UDC: 902.01

A typo-technological analysis of chipped stone assemblage from the Mesolithic site of Altappeh, Mazandaran, Iran (the archive of the National Museum of Iran)

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Abstract

This paper presents a typo-technological analysis of the lithic assemblage from the excavation of Mesolithic site of Altappeh (southeast of the Caspian Sea). The site was excavated by C. McBurney and the archaeological materials from the excavation were divided between the University of Cambridge and the National Museum of Iran. This research is based on the chipped stones stored in the National Museum of Iran. The assemblage, consisting mostly of flake tools including various scrapers and notch-denticulate tools, presents characteristics which reflect "Caspian Mesolithic" chipped stone industry, previously detected from cave sites of Kamarband, Hotu and Komishan in the same region. The Mesolithic chipped stone industry of the south and southeast of the Caspian Sea had been introduced as "Trialetian" during 1990s, but the recent research emphasizes the differences between chipped stone assemblages entitled "Trialetian" with "Caspian Mesolithic". These differences are mostly reflected in raw material procurement strategies and tool types which are not similar in the assemblages from southeast and west of the Caspian Sea.

Keywords

Paleolithic, Caspian Mesolithic, Altappeh, Chipped Stones.

Acknowledgements

I am thankful to: the organizers of the International Workshop on the Neolithic of the Caspian Sea Shores (T. Yanina, S. Shnaider, A.A. Vibornov and S. Alisher kyzy); the Director of the National Museum of Iran, J. Nokandeh and F. Biglari (Paleolithic Department of the National Museum of Iran); B. Moradi and O. Ghafouri (Pottery Department of the National Museum of Iran).

For citation

Jayez M. A typo-technological analysis of chipped stone assemblage from the Mesolithic site of Altappeh, Mazandaran, Iran (the archive of the National Museum of Iran) // Universum Humanitarium. 2021. № 2. P. 49–57

DOI 10.25205/2499-9997-2021-2-49-57

ISSN 2499-9997. Universum Humanitarium. 2021. № 2

Типо-технологический анализ коллекции каменных сколов из мезолитической стоянки Алтаппех, Мазандаран, Иран (архив Национального музея Ирана)

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Аннотация

В данной статье представлен типо-технологический анализ литического комплекса из раскопок мезолитической стоянки Алтаппех (к юго-востоку от Каспийского моря). Раскопки памятника проводились К. МакБерни, а археологические материалы были разделены между Кембриджским университетом и Национальным музеем Ирана. В данном исследовании анализируются каменные сколы, хранящихся в Национальном музее Ирана. Коллекция, состоящая в основном из чешуйчатых орудий, включая различные скребки и зазубренные инструменты, демонстрирует признаки, которые соответствуют «каспийской мезолитической» индустрии колотого камня, ранее обнаруженную в пещерах Камарбанд, Хоту и Комишан в том же регионе. Мезолитическая индустрия колотого камня на юге и юго-востоке Каспийского моря была введена в научный оборот как «триалетская» в 1990-х гг., но недавние исследования подчеркивают различия между скоплениями колотого камня, получившими название «триалетские» и «каспийские мезолитические». Эти различия в основном выражаются в стратегиях заготовки сырья и типах инструментов, которые не похожи в коллекциях с юго-востока и запада Каспийского моря.

Ключевые слова

Палеолит, Каспийский мезолит, Алтаппе, каменные сколы.

Introduction

The lithic industry of the Mesolithic in the southeast and east of the Caspian Sea has been introduced as "Caspian Mesolithic" [Jayez at al., 2016]. Four main Mesolithic sites of the region are Kamarband, Hotu, Altappeh and Komishan (Fig. 1) [Coon, 1951, 1952; McBurney, 1969; Nasab et al., 2020].

Kamarband and Hotu are among the first Paleolithic sites excavated in Iran in 1949 by Carleton S. Coon. Belt Cave or Kamarband was excavated in 1949 and 1951. Coon identified upper and lower Mesolithic phases in this cave [Coon, 1951, P. 37–41]. Hotu was excavated in 1951. This cave also had Mesolithic layers from which many chipped stones and three skeletons were discovered [Coon, 1952]. In the following decade, Altappeh

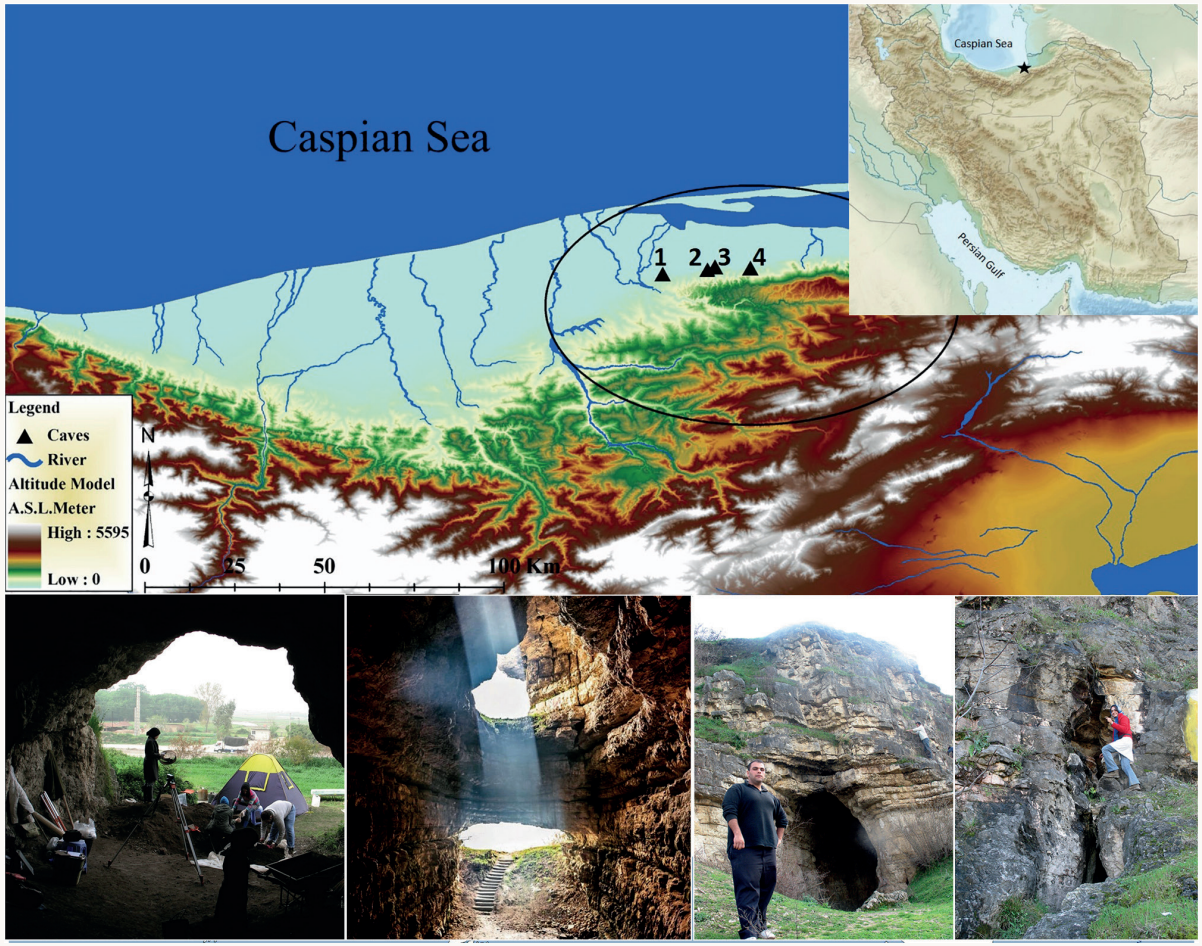

Fig. 1. Location of the Caspian Mesolithic caves in the southeastern part of the Caspian Sea and their close-ups from left to right. 1: Komishan, 2: Huto, 3: Kamarband (Belt), 4: Al Altappeh (map from Vahdati Nasab et al. 2020 with modifications)

was excavated by Charles McBurney from the University of Cambridge [McBurney, 1969]. The last Mesolithic site discovered in the region is Komishan which was excavated in 2000s, and as a result new Mesolithic material were collected [Nasab et al., 2020].

Before the excavations at Komishan, the lithic industry of the Mesolithic sites of the southeastern Caspian Sea was called "Trialetian". In 1990s Stefan K. Kozłowski defined this industry with specific characteristics and introduced the related archaeological sites [Kozłowski, 1999]. Nevertheless, the excavations at Komishan led to a reappraisal of "Trialetian" industry based on three different evidences: the chipped stone assemblages of the Trialetian sites; the history of the research on the industry; and the ecological characteristics of the related regions. As a result, it was suggested that the Mesolithic of the east-southeast of the Caspian Sea should be separated from Trialetian and presented as "Caspian Mesolithic" [Jayez at al., 2016]. The reappraisal of the Trialetian Mesolithic/Neolithic Industry was mainly based on the material from Komishan [Nasabe et al., 2020]. In this research, attempt has been made to incorporate another assemblage (Altappeh) into the discussion.

Material and Method

Altappeh was discovered in 1962 and excavated in 1963 and 1964 [McBurney 1969]. The site has been dated to Mesolithic with the relative archaeological material, mostly lithics. According to the laws of the time, the archaeological material from the excavations were divided between the University of Cambridge and National Museum of Iran. McBurney presented a brief introduction to the chipped stone assemblage in his report. The statistics he provided were mixed with other technological categories and the precise quantity of the lithics is not clear in his report [see McBurney, 1969, P. 406]. He introduced the assemblage from Altappeh as a Mesolithic assemblage with elements like notched flakes and blades, end scrapers, backed blades and geometrics, but no description on raw material procurement and technological aspects of the assemblage was presented and limited drawings were published [McBurney, 1969, P. 400–406]. In this research, a portion of the same assemblage (no=382), kept in the archive of the National Museum of Iran, is presented with more details. It is not clear what percentage of the total assemblage is this number.

All of the chipped stones are made of local flint or chert which is also used in Komishan and other prehistoric assemblages of the region. It is available in good quality and the color is mostly honey and cream. They come from a long thick outcrop less than two km east of the Mesolithic caves [Heydari, 2004].

The assemblage is too small to reflect the diachronic changes in the layers, and as the original assemblage has been divided, statistically it

Таблица 1

Technological and morphological categories
in the assemblage from Altappeh.

Technological category	Number	%
Cores and core fragments	**30**	**7.8**
Flake Cores	14	
Bladelet core	7	
Mixed cores	7	
Core fragment	2	
Debitage	**93**	**24.4**
Flake and fragments	54	
Blade and fragments	24	
Bladelet and fragments	15	
Tools	**255**	**66.8**
Notched and/or denticulated	91	
Retouched	72	
Scraper	57	
Multiple tool	27	
Burin	5	
Borer	3	
Debris	**4**	**1**
Total	**382**	**100**

could not be reliable. Consequently, this research mostly focuses on the technological aspects and tool types. Table 1 indicates clearly that a biased technological structure is observed and most of the pieces are tools.

Most of the cores are flake cores and mixed cores (Table 1), but seven bladelet cores exist (mostly prismatic), as well as some byproducts of bladelet production, like crested bladelets and core tablets (Fig. 2, *1*). Four of these cores present very regular scars (Fig. 2, *2, 3, 4*), which might

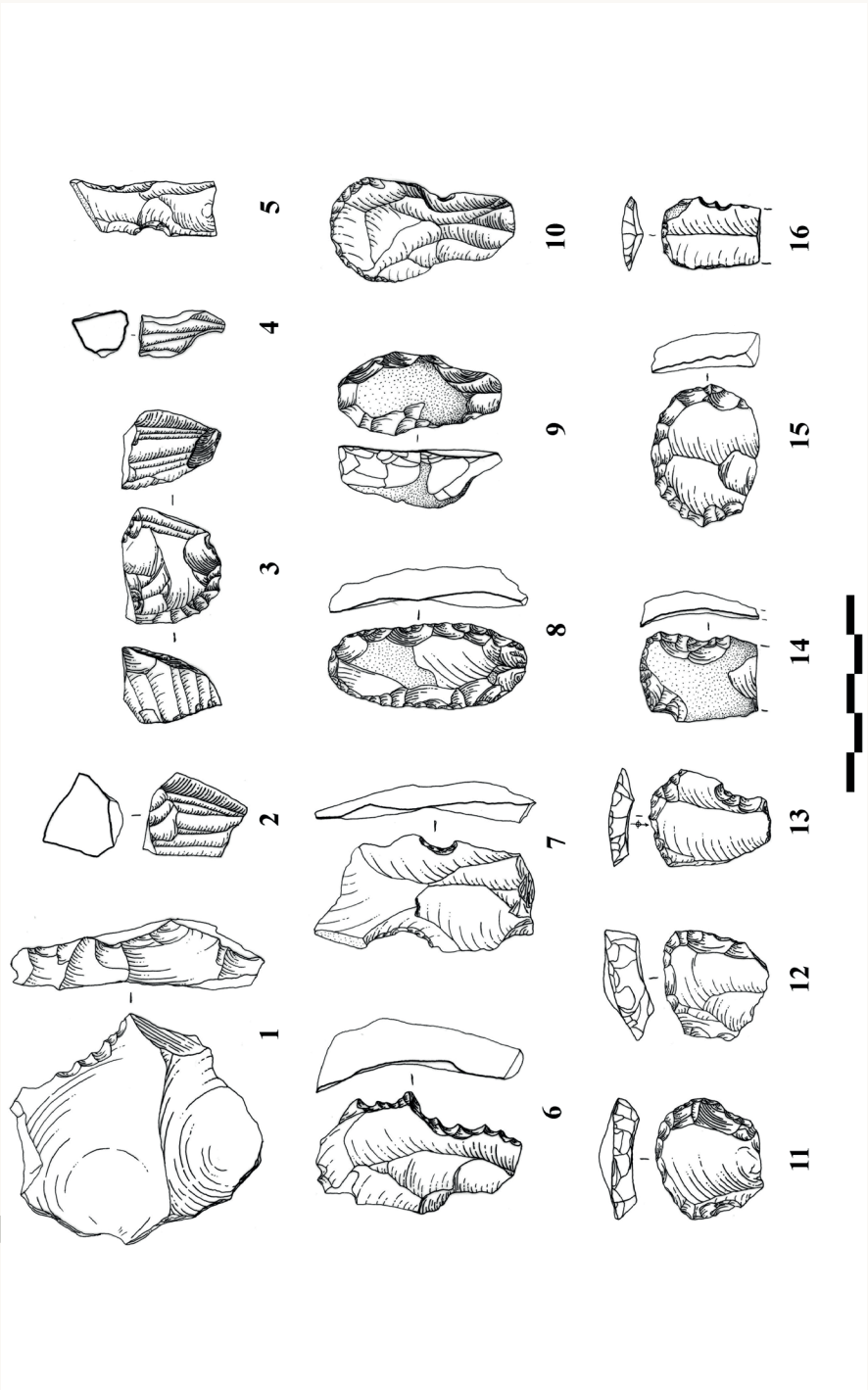

Fig. 2. Typical chipped stones from Altappeh (1. Core tablet; 2–4. Bladelet cores; 5–7. Notched and/or denticulated; 8–16. Scrapers)

indicate the application of pressure technique. These are from spits dated to Mesolithic by the excavator and if indicating pressure technique, they are far less regular in shape compared to the Neolithic conical and bullet cores from Kamarband and Komishan [Coon, 1951, P. 107; Jayez at al., 2016, P. 79].

The most abundant tool types are notched/denticulated on both flakes and blades, then are retouched pieces and then scrapers (Table 1; Fig. 2, *5–16*). Few burins and borers on flake exist. No geometrics or backed pieces were observed, but according to McBurney's report, they exist in the assemblage from Altappeh [McBurney, 1969, P. 403–404]. Scrapers are various (side, end, double, round, carinated) and few of them are made on blades (Fig 2, *8–16*).

Discussion

The results of this study on a small assemblage of the chipped stones from excavations at Altappeh can contribute in the image of the "Caspian Mesolithic". We consider all the four Mesolithic sites as a single group and not surprisingly, there are many similarities regarding tools typology and shapes, including the high frequency of various scrapers and notched-denticulated, as well as backed and geometrics on broad and narrow blades. Regarding the technology of blade production, prismatic removal of blades prevails in both Mesolithic and Neolithic. Although the introduction of pressure technique is obvious, it is still not clear when it occurs. There is a small probability that the technique had started to develop in the late Mesolithic of the region, but the rest of the assemblage from Altappeh should be studied in detail as well.

Another group of Mesolithic sites described as "Trialetian" are located in Bolshoi Balkhan mountains in eastern shores of the Caspian Sea. These sites include cave sites of Dam Dam Cheshme and Djebel, excavated by Russian archaeologists in 1950s and 1960s [Markov, 1966, 1981; Okladnikov, 1956] and by an English-Turkmen team in 1990s [Harris, 2010]. The results of these investigations indicate many common elements in all Mesolithic chipped stone assemblages from Mazandaran and Boshoi Balkhan, including various scrapers, denticulated side scrapers, borers on flakes, rare burins and total lack of symmetrical points [Jayez at al., 2016], which is also reflected in the small assemblage from Altappeh presented in this research.

It should be emphasized that Caspian Mesolithic group shows differences from other Trialetian industries defined by Kozłowski in 1990s. Accordingly, three groups of Caspian, Trialetian (in the margins of the Kherami River) and Chokh Mesolithic (in Daghestan) could be identified. These three groups come from sites in different ecological zones. Caspian Mesolithic groups are located in an ecotone (between sea, plain

and mountains), Chock is located in a mountainous zone, and Trialetian is located in the area of a river. Different geographical locations have led to much difference in the availability of raw material to each of these Mesolithic groups: exotic obsidian is a major raw material in Trialetian [Kuftin and al., 1946, P. 358; Kushnareva, 1997, P. 9), and in Chock imported flint prevails [Kozlowski, 1994, P. 144], whereas in south-east Caspian Sea the raw material is totally local [Haydari 2004]. At the time when Kozłowski was generalizing Trialetian to Caspian cave sites, the information about raw material accessibility was not at hand, that could be a major reason why he ignored such a great difference between the regions.

There are also some differences in the chipped stone assemblages from these regions, like presence of tanged arrowheads in Trialetian [Meshveliani et al., 2007, P. 49, 52] and some points in Chock assemblage [Kushnareva, 1997, P. 10–11], which are totally absent in Caspian assemblages. This could indicate different methods of hunting in the two regions yet to be studied.

Conclusion

This study of a small assemblage from excavations at Altappeh in southeast of the Caspian Sea re-emphasizes the differences in chipped stone assemblages entitled "Trialetian" by Kozłowski in 1990s. As a conclusion, each of the groups (Caspian Mesolithic, Trialetian, and Chock) have their own characteristics, and although there could be some contacts between them, but at least three different lithic industries could be introduced with their own characteristics.

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