on lower terrace (6 m above river level); Epipalaeolithic	0	48
16	D	Site	Wadi Kharar	Small scatter of chipped stones on lower terrace (6 m above river level); Epipalaeolithic. Probably part of Area 16C	0	5
16	E	Site	Wadi Kharar	Small scatter of chipped stones on lower terrace (4 m above river level); Epipalaeolithic	0	13
16	F	Site	Wadi Kharar	Scatter of chipped stones (10 m) on upper terrace (12 m above river level); Middle Palaeolithic	0	184
16	G	Path	Wadi Kharar		0	15
16	H	Path	Wadi Kharar		0	10
16	I	Site	Wadi Kharar	Scatter of chipped stones (45 m × 15 m) on lower terrace (6 m above river level); Late Epipalaeolithic (Natufian)	0	49
16	J	Site	Wadi Kharar	Scatter of chipped stones (26 m) on middle terrace (9 m above river level); Early Epipalaeolithic	0	26
16	K	Site	Wadi Kharar	Scatter of chipped stones (30 m × 8 m) on middle terrace (9 m above river level); Early Epipalaeolithic	0	53
16	L	Path	Wadi Kharar		0	63
16	M	Site	Wadi Kharar (near spring)	Scatter of chipped stones (200 m × 55 m) on lower terrace (4.5 m above river level); Early Epipalaeolithic	0	106
16	N	Site	Wadi Kharar (near spring)	Scatter of chipped stones (70 m × 50 m) on lower terrace (4.5 m above river level); Early Epipalaeolithic	0	79
16	O	Site	Wadi Kharar (near spring)	Scatter of chipped stones on upper terrace (14.5 m above river level); Early Epipalaeolithic. Same locus as Area 16P	0	50
16	P	Site	Wadi Kharar (near spring)	Scatter of chipped stones on upper terrace (14.5 m above river level); Early Epipalaeolithic. Same locus as Area 16O	0	77

16	Q	Site	Wadi Kharar (near spring)	Scatter of chipped stones on upper terrace (14.5 m above river level); Early Epipalaeolithic	0	83
16	R	Site	Wadi Kharar	Scatter of chipped stones on lower terrace (3.5 m abover river level); Epipalaeolithic	0	69
16	S	Site	Wadi Kharar (near spring)	Scatter of chipped stones on lower terrace; Epipalaeolithic. Continuation of Area 16N	0	9
16	T	Path	Wadi Kharar		1	9
16	U	Path	Wadi Kharar		0	7
16	V	Site	Wadi Kharar	Scatter of chipped stones (15 × 3 m) on upper terrace; Palaeolithic	0	23
16	W	Site	Wadi Kharar	Scatter of chipped stones (10 × 8 m) on upper terrace; Palaeolithic	0	7
16	X	Path	Wadi Kharar		0	4
16	Y	Path	Wadi Kharar		0	27
16	Z	Path	Wadi Kharar		0	66
16	AA	Path	Wadi Kharar		0	30
16	AB	Path	Wadi Kharar	Blade with bidirectional flaking scars	0	15
16	AC	Path	Wadi Kharar		0	1
16	AD	Path	Unnamed wadi (Tributary of the Wadi Kharar)		0	0
16	AE	Path	Unnamed wadi (Tributary of the Wadi Kharar)	Including a lunate	0	2
16	AF	Path	Unnamed wadi (Tributary of the Wadi Kharar)	Retouched Levallois point	0	1
16	AG	Path	Wadi Kharar		0	4
16	AH	Path	Wadi Kharar		0	0
16	AI	Site	Wadi Kharar	Scatter of chipped stones (15 × 10 m) on upper terrace (11.5 m above river level); Middle Palaeolithic	0	45
16	AJ	Path	Wadi Kharar		0	5
16	AK	Site	Wadi Kharar	Scatter of chipped stones (8 × 6 m) on middle terrace (6 m above river terrace); Palaeolithic	0	
16	AL	Path	Wadi Kharar		0	14
16	AM	Site	Wadi Kharar	Scatter of chipped stones (20 m) at the foot of terrace slope; Middle Palaeolithic. Possibly redeposition	0	17
16	AN	Path	Wadi Kharar		0	7
16	AO	Site	Wadi Kharar	Scatter of chipped stones (20 × 5 m) on upper terrace (13 m above river level); Middle Palaeolithic	0	41
16	AP	Path	Wadi Kharar		0	4
16	AQ	Path	Wadi Kharar		0	0
17	A	Path	Wadi Qais		0	6

17	B	Path	-		0	2
17	C	Path	Unnamed wadi		0	3
20	A	Site	Wadi Shabbout East	Scatter of chipped stones (100 m × 15 m) on low terrace (2 m above river level); probably Bronze Age	1	111
20	B	Site	Wadi Shabbout East	Sparse scatter of chipped stones on the same terrace as Area 20A; probably Bronze Age	1	8
20	C	Path	Wadi Shabbout East		2	8
20	D	Site	Wadi Shabbout East	Small scatter of chipped stones; probably Bronze Age	1	43
20	E	Path	Unnamed wadi		2	65
20	F	Path	Unnamed wadi		0	12
20	G	Path	Unnamed wadi		0	3
20	H	Path	Unnamed wadi		0	6
21	A	Path	Wadi Shabbout West		0	18
21	B	Path	Wadi Shabbout East		0	12
21	C	Path	Wadi Daba		1	2
22	A	Path	-		0	0
22	B	Path	Unnamed wadi		0	0
22	C	Path	Unnamed wadi		0	17
22	D	Path	Unnamed wadi		3	0
23	A	Path	Wadi Ghara		0	0
23	B	Path	Wadi Ghara		0	0
23	C	Path	Wadi Ghara		0	4
23	D	Path	Wadi Jezra West	Scraper on a flake of dark brown flint with bipolar flaking scars. Neolithic?	4	11
23	E	Path	Wadi Jezra West		0	9
23	F	Path	Wadi Jezra West		12	6
23	G	Site	Wadi Jezra West	Small cluster of sherds, probably refittable. Small scatter of chipped stones on upper terrace	1	7
23	H	Site	Wadi Jezra West	Small mound (4–5 m in height) on low terrace; probably Bronze Age. Food-processing tools (pestles and grinding slabs)	15	24
23	I	Site	Wadi Jezra West	Mound tombs; probably Bronze Age	7	9
23	J	Site	Jezra/ Wadi Jezra West	Large stone-walled building (150 × 100 m); Islamic and/or Bronze Age	34	35
24	A	Path	Wadi Jezra East		8	27
24	B	Path	Wadi Jezra East		0	0
24	C	Path	Wadi Jezra East		3	0

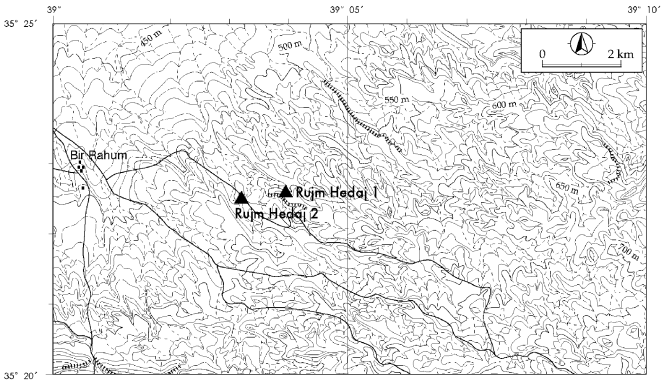

Fig. 1.1 The Bir Rahum Area and the Location of Rujum Hedaja 1 and 2.

Fig. 1.2 BC-10: a distant view (from W).

Fig. 1.3 BC-10: a general view (from SE).

Fig. 1.4 BC-10: a general view of the cist (from NW).

Fig. 1.5 BC-10: Human skeletal remains from the central chamber.

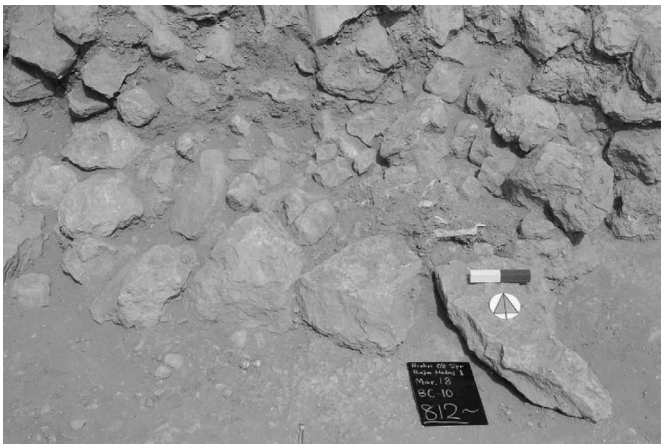

Fig. 1.6 BC-10: a general view of Grave A (from S).

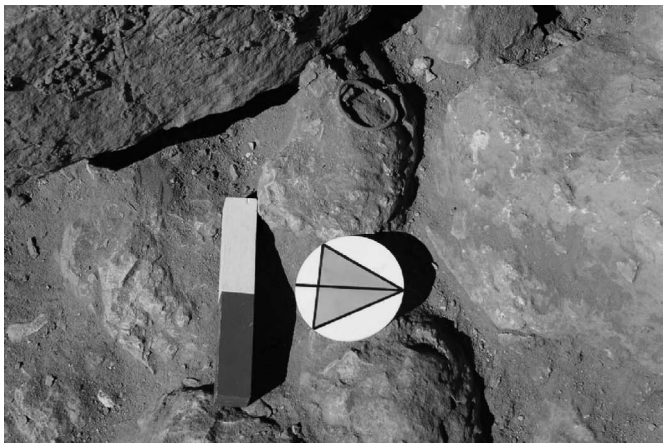

Fig. 1.7 BC-10: a bronze bracelet from Grave B (from E).

Fig. 1.8 BC-10: a close-up view of the Inner and Outer Enclosures.

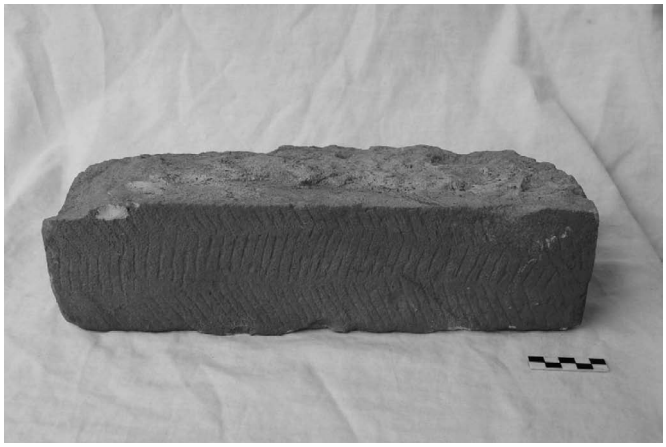

Fig. 1.9 BC-10: Construction material decorated with herringbone patterns.

Fig. 1.10 BC-10: Construction material engraved with an animal design.

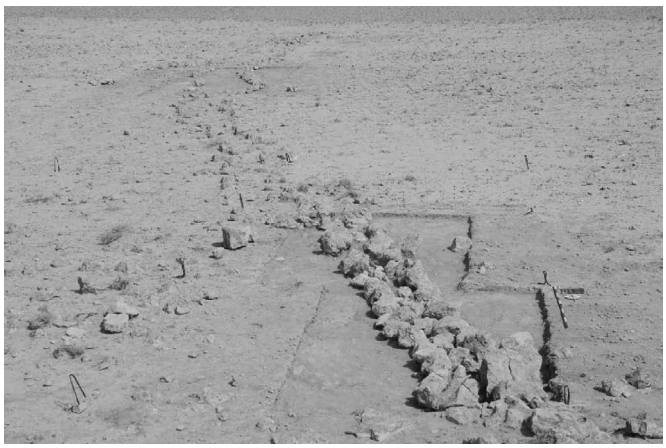

Fig. 1.11 Feature 01: a general view (from S).

Fig. 1.12 Feature 05: a general view (from E).

Fig. 1.13 BC-10: Pottery sherds (Group A and B).

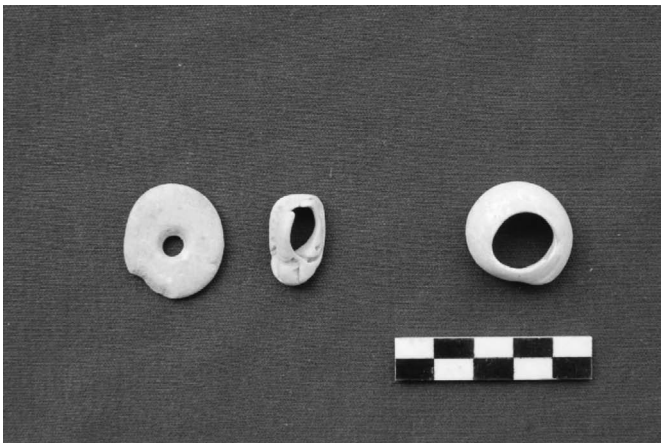

Fig. 1.14 BC-10: Adornments made of marble (left) and snail (right two).

Fig. 2.1 Distribution of bone elements from Tell Ghanem al-'Ali.

Fig. 2.2 Complete deer antler.

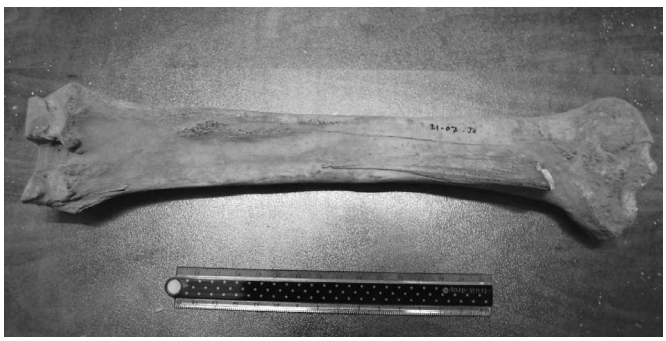

Fig. 2.3 Complete Tibia of a domestic ass.

Fig. 2.4 Male Gazelle horn, the shape of which is close to Subguttrosa species.

Fig. 3.1 Looted tombs in the Wadi Shabbout area, looking east.

Fig. 3.2 Looted tombs in the Wadi Daba area, looking northwest

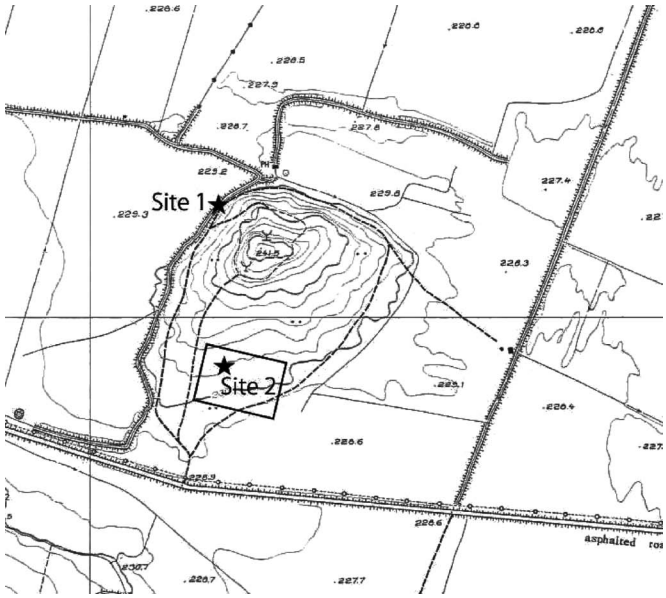

Fig. 4.1 Map showing the two sites studied. Rectangle indicates walls of the factory under construction.

Fig. 4.2 Pit at the Site 1.

Fig. 4.4 Studied section in the factory under construction (Site 2).

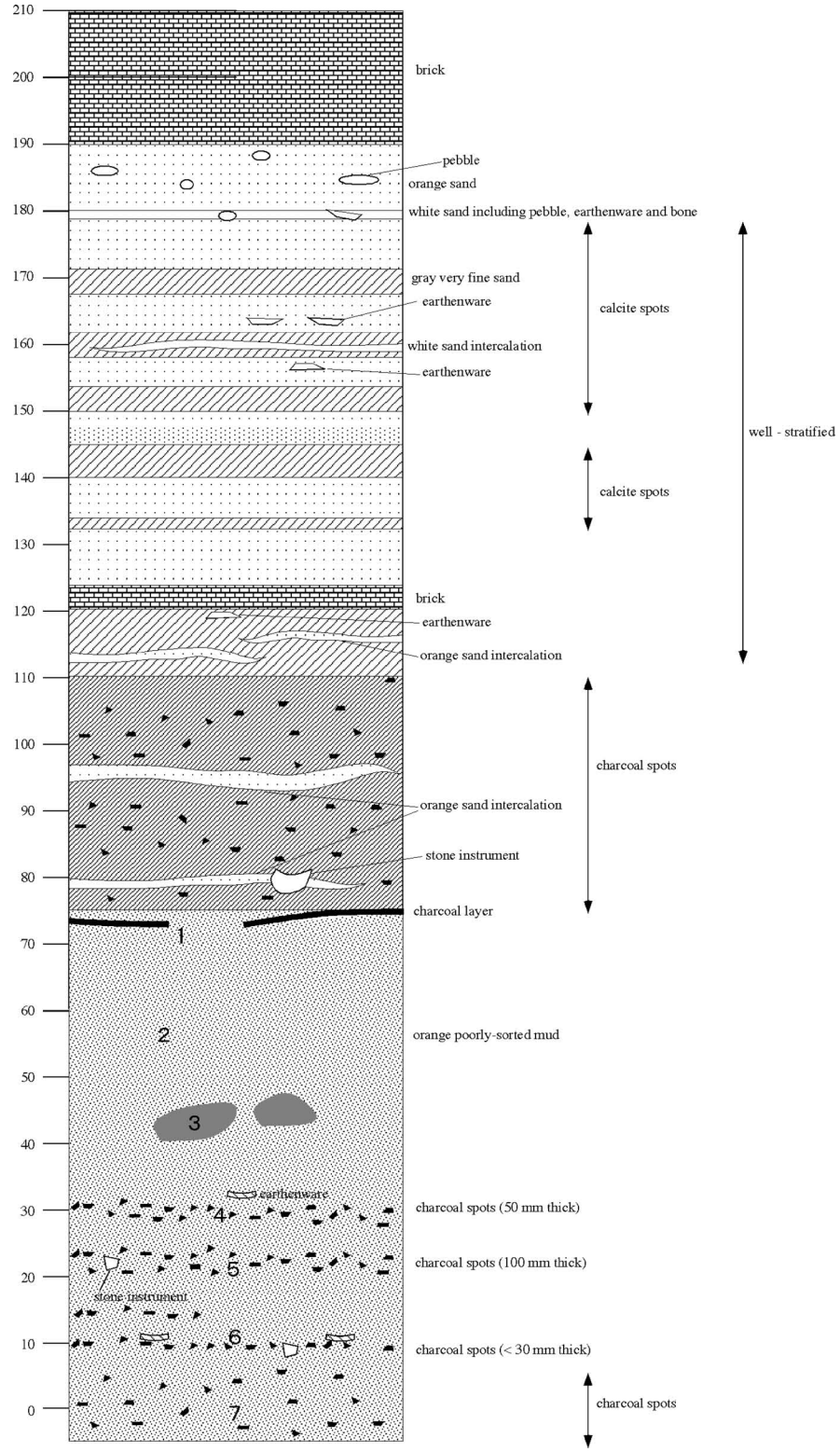

Fig. 4.3 Detailed columnar section of the Site 1 pit (scale in centimeter). Bold number indicates sediment samples.

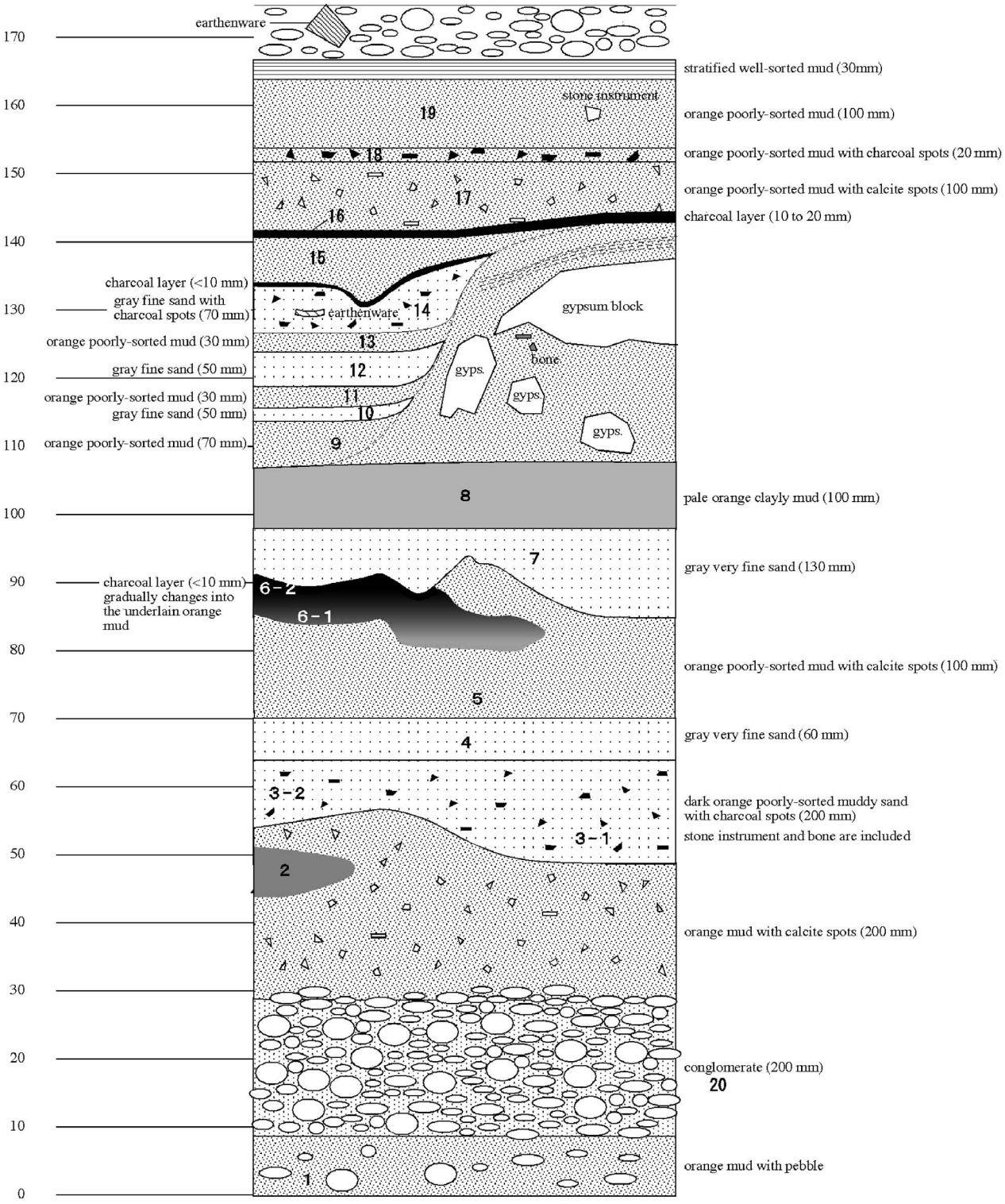

Fig. 4.5 Detailed columnar section of the Site 2 (scale in centimeter). Bold number indicate sediment samples.

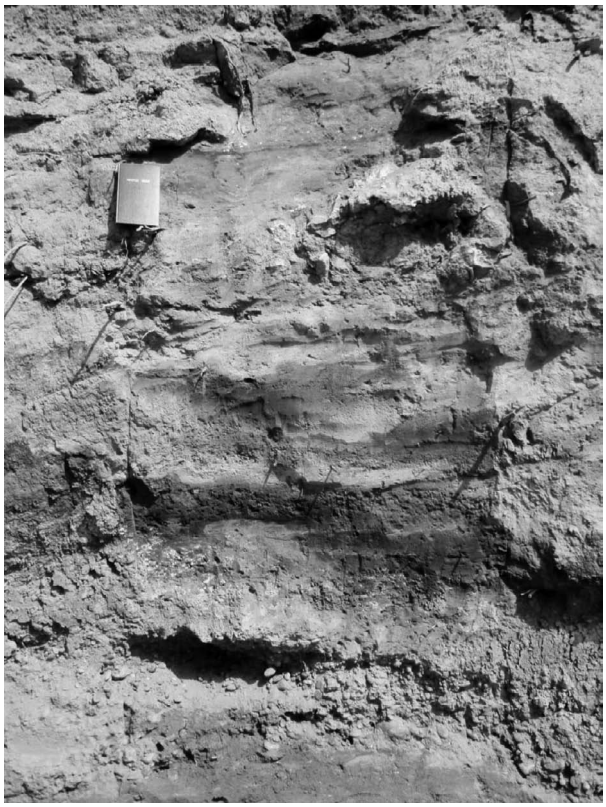

Fig. 4.6 Profile of the section studied at Site 2. Notebook is 16.5 cm long.

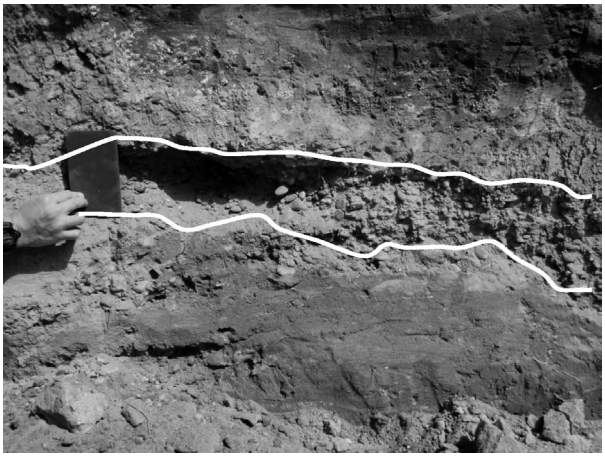

Fig. 4.7 Fluvial gravel layer at the lowermost part of the section.

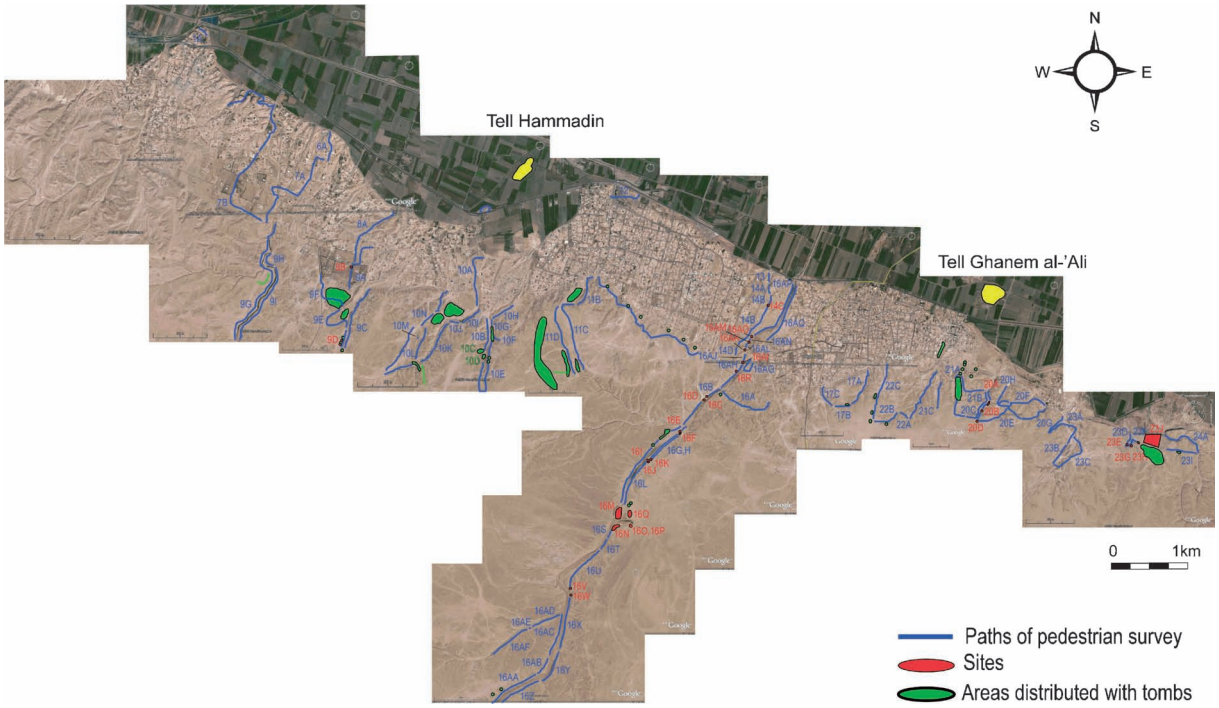

Fig. 5.1 Satellite image of the surveyed areas, showing paths, sites, and distributions of mound tombs that were recorded in pedestrian surveys.

Fig. 5.2 Wadi Shabout East (Area 20A), looking south. More than 100 chipped stone artifacts with a few pottery sherds were collected on the right bank of the wadi.

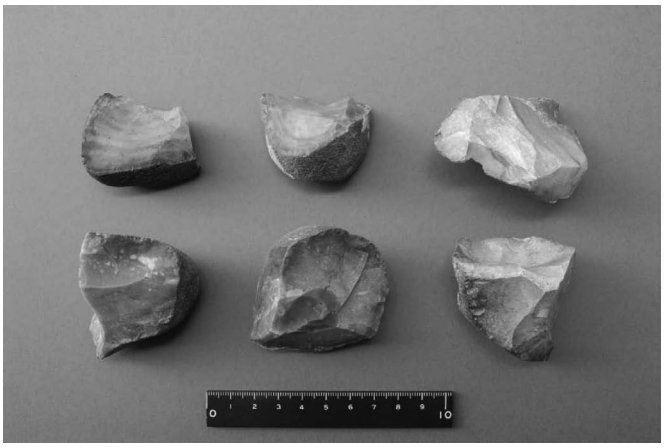

Fig. 5.3 Cores from Area 20A (Wadi Shabout East). Note that rolled cobbles are reduced with minimal preparation of cores for the production of flakes.

Fig. 5.4 Small mound (Area 23H) located on the left bank of Wadi Jezra West, looking southwest. Robber pits failed to find tombs on the mound.

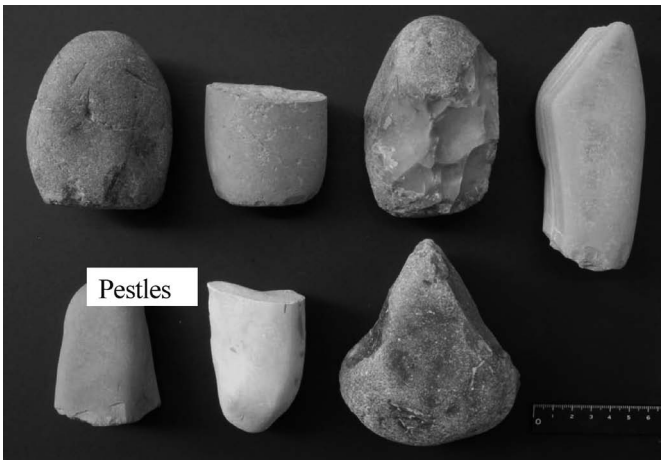

Fig. 5.5 Ground stones from the small mound (Area 23H) in Wadi Jezra West. Pestles in this photo and basalt grinding slabs indicate food processing activities at the site.

Fig. 5.6 Chipped stones from the small mound (Area 23H) in Wadi Jezra West. Top left is probably a Canaanean blade (burnt).

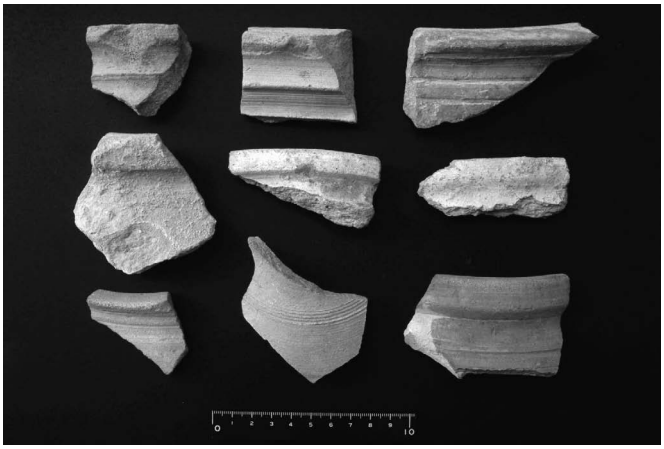

Fig. 5.7 Pottery from Area 23H (Wadi Jezra West).

Fig. 5.8 Large, stone-walled building (150 m × 100 m) located on the hill top of Jezra (Area 23J).

Fig. 5.9 Chipped stones collected on the ground surface inside the large building (Area 23J) at Jezra. Top left is probably a Canaanean blade (burnt).

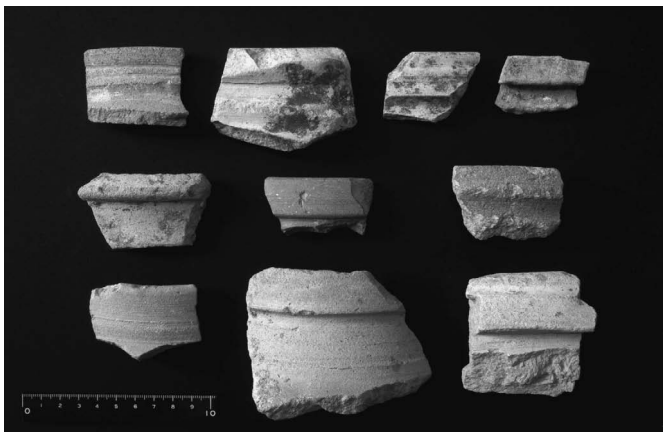

Fig. 5.10 Pottery sherds collected on the ground surface inside the large building (Area 23J) at Jezra.

Fig. 5.11 General view of Wadi Kharar, looking south.

Fig. 5.12 Spring at a tributary of Wadi Kharar, looking west. Areas 16O and 16 P are located on the left bank. Top right is the southern end of Area 16M on the lower terrace of Wadi Kharar.

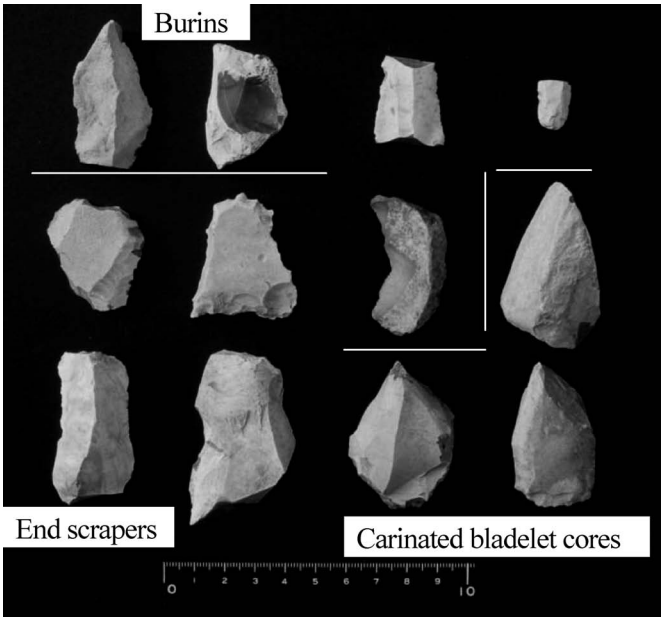

Fig. 5.13 Chipped stones from Area 16N on a lower terrace near the spring in Wadi Kharar.

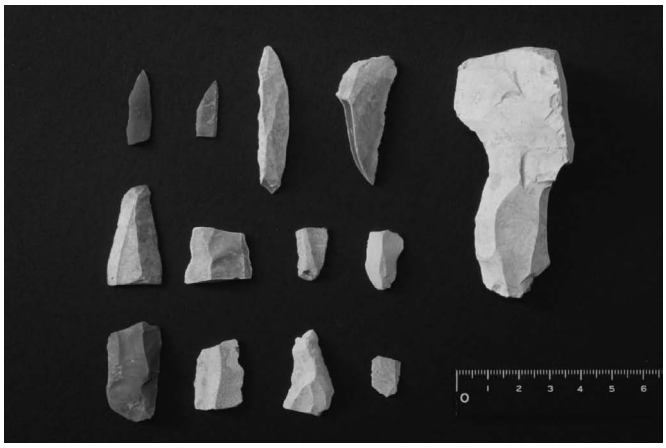

Fig. 5.14 Chipped stones from Area 16I on a lower terrace of Wadi Kharar. Two lunates are seen on the top left corner.

Fig. 5.15 Middle Palaeolithic chipped stones from Area 16AO on upper terrace of Wadi Kharar.

Fig. 5.16 Mound tombs located near Area 10N on the plateau along Wadi 'Ain West, looking east.

Fig. 5.17 A burial cairn located at Area 9D near the upstream of Wadi Qutena, looking southeast.

تقرير موسم العمل الخامس للبحث الأثري للبعثة الأثرية السورية اليابانية العاملة في منطقة جبل البشري

بدأ موسم العمل الخامس من البحث الأثري للبعثة الأثرية السورية اليابانية المشتركة في جبل البشري بتاريخ الثالث من آذار لعام 2007 وانتهى في الخامس من نيسان لعام 2007

وفي البداية نود أن نشكر الدكتور بسام جاموس المدير العام للآثار والمتاحف في سورية والدكتور ميشيل مقدسي مدير التنقيب والبحث الأثري في المديرية العامة للآثار والمتاحف والمشرف المستشار لهذا البحث لما قدموه من دعم لإنجاح هذا الموسم من العمل.

وقد تألفت كوادر هذه البعثة من الجانبين السوري والياباني من الأعضاء التالية أسمائهم :

الجانب السوري : انس الخابور(مديرا) , احمد سلطان , أيهم آل فخري , محمد جاجان .

الجانب الياباني : كاتسوهيكو اونوما (مديرا) , تاكارو اداتشي , كاي سوزوكي , لبنى عمر , تاكاش سابيتو , كازوهيرو تسوكادا , هيروتوشي نوموتو , يوشوهيرو نييشياكي , شوغو كومي , سايجي كادراكي .

فقد تعددت الأبحاث في هذا الموسم الخامس من العمل حيث تم التركيز على :

اولا : استكمال السبر الاختباري لموقع رجوم حداجة : فقد تم التركيز على إجراء السبر لرجم كبير وضخم يقع على الطرف الشمالي من جبل البشري . وذلك بهدف التعرف على الخلفية الرعوية لمجتمعات عصر البرونز القديم في منطقة حوض الفرات الأوسط ,حيث أن أعمال السبر في المنطقة BC10 من رجم حداجة 1 قد ألقت الضوء على نماذج الدفن في الجهة الشمالية من جبل البشري في فترة عصر البرونز المبكر.حيث لدينا أفكار واضحة بان هذه المنطقة قد شكلت حلقة رعوية واسعة لمجتمعات عصر البرونز المبكر في منطقة حوض الفرات الأوسط ,هذا الاكتشاف ربما يفتح الطريق لتكوين صورة بأنها لمجتمعات رعوية مبكرة (امورية) والتي أشارت النصوص السومرية والأكادية لوجودها في جبل البشري. ومع ذلك فان أعمال السبر لهذا الموسم كانت واسعة جدا وذلك من اجل التأكد من هذه الفكرة . حيث ستكون أعمال المسح في الموسم المقبل واسعة ومكثفة في هذه المنطقة

ثانيا : دراسة البقايا الحيوانية في تل غانم العلي ,وذلك من خلال تحليل العينات الحيوانية التي استخرجت من تل غانم العلي . وقد بينت الدراسة التمهيدية لهذه العينات أن هذه المنطقة كانت تعتمد على رعي الأغنام والماعز والماشية , وقد كان الصيد يشكل جزء من نظام الغذاء يعتمد على حيوانات البادية في البشري .

ثالثا : مسح مقابر البرونز المبكر في المنطقة المجاورة لتل غانم العلي حيث تم مسح واستقصاء المقابر المتوضعة على الحافة الشمالية لجبل البشري ,وذلك بهدف إلقاء الضوء على مظاهر الدفن لمستوطنات عصر البرونز المبكر في تل غانم العلي .فقد ظهر تباين في أسلوب الدفن في منطقتين متجاورتين , منطقة وادي شبوط ومنطقة وادي الضبع , والذي من المتوقع أنهما تتضمنان اختلاف باطني متمثل في أسلوب ممارسة الدفن من حيث الجنس ووضعيه الدفن

لمجتمعات عصر البرونز المبكر ,حيث أن أعمال هذا الموسم اعتمدت على دراسة مفصلة لهذه المنطقة تتألف من مسح هذه المقابر وتوثيقها من اجل فهم إقليمي للتغيرات والتبدلات في أساليب الدفن في وادي الفرات الأوسط ,وطبيعة ممارسة الدفن لمجتمعات عصر البرونز المبكر .

رابعا : القيام بأعمال المسح الجيولوجي للمناطق المحيطة بتل غانم العلي والتي تظهر التو ضع الطبقي لتل غانم العلي .

خامسا : القيام بأعمال مسح مكثف للمناطق المجاورة لتل غانم العلي وذلك بهدف إيضاح وشرح تفصيلي للمواقع الأثرية العائدة لفترة البرونز المبكر والمجاورة لتل غانم العلي ,وذلك بهدف الحصول على تاريخ ابعد للوجود السكاني في هذه المنطقة منذ عصور أقدم .

إذا يمكن القول بان أعمال البعثة السورية اليابانية المشتركة لهذا الموسم قد استهدفت محاولة فهم المدلول الأثري لموقع تل غانم العلي وهو الهدف الجوهري لمشروعنا الأساسي في هذه المنطقة

مدير الجانب الياباني
كاتسوهيكو اونوما

مدير الجانب السوري
انس الخابور

ARCHAEOLOGICAL RESEARCH IN THE BISHRI REGION — REPORT OF THE SIXTH WORKING SEASON —

Katsuhiko OHNUMA*
Anas Al-KHABOUR**
(5/June/2008)

The 6th working season of the Syria-Japan Archaeological Joint Mission to the Bishri Region was undertaken from April 25th to June 5th, 2008.

The members of the joint mission from the Syrian and Japanese parties are as follows.

Syrian party: Anas Al-Khabour (Director), Ayham Al-Fahry, Ahmed Sultan and Mohamad Ibrahim.

Japanese party: Katsuhiko Ohnuma (Director), Hirotoshi Numoto, Shogo Kume, Mitsuo Hoshino, Tsuyoshi Tanaka, Toshio Nakamura, Yusuke Katsurada, Yoshiyuki Aoki, Suguru Oho, Sumio Fujii, Takuro Adachi, Kae Suzuki, Chie Akashi, and Ken-ichi Tanno.

Dr. Bassam Jamous, the Director General of the Syrian Directorate General of Antiquities and Musems, and Dr. Michel Al-Maqdissi, the Syrian Supervising Adviser for this joint mission and the Director of Archaeological Excavations and Research at the Syrian Directorate General of Antiquities and Musems, kindly helped us towards the success of this sixth working season of joint research, and we express our sincerest gratitudes to both of them for their heart-warming cooperation.

In this working season, we undertook four kinds of research in the research area (Map 1):

Map 1 Area including the sites researched by the 6th Syria-Japan Archaeological Joint Mission to the Bishri Region in April to June, 2008.

* Director of the Japanese Archaeological Mission to Bishri (Kokushikan University, Tokyo, JAPAN)
** Director of the Syrian Archaeological Mission to Bishri (Department of Antiquities and Museums, Raqqa, SYRIA)

1) geological and geographical field survey, 2) cleaning survey of the Early Bronze Age hilltop tombs near Tell Ghanem Al-Ali, 3) sondage at Rujm Hedaj 1 near Bir Rahub, and 4) botano-archaeological research.

The following sections are the preliminary results of the research works carried out in this field season.

1. Geological and Geographical Field Survey in the Sixth Working Season

Mitsuo HOSHINO (Professor, Nagoya University)
Tsuyoshi TANAKA (Professor, Nagoya University)
Toshio NAKAMURA (Professor, Nagoya University)
Yusuke KATSURADA (Research Fellow, Nagoya University)
Yoshiyuki AOKI (Research Fellow, Nagoya University)
Suguru OHO (Ph.D. Student, Nagoya University)

Introduction

The geological and geographical field survey in this working season is concentrated on, (1) measurement of natural radioactivity, (2) levelling of the river-terrace and (3) sampling for ^{14}C dating.

Drs. Bassam Jamous and Michel Al-Maqdissi of the Syrian Directorate General of Antiquities and Museums kindly allowed us to use the Spectrometer in the Bishri mountain region, Raqqa Prefecture. Dr. Anas Al-Khabour, Messrs. Ayham Al-Fahry, Mohamad Ali Jajan, and Ahmad Sultan of Raqqa Museum kindly assisted us to carry out the survey in the field. To whom we would like to express our gratitude.

Measurement of natural radioactivity of Tell Ghanem al-Ali sediments

The InSpector gamma-ray 1000 spectrometer of CANBERRA Co equipped with IPRON-3 3 × 3 inch NaI detector was used for this survey. The spectrometer was setup to measure the gamma-rays up to 3125 keV with 1024 channels. The 1461 keV gamma-ray of ^{40}K, 1764 keV gamma-ray of ^{214}Bi and 2614 keV gamma-ray of ^{208}Tl were detected. The daughter nuclides, ^{214}Bi and ^{208}Tl appear in decay-series of ^{238}U to ^{206}Pb and ^{232}Th to ^{208}Pb, respectively. It takes 600 seconds to complete the measurement for each measuring point at 1 m high from the ground or attaching the probe on the subject.

Thirty points were selected to cover the Square 1 and 2 excavation sites at Tell Gahnem al-Ali. Natural radioactivities were also measured at three points in the surrounding wheat field for comparison. The feature of the measurement at Tell Ghanem al-Ali is shown in Fig. 1a. The detector was held at 1 m high. It can measure the radioactivity around 3 m radii from the detector.

A good cutting section showing the basal sediments of the tell was found by Saito and Tsukada (March, 2008) in the factory compound under construction, southeast of the tell. Radioactivities were measured according to their stratigraphic observation. At this factory site, measurements were performed by attaching the probe on the cutting section. The feature of the measurement at the factory site is shown in Fig. 1b. The detector, in this case, is sensitive for the activities at attaching points.

An example of the obtained measurements for ground surface of the tell are shown in Fig. 2. ^{40}K activities vary from 1950 counts in the wheat field to 4173 counts at the site #5. These are the common activities in natural geological environment (Fig. 3a). Radioactivities of the three points in the wheat field show the three smallest activities. This indicates that the potassium content in the wheat field is apparently smaller than those of the positions of the tell. Activities of ^{208}Tl vary from 160 counts at the point #23 to 314 counts at #12 (Fig. 3b). All of the data contains counting uncertainties 5

to 15 % (1 sigma). These activities are also common in natural geology as well as for ^{40}K. Activities of ^{214}Bi are fairly small compared with those of ^{40}K and ^{208}Tl. Among these three nuclides, ^{40}K activities are stronger at lower part of the tell, where surface soil is accumulated by wind. On the contrary, ^{214}Bi (daughter of Uranium) and ^{208}Tl (daughter of Th) are stronger at bare surface without soil (compare the Figs. 3a, 3b and 3c).

We measured the natural radioactivity in Square 2 excavation site. The activities for all nuclides are 1.5 times high against the ground surface. The points inside the excavation site, however, are surrounded by the walls of sediments—this is the reason of the high activity. No topographic correction has been done for the data shown above, because all of the 33 measuring sites are located on the ground surface. The topographic correction is, however, necessary for the accurate comparison. The variation on environment can be distinguished more accurately from the ratio of activities. When comparing the ratios of activities, e.g., ^{208}Tl countings/^{40}K countings, ground surface and inside of the excavation site give the same activity ratio (Fig. 4). We would like to conclude that the materials forming Tell Ghanem al-Ali is homogeneous from its surface to 3 m depth of the ground. The materials forming the tell is different from the sediments of surrounding wheat fields.

The fresh cutting in the factory under construction (Fig. 5) give slightly higher activities comparing to the surface of Tell Ghanem al-Ali; this is the topographic effect as mentioned above. At the cutting sections, the detector bears the radiation from both of the walls and the grounds.

The activity ratios of ^{208}Tl/^{40}K are higher than 0.1 at 18 among 20 measuring points at the cutting sections in the factory. This feature is quite different from Tell Ghanem al-Ali, where only 3 of 38 points including excavation site are higher than 0.1. The wheat field, on the contrary, high as 0.1. Then, the sediments in cutting sections of the factory correspond to the soil of the wheat field and not to that of the tell.

During the study of levelling the river-terraces, the natural radioactivities at higher terraces and at Tertiary beds were measured. Activities of all nuclide ^{40}K, ^{214}Bi and ^{208}Tl are smaller than those on and around the Tell Ghanem al-Ali. Evaporite like gypsum may cause the smaller activities, because such materials deposited from aquatic environments may exclude the radioactive nuclide.

The natural radioactivities were also measured at Monkhar Gharbi volcanoes. The volcano is formed by alkali basalt. It is natural that potassium content in alkali basalt cause high ^{40}K activity. Interestingly, ^{214}Bi and ^{208}Tl activities are remarkably high. This indicates that the basaltic rocks are the residue of magmatic differentiation at deep mantle or the products of very small partial melting of deep mantle. Though we have no data for other volcanos, it is expected that the activity ratio will come to be a good index to identify the source of historic stone tools.

Levelling of the river-terrace surface

In the forth working season, we recognized five river-terraces in the study area: I (c. 250 m, a.s.l.), II (242–245 m), III (237–240 m), IV (233–234 m) and V (c. 230 m). The former three terraces characteristically develop along Wadi al-Kharar as shown in Fig. 6. In this working season, we measured relative heights between the surfaces using the TRUE PULSE 360B, Laser Technology Inc. The results are indicated by arrows with the elevation differences from the reference points to the target points (Fig. 6).

Sampling for ^{14}C dating

During the short filed survey (March 24th–27th, 2008), Drs. Saito and Tsukada surveyed a section in the factory under-construction south of the Tell Ghanem al-Ali site. The section, showing the basal sediments of the tell, consist mainly of ill-sorted muddy sand with charcoal fragments in the upper part and fluvial gravel layer in the lower part (Cut Section 1 of Fig. 5). Drs. Saito and Tsukada have collected charcoal samples at the section for ^{14}C dating.

In the present survey (April 30th–May 6th, 2008), we collected soil material (SH-9) for ^{14}C dating from the fluvial gravel layer in the lower part there, since no charcoal materials were observed. In addition, we detected another good section containing several charcoal layers that are corresponding to the upper part of the section surveyed by Drs. Saito and Tsukada in March. We have collected several charcoal samples from the new section (Cut Section 2 of Fig. 5), which is facing east in the north-west corner of the factory, as shown in Fig. 1. Several dark brown layers consisting of charcoal fragments and/or soil with charcoal powder were detected there, and we have collected two charcoal samples (SH-1 and SH-3) from the C_5 charcoal layer, two (SH-5 and SH-6) from the C_8 layer, and three (SH-2, SH-4 and SH-7) from the intermediate (C_m) between the 1st and 2nd layers. No sample was collected in the lower C_m layer, since no clear charcoal fragment was detected. ^{14}C ages of these samples will be compared with those of the charcoal samples collected so far at Ghanem al Ali site. All these ^{14}C ages should suggest the intensive active period of human after the fluvial gravel layer formation, because the charcoal layers include a lot of pottery and bone fragments.

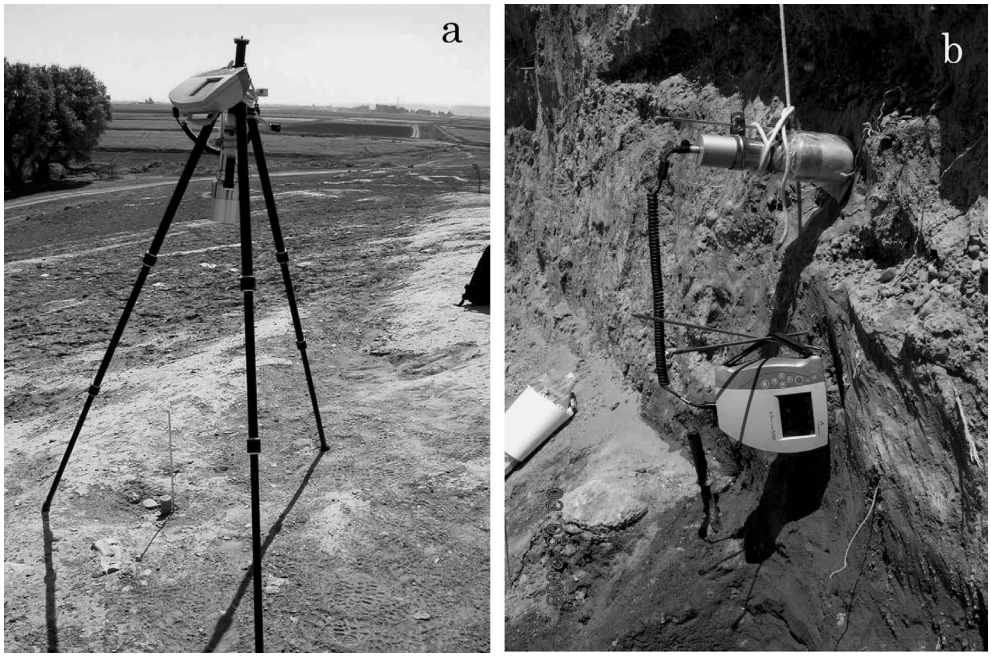

Fig. 1 The feature of natural gamma-ray measurement at the Tell Ghanem al-Ali. A tripod was used to hold the detector at 1 m high. It can detect gamma-rays from the ground within ca 3-meter radius (Fig. 1a). The detector was horizontally held to detect natural gamma-rays of the vertical outcrop. The detector is sensitive for the attached surface (Fig. 1b).

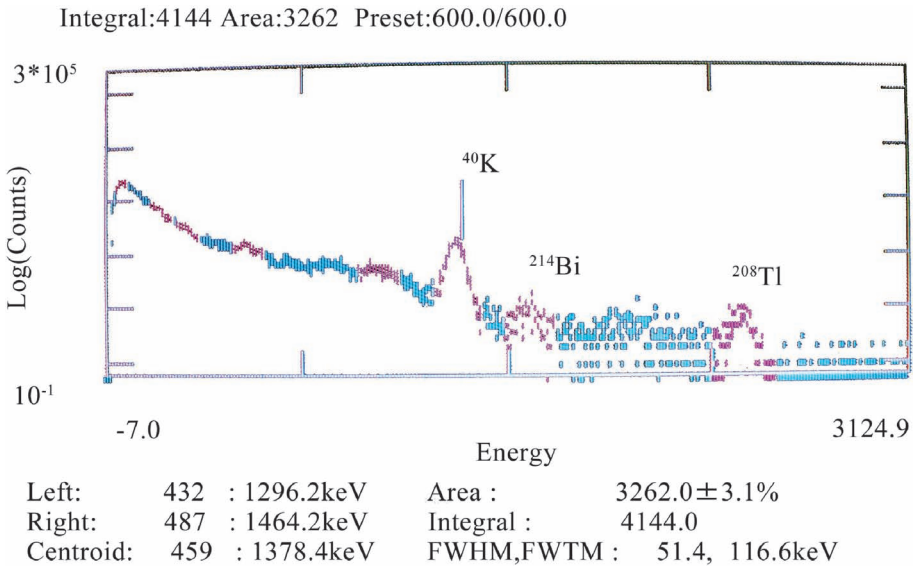

Fig. 2 An example of gamma-ray spectrum. 40K, 214Bi (daughter nuclide of uranium) and 208Tl (daughter nuclide of thorium) are detected. The red-colored area is the region of interest. The area are automatically integrated and used for the following discussions.

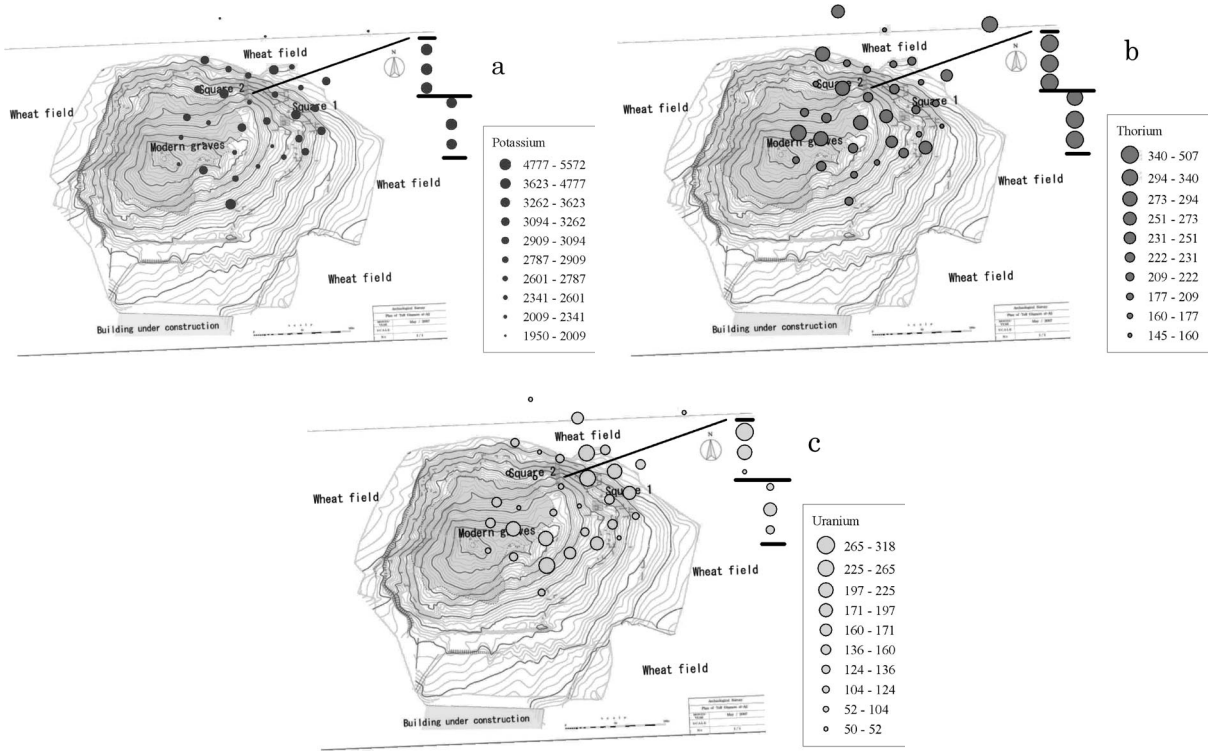

Fig. 3 The distribution map of natural radioactivities of the Tell Ghanem al-Ali. Figs. 3a, 3b and 3c show activities for 40K, 208Tl and 214Bi, respectively. Activities in the square excavation site 2 are also shown in right upper side of each figure.

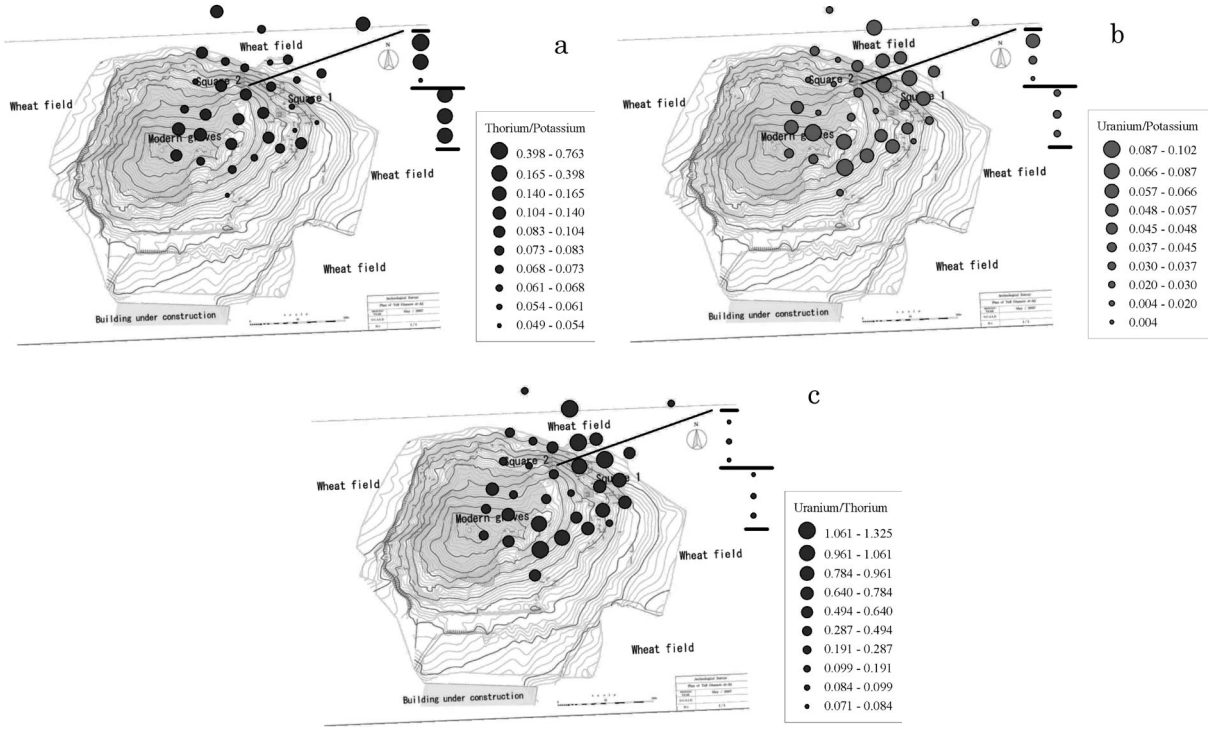

Fig. 4 The distribution map of ratio of radioactivity. Figs. 4a, 4b and 4c show the ratios for $^{208}Tl/^{40}K$, $^{214}Bi/^{40}K$ and $^{214}Bi/^{208}Tl$. Activities in the square excavation site was high as shown in Fig 3. However, the activity ratios shown in this Fig. 4 indicate that the both sedimentary materials at the surface and excavation site are not distinguishable. (Compare these ratios with those of cutting sections in the factory shown in Fig. 5.)

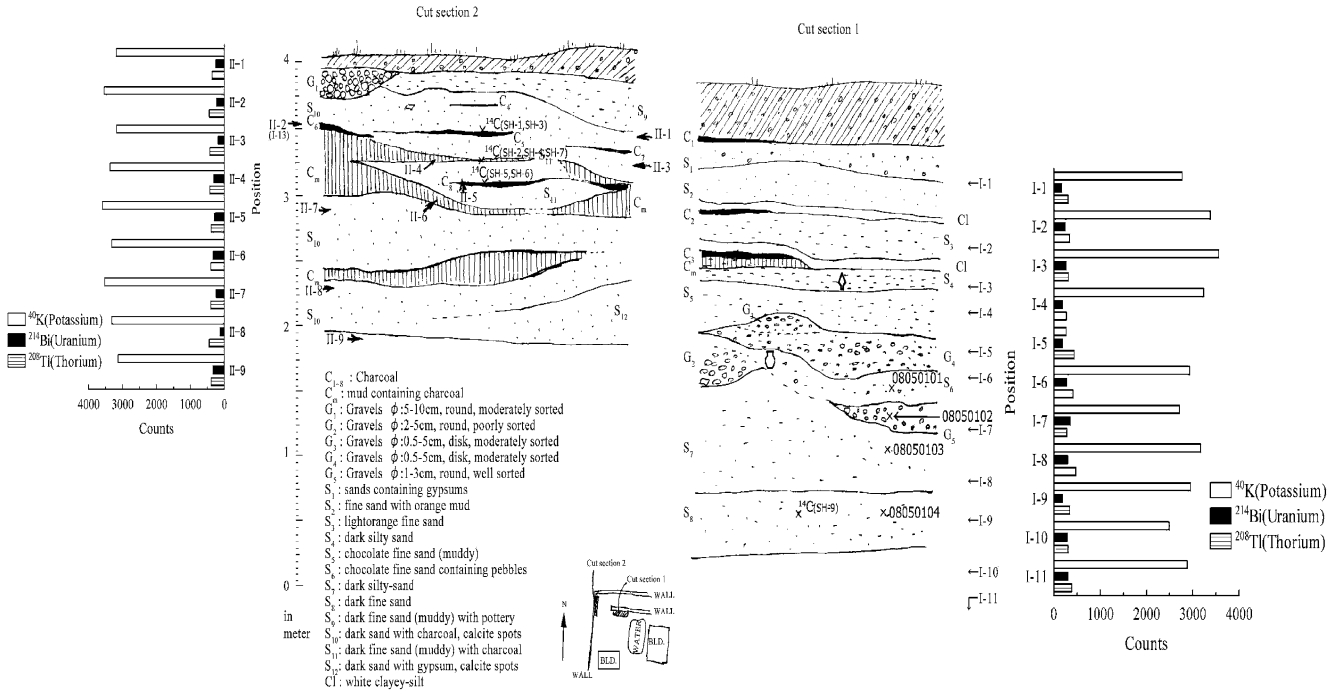

Fig. 5 A sketch map showing the cut sections 1 and 2. The cut section 1 was found by Saito and Tsukada in March, 2008. The natural gamma-ray activity was measured at 20 points from I-1 to I-11 and from II-1 to II-9 at the cut section 1 and 2, respectively. The activity ratios are distinctive from the ratios of the tell (Compare the values in Fig. 5 and Fig 4).

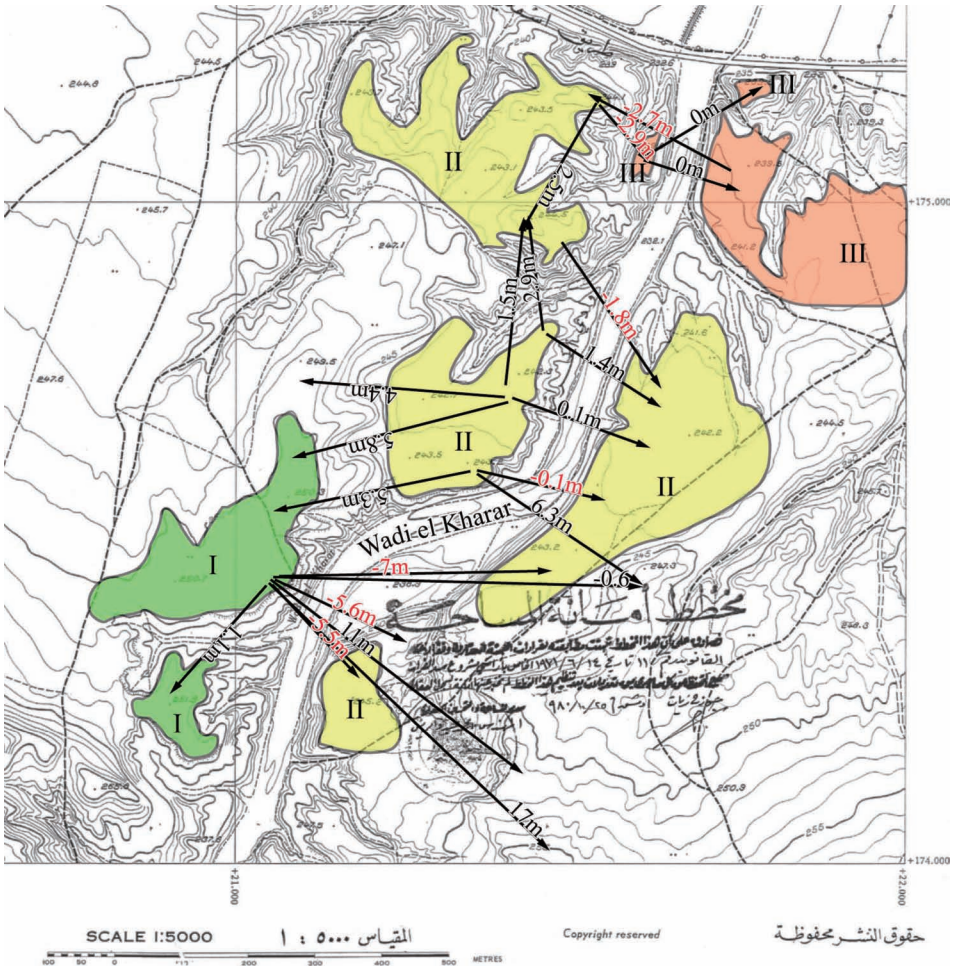

Fig. 6 Relative elevations of the river-terrace surfaces along Wadi el-Kharar.

2. Cleaning and Survey of the Early Bronze Age Hilltop Tombs in the Wadi Shabbout Area near Tell Ghanem Al-Ali

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Introduction and objectives

An archaeological investigation of Early Bronze Age (EBA) tombs near Tell Ghanem al-'Ali consisted of cleaning (27th April to 8th May, 2008) and survey (11th and 20th May, 2008) of seriously plundered grave-clusters situated in the Wadi Shabbout area on the northern edge of the Bishri Plateau.

Past surveys conducted by the Syria-Japan Joint Mission to Jebel Bishri demonstrated two off-site cemeteries probably contemporary with Tell Ghanem al-'Ali, i.e. the Wadi Shabbout cemetery area on hilltops or the northern edge of the Bishri Plateau, and the Wadi Daba cemetery area on the outfall of tributary wadi of the Euphrates (Fig. 1). As well as the contrast location of hilltops and the valley, the earlier surveys suggested distinct burial types between these areas. The Wadi Daba area generally consisted of shaft and shaft-like graves, while the vast Wadi Shabbout area contained various types of burials, such as stone chamber, cist and shaft graves as well as high mound tombs.

To obtain more concrete and detailed archaeological information that allows us to discuss the

relationship between the settlement and the cemeteries and the nature of mortuary practices of the EBA community, goals included salvage of preserved artefacts from the plundered tombs for dating, and documentation of variability and distribution of particular burial types in the Wadi Shabbout area.

Research area

Overlooking Tell Ghanem al-'Ali and the Euphrates Valley, the Wadi Shabbout area is situated on hilltops or high cliffs between Wadi Shabbout and a small unnamed wadi, approximately 1 km south from Tell Ghanem al-'Ali (Figs. 1 and 2). The area of the northern edge of the Bishri Plateau contains very scattered vegetation, and sharply eroded by small tributary wadis of the Euphrates.

For the convenience of the research, the area was divided into three sub-areas along wadi courses. Wadi Shabbout Area 1 (WS 1) consists of the eastern part of the area, where Tell Shabbout 1 and 2, high mound tombs or tumuli, is located. Wadi Shabbout Area 2 (WS 2), an intensively investigated sub-area in the present research, is situated in the western part. Lastly, Wadi Shabbout Area 3 (WS 3) is the rest area of the southern part. Three areas approximately cover 250,000 sq. m. Although any benchmarks were not recognized in the areas, a topographic map published by the Syrian government indicates heights in the area to be more or less 270 to 290 m above sea level.

Cleaning of plundered tombs at Grave-cluster A, WS 2

Following a quick survey for tombs in the areas, a massive grave-cluster (called Grave-cluster A) in WS 2 was selected (Fig. 3), for the scanning survey revealed a variety of burial types in the cluster, and modest scale of the site was appropriate for our limited period of the investigation.

Grave-cluster A is a low natural mound situated in WS 2. The mound measures ca. 30 × 16 m in major and minor axes and ca. 0.75 m in height from the basement of the mound. Seven depressions plundered by modern grave robbers were identified at the site. Except one depression located at the northern edge of the mound, all depressions produced traces of burial practices.

Field methods

To achieve the objectives described above, cleaning of all seven depressions were conducted. All soils from fill of the tombs were sieved, using 2 × 2 mm mesh sieves, in order to salvage tiny materials, such as beads or fragmented bones and teeth. In addition, two trenches for surface cleaning of 2 × 16 m (north-south) and 2 × 10 m (east-west) were opened, crossed on the top of the mound, since undisturbed tombs might occur below the surface. Encountering characteristic features, like stone alignments or concentrations, these trenches were expanded toward appropriate locations. Accordingly, a total area of 92 sq. m was exposed at Grave-cluster A. To document stratigraphy of the site, a 2 × 2 m deep pit was also sounded.

Stratigraphy

Stratigraphy of the site is principally composed of three sediments. The first layer consists of very thin reddish-brown soils, which might be generated from dirt-heaps at the time of plundering. In fact, several artefacts have been recovered from the layer. The second layer comprises whitish powder-like gypsiferous soils. Individual tombs appear to have been excavated from the top of this layer. The third is a marlaceous gravel layer. Bottoms of the tombs were constructed, digging into this gravel layer.

Tombs and finds

1) Tomb A1 (Figs. 4 and 5)

Although the western part of the burial was seriously disturbed by the grave robbers, the tomb

was the most well preserved sample at Grave-cluster A, and is easily identified as a typical stone chamber grave. The walls of the tomb are constructed of quarried gypsum stone slabs, which are horizontally arranged in nine to ten layers, inflecting toward the top. The entry of the tomb is capped by monolithic gypsum stone slabs. The slab set on the eastern part of the entry has further been covered by smaller slabs. The chamber measures ca. 1.8 m in length, 1.1 m in width and 1.0 m in depth. The axis of the tomb is roughly situated on the east-west line, but, more precisely, it deviates from the line at an angle of ca. 30 degrees in an anticlockwise direction. Salvaged materials from the tomb were sparse, including a body sherd, a shell ring ornament, a shell bead, a bronze object, and fragmented elements of (probably human) bones and teeth.

2) Tomb A2 (Figs. 6 and 7)

The tomb consisted of a square pit, ca. 1.0 × 1.0 m in length and width and 0.6 m in deep, and its walls were lined with flat gypsum stone slabs on edge, suggesting a type of cist grave. The southern wall and roofed stone slab(s) have not been preserved well due to plundering. The axis of the tomb precisely indicates the east-west direction. No pottery sherds were recovered, but a considerable amount of several types of shell and stone beads were salvaged. Chips of bones were also collected.

3) Tomb A3 (Fig. 8)

Due to the intensive activity of the grave robbers, only the southern wall of the construction was partly preserved. The edge lined with two large flat gypsum stone slabs indicates a type of cist graves. The chamber measures ca. 1.8 m in length, 0.9 m in width and 1.0 m in deep. The axis of the tomb is on the same line as Tomb A2, i.e. the east-west direction. A mere body sherd was salvaged.

4) Tomb A4 (Figs. 9, 10)

The tomb generally illustrates a type of stone chamber graves with horizontally arranged gypsum stone slab walls. However, the western wall was lined with two stone slabs on edge, like cist graves. The coexistence of two forms within one tomb may suggest a phase of chronological/typological transition of two burial types. The chamber measures ca. 1.8 m in length, 0.9 m in width and 0.9 m in deep. The direction of the tomb deviates from the east-west line at ca. 18 degrees in an anticlockwise direction. A few unique finds were recovered. They include a tip of bronze pin, a shell ring ornament with spiral groove, and several sherds, such as a base, a rim and a spout fragments.

5) Tomb A5 (Fig. 11)

Southern and a part of western walls alone arranged with gypsum stones were preserved at the tomb. The wall construction techniques suggest a typical stone chamber grave. The chamber measures ca. 1.4 m in length, 1.1 m in width and 0.6 m in depth. The axis of the tomb is precisely situated on the east-west line. A jar rim and an *in-situ* large jar base were salvaged.

6) Tomb A6 (Figs. 12–14)

Though no roofed stone slabs were identified, the tomb was well preserved like Tomb A1, since the modern grave robbers merely excavated the western half of the tomb. Construction techniques of gypsum stone walls correspond with those of Tomb A1, indicating a type of stone chamber graves. However, two differences were observed. First, thicker stone slabs have been used as wall materials in the case of Tomb 6. Second, northern wall has convex shape, while southern wall is inflecting toward the top like Tomb A1. The chamber measures ca. 2.0 m in length, 1.0 m in width and 1.0 m in deep. The direction of the tomb deviates from the east-west line at ca. 18 degrees in an anticlockwise direction. Due to the well-preserved condition, observations of the east-west section in the chamber were also conducted. Apparently, Tomb A6 was once disturbed by ancient robbers, and

again, the modern grave robbers plundered the tomb, because constant fill of gypsiferous soils deposited in the chamber implies long term aeolian sedimentations since the first plundering in antiquity. The condition produced two in-situ nearly complete vessels as well, such as a hemispherical bowl and a low-neck jar.

Isolated materials

The surface and trench sampling produced a few diagnostic archaeological materials. They include shell ring ornaments, a flake of flint, and a pedestal of a small ceramic.

Dating

Dating of the tombs and their relationship to Tell Ghanem al-'Ali or other grave-clusters in the area remains difficult because of the scattered collection from the individual burials and the surface/trench sampling. Apparent absence of diagnostic wares, like Euphrates Fine Ware, Metallic Ware, or Smeared Wash Ware, also makes the dating difficult.

Evidence, however, supports that construction period of Grave-cluster A in WS 2 is more or less contemporaneous with occupation deposits at Tell Ghanem al-'Ali, i.e. the EBIII to EBIVA Periods. This is because, first, shell ring ornaments recovered from the site are quite homogeneous with specimens from Abu Hamed, a site of late EBIII to early EBIVA grave-clusters, located approximately 1 km south of the Wadi Shabbout area. Second, burial types represented by stone chamber and cist graves in Grave-cluster A are typologically belong to the mid to late third millennium, as previous research worlks of mortuary practices in the Syrian and Turkish Euphrates regions have suggested. Third, several vessel forms identified at the site, including a spout, a small pedestal and a complete hemispherical bowl, may also support this view. For instance, spouted jars are a representative of the mid to late third millennium Syrian Euphrates assemblages. The small pedestal has a good parallel with a specimen from a contemporary tomb at Tell es-Sweyhat, located approximately 80 km northwest of Al-Raqqa. Hemispherical bowls with convex wall are common in the late third millennium of the region.

Grave-cluster survey in the Wadi Shabbout area

Grave-cluster survey in two sub-areas of the Wadi Shabbout, i.e. WS 1 and 2, was conducted. To demonstrate variability and distribution of individual tombs in the areas, data of burial type, orientation of axis, and size of chamber were collected. Intensively plundered tombs in the areas, in turn, often enabled us to identify these data. The survey was conducted in pedestrian manner, navigated with high-resolution satellite image, allowing us to document more or less precise locations of the targets (Fig. 15).

WS 1

A total of seven grave-clusters and isolated graves were documented. Burials types contained the most impressive high mound tombs or tumuli called Tell Shabbout (Fig. 16) and cist or stone chamber graves.

WS 2

WS 2 also produced seven grave-clusters and isolated graves, including intensively investigated Grave-cluster A (see above). Stone chamber or cist graves were identified in the area.

In both areas, the axes of the tombs are roughly situated on the east-west line. Though internal structures of several tombs like tumuli were not observed, modest size of chambers that ranges 0.9–2.1 m in major axes, and 0.8–1.4 m in minor axes suggests that these tombs were not collective but personal burials in general.

Discussion and summary

Cleaning of plundered tombs and salvage of artefacts at Grave-cluster A enables us to obtain more concrete evidence for dating of grave-clusters in the Wadi Shabbout Area, suggesting that the tombs were more or less equivalent to occupation periods of Tell Ghanem al-'Ali, i.e. mid to late third millennium BC. The result allows us to discuss their relationship in concrete and reliable context.

Observation of burial types at Grave-cluster A indicates the cluster containing two types of burials of stone chamber and cist graves. The coexistence of these two different burial types within single cemetery is not uncommon at contemporary sites in the Middle Euphrates. For example, in Square 2W at Tawi, stone chamber and cist graves coexisted as well. Rather, it might be considered that, in spite of sounding for surface cleaning, no traces of shaft graves were identified at Grave-cluster A. On the other hand, earlier surveys by our mission and a German team found clusters of EBA shaft or shaft-like graves on the slope of Wadi Daba and at Abu Hamed in the area surrounding Tell Ghanem al-'Ali. This virtually spatial separation of shaft graves and cist/stone chamber graves within single area is also identified at several EBA sites in the region, such as Shamseddin, Tell al-'Abd, or Tawi.

Possible reasons for this phenomenon, like time, gender, status or ethnicity, has thus far been intensively discussed elsewhere. Nevertheless, information about on/off-site burial practices of Tell Ghanem al-'Ali at hand are very sparse so far. Accordingly, further investigations on and around the site are required to discuss the possible backgrounds of the spatial separation of the particular burial types. However, we may suggest distinct landscapes in the area play a significant role of the separation. Our grave-cluster survey suggests that funerary land use around Tell Ghanem al-'Ali in the EBA is divided into two patterns, i.e. hilltop tumuli (Tell Shabbout) and cist/stone chamber graves (WS 2 Grave-cluster A and other surveyed graves in WS 1 and 2), and inland (e.g. Abu Hamed) or lowland shaft graves (Wadi Daba). Overlooking Tell Ghanem al-'Ali, energy-consumed high mound or stone-build hilltop tombs may imply particular funerary practices in the EBA community.

In addition, as a part of the Syria-Japan Mission to Jebel Bishri, investigations of Rijum Hedaji, burial cairns that might be tombs for EBA mobile pastoralists in the Bishri mountains, are being conducted by Professor Sumio Fujii.

In order to understand EBA burial practices, sedentary/mobile ways of life, their socio-political structures in the Middle Euphrates Valley/Jebel Bishri, and further field and laboratory works on both of the cemeteries and integration of those results are required.

Fig. 1 Situations of Grave-cluster A in Wadi Shabbout (WS) Area 2, research areas and other related sites (Satellite image after *Google Earth*).

Fig. 2 Wadi Shabbout, looking south.

Fig. 3 Grave-cluster A, WS2, looking south.

Fig. 4 Tomb A1 (from northwest).

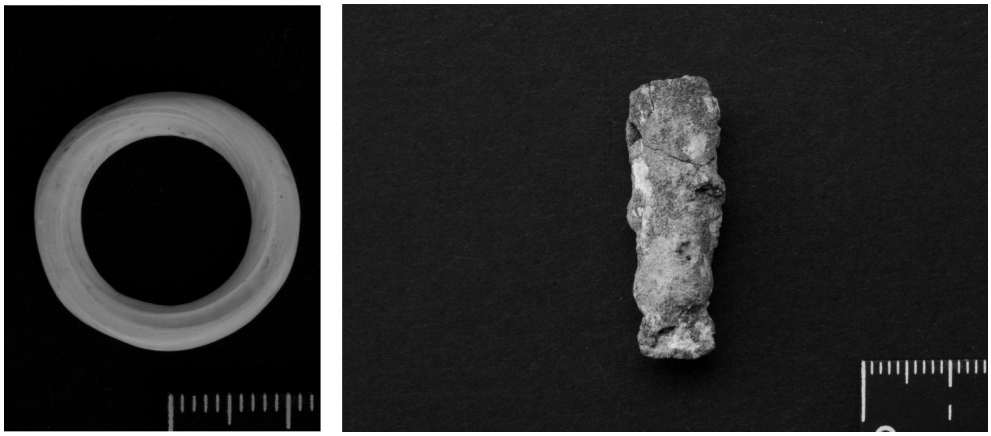

Fig. 5 Shell ring ornament (left) and bronze object (right) from Tomb A1.

Fig. 6 Tomb A2 (from south).

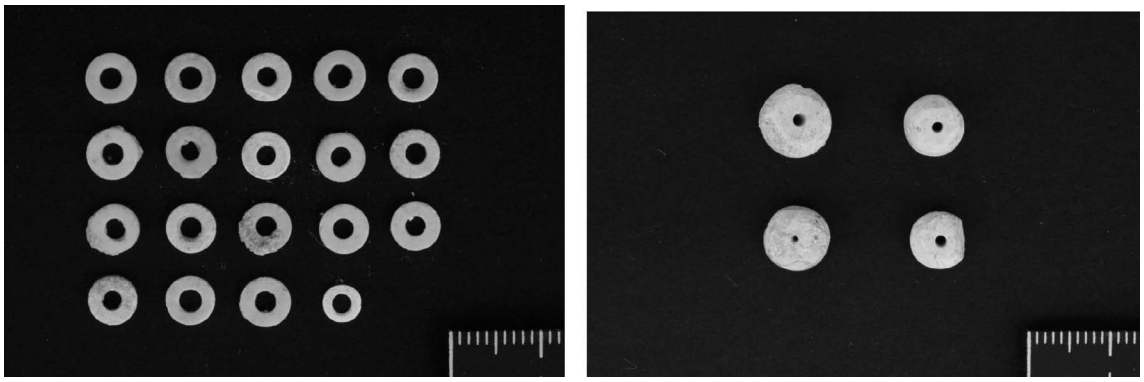

Fig. 7 Shell beads from Tomb A2.

Fig. 8 Tomb A3 (from northwest).

Fig. 9 Tomb A4 (from south).

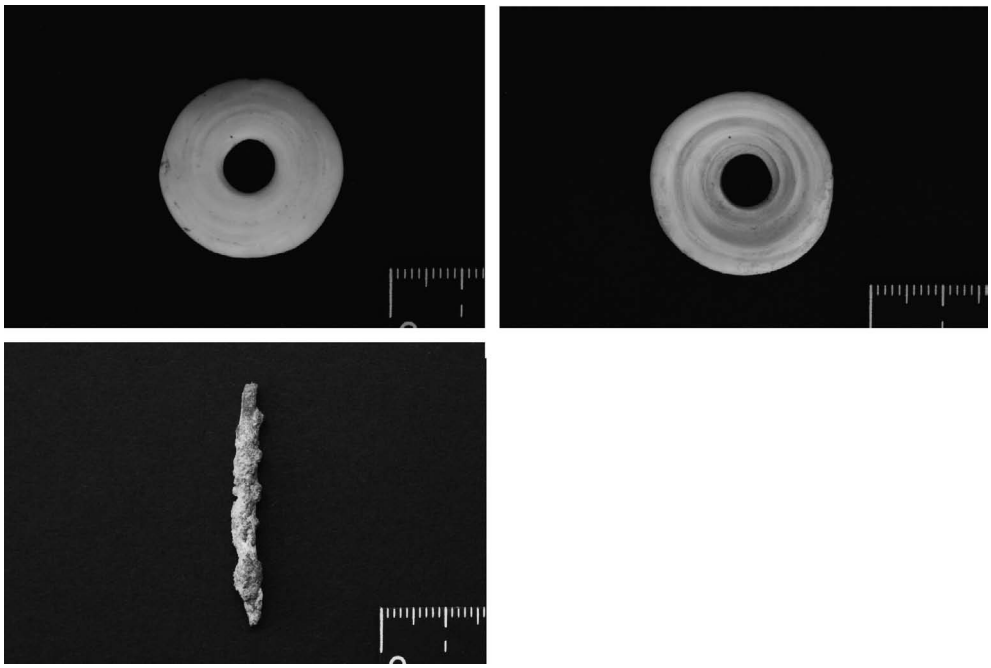

Fig. 10 Both sides of shell ring ornament with spiral groove (Top left and right) and bronze pin (bottom) from Tomb A4.

Fig. 11 Tomb A5 (from north).

Fig. 12 Tomb A6 (from west).

Fig. 13 Pottery in *in-situ* context at Tomb A6.

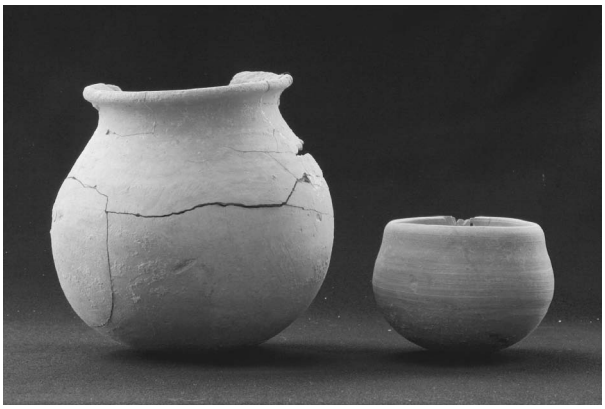

Fig. 14 Salvaged nearly complete pottery from Tomb A6.

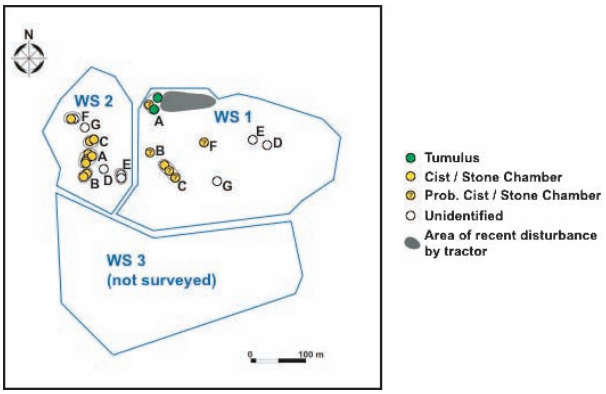

Fig. 15 Distribution of grave clusters/isolated graves and their burial types in WS 1 and 2.

Fig. 16 High mound tombs or tumuli called Tell Shabbout by locals in WS 1 (from south), overlooking Tell Ghanem al-'Ali (right back).

Fig. 17 Cist/stone chamber grave (Tomb B2) at Grave-cluster B, WS 2 (from east).

3. The Second Field Season at Rujum Hedaja 1

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Introduction

The second field season at Rujum Hedaja 1, a large cairn field on the northwestern flank of Jabal Bishri, was conducted for about three weeks from May 18 through June 5 of 2008, with the sincere cooperation of the Department of Antiquities and Museums of Syria. The objective of this season was twofold: first, to obtain further evidence for the dating of the site and, second, to trace an intra-site techno-typological sequence of burial cairns. For these two purposes, we tested a total of ten burial cairns from BC-01 to BC-10. The following is a brief summary of the series of operations.

The Site

The site of Rujum Hedaja 1, or RHD-1 in our site registration code, is one of the four cairn fields that were first found in our general survey conducted in May of 2007 (Fujii 2007). It is located on a flat-topped limestone hill ca. 5 km east of Bir Rahum, a small village along a local main road (Fig. 1). This table-like hill is not only ca. 30-50 m higher than the surrounding terrain but also protruded westward for ca. 1 km, thereby commanding a fine panorama of the northwestern flank of Jabal Bishri (Fig. 2).

The site contains a total of fourteen burial cairns, most of which are lined along the southern edge of the flat hilltop where a limestone bedrock layer is exposed (Fig. 3). There is no doubt that the exposed bedrock layer supplied them with construction material. In addition, an escarpment below the edge must have served as a material source of limestone cobbles that were peeled off from the bedrock layer. It is a natural consequence that the burial cairns were concentrated on the southern edge. In contrast to this is the northern edge, where only a few burial cairns are dotted along a relatively gentle slope.

Such a linear arrangement of burial cairns along the southern edge awakened our expectation that an intra-site techno-typological sequence could be established. In addition, the site included a few relatively well-preserved, large-scale burial cairns that deserve intensive investigation. The accessibility from the local main road was also among the reasons for the site choice.

The first field season, conducted in March of 2008, tested BC-10, the largest burial cairn in the site. The half-cut excavation showed that it was a cist-type burial cairn with a double peripheral

wall, and that the cist incorporated a cruciform burial chamber fringed with large limestone boulders (Fujii 2008). The finds, though very limited due to illicit diggings in the past, suggested a date from the end of the 3rd millennium BC to the beginning of the 2nd millennium BC. This finding enhanced the possibility that the cairn fields in this area represent cemeteries of Mar-tu or Amurru, a large pastoral population that several Sumerian and Akkadian cuneiform texts referred to as being based on the Bishri Mountain.

The second field season, our main concern, was designed on the basis of such a far-reaching perspective. The first objective of the season was to obtain further clue to the dating of the site, an essential starting point for further discussion. Another goal was to trace the techno-typological sequence of a dozen burial cairns that constituted the site, another key to a comprehensive understanding of the Bishri cairn entity. A series of archaeological operations described below was devoted to these two issues.

Research Method

Since the fourteen burial cairns were dotted at a large interval, we did not adopt a comprehensive grid system to cover the whole range of the site. Instead, we first drew their distribution map and, then, arbitrarily set up a minor grid system to cover an individual cairn only. We used two grid systems for each purpose: a 5 m by 5 m grid system for larger cairns such as BC-10 and BC-09, and a 2 m by 2 m grid system for smaller examples. Since no triangular point was available around the site, we arbitrarily set up a benchmark for leveling, in most cases, at the northwestern corner of every minor grid system. (It is needless to say, however, that the elevation gap among the benchmarks was measured and recorded.) A few major cairns such as BC-09 and BC-03 were examined by means of a trench or half-cut excavation method, whereas minor examples such as BC-06 and BC-04 were entirely excavated.

A dozen local workers from the village of Bir Rahum took charge of digging under the supervision of qualified staff members. Excavated soil from a mound and its periphery was not sieved due to time constraints, but the deposits in a grave, especially those that produced human skeletal remains, were put through a 3 mm-mesh dry sieving. Since no floral remains were recovered in the course of the sieving, water floatation was not conducted.

Soundings

BC-10

This large burial cairn was sounded in the last field season (Fujii 2008). In order to reassess our previous investigation results, a 2 m wide trench was opened at the center of the unexcavated western half of the mound. As a result, it turned out that as was the case of the eastern half of the mound, a double peripheral wall encompassed a large cist (Fig. 4). Also of interest was the fact that the lowest course of dressed limestone blocks still kept their original position on foundation stones of the outer peripheral wall. In light of the volume of fallen blocks, it seems that the wall was originally three to four courses (or ca. 0.5–0.7 m) high. A few buff-colored ware sherds similar to those from the eastern half of the mound were found beside the wall.

BC-09

BC-09, the main target of this field season, was located ca. 180 m west of BC-10, immediately beside the fringe of the escarpment. It was the second largest burial cairn among those investigated in this season, measuring ca. 10 m in diameter and ca. 1.3 m in relative height.

A half-cut excavation showed that it lacked a double peripheral wall, consisting only of a large cist ca. 6–6.5 m in diameter and up to ca. 1.3 m in height (Fig. 5). The cist incorporated an oblong pit-type grave roughly in its center, which was lined with a single row and a few courses of undressed limestone cobbles (Fig. 6). A large number of limestone rubble was compacted between the grave

and cist walls, probably a device for piling up irregular stones in a single row. In addition, a dozen limestone boulders up to ca. 0.7 m were used as outer supports for the cist wall.

Three stone-built features were found on the west of BC-09. Feature 01 was a small round structure with a diameter of ca. 2 m, being fringed with large limestone cobbles. A number of small rubble was compacted inside the wall. The same is roughly true of Feature 03. Feature 02, on the other hand, was a slightly incurved wall alignment ca. 8.5 m in total length and ca. 0.3 m in preserved height, opening to the north. A flint core was found roughly in the center of its floor. Nothing can be said about the function of these features, but the stratigraphical correlation suggests that they served as incidental facilities of the neighboring BC-09.

Unfortunately, the main body of the cairn was seriously plundered, but a few dozen small finds occurred together with numerous human skeletal remains. They included a flat-topped bronze pin (Fig. 7a), a faience pendant representing a waterfowl (Fig. 7b), an oblong stamp seal again made of faience (Fig. 7b), a dozen beads made largely of agate and faience (Fig. 7c), several pierced snail probably used for pendants (Fig. 7d), and a few buff-colored fine ware sherds. It seems that the first three is suggestive of a date from the end of the 3rd millennium BC to the beginning of the 2nd millennium BC, although the final conclusion must await further study.

BC-08

BC-08 was located ca. 230 m SSE of BC-09 described above, again at the southern edge of the flat hilltop. It was much smaller than BC-09, measuring ca. 3 m in diameter and ca. 0.3 m in height. Nevertheless, it resembled BC-09 in that it consisted only of a round, rubble-compacted cist incorporating an oblong, stone-lined pit grave in its center (Fig. 8). In this sense, it may be defined as a smaller version of BC-09, but neither human skeletal remains nor finds occurred from the grave.

BC-07

This burial cairn was situated ca. 75 m ESE of BC-08. It was ca. 3-4 m in diameter, but the original height was unknown due to its poor state of preservation. A brief examination by means of a 2 m by 4 m test trench passing through the center of the feature suggested that it was similar to BC-08 in terms of typology (Fig. 9). No finds were recovered, but a straight wall alignment ca. 3 m in total length was found beside it.

BC-06

This burial cairn occupied a point only ca. 10 m SW of BC-07, an exceptional case for Hedaja burial cairns that usually kept a certain (more than 100 m) interval from a neighboring cairn. A brief sounding showed that it belonged to the same type as BC-08 and BC-07 (Fig. 10). Again, nothing was included in the grave pit. It appears that the BC-08 type of burial cairns shared something in common in terms of the absence of human skeletal remains and burial gifts.

BC-05

BC-05 was located ca. 40 m SE of BC-04. As was the case of the preceding three examples, it consisted only of a round cist that incorporated an oblong stone-lined grave pit in its center (Fig. 11). It is noteworthy, however, that the cist wall became closer to the grave wall. For this reason, the rubble-compacted, corridor-like space sandwiched between the two was reduced to a narrow gap. In this light, BC-05 may be defined as a transitional form bridging the BC-08 type and the BC-04 type described below.

BC-04

This small burial cairn, ca. 3-4 m in diameter and ca. 0.2 m in height, was located ca. 150 m west of BC-03. It witnessed the final disappearance of a cist wall that had continued to encompass a grave. Consequently, it consisted only of a small stone-lined pit grave ca. 1.5 m in diameter and ca. 0.3 m in floor depth (Fig. 12). Again, nothing was recovered from the grave.

BC-03

This burial cairn was located ca. 160 m west of BC-04, near a bottleneck of the elongated hill.

It was relatively large in dimensions, having a diameter of ca. 8 m and a height of ca. 0.6 m. A trench-excavation passing through the center of the mound revealed that it was equipped with an oblong peripheral wall as well as a large cist incorporating an oblong, stone-lined pit grave (Fig. 13). The grave was relatively large in size, measuring ca. 2.5 m by ca. 1.5 m in floor area. Again, the grave was seriously plundered, but some pottery sherds similar to those from BC-10 and BC-09 were found in addition to a large number of fragmented human bones. Two small round features accompanied the cairn.

BC-02

BC-02 was situated on a flat hill ca. 280 m SE of BC-03, thereby being isolated from the main body of the Hedaja cairn entity. It was relatively well preserved, measuring ca. 4 m in diameter and ca. 0.4 m in height. Again, it consisted only of an oblong stone-lined pit grave (Fig. 14). In this light, it can be defined as an example of the BC-04 type. No finds were recovered, but a small U-shaped stone-built feature and a large L-shaped wall alignment were confirmed on the southeast and west of the cairn, respectively.

BC-01

BC-01 was located ca. 270 m SSW of BC-02, on another narrow ridge to the south. The excavation showed that this small burial cairn, ca. 3.5–4.5 m in mound size, also fall within the BC-04 type (Fig. 15). Nothing was included in the grave.

Summary and Discussions

The investigation has contributed to a better understanding of the site. To begin with, the date of the site has become clearer owing to the finds from BC-09. The occurrence of the unique finds including the flat-topped bronze pin, the faience adornment representing a waterfowl, and the stamp seal again made of faience seems to support our view that the site probably falls within the time range from the end of 3rd millennium BC to the beginning of the 2nd millennium BC. Nevertheless, the evidence is far from sufficient and the final conclusion must await further research.

The other issue (i.e. the techno-typological sequence of Hedaja burial cairns) is difficult to approach, since the absence of finds impedes the precise dating of most burial cairns. The only clue is the linear arrangement of ten burial cairns along the same escarpment, which has the potential to mirror a sequence. Given that the Hedaja cairn complex gradually developed southeastward from BC-10 at the western edge, their techno-typological sequence may be divided into the following three phases.

The first phase represented by BC-10 is characterized by the complicated inner structure containing a large cist and a double peripheral wall. It is also characteristic of this phase that the cist incorporated a cruciform burial chamber.

The second phase, which contains five examples from BC-09 to BC-05, is marked by the disappearance of peripheral walls around a cist and the typological change from a cruciform chamber to an oblong pit grave. Of interest is the fact that while the cist of BC-09 still retained a large size comparable with that of BC-10, the succeeding examples became much smaller. It is also important to note that a corridor-like, rubble-compacted space between the grave wall and the cist wall was reduced to a simple gap at BC-05. Considered in this light, the second phase may be divided into the following three sub-phases: BC-09 with a large cist, BC-08 to BC-06 with a smaller cist, and BC-05 as a transitional form shifting to the BC-04 type.

The third phase witnessed even the disappearance of a cist wall. As a result, the burial cairns of this phase was reduced to a simple combination of a stone-lined pit grave and a small mound covering it. The only exception to this is BC-03, which contained, though much inferior in construction quality than BC-10, a peripheral wall as well as a cist wall. The reason for the revival of such a complicated composition is still unknown, but it is suggestive that it yielded human skeletal remains. The occurrence of human bones is exceptional for the post-BC-09 burial cairns, suggesting that the interment had

something to do with the typological revival. Conversely, the rise of BC-08 and BC-4 types may be understood as a manifestation of the transition from a real interment to a symbolic burial.

Concluding Remarks

The series of archaeological operations have provided further insights into Rujum Hedaja 1. To begin with, it has become clearer that the site falls within the time range from the end of the EB to the beginning of the MB. This has enhanced the possibility that a large number of cairn fields on the northwestern flank of Jabal Bishri represent the cemeteries of *Mar-tu* or *Amurru*, although further evidence, especially that from undisturbed graves, is needed for a more reliable conclusion. The investigation also shed light on the techno-typological sequence of burial cairns at the site. As a result, it turned out that the Hedaja burial cairns falls broadly into the three phases. Both results would serve as a reliable base for further investigation. The next field season, scheduled in autumn of this year, intends to test the present perspectives at a different site around Bir Rahum.

References

Fujii, S.
2007 The General Survey of Pre-Islamic Burial Cairns in the Northern Flank of Jabal Bishri. In: Ohnuma, K. and K. Anas (eds.) Archaeological Research in the Bishri Region: Report of the 2nd Working Season. *Rafidan* 29: 134-149.
2008 A Brief Sounding at Rujum Hedaja 1. In: Ohnuma, K. and K. Anas (eds.) *Archaeological Research in the Bishri Region: Report of the 5th Working Season*. The Working Report submitted to the Department of Antiquities and Museums of Syria.

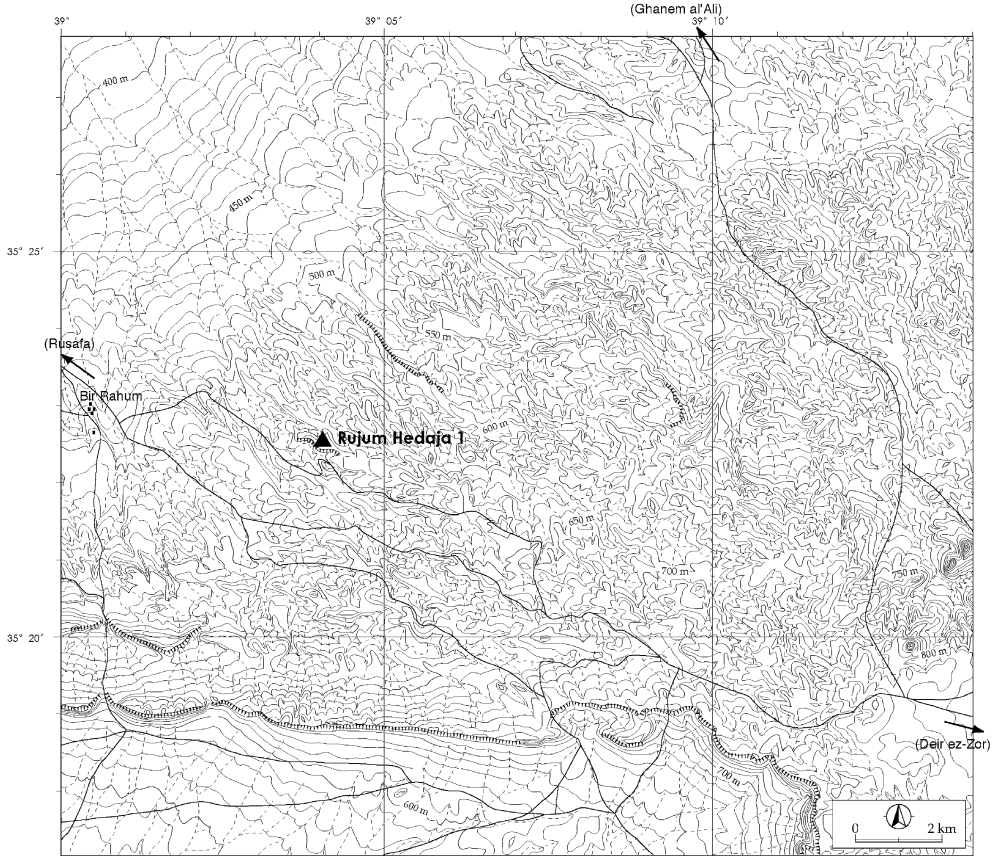

Fig. 1 The site location of Rujum Hedaja 1.

Fig. 2 A general view of the site (looking west from BC-08).

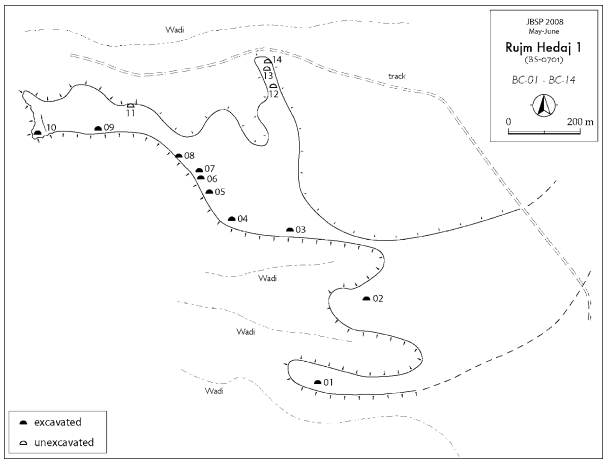

Fig. 3 A schematic distribution map of the fourteen burial cairns at Rujum Hedaja 1.

Fig. 4 A close-up view of the west trench of BC-10 (from NW).

Fig. 5 A general view of BC-09 (from SE).

Fig. 6 A close-up view of the cist of BC-09 (from SE).

Fig. 7a Bronze products from BC-09.

Fig. 7b Faience products from BC-09.

Fig. 7c Agate and faience beads from BC-09.

Fig. 7d Snail beads from BC-09.

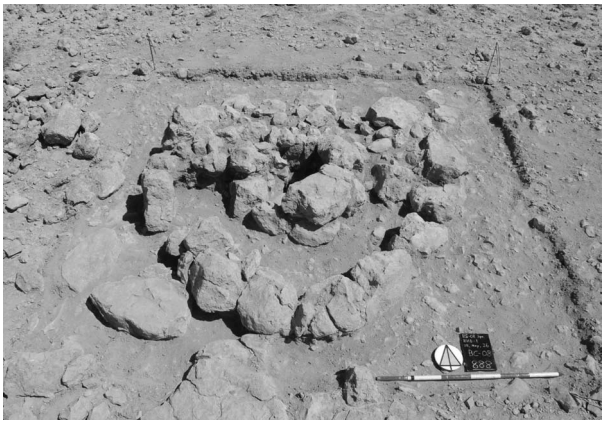

Fig. 8 A general view of BC-08 (from S).

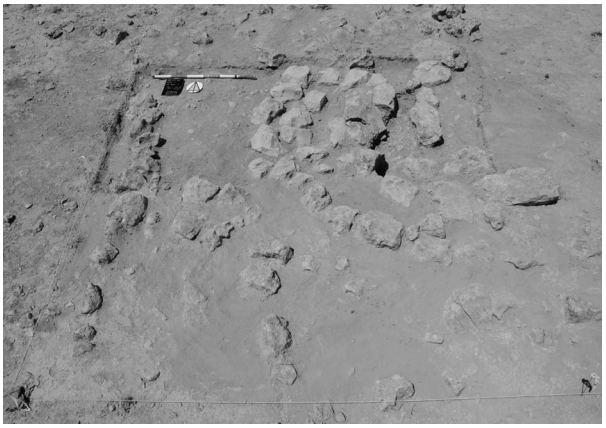

Fig. 9 A close-up view of the west trench of BC-07 (from S).

Fig. 10 A general view of BC-06 (from S).

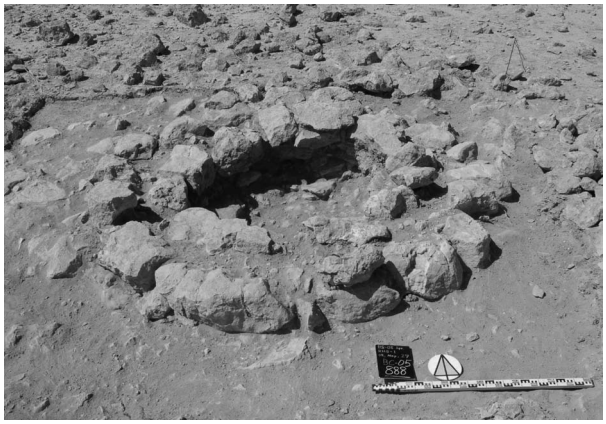

Fig. 11 A general view of BC-05 (from S).

Fig. 12 A general view of BC-04 (from SW).

Fig. 13 A general view of BC-03 (from S).

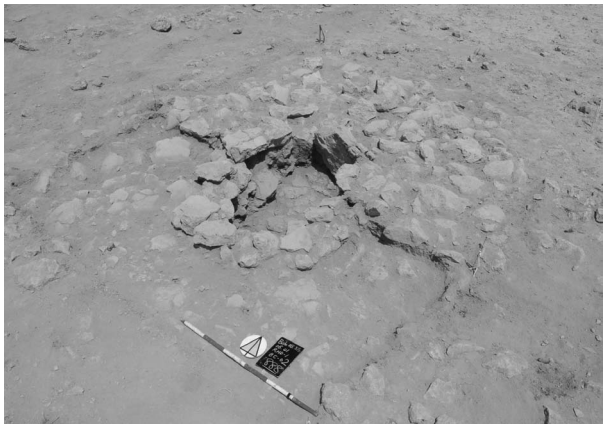

Fig. 14 A general view of BC-02 (from SE).

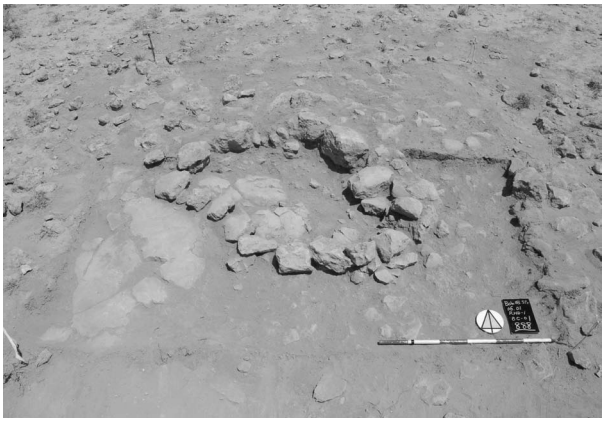

Fig. 15 A general view of BC-01 (from S).

4. Botanical survey of Bishuri hills; related with the excavation of the Rujum Hedaja 1

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Ken-ichi TANNO (Research Institute for Humanity and Nature, Japan,
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Introduction

The botanical research of the 6th working season focuses on the flora nearby the cairns of Rujum Hedaja 1. Here we can see one of the typical vegetation on the upper bank of the Euphrates toward the hills of the Jabal Bishuri. The site locates about 60 km south of Al'Raqqa, annual precipitation today is less than 200 mm.

The excavation of the site itself was directed by Prof. Dr. Fujii (Kanazawa Univ.) from the 5th working season. C.A. joined to the mission from 17 May to 2 June, the plant remains, however, was not obtained from the excavation due to extremely lack of the sediment (see later). To understand the flora of this region, we carried out brief vegetation surveys in 8 test grids nearby the Rujum Hedaja 1 (by C.A.) and on the roadside from Palmyra to Raqqa through the western foothills of Jabal Bishuri (by K.T.).

Vegetation survey around Rujum Hedaja 1

To investigate the flora of this area, 8 grids squared by 10 m × 10 m each were set nearby the hill of Rujum Hedaja 1. Table 1 shows location of the grids, two were on the bank of wadi, two were on the top of the hill, and four were aligned on the slope. All the plants observed within the grids were noted for their number and species name.

Dry, sandy undulating land around Rujum Hedaja 1 (Fig. 1) has been used by local Bedouins for livestock and medicinal use. Low shrubs of Chenopodiaceae were the most dominant, Leguminosae, Labiatae and Compositae were also seen often. More than 25 species were observed in total around the field near the cairn. No plant taller than 1 m was seen.

The hilltops at the grids 3 and 4 were covered by less than 10% of vegetation, including some scatters of shrubs. Among the shrubs, a spiny plant called '*surr*' by the local people and a succulent shrub '*neituul*' were exclusively dominant. Similar flora was seen on the slope and the edge of the hill except that the *surr* was more dense than on the hills.

Various species grow at the bank and the bottom of the wadi south of the cairns (Fig. 2). This small wadi was only 5 m width but *Astragalus spinosus*, *Peganum harmala*, *Achillea fragrantissima*, *Echinops* sp. etc. were found in addition to the *surr* shrub. More flowers might be blooming in larger wadi outside of the cairn area.

The results show that Chenopodiaceae was predominant of the area followed by Legminosae and

Table 1 Grid investigation in Rujum Hedaja area

Grid no.	location	size (m)	plant covering	dominant
1	Wadi	10 × 10	15%	*surr*
2	Southern Slope	10 × 10	15%	*surr*
3	Top of the Hill	10 × 10	10%	*neituul*
4	Top of the Hill	10 × 10	10%	*neituul*
5	Egde of the Hill	10 × 10	15%	*surr*
6	Wadi	5 × 20	20%	*surr*
7	Egde of the Hill	10 × 10	15%	*surr*
8	Egde of the Hill	10 × 10	15%	*surr*

Compositae, indicating that the flora at Rujum Hedaja 1 is belong to typical step-desert vegetation. Bedouin knows the plants very well and utilizes as fodder, fuel, medicine, flavour, ferment of cheese or insect repellent etc., therefore these plant resources were probably beneficial to ancient man in this region, too.

Dry Sieving at Rujum Hedaja site

Dry sieving was tested for the soil from the central part of BC-09. The main purpose was to obtain small objects and bones, so 3 mm-mesh sieve was selected. A part of the soil (about 50 litters) was sieved also with 1 mm-mesh to find smaller charred seeds and charcoals. However, no charred remains were observed with naked eyes during the dry sieving, so we didn't make further effort like water flotation.

Vegetation survey along the Palmyra-Al'Raqqa road

Jabal Bishuri is a massive hill region on the south bank of the Euphrates along Al'Raqqa to Deir ez Zor. Nevertheless its monotonous scenery of step-desert wasteland, plants growing there are relatively rich in species and differ place by place. In 2007 botanical survey was done on the north of the Bishuri hills, so this season K.T. observed rough vegetation west of the Bishuri hills from the junction of Palmyra-Deir ez Zor road toward Mansurah (junction of Aleppo-Al'Raqqa road).

Junction to El Kowm from the Palmyra-Deir ez-Zor road

At the roadside about 200 m west of the Junction to El Kowm on the Palmyra-Deir ez Zor road, *Peganum harmala*, two *Anabasis* sp. and *Dianthus* sp. were seen. This area was very dry, according to a taxi diver east Palmyra had only a single little rain last winter. The area is desert/step vegetation and is sparsely composed of communities dominated by *Anabasis* sp. and *Peganum harmala*.

8 km West of Citadel Palasmayer

Achillea fragrantissima and *Capparis* sp. were most frequent, *Malva* sp., *Convoluvulus arvensis*, *Peganum harmala*, *Eruca sativa*, *Centaurea* sp. occasional. Except for the two dominant species, they were all short (less than 10 cm) and *Peganum harmala* would be dominant if it had a little more rain. This place is not a roadside but is inside of desert/step plain. Very shallow trace of water pass was seen and the above plants were there.

15 km North from El Kowm

Peganum harmala and *Hordeum murinum* were exclusive, *Anabasis* sp., *Malva* sp. *Erodium cicutarium*, *Atriplex* sp. *Astragalus* sp., *Heliotropium* sp., *Polygonum* sp., Polygonaceae, Cruciferae, Compositae and *Stipa* sp. rarely. Most of them are roadside plant.

The Bishri hills are very dry land but still have more diverse flora than generally expected. It offers many kinds of useful herbs to local people and they know which wadi offers the objective. The Bishri hills must have been good grazing land for nomads for thousands of years. And there is potentiality that traditional plant use by Bedouins traces well back to that of prehistoric period.

Fig. 1 Dry, sandy undulating land around Rujum Hedaja 1.

Fig. 2 Various species grown at the bank and the bottom of the wadi south of the cairns.

تقرير موسم العمل السادس للبحث الأثري للبعثة الأثرية السورية اليابانية المشتركة العاملة في منطقة جبل البشري

بدأت البعثة الأثرية السورية اليابانية المشتركة أعمالها في منطقة جبل البشري لهذا الموسم بتاريخ الخامس والعشرون من شهر نيسان لعام 2008واستمرت لغاية الخامس من أيار لعام 2008

نشكر الدكتور بسام جاموس المدير العام للآثار والمتاحف في سورية والدكتور ميشيل مقدسي مدير التنقيب والبحث الأثري في المديرية العامة للآثار والمتاحف , والمستشار المشرف لهذا البحث الأثري المشترك ,على دعمهم اللامحدود في سبيل إنجاح هذا الموسم.

وقد تشكلت البعثة السورية اليابانية المشتركة لهذا الموسم من الأعضاء التالية أسمائهم :

من الجانب السوري : انس الخابور (مديرا) , احمد سلطان(عضوا) ,أيهم آل فخري (عضوا), محمد الابراهيم (عضوا) .

من الجانب الياباني : كاتسوهيكو اونوما (مديرا) , هيروتوشي نوموتو (عضوا) , شوغو كومب (عضوا) , ميتسو هوشينو (عضوا) , تسويوشي تاناكا (عضوا) , توشيو ناكامورا (عضوا) , يوسوكي كاتسورادا (عضوا) , يوشي يوكي (عضوا) , سوميو فوجي (عضوا) , تاكورا اداتشي (عضوا) , كاي سوزوكي (عضوا) , شي اكاشي (عضوا) , كين ايشي (عضوا)

وفي هذا الموسم من البحث تم التركيز على دراسة أربعة أهداف رئيسية ضمن منطقة البحث :

1- مسح جيولوجي وجغرافي للمنطقة .
2- استمرار أعمال المسح لمقابر عصر البرونز المبكر المجاورة لتل غانم العلي .
3- الاستمرار بأعمال السبر الاختباري لموقع رجوم حداجة .
4- بحث ودراسة النباتات الأثرية .

اولا : مسح جيولوجي وجغرافي للمنطقة : حيث تم تركيز المسح الجيولوجي والجغرافي لهذا الموسم على : 1- دراسة المواد المشعة الطبيعية في المنطقة , 2- التعرف على الشرفات النهرية وارتفاعاتها 3- إجراء التحاليل والاختبارات لعينات التربة بواسطة استخدام الكربون المشع C14

ثانيا : مسح مقابر عصر البرونز المبكر المجاور لتل غانم العلي : حيث تم مسح جزء من المقابر التي تعرضت لأعمال النهب والسرقة وإنقاذ بعض الأواني الموجودة ضمنها والتي مكنتنا من إعطاء تأريخ واضح لهذه المقابر في منطقة وادي شبوط والتي أظهرت بأن هذه المقابر متزامنة مع فترات الاستيطان لتل غانم العلي والتي امتدت خلال فترة الألف الثالث قبل الميلاد .

ثالثا : أعمال السبر الاختباري في رجوم حداجة : لقد قدمت الأعمال والأبحاث الأثرية التي أجريت في موقع رجوم حداجة معلوما ت أكثر وضوحا عن هذه المنطقة ذلك أن موقع رجوم حداجة قد امتد لفترة زمنية طويلة امتدت من نهاية عصر البرونز المبكر وحتى بداية عصر البرونز الوسيط , وهذا ما يعزز توقعنا واحتمالنا بان عدد كبير من هذه الرجوم المتوضعة على الجناح الشمالي الغربي من جبل البشري تمثل مدافن أو مقابر لمجتمعات رعوية قديمة (قبائل امورية) .

مدير الجانب الياباني
كاتسوهيكو اونوما

مدير الجانب السوري
انس الخابور

ARCHAEOLOGICAL RESEARCH IN THE BISHRI REGION
— REPORT OF THE SEVENTH WORKING SEASON —

Katsuhiko OHNUMA*
Ahmed SULTAN**
(1/December/2008)

The 7th working season of the Syria-Japan Archaeological Joint Mission to the Bishri Region was carried out from October 10th to December 2nd, 2008.

The members of the joint mission from the Syrian and Japanese parties are as follows.

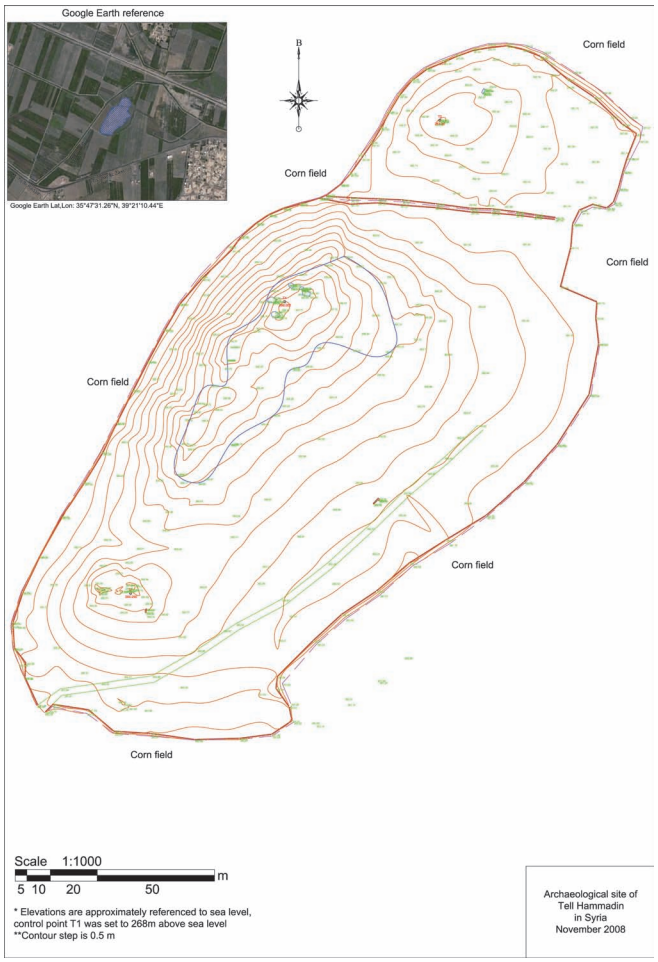
Syrian party: Ahmed Sultan (Director), Aed Issa and Mohamad Jajan.

Japanese party: Katsuhiko Ohnuma (Director), Atsunori Hasegawa, Chie Akashi, Hirotoshi Numoto, Shogo Kume, Kenichiro Takao, Yasuyoshi Okada, Ryuichi Yoshitake, Panagiotis Tokmakidis, Sumio Fujii, Takuro Adachi, Kae Suzuki, Yoshihiko Nakano and Lubna Omar.

Dr. Bassam Jamous, the Director General of the Syrian Directorate General of Antiquities and Musems, and Dr. Michel Al-Maqdissi, the Director of Archaeological Excavations and Research at the Syrian Directorate General of Antiquities and Musems (the Syrian Supervising Adviser for this joint

Map 1 Area including the sites researched by the 7th Syria-Japan Archaeological Joint Mission to the Bishri Region in October to December, 2008

* Director of the Japanese Archaeological Mission to Bishri (Kokushikan University, Tokyo, JAPAN)
** Director of the Syrian Archaeological Mission to Bishri (Directorate General of Antiquities and Museums, Damascus, SYRIA)



Map 2 An overall map of the site of Tell Hammadin (completed by Yasuyoshi Okada, Ryuichi Yoshitake and Panagiotis Tokmakidis during this field season on November 9, 2008)

mission), kindly helped us towards the success of this seventh working season. We express our sincerest gratitudes to them for their heart-warming cooperation.

In this working season, we undertook eight kinds of research within the research area (Map 1): 1) survey of the Early Bronze Age graves near the town of Ghanem Al-Ali, 2) making of an overall map of the site of Tell Hammadin (Map 2), 3) research on the cultural and historical aspects of the villages around the site of Tell Ghanem al-Ali, 4) morphological study of the human bones from Rujum Hedaja, 5) sondage at the site of Tell Ghanem Al-Ali, 6) sondage at Rujum Hedaja, 7) research on the plant and crop remains from the site of Tell Ghanem Al-Ali, and 8) zooarchaeological research.

The following sections are the preliminary results of the research works carried out in this field season.

1. Archaeological survey of the Early Bronze Age off-site tombs in the Wadi Shabbout area near Tell Ghanem al-'Ali

Hirotoshi NUMOTO (Professor, Kokushikan University, Japan)
Shogo KUME (Doctoral Student, Waseda University, Japan)

Introduction and objectives

As part of the Syro-Japanese joint expedition to Jebel Bishri, an archaeological survey of the

Early Bronze Age (EBA) tombs, situated on the northern edge of the Bishri plateau near Tell Ghanem al-'Ali, was conducted from 13th to 18th October 2008. Following the initial season in April and May 2008, the Wadi Shabbout Area, located between Wadi Shabbout and an unnamed wadi, was selected as research area in this second season (Fig. 1)

The earlier research composed of cleaning and survey of seriously plundered grave-clusters in the area demonstrated spatial separation of particular burial types between the cemeteries around Tell Ghanem al-'Ali. For example, Wadi Daba grave-clusters principally contained shaft graves, while intensively investigated Wadi Shabbout 2 Grave-cluster A consisted of stone-build tombs of stone chamber and cist types. In addition, co-occurrences of distinct burial types within a single grave-cluster appear to have frequently been observed.

According to the results of the first season, our present goals included documentation of inter-/intra-site burial variability at individual grave-clusters and collection of diagnostic artefacts for dating in the Wadi Shabbout area towards better understanding of the possible backgrounds of the spatial separation and the nature of mortuary practices in the EBA community.

Survey areas

The Wadi Shabbout (WS) Area on the Bishri plateau has thus far been divided into three sub-areas along trellised wadi courses for the convenience of the research. According to the division system, a new sub-area, WS 4, was established to the south of WS 3 (Fig. 1) in order to obtain further traces of burial practices. The latter has not entirely been surveyed because of our short period of the investigations in the last season. For this reason, two sub-areas of WS 3 and 4 were targeted in the present research. These two areas approximately cover 173,000 sq. m. A topographic map shows heights in the area more or less 280 to 290 m above sea level apart from wadi bottoms.

Survey procedures

As well as the last season, the survey was conducted in pedestrian manner, navigated with high-resolution satellite images. The sharp imagery of the tool provides us virtually precise positional information of the targets. Because the targets are principally recognized as robber's pits, such depressions potentially contain their failure actions. However, we counted all depressions as archaeological remains aside from obvious failed pits. This is still logical, because 86% (6/7) of similar depressions have produced the traces of the EBA burial practices at WS 2 Grave-cluster A, which is an intensively investigated burial site in the last season. Discovered individual grave-clusters or isolated burials were documented as an alphabetized 'Unit'. Since individual tombs have also been numbered, a single tomb was described as an alphanumeric code, like WS3-A1 or WS4-A1.

To assess inter-/intra-site variability of the Units, several attributes including burial type, present status, size of chamber, and orientation/declination of axis were collected from each tomb. Again, to obtain evidence for dating, artefacts primarily consist of pottery sherds were also sampled by the Unit or by the individual tomb if available.

Survey results

As a result of the research, a total of nineteen Units containing 124 depressions were documented in WS 3 and 4. Analysis of collected data and pottery samples is still preliminary stage. Accordingly, the following is an outline of the four massive Units or grave-clusters.

WS3-Unit C

A grave-cluster named WS3-Unit C is situated on the terrace of an unnamed tributary wadi of Wadi Shabbout, covering an area of ca. 18.5 × 13.0 m (Figs. 2 and 3). Western edge of the cluster has been cut by tractor road for gypsum rock collection by locals.

Although a total of thirteen depressions were documented at the site, only five pits were identified their burial types, including a stone chamber grave and four shaft graves. Discovered two types of graves have occupied distinct locations; the stone chamber grave and shaft graves, dug into the slope of the wadi terrace, are located the highest and lower part of the site respectively.

Relatively rich samples collected at the site contain both of fine and plain wares, like Euphrates Banded Ware (Fig. 4) and a so-called 'champagne' vessel (Fig. 5). Especially, possible presence of the black version of Euphrates Banded Ware (Black Euphrates Banded Ware, See Fig. 6) suggests the tombs may be dated to Phase 4 (ca. 2450-2300 BC) of six-phase EBA sequence defined by A. Porter, or the end of the EB III to the beginning of the EB IVA Periods according to traditional terminology.

WS3-Unit E

WS3-Unit E is located at the confluence of the two wadis of Shabbout and unnamed tributary described above. A series of ten shaft graves were discovered on the steep-sided left bank of the unnamed wadi, stretching ca. 36.0 m in the E-W direction (Figs. 7 and 8).

Only a few sherds were collected, such as a fine ware and a plain ware. Although a damaged sample of fine ware has disturbed observations of characteristics of the sherd, the straight-sided hemispherical bowl of plain ware may be dated to Porter's Phase 3 (ca. 2600-2450 BC).

WS3-Unit N

WS3-Unit N is situated on a natural low mound (ca. 33.0 × 30.0 m) on the terrace of an unnamed wadi in the western part of WS 3. Among documented 21 depressions, three stone chamber graves and seven shaft graves were identified (Figs. 9 and 10).

Apart from a possible stone chamber grave on the southern edge of the site, two stone chamber tombs on the top of the mound were surrounded by shaft graves and other unidentified depressions. The arrangement of stone chamber and shaft graves were more or less comparable with that of WS3-Unit C described above.

Several sherds containing both of fine and plain wares were collected. They are including a few specimens of Red Euphrates Banded Ware (Fig. 4), a 'champagne' vessel and a miniature vessel. The miniature vase with globular body and everted rim has a good parallel in Period IV at Tell Banat, Upper Syrian Euphrates Valley, which is equivalent to Porter's Phase 3 or ca. 2600-2450 BC.

WS4-Unit A

This Unit is located at the confluence of two unnamed wadis, where we encountered the most massive grave-cluster in the present research. A total of 61 depressions were recognized on the terrace of the wadis, covering an area of ca. 100.0 × 80.0 m, then eighteen shaft graves, three stone chamber graves, and two cist/stone chamber graves were identified (Figs. 11 and 12). The arrangement of particular burial types more or less corresponds with those of WS3-Units C and N; a few stone chamber or cist graves have been located at the upper part of the site, while most shaft graves have excavated into the slope of the wadis.

Collected samples included both of fine and plain wares. Fine wares principally comprised of Red Euphrates Banded Ware (Fig. 4) and apparent absence of the black version may imply the site is dated to Porter's Phase 3.

Discussion and summary

The intensive pedestrian survey of the EBA grave-clusters in WS 3 and 4 in this second season demonstrated a new formation of intra-site variability of burial types in the area surrounding Tell Ghanem al-'Ali. This new class of grave-clusters represented by a few stone-build tombs surrounded

by abundant shaft tombs was attested at WS3-Units C and N and WS4-Unit A. Grave-cluster sites of Abu Hamed, investigated by a German team located to the south of Wadi Shabbout, may also be included in this class. On the other hand, grave-clusters predominantly composed of shaft graves like WS3-Unit E has occurred on the slope of the outfall of Wadi Daba.

Combined with the present results with earlier insights in the initial season, at least four classes of burial patterns are now evident in the area.

- Hilltop tumuli: WS1-Unit A (or Tell Shabbout 1 and 2).
- Hilltop stone-build tombs: WS2-Unit A (or Grave-cluster A).
- Lowland shaft tombs: WS3-Unit E and the Wadi Daba grave-clusters.
- Inland stone-build tombs with shaft tombs: WS3-Units C and N, WS4-Unit A and Abu Hamed.

One of the possible backgrounds of these variations of grave-clusters is time concern, although observations of the collected samples are tentative and further analysis of the sherds is still needed. Various other possible explanations for the variations can also be included, such as gender, status, or ethnicity. Unfortunately, evidence at hand has thus far been sparse to assess those issues. To enhance our understanding on archaeological implications of inter-/intra-site variability of the off-site cemeteries and socio-political structures in the EBA community, further investigations in the area has been required.

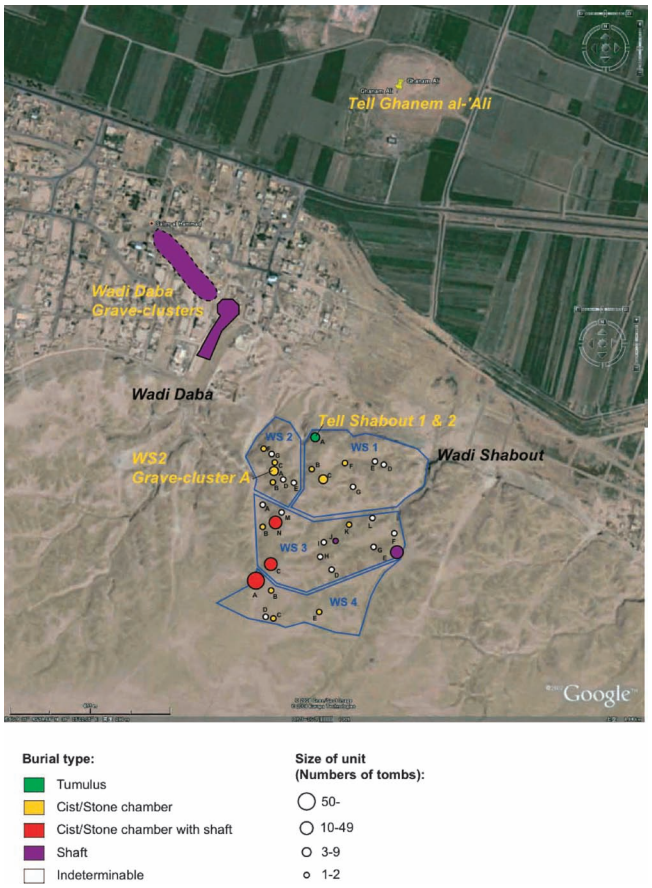


Fig. 1 Research areas, distribution of surveyed units and other related sites (Satellite image after Google Earth)

Fig. 2 WS3-Unit C, looking east

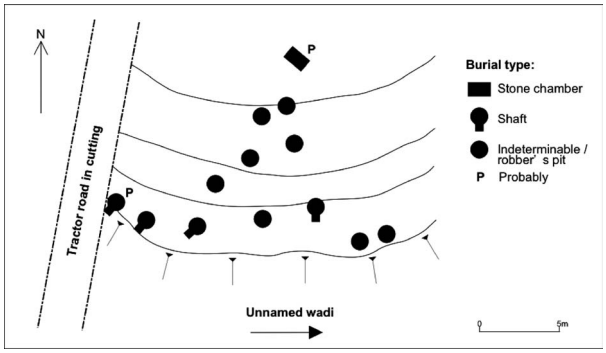


Fig. 3 Sketch map of WS3-Unit C

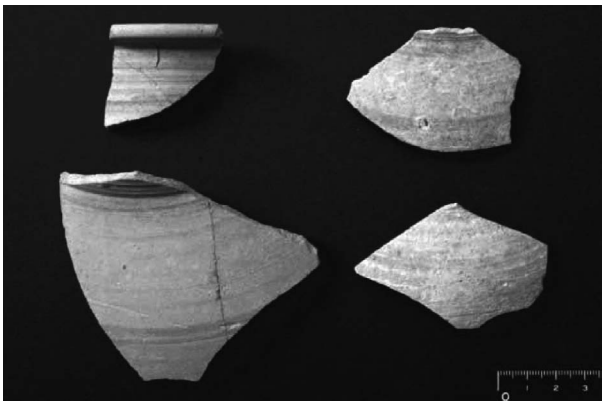


Fig. 4 Euphrates Banded Ware (Top right: WS3-Unit C; Bottom right: WS3-Unit N; Top left and bottom left: WS4-Unit A)

Fig. 5 Pedestal of so-called 'champagne' vessel from WS3-Unit C

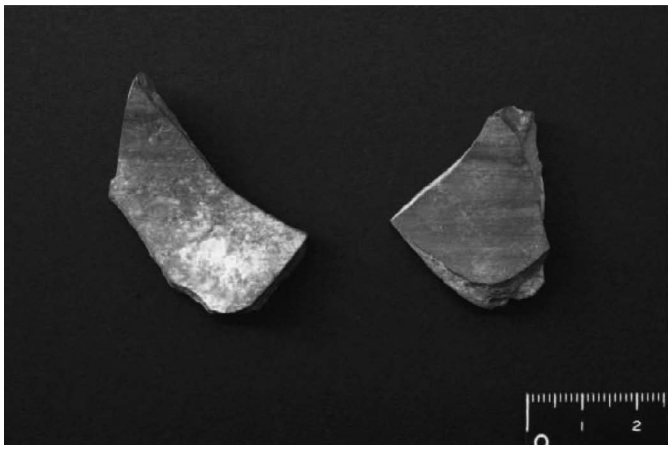


Fig. 6 Possible sherds of Black Euphrates Banded Ware from WS3-Unit C

Fig. 7 WS3-Unit E, looking east

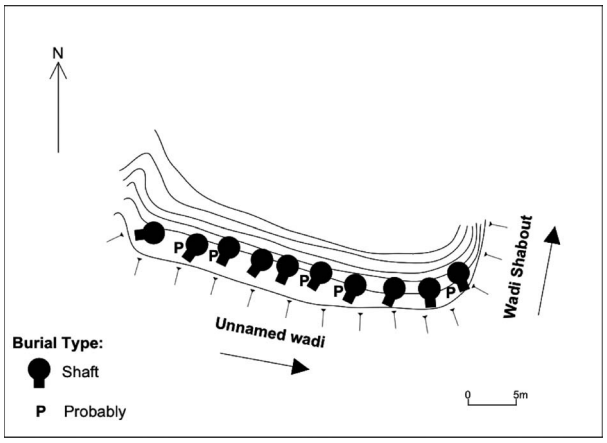


Fig. 8 Sketch map of WS3-Unit E

Fig. 9 WS3-Unit N, looking south

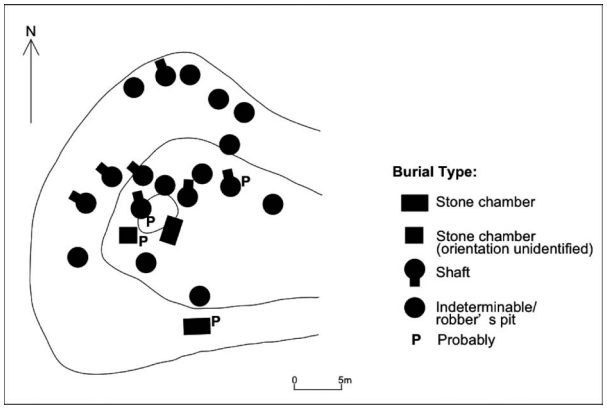


Fig. 10 Sketch map of WS3-Unit N

Fig. 11 WS4-Unit A, looking south

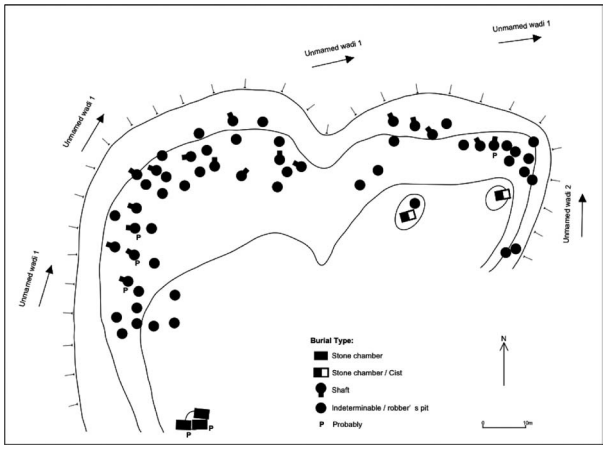


Fig. 12 Sketch map of WS4-Unit A

2. Brief history of the villages around the site of Tell Ghanem al-Ali

Kenichiro TAKAO（Doctoral student, Doshisha University, Japan）

Brief research from a cultural anthropological viewpoint was carried out in the villages around the site of Tell Ghanem al-Ali from 13 to 19 of October, 2008. The villages researched were Ghanem al-Ali, Zur Shammar, Jibli, Sharida, Sabkha, Rahabi, Shanan, Bu Hamad, Mughla, Namisa and Maadan.

The purpose of this research is to outline identities of tribes in the villages settled between the Mount Bishri and the Euphrates river, through obtaining information on their histories and life styles.

In these villages, the researcher interviewed the elder persons of each village, asking about their own tribes.

There were found some similarities in tribal origins and the histories of the villages. Most of the origins were in the southern parts of the Arabian Peninsula, especially in Yemen (Hadramawt). The reasons why they left Yemen vary, but their emigration largely resulted from need for richer meadows and river sources. Each tribe who left Yemen passed through Saudi Arabia (Mekka) and Iraq (Ubaid, Shinjar, and, kufa), moving afterward along the Euphrates, and finally having settled in the current place.

There were some movements that originated in Saudi Arabia, Iraq, and Dair al-Zur, but all of these areas are located on the same path. We may say, therefore, that all of the tribes passed the same path: from the Arabian Peninsula to north, with westing along the Euphrates, and to the current place.

The village of Jibli is exceptional. Their origin was in Yemen, but they moved from Saudi Arabia directly to the area near Aleppo, not through Iraq. So, Jibli could have arrived at the current place by easting along the Euphrates.

Like processes of emigration, the tribal families resemble each other very closely, too. The representative persons (families) appearing on the family tree are Zubaid of the Yemeni times, Shaaban and Ubaid of the Iraqi times, and Ubaid. Each name of the tribes called today is almost from these persons.

For this reason, no village has strong consciousness as stranger toward other villages. However, the village of Zur Shammar is exceptional. Zur Shammr has a strong identity as the family of Shammar of the Iraqi times, and the people say, “all of the neighboring villages are the tribe of Bu Subi, and only Zur Shammar is the tribe of Shammar.”

As for the names of the villages, we see three types, each reflecting origin: 1) names of the tribes (Bu Hamad, Zur Shammar, etc.), 2) first persons having arrived at the current place (Ghanem al-Ali, etc.), and 3) landscapes of the places (Mughla, meaning “full of trees”, etc.)

As mentioned above, each village has many points in common in their histories, but there is a considerable variation about the emigration period: before Islam (Bu Hamad), 800 years ago (Maadan), 400 years ago (Namisa), 200-300 years ago (Rahabi, Zur Shammar), 150-200 years ago (Ghanem al-Ali, Mughla), etc.

Of course, there are various testimonies about the period and when the person such as Zubaid, Shaaban, and Ubaid was alive. The researcher hopes to arrange the information to be able to make these points clarified.

Then, how was the life style of the tribes after leaving their original places.

In Syrian and Arabic context, we can classify the people into 3 groups on the basis of life styles: “rifi” as farmer, “badawi” (Bedouin)” as nomad, and “hadari” as the people living in cities. In and around the villages researched, there is no hadari, and the researcher focuses on the difference between rifi and badawi as their identities.

Although the history of each village was expressed as “emigration”, most of them are in fact the people who depend not only on nomadic life style but also on agriculture. If looking into details, there is variety. For example, Bu Hamad has been engaged in agriculture ever since they were in Yemen and Saudi Arabia. Jibli began to own their farms along the way during their immigration into in Iraq. But, most of the tribes had their farms while they continued to move up along the Euphrates after leaving Iraq. So, in these few centuries at least, they started life style depending on agriculture. This process gave the people the identity as farmer.

In Rahabi, those who started to engage in agriculture 100 years ago at the latest, call themselves “new farmer”. And now, they introduce themselves as nomad from the viewpoints of origin and tradition. Shannan, too, say today, “we WERE nomad”, because they began to be engaged in agriculture only 150 years ago.

It is also possible to regard Rahabi as an exceptional case because of their life style. In Rahabi whose population is the smallest in the area (1,300 people), no one has their own farm in fact. They have houses, however, and are engaged from spring to summer in agriculture as crofter by borrowing farm from neighbors. Then, from autumn to winter they “go back” to Bishri, their latest homeland, and put their livestock in the meadow. They have their own houses in Bishri, and these become vacant in spring to summer. All of the people in Rahabi take this life style as contra-transhumance, moving to mountains in winter. Three fourths of them in Bu Hamad are leading this life style.

They recognize 2 gategories as “Farmer” and “Nomad”. However, these 2 categories are not contradictory for them because they are engaged in both agriculture and nomadic subsistences. Except for Zur Shammar, identified by their origin and tradition, all of the villages are affirmative if being asked “you are farmer?”, and disturbed if asked “you are not nomad?” Moreover, the people do not have such superiority complex toward nomadic people as people living in cities do. Their most suitable identity is “farmer engaged in nomadic”.

Then, why is it not “Nomad engaged in agriculture”?

First, they are not engaged in “Nomadic” anymore. In addition, after having continued emigration into the current place for centuries, they now have their own houses, being engaged in agriculture. So, we might have better to say their emigration just “moving”.

Secondly, all of the villages are depending on agriculture for their livelihood. Though the latest case is of a century ago, most of the tribes established their life style depending on agriculture for the last 3 to 6 centuries, after Iraqi times or afterward. All of the villages have more or less livestock. Their livestock is not raised for commerce however, and raised for their subsistence. As for commercial farming, they depend on agriculture such as cultivating corn, cotton, etc.

Nowadays, there are nomadic people living in the Bishri who depend on pasturage only. However, they do not have relationship with the people of villages, for the people of villages also have livestock and do not need to buy milk products from the nomadic people. Because of this, the nomadic people in the Bishri go to the city of Raqqa to sell their milk products. They have relationship, however, with the village people by visiting Ghanem al-Ali or Jibli, etc. to buy food for their livestock.

The above outlines the result of the research carried out in this field season.

In sum, it has been demonstrated that the ideas of the tribe’s identity such as “Farmer” and “Nomad” are flexible, since most of the tribes have been engaged in agriculture throughout their history of emigration. One clear example is that the people identify themselves as farmer but never have superiority complex toward nomadic people.

Future research will clarify more about the correlation between the tribe’s identity and tribe’s history of emigration.

3. A morphological study of the human bones from Rujum Hedaja

Yoshihiko NAKANO (Associate Professor, Osaka University, Japan)

The archeological survey of the burial cairns at Rujum Hedaja 1 yielded some human skeletal samples. The morphological studies of the bones should lead the clue of the life or social style of the ancient people. Most of the specimens were composed of animal bones including small rodents, hares, bards and some cattle. Human remains were isolated teeth, phalanges and fragmental jaws and limb bones mainly. Therefore, it was difficult to assert their traits of the life style, and the descriptions and discussions were specified to their individual characters.

Descriptions

The skeletal specimens were collected by the excavated points in each cairns. The useful human bones for the morphological studies were found in Burial Cairn No. 3, 9 and 10 at Rujum Hedaja 1.

1. Burial Cairn No. 3 (RHD-1/BC-3)

A few teeth were found from site No, 116. They were isolated and only left I_1 had complete crown without root (Fig. 1) and others were fragments. The wearing of the crown was not advanced. It showed the adult of middle years. The description of the sex was difficult from the isolated tooth. The sectorial biting by the incisor might be not frequent.

2. Burial Cairn No. 9 (RHD-1/BC-9)

Limb bone fragments, a patella, hand bones, foot bones and isolate teeth were found from CS and B2 site in BC-9.

a) The teeth specimens were as follows: right P_3 from CS-505, right M^2 from CS-510, left I_2 from CS-511, left I_1 from CS-512. P_3 from CS-505 (Fig. 2) showed the intense wearing. The cusp was worn away and the dentinum was sticking out. The pattern showed the advanced age in modern life. However, it was related to the diet and life style and the hardness of the food and the pattern of the mastication should be considered to decide the age. M^2 from CS-510 (Fig. 3) was broken in distal part. The surface was worn out without. The wearing was further advanced. The wear of the I_2 from CS-511 was not advanced but it has the small lack of the crown. I_1 from CS-512 showed the lack of the crown clearly (Fig. 4). It showed the possibility that the teeth were used for the purpose in addition to the mastication. The mesiodistal length was larger than I_1 from CS-3. Small jaw fragment without teeth from CS-509 remained the sockets of P_3-M_3 although some were incomplete (Figs. 5 and 6). The socket of M_3 located in the mandibular ramus. The socket of the M3 meant the adult but the size of the mandible was quite small. Therefore, the holder of the mandible should be adult female.

b) A fragment of distal end of femur from CS-509 (Fig. 7), a distal end of femur (lacked dorsal part) from CS-514 (Fig. 8), and a proximal end of light ulna from CS-511(Fig. 9) were the limb bones in RHD-1/BC-9. All bones are fragments and the information from morphological characters was limited. Femurs were large relatively. The condition of the compact substance was normal and it showed that the body was not advanced age. The ulna had the radial articular surface and trochlear surface. The tuberosity in the both side was not developed well. It showed the flexor muscle of the elbow joint did not develop extremely.

c) An almost complete right patella was found from CS-508 (Fig. 10). The shape was oval to cranio-caudal direction slightly. The tuberosity of the surface developed well. These characters showed the well-developed muscles of the lower limbs.

d) Hand and foot bones including tarsal, metacarpals, metatarsals and phalanx were found from many sites in RHD-1/BC-9 (Table 1). The four tarsal bones (talus, calcaneus, cuboid, and navicular) of the same individual were found from CS-510 (Figs. 11 to 14). There was not remarkable reformation in these bones. They might belong to young person. The flare at the head of talus was conspicuous comparative to other parts. In the cuboid, the development of skeletal flare was seen at the articular surface to metatarsals. These features might be related to their specific locomotor behavior. For the phalanx of foot, there were well-developed planter tubercles. This feature was remarkable in first phalanx (Fig. 15) but also in the other digits although the deference of the development (Fig. 16).

3. Burial Cairn No. 10 (RHD-1/BC-10)

The skeletal specimens in BC-10 were collected by several sites as follows: Grave-A, Grave-B, Cist group 1, 2, 3, 4, 5 and Cist upper layer. There were no informative specimens from Cist group 2.

3-1. Grave A

The parts of the human bone from Grave A were the fragments of a humerus, a clavicle, a femur and a jaw with teeth.

a) The right mandible remained the sockets from P_3 to M_3 (Fig. 17). The teeth were not mounted on the bone but some teeth fit to the socket. The specimens were composed with right C, P_3, P_4, M_2, M_3 and left M_1, M_2 (Fig. 18). The size of the mandible was somewhat small but larger than the specimen from BC-9. It showed the female or small-sized male adults from the standard of modern people. The crown of C was broken and disappeared and the size was not large. P_3 lost the enamel of medial side. It had the strong wear to dentinum. P_4 also showed the strong wear of enamel. There was the trace of the connection to M_3 in the upper part of the distal side of right M_2. It showed right M_3 erupted slantly. The wear of right M_1 and right M_2 were intense. The occlusal surface became flat. The wear of left molars showed the same pattern. The enamel of left M_1 eroded more than other molars and the dentinum appeared the most of the occlusal surface. The diet pattern was deduced from the intensity of the dental wear. It showed the crunching and grinding motion for the hard and fibrous food.

b) Several fragments of limb bones were collected, however, almost of the specimens were not useful for morphological study. The shaft of right humerus retained the tuberosity (Fig. 19). The development of the tuberosity was similar to modern ordinary person. That is, it meant that the muscles in the upper limbs were not strong in these ancient people, and it related to their life style. The femur fragment was also found from Grave A (Fig. 20). It was the part near to proximal end but lacking the head, major trochanter. The basement of minor trochanter was retained. In the dorsal surface of the shaft, there was the well-developed asperate line for the muscles. This feature also showed the adaptation to the high percentage of the walking in the life.

3-2. Grave B

Three specimens were collected from Grave B, namely, right talus (Fig. 21), right metatarsal (II) (Fig. 22) and right M_3. The talus was almost complete. There was no reformation in the articular surface and other parts. The metatarsal lacked distal end. The holder of these bones might be young adult, and might be male from the size. The wear of M_3 was very weak and enamel was remaining. It also showed the young individual.

3-3. Cist group 1

The fragment of hip bone (Fig. 23) and tibia (Fig. 24) were collected from Cist group 1. The remaining of the hipbone was the part of acetabulum. The sulcus under the acetabulum was not

developed. Tibia specimen retained proximal end. The reformation of the bone was not seen and compact substance was normal condition. It was difficult to decide that the specimens were from same individual, but both features of bones showed the body was not advanced age.

3-4. Cist group 3

The femur head (Fig. 25) and thoracic vertebra (Fig. 26) were collected from Cist group 3. The part of the section might retain the evidence that epiphysis was not fused in the femur head. Thoracic vertebra was somewhat small size and lacked almost of the vertebrate arch except for the right side that processed the articular surface to rib and upper vertebras.

3-5. Cist group 4

Cist group 4 yielded right talus (Fig. 27) and right P^4 (Fig. 28). The talus lacked the part of right side. The reformation was not confirmed and it might not belong to advanced person. The wear of the cusp was quite little in P^4. The difference between the specimen from Grave A and this one was so huge, and the holder might be the person of young age.

3-6. Cist group 5

Hand and foot bones were product from Cist group 5. Both Metatarsal (II) and (III) were broken and lacked the distal end. These had less information and the size was larger. The mid phalanx (Fig. 29) and terminal phalanx (Fig. 30) were collected. The tubercles in the planter side were well-developed and it meant that the power of grip might be conspicuous.

3-7. Cist upper layer

One human bone, left metacarpal (V) was collected. It might be young male individual because the development of lateral tubercle was weak.

Discussions and conclusions

There were no skeletal samples from the person of old age. Of course the bones of old person were easy to break and the reason the tendency might be found from other factors. From the results of the dental remains, their diet was consist of fibrous and not so soft food and. The meal of the meat might not be frequent. The development of muscles was quite different between the upper limbs and lowers. The muscles in the lower limbs were well-developed but the one in the upper limbs showed normal with out grip. This features showed that the walking occupied the high percentage of the life. The decision of the age and sex was difficult from the limited specimens but they might be including both sex and the people of different ages.

It was a pity that the amount of the specimens and time for the study were not enough. Therefore, the results were preliminary. I expect for the results of the excavation in future.

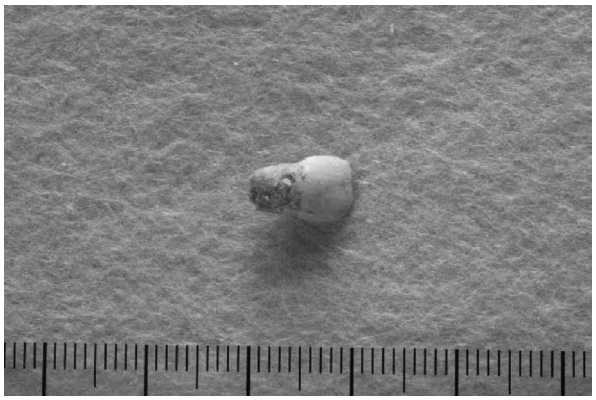


Fig. 1 Left I1 from RHD-1/BC-3

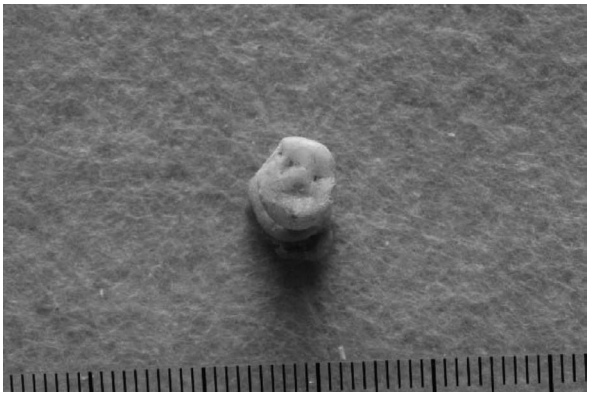


Fig. 2 Right P_3 from CS-505 (RHD-1/BC-9)

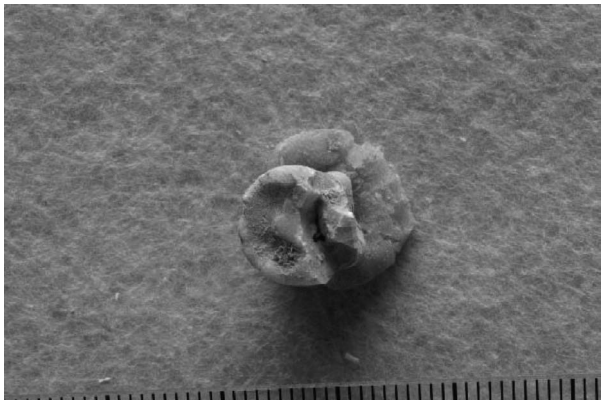


Fig. 3 M^2 from CS-510 (RHD-1/BC-9)

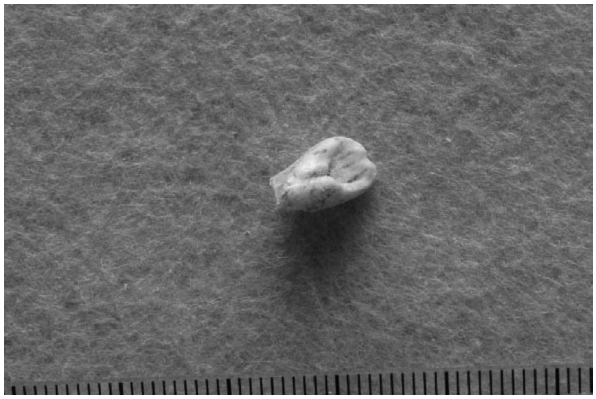


Fig. 4 I_1 from CS-512 (RHD-1/BC-9)

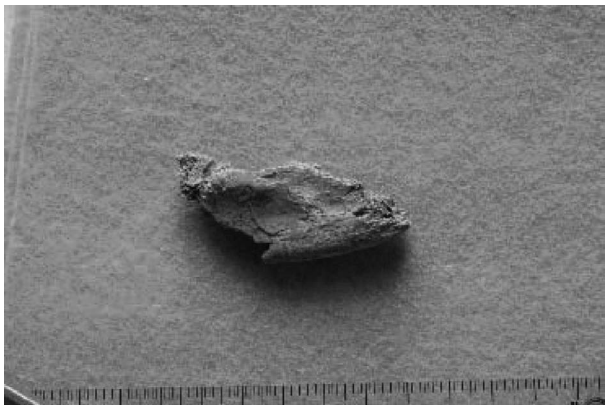


Fig. 5 Mandible from CS-509 (RHD-1/BC-9) (lingual view)

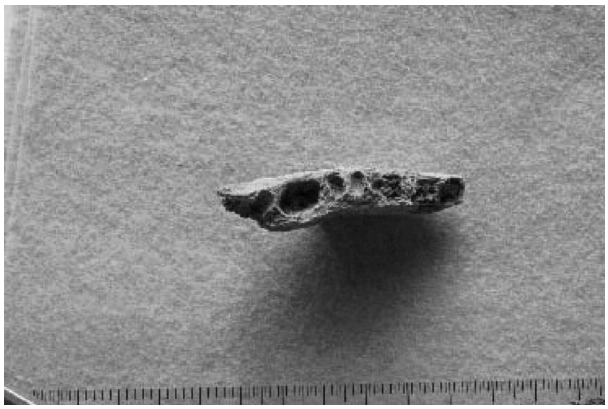


Fig. 6 Mandible from CS-509 (RHD-1/BC-9) (upper view)

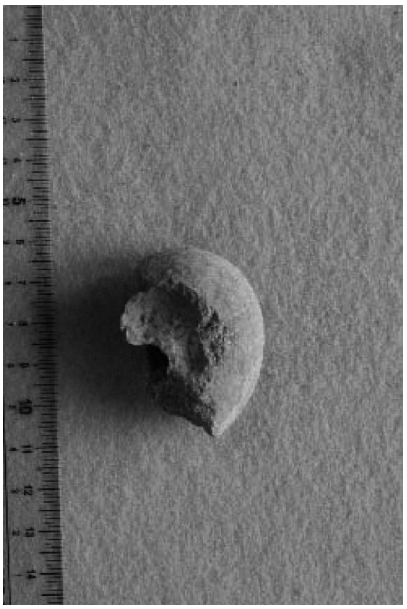


Fig. 7 Femur from CS-509

Fig. 8 Femur from CS-51

Fig. 9 Ulna from CS-511

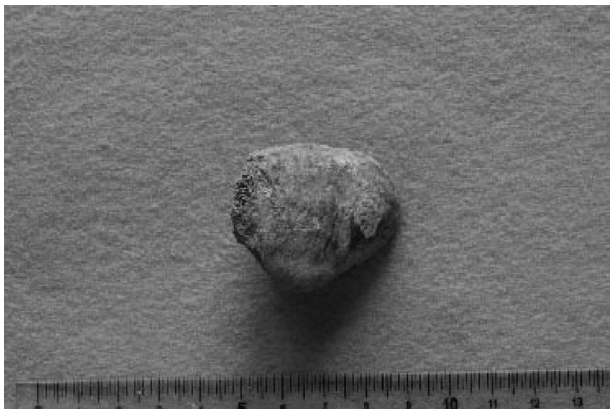


Fig. 10 Right patella from CS-508

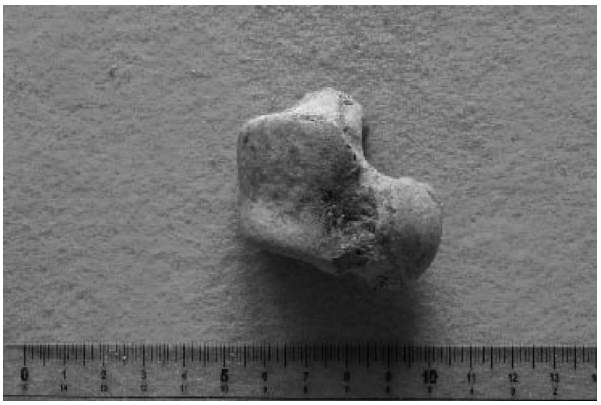


Fig. 11 Talus from CS-51

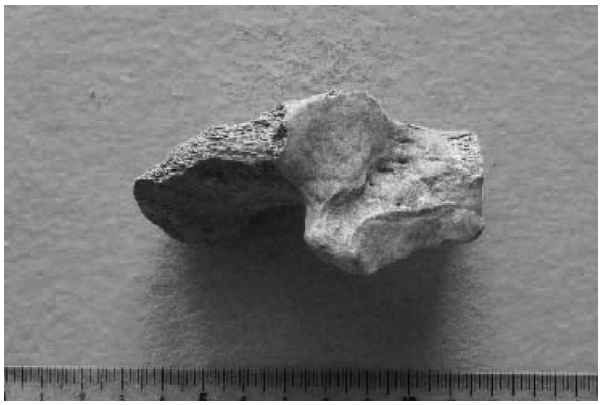


Fig. 12 Calcaneus from CS-51

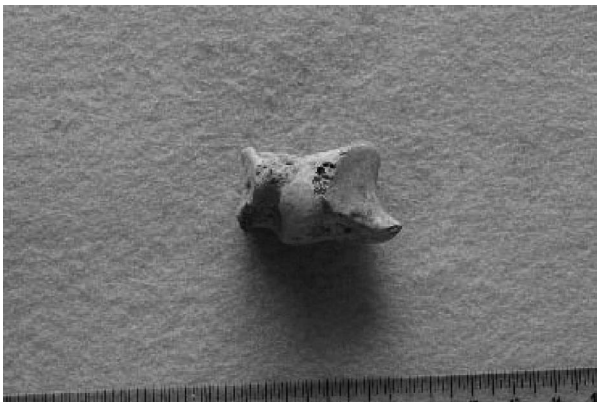


Fig. 13 Cuboid from CS-51

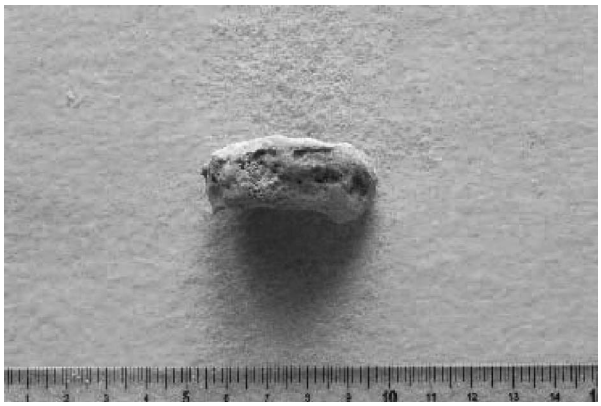


Fig. 14 Navicular from CS-51

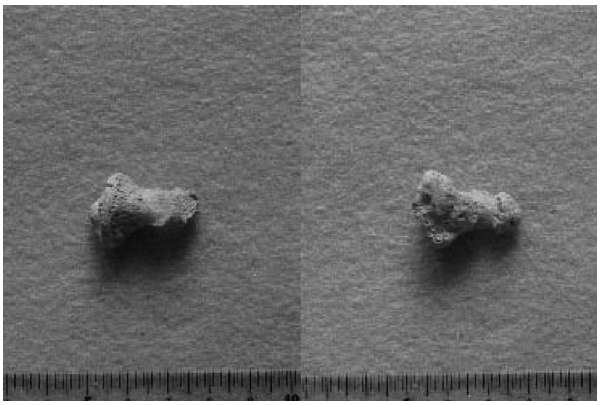


Fig. 15 Terminal phalanx (I) of foot (both side)

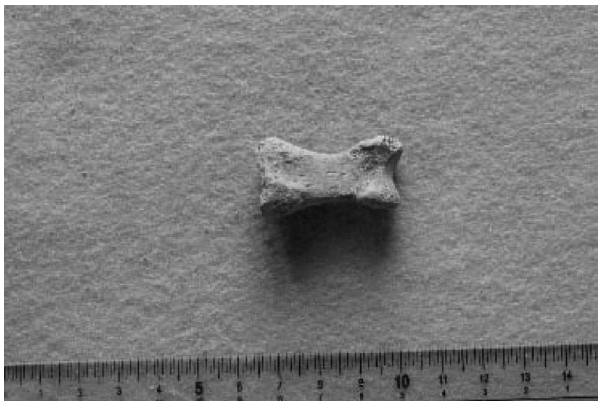


Fig. 16 Proximal phalanx of foot

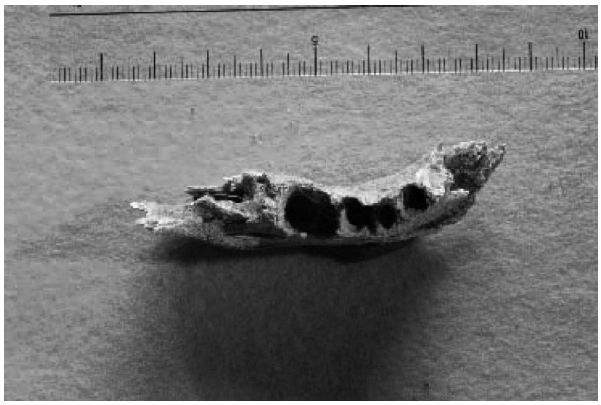


Fig. 17 Mandible from Grave A (RHD-1/BC-10)

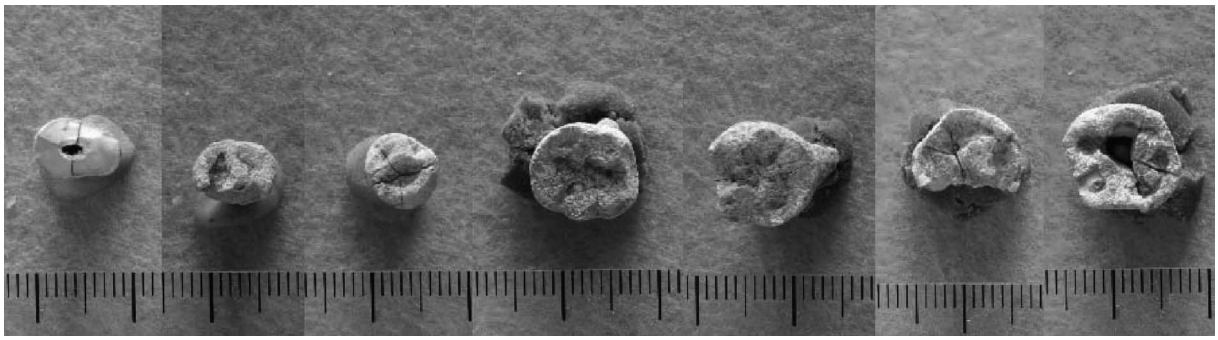


Fig. 18 Teeth from GraveA (RHD-1/BC-10)

Fig. 19 Humerus shaft from GraveA

Fig. 20 Femur from GraveA

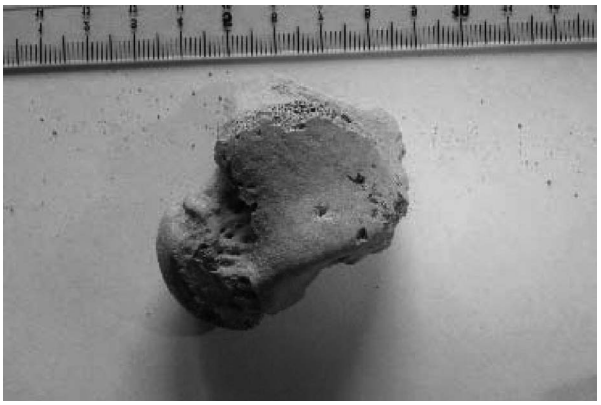


Fig. 21 Talus from Grave B

Fig. 22 Metatarsal from Grave B

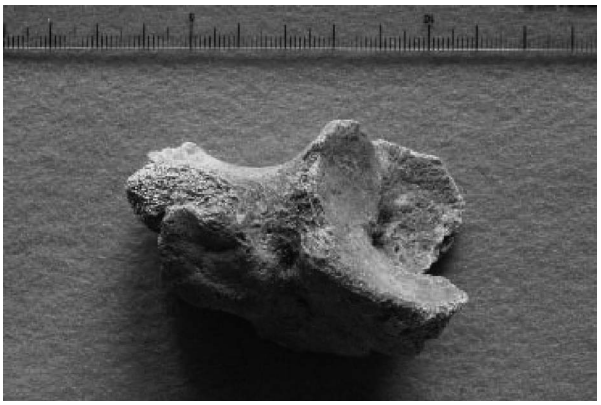


Fig. 23 Hip bone from Cist group 1

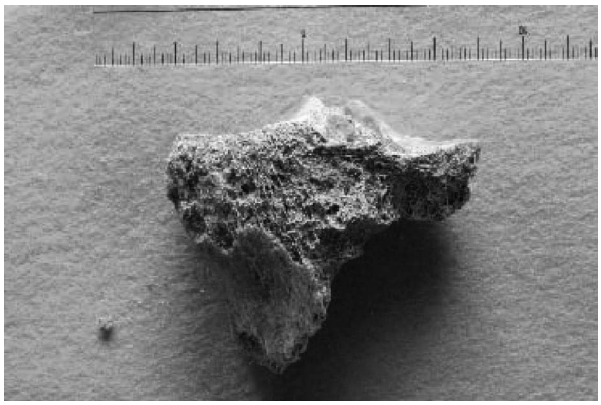


Fig. 24 Tibia from Cist group 1

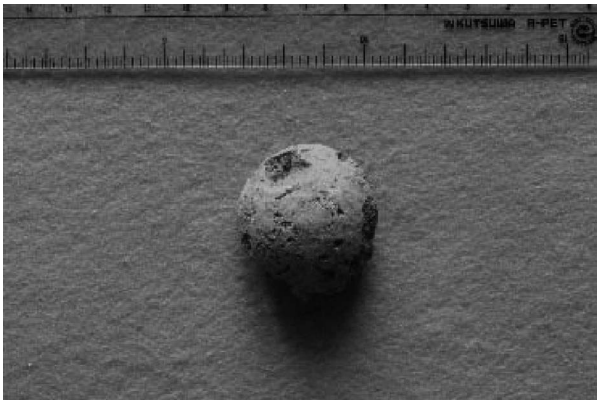


Fig. 25 Femur head from Cist group 3

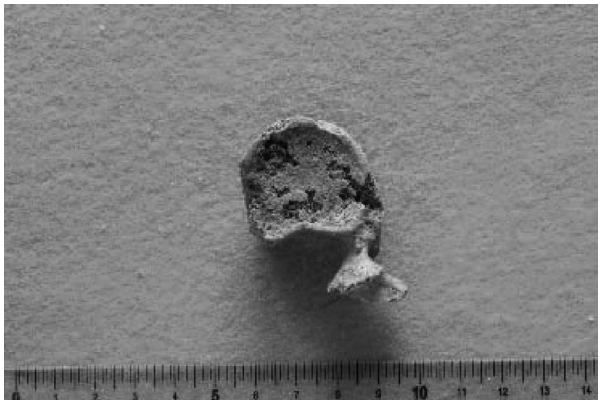


Fig. 26 Thoracic vertebra from Cist group 3

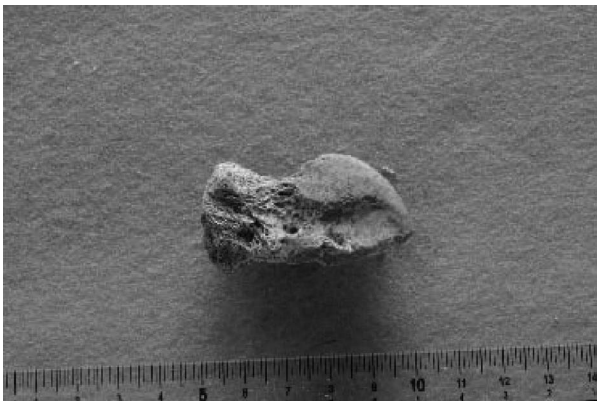


Fig. 27 Talus from Cist group 4

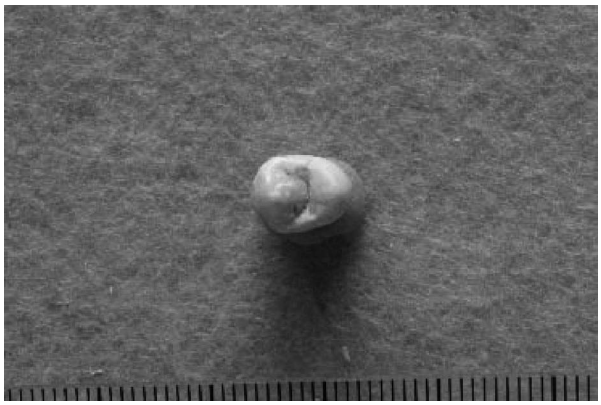


Fig. 28 Right P^4 from Cist group 4

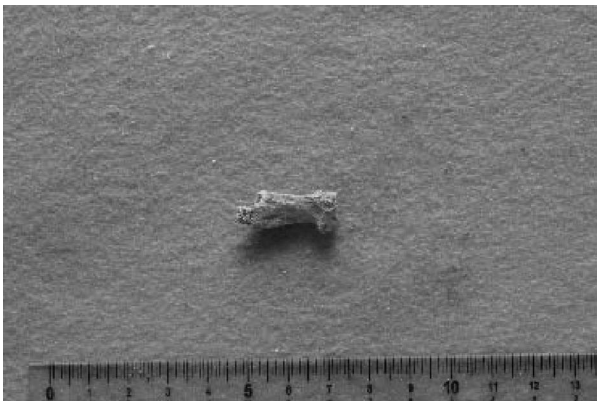


Fig. 29 Mid phalanx of hand from Cist group 5

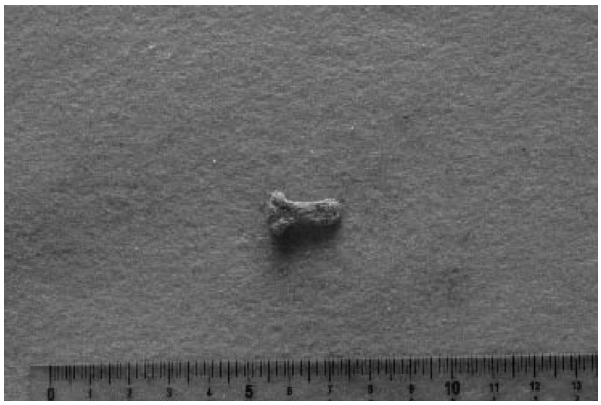


Fig. 30 Terminal phalanx from Cist group 5

Table 1 List of the hand and foot bones from BC-9

Specimen	Location
rt. proximal phalanx (I), hand	B2-102
lt. mid phalanx (V), hand	B2-102
lt. proximal phalanx (I), foot	B2-102
lt. proximal phalanx (II or III), foot	CS-502
lt. terminal phalanx (II or III), hand	CS-504
lt. proximal phalanx (V), hand	CS-504
rt. metacarpal (IV)	CS-505
rt. proximal phalanx (II), hand	CS-508
rt. proximal phalanx (I), foot	CS-509
rt. proximal phalanx (III or IV), foot	CS-509
lt. talus	CS-510
lt. calcaneus	CS-510
lt. cuboid	CS-510
lt. navicular	CS-510
lt. metatarsal (II)	CS-510
lt. terminal phalanx (I), foot	CS-511
rt. terminal phalanx (II or III)), hand	CS-512
lt. metatarsal (II)	CS-514
lt. metatarsal (IV)	CS-514

4. Trench Excavation in Square 2 of Tell Ghanem al-Ali

Atsunori HASEGAWA（Doctoral student, Tsukuba University, Japan）

Square 2 was set on the northern slope of the tell in the first season, 2007. The main objective of square 2 is to confirm the chronological sequence of the tell. Square 2 which we already dug in the fourth season measured 4 (east-west) × 16 (north-south) m. According to the result obtained from our work in 2007, at least, square 2 revealed four building levels. In this season, we continued to dig down with an extension of 4 (east-west) × 10 (north-south) m. with the extension connected to the square 2 in the south. We made this trench 6 stepped (Fig. 1). As a consequence of digging in this season, square 2 has revealed 3 more building levels so far.

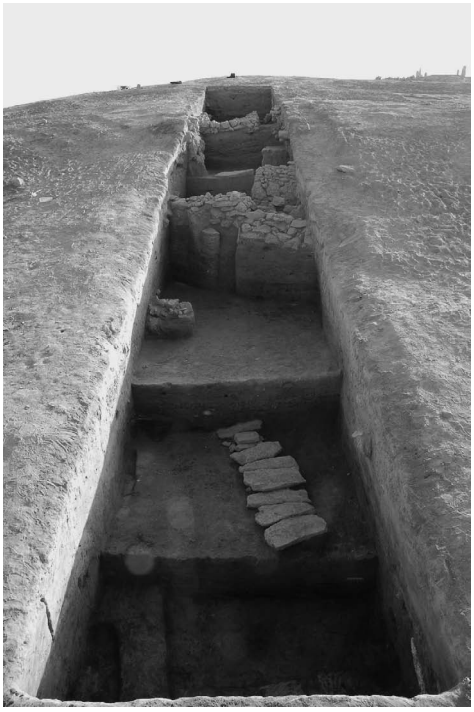


Fig. 1 Square 2 seen from the north

Level 4

At first, we dug in south part of the second step to make third step. Two stone walls which we reported last season were fully excavated in the third step (Fig. 2). They extend from north-west to south-east and lie parallel. North wall was thin but very high. It remained ca. 1.8 m in height. On the other hand, south wall was very thick. It was ca. 2 m in width and 70 cm in height. And, it was constructed by large stones of ca. 40 × 50 cm. I would like to emphasize that they had different directions from all the walls in the upper level extending from north to south and east to west. Walls of this level are larger than those of the upper level. It is possible that they were a part of town wall.

Fig. 2 Massive stone walls, level 4, seen from the west

Level. 5

We dug in the north part of the extension area as the forth step. The remains in level 5 were in poor state of preservation. At the center of the fourth step, stone wall was identified extending east to west. It was found in fragmental condition, however. And, a cooking pot almost completely remaining was fond in the south of stone wall (Fig. 3). In the level 2 and square 1, we found some pot like this already.

Fg. 3 Stone wall and cooking pot, level 5, seen from the west.

Level 6

In contrast to the upper step, especially down to the third step, the topsoil of the south part of extension, fifth step, was very thick. Approximately up to 1.3 m below the ground, we identified layer of eroded soil at the higher locations on the hill top. No structures were identified in these layers, except for the collapsed mud bricks. Under these layers, thick wall constructed by mud-bricks was identified. It was ca. 1 m in width and extended from north-west to south-east. It had one corner and the south part of it was collapsed (Fig. 4). This thick wall had stone foundations using large stones of 80 × 100 cm. Additionally, at least three rows, constructed by mud-bricks, were identified around it. The orientation of the rows was mainly along the northwest-southeast axis. That is to say, they were in parallel with stone foundations. It is possible that these rows of mud-bricks were a part of floor. We found that a bottom of pottery was lying on top of the other (Fig. 5).

Fig. 4 Mud-brick wall, level 6, seen from the south

Fig. 5 Stone foundation under the mud-brick wall, level 6, seen from the south

Level 7

Sixth step was located in the northern end of square 2. About 40 cm below the level 6, three rooms were identified. The walls of the rooms were constructed with mud-bricks and extended along the north-west to south-east axis. At least three types of mud-bricks were confirmed in the walls. The first type is coloured orange and hard. The second type is grayish yellow and soft. The third type has orange-coloured frame and is grayish yellow inside the frame (Fig. 6).

Fig. 6 Three rooms, level 7, seen from the south

It is difficult to state the exact date of each level. The classification of pottery is now under study. At least, however, there are not recognized any typical pottery belonging to the period older than the Early Bronze Age III. The excavated area of square 2 almost reaches the northern end of Tell Ghanem al-Ali, which is being used as a road by nearby villagers and could not be extended in this field season.

It seems, however, that the structures used to extend to further north, and that the original residential area of Tell Ghanem al-Ali in the Early Bronze Age expanded to further north from the present northern edge of the mound.

5. Reconfirmation of the wall structures at the site of Tell Ghanem Al-Ali

Katsuhiko OHNUMA (Professor, Kokushikan University, Japan)

Reconfirmation of the remaining walls along the northern and north-western edges of the site of Tell Ghanem Al-Ali was carried out in this field season. This work was done with reference to the overall plan of the site completed in the third working season in August, 2007 (Fig. 1).

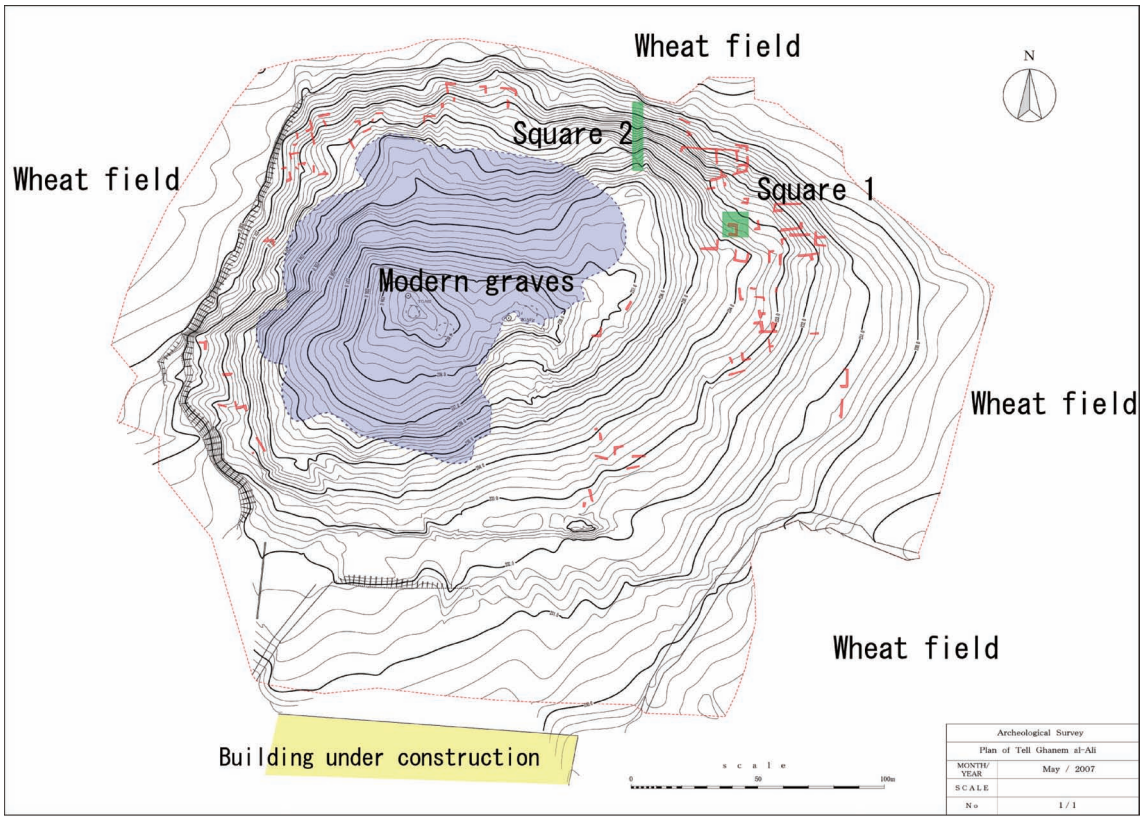


Fig. 1 Overall plan of Tell Ghanem Al-Ali with remaining walls (red lines) and Squares 1 and 2 for sondage (shaded green) (completed in August, 2007)

Although the final allocation of the remaining walls along the northern and north-western edges is not completed now, it interestingly seems that at least two room complexes of different wall directions existed in the edges of the site researched, strongly suggesting at least two different occupational periods at this site.

It is hoped for the future that excavations on larger scale will clarify in more details about rich occupational sequences at this site, as well as its intra-site functional or occupants' differentiation.

6. Botanical Research

Chie AKASHI (Doctoral student, Waseda University, Tokyo)

The botanical research in Tell Ghanem al-Ali had started in the summer of 2007 and some soil samples were collected last year from the ashy fill or inside potteries to obtain plant remains effectively. In this season, new method was conducted which is to collect samples from various contexts and at various levels regardless of presence or absence of charcoal concentration. Charred woods are very fragile and could be damaged in the water flotation so some large pieces of wood were secured in the site.

In total 35 soil samples were secured for botanical study from Square 2 during the excavation. Amount of each sample is 5 to 12 litters. 34 of them (327 litters in total) were processed by same water flotation system as last year and many charred plant remains were recovered. Most of them were charred wood but some barley grains were also observed with naked eyes. Large leguminous seed, probably *Prosopis* sp., was also included. Barley is the most common plant in Bronze Age in

Syria and *Prosopis* sp. is also reported from many contemporaneous sites.

In addition, 18 samples were obtained from Square 1 as well. The excavation there had been finished last year, so sampling was carried out at the bottom of the trench after careful cleaning. 17 samples of them, 111 litters, were processed.

Such a way of sampling will enable to discuss the difference of plant use between areas or the change through time. The charcoal materials need to be sent to Japan and identified under microscope for further analysis.

List of botanical samples

Square 2

sample no.	locus	date	soil amount	charcoal amount
TGA2-7	95	081016	15	1 plastic bag
TGA2-8	95	081016	11	1 plastic bag
TGA2-9	94	081016	12	1 plastic bag
TGA2-10	94	081016	9	1 plastic bag
TGA2-11	96	081016	5	1 plastic bag
TGA2-12	98	081019	12	1 plastic bag
TGA2-13	98	081019	9	1 plastic bag
TGA2-14	98	081019	12	1 plastic bag
TGA2-15	98	081019	9	1 plastic bag
TGA2-16	94	081021	9	1 plastic bag
TGA2-17	94	081021	12	1 plastic bag
TGA2-18	102	081021	8	1 plastic bag
TGA2-19	102	081021	8	1 plastic bag
TGA2-20	113	081023	11	1 plastic bag
TGA2-21	113	081023	12	1 plastic bag
TGA2-22	115	081023	10	1 plastic bag
TGA2-23	115	081023	7	1 plastic bag
TGA2-25	117	081113	10	1 plastic bag
TGA2-26	117	081113	10+	1 plastic bag
TGA2-27	115	081115	6+	1 plastic bag
TGA2-28	122	081116	9	1 plastic bag
TGA2-29	120	081116	10+	1 plastic bag
TGA2-30	123	081116	9	1 plastic bag
TGA2-31	119	081116	10	1 plastic bag
TGA2-32	116	081117	6+	1 plastic bag
TGA2-33	116	081117	6+	1 plastic bag
TGA2-34	125	081118	10+	1 plastic bag
TGA2-35	126	081118	9	1 plastic bag
TGA2-36	126	081118	9	1 plastic bag
TGA2-37	129	081118	10+	1 plastic bag
TGA2-38	128	081119	11+	1 plastic bag
TGA2-39	136	081124	10+	1 plastic bag
TGA2-40	136	081125	10	1 plastic bag
TGA2-41	138	081125	11	1 plastic bag

Square 1

sample no.	date	soil amount	charcoal amount
TGA1-12	081030	12	1 plastic bag
TGA1-13	081030	9	1 plastic bag
TGA1-14	081030	7	1 plastic bag
TGA1-15	081030	8	1 plastic bag
TGA1-16	081030	8	1 plastic bag
TGA1-17	081101	9	1 plastic bag
TGA1-18	081101	3	1 plastic bag

TGA1-19	081101	4	1 plastic bag
TGA1-20	081101	4	1 plastic bag
TGA1-21	081101	8	1 plastic bag
TGA1-22	081101	8	1 plastic bag
TGA1-23	081101	3	1 plastic bag
TGA1-24	081101	3	1 plastic bag
TGA1-25	081101	6	1 plastic bag
TGA1-26	081101	8	1 plastic bag
TGA1-28	081101	6	1 plastic bag
TGA1-29	081101	5	1 plastic bag

Charcoals

square	bask. no	date
2	91	081014
2	97	081016
2	97	081016
2	93	081018
2	100	081018
2	99	081018
2	99	081018
2	98	081018
2	98	081019
2	99	081020
2	105	081022
2	108	081023
2	107	081118
2	128	081118
2	128	081119
2	130	081120
2	132	081122
2	132	081122
2	134	081124
2	136	081124
2	136	081125

7. The Soundings of the Hedaja Cairn Fields, the Northwestern Flank of Jabal Bishri

Sumio FUJII (Professor, Kanazawa University)
Takuro ADACHI (Research Fellow, the Middle Eastern Cultural Center in Japan)
Kae SUZUKI (MA Student, Kanazawa University)

Introduction

The third field season at the Hedaja cairn fields was conducted from November 11 through 29 of 2008 with the sincere cooperation of the Department of Antiquities and Museums of Syria. The objective of this season was to shed light on an overall picture of the site that consists of four adjacent cairn fields. For this purpose, we sounded a total of seven cairns: four at Rujum Hedaja 1, two at Rujum Hedaja 3, and one at Rujum Hedaja 4. The series of soundings have provided insights into the internal structure of the composite site. What follows is a brief summary of the investigation results.

The Site and Research History

The site of Rujum Hedaja is located in a limestone hilly terrain to the east of Bir Rahum, a small

village along a local main road traversing the northwestern flank of Jabal Bishri (Fig. 1). It is a general term for four adjacent cairn fields overlooking Wadi Hedaja and contains a total of thirty burial cairns (Fig. 2).

The natural environment around the site is very harsh, being characterized by an arid climate and consequent poor vegetation. Since no natural permanent water source is available, no traditional settlements exist. The only exception is Bir Rahum, which was founded beside deep wells only a few dozen years ago. Thus the land use of this area is limited to seasonal pasturing and no cultivation is conducted. Nevertheless, the concentration of numerous cairns on this area suggests that it witnessed a climatic amelioration in the remote past, especially in the Bronze Age.

Our investigation started with a reconnaissance survey in March of 2007, when the site was confirmed for the first time together with the other three (Fujii 2007). The first field season at the site took place in May of 2008, when we focused on the sounding of Burial Cairn No. 10 of Rujum Hedaja 1 or RHD-1/BC-10 in our cairn registration code (Fujii 2008). The sounding showed that it incorporated a ground-type cruciform cist fringed with large limestone boulders and a double peripheral wall encompassing the cist. The finds, though very scarce due to illicit diggings in the recent past, suggested a date from the end of the 3rd millennium B.C. to the beginning of the 2nd millennium B.C. This finding enhanced our expectation that the cairn entity in this area may represent cemeteries of *Mar-tu* or *Amurru*, a large pastoral population that Sumerian and Akkadian cuneiform texts refer to as having been based on the Bishri Mountains.

The second field season, conducted in June of the same year, dealt with nine cairns dotted to the east or southeast of BC-10 (Fujii et al. 2008). The series of soundings brought about further evidence for the tentative dating suggested above. They also provided insights into the techno-typological sequence of the chain of cairns.

The third field season, our main concern, was devoted to a series of complementary operations to elucidate the whole picture of the composite site. To begin with, we briefly examined two cairns of Rujum Hedaja 3 (or previous Hedaja 2) and, then, moved to the adjacent Rujum Hedaja 1 to test four cairns yet to be investigated. Our investigation ended with a limited sounding of a small cairn at Rujum Hedaja 4 (or previous Hedaja 1c). Unfortunately, the planned sondage at Rujum Hedaja 2 (or previous Hedaja 1b) was postponed until the next season due to time constraints and bad weather. The following description will be made in order of site register number.

Rujum Hedaja 1

Rujum Hedaja 1 is a large cairn field that extends on an elongated flat-topped limestone hill ca. 30-50 m in relative height. It contains a total of fourteen cairns: ten along the southern edge and the other four along the northern fringe (Fig. 3). As referred to above, our first and second field seasons addressed the comprehensive investigation of the former group of cairns. This season focused on the sounding of the latter.

BC-11

Being ca. 400 m distant from the other three, this small cairn was isolated in the middle of the northern edge of the table-like hill. A round cist or peripheral wall, ca. 2.5 m in outer diameter and ca. 0.5 m in relative height, was found under a heavily disturbed cobble mound (Fig. 4). It was constructed with a single row and course of undressed limestone cobbles, which were arranged around a natural depression of a limestone outcrop. Thus the cist, though essentially of a ground-type, formed slightly concave burial space. This device is common to other ground-type cists at the site. Neither artifacts nor human skeletal remains were recovered.

BC-12

This cairn, together with BC-13 and -14 described below, was located on a flat-topped ridge protruding northward from the main body of the hill. Its cobble mound, ca. 6 m in diameter and

ca. 0.5 m in relative height, was fringed with large limestone cobbles put upright (Fig. 5). An oval cist, ca. 1.4 by 1.2 m in floor area, was found under it. Again, it was constructed around a natural depression of a limestone outcrop. This cairn was also heavily disturbed by plundering activities and produced no finds.

BC-13

BC-13 was located ca. 20 m north of BC-12. It was relatively large in scale, measuring ca. 10 m in diameter and ca. 0.9 m in relative height (Fig. 6). A T-shaped cist fringed with partly dressed limestone boulders was found roughly in the center of the heavily disturbed cobble mound (Fig. 7). The finds were limited to several fine buff ware sherds and a certain amount of human bone fragments.

Incidentally, the cairn was accompanied with the following five stone-built features: a large L-shaped wall alignment ca. 25 m in total length (Feature 01), a U-shaped wall alignment ca. 3 m in width (Features 02), a curvilinear wall alignment ca. 5 m long (Feature 03), a small stone concentration ca. 4 m in diameter (Feature 04), and an oval structure ca. 3.5 m in major axis (Feature 05). As previously suggested, the combination of a cairn and such small features seems to be the norm of Hedaja cairns, especially of large examples. No artifacts were found from these five features.

BC-14

This large cairn, ca. 12.5 m in diameter and ca. 0.9 m in preserved relative height, was located at the northern edge of the flat-topped ridge. A semi-rectangular subterraenan-type cist was found roughly in the center of the cobble mound (Fig. 8). It was constructed within an oval pit ca. 1.3 m deep that dug through a limestone bedrock layer, and originally covered with a semi-corbelling roof. A double enclosure wall encompassed the cist. Though heavily disturbed, the lower fill layer produced a small buff-colored pot with a short upright neck (Fig. 9). In addition, a handful of fine reddish ware sherds, some flint artifacts, a dozen stone beads, a few adornments made of snail and amber, and a bronze ring were found from the disturbed cist and mound (Fig. 10).

Here again, the cairn was accompanied with small stone-built features, which contained two U-shaped wall alignments (Features 01 and 03) and a two-rowed upright cobble wall with smaller rubble being filled in between (Feature 02). None of these produced artifacts.

Rujum Hedaja 3

Rujum Hedaja 3 is a small-scale cairn field ca. 1 km west of Rujum Hedaja, being located at the northern edge of a gently sloping hill. It consists only of two small cairns, both of which were briefly examined together with their surrounding small features (Fig. 11).

BC-01

This small cairn occupied the northern edge of the cairn field. Its cobble mound was almost erased by illicit diggings, but the existence of a peripheral wall suggested that it was at least ca. 3 m in diameter. A rectangular cist fringed with upright limestone boulders was exposed roughly in the center of the disturbed mound. It was a semi-subterranean feature, measuring ca. 1 m long, ca. 0.3 m wide, and ca. 0.15 m in floor depth. No artifacts were recovered.

BC-02

This burial cairn, located ca. 3 m south of BC-01, consisted of a cobble mound ca. 4 m in diameter and an underlying oval cist ca. 1.5 m in major axis. The semi-subterranean cist ca. 0.7 m in floor depth was constructed by means of digging through a limestone bedrock layer. A tabular scraper was found nearly at the base of the cist, but the occurrence of a few glazed pottery sherds and a bronze coin inscribed with Arabic letters from upper fill layers suggests that the cist was partly reused in later times.

Small Features

Four stone-built features were confirmed around the two cairns. Feature 01, located ca. 10 m east of BC-02, was a boat-shaped structure with a length of ca. 9.5 m, a maximum width of ca. 3.3 m,

and a preserved height of up to ca. 0.5 m (Fig. 12). Limestone rubble was filled up inside the walls, but nothing was found with the exception of a handful of bone fragments. The function of this unique feature is still unknown. All we can say is that it is probably a ritual feature belonging to its neighboring burial cairn. The combination of a burial cairn and such an enigmatic wall is the norm of Hedaja cairns and has been attested to at BC-06, -10, and -14 of Rujum Hedaja 1, for example.

Feature 02 was located ca. 10 m further to the east of Feature 01. It was a smaller version of Feature 01, measuring ca. 4.5 m long, ca. 0.7-1 m wide, and ca. 0.2 m in relative height. Here again, undressed limestone cobbles were arranged in stretcher bonds to form a pair of outer walls, and smaller rubble was compacted between the two. No artifacts were recovered.

Feature 03 and 04, located ca. 12 m and 20 m SSE of BC-02 respectively, were small stone concentrations ca. 1.5 m in diameter. Numerous small rubbles were filled up inside a cobble circle, but no artifacts were included. Similar features have been confirmed at BC-09 of Rujum Hedaja 1, for example.

Rujum Hedaja 4

This cairn field lies on a flat top of an isolated limestone hill ca. 1 km north of Rujum Hedaja 1 and consists only of two cairns and five features. Of these, BC-02 and Feature 05 were briefly examined by means of a 2 m wide trench.

BC-02

This small cairn, ca. 10 m in diameter and ca. 1 m in relative height, occupied the eastern edge of the cairn field. A semi-rectangular cist was found under the cobble mound fringed with large boulders (Fig. 13). It was constructed by means of digging through a limestone bedrock layer, measuring ca. 1.5 m by ca. 1 m in floor size and ca. 0.8 m in floor depth. Here again, like BC-14 of Rujum Hedaja 1, a pair of corbelling walls covered the cist. The disturbed mound and cist yielded a handful of fine buff ware sherds, several flint artifacts, a dozen faience and snail beads, and a few bronze fragments (Fig. 14). In addition, a certain number of human skeletal remains including skull fragments were recovered at the cist base.

Feature 05

Feature 05 was located ca. 10 m south of BC-01. It was an elongated feature, measuring ca. 24 m long, ca. 1.5 m wide, and up to ca. 0.5 m in preserved height. This unique feature can be regarded as a typical example of a two-rowed cobble wall with small rubble being compacted in between (Fig. 15). A pair of large upright boulders capped both ends, thereby forming a sharply defined profile rarely found at other examples. Incidentally, all of the other four features were stone concentrations fringed with limestone cobbles. As repeatedly noted, the combination of a cairn and such small features is a common trait to Bishri cairns.

Summary

The series of soundings brought about a few significant results. To begin with, it has provided another key to the dating of the Hedaja cairn field. The occurrence of a distinctive pot from BC-14 of Rujum Hedaja 1 seems to support our previous view that the site falls within the time range from the end of EB to the beginning of MB. Nevertheless, evidence is far from sufficient and the final conclusion must await further research.

The internal structure of the Hedaja cairn field has also come into sight. It is now evident that Rujum Hedaja 1 consists of two lines of cairns: the southern group starting with BC-10 to the west and ending with BC-01 to the east, and the northern group developed south- or westward from BC-14 to BC-11. In light of the incorporation of the T-shaped cist, BC-13 of the northern group can be regarded as an equivalent of BC-10 (or Phase I) of the southern group of the same cairn field. BC-14 (and BC-02 of Rujum Hedaja 4), both characterized by a subterranean corbelling cist, may represent an

earlier phase (Phase 0). BC-12 and BC-11, on the other hand, probably belong to Phase 2 and 3 respectively in view of their simple internal structure. Likewise, the two cairns of Rujum Hedaja 3 can be assigned to Phase 2 of the techno-typological sequence of Rujum Hedaja 1.

Seeing that these lines of cairns developed separately yet partly in parallel with each other, it is conceivable that they represent an individual lineage or clan of nomadic tribe(s) who migrated across the Bishri Mountains in the Bronze Age. This challenging perspective, if further evidenced, would enable us to make an in-depth discussion on the social structure of the Bronze Age pastoral nomads. The next field season, scheduled in March of 2009, is intended to test it in a broader context.

References

Fujii, S.
2007 The General Survey of Pre-Islamic Burial Cairns in the Northern Flank of Jabal Bishri. In: Ohnuma, K. and K. Anas (eds.) Archaeological Research in the Bishri Region: Report of the 2nd Working Season. *Rafidan* 29: 134-149.
2008 A Brief Sounding at Rujum Hedaja 1. In: Ohnuma, K. and K. Anas (eds.) *Archaeological Research in the Bishri Region: Report of the 5th Working Season*. The Working Report submitted to the Department of Antiquities and Museums of Syria.
Fujii, S., T. Adachi, and K. Suzuki
2008 The Sounding at Rujum Hedaja Cairn Fields. In: Ohnuma, K. and K. Anas (eds.) *Archaeological Research in the Bishri Region: Report of the 6th Working Season*. The Working Report submitted to the Department of Antiquities and Museums of Syria.

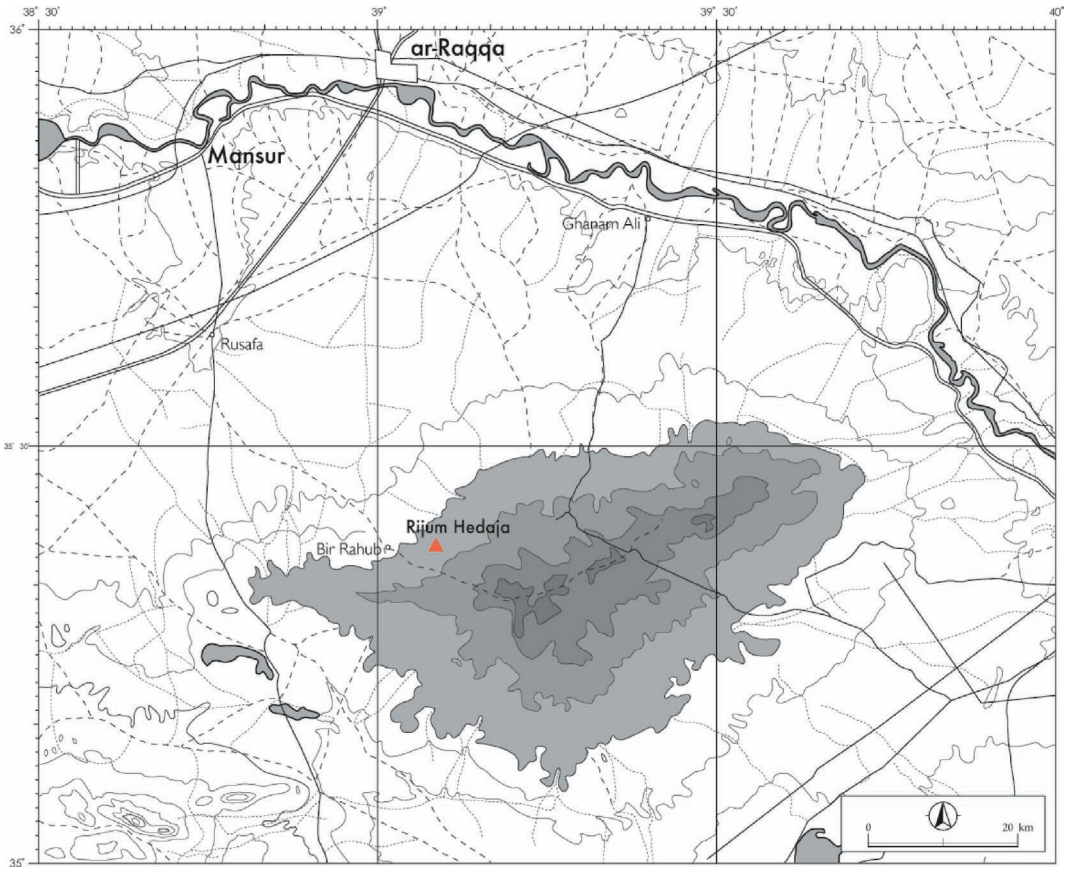


Fig. 1 The area map

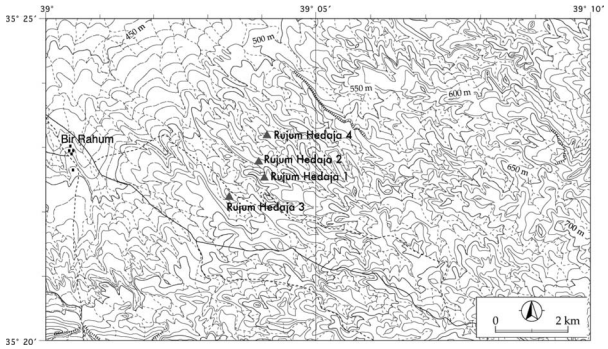


Fig. 2 The location of the Hedaja Cairn Fields

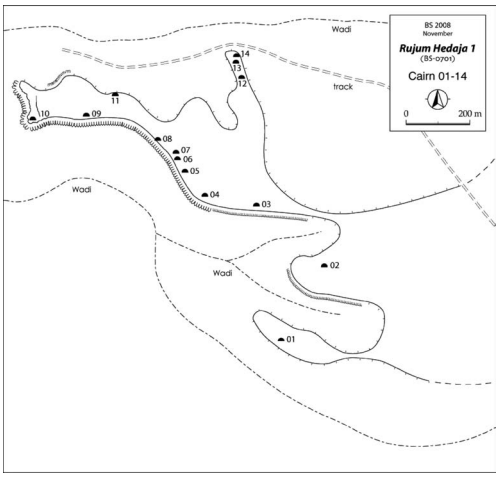


Fig. 3 The site map of Rujum Hedaja 1

Fig. 4 BC-11 of Rujum Hedaja 1 (from S)

Fig. 5 BC-12 of Rujum Hedaja 1 (from SW)

Fig. 6 BC-13 of Rujum Hedaja 1 (from SE)

Fig. 7 A close-up view of the T-shaped cist of BC-13 (from SW)

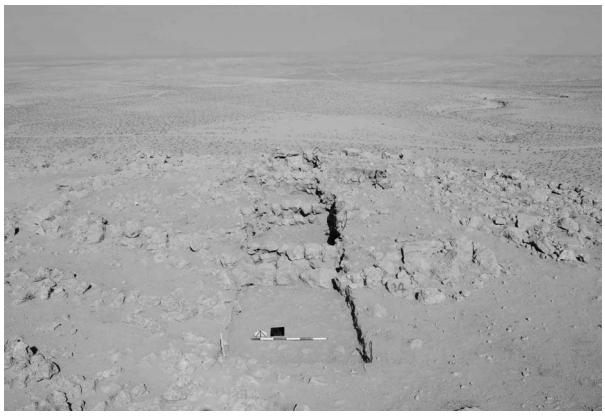


Fig. 8 BC-14 of Rujum Hedaja 1 (from S)

Fig. 9 A short-necked jar from BC-14

Fig. 10 Various adornments from BC-14

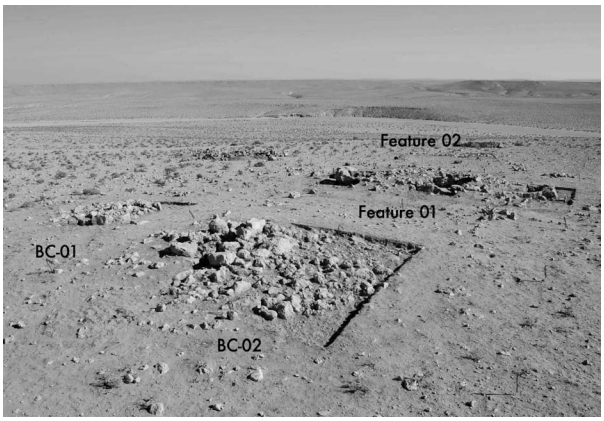


Fig. 11 A general view of Rujum Hedaja 3 (from SW)

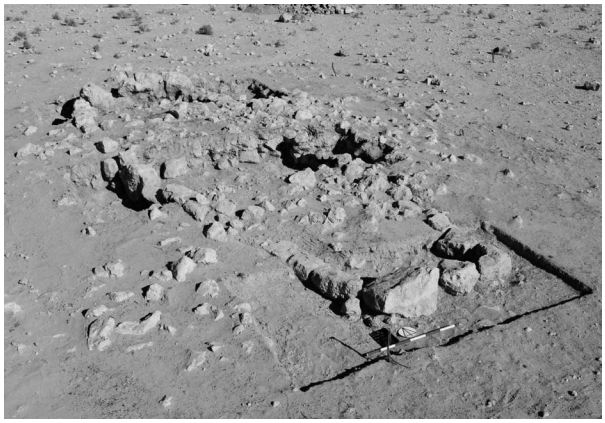


Fig. 12 Feature 01 at Rujum Hedaja 3 (from SW)

Fig. 13 BC-02 of Rujum Hedaja 4 (from NE)

Fig. 14 Small finds from BC-02

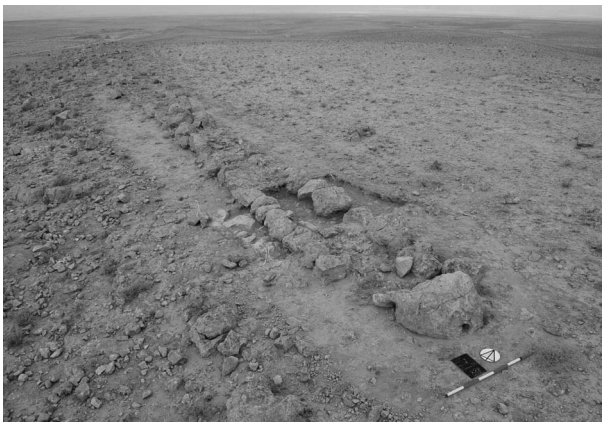


Fig. 15 Feature 05 of Rujum Hedaja 4 (from SE)

تقرير موسم العمل السابع للبحث الأثري للبعثة السورية اليابانية المشتركة العاملة في منطقة البشري

بدأ موسم العمل السابع للبعثة الأثرية السورية اليابانية المشتركة العاملة في منطقة البشري بتاريخ العاشر من تشرين الأول لعام 2008 وانتهى في الثلاثون من تشرين الثاني لعام 2008

وفي البداية نود أن نتقدم بخالص امتنانا وشكرنا للدكتور بسام جاموس المدير العام للآثار والمتاحف في سورية , والدكتور ميشيل مقدسي مدير التنقيب والبحث الأثري في المديرية العامة للآثار والمتاحف في سورية لما قدماه من دعم في سبيل إنجاح هذا الموسم السابع من البحث .

وقد تشكلت البعثة في هذا الموسم السابع للبحث لكلا الجانبين من الأعضاء التالية أسماؤهم :

الجانب السوري : احمد سلطان (مديرا) محمد جاجان , عايد العيسى .

الجانب الياباني : كاتسوهيكو اونوما (مديرا) تسونوري هاسيكاوا , شي اكاشي , هيروتوشي نوموتو , شوغو كومي , كينيشيرو تاكاو , ياسويوشي اوكادا , يوشي تاكي , باناجيوتتس توكماكيدس , سوميو فوجي , تاكارو اداتشي , كاي سوزوكي , يوشيهيكو ناكانو , لبنى عمر .

في موسم العمل هذا تم التركيز على ثمان من نقاط البحث الأساسية ضمن منطقة البشري وهي:

1- مسح مقابر عصر البرونز القديم المجاورة لتل غانم العلي .
2- تحديد خريطة شاملة لموقع تل حمادين .
3- بحث السمات التاريخية والثقافية للقرى المجاورة لتل غانم العلي .
4- دراسة موفولوجية للعظام الإنسانية من موقع رجوم حداجة .
5- استكمال أعمال السبر الاختباري لموقع تل غانم العلي
6- استكمال أعمال السبر الاختباري لموقع رجوم حداجة
7- دراسة العينات النباتية وبقايا المحاصيل من موقع تل غانم العلي .
8- دراسة العظام الحيوانية لتل غانم العلي .

اولا : مسح مقابر عصر البرونز القديم المجاورة لتل غانم العلي

(هيروتوشي نوموتو أستاذ في جامعة كوكوشيكان ,طوكيو وشوغو كومي طالب دكتوراه جامعة وسيدة)

حيث تم مسح المقابر في منطقة وادي شبوط 3 ووادي شبوط 4 . وقد اظهر المسح المكثف لمقابر عصر البرونز القديم في هذه النقاط المذكورة تشكيل جديد عن نماذج وأشكال الدفن في هذه المنطقة المحيطة بتل غانم العلي وهو نمط المقابر الجماعية .

ثانيا : تحديد خريطة شاملة لموقع تل حمادين

(ياسوسوشي اوكادا أستاذ في جامعة كوكوشيكان ,طوكيو ويوشي تاكي طالب دكتوراه ,باناجيوتس توكماكيدس)

حيث يقع تل حمادين على طريق الرقة دير الزور وبجانب قرية الجبلي حيث يتمركز على الجهة اليمنى لنهر الفرات ويبعد حوالي 7 كم إلى الغرب من تل غانم العلي , حيث تبين من خلال الكسر الفخارية التي جمعت من سطح التل انه يعود تأريخ التل إلى فترة عصر البرونز المبكر أي نفس التأريخ لتل غانم العلي ,حيث تم تحديد خريطة أثرية للتل وذلك بتحديد أكثر من ألف نقطة مساحية وذلك تمهيدا للأعمال الأثرية التي تهدف إلى توضيح أن مجتمعات دول المدن زراعية الأساس في منطقة حوض الفرات الأوسط .

ثالثا : دراسة السمات التاريخية والثقافية للقرى المجاورة لتل غانم العلي :

(كينيشيرو تاكاو طالب دكتوراه)

وقد اظهر هذا البحث أن هناك ارتباط عشائري كبير وواضح في هذه المنطقة التي تحيط بتل

غانم العلي إذ أن كل المجتمعات الحالية المحيطة بتل غانم العلي تعمل بالزراعة ورعي المواشي وتبين ذلك من خلال البحث في أكثر من تسع قرى مجاورة لتل غانم العلي .

رابعا : دراسة مورفولوجية للعظام الإنسانية من تل غانم العلي

خامسا : استكمال اعمال السبر في تل غانم العلي

(تسونوري هاسيكاوا طالب دكتوراه)

فقد أظهرت نتائج الاسبار التي تمت في المربع 2 المتوضعة على الحافة الشمالية من تل غانم العلي أربع سويات أثرية امتدت من الأعلى للأسفل , حيت انه حتى نهاية هذا الموسم لم يتم التوصل إلى قاعدة التل. ولذلك فأنه من الصعب جدا إعطاء تاريخ دقيق لكل سوية من هذه السويات حيث انه مازلت اعمال تصنيف ودراسة الفخار المستخرج من هذه السويات قيد الدراسة .وقد ظهرت الأساسات الحجرية التي امتدت باتجاه الشمال والتي تبدو أنها منطقة السكن الأصلي لسكان تل غانم العلي القدماء في عصر البرونز القديم حيث استخدمت كمساكن امتدت لجهة الشمال من التل , وقد أظهرت أيضا اعمال السبر أن هذه المنطقة من تل غانم العلي تمتد إلى الشمال من منطقة السبر2 حيث لم يتم العمل بها لهذا الموسم كون هذه المنطقة مستخدمة كطريق لأهالي القرى المجاورة للتل .

سادسا : استكمال اعمال السبر لموقع رجوم حداجة :

(سوميو فوجي ,أستاذ في جامعة كانازاوا ,طوكيو وكاي سوزوكي طالبة ماجستير)

لقد قدمت مجموعة الاسبار الاختيارية التي أجريت في موقع رجوم حداجة مفتاح جديد لتأريخ الرجوم الموجودة في منطقة رجوم حداجة في جبل البشري . ففي هذه الموسم تم اكتشاف كوب فخاري مميز من المنطقة BC14 المتمركزة في رجوم حداجة1 .

وهذا الاكتشاف يدعم فكرتنا السابقة بأن هذا الموقع يؤرخ لفترة زمنية طويلة امتدت من نهاية عصر البرونز القديم وحتى بداية عصر البرونز الوسيط .

سابعا : دراسة العينات النباتية وبقايا المحاصيل من موقع غانم العلي :

(شي اكاشي ,طالبة دكتورا جامعة واسيدة في طوكيو)

حيث جمعت عينات ترابية من سويات مختلفة في المربع 2 من تل غانم العلي أثناء اعمال السبر الاختباري لهذا الموسم حيث ظهرت النبات المتفحم بشكل كثيف ضمن هذه العينات ,إذ تم جمع 35 عينة ترابية من هذه المنطقة لإجراء دراسة تحليلية لهذه العينات بهدف معرفة نوع النبات المستخدم لسكان موقع تل غانم العلي القدماء , وقد كان معظم هذه العينات تحتوي على مواد متفحمة ,حيث لوحظ بعض الشعير بشكل واضح ,بالإضافة إلى احتوائها على نبات غير واضح حتى الآن .

مدير الجانب الياباني
كاتسوهيكو اونوما

مدير الجانب السوري
احمد سلطان