

Enigmatic artefacts from the Chalcolithic tell Petko Karavelovo (Veliko Tarnovo district)

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ABSTRACT

The Chalcolithic Tell Petko Karavelovo reveals a cultural sequence from the Early to the Late Chalcolithic. Apart from evidence of complex building architecture, the tell has produced a rich repertoire of finds of various materials (clay, bone, antler, flint, shell, stone), as well as palaeobotanical and zooarchaeological remains and a series of new ¹⁴C dates. This report presents some of the more intriguing recently discovered finds – 3 delicately fashioned objects of bone (though antler is not excluded). These objects are exceptional, with only one known parallel at a site in northwest Bulgaria. It is hoped that publication of these enigmatic items will lead to the recognition of similar artefacts from other contexts and a better understanding of their function and significance.

KEYWORDS

Chalcolithic, enigmatic fashioned artefacts, technological traces, intense polish

Introduction

Tell Petko Karavelovo is located in north Bulgaria on the left bank of the Yantra river (fig. 1). The site is recorded on the Archaeological Map of Bulgaria, Registration No. 0700133. The tell has been subjected to regular archaeological excavations since 2009, the results of which have been summarized annually since 2010 in the NAIM series, Archaeological Discoveries and Excavations (AOP in Bulgarian).

The tell reveals impressive evidence of architectural features and a very rich repertoire of finds of various materials (including bone, antler, clay, flint, shell, stone). Beautiful artistic representations characterise the pottery, figurines, and jewellery from the site. Faunal and palaeobotanical remains are also common. The complete Chalcolithic sequence of the tell presents a unique opportunity to analyse various categories of artefacts from different contexts in diachronic perspective. In addition, a new series of ¹⁴C dates will allow a precise chronological framework to be constructed and applied to the diachronic and contextual analysis and interpretation of the archaeological structures and finds.

This brief article presents three of the most exceptional finds from the tell – so-called ‘bone objects’. One of them (3070) was discovered in 2016 in sq. 86, adjacent to the southern entrance of the unburnt house, recorded as feature 127 (Chohadzhiev et al. 2017).

Two more bone artefacts were found in 2018. One (3555) – just beyond the northwest corner of the same house (feature 127), and the third one (3600) – inside the house, close to the northern wooden platform (Chohadzhiev et al. 2019) (fig. 2). Stratigraphically, all three



Fig. 1. Map of Bulgaria with location of the tell Petko Karavelovo

Обр. 1. Карта на България с обозначено месторазположение на селищната могила Петко Каравелово

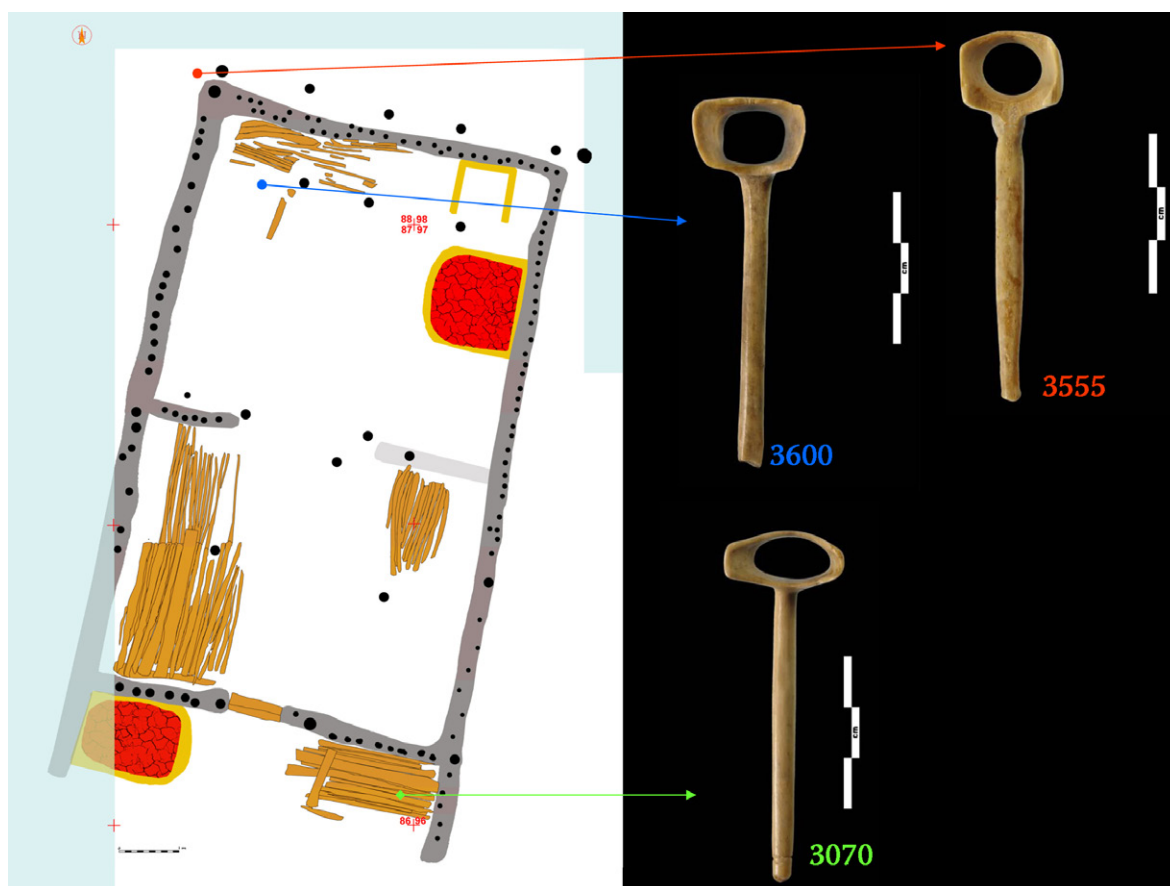


Fig. 2. Plan of the excavation area with the locations where the artefacts were found in situ marked (author A. Chohadzhiev)

Обр. 2. План на разкопаната площ с обозначено местонамиране *in situ* на костените артефакти (автор А. Чохаджиев)



Fig. 3. Bone artefacts: A – No 3070; B – No 3555; C – No 3600 (photos by M. Gurova)
 Обр. 3. Костени изделия: А – № 3070; В – № 3555; С – № 3600 (снимки М. Гурова)

pieces belong to the earliest Chalcolithic phase of the tell yet recorded. It is noteworthy that the difference in elevation between the three pieces is only 7 cm.

A preliminary 'search' through the specialized literature on Chalcolithic bone and antler artefacts suggests the three specimens from Tell Petko Karavelovo are highly unusual, if not unique (figs. 3 and 4).

Until now the only known published parallels for these intriguing and enigmatic objects come the Late Neolithic site of Brenitsa (Vratsa district) (Nikolov, 1985, fig. 4d; 10a). One artefact is briefly described as an amulet with a strange shape and without any known parallel. This object is illustrated with the cylindrical part up, with the suggestion that en-

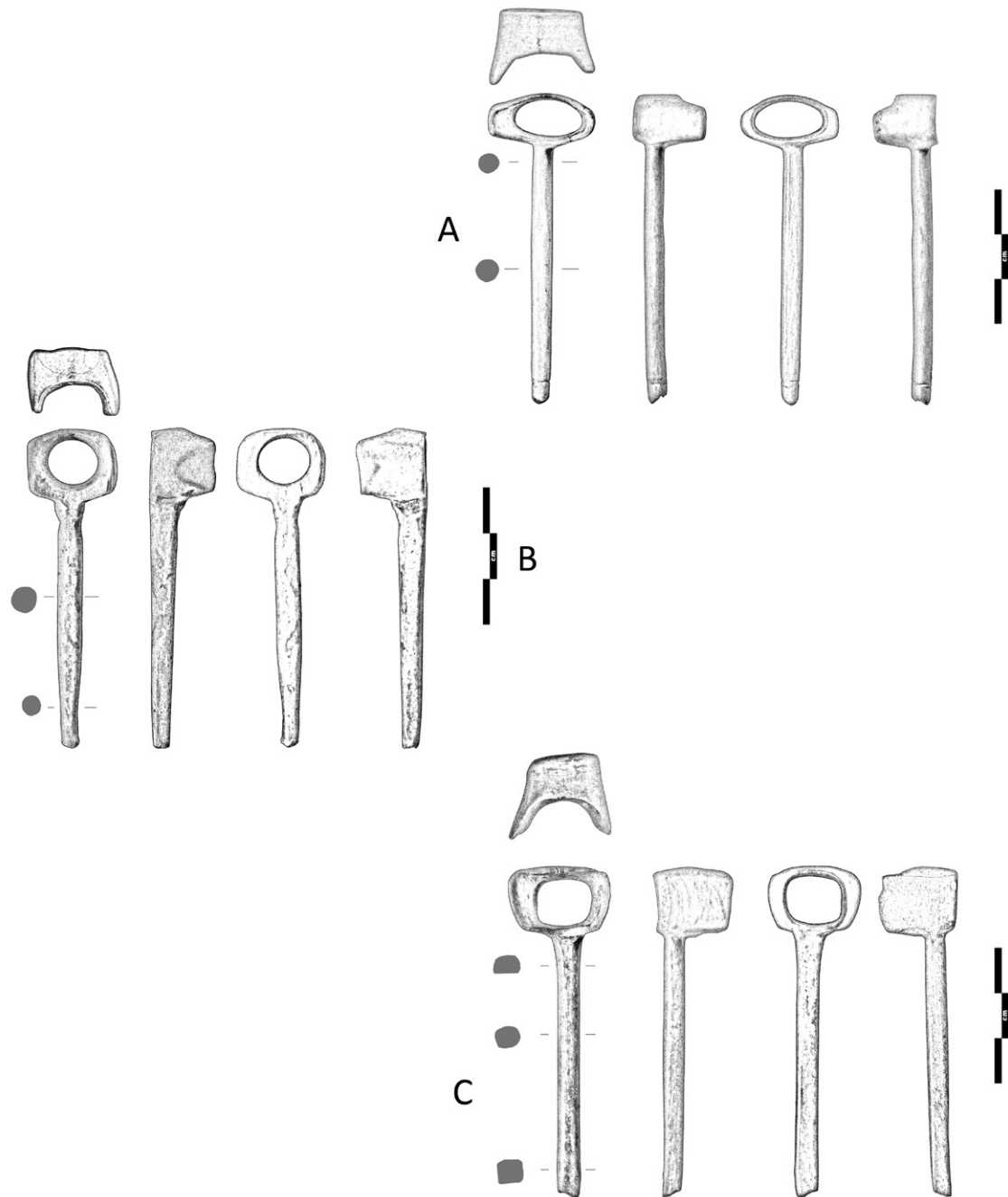


Fig. 4. Bone artefacts: A – No 3070; B – No 3555; C – No 3600 (drawings A. Chohadzhiev)

Обр. 4. Костени изделия: А – № 3070; В – № 3555; С – № 3600 (рисунки А. Чохаджиев)

graving at the end of this part was possibly for attaching the piece to a cord (Nikolov 1985, fig. 4d). A second object may be more similar to the artefacts from Tell Petko Karavelovo, but no description of it was provided by the author (Nikolov 1985, fig. 10a).

Given their unusual character, publication of the artefacts from Tell Petko Karavelovo is essential for alerting the scientific network to their existence, which we hope will attract information about similar objects from other archaeological contexts.

No detailed zooarchaeological analysis of the three artefacts has been undertaken yet. Visual inspection of the items has led some scholars to suggest they are made from bone. Based on examination of high-resolution photographs, Dr R. Christidou offered the opinion that the raw material could be bone or antler, and even identified the parts of long bones

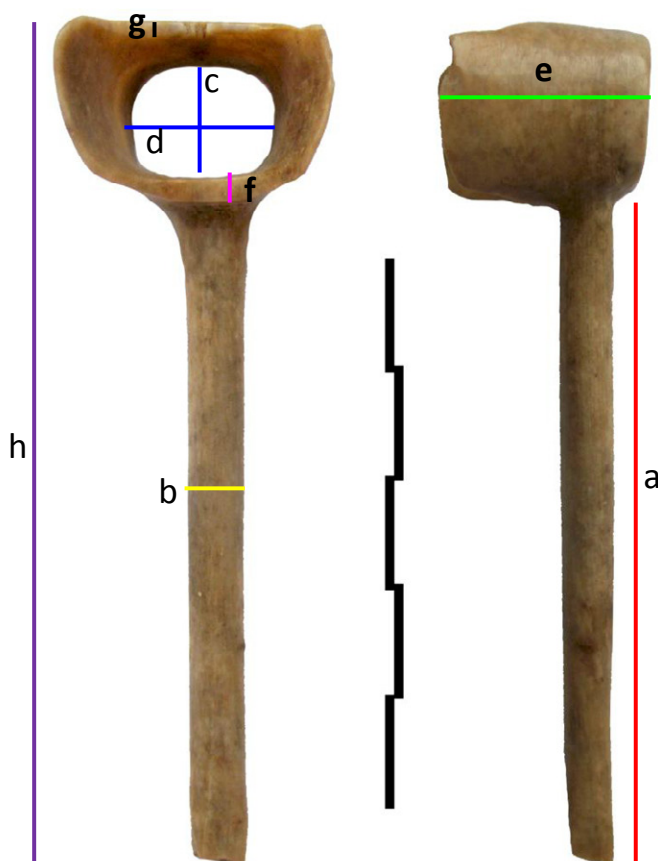


Fig. 5. Representation of the artefacts' morphology with metrical parameters indicated – their values for each item are shown in Table 1 (author M. Gurova)

Обр. 5. Представяне на морфологията на един от артефактите с обозначени метрични параметри, чиито стойности са представени в таблица 1 (автор М. Гюрова)

Artefact No.	a	b	c	d	e	f	g	h
3070	56	5	10	15	15	1	1	68.5
3555	53	5	9.5	10	14	3	1.5	68
3600	57	5	10.2	11.8	16	2	1	71

Table 1. Metrical data of the objects in mm according to the parameters marked in fig. 5
Таблица 1. Метрични данни за предметите в мм по зададените в обр. 5 параметри

and antler that could have served as blanks for the final fashioning of the artefacts. Preliminary morphological, technological and use-wear analysis has been carried out by one of the authors (MG) and some initial photographs and observations relating to this work are presented here. More detailed analysis of the artefacts are needed and these hopefully will be done by bone tool specialists at some future date.

Morphology and morphometric data

To understand better the morphology of the artefacts, their dimensions are presented in Table 1 according to the parameters shown in fig. 5. All the artefacts have a similar morphology consisting of a cylindrical long handle and distinctively fashioned upper part (provisionally, we refer to it as the 'head'), with a hole and two wing-like features on both lateral sides of the hole (figs. 3–4). In two cases (artefacts 3070 and 3600) the handles have

the same diameter in their proximal and distal parts, and only in the case of artefact 3555 is the diameter of the distal part larger than the proximal part (figs. 3.B; 4.B). The handle of the finest piece (No 3070) has intentional engraving on the proximal part (figs. 3.A; 6.1, 7). More variability can be seen in the fashioning of the upper part of the artefacts. As for the shape of the holes – in one case it is ovoid/ellipsoidal; in the second case rather quadrate; in the third case – circular. The shape and dimensions of the wing-like parts are similar in artefacts 3555 and 3600 (figs. 3.B, C; 4.B, C), while in the case of the finest piece the shape is more elongated (figs. 3A; 4A). The weights of the three artefacts are quite similar: 3070 – 3.1 g; 3555 – 4.51 g; 3600 – 3.82 g.

Technological and use-wear stigmata

The artefacts were subjected to microscopic observation and photo documentation using a ZEISS Stemi 508 stereomicroscope and a Keyence VHX-100K digital microscope. All photomicrographs in figs. 6–8 are made using the latter microscope.

The study aimed to address the following questions: i) were there distinctive technological indications of the *chaîne opératoire* applied in the manufacturing of the artefacts; ii) were there traces resulting from the use of the objects and, if so, are they sufficient for determining their function; iii) is it possible to distinguish between technological and use-wear traces/patterns on the artefacts?

The first impression, based on simple visual inspection supported by microscopic observation, is that all surfaces were carefully treated to become flat, smooth and shiny (total polishing of all surfaces) with abundant and pronounced multidirectional striations (figs. 6–8).

Taking into consideration the sophisticated overall shape of the artefacts and the different elements of their morphology, there is no doubt that the fashioning of the objects required a high level of skill in bone/antler working – not only in the approach to working the raw material, but also the fact that three differently shaped holes were produced with delicate contours of the ‘head’ part the body and wing-like section of which lies in a plane perpendicular to that of the hole.

Short summaries of the observations on the principal morphological elements of the artefacts are presented below (see also Table 1).

- the **handles** (cylindrical parts) are roughly comparable in length (difference of 6 mm). All the handles are intentionally cut and then broken at the proximal end (figs. 6.1; 7.1; 8.1). Traces of cutting to facilitate the breakage are visible on all items. It is debatable if the engravings on the proximal part of artefact 3070 are remains of previous unsuccessful attempts to fracture the piece. (fig. 6.1, 7).

In section the handles are circular, except for the proximal part of that of artefact 3600, which is rectangular in section due to a particular bevelling treatment from one side (fig. 8.7). Item 3555 shows variation in the diameter of the handle, which is thinner in the proximal part than the upper/distal part. It is noteworthy that this handle shows some surface damage – small pits and scratches – that has removed the surface polish (fig. 7.1, 2).

The upper part of the handles at the junction with the ‘head’ is shaped differently in each piece. Artefact 3070 shows the smoothest “transition” between the handle and the ‘head’ (fig. 6.2, 3, 6); artefact 3600 exhibits more visible technological traces of transverse abrasion (fig. 8.3, 8); while artefact 3555 shows distinctive shaping and intentional narrowing of the handle at its distal end (fig. 7.3, 9).

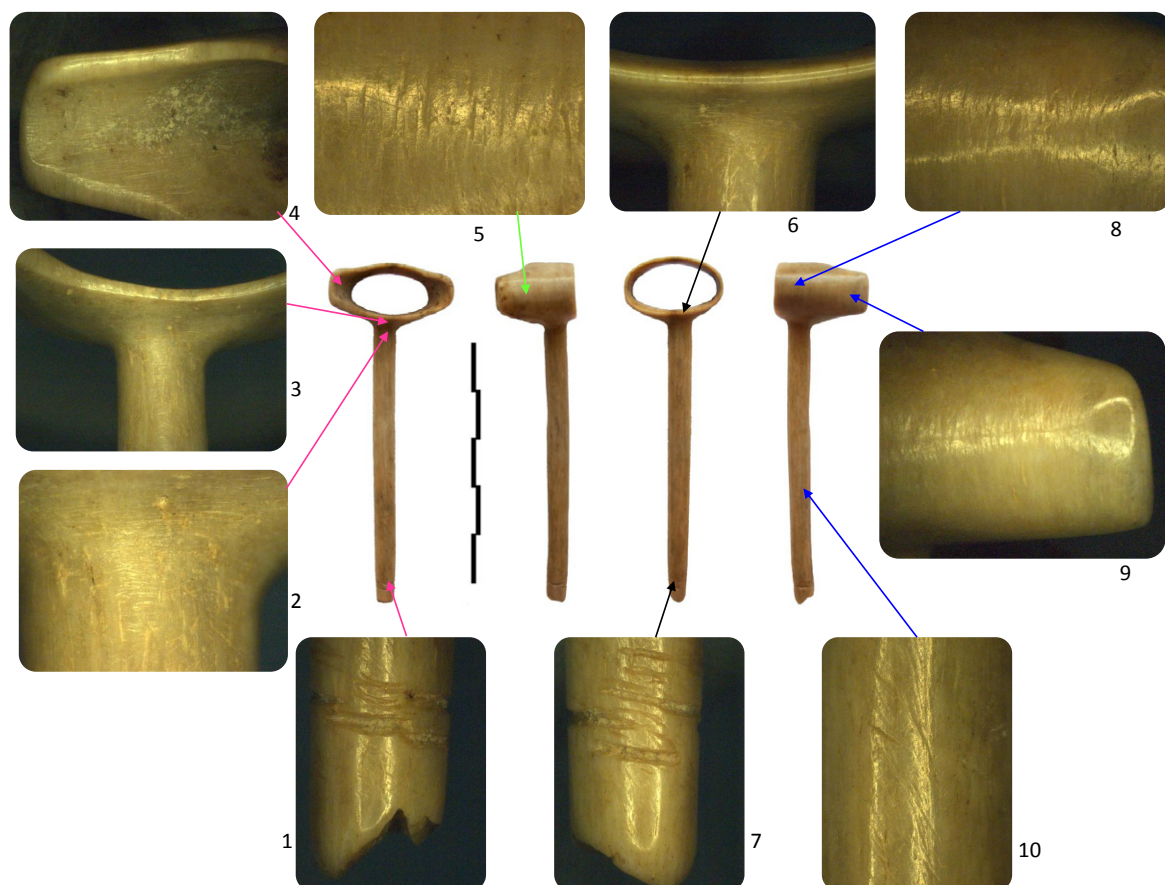


Fig. 6. Bone artefact No 3070: 1-10 – photomicrographs (x25<x70) at the points marked by arrows (photos by M. Gurova)

Обр. 6. Костен артефакт № 3070: 1-10 – микрофотографии (x25<x70) в участъците, маркирани със стрелки (снимки М. Гюрова)

All the handles are covered with technological stigmata – linear multidirectional traces with prevailing transverse orientation and bright polish (figs. 6.10; 7.9, 10; 8.2, 11). The striations result from abrasion/friction with the tool used for handle fashioning; the polish could be interpreted as the result of smoothing with hide/leather or as PDSM due to taphonomic effects. A more informed assessment must await more detailed analyses involving experimental work on bone/antler. There is no evidence of use-wear *sensu stricto* on the handles of the artefacts, although the polish could result in part from frequent handling

- the **holes** are very interesting and instructive regarding the skill of the prehistoric artisans who made the artefacts. Except for the ellipsoidal shape of item 3070, the holes of the other two artefacts are dimensionally comparable (with mean diameter *ca.* 10 mm). In one case (piece 3600) the hole is more rectangular, while in the other (piece 3555) the hole is almost circular (with a 2 mm difference between diameters **c** and **d** – Table 1).

It is noteworthy that (at this level of examination) no concentric traces of drilling are observed on the internal parts of the holes. Technologically and logically they should have been made before shaping the wing-like element of the 'heads', but no definite manufacturing details could be observed, and no instructive photomicrographs obtained.

- the **wing-like** parts are the most intriguing elements in the general sculpting concept of the artefacts. They are more elongated in the case of object 3070 and quasi-rectangular in shape in the case of objects 3555 and 3600 (figs. 3–4). The length of each pair of wings is

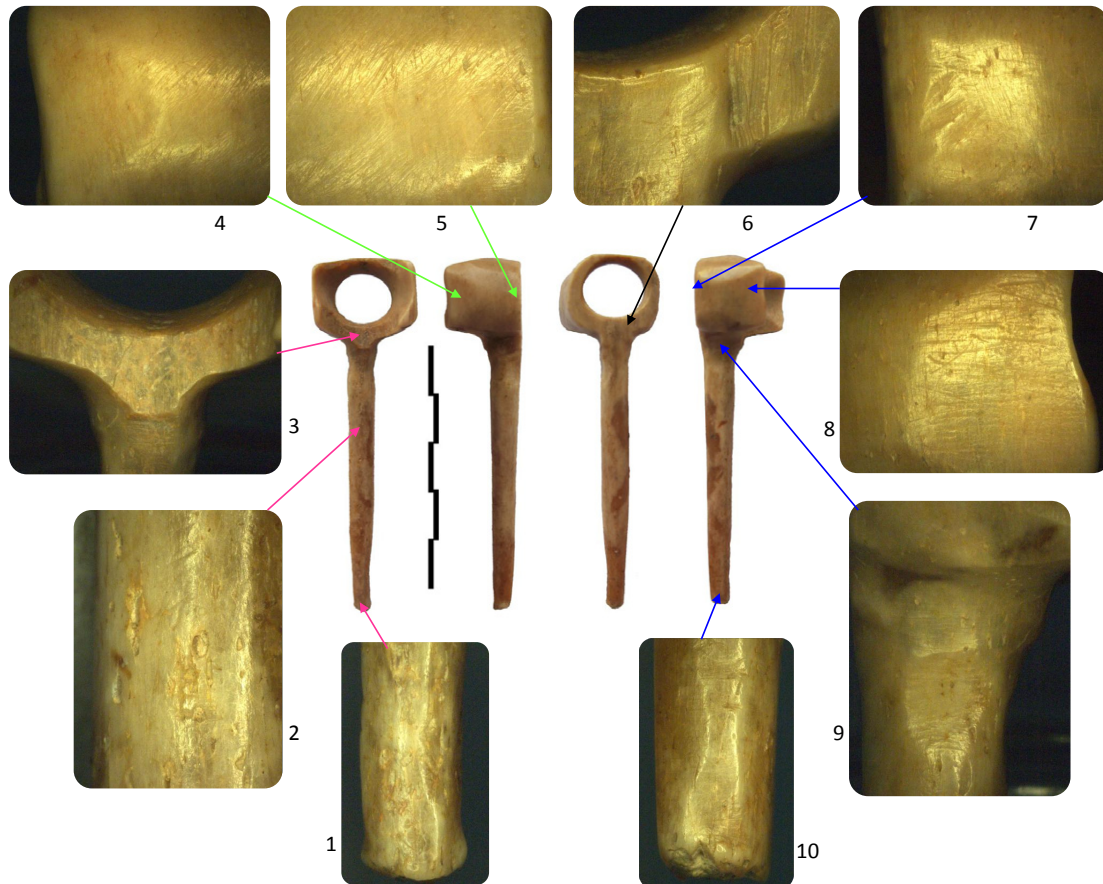


Fig. 7. Bone artefact No 3555: 1-11 – photomicrographs ($x25 < x60$) at the points marked by arrows (photos by M. Gurova)

Обр. 7. Костен артефакт № 3555: 1-11 – микрофотографии ($x25 < x60$) в участъците, маркирани със стрелки (снимки М. Гюрова)

almost the same, the asymmetry is greatest in artefact 3070, where one of the wings is 4 mm longer (measured from the neck of the 'head').

Various and intense striations are attested on both the external and internal sides of the wings, but on the external parts the striations are transverse (perpendicular or oblique to the long axis of the wings) whilst on the internal – longitudinal striations prevail (figs. 6.4, 5, 8-9; 8.5. 9-10). This observation is valid for artefacts 3070 and 3600, the wings of which are quite divergent.

In the case of item 3555 the external surface of each wing is not just plano-convex, but multifaceted, thus revealing more complex technological/manufacturing traces, including oblique, longitudinal and transverse striations easily detectable on the polish surface of the wings (fig. 7.4-5, 7-8). This particular fashioning of the wings of item 3555 makes them look convergent (relative to the handle axis). Intermediate between plano-convex and evidently multifaceted wings is artefact 3600. One detail that should be stressed is a small scar visible on the external side of one of the wings (fig. 8.6). This scar certainly postdates the fashioning of the artefact and possibly part of the artefact's use-life. The surrounding chaotic striations on the extremity of the wing here, as well as the analogous striations on artefact 3555 (fig. 7.8), suggest occasional use of this part of the wings; but for reliable distinction between technological and use-wear traces more detailed examination and experimentation is needed.

- some sporadic and particular technological traces are noticeable. Apart from the

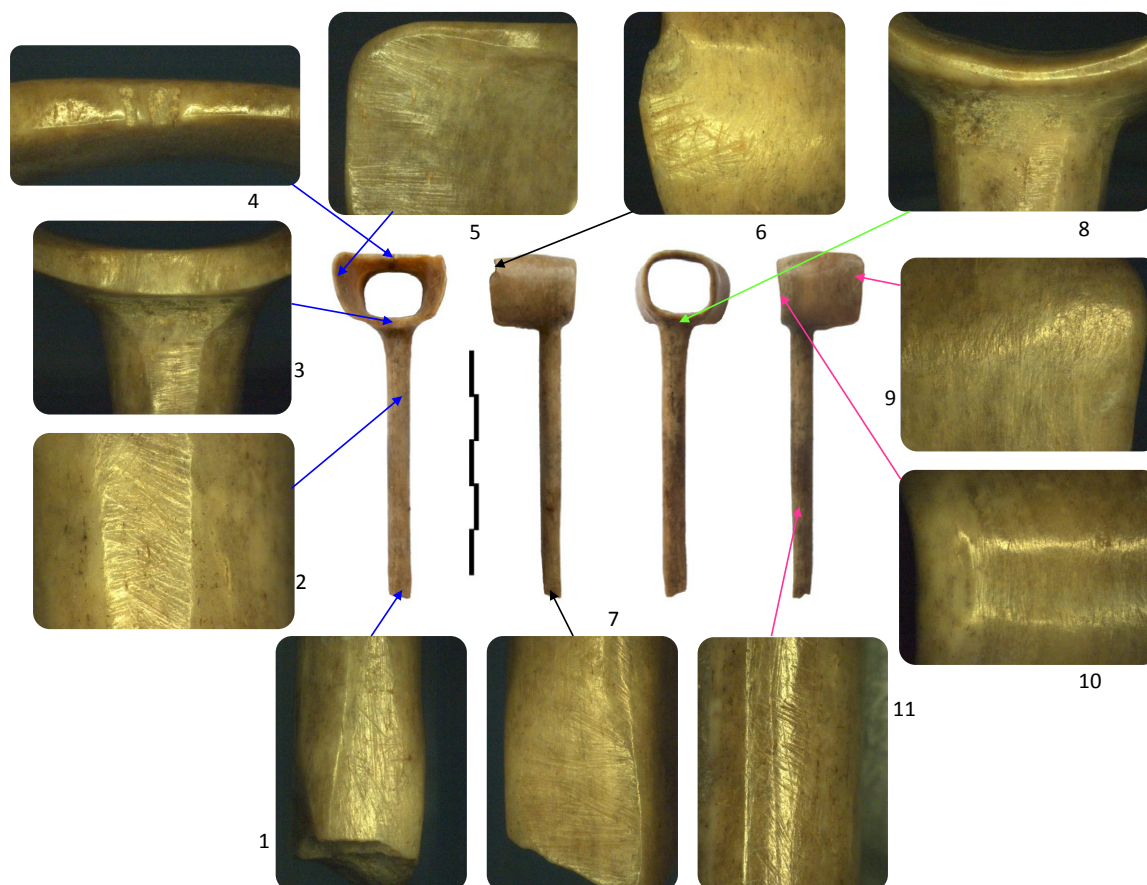


Fig. 8. Bone artefact No 3600: 1-10 – photomicrographs (x25<x50) at the points marked by arrows (photos by M. Gurova)

Обр. 8. Костен артефакт № 3600: 1-10 – микрофотографии (x25<x50) в участъците, маркирани със стрелки (снимки М. Гюрова)

engraving on the proximal part of the handle of piece 3070 (*vide supra*), there are traces of cutting/grooving in the part between the 'wings' of artefact 3600 (fig. 8. 4) and on the bottom surface of item 3555 – near the hole and on the base of one of the wings (fig. 7.6-7).

To summarize the aforementioned observations:

1. a large spectrum of technological stigmata is preserved on the artefact surfaces, suggesting a complex *chaîne opératoire*, a diacritic scheme for which cannot be offered before undertaking appropriate replication experiments, accompanied by detailed photo documentation for comparison with the original photographic record of the artefacts;
2. no diagnostic use-wear traces are attested on any of the worked parts of the artefacts. The abundant polish of the surfaces is due to deliberate treatment (with leather) or keeping of the pieces in a delicate leather cover/bag, or to some taphonomic/post-depositional factors.
3. the artefacts were seemingly involved in peculiar activity in a role different from utilitarian objects *sensu stricto*. If a utilitarian purpose is presumed, then it should be noted that the objects must have been part of a very peculiar and still unknown toolkit. A decorative/artistic or medically-related application is not excluded either.

Instead of **conclusions**, we hope to attract significant interest and positive feedback

from our audience, to facilitate a better understanding and interpretation of the amazing enigmatic artefacts from Petko Karavelovo tell.

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Загадъчни артефакти от селищната могила Петко Каравелово (област Велико Търново)

Мария Гюрова, Александър Чохаджиев

(резюме)

Селищната могила Петко Каравелово, Търновско, е един от представителните обекти на халколитната култура. Прецизната стратиграфия на обекта и серията нови ¹⁴С дати го превръщат в надежден културно-хронологически репер на една цялостна секвенция от най-ранния халколит до финалната му фаза. Обектът представя обилни и впечатляващи сведения за жилищната архитектура, както и богат репертоар от артефакти от местни и импортни суровини (вкл. кост, рог, глина, кремък, раковини и др.). Освен предмети с утилитарно предназначение, сред находките се срещат предмети с артистична и символна стойност, както и някои определено мистериозни по замисъл и изпълнение. Към последната категория се отнасят и три мистериозни изделия, условно наречени 'костени', но без специализирано изследване на изходната им суровина (обр. 3). Артефактите са открити при редовни археологически разкопки през сезони 2016 (артефакт № 3070) и 2018 г. (артефакти 3555 и 3600). Единствените открити в литературата паралели са от къснонеолитното селище Бреница и са публикувани от Б. Николов като амулети (Nikolov 1985).

Настоящата публикация е посветена на три изделия от последната категория и целта ѝ е тяхното своевременно и адекватно обнародване. Авторите са убедени, че

един широк отзвук сред специализираната аудитория би подпомогнал тяхното разбиране, интерпретация и контекст.

Находките са подложени на макро- и микроскопска обсервация и фотодокументация (обр. 6–8) и са представени от гледна точка на морфо-метричните им особености, както и като комплекс от микроследи – технологични и потенциално утилизационни. Представени са наблюдения както върху цялостния им облик, така и върху отделните им композиционни части. Отчетена е сложната технология на изработване на артефактите, която е оставила най-евидентен отпечатък върху техните повърхности и която предполага високо майсторство и умения в обработката на кост/рог. Отчетена е и липсата на диагностични и еднозначни за интерпретация следи от използване. Целият комплекс от морфометрични, технологични и ‘типологически’ признаци на изделията навеждат на предположение за тяхната много специфична и до момента неидентифицирана употреба.

Бъдещи специализирани интердисциплинарни проучвания ще трябва да отговорят на предизвикателството на тези артефакти – дали става дума за рядък тип утилитарни ‘оръдия/инструменти’ или за непознат елемент от сложната и нюансирана обредна система на регионална халколитна общност.