A Study of the Skeletal Remains and Burial Rituals in Cham Papi Cemetery

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During the past decade, archaeological studies conducted in the Seymareh River catchment area have provided invaluable findings for analytical investigations and, thus, gaining insights into various fields such as pottery, architecture, and multifarious cultural artefacts. Amongst the most significant of such archaeological findings are cemeteries with their cultural implications, which provide researchers—and particularly archaeologists—with an ample amount of knowledge on various aspects of ancient peoples' lives, including the ideological, social, and economic structures and patterns of their societies. This article reports a study conducted on Cham Papi Cemetery, located in the middle of the Seymareh River catchment area. The said cemetery was discovered in the years 2014-2015 in the course of archaeological investigations, upon which researchers embarked upon exploratory endeavours aimed at identifying different cultural horizons and circumstances of this area during the proto-historic and historic periods. The main purpose of the study was to identify various habitat patterns and life circumstances in the Kaferi Strait (Tangeh Kaferi) during the proto-historic period by investigating the structures of the graves and the remnants of the human skeletons detected in this cemetery. Based on the existing evidence as well as the evaluations conducted through initial assessment of pottery exhibits, observation, documentation, and investigation of the environmental features, a purposeful excavation was initiated in 2017. The primary results concerning the remnants of this cemetery included an accurate map of the cemetery and a recognized style of grave structures and burial rituals in the Bronze Age. The pottery exhibits showed that Cham Papi Cemetery had been founded in the third millennium B.C., and it had been in use up until the beginning of the first millennium B.C. This article aims to present a summary of the key findings about the architectural structures as well as the cultural and anthropological features of Cham Papi Cemetery.

Key Words: *Central Zagros, Seymareh River, Kaferi Strait, Cham Papi, Bronze Age*

Introduction

Cham Papi Cemetery, covering a surface area of one hectare, is located on the bank of the Rue River at a height of 12 meters from the surrounding lands. The Kaferi Strait (Tangeh Kaferi) is one of the suitable areas for archaeological research in terms of identifying placement types in the process of human beings' exploitation of unchangeable natural surroundings, especially during ancient and historical periods. The cultural representations of this area can be seen on a natural rock located in the southern part at an altitude of 740 meters above sea level and facing toward the Rue River with a sharp slope. In the course of survey operations in various parts of the site, we witnessed many traces of deep and semi-deep holes resulting from unauthorized excavations which had caused serious damages to a large part of the cemetery. Furthermore, the strategic geographical position of the area and the site of excavations are indicative of the fact that there existed a highly important road connecting Mesopotamia and ancient Ilam and that the Kaferi Strait played a crucial role in providing access to the cultural realm of Lorestan through the bank of the Seymareh River. Accordingly, understanding the underlying motives for the ancient residents' communication, trading, and relocation activities and studying the Bronze-Age cemetery discovered along the said road can help shed light on a turning point in the history of habitats in this cultural realm.

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Geographical Location and Description of the Excavation Area

Cham Papi Cemetery, covering a surface area of one hectare, is located on the bank of the Rue River in the Kaferi Strait at a height of 12 meters from the surrounding lands. It must be noted that the Rue River originates from the convergence of two rivers, i.e. the Kolm River and the Jaber River. Having the coordinate 38S0685699/UTM 3694764 and the altitude ranging from 630 to 730 meters from the sea level, the cemetery rests upon a cliff that belongs to the third period of geology. This ancient site is located in the western part of the Kaferi Strait at a distance of 3.5 kilometres from the main road connecting Ilam to Badreh. The surface findings revealed that it belongs to the middle Bronze Age. There were pieces of pottery scattered around the excavation area; in addition, the remains of old architecture in the form of stone walls were observed in the cemetery (Fig 1 & 2).

Description of Cham Papi Cemetery

This cemetery contains remnants from tombs and graves dating back to a long period ranging from the third millennium B.C. to the early first millennia B.C. In various parts of the site, we witnessed damages caused by cultural profiteers and looters' unauthorized excavations. The oldest grave in the cemetery dates back to the early third millennium B.C. This grave, being made of stones and rocks, was located in the northern part of the cemetery. Some graves dating back to the second millennium and the early first millennium B.C. were observed in the burial area located in the middle part of the rocky mountain, and there were some graves having stone structures scattered in the higher level of the mountain. Moreover, a number of other graves with stone structures were observed in the western part of the cemetery and on the lower

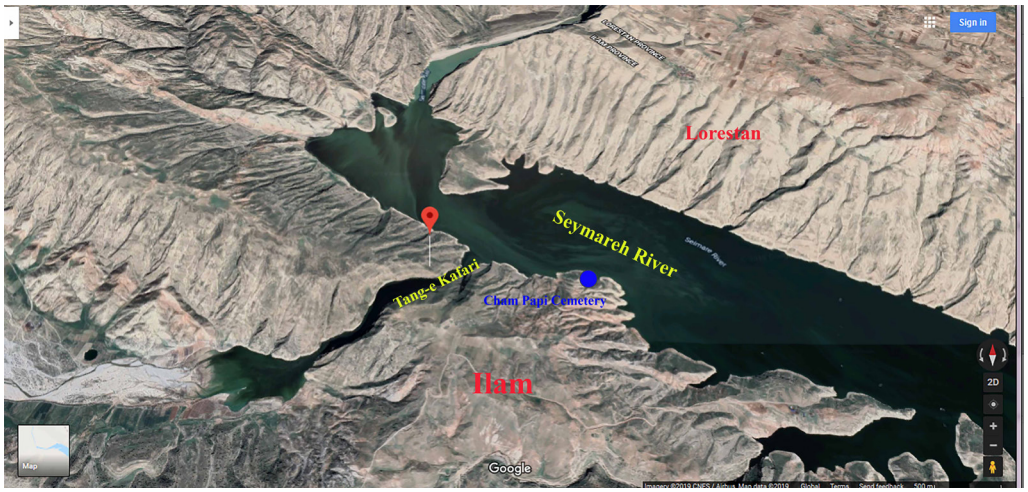


Fig. 1: *The Location of the Kaferi Strait in the Middle of the Seymareh River Catchment Area (After: Google earth, depicted on 17/01/2017)*



Fig. 2: *Memorial Monument of Cham Papi Cemetery*

level of the mountain. The principal data obtained from excavating the burial grounds of this cemetery can be summarized as follows: 1) the forms and shapes of the graves according to their structures and dimensions; 2) the positions of the graves in relation to their surroundings; 3) the burial methods and rituals as well as skeleton characteristics based on such parameters as age, gender, direction, and position of the buried people; and finally, 4) the items having been buried with the buried people (burial gifts) including pottery, stone artefacts, stoneware, containers, and metal objects.

Studies have shown that this cemetery contains both tombs and individual graves that had been constructed at different levels on a rocky slope on the natural bed of the mountain. The burial ground had been prepared by levelling the terraces located on the slop by means of stone walls extending from the east to the west. It is worth mentioning that the mortar used in the construction of the stone walls was made of mud and sand. In addition, some other walls extending from the north to the south had been built along those extending east-westwardly. The tombs and graves had been constructed in such shapes as square, rectangle, and oval. There were no footprints and no entrances in the tombs; and the skeletons had been laid on layers of sand used to smooth the surface. It seems that due to the leakage of rain water into these graves, their foundations had been washed off and the remains of bones, which had mostly turned into powder, were stuck to the ground. The bodies had been buried in squatting, supine, or sitting positions. Also, it seems probable that burial in the sitting position had been a secondary burial. The bodies having been buried in squatting position were faced towards the sun. It is worth mentioning that the majority of the graves were aligned at a short distance from one another and separated by rows of stones constructed with a mortar of sand and mud.

There were also domed rectangular or triangular graves made of stone. Some of the graves were covered with stone slabs of the same sizes; this is while some others did not have any covers. The surfaces of this latter group of graves were covered with rows of stone. Due to rains and leakage of water, most of the skeletons had been destroyed, so their burial positions were not clear. In most graves, according to an ancient tradition of offering food to the dead, there were the remnants of vessels containing animal meat and plants such as wheat, lentil, oak seed, and wild pistachio. In addition, burial gifts including pottery, stone objects, and bronze tools were also observed in the graves. In some graves, which seemed to belong to the richer strata of the society, there were pottery vessels as well as bracelets, earrings, and brooches. Also, in the graves of men, there was such warfare as arrow heads and daggers with some graves having spindles beside them. Furthermore, at the higher level of the cemetery, there were tombs with the remains of stone walls having approximate dimensions of 4 meters (L) × 3 meters (W). Under these tombs, in lower levels, some other graves were observed. These graves had been constructed east-westwardly in the shape of a rectangle with the dimensions of 2 meters (L) × 70 centimetres (W) (Fig 3).

Grave No. 6, Trench B

Located east-westwardly in the northern part of the site on a steep mountain rock, grave No. 6 was in the form of a rectangle with dimensions of 70 centimetres (L) × 60 centimetres (W) × 107 centimetres (H) built on a surface with a height of 190 centimetres. Its northern and eastern sides had regular stone walls covered with a mortar of mud for strengthening it. This grave had a joint wall with grave No. 5 in the eastern side. The skeletal remains of this grave had been badly damaged due to environmental conditions; still, we managed to transfer the remains to the anthropological laboratory and conduct the following investigations on them.

The study of supraorbital margin, prominence of glabella and mandible parameters such as union and flexion of ramus and sciatic notch showed that skeleton probably belonged to a female. It is noteworthy that, as will be explained below, the skeleton belonged to a juvenile person, so its gender could not be determined definitely. Also due to the condition of the epiphyses (0=not observable / 1=open (non-fused) / 2=partial fusion / 3=complete fusion) and teeth growth, it could be concluded that the person had been 15 to 17 years old. The height estimate was not possible due to the erosion of the limbs. Tables 1 and 2 present the details of the upper and lower limbs; and the odontological record is presented in Table 3.

Table 1: *Details of the Upper limbs*

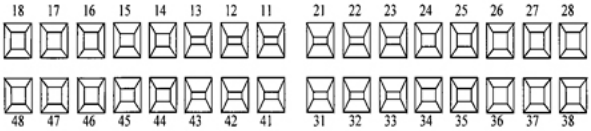
Bone	Epiphyses	Right	Left
Clavicle	Medial (sternal)	0	0
	Lateral(acromial)	0	0
Sternum	Sternebrae 2-4	0	
	Sternebrae 1-mesosternum		
Scapula	Acromial	0	0
	Coracoid	0	0
	Medial border	0	0
	Inferior angle	0	1
	Glenoid epiphyses	0	1
Humerus	Proximal	1	1
	Distal	1	1
	Medial epicondyle	0	0
Radius	Proximal	0	0
	Distal	0	0
Ulna	Proximal(olecranon)	0	0
	Distal	1	1
Hands	MC 1	0	0
	MC 2-5	1	1
	Proximal and middle phalanges	2	2

Table 2: *Details of the Lower limbs*

Bone	Epiphyses	Right	Left
Vertebrae	Rings	1	
Ribs	Head	1	1
Pelvis	Iliac Crest	1	1
	Ischial tuberosity	1	1
Sacrum	S2-S4	0	
	S1-S2	1	
Femur	Head	0	0
	Greater trochanter	0	0
	Lesser trochanter	0	0
	Distal	1	1
Tibia	Proximal	0	0
	Distal	0	0
Fibula	Proximal	0	0
	Distal	0	0
Feet	Calcaneus	0	2
	MTT 1	0	0
	MTT 2-5	0	0
	Proximal phalanges	0	0
	Distal phalanges	0	0

Table 3: *Odontological Record*

Dental Findings in permanent teeth (notify temporary teeth specifically)			
11	La-m	La-m	21
12	La-m	La-m	22
13	La-m	La-m	23
14	PM	La-m	24
15	P G C - D N A sample	La-m	25
16	P G C - D N A sample	La-m	26
17	P G C - D N A sample	La-m	27
18	Partial erupted	La-m	28



48	La-m	Not erupted	38
47	La-m	P G C - D N A sample	37
46	La-m	PM	36
45	La-m	La-m	35
44	La-m	La-m	34
43	La-m	La-m	33
42	La-m	La-m	32
41	La-m	La-m	31

PGC: The tooth is in proper condition.

Lp-m: The tooth socket is present, but the tooth itself is not present.

La-m: Neither the tooth nor the tooth is present.

Unerupted: The tooth had not grown.

Partially Erupted: The tooth had erupted from the gum, but its apex had not grown.

It is noteworthy that the surfaces of the teeth had been covered with minerals. The degree of such coverage is higher in premolar teeth.

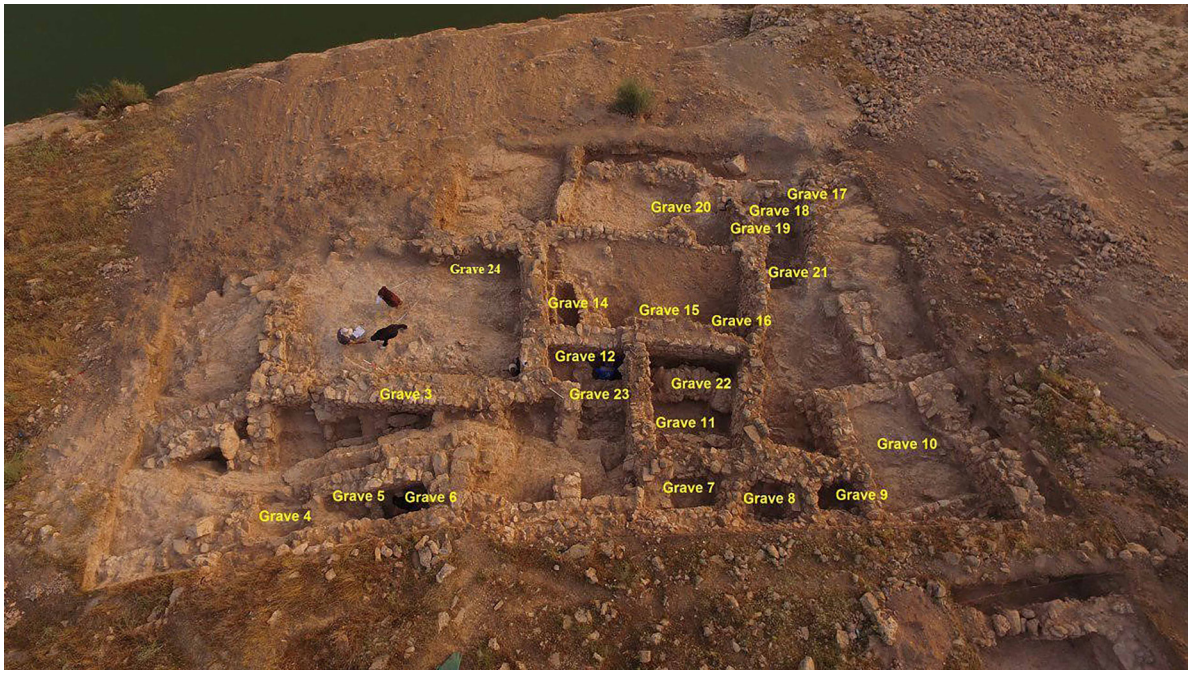


Fig. 3: *A View of Cham Papi Cemetery*

Pathological examination showed that there was a hole in the distal humerus. The cranium, the mandible, ribs and the vertebrae were fractured. From the left humerus, only the distal part, and from the right humerus, only the midshaft and the distal part had been left. There were fractures in the midshaft of ulna and in the midshaft and proximal region of right radius. Of the right pelvis entire ilium and the sacrum, only the first vertebrae are left; and of the right femur, only a part of the midshaft and distal are left (Fig 4).

The pottery obtained from this grave included pieces of bowls, pots, and pitchers in such colours as pale goldenrod, grey, and red. They were decorated with black stripes and patterns on the edge of the pottery, making them analogous with the decorated monochrome pottery discovered in Shush. According to the types of the pottery discovered in the grave, it seems that the grave dates back to second half of the third millennium B.C. (Niakan, 2014-2015: 79, 81)

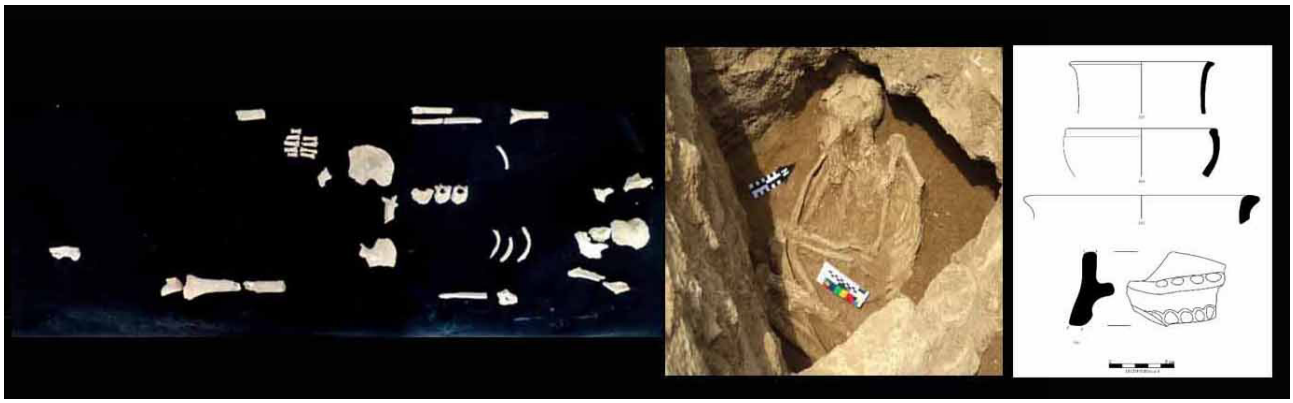


Fig. 4: *The Skeletal Remains of Grave No. 6 in Cham Papi Cemetery*

Grave No. 14, Trench B

Among the outstanding graves discovered in this area is the grave number 14 in site B, with a different architectural structure than the other graves. The architectural structure of this grave was oval and covered with white stones. After the removal of surface stones, we found sediments of soil on it; and after clearing the sediments, we came across a skull, under a pottery, as well as a hair pin, a pair of earrings, and a ring. Considering the size of the skull and the ring, we concluded that the grave belonged to a female. Also, in the lower level, we identified another skull with scattered fragments of rotten bones. It seems that on the secondary burial, the two people having been buried there had been separated from each other by means of a heap of soft soil. Based on the objects placed in the secondary grave, including a dagger and combat gear, it was concluded that this grave belonged to a male. It was hard to determine the gender of a number of skeletons due to their corrosion; however, in some graves, we guessed the gender based upon the objects we could find. We practiced different genetic tests to determine the age and gender of intact skeletons. Having regards to the skeletal remains found in the two upper and lower graves, which had been damaged seriously due to environmental conditions, as well as the burial gifts discovered in the lower grave such as daggers and bronze tools, we concluded that the lower grave belonged to the husband of the female having been buried in the same grave before her. The burial gifts such as pottery vessels are comparable with similar types of pottery having been discovered in Tepe Guran, Godin Tepe, and Qoli Darvish in a time span between 1800-1600 B.C. (Alizādeh , 2016: 41-42; Sarlak, 1394: 33). The types of the vessels as well as bronze items such as daggers and needles are analogous with the bronze items discovered in Lorestan and Ilam (Fig 5, 6, 7, & 8).

Grave No. 24, Trench C

This square-shaped grave was found in the eastern part of the site on a rocky slope extending north-southwardly with dimensions of 70 centimetres (L) × 70 centimetres (W) × 137 centimetres (H) built on a surface with a height of 158 centimetres.

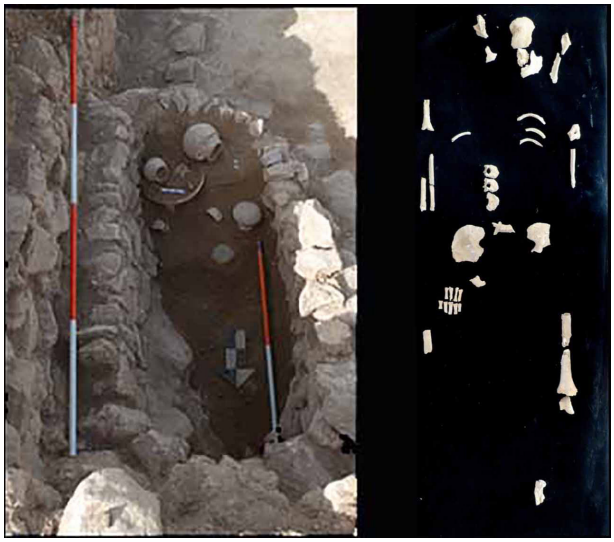


Fig. 5: *Items Discovered form Grave No. 14 in Cham Papi Cemetery*



Fig. 6: *Ceramic Pot and Handled Cup Discovered form Grave No. 14 in Cham Papi Cemetery*



Fig. 7: *Bronze Vessel and Bronze Dogger Discovered from Grave No. 14 in Cham Papi Cemetery*

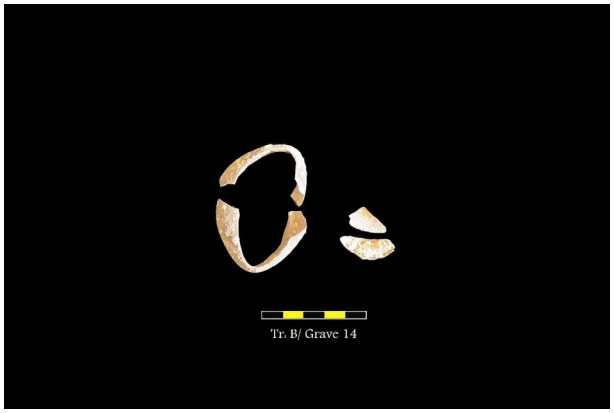


Fig. 8: *Silver Earrings Discovered from Grave No. 14 in Cham Papi Cemetery*

The body had been buried in a squatting position. In comparison with other graves, this grave was probably a secondary burial. The bones, especially the skull and face, were completely broken; and the skeleton faced southwards. Beside the skeleton were a ceramic bowl and a metal pin (Fig 9 & 10).



Fig. 9: *Ceramic Vessel Found in Grave No. 24 in Cham Papi Cemetery*



Fig. 10: *Bronze Pin Found in Grave No. 24 in Cham Papi Cemetery*

The walls, which had been made of stones from the river and the nearby cliff, were characterized by a two-row layer of stones and a layer of mud mortar (Fig 11). The initial study of the remains of this grave in the anthropological laboratory showed that the MNI of this packet should be considered as belonging to two people, which may be called a co-mingled case. The burial gifts such as pottery vessels are comparable with similar types of pottery having been discovered in Tepe Guran and Godin Tepe in a time span between 1800-1600 B.C. (Alizādeh, 2016: 41-42).



Fig. 11: *Grave No. 24 and its Skeletal Remains Cham Papi Cemetery*

Skeletal Remains No. 24/1

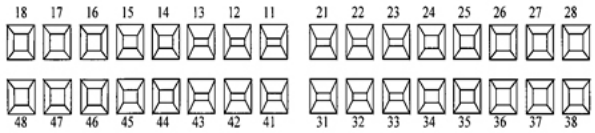
This skeleton belonged to an adult who, based on the mastoid state, may probably have been a female. According to the teeth, we could say that the skeleton belonged to a young woman aged 18-20 years. Next to the skull was a conical-shaped pin with a narrow tip and a round bottom that is decorated by patterns of small circles. It was also not possible to estimate the height due to the erosion of the limbs. A dental examination showed that most teeth and teeth sockets were present. Also, the surfaces of the teeth were all covered by minerals, which were more intense in primordial teeth (Fig 12).

Odontological Record

The odontological report is as follows:

Table 4: *Odontological Record*

Dental Findings in Permanent Teeth (Notify Temporary Teeth Specifically)			
11	La-m	La-m	**21**
12	La-m	La-m	**22**
13	La-m	La-m	**23**
14	La-m	La-m	**24**
15	La-m	La-m	**25**
16	La-m	La-m	**26**
17	La-m	La-m	**27**
18	La-m	La-m	**28**



48	Not erupted	Not erupted	**38**
47	P G C - D N A sample	P G C - D N A sample	**37**
46	P G C - D N A sample	P G C - D N A sample	**36**
45	P G C - D N A sample	P G C - D N A sample	**35**
44	La-m	La-m	**34**
43	La-m	La-m	**33**
42	La-m	La-m	**32**
41	La-m	La-m	**31**



Fig. 12: *The Skeletal Remains No. 24/1 Found in Grave No. 24 in Cham Papi Cemetery*

Skeletal Remains No. 24/2

The next skeleton in this grave belonged to a child. Since teeth conditions were not clear and the limbs were not fully grown, it was not possible to estimate the age (Fig 13).



Fig. 13: *The Skeletal Remains No. 24/2 Found in Grave No. 24 in Cham Papi Cemetery*

Grave No. 25

In the southeast part of the site, there existed a rectangular stone grave with dimensions of 130 centimetres (L) × 90 centimetres (W) × 290 centimetres (H). This grave, located north-southwardly on the surface of a cliff with a height of 35 centimetres, was made of one row of large- or medium-size rocks. In some parts, there were two rows of stones. Due to the rocky nature of the site and the great slope here, this grave had been terribly damaged. The few remains of the bones, face skeleton, and skull were fractured, fragile, and rotten. This case had been buried in embryonic form and in an eastern-western direction (Fig 14).



Fig. 14: *The Skeletal Remains Found in Grave No. 25 in Cham Papi Cemetery*

The burial gifts such as pottery vessels (Fig 15) are comparable with similar types of pottery having been discovered in Tepe Guran and Godin Tepe in a time span between 1800-1600 B.C. (Alizādeh, 2016: 41-42).



Fig. 15: *Ceramic Pot Found in Grave No. 24 in Cham Papi Cemetery*

Grave No. 40

This rectangular grave in the western part of the cemetery emerged after the water level dropped. With the mess inside the grave, it seemed to have been plundered by unauthorized excavators and profiteers. The dimensions of this grave were 130 centimetres (L) × 68 centimetres (W) × 130 centimetres (H), and it had been built on a surface with a height of 248 centimetres. Due to the rocky nature of the site, the walls had made of rocks from the area and the river. The body had been buried in a supine position (Fig 16).

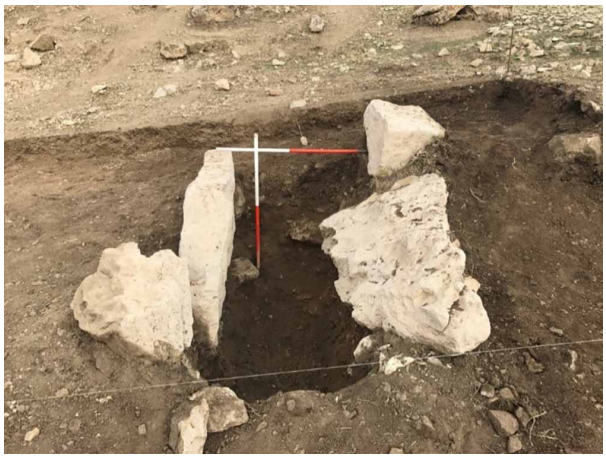


Fig. 16: *The Skeletal Remains Found in Grave No. 40 in Cham Papi Cemetery*

Discussion

Because of its proper environmental conditions, the Kaferi Strait has been home to human beings since prehistoric times (Niakan, 2017). Cham Papi cemetery, with its burial rituals and excavated objects, shows areas of historical importance; and we can call it a beginning for urbanization times (Niakan, 2017). In the archaeological excavations of this cemetery in 2016, five skeletons were identified and examined. The dead bodies, dating back to the early first millennium B.C., had been buried in supine, sitting, or squatting positions in Cham Papi Cemetery. Most of the graves and skeletons were not in good conditions; also, their skulls had been damaged seriously times (Niakan, 2017). Therefore, the task of determining the gender and age of the buried people, where the skeletons were almost intact, was performed using pelvic, skull and tooth indexes. In cases where access to organ remains was not possible, only the teeth were examined.

Among the graves investigated in this study, grave No. 6 was the most intact. Since many of the graves had been messed due to environmental conditions and/or unauthorized excavations, the

criterion for identifying each person was their teeth and bone remnants. In terms of age, according to the performed experiments, the two skeletons whose ages were identifiable belonged to two young women. These two women's ages were estimated to be 18-20 and 15-17 years respectively. Also, some small bones were identified. They belonged to a child who had been buried in a secondary grave. Gender determination was done using teeth and the amount of tooth rubbing. Based on the ancient findings, Cham Papi used to be a large settlement. The existence of this great cemetery during the Bronze Age and the Iron Age and the types of graves and cultural findings suggest that Cham Papi has been a more complicated society in comparison with the adjacent areas socially and economically.

Conclusion

The cultural representations resulting from the effects and appropriateness of the location and conditions of the Seymareh River catchment area have emerged in the form of human settlements in this area since the pre-historic period. The Kaferi Strait is one of the most archeologically appropriate parts of this area in terms of environmental and strategic conditions as well as the archaeological remnants dating back to the proto-historic and historic periods. Amongst the most significant of such archaeological remnants are cemeteries with their cultural implications, which provide researchers—and particularly archaeologists—with an ample amount of knowledge on various aspects of ancient peoples' lives, including the ideological, social, and economic structures of their societies. One of the most important of such cemeteries is Cham Papi Cemetery, located in the middle of the Seymareh River catchment area in the Kaferi Strait. The said cemetery, having been discovered in the years 2014-2015 in the course of archaeological investigations, is estimated to have been in use by the ancient settler of this cultural area from the third millennium B.C. to the early first millennium B.C. The cultural materials and representations of this archaeological site and the results gained from the analysis of the pottery vessels and their relative dating indicated that the types of the pottery discovered form this cemetery were analogous with similar types of pottery discovered from Shush and Tal Bormi in Khuzestan as well as those found in in Tepe Guran, (Thrane, 2001) Dehloran, Godin Tepe (Henrickson, 1987: 33-117) Baba Jan (Goff, 1971: 131-152), and Bani Sormah in western Iran. Some of these pottery vessels have usually been discovered in burial settings in the Central Zagros. Another type of the pottery dates back to the second half of the proto Elamite period. The dispersion of this type of pottery in the southern mountainsides of the Zagros is indicative of the cultural influence of the proto Elamite period on this geographical area in the first half of the third millennium B.C. Therefore, the cultural interactions among Shush, Godin Tepe and the proto Elamite period civilization as well as the strategic geographical position of the area of excavations are indicative of the fact that there existed a highly important road connecting Mesopotamia and ancient Elamand that Kaferi Strait played a crucial role in providing access to the cultural realm of Lorestan through the bank of the Seymareh River. Accordingly, understanding the underlying motives for the ancient residents' communication, trading, and relocation activities with the purpose of establishing settlements and studying the Bronze-Age cemetery discovered along the said road can help shed light on a turning point in the history of habitats in this area.

Acknowledgement

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