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ИЗУЧЕНИЕ И АНАЛИЗ ЭНЕОЛИТА МУГАНСКОЙ РАВНИНЫ ПО АРХЕОЛОГИЧЕСКИМ ДАННЫМ ЯТАК-ТЕПЕСИ, СЕВЕРО-ЗАПАД ИРАНА

В формировании доисторических памятников в регионе Муган важную роль сыграли реки (в том числе Арас). Равнина Тие Муган не привлекала особого внимания с точки зрения археологии, поскольку обширные научные исследования были сосредоточены западнее, в бассейне оз. Урмия. Предметом нашего изучения является Ятак-Тепеси — доисторический памятник в г. Джерми (регион Муган). Основная цель статьи — обсудить гончарные традиции на этом памятнике и определить хронологическую последовательность освоения региона. В связи с дальнейшими детальными исследованиями культурных связей Мугана с другими территориями и для установления указанной хронологической последовательности необходимо решить два основных вопроса. Во-первых, датировать Ятак-Тепеси на основе — информации о культуре, включая гончарные традиции. Основная предложенная здесь гипотеза состоит в том, что его развитие происходило в период среднего и позднего энеолита, в интервале 4500–3700 / 3600 гг. до н.э. Второй вопрос касается территорий, с которыми население Ятак-Тепеси поддерживало культурные и торговые отношения, в частности других регионов северо-западного Ирана, особенно Карадага и бассейна оз. Урмия, а также Южного Кавказа.

Ключевые слова: Ятак-Тепеси, Муганская равнина, город Джерми, энеолит, Южный Азербайджан.

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STUDY AND ANALYSIS OF THE CHALCOLITHIC PERIOD OF MUGHAN PLAIN BASED ON ARCHAEOLOGICAL DATA YATAQ-TEPESI, NORTHWEST OF IRAN

The rivers, including Aras, in the Mughan region played an important role in the formation of the prehistoric sites. The Mughan Plain has not received particular attention in terms of the archaeological investigations, as the extensive scientific activities concentrated on the Lake Urmia basin. Yataq-Tepesi is a prehistoric site in the city of Germe (Mughan Region) that became the subject of the scientific research. The main aim of this paper is to discuss the pottery traditions at the site and to determine the chronological sequence of the studied region. In view of further detailed studies on the cultural relations of Mughan population with other territories, and to establish its chronological sequence, two main questions are posed: how do we date Yataq-Tepesi on the basis of cultural information, including pottery traditions? The main hypothesis suggested here is that the site development took place during the Middle Chalcolithic and Late Chalcolithic periods, somewhere between 4500 and 3700 / 3600 BC. The second question relates to the geographical regions that Yataq-Tepesi was in contact with through cultural relations and trade with other regions of northwestern Iran, especially with the region of Qaradagh and the Lake Urmia basin, as well as with the Southern Caucasus.

Keywords: Yataq-Tepesi, Mughan Plain, Germe City, Chalcolithic, South Azerbaijan.

Introduction

Due to its good conditions and specific location, South Azerbaijan has a complex sequence of archaeological sites ranging from early prehistoric to the Islamic periods. Given its proximity to cultural regions such as the Southern Caucasus, Anatolia, Zagros, Mesopotamia and the Central Plateau of Iran, the Mughan region has played an important place in the prehistoric studies of Iranian history. The lack of extensive excavations and investigations, as well as the lack of publishing the existing ones have added to the complexities of the cultural explanation and interpretation, and hindered the update of the chronological sequence of northwestern Iran. Archaeological research in northwestern Iran is based solely on the research and chronology of the Urmia Lake basin, but this should not be generalized to the whole of northwestern Iran, based only on environmental and geographical grounds.

The Mughan plain is located in the northwest of Iran, west of the Caspian Sea and the north of Ardabil province (northeast of South Azerbaijan) and differs from other parts of South Azerbaijan in terms of geographical features [Alizadeh, 2009]. It formed during the last Ice Age — when the Caspian Sea expanded to the southwest — due to river / lake sediments. The area of Mughan plain is estimated 300,000 to 350,000 hectares and is the lowest point of South Azerbaijan [Hoveida, 1971]. Most of the Mughan plain is located in the Republic of Azerbaijan and ca. one third in Iran. The plain is part of the lowland and flat regions of the western basin of the Caspian Sea [Khamachi, 1991]. Today, Mughan and its surrounding regions are considered a suitable place for agriculture and animal husbandry of the Shahsevan's tribes. One of the main objectives of the present study is to introduce and analyze the cultural data of this region, and the cultural interactions with the neighboring areas during prehistoric times. For this purpose, the study of pottery, as well as other data related to Yataq-Tepesi's Chalcolithic Period represent the foundation of this research, aiming to clarify the pre-historic information of this cultural area by comparing the existing sets of cultural data (from previous excavations). Leading research questions are as follows: 1 — What phases

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of the Chalcolithic Period are indicated by the available cultural data? 2 — Based on the cultural data, how is the Chalcolithic Period of the Mughan region connected with other areas?

Research methodology

The method of the present study is based on the descriptive-analytical studies of the cultural data from previous publications and field research at Yataq-Tepesi. The relative chronology of the Mughan region is discussed and fitted within the sequence of prehistoric chronology of the plateau of South Azerbaijan.

Review of the Archaeological Activities of the Chalcolithic Period in South Azerbaijan (Northwest Iran)

The first person who provided information about the ancient sites of the Mughan Plain was William Monteith, a Western tourist visiting this plain in the early nineteenth century [Monteith, 1833]. The basis of prehistorical studies of the South Azerbaijan region was outlined by the research of the sites of Lake Urmia basin. Most of the earlier excavations and studies in this region were undertaken by Western archaeologists. Recently, following the Islamic Revolution, and mainly in the last decade, Iranian archaeologists have also conducted studies.

In 1902–1903, Jacques de Morgan, a Frenchman, entered South Azerbaijan from the north (Guilan) and undertook archaeological investigations in the area around Lake Urmia [Vanden berghe, 2000]. Archaeological excavations in West Azerbaijan province (Lake Urmia basin) began with the excavations at Goy Tepe 2 under the supervision of Berton Brown [Brown, 1951]. Stevens Coon excavated the caves of Urmia basin in 1949. Hasanlu's research team excavated in areas such as Hasanlu Tepe [Dyson, 1956], Hajji Firuz [Voigt, 1983], Dalma Tepe [Hamlin, 1975], Pisdely Tepe [Dyson & Young, 1960], Tepe Dinkhah [Muscarella, 1968a, 1974], Aqrab Tepe [Muscarella, 1973], Segardan Tepe [Muscarella, 1969, 2003], Qalat Gah [Muscarella, 1968b], while Kramer and Lippert carried out excavations at Kordlar Tepe [Lippert, 1979]. Kearton also conducted a comprehensive survey of the Salmas plain [Kearton, 1970]. In addition to the above-mentioned projects in South Azerbaijan, the investigations of Charles Burney at Yaniq Tepe [Burney, 1962, 1964], Berton Brown's at Goy Tepe [Brown, 1951], Burney's excavations at Haftvan Tepe [Burney, 1970] and the German team's excavation [Kleiss, Kroll, 1992] around Lake Urmia should also be mentioned.

After the Islamic Revolution, Dr. Talai excavated at Ahranjan Tepe and Kul Tepe in Marand [Kroll, 1990] in western Azerbaijan Province. There is also the methodological study of Tepe Baruj (Baruj Tepe) in the Mughan Plain [Alizadeh, Azarnoosh, 2002; Alizadeh, Azarnoosh, 2003], excavation of Nader Tepesi in Aslan Duz [Alizadeh, 2004], Idir Tepe in Aslan Duz [Hesari, Akbari, 2005; Hesari, 2019], Yataq-Tepesi in Germe [Mohammadi, 2018], the excavation of Owltan Qalasi and study of this region by Alizadeh for one season [Alizadeh, Ur, 2007; Alizadeh, 2009], the excavation of Odolo village cemetery in the Bileh Savar County [Ebrahimi 2018], the investigations of Saifullah Kambakhsh Fard at Germe in the Mughan region [Kambakhsh Fard, 1967], the study and presentation of all the works related to the northern part of the Ardabil province by the German mission [Kleiss 1969], the archaeological study of Germe region in the late 60s and early 70s by Houshang Sabouti [Hesari Ali Yari, 2012], the excavation of Qosha Tepe at Meshgin Shahr [Hejabri Nobari, Pourfaraj, 2006], the archaeological studies of Bostan Abad (Oujan) [Velayati, 2006, 2013; Naseri Someh, 2014], the studies of Behrooz Omrani east of the Urmia Lake [Omrani, 1993], Akbar Abedi's excavation at Kol Tepe of Jolfa [Abedi et al., 2014] and Daveh Goz in Khoy [Abedi, 2017], Maziar's excavation in Kohne Pasgah Tepesi in the Khoda Afarin County [Maziar, 2010], Ali Binandeh's excavation at Lavin Tepe [Hejabri Nobari et al., 2012], Heidarian's studies at Meshgin Shahr [Heidarian, 2017], Chaichi Amirkhiz's sondage at Shir Amin Tepe of Azarshahr and Degirman Tepe in Bostan Abad [Chaichi Amirkhiz, 2008], and Salmanpour and Abtahi Foroushani's studies for Hurand in the Qaradagh region [Salmanpour, Abtahi Foroushani, 2013]. In the 1960s, two ancient sites were identified and presented by Kordvani and Hakemi in the Mughan region, the most prominent of which was Owltan Qalasi Castle [Hesari, Ali Yari, 2012].

Geographical location

The Mughan Plain is located in the northernmost point of the Ardabil Province (South Azerbaijan), west of the Caspian Sea. The ca. 300,000–350,000 square kilometers are part of the Iran (one-third) and Republic of Azerbaijan (the remaining two-thirds). The latter territory is known as Dasht-e-Mil. Barzand Qalasi, the locality nearest Yataq-Tepesi lies along the historical road "Caucasus Yuli" in the Barzand village of the Anguti District of Germe County in Moghan city. This citadel is located in the middle of the Barzand Darahsi Valley, on the west coast of the Caspian Sea, 39°0'14,98" north latitude

and 47°54'58,97" east longitude. The pottery is scattered over an area of 10×4 km, is 10 km long and 4 km wide, about 40 square kilometers, and Yataq-Tepesi is also located in this area (Fig. 1).

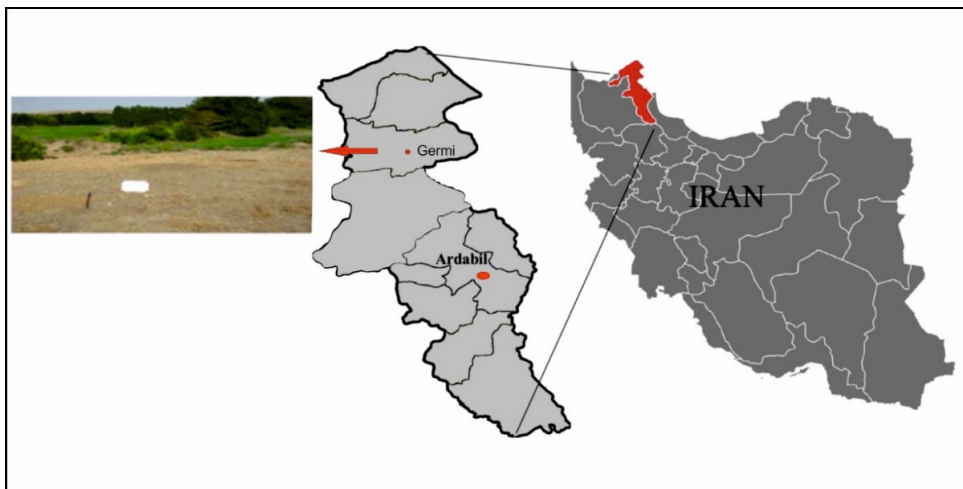


Fig. 1. Geographical location of Yataq-Tepesi.
Рис. 1. Географическое положение Ятак-Тепеси.

Barzand Qalasi trenches and G trench

Archaeological soundings were carried out at Barzand Qalasi with the aim of determining the area of the central citadel and its surroundings. Eleven test trenches were excavated along the wall of the Barzand Qalasi citadel named H, G, F, E, D, C, B1, B, A2, A1, and A. Except for those in trench G, all the archeological materials were dated to the Islamic period. Trench G, located on a mound known as Yataq-Tepesi (also known as Davood Tepesi and Sari-Tepe) lies less than 3 meters from the citadel wall and 150 meters from Barzan chai river. The mound has a diameter of ca. 30 m, height of 20 m and a stratigraphic sequence of ca. 4 m. The archaeological excavations identified 13 Locus with a total thickness of 365 cm. Two cultural periods were represented. Based on the elements of the material culture (pottery, flint, obsidian tools, quern-stones, mortar and pestles, etc.) the second period present in trench G was assigned to the Middle Chalcolithic (LC1) and the Late Chalcolithic (LC2–3) [Mohammadi, 2018]. The first period belongs to the Islamic age.

Chronology and material culture of Yataq-Tepesi

Period I

Layers 101 to 107 belong to the Islamic period. From this period, a human skull was identified in the northeastern corner of the trench while the rest of the skeleton was located outside the trench. Skull features indicated the deceased was most likely a woman with of 40 to 50 years of age. The burial was found at a depth of one meter. It seems that the inhabitants of Barzand Castle used this mound as a cemetery during the Islamic period [Mohammadi, 2018].

Cultural period II

Layers 108 to 113 of trench G belong to the Middle Chalcolithic and the Late Chalcolithic periods. Archaeological materials include pottery (most important for establishing the relative chronology), obsidian and flint tools and flakes, faunal remains (goats and sheep), sometimes burnt. Due to the presence of large and small hoofs between the bones, it seems that these findings belong to animals of different ages. One “flower figurine” on a cattle bone is similar to those from Kohne Pasgah Tepesi and Lavin Tepe. Due to the lack of identification of any architectural data, the presence of tools such as quern-stones, mortar and pestles etc. were seen as indicators of residential areas. This, together with the presence of inprints of straws in all excavated layers and the virgin soil, suggests that the occupation had a seasonal-pastoral character [Mohammadi, 2018]. However, in order to prove this hypothesis and obtain additional and comprehensive information about the Chalcolithic communities of northwestern Iran, the northern part of Ardabil Province especially, more extensive research is needed.

Middle Chalcolithic (LC1) and Late Chalcolithic (LC2–3) pottery

According to preliminary studies, no data related to the Ancient Chalcolithic period (Dalma culture) came from Yataq-Tepesi. Initial information related to the Dalma cultural period of the Moghan region comes from layers 12 to 9 of Idir Tepe of Aslan Duz in Mughan City. The pottery yielded by this latter site

has a medium and rough paste, chaff tempering, and the pottery is handmade, bright red or pink in colour [Hesari, 2019, p. 27]. Varieties of Dalma-like pottery came from various locations in the area of Lake Urmia such as the regions of Haji Firooz, Pisdeli, Hasanlu, Dinkhah Tepe, Yaniq Tepe, Sivan [Sharifi, 2020], Kol Tepe of Jolfa [Abedi, 2017], Cuglieri of Zanjan [Alibeigi et al., 2014] etc. Considering that Dalma Tepe is a multi-layered site, it can be used as a basis for relative and absolute dating [Hamlin, 1975, p. 111].

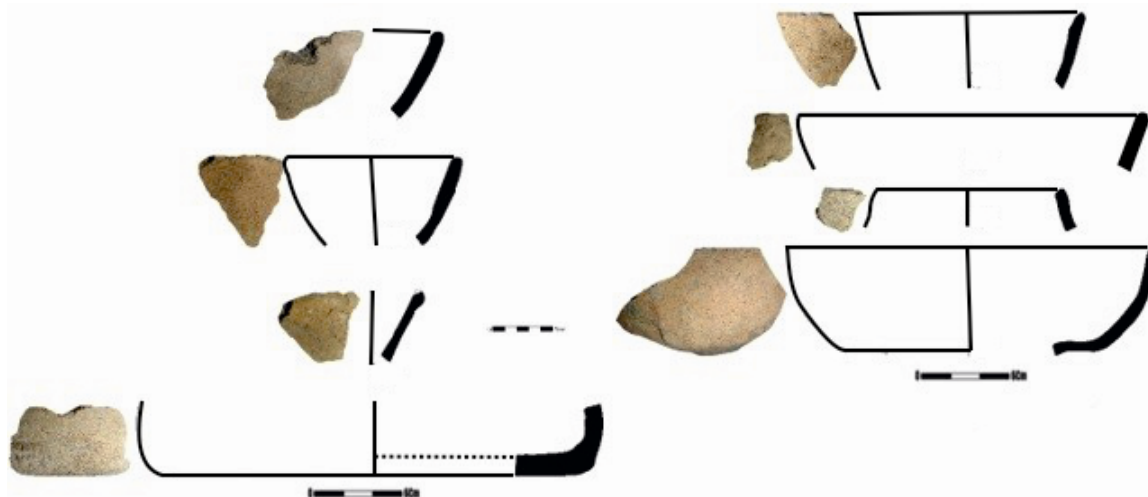


Fig. 2. Pottery of the Middle Chalcolithic from Yataq-Tepesi.
Рис. 2. Керамика среднего энеолита из Ятак-Тепеси.

Pottery from the Middle Chalcolithic period of Yataq-Tepesi

Table 1

Таблица 1

Керамика периода среднего энеолита Ятак-Тепеси

Id.	Feature	Sample	Paste	Temper	Firing	Colour in fresh break	Outer colour	Inner colour	Parts represented	Surface treatment	Analogue (references)
1	104/13	Fig. 4	Medium	Fine mineral material	Good	Beige	Beige	Beige	Rim		Abedi, 2017
2	104/15	Fig. 4	Medium	Organic material and fine mineral	Good	Beige	Beige	Beige	Rim and body		Abedi, 2017
3	108/31	Fig. 4	Medium	Organic material and fine mineral	Poor	Gray	Bright brown	Dark brown	Rim		Abedi et al., 2014
4	108/32	Fig. 4	Medium	Organic material and mineral	Poor	Beige	Dark brown	Dark brown	Rim	Polished	Bakhtiari et al., 2018
5	108/33	Fig. 4	Coarse	Organic material and fine mineral	Poor	Beige	Beige	Beige	Rim	Polished	Abedi et al., 2014
6	108/34	Fig. 4	Coarse	Organic material and mineral	poor	Gray	Bright brown	Bright brown	Rim and body		Abedi et al., 2014
7	108/35	Fig. 4	Coarse	Organic material and mineral	Poor	Gray	Gray	Beige	Base		Bakhtiari et al., 2018
8	110/34	Fig. 5	Medium	Fine mineral	Poor	Bright beige	Bright beige	Bright beige	Rim	Polished	Maziar, 2010
9	110/35	Fig. 5	Medium	Fine mineral	Poor	Beige and gray	Bright beige	Beige	Rim and body		Heidarian, 2017
10	111/7	Fig. 5	Coarse	Mineral / fine sand	Poor	Bright gray	Bright beige	Bright brown	Rim	Polished	Abedi et al., 2014
11	111/8	Fig. 5	Coarse	Fine and plant sand	Poor	Gray	Bright brown	Bright beige	Rim	Polished	Abedi et al., 2014

The archaeological assemblages from layers 108 to 113 Yataq-Tepesi indicate changes were taken place. The pottery has a rough and medium fine paste, and the temper consists of chaff chopped both fine and coarse, and mineral intrusions. The fresh break is gray, bright gray, bright beige, brick, and dark red. The clay slip is also gray, bright beige, bright brown, dark and brick. All the pottery is handmade and the surface of the pottery is usually smooth and polished, completely in most pieces. In some cases, the polishing of the pottery is so well done that the surface of the pottery cracked after firing in the oven. Firing was both sufficient and incomplete, indicating the temperature in the oven was not controlled by potter. The walls of the vessels vary in thickness from eight millimeters to two centimeters. Among the samples, there is a small cup, similar to shapes from Idir of Tepe in Mughan [Hesari, 2019]. The pottery shapes are varied, shallow bowl, deep and large bowls, storage containers and large cauldrons, and cups/drinking bowls. No painted pottery was found (Fig. 2–8, Table 1, 2). From the upper layer, the fragment of pot base with a diameter of 31 cm is unique in its kind (Fig. 6).



Fig. 3. Pottery of the Late Chalcolithic from Yataq-Tepesi.
Рис. 3. Керамика позднего энеолита из Ятак-Тепеси.



Fig. 4. Figures to Table 1. From left to right.
Рис. 4. Рисунки к таблице 1. Слева направо.



Fig. 5. Figures to Table 1. From left to right.
Рис. 5. Рисунки к таблице 1. Слева направо.

Pottery from the Middle Chalcolithic Yataq-Tepesi

Керамика Ятак-Тепеси среднего энеолита

Id.	Feature	Sample	Paste	Temper	Firing	Colour in fresh break	Outer colour	Inner colour	Parts represented	Surface treatment	Analogue (references)
1	103/40	Fig. 7	Coarse	Mineral and organic	Poor	Gray	Beige	Beige	Rim		Bakhtiari et al., 2018, p. 34
2	103/41	Fig. 7	Coarse	Mineral and organic	Poor	Gray	Bright brown	Bright brown	Rim	Polished	Bakhtiari et al., 2018, p. 34
3	103/44	Fig. 7	Coarse	Mineral and organic	Poor	Gray	Brown	Brown	Rim	Polished	Abedi et al., 2014, p. 127
4	103/45	Fig. 7	Medium	Fine mineral	Good	Beige	Bright brown	Bright brown	Rim	Polished	Hejabri Nobari et al., 2012, p. 114
5	103/46	Fig. 7	Coarse	Coarse mineral and organic	Good	Dark beige	Beige	Beige	Rim	Polished	Abedi et al., 2014, p. 127
6	103/48	Fig. 7	Medium	Fine mineral	Good	Brick	Brick	Brick	Rim and body		Abedi, 2017, p. 76
7	103/51	Fig. 7	Coarse	Mineral and organic	Poor	Gray	Dark brown	Brown	Base	Polished	Abedi et al., 2014, p. 129
8	104/16	Fig. 8	Medium	Fine mineral	Good	Beige	Bright brown	Bright brown	Rim	Polished	Abedi et al., 2014, p. 120
9	104/17	Fig. 8	Coarse	Mineral and organic	Good	Beige	Dark brown	Dark brown	Rim	Polished	Abedi, 2017, p. 76
10	104/7	Fig. 8	Coarse	Coarse mineral and organic	Poor	Bright gray	Bright beige	Bright beige	Rim		Abedi et al., 2014, p. 123
11	109/13	Fig. 8	Coarse	Mineral and organic	Poor	Gray	Bright gray	gray	Rim	Polished	Abedi, 2017, p. 76
12	109/15	Fig. 8	Coarse	Mineral and organic	Poor	Gray	Gray	Beige	Rim	Polished	Bakhtiari et al., 2018, p. 34
13	112/4	Fig. 8	Coarse	Coarse mineral and organic	Poor	Gray	Gray	Dark brown	Rim	Polished	Abedi, 2017, p. 76
14	112/5	Fig. 8	Medium	Fine mineral and organic	Poor	Gray	Beige	Beige	Rim		Bakhtiari et al., 2018, p. 34
15	112/6	Fig. 8	Medium	Fine mineral	Good	Gray	Bright brown	Dark brown	Base		Abedi, 2017, p. 76



Fig. 6. Pot base from Yataq-Tepesi
Рис. 6. Сосуд (придонная часть) из Ятак-Тепеси.

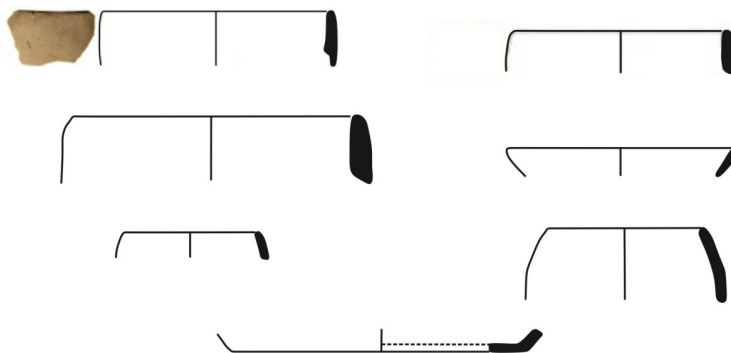


Fig. 7. Figures to Table 2. From left to right.
Рис. 7. Рисунки к таблице 2. Слева направо.

Most vessels are open-mouthed, and possibly were used to store dry materials and items. It shows that people living in Yataq-Tepesi probably relied on agricultural products during the Chalcolithic Period. Therefore, the high percentage of open-mouthed vessels in this period indicate a diet based on agricultural products. The presence of stone tools such as mortars and pestles (Fig. 9) may be related to agricultural activities, also suggested by the presence of livestock bones, their hooves, and the cow figurine. Although the scope of the excavation is very limited, it seems that Yataq-Tepesi is a long-term residential site and extensive excavation at this site will probably prove this in the future.

At Yataq-Tepesi, there was no occupation dated to the Ancient Chalcolithic Period (Dalma culture). The cultural remains of the site belong to the Middle Chalcolithic (LC1) and Late Chalcolithic (LC2–3). These periods (Middle and Late Chalcolithic) have been introduced as Hassanlu VIII in northwestern Iran. At the middle of the fifth millennium BC, the Pisdeli / Pisdihli culture replaced the Dalma culture represented at sites as Pisdeli Tepe, Hasanlu, Haji Firooz Tepe, Gijler Tepe, Goy Tepe

M and N, Yanıq Tepe etc. [Voigt, Dyson, 1992]. Recent dating of Kol Tepe of Jolfa (layers VII, VIB, VIA) [Abedi, 2014], and Daveh Goz in Khoys (layers III and IV) [Abedi, 2017] and also dates obtained through of the Hasanlu VIII project [Danti et al., 2004] provides a clear chronology for the Middle Chalcolithic / Pisdeli / LC 1 and Late Chalcolithic 2–3 / LC 2–3 periods / chaff-faced pottery. ¹⁴C dates from the two sites of Daveh Goz III and Kol Tepe VII. These two periods range from 4500/4200 to 4200–3700/3600 BC [Abedi et al., 2014; Abedi, 2017]. Pottery such as that of Yataq-Tepesi has been obtained from Kol Tepe of Jolfa from layers VII, VIB and VIA [Abedi et al., 2014] and Daveh Goz [Abedi, 2017]. Pottery of the Middle Chalcolithic type and pottery of layer M of Goy Tepe — which is beige-colored with chaff temper and thick red slip came from Meshgin Shahr (central Meshgin-around Ahmad Biglu dam) from sites 5 and 8 [Heidarian, 2017]. Analogues to this pottery [Yataq-Tepesi pottery] originates in the excavations of Horand in Qaradagh region [Salmanpour, Abtahi Foroushani, 2013; Bakhtiari et al., 2018]. In terms of firing, range of colors, the pottery of both cultural periods is handmade and without motif, and some of them are polished. Also, Dalma and Pisdeli period pottery (floor II), the structure of brick architecture [Hejabri Nobari et al., 2012], and 6077–6075 loci of Phase I of the Kohne Pasgah Tepesi, bell-shaped pits, 1–2 meters in diameter with a depth of 60 to 100 cm with the contents of sediment accumulation, pottery pieces, bone, and ash from Lavintepesi [Maziar, 2010]. From Abharchai basin east of Zanjan from sites such as Khorasanlu and Chakhmaqliq [Khosravi et al., 2012], layers M and N of Goy Tepe [Brown, 1951] and Baruj Tepe / Bari Qalasi of Marand [Alizadeh, Azarnoosh, 2002; Alizadeh, Azarnoosh, 2003] have been obtained.



Fig. 8. Figures to Table 2. From left to right.
Рис. 8. Рисунки к таблице 2. Слева направо.

In addition to northwestern Iran and the Caucasus region, chaff-faced pottery has scattered from Mesopotamia to northern Syria, and the title “*chaff-faced pottery*” was first given to this type of pottery by Braidwood during the excavation of Tal Amoq. Chaff-faced pottery includes a variety of bowls (simple, deep, shallow and round mouths), necked jars, small glasses / drinking bowls, and so on. Some chaff-faced pottery is known as *Coba bowls*, and samples of them have been obtained from Yataq-Tepesi [Marro, 2008]. Like pottery of Yataq-Tepesi, this type of pottery derived from Leila-Tepesi of the North Azerbaijan. Interestingly, most of the Leila-Tepesi pottery have pottery signs [Museibli, 2016] and similar ones have been obtained from Daveh Goz in Khoys [Abedi, 2017]. Teapot / pot-like pottery and vats have been obtained with fine-grained temper with broken obsidian, and kitchen pottery from Mentash Tepe [Lyonnet et al., 2012]. Vats are probably placed in the Bronze Age of construction model of copper cauldron. Handmade Soyuk Bulaq pottery, with chaff tempering [Lyonnet et al., 2008], Buyuk Kasik [Museibli, 2014], Qalayeri [Museibli, 2019], Sadarak of Nakhchivan [Bakhshaliye, Seyidov, 2013], Gode Dezor [Avetisyan et al., 2006], and Aratashen [Palumbi, 2007], Aknalich Kurgans of Armenia [Muradyan, 2014] which, like these types of pottery, have been obtained from Chelpan Tepe, Ash Tepe, Hanaqo, Sarigul and Ilan Dash / Yilan Tash of Eastern Anatolian stones. The Late Chalcolithic periods 2–3 is known in Georgian archeology as the Sioni culture. It took its name from the Sioni site,

from which data such as pottery and obsidian stones have been studied. Also, evidence have been obtained from the Sioni culture with the help of Tepesi, Leila Tepesi, Ilanli Tepe, Mantash Tepe and Ochular Tepesi [Sagona, 2008]. The interesting thing about the shape of the bowls is the period of Late Chalcolithic and the continuation of this type of form in the Kora-Aras I period, like them, has been obtained and studied from Uzun Rama Cemetery [Jalilov, 2018].



Fig. 9. Mortar and pestle from Yataq-Tepesi.
Рис. 9. Ступка и пестик из Ятак-Тепеси.

The temper used in each period contained minerals or organic matter or a combination of both. Pottery of Late Chalcolithic 2–3 (LC2–3) Period a gray pottery with added motif, pithoi, grooved pottery, and pottery known as chaff-faced. Of course, most of the pottery obtained from Yataq-Tepesi is based on comparative studies related to pithoi and chaff-faced pottery and they are simple without any exception and motif and most of them are polished and according to preliminary studies, it can be said that Yataq-Tepesi belongs to the Middle Chalcolithic (LC1) and Late Chalcolithic (LC2–3) periods. The dating of Kol Tepe of Jolfa and Daveh Goz in Khoy clarified the ambiguity of the chronological interval between Pizdeli (Hasanlu VIII) and Yaniq (Hasanlu VII) in the chronological table presented in the eighties and nineties decade [Henrickson, 1983; Voigt, Dyson, 1992]. It was divided into the following periods: Dalma / Kol Tepe VIII / Daveh Goz II, Pizdeli / LC 1 / Kol Tepe VII / Daveh Goz III, Late Chalcolithic 2–3 / LC2–3 / Kol Tepe VIB and VIA / Daveh Goz III (Table 3).

Table 3

The chronological sequence of northwestern Iran and the Mughan region

Таблица 3

Хронологическая последовательность освоения северо-западного Ирана и региона Муган

Chronology/ Date	The old sequence of Kohne Pasgah Tepesi	Moghan region / North of Ardabil province		Sequence of Daveh Goz	Sequence of Kol Tepe of Jolfa	Northwest of Iran	Sequence of Hasanlu
		Sequence of Qush Tepe	Sequence of Idir Tepe				
3000–2500 BC	Phase 3	—	—	—	Kol Tepe IV	Kora Aras II	Hasanlu VI
3400–3000 BC	Phase 2	—	—	—	Kol Tepe V	Kore Aras II	—
3900–3800 3700–3600 BC	Phase 1	Period 2A	Idir Tepe II	—	Kol Tepe VIA	Late Chalcolithic 3 LC3	—
4200– 3900/3800 BC	—		Idir Tepe III	Daveh Goz IV	Kol Tepe VIB	Late Chalcolithic 2 LC2	—
4500–4200 BC	—		Idir Tepe IV	Daveh Goz III	Kol Tepe VII	Late Chalcolithic 1 LC1	Hasanlu VIII
5000–4500 BC	—	Period 2B	Idir Tepe V	Daveh Goz II	Kol Tepe VIII	Dalma	Hasanlu IX
5400–5000 BC	—	Period 2C	Idir Tepe VI	Daveh Goz I	Kol Tepe IX	Late Neolithic / Transi- tion Chalcolithic	Hasanlu X

One of the most important data of Yataq-Tepesi is the finding of earthen figurine of a cow, samples of which obtained from trench I of Kol Tepe of Jolfa. It mostly includes a cow body [Abedi, 2016].





Broken animal figurine was obtained from Kohne Pasgah [Maziar, 2010]. An animal figurine belong to a cow was obtained from surface survey [Hejabri Nobari et al., 2012]. Earthen figurine of three groups of animals, human and supernatural, were obtained from the ashes of Qishlaq Tepe [Sharifi, 2020] (Table 4). Yataq-Tepesi figurines, like leila Tepesi figurines have been studied by archaeologists [Museibli, 2016].

Table 4

Figurines from Yataq-Tepesi and the adjacent areas

Таблица 4

Фигурки из Ятак-Тепеси и с прилегающих территорий

Yataq-Tepesi figurine	Kohne Pasgah Tepesi	Lavin Tepe	Qishlaq Tepe	Kol Tepe
 <p>[Mohammadi, 2017]</p>	 <p>[Maziar 2010]</p>	 <p>[Hejabri Nobari et al., 2012]</p>	 <p>[Sharifi, 2020]</p>	<p>—</p>

In addition to the figurines, bone tools have also been obtained from Yataq-Tepesi (Fig. 10). Similar to them has been also obtained from Kol Tepe of Jolfa [Abedi et al., 2014], Lavin Tepe [Hejabri Nobari et al., 2012] and etc. In the South Caucasus area, the skeletal tools of Leila Tepesi including stitching awl, needles, spindle tools, plate gad and pins [Museibli, 2016], Mantesh Tepe [Lyonnet, Guliyev, 2012], Arne Cave [Stapleton et al., 2014] have also been studied. Another cultural findings of Yataq-Tepesi is stone tools made of flint and obsidian, which were obtained in different sizes. This shows us the trade and connection with remote regions and communities. In addition to Yataq-Tepesi, stone tools include 286 pieces of stone artifacts, including blades, micro-blades, parent rock, trench, bayonets, retouched tools, and waste from Idir Tepe of Mughan from flint, obsidian and chert [Hesari and Akbari, 2005]. Kol Tepe [Abedi et al., 2014; Khademi Nadooshan et al., 2013; Khazaei et al., 2011; Abedi et al., 2018], Daveh Goz of Khoy [Abedi, 2017] has been obtained from the land surface studies of Lavin Tepe [Hejabri Nobari et al., 2012] and Badam Yar Tepe [Abedi et al., 2019]. Obsidian stomes, in addition to the Chalcolithic stones of northwestern Iran (South Azerbaijan), has been obtained from the sites of South Caucasus such as Leila Tepe [Museibli, 2016], Kurgans of Suyuq Bulaq caves and Qalayeri site [Museibli, 2019], Poylu II [Museibli, 2019], Hawak's stone shelter, Yenokavan I Cave, Barepat I Cave [Makoto, 2014], and can also be referred to the Akenalich Kurgans of Armenia [Makoto, 2014] (Table 5).



Fig. 10. Bone tools from Yataq-Tepesi.
Рис. 10. Костяные орудия из Ятак-Тепеси.

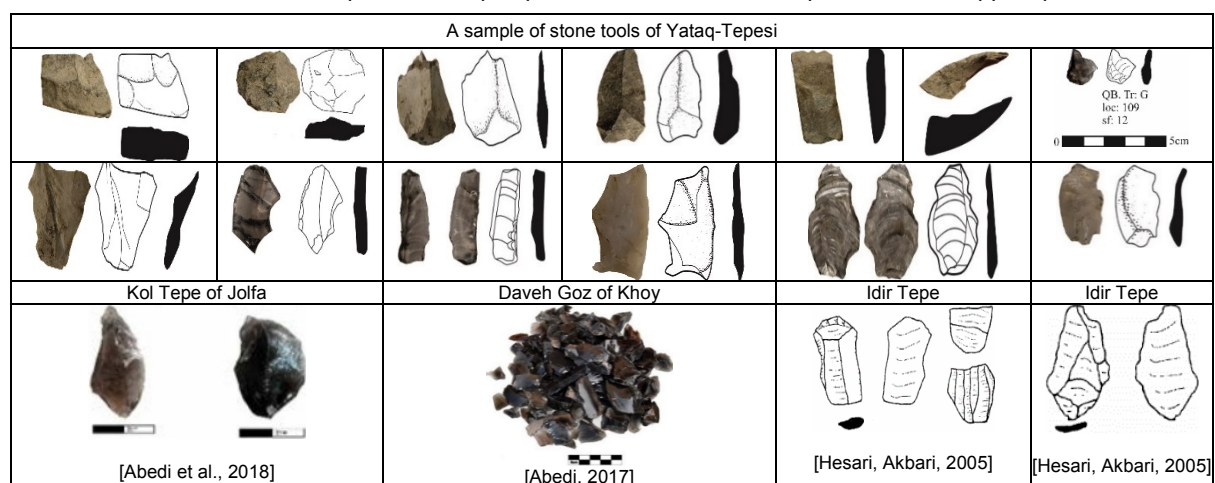
Obsidian quarry/quarries used in the Mughan region has not been mentioned so far, but according to studies, the most important and well-known obsidian quarries in the Middle East are located in Anatolia and the Caucasus. The quarries of the Caucasus, which are geographically closer to the Mughan region, has often formed in the mountainous region stretching from the northwest to the southeast of Lake Sevan in Armenia and the North Azerbaijan, such as the Kalbajar quarries. But separate mines have also been identified in Georgia and the North Caucasus along the Baksan River. Caucasus quarries are divided into 14 different chemical groups, most of which are calc-alkaline [Abedi, 2015]. The recent studies of Niknami and Chaichi in 2005 and 2006 were carried out in connection with obsidian studies in northwestern Iran. Based on the analysis of 60 obsidian samples aimed at identifying domestic and native obsidian quarries, four native obsidian quarries include: 1 — Qunakh Qiran in Bozqush mountains in Nir city of Ardabil province, 2 — Shirin Bolagh in Bozqush mountains, 3 — Leilan quarry in Malekan city and 4 — Meshgin Shahr quarry.

Table 5

Obsidian and flint artefacts from Yataq-Tepesi and the adjacent areas

Таблица 5

Обсидиановые и кремневые артефакты из Ятак-Тепеси и прилегающих территорий



According to the studies of Abedi et al., Obsidian quarries have also been identified from Tajaroq (Meyaneh County) and Qezelgeh of Bostanabad County [Abedi et al., 2019]. Studies show that in addition to long-term obsidian trade from the Neolithic period to the Bronze Age, local trade has also existed between the Chalcolithic and Bronze Age communities of northwestern Iran with a radius of 150–70 km [Abedi, 2015].

Conclusion

Due to its good conditions and specific location, Azerbaijan has a complex sequence of archaeological sites ranging from early prehistoric to the Islamic periods. Given its proximity to cultural regions such as the Southern Caucasus, Anatolia, Zagros, Mesopotamia and the Central Plateau of Iran, the Mughan region has played an important place in the prehistoric studies of Iranian history. Mughan Plain is located in the northernmost point of Ardabil province (South Azerbaijan), and Barzand Qalasi is located in the historical road of “Caucasus Yuli” in Germi of Mughan city. Archaeological soundings were carried out at Barzand Qalasi with the aim of determining the area of the central citadel and its surroundings. Except for the cultural data in trench G, all the archeological materials were dated to the Islamic period. Based on archaeological materials, two cultural periods can be identified in this sounding. The second period is based on the cultural findings of the Middle Chalcolithic (LC1) and Late Chalcolithic (LC2–3). Due to the presence of large and small hoofs between the bones, clay figurine that probably belong to cow, tools such as Quern-stone, mortars and similar tools that are usually found in residential areas, as well as the presence of straw traces in all excavated layers and virgin soil, habitation in this hill can be introduced as seasonal-pastoral habitat. According to preliminary studies, no data have been obtained from Yataq-Tepesi related to ancient Chalcolithic period (Dalma culture), and the initial information related to the Dalma cultural period of Mughan region belongs to layers 12 to 9 of Idir Tepe of at Aslan Duz in Mughan city. All the pottery are handmade and the sur-

face of the pottery is usually smooth and polished and in most pieces, it is completely polished. Vessels can be found in a variety of forms, including shallow bowl, deep and large bowl, storage containers and large cauldrons, and glasses / drinking bowls. Among the pottery, no type of painted pottery was found. From the last locus, a piece of pottery was found that belongs to the bottom of the pot / vat, which has a diameter of 31 cm and is unique in its kind. Most vessels are open-mouthed. Open-mouthed vessels are more closely related to vessels that, according to anthropological evidence, were used to store dry materials and items. It shows that people living in Yataq-Tepesi probably relied on agricultural products during Chalcolithic. Therefore, a high percentage of open-mouthed vessels in this period is also related to the diet based on agricultural products. Also, the presence of stone tools such as mortar and pestle (Fig. 9) may be related to agricultural activities, although the presence of livestock bones, their hoof, and the cow figurine also probably confirms the involvement of livestock. The cultural remains of the region belong to the Middle Chalcolithic / Pisdeli / LC1 and Late Chalcolithic 2–3 / LC2–3 periods. These periods (Middle and Late Chalcolithic) has been introduced as a general name of Hassanlu VIII in northwestern Iran. Based on the samples of ¹⁴C from the two sites of Daveh Goz III and Kol Tepe VII [absolute chronology] and other prehistoric sites belonging to the same period, it has a history equal to 4500–4200 and 4200–3700/3600 BC.

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