Çemka Höyük: A Late Epipalaeolithic and Pre-Pottery Neolithic Site on the Upper Tigris, Southeast Anatolia

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Introduction

The settlement of Çemka Höyük (Su Kenarı Höyük; 37°31'22.27''N, 41°50'26.23''E) is located within the boundaries of the Ilısu village of Dargeçit in Mardin Province, approximately 1,100m southwest of the Ilısu Dam. Çemka Höyük is approximately 420m above sea level. It is located just west of the Tigris River and approximately 900m southeast of the settlement of Boncuklu Tarla (Pre-Pottery Neolithic site; Kodaş and Genç 2019, Fig. 1). The settlement, which measures approximately 65m x 135m, was unfortunately not identified during surveys in 2008 due to the flood layer on the mound and it has been severely damaged in many places by road works associated with the Ilısu Dam and HES Project.

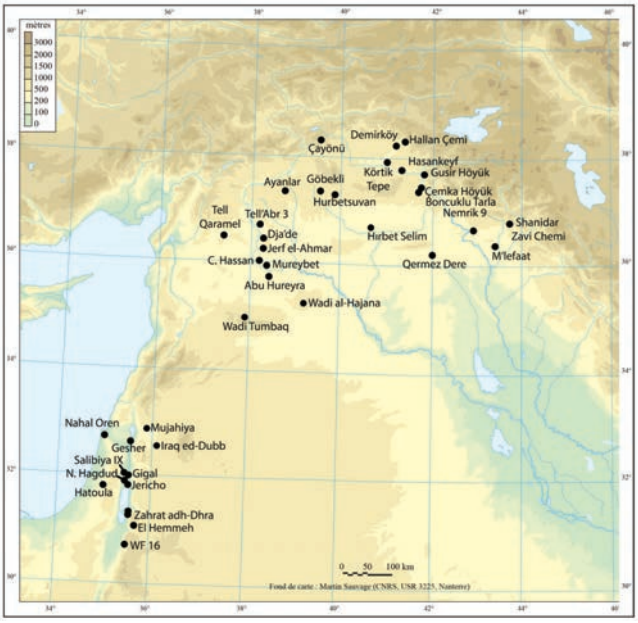

Fig. 1 Localization of Çemka Höyük. (Map: E. Kodaş)

Stratigraphy

Round planned houses built of small stones are dated to the PPNA period and floor and wall remains of simple shelter-type structures dated to the Late Epipalaeolithic Period were identified and recorded in 2018 after analyses of three different sections created by road works across the site. Excavations and cleaning activities were carried out in six different sectors and profiles located on the banks of the Tigris River in 2019. However, due to the destruction, the archaeological studies carried out in the settlement concentrated on two areas. In this context, the excavations were mostly concentrated in the area north of the road dividing the mound (Sector 2) and between this road and the road leading to the Tigris River (Sector 1, Fig. 2). Eight different building levels dating to the Late Epipalaeolithic and PPNA periods were identified and numerous architectural remains belonging to these building levels, as well as a large number of human skeletons (about 15 hocker burials), ground and chipped stone tools and a small number of ornaments were recovered at the site.

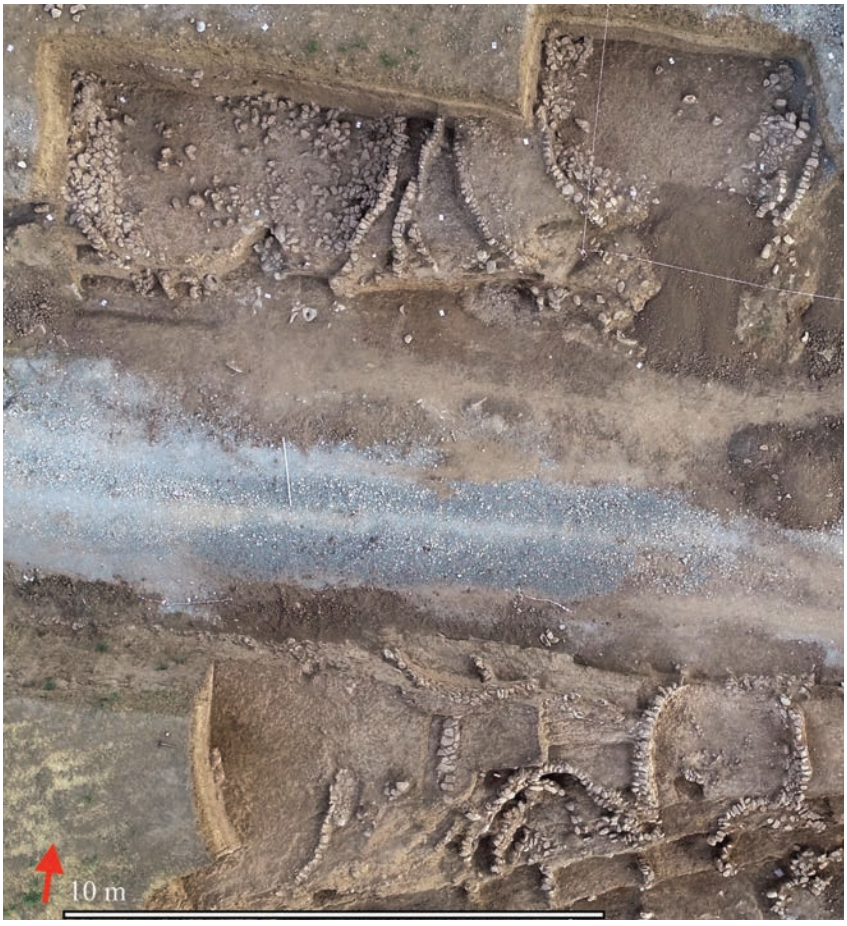

Fig. 2 Drone photo of Çemka Höyük and the areas of excavations in 2019. (Photo: E. Kodaş)

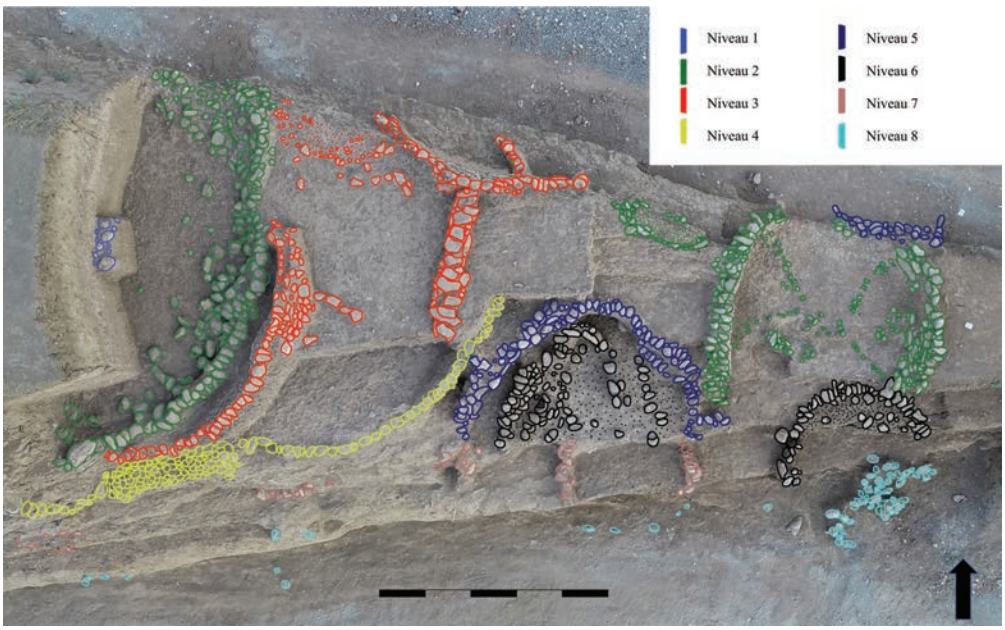

Fig. 3 The architectural remains unearthed at Çemka Höyük Sector 1. (Photo: E. Kodaş)

ID	Context	Material	BP	$\delta^{13}C$	cal BCE
Tübitak 1156	Sector D17 Level 2	charcoal	9970±38	-27.6±03	9558-9313 (75.8%) 9661-9571 (19.6%)
Tübitak 1155	Sector D16 Level 5	charcoal	9970±38	-28.0±08	9672-9317 (94.4%) 9742-9729 (1.0%)

Table 1 Results of radiocarbon data from Çemka Höyük.

When the plans and construction types of architectural remains are examined chronologically, a change from simple huts to sub-terranean shelter-style buildings, and later, to large-scale stone constructions built on the surface can be observed. Particularly in building Levels 2, 3, and 4, the walls of the buildings are built more systematically and strongly and even plastered with clay or lime plaster. The structures of Levels 5 and 6 of Çemka Höyük comprise round planned buildings that were sub-terranean in a pit with diameters ranging from 4 to 5m (Fig. 3). We also uncovered two sub-terranean buildings with radial plans on Level 2 and 3. The structures of Levels 7-8 represent the oldest phases of the settlement. The remains of the buildings, which are simple shelter-type structures, were found mostly in the southern section on the banks of the Tigris River and were represented by stone groups, that do not form a clear plan. Levels 1 to 6 are dated to the PPNA, and Levels 7 and 8 are dated to the Late Epipalaeolithic Period (Table 1). Levels 2 and 5 have been radiocarbon dated, with the 2σ-ranges strongly overlapping because of the early Holocene plateau. Level 2 is dated between 9661-9313 cal BCE and Level 5 between 9742-9317 cal BCE (Table 1).

Chipped Stone Tools

Two different techno-typological groups (or assemblages) of stone tools have been identified depending on the occupation period at Çemka Höyük. The first group of chipped stone tools is represented by scalene triangles, trapezes, half-moon shaped tools (lunates), and leaf-shaped small arrowheads (foliate microlith) and Nemrik-type arrowheads from the PPNA Period of the Nemrik industry (Fig. 4; Watkins 1987; Kozlowski 1990; Aurenche and Kozlowski 2011; Altınbilek-Algül 2013; Maeda 2018; Kartal *et al.* 2018). However, the

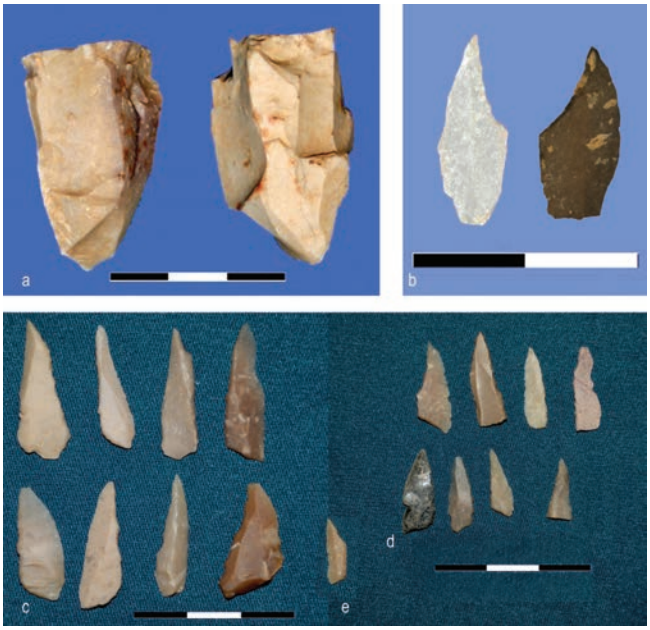

Fig. 4 PPNA chipped stone tool techno-typology of Çemka Höyük: a) core, b) Çemka Point, c-d) several scalene triangles, e) trapeze. (Photos: E. Kodaş)

production of arrowheads is not only limited to Nemrik and leaf-shaped arrowheads. In particular, it seems that the long-sized triangular trimmed micro-blades and others are the dominant type of arrowheads at Çemka Höyük (Kartal 2012; Maeda 2018). Moreover, it has been observed that some types of arrowheads, which are similar in form to the small arrow-shaped projectile points belonging to the PPNA Period, are narrowed only on one side to achieve more pointed arrowheads (Çemka Point).

The second typological group is represented by smaller-sized scalene triangles and backed micro-blades (lamelle à dos), half-moon-shaped segments (segment de cercles), and chisels (small burins); these are similar in form to chipped stone tools of the Zarzian culture which is dated to the Late Epipalaeolithic Period (Fig. 5). During this period, except for triangular pruned backed blades, arrowheads were not recovered. While double platform microblade cores were common during the PPNA Period, there were only single platform microblade cores in the Late Epipalaeolithic Period. Moreover, while there are few obsidian fragments in Levels 1 to 6 (dated to the PPNA), there are no obsidian fragments in Levels 7 and 8, which are dated to the Late Epipalaeolithic Period.

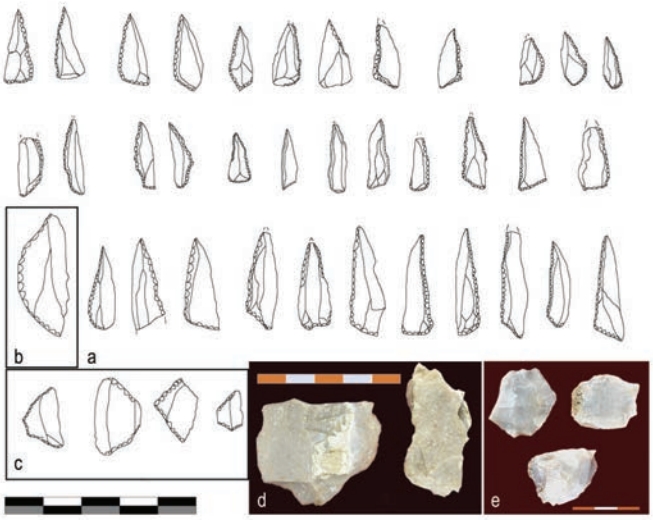

Fig. 5 Late Epipalaeolithic chipped stone tool techno-typology Çemka Höyük: a) several scalene triangles, b) crescent, c) trapeze, d-e) core. (Drawings and photos: E. Kodaş)

Grinding Stones and Mortar Pestles

Nearly 40 grinding stones, that were found scattered in different areas of the site due to the destruction of the mound, are dated to the PPNA Period. After the excavation in 2019, a large number of grinding stones were exposed *in situ* at the site (Fig. 6 a-b). Almost all of these grinding stones were made of basalt and andesite, except for a few examples of limestone. Except for one round shaped item, all of them are long and flat. Some of these grinding stones have a length of 30-50cm,

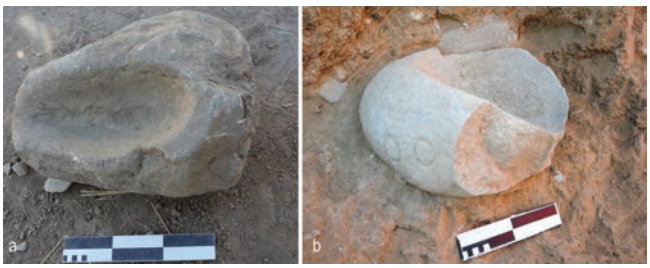

Fig. 6 Some grinding stones found at Çemka Höyük. (Photos: E. Kodaş)

while some are smaller (20-30cm) and also shallower. All the pestles found in the settlement were made of basalt. Their dimensions vary between 12 and 23cm in length with an average diameter of 5-11cm. All of them have a cylindrical form, except for a few cases. Grinding stones that were still resting on the floor were unearthed in almost all of the houses in the settlement.

Bone Tools

A large number of bone awls and spatula fragments uncovered in the PPNA levels indicate that such tools were used frequently. In addition, some bone ornaments with holes in their upper parts were found; these were probably used as pendants. Bone objects unearthed in the settlement are especially important in terms of revealing similarities with the finds recovered from other settlements in the region such as Körtik Tepe (Özkaya and Coşkun 2011), Hasankeyf Höyük (Miyake *et al.* 2012), Çayönü (Erim-Özdoğan 2011), Hallan Çemi (Rosenberg 2011a), and Gusir Höyük (Karul 2011). However, the decorated bone plaques that have been found at these sites have not been found at Çemka Höyük. No other bone tool was found in the Epipalaeolithic layer, except for a spatula fragment.

Other Findings

A large number of stone vessel fragments was uncovered during the excavations. They were primarily made of limestone, although a few are of chlorite. However, all stone vessels that are decorated with geometric motifs were made of chlorite. In addition, the figured stone plaques, grooved stone objects, and broken stone canes are all made of chlorite or sandstone (Fig. 7), and similar objects were found in other PPNA settlements such as Çayönü (Erim-Özdoğan 2011), Körtik Tepe (Özkaya and Coşkun 2011), Hasankeyf Höyük (Miyake *et al.* 2012), Hallan Çemi (Rosenberg 1994, 2011a), Gusir Höyük (Karul 2011) and Demirköy (Rosenberg 2011b) in the Upper Tigris Basin. In this context, it is important to mention the presence of a few scattered stone and bone beads, and a large number of bead ornaments made of freshwater shells that were discovered in the graves (Fig. 8 a-e). However, ornaments were not found in Levels 7 and 8, which are dated to the Late Epipalaeolithic Period.

Fig. 7 Grooved stone found at Çemka Höyük. (Photo: E. Kodaş)

Fig. 8 Some ornaments found at Çemka Höyük. (Photos: E. Kodaş)

Human Skeletal Remains

All of the human skeletal remains unearthed at Çemka Höyük are primary burials dated to the PPNA Period. They were found beneath the floor of the houses. Of the approximately 15 individuals, 12 are male and female adults, while three are subadults (infants?). While the subadults (infants?) were buried in flexed positions, the adults were placed in flexed and semi-flexed positions (Fig. 9). There are very few grave goods in the burials with beads made of freshwater shells being the most common.

Conclusions: First Observations

At Çemka Höyük, that has been considerably destroyed and has an archaeological fill of about 7m in height, only two main occupation phases that are thought to be dated to PPNA and Late Epipalaeolithic Period were

Fig. 9 Some examples of tombs unearthed at Çemka Höyük. (Photos: E. Kodaş)

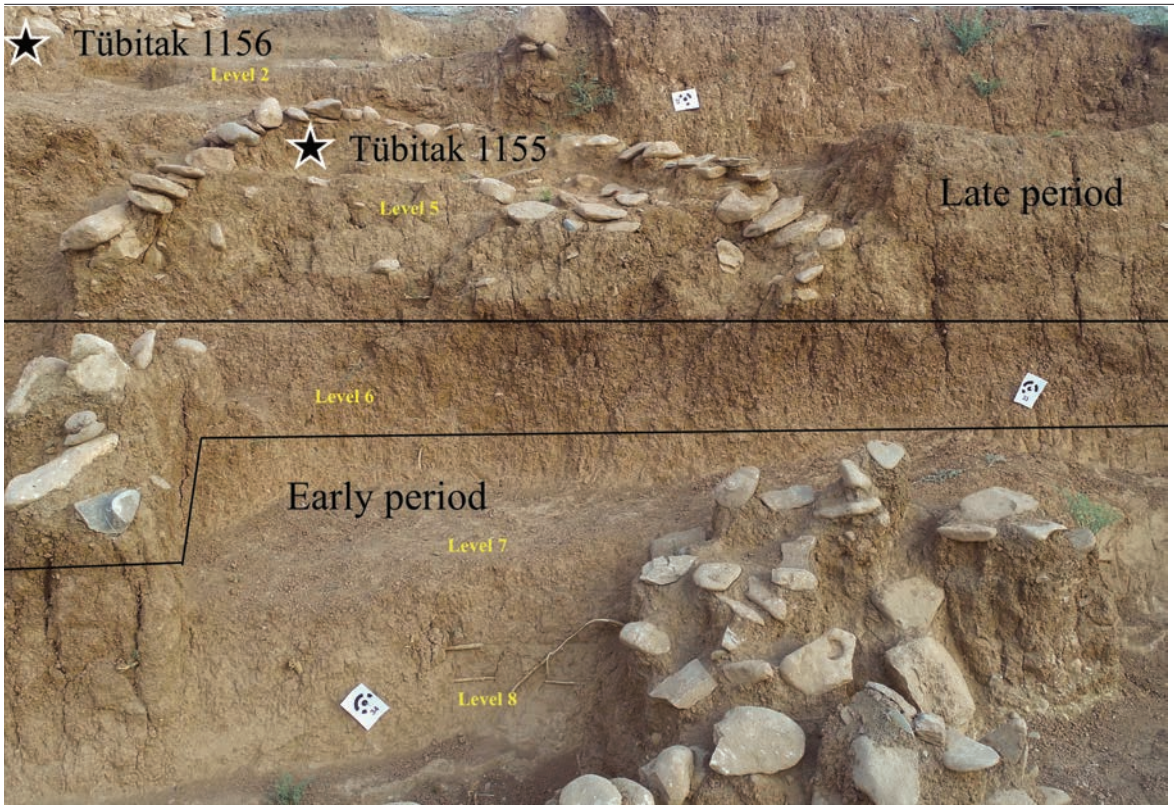

Fig. 10 Archaeological layers of the site with stars indicating the location of radiocarbon samples. (Photo: E. Kodaş)

identified (Fig. 10). The first phase is represented by six-building levels. The second phase is represented by only two building levels. The chipped stone techno-typologies of these phases show some differences in themselves. In the Late Epipalaeolithic Period, there is a chipped stone tool culture belonging to the Zarzian culture of the Zagros, while in the PPNA Period there are chipped stone tools belonging to the Nemrik culture. Concerning the architectural developments, in general, the PPNA settlement changes from simple huts (Levels 5 and 6) to sub-terranean shelter buildings; in particular, the walls were built stronger in building Levels 2, 3, and 4 and plaster remains indicate that they have been plastered. In addition, it is observed that the houses of the upper levels were larger than those of the lower levels. However, in light of available data, it is observed that the houses have turned into simple tent-type cottages on the earliest building level. When looking at PPNA architectural remains in general, the architectural remains unearthed at Çemka Höyük share similar features with Gusir Höyük, Körtik Tepe, and Hasankeyf Höyük. In particular, the round planned buildings (with radial plan) dated to the Levels 2 and 3 are similar to buildings unearthed at Jerf el Ahmar, Tell 'Abr 3, Mureybet, Wadi Tumbaq 1 and Wadi el-Hajana 1 in Syria (Cauvin 1980; Fujii and Adachi 2013; Yartah 2013; Abbès 2014; Stordeur 2014). However, the round planned buildings observed in northern Syria (*e.g.* Jerf el Ahmar, Tell 'Abr 3, and Mureybet) on the one hand, exhibit some different features both in terms of size and construction style from the buildings unearthed at Çemka Höyük. On the other hand, radial plan buildings at Çemka Höyük, both in terms of size and plan, exhibit more similar features with buildings unearthed at Wadi Tumbaq 1 and Wadi el-Hajana 1 (Fujii and Adachi 2013; Abbès 2014) and dated to the early phases of the PPNA. Since for the Late Epipalaeolithic Period, architectural remains are represented only by scattered wall and floor remains, it seems impossible to make a comparison for now. However, architectural remains belonging to this period are also known from Körtik Tepe (Benz *et al.* 2015) and Boncuklu Tarla (Kodaş 2019) in the Upper Tigris Basin.

Çemka Höyük, in the Upper Tigris Basin, has the potential to provide important information on PPNA and Late Epipalaeolithic Period cultures in this region. The excavations to be carried out in the following years will shed light not only on the Neolithization process of the region in question but also on broader interactions between regions. Çemka Höyük is a settlement that provides important information on many points such as the transition from the Late Epipalaeolithic to the PPNA (especially hunter-gatherer semi-nomadic life) and on the development of the Zarzian culture in the north, especially the Late Epipalaeolithic Period.

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Endnotes

[1] Comparing the results of our new excavations to the Epipalaeolithic levels of the nearby site of Bonçuklu Tarla, dated to 10471-10109 cal BCE (Kodaş 2019).

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