BREAKING, MAKING AND TRADING: THE OMURTAG ENEOLITHIC SPONDYLUS HOARD

BISSERKA GAYDARSKA / JOHN CHAPMAN / ILKA ANGELOVA /
MARIA GUROVA / SLAVCHO YANEV

Abstract

In this article, we discuss the fragments of *Spondylus* and the associated tools and ornaments found in a vessel in the second dwelling horizon at tell Omurtag, in North East Bulgaria. While some of the finds suggest an interpretation as the tool-kit of a *Spondylus* craftsman because they include fragments of previous ornaments and secondarily worked fragments, wear-traces related to shell ornament manufacturing are rather limited. Instead, the hoard may well constitute an assemblage of exotic and everyday things, of value in and of themselves. The biographies of these things are explored within the context of the *Spondylus* fragmentation chain and other sites with *Spondylus* finds. The long-distance connections indicated by some of the finds are also discussed.

**Keywords:** biographies, Bulgaria, Chalcolithic, enchainment, exchange, Omurtag, presencing, pumice, set accumulation, *Spondylus*.

Introduction (BG & JCC)

One of the most significant characteristics of the Balkan Chalcolithic is the wide variety of material culture, typically deposited on tells or in large cemeteries. While the total quantity of ceramics found on a typical tell excavation is vast, to be measured in tons rather than kg., it is a curious fact that there are relatively few instances of the deposition of what is commonly known as “hoards”, or sets of deliberately deposited material, on Bulgarian Chalcolithic tells. In this article, one such hoard is published in detail for the first time (fig. 1).

The first aim of the article is to characterise the settlement context of the hoard, its date and the nature and source of the constituent items in the hoard. The second aim is to make an interpretation of the meaning of the hoard to the community who placed it where it was ultimately found. Both aims are, to varying degrees, interpretative: the first because description involves categorisation, inclusion, exclusion and judgment – all practices which are theory-based in archaeology; the second – more overtly - because it relies upon concepts drawn from social anthropology, such as enchainment, exchange, presencing and set accumulation, as well as the notion of artefact biographies. These are all concepts which can offer valuable insights into the material culture found in the Bulgarian Chalcolithic.

Insofar as archaeologists view the exotic artifacts they excavate solely in terms of the exchange of prestige goods or status items, they miss the personal links that things have to their makers and owners. Thus, a new generation of exchange studies is based upon the notion that objects are highly personal and that their exchange carries with it the exchange of part of the persons making or owning that object (Strathern 1988). In each successive exchange act, the personal aspect of the exchanged object moves further, in a chain of personal and object exchange – hence the term “enchainment”. Enchainment of objects-with-people is a basic way of creating and maintaining social relations – in the past as much as today. In the context of Melanesian kula ring exchange, Munn (1986) has written that the fame of the big men owning the shells is as dependent upon the fame of the shells as on their own reputation – the person and the thing cannot be readily separated. Thus, we can talk of artifact biographies, such as the life-history of a shell bracelet, just as informatively as we can discuss the biography of a person. When a collection of artefacts, each with their own biography, is brought together in a set, the result is not only an accumulation of objects but also a narrative of artifact biographies, bringing to-
gether the memories of persons, places and things which are absent from the present context but which are connected through the artefact biographies – a process known as presenting. Thus, each hoard brings together the material and the non-material, whether as social memory, myth or personal narrative. As we shall see, the Omurtag hoard contains not only a rich set of material culture, unique to the Balkan Neolithic and Chalcolithic, but also a complex network of enchainment relationships and object biographies. One specific social practice not found in Melanesia but very characteristic of the Balkan Neolithic and Chalcolithic is enchainment based not upon whole objects but on fragments of things (Chapman 2000). This is the social context in which we shall seek to interpret the meaning of the hoard.

**The excavation of the Omurtag tell (IA)**

The tell Omurtag – called “Yukut” by the local population – is situated 1 km North of the town, in Targovishte district, in the locality of “Pchelina” (fig. 2). The first investigations of the tell were made by local schoolteachers L. Stefanov and A. Popov in 1926. According to their description, the tell was initially 3 – 4m in height, with a basal diameter of 70 m. The tell was excavated in quadrants to a depth of 2 m. Most of the finds were kept in the school museum for educational purposes (Стефанов 1935). During the 1950s, the South part of the tell was destroyed by the construction of a dam. In 1981, bulldozers destroyed the North part of the tell during the enlargement of the courtyard of the local institute of soil improvement, reducing the height of the tell to the level of the courtyard. The only remains of the tell was a 40-m-long profile and 3 m in height in the Southern sector. In 1982, rescue excavations of the tell were directed by the author (OIM, Targovishte), with the participation of Ivan Vajsov (AIM, BAN) (Ангелова 1999). Since the removal of the profile would have led to the flooding of the area for investigation, the investigation was limited to cleaning the soil behind the profile and its stratigraphic documentation. North of the profile, a 5 x 5 m grid was established, whose orientation deviated slightly from the cardinal points so as to follow that of the profile. The squares are marked with Arabic numbers and Cyrillic letters, the horizons with Latin numbers and letters. As a result of this operation, the following stratigraphy was observed:

- under the plough zone were two burnt horizons (N+IV and N+III)
- under N+III and N+IV one unburnt horizon (N+II)
- under N+II, a further burnt horizon (N+I)(fig. 3).

Because of the raising of the soil water at the beginning of the operation, it is impossible to clarify the number of “N horizons” under the present surface - hence the number of horizons is unknown. The tell layers were sloping by 1m in the Northerly and Easterly directions.

After the removal of waste construction soil by bulldozers, it was possible to clean, investigate and document the “N+II” horizon in the East part of the tell and the “N+I” horizon in the preserved part of the tell. The Northerly sondage revealed the presence of a palaeo-channel, which shows that the tell was founded on a promontory between two un-named gullies. In the profile, there are two major disturbances of the cultural layer, either looter pits or the trenches of the 1926 excavations. The excavation was hindered by the complicated situation of the tell, with its sloping layers, the height of the soil water and the piles of construction earth.

The second building horizon (N+II) was unburnt (fig. 4) and contained eight houses, either complete or partially excavated but not dug into the soil. The houses were rectangular wattle-and-daub structures, oriented approximately on cardinal directions. The best-preserved floor was found in House 3, covering 4.40 m by 2.50 m and consisting of 22 wooden beams, each 0.1 – 0.2 m in width. In House 4, a row of horizontal beams was found 3.40 m in length, with widths of 0.1 – 0.3 m. A similar type of construction was found at the Ovcharovo tell (Тодорова et al. 1983) but the Omurtag example is so far the best-preserved in the Targovishte district. A characteristic feature of the regional architectural tradition from the Neolithic onwards is the use of party walls.
close to the entrance of the houses (Ангелова 1988).

The first building horizon (N+1) was burnt. It was partially investigated because of rising subsoil water in the East part. Nine burnt houses have been found, slightly dug into the soil and located along both sides of a street of 1.20 – 1.70 m width. They were built as the houses in the second horizon. A 3-m length of walling was preserved to a height of 0.15 m and a width of 0.20 m, with 18 to 20 replasterings in yellow and red, each with a thickness of 1 – 5 mm. The house floor was made of timber beams, which were carbonised in the fire. Two ovens were found, each 1 x 1m in size but of unclear shape. In the large storage vessels and vessels kept in the houses, over 100,000 carbonised seeds were found. Popova (Попова 1991) has identified over 100,000 small-sized lentils in one context, as well as remains of Tr. monococcum, Tr. dicoccum, Tr. durum, grains transitional between Tr. durum and Tr. aestivum, H. vulgare v. nudum, Secale sp., Vicia ervilia and Lathyrus sp. and suggests

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**Fig. 1.** Location map of site, with sources of raw materials and possible routes (drawn by N. Todorova)
on this basis that multi-cropping was practised.

The tell finds included many portable grinding stones, as well as 119 small finds of flint, bone, antler, *Spondylus* and fired clay. The coarse ware from the tell is characterised by large storage vessels, barrel-like, vase-like and biconical pottery. They are decorated with barbotine, incised vertical lines and plastic bands. The dishes are shallow, with everted rims. There are four types of lids: flat undecorated; bell-like with plastic band decoration; hemispherical with graphite decoration; and in the shape of inverted mushrooms, with a central perforation. The fine ware is represented by biconical vessels with or without geometrical graphite painting in the upper parts. The vase-like vessels have a high cylindrical neck and tongue-like lugs on the carination. One of them, found in square E4 together with 22 other vessels, contains the *Spondylus* hoard discussed in this article. The bases of the vessels are generally flat or slightly concave and exceptionally hollow pedestals or footed types. Generally, biconical and conical/cylindrical shapes predominate and oval shapes are rare. Except for the tongue-like lugs, handles and lugs are absent (figs. 6–7).

The closest parallels with the vessels from the tell derive from tells Kodzhadermen, Vinica, Salmanovo, Ovcharovo, Polyanitsa, Targovishte, Radingrad and Golyamo Delchevo. This allows us to conclude that the vessels from tell Omurtag date from the first phase, and the first half of the second phase, of the Late Chalcolithic (K-G-KVI culture). This dating is confirmed by the two radiocarbon dates: 5575 +/- 115 bp for level N+II (Hv-12378) and 5530 +/- 185 bp for level N+IV (Hv-12379); both dates are based upon charcoal samples, which, from the size of the sigma values, are both probably derived from old wood (Boyadziev 1995, 184). The dates calibrate to 4500 - 4300 CAL BC and 4700 - 4100 CAL BC. There are minor differences between the architecture and the material culture in the second and the fourth horizons, indicating a short period of time between the two occupations.

From 1988 – 1990, the cemetery of the tell was partially investigated. Thirty graves were found in crouched position, lying on the right or the left or extended on the back. The orientation of the heads was to the East. In the graves, there are copper needles, flint tools, *Spondylus* ornaments and mostly pottery.

**The context of the Omurtag hoard (IA)**

Four 10-cm spits from Square E4 were excavated in September-October 1982. In the cleaning of the top of the deposits in E4, green-grey clay mixed with burnt deposits – partly
mixed with other soil by the bulldozer - was removed. Despite problems with rising soil water level, complete vessels and sherds were removed from E4 and their co-ordinates recorded (fig. 5). In the North East sector, a grinding stone was found, while in the South East and South West sectors, traces of a street were found which continued into the next square, on a North-West - South-East orientation and with a width of 1.27m. The 22 vessels most probably derive from a dwelling in the second, unburnt building horizon (N+II) (figs. 6-7).

Two more finds - a black-grey stone polisher of ellipsoid shape and a cylindrical whetstone with secondary use as a pestle - derived from the same square. The horizon N+II, and hence the hoard, is dated to 4500 – 4300 CAL BC.

The contents of the hoard (BG, MG and SY)

The hoard contains 34 items (fig. 8), comprising the vessel in which all of the other finds were stored, 11 fragments of Spondylus bracelet, 8 small Spondylus fragments, one unworked Cardium shell, one broken perforated bone pendant, one polished stone bead, two bone plates, three pig incisors, two flint proximal blade segments, one pumice-stone, one trapezoidal miniature polished stone axe and two quartzite polishing pebbles. A full description of these items follows.

1. Karanovo VI pot, 990 g (fig. 9/1); 15.2 cm high, 9.4 cm rim diameter, 7.3 cm basal diameter. Necked carinated amphora, with reverted rim; brown to dark grey burnished ware neck with calcareous inclusions; base of neck defined by 0.2 cm-deep groove 0.6 cm in width; below groove - four pairs of unperforated vertically-set lugs; yellow coarse ware shoulder with 34 vertical linear barbotine ribs; four pairs of horizontal unperforated lugs.
on carination; yellow coarse ware lower part with 34 vertical linear barbotine ribs; flat yellow coarse ware base; interior + dark brown burnished ware neck; above yellow coarse ware. Source: probably locally produced.

2. Fragment of Spondylus bracelet, 22g (fig. 9/2). Rather less than 50% of bracelet diameter surviving. Dorsally, 70% polished, less polishing in areas of red colour and lines. Ventrally, polished almost all over (90%), except for the natural whorl and the small area of red colour. Inner diameter - 5.7 cm. Trapezoidal cross-section medially, sub-rectangular cross-section at one end (t - 1.2 cm), very thin rectangular cross-section at other end (t - 0.2 cm). Source of all Spondylus pieces: marine in origin (probably Aegean Sea but possibly Black Sea).

3. Fragment of Spondylus bracelet, 6g (fig. 9/3), constituting an estimated 10% of the complete bracelet. Dorsally, polished all over, with red colour prominent medially; thin point proximally, with small natural perforation, perhaps expanded slightly and utilised. Ventrally, 80% polished but worn on right edge. Inner diameter - 8 cm; medial cross-section sub-rectangular; 1 - 4.1 cm, w - 0.9 cm, t - 0.3 cm.

4. Fragment of Spondylus bracelet, 5g (fig. 9/4), an estimated 15% of complete bracelet. Dorsally, 100% polished, even over prominent red area. Ventrally, proximal end with facet and natural torsion; polished all over. Inner diameter - 6 cm, medial cross-section sub-square, 1 - 4 cm, w - 0.5 cm, t - 0.6 cm.

5. Fragment of Spondylus bracelet, 10g (fig. 9/5), an estimated 40% of the complete bracelet. Dorsally 100% polished, with two small areas of red colour and facetted inner edge. Ventrally, 100% polished, with no colouring. Inner diameter - 5.5 cm, medial cross-section trapezoidal, w - 0.9 cm, t - 0.7 cm.

6. Fragment of Spondylus bracelet, 10g (fig. 9/6), an estimated 35% of the complete bracelet. Dorsally, 80% polished, with prominent area of red colour. Ventrally, 100% polished, with one part of outer edge red, three naturally detached flakes and some natural lines. Inner diameter - 4.5 cm, all cross-sections trapezoidal, maxi-
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7. Fragment of *Spondylus* bracelet, 8g (fig. 9/7), forming an estimated 10 – 15% of the complete bracelet. Dorsally, 100% polished, with one naturally detached flake and no red colour. Ventrally, 80% polished, with a number of small natural holes and one notch possibly cut by a lithic tool. Inner diameter – 6 cm, proximal cross-section rectangular, w – 0.7 cm. medial cross-section trapezoidal – t – 0.6 cm.

8. Fragment of *Spondylus* bracelet, 20g (fig. 9/8), forming an estimated 40% of the complete bracelet. Dorsally and ventrally well polished, with cracks and natural holes. Dark white to light grey colour. Twisted at the proximal end. Inner diameter – 5.5 cm, proximal cross-section 0.4 cm, w – 1.3 cm, medial cross-section – 0.8 cm, t – 0.4-1 cm.

9. Fragment of *Spondylus* bracelet, 16g (fig. 10/9), forming an estimated 25% of the complete bracelet. Dorsally and ventrally well polished, with a small number of natural holes. White colour with yellow inclusions and red stripes. Inner diameter – 5 cm, proximal cross-section – 1.1 cm, w – 0.8 cm, medial cross-section – 1.2 cm, t – 0.5 – 1.2 cm.

10. Fragment of *Spondylus* bracelet, 4g (fig. 10/10), forming an estimated 20% of the complete bracelet. Dorsally and ventrally well polished, with natural holes. White colour with dark white spots. Inner diameter – 9 cm, w – 0.5 cm, medial cross-section – 1.1 cm, t – 0.7-1.1 cm.

11. Fragment of *Spondylus* bracelet, 4g (fig. 10/11), forming an estimated 20% of the complete bracelet. Dorsally 80% polished. Ventrally 50% polished, with natural holes. White colour. Inner diameter – 8 cm, w – 0.9 cm, medial cross-section – 0.6 cm, t – 0.3-0.8 cm.

12. Fragment of *Spondylus* bracelet, 5g (fig. 10/12), forming an estimated 30% of the complete bracelet.
Fig. 6. Late Chalcolithic pottery from Square E4, Horizon N+II: numbers according to Fig. 5 (drawn by I. Ilieva)
Dorsally and ventrally well polished. White colour. Inner diameter - 4 cm, proximal cross-section 0.3 cm, w - 1 cm, medial cross-section - 0.4, t - 0.3-0.4 cm.

13. Perforated bone fragment, 10g (fig. 10/13), irregular shape, slightly convex, longitudinal cracks, traces of second perforation during which the tool/ornament was broken, d. of both perforations 0.3 cm, white colour, h - 4.7 cm, w - 3.7cm, t - 0.3cm. Source: local.

14. Thick, flat bone plate with trapezoidal shape, 25g (fig. 10/14), made from the rib of a large herbivore (? red deer or cattle). Dorsally, a flat, crude polish overall, with both edges with two longitudinal facets. Ventrially, incomplete and crude polish; proximal blade more or less intact, apart from one flake detached from right side of blade (1.1 x 0.9 cm); medial end with jagged break, probably from wear. Yellow-brown colour, 1 - 10.6 cm, w - 3.2 cm, t - 0.8 cm. Source: local.

15. Flat bone plate with rectangular shape, 25g (fig. 10/15), made from the rib of a large herbivore (? red deer or cattle). Dorsally, the proximal end has a bevelled blade which has been broken in use (the last 0.9 cm shows the interior of the bone); the medial end has a jagged break, probably during heavy use; dorsal surface polished all over. Ventrially, the proximal end is also bevelled to form a relatively thin blade; it is polished all over. Yellow-brown colour, 1 - 10.6 cm, w - 3.2 cm, t - 0.8 cm. Source: local.

16. Pumice stone, 85g, ellipsoidal shape, very light in weight (figs. 10/16, 12). Black colour, h - 9.8 cm, w - 6.7 cm, t - 3.9 cm. Six or seven places where original surface missing; In one place, on the distal end of the dorsal face, there is a 0.65 mm-wide groove made by polishing a thin Spondylus bracelet; two cut marks in other places. Source:- no such volcanic rocks exist in the Rhodopes or in any other part of Bulgaria (YY); seven possible sources of pumice can be considered – (a) the islands of Thera, Melos and Lesbos, in the Cyclades, Southern Greece; (b) the Lipari Islands, Italy; (c) the Zletovo-Kratovo area of FYROM; (d) the Cserhát, North Hungary; (e) the Baia Mare area, North West Romania; (f) the Izmir region, Western Turkey; and (g) the Nalchik area, Armenia (SY)(fig. 1 and Table 2).
17. Trapezoidal miniature polished stone axe (fig. 10/17), 22g, curved longitudinal section, straight sides, straight, faceted cutting edge on ventral side, with faceted left and right sides, dark green to black highly polished surface, h - 2.8cm, w of blade - 3.1 cm, w of butt - 1.9 cm, t - 0.8 cm. Three areas of damage: 1. at top of left side of blade, 4 small flakes detached (0.2 – 0.5 cm in length); 2. right side with shallow flake detached across full width (1.2 x 0.7 cm); 3. on the dorsal side, near the butt, a shallow flake detached (0.6 x 0.4 cm). Probably all damage caused by working of soft to medium-soft material. The material has been identified as a compact taph-schist (?) by x-ray diffraction analysis. Probable nearest sources: serpentinized ultra basic rocks from Bulgaria (known mainly in the Eastern Rhodopes), Greece or FYROM (personal communication, Assoc.Prof. Dr. R. I. Kostov – University of Mining and Geology “St. Ivan Rilski”, Sofia).

18. Proximal blade segment of dark brown flint with no white spots (fig. 11/18). Made by punch technique on a prepared striking platform, large bulb of percussion and flake of percussion. Distal end with trapezoidal cross-section, 10g, 1 - 2.5 cm, distal w - 2.9 cm, proximal w - 1.3 cm, t - 0.6 cm. Dorsal with two parallel crests, hinge fracture to proximal end. Unretouched; no ventral thinning to reduce large bulb. Probable source: North East Bulgaria.

Use-wear analysis of this piece showed sporadic micro-flakes especially along the right edge, with bilateral polish, more or less compact, with the micro topography more strongly developed on the dorsal face of the left edge. Operations: longitudinal (cutting) with the right edge and combined (cutting and scraping) with the left edge. The worked material was probably organic and supple: not very dry hide. The piece shows faint traces of thermal treatment (MG).

19. Proximal blade segment of banded dark brown – light brown flint with dark red line at junction of colours (fig. 11/19). Made by punch technique, with a prepared striking platform, a bulb of percussion and a flake of percussion. A parallel-sided blade segment, with a central crest dorsally, a distal triangular cross-section, both edges with “fine retouch”, probably caused by light use wear. 3g, 1 - 3 cm, w - 1.2 cm, t - 0.25 cm. Probable source: North East Bulgaria.

Use-wear analysis of this piece shows bilateral micro-flaking, more clearly seen on the right edge, an irregular polish serrated on the edge of the cutting surface and on the ridges of the micro-facets. These suggest a short-term longitudinal operation, probably cutting/sawing with both edges. The worked material was probably meat/fresh hide with occasional impact traces of bone or shell or perhaps the start of sawing bone/shell. The superficial, light, matt, opaque polish on both surfaces suggests contact with a supple material, such as hide, in which the piece was possibly held (MG).

20. Pig incisor, 8g (fig. 11/20). The most complete of the three examples, with the end of the tooth worn away to the dentine. Flake detached from right side of root; 1.6 cm of root remaining. 1 - 3.9 cm, blade w - 1.4 cm. White and yellow-brown colour. Source: local.

21. Pig incisor, 5g (fig. 11/21). Broken off near tooth, with only 0.8 cm of root surviving. Worn through to dentine; 1 - 2.6 cm, blade w - 1.6 cm. White and yellow-brown colour. Source: local.

22. Pig incisor, 4g (fig. 11/22). Broken off near blade, with 0.4 cm of root surviving; worn through to dentine; 1 - 2.3 cm, blade w - 1.6 cm. White and yellow-brown colour. Source: local.

23. Worn shining white quartzite pebble polisher, 12g (fig. 11/23), ellipsoidal shape, smooth surface with single crack, white colour, 1 - 2.5 cm, w - 1.8 cm, t - 1.1 cm. Identified as ground and polished from a small quartz river pebble. Source: probably local in origin (personal communication, Assoc.Prof. Dr. R. I. Kostov – University of Mining and Geology “St. Ivan Rilski”, Sofia).

24. Worn shining white quartzite pebble polisher, 10g (fig. 11/24), round shape, smooth surface, 1 - 2.3 cm, w - 2 cm, t - 0.9 cm. Source: local.

25. Unworked Cardium shell, 2g (fig. 11/25), one broken end (? 20% missing), white colour, 1 - 1.7 cm, w - 1.7 cm. Source: Black Sea.

26. Perforated finely polished stone bead, 12g (fig. 11/26), barrel shape with hour-glass perforation, the hole has a diameter of 0.7 cm. Light brown – white colour, 1 - 1.8 cm, w - 1.5 cm. Identified as ground and polished from a small quartz river pebble. Source: probably local in origin (personal communication, Assoc.Prof. Dr. R. I. Kostov – University of Mining and Geology “St. Ivan Rilski”, Sofia).
Fig. 9. Contents of the Omurtag hoard: 1 – vessel; 2–8 – *Spondylus* bracelet fragments (drawn by V. Yaneva)
The authors are very grateful to Dr. Yotso Yanev from the Institute of Geology - BAS for this information.

The meaning of the hoard

The overall meaning of the Omurtag hoard for the Omurtag community can be approached using several different lines of evidence — the nature and sources of the raw materials found in the hoard, the function of the individual items, the fragmentation characteristics of the items and the hoard as a whole, the colour and sheen of the items and the hoard as a whole.

The objects in the hoard are made from a varied collection of nine different raw materials, which include almost all of the characteristic materials in daily use on the tell, with two exceptions — antler and copper. These raw materials derive from a wide range of distances, from the very local to the very remote (table 1).

Those objects deriving from water sources include items of river origin (the quartz pebbles) and those of marine origin (the shells). While the bones and teeth clearly derived from animals once living on the surface, it cannot readily be determined whether the mineral items derived from surface collection (e.g., outcrops of flint or hard stone for axes) or from buried deposits (flint mines, clay pits). The pumice-stone is, to our knowledge, a unique item in Bulgarian prehistory and it is unlikely that the Omurtag community knew its origin — whether marine (the shell fragments concreted into the surface?), from a surface deposit or from underground. It is doubtful whether they realised that a volcanic eruption would have produced such a rare and wonder-full piece. We propose that such ambiguities in the origin of these items would have increased their sense of exoticity and mystery — and hence their value.

According to Bulgarian volcanologists the Rhodope Mountains — the only possible source within Bulgaria - contain no sources of such a type of pumice-stone. There are several other possible sources in Europe and the Near East (SY). The sources in the Cserhát, in North East Hungary, the area of Baia Mare, in North West Romania and the Zletovo - Kratovo area of North East FYROM — the closest to Omurtag — have all been tentatively discounted because of the marine shell fragments adhering to the surface of the pumice and which strongly suggest a marine volcanic origin. This leaves the Aegean island chain of Thera — Melos — Lesbos, the Aeolian island group, which includes Lipari, and the Izmir area on the western Turkish coast (fig. 1). A plausible sea / land route for the first amounts to a distance of ca. 1,000 km from Thera, for the second even more (1,400 or 1,560 km) but for the Izmir source cca. 730km. Further analyses are necessary to confirm or eliminate these possible sources and to check on the three inland pumice sources (table 2).

The origin of the predominant material in the hoard — the marine shell Spondylus gaederopus — in Balkan prehistory is much disputed, with the analytical evidence favouring the Aegean (Séférides 2000) although the case for a Black Sea source on palaeo-climatic grounds has recently been reiterated by

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Fig. 10. Contents of the Omurtag hoard: 9-12 - Spondylus bracelet fragments; 13 - perforated bone fragment; 14-15 - bone plates; 16 - pumice-stone; 17 - miniature polished stone axe (drawn by V. Yaneva)
Todorova (2002). Assuming the former source, there is an overland distance of ca. 270 km from the Aegean to Omurtag – much shorter than a maritime exchange route through the Dardanelles and up the Black Sea coast, with a final land route - a total of 720 km. The miniature polished stone dark green trapezoidal axe was probably made of talc-schist, originating from serpentinites from the Rhodope Mountains or from other places south of the Balkan ranges. The sole Cardium shell is a marine shell available from the Black Sea – ca. 120 km distant. Both of the two flints probably derive from North East Bulgaria, possibly from the Razgrad area, and were thus brought ca. 50–100 km to Omurtag.

The meaning of these source data is clear enough – the exotic was highly valued by Chalcolithic communities such as Omurtag and the further the origin, the greater the value. Thus, the hoard demonstrates set accumulation of small but valuable items. But not only the exotic is incorporated into the hoard – also the everyday objects that are found in local river valleys and in the pastures next to the tell. One additional meaning of the hoard is, therefore, a statement about the range of materials that make up the world of the Omurtag people – not only exotic and rare but also local and plentiful.

The functions of the items in the hoard present several interesting problems. The vessel is both a container of the items in the hoard and a display item in its own right – a characteristic shape and size for the K-G-KVI group, of which there are several examples from tell Omurtag itself. Other than the hoard, the amphora could have been used to contain any fluids in everyday consumption – water, dairy products or alcoholic beverages. The other items can be simply divided into three groups – ornaments, raw material for potential ornaments, and tools possibly used in the making of ornaments.

The only ornament in the hoard is the complete polished quartz bead of local origin. There are 20 items from which ornaments could have been made by re-cycling of previous objects – 19 Spondylus fragments and one bone fragment. The previously unworked Cardium shell could also have been made into a small ornament. All of the Spondylus fragments had already been polished on the dorsal side, confirming that they originated from previously worked (possibly complete) ornaments. As Rodden (1971) observed, the exchange of larger rings, drilled pendants and unworked shells left more room for later modification.

The 11 bracelet fragments vary in inner diameter from 4 cm to 9 cm. Experiments with two of the authors (BG: adult female; JC – adult male) and the son of one (Boyan Vassilev: 5.5-yr-old male) showed that none of the three could fit a 4-cm bracelet on their wrists and that only the child could wear bracelets of 5.0, 5.5 and 5.7cm inner diameter. BG was able to wear a 6-cm. bracelet with some difficulty, while the smallest bracelet that JC could wear was of 8-cm diameter. In addition, the child was able to fit the 8- and 9-cm bracelets on his ankles. The authors make a plea to future excavators of Spondylus bracelets to publish their inner diameter, since this size determines who may have worn a bracelet in the past. Even taking into account the smaller size of prehistoric individuals in comparison to modern groups (Yordanov/Dimitrova 2002), several of the Omurtag fragments could have been worn only by infants and small children up to the age of 5 or 6 and few of them by adult males. Perhaps, as with certain bronze ornaments, the rings were worn permanently on some individuals from childhood until death (cf. Stig Sørensen 1997).

The 8 small Spondylus fragments were all well polished on the ventral side and hardly polished at all on the dorsal side. This suggests that they derived from an ornament designed to be viewed from one side only – such as a pendant or appliqué. The fragments are large enough to be made into thin discoid beads of the type known from prehistoric Bulgaria (Todorova 1995). By contrast to the Spondylus fragments, the fragment of perforated bone pendant was unpolished. The latter has a thin cross-section, indicating that it is not made of marine shell; the jagged edge is also characteristic of a fractured bone. It appears to have
Fig. 11. Contents of the Omurtag hoard: 18-19 – flints; 20-22 – pig incisors; 23-24 – pebble burnishers; 25 – Cardium shell; 26 – polished quartz bead; 27-34 – small Spondylus fragments (drawn by V. Yaneva)
been broken during the attempted making of the second perforation – the remaining part was not included in the hoard. These data indicate that the Omurtag is not an ornament hoard of the type found in Ovcharovo Horizon IX (a necklace of clay beads and Spondylus pendants in a necked carinated bowl: Тодорова 1976, Тодорова et al. 1983, fig. 3), or Галабник (Чохаджиеv 1990) – both of which contain only complete ornaments - but resembles more a shell ornament-maker’s hoard, with sufficient raw material for several dozen Spondylus beads. Can this interpretation be supported by the tools in the hoard?

Three functions can be identified on the group of 11 tools in the hoard – cutting, polishing and light skin working. The “fine retouch” on one proximal blade segment (cat. #19) was identified as probably caused by light working, such as the cutting of meat or the initial cutting of bone or shell (MG). Similarly, the six small flakes detached from the miniature stone axe are indicative of light working – possibly of bone or shell. The coarsest polishing could have been effected by the bone plates, both of which had suffered wear on the blade, detachment of flakes and a jagged break. Finer polishing may have been done with the quartzite pebbles, both of which were quite worn, and/or the pig incisors, whose shovel-shaped cutting edges are all well worn. The best evidence for polishing shell bracelets derives from the pumice-stone, which has a groove the same width as several bracelets, with white material still adhering to the surface of the groove. Finally, the other proximal blade segment (no. 18) has wear traces consistent with the light working of probably dry skin (MG).

There are, however some problems with the identification of the hoard tools as shell ornament-making tools. There are no objects in the hoard which are capable of making perforations in shell or bone, neither are there tools with wear traces consistent with prolonged cutting of hard shell bracelets. It is difficult to be sure of the time when the flakes were detached from the miniature axe – perhaps in another village or another region, not necessarily Omurtag? Moreover, the wear traces on the two bone plates are more reminiscent of heavier work than shell polishing and the wear on the quartzite pebbles could have been the product of pottery-burnishing. Thus, with the exception of the pumice-stone which was certainly used to polish Spondylus (but where? – in Omurtag?), it is hard to be confident that the hoard tools comprised a tool-kit used for this production activity. It is not so convincing to claim that the tools were assembled with this aim in mind.

There is one clear-cut difference between the materials for ornament production and the tools possibly used in this practice. While all of the materials for ornaments are fragmentary, all of the tools are complete, except for use-related fractures (the bone plates) and/or the detachment of small use-related flakes (the pig incisors, the miniature axe). The small Spondylus fragments are so small that it is impossible to tell the size of the original pieces from which they derived. For the Spondylus bracelet fragments, estimation of completeness percentages was possible for all 11 fragments (fig. 13).

Not one single bracelet fragment constituted more than a half of the original bracelet and the majority comprised a quarter or less. No other matching Spondylus bracelet fragments were found in the tell excavations, although the excavations were clearly very far from complete. No matching has been attempted between Spondylus bracelets in the cemetery and those of the hoard, nor between Omurtag bracelet fragments and those from other tells or cemeteries. There is a strong case for fragment enchainment of persons using Spondylus bracelet fragments (Chapman, in press) – in this case between those keeping the hoard and others on site or off the tell. Hence, another important aspect of the Omurtag hoard lies in its statement of enchain relations on and perhaps off site.

A final approach to the Omurtag hoard consists of an evaluation of its colour and brightness characteristics. In previous studies of colour in Bulgarian prehistory, one of the authors examined the colours used, their contrasts and their combinations for individual artifacts (Chapman 2002; 2003). The same author has also examined colour and matt/gloss contrasts
in a categorical analysis of Bulgarian Neolithic and Chalcolithic pottery assemblages (Chapman, in press a). Here, with a hoard of 34 items, it is possible to highlight similarities and contrasts between colours and matt / gloss finishes for both individual items and for the hoard as a whole (table 3).

Perhaps surprisingly, most of the colours utilised in the daily life of the Chalcolithic communities in Eastern Bulgaria are represented in the hoard. The only colours found in the Varna and Duranulak cemeteries but missing at Omurtag are the three metallic colours – gold, blue (azurite) and mid-green (malachite) – but one of the primary, if negative, characteristics of the Omurtag hoard is the absence of metals! By contrast, both of the colours used to re-plaster one Horizon IV house on the tell – yellow and red - are found in the hoard. Yet other colours have their own distinctive range of associations and symbolic referents, which are evoked by the practice of material presensing.

The contrasts between matt / gloss surfaces is an equally striking feature of the hoard. The fundamental contrast in question is emphasised by the amphora containing the hoard, with its grey-brown burnished neck and its yellow unburnished belly and lower part – a contrast reinforced by the absence of decoration on the neck and its presence on the belly and lower and by the horizontal divisions in the profile. But there are contrasts, too, in the extent to which the raw materials are “cultured” - transformed into material culture. Hence, the flints and the pumice-stone are less transformed than the miniature axe or the bead, the pig incisors and bone plates less transformed than the Spondylus fragments. This contrast cuts across the distinction between “tool” and “raw material for ornament”, for each item has its own biography which it contributes to the whole.

We are now in a position to summarise what the Omurtag hoard is and what it is not. The hoard is not simply an accumulation of exotica - prestige goods collected by an elite Chalcolithic household and stored for further enchained exchange. Neither is the hoard an ornament hoard - a set of finely crafted, highly valued personal ornaments for occasions of conspicuous display. But the hoard is a statement about the relationship between quotidian things and exotic items, one of which was brought from a distance of over 1,000 km. The accumulation of this set of things relates the everyday and the exotic in a way that does not devalue the former in respect of the latter but which emphasises the importance of both – in their own particular contexts. The hoard is also an accumulation of enchained relationships and artefact biographies, for which the best
parallels are found in the rich graves of the Durankulak and Varna cemeteries. The hoard is also a statement about the importance of colour and shiny surfaces in Chalcolithic life ways – their symbolic referents and their statement about the transformation of raw materials into material culture and their further transformation into the constituent parts of social relations. Thus, finally, the hoard is concerned with the complex relationships between production, distribution and consumption – the elementary parts of prehistoric economic life.

The wider context of the hoard

The Balkan Copper Age is the period when set accumulation – the collection of often complete items in a set – becomes increasingly significant. In comparison with the Neolithic, the number, size and diversity of sets increases strongly in the Chalcolithic, to include five types of set – costume sets, figurine scenes, grave assemblages, burnt house assemblages and hoards (Chapman 2000, Ch. 4). Over 70 hoards are known from the Balkan Neolithic and Chalcolithic (2000, Appendix) but fewer than ten from Bulgarian Chalcolithic tells. The Omurtag hoard is therefore one of a select group of finds. It is small in comparison with several other ornament hoards (e.g., over 10,000 beads from Gălăbni (Чохаджиев 1990); over 3,000 Spondylus beads from the Čoka I hoard (Raczky 1994); or 852 objects in the Karbuna hoard (Деprачев 1998)) but it contains the greatest variety of raw materials of any known hoard in Central and Eastern Europe (only Čoka I contains an equal number of nine raw materials). In this sense, the Omurtag hoard fits well into two classic dichotomous patterns in Chalcolithic hoard deposition: diverse ornament hoards deposited in houses and settlements, vs. small and simple tool hoards deposited in liminal or remote places; and the rarity of non-metal ornaments in the West Balkans in comparison to their popularity in the East Balkans (Chapman 2000, 112 – 121). However, the combination of raw materials found in the Omurtag hoard is unique in Balkan Chalcolithic hoards, in which 22 combinations of seven basic material categories (pottery/ non-metal ornaments/ copper ornaments/ gold ornaments/ stone tools/ copper tools/ copper weapons) had been found up to the present (Chapman 2000, Tables 4.2 – 4.3). Are there any similar hoards to Omurtag?

The most obvious and closest parallel for the Omurtag hoard is the Hârşova hoard, in which 43 Spondylus fragments, a copper chisel and four awls were found in a Gumelniţa A vessel in burnt house 5 on the tell, which is located on the right bank of the lower Danube (Galbenu 1963). The shells comprise the non-conjoinable fragments of a minimum of 19 bracelets – all broken before deposition - and 20 bead rough-outs. Galbenu interprets the find as a bead-making workshop, with the copper tools used to work the recycled shell bracelet fragments. The similarities between the hoards include the high frequency of bracelet fragments and the inclusion of tools with the potential for working shell; the differences lie in the specific tools in each hoard, the wider range of raw materials at Omurtag, the inclusion of another ornament (the bead) at Omurtag and the more advanced state of the Hârşova bead rough-outs, which are missing from Omurtag. Both hoards signify the presence of enchained social relations through the missing parts of the bracelets.

The recent debate on the Spondylus fragments from Late Neolithic Dimini, in Northern Greece, illustrates similar questions to those raised by the Omurtag hoard. Halstead (1993) notes the presence of ca. 250 Spondylus pieces, of which ca. 180 pieces were worked. Most of the buttons and beads were complete but all but one of the ca. 100 rings was broken. Halstead criticises Tsuneki’s (1989) argument that the broken rings are the products of manufacturing mishaps and emphasises the alternative that the
broken rings were finished objects that were collected after manufacture. Many of the fragmentary rings were also burnt and often deposited with unburnt bone and/or shell. Halstead's interpretation is of deliberate burning of shell ornaments in a process of competitive destruction, comparable to a potlatch. However, this interpretation ignores the missing fragments, which were presumably removed from the settlement (Dhimini has been completely excavated!) and used to create social relations. In addition, at Dimini, the shell fragments were dispersed across the settlement in many houses, whereas at Omurtag they were concentrated in a single context.

There are few other examples of contexts in which *Spondylus* ornament-making is documented; exceptions concern Chalcolithic Sitagroi III and Dikili Tash II, from which export of bracelets and beads is claimed (Seferiades 1995, 93-4). The Omurtag hoard in fact refutes Todorova's (1982) claim that there is no evidence for local working of *Spondylus* on Bulgarian Copper Age tells. Outside the North Aegean sites, only at Omurtag and Hârşova can we detect evidence of local bead-manufacture using bracelet fragments, anywhere in the whole very long-distance exchange network, linking the Aegean and North East Bulgaria to the Paris Basin (Willms 1985; Séférides 1995).

The Omurtag hoard presents evidence of social practices that, in two distinctive ways, complement the far-flung *Spondylus* exchange network. First, there is the incorporation of local materials for tools — materials which are present in everyday contexts in the rest of the tell. In this way, the hoard makes a statement about, if not the whole range, then a wide range of materials in common use on the tell. A good analogy for this aspect of the Omurtag hoard is the assemblage from the North part of Pit 1 at Medgidia-Cocoa, where deposition of a wide range of raw materials — clay, many kinds of stone (marble, limestone, granite, sandstone, chert and flint), bone, antler, tooth and shell — defines the everyday material circumstances of life in an Early Hamangia community (Haşotti 1986; Chapman 2000a).

Secondly, the Omurtag hoard illustrates another very long-distance exchange network that brought the pumice-stone far from its point of origin (Fig. 1). The current ambiguity over the source of the pumice-stone inevitably leads to speculation about possible routes. A Theran source would mean a marine voyage (P1) restricted to only a few summer months (Perlès 2001) linking eight different islands — Thera —
Ios - Naxos - Mykonos - Chios - Lesbos - Gokceada - Samothraki - a total of 730 km, before reaching the mouth of the Evros/ Maritsa, from which an overland voyage up the Maritsa and Tundzha rivers and a crossing of the Stara Planina over the Kotel pass would bring the pumice-stone to Omurtag - a total of 1,000 km. This route would cross up to eight different island communities (or only three, if the pumice source was on Lesbos!), each with their own specific local variants of material culture, as well as the K-G-K VI distribution, stretching from Turkish Thrace North into Eastern Bulgaria.

If we are correct in setting aside the inland pumice sources, an Aeolian source from Lipari would mean a complex set of maritime and overland voyages, with two main possibilities after an initial sea-voyage from Lipari to the south Italian mainland at Palmi and an overland trip across the foot of Italy to Taranto: (P2) a crossing of the Adriatic Sea from Bari to Dubrovnik, a complex and difficult mountain traverse of the Dinaric range to Kosovo Polje, an easier crossing of the West Balkan mountains to the Sofia Basin, and a long overland passage North of the Stara Planina to Omurtag - a combination of two overland voyages (1,120 km) and 2 sea-voyages (280 km), totalling 1,400 km; or (P3) a crossing of the Adriatic sea from Brindisi to Vllore, with a complex mountainous traverse to the upper reaches of the Aliakmon, following the river down to the Macedonian coast, a sea-voyage round Khalkidiki to the mouth of the Evros/Maritsa and Northwards (as before) to Omurtag - a combination of 3 overland voyages (1,020 km) and 3 sea-voyages (540 km), totalling 1,560 km. Either route would have meant that the pumice-stone passed through the hands of many communities and five or six “style-zones” (Capri, Serra d’Alto + (1) Hvar - Lisićići, Late Vinča and Krivodol-Salcuța-Bubanj Hum I; or + (2) Çakran, Dimini, Galepsos, KGGKVI). The artefact biography of the pumice-stone would have increased and diversified, bringing cumulatively more renown to each successive owner/user until its final deposition and extending the circle of enchained social relations far beyond its normal scope.

In fact, our preferred interpretation is not a continuous voyage devoted to direct procurement of the most distant resources but, rather, a face-to-face prestige goods exchange enchaining many persons in many different communities over a number of years or even decades. The question of time has been largely ignored in set accumulation (but see Monah, in press) - viz., the number of human generations required to accumulate the items in a hoard. It is hard to imagine that local communities such as Omurtag could have generated sufficient exchangeable materials to acquire relatively large quantities of Spondylus shell and such a prestigious object as the pumice-stone within a short time. It would be more reasonable to consider a decadal timescale for such accumulation, since the social occasions in which enchained social relations were practised were necessarily limited to several per annum. Since items from such a set would leave the hoard from time to time in exchange for other, more desirable things, the composition of the hoard would grow, shrink and change in line with a wide range of social practices and interactions - truly a case of “in statu nascendi”. The same point may be made in relation to the movement of objects such as the pumice-stone - the length of social time for an increasingly special thing to move distances in excess of 1,000 km. But the talc-schist (?) miniature axe from serpentinized ultra basic rock and the fragmentary Spondylus bracelets from the Aegean shores must also have underwent several changes in their personal biographies before deposition on the Omurtag tell, rather than, e.g., in the Varna or Durankulak cemeteries, where other talc-schist axes and shell bracelets have been identified (personal communication, Assoc.Prof. Dr. R. I. Kostov – University of Mining and Geology “St. Ivan Rilski”, Sofia).

The final general comment about social space and social time is that each object brought with it a personal history - a record in narrative (myth, legend) and in material form - of its own past. A hoard is not only a set of things, but a collection of narratives - a meta-narrative connecting all of the objects in the
Table 1. Origins and distance of sources of items in the Omurtag hoard

<table>
<thead>
<tr>
<th>DISTANCE</th>
<th>WATER ORIGIN</th>
<th>LAND SURFACE ORIGIN</th>
<th>UNDERGROUND ORIGIN?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL (0 – 10 km)</td>
<td>quartz polishers, quartz bead</td>
<td>perforated bone, bone plates, pig canines, clay vessel</td>
<td>clay vessel</td>
</tr>
<tr>
<td>MEDIUM (11 – 100 km)</td>
<td></td>
<td>? flints</td>
<td>? flints</td>
</tr>
<tr>
<td>LONG (101 – 500 km)</td>
<td>Spondylus, Cardium shell</td>
<td>? axe</td>
<td>? axe</td>
</tr>
<tr>
<td>VERY LONG (&gt;501 km)</td>
<td>? pumice</td>
<td>? pumice</td>
<td>? pumice</td>
</tr>
</tbody>
</table>

Key: bone plates – animal origin; axe - mineral origin

Table 2. Age of pumice * from various sources (SY)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>EPOCH</th>
<th>AGE (million years bp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Izmir</td>
<td>Pliocene – Quaternary</td>
<td>5.3 – 0.01</td>
</tr>
<tr>
<td>Aeolian Islands</td>
<td>Miocene – Holocene</td>
<td>23.5 – 0.01</td>
</tr>
<tr>
<td>Cycladic Islands</td>
<td>Miocene – Holocene</td>
<td>23.5 – 0.01</td>
</tr>
<tr>
<td>Cserhát</td>
<td>Miocene</td>
<td>23.5 – 5.3</td>
</tr>
<tr>
<td>Baia Mare</td>
<td>Miocene</td>
<td>23.5 – 5.3</td>
</tr>
<tr>
<td>Zletovo – Kratovo</td>
<td>Oligocene – Miocene</td>
<td>34 – 5.3</td>
</tr>
</tbody>
</table>

* Pumice (Latin: "pumex") is formed by the eruption of mainly acid lava (60-73 % SiO2), strongly impregnated with steams and gases; porosity: up to 80%; volume: 400 – 900 kg/m³; hardness: 6 on Moh's Scale; melting point: 1300 – 1450°C.

Table 3. Colour and matt / gloss contrasts for the Omurtag hoard

<table>
<thead>
<tr>
<th>POLISHED/ BURNISHED</th>
<th>WHITE</th>
<th>WHITE + RED</th>
<th>WHITE + BROWN</th>
<th>BROWNS</th>
<th>GREY-BLACK</th>
<th>GREEN-BLACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spondylus quartz pebbles</td>
<td>Spondylus bead</td>
<td>pot/upper</td>
<td>mini. axe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bone</td>
<td>pig incisors</td>
<td>pot/lower</td>
<td>pumice-stone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardium</td>
<td>-</td>
<td>bone plates</td>
<td>flints</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
hoard with each other but also all of the previous owners of the things and their social lives – up to a certain point - with each other – a vivid example of a social network in operation. The open question for very long-distance things such as the pumice-stone is the relevance of biographical details from an early stage of the object’s life-history.

**Conclusions**

The Omurtag hoard is a remarkable set of Chalcolithic objects – one vessel, one ornament, 20 fragmentary shell and bone items, one unworked shell and 11 working tools – found at the beginning of the 5th millennium CAL BC on a tell in North East Bulgaria. It is the only such hoard with any evidence for *Spondylus* working in Bulgaria and, together with Coka I, it contains the widest range of raw materials of all known Neolithic and Chalcolithic hoards in Central and Eastern Europe. Although one of the hoard items derives from a very long distance, the hoard also contains local items from the region used in everyday life, leading to the representation of a wide range of colours perhaps typical of Chalcolithic settlements. The *Spondylus* bracelet and bone pendant fragments underline the significance of enchained social relations for those who assembled the hoard. The hoard represents in microcosm all of the structuring processes which formed and were formed by Chalcolithic societies in the East Balkans – of which enchainment and set accumulation of exotic and local things, and their structured deposition, were important components. Needless to say, an important future research goal is to determine through scientific analysis the origin of the Omurtag pumice-stone.

**Acknowledgements**

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ХОРА, ПРЕДМЕТИ И ОБВЪРЗВАНЕ: ЕНЕОЛИТИЧНА КОЛЕКТИВНА НАХОДКА ОТ СПОНДИЛУС ОТ СЕЛИЩНАТА МОГИЛА ОМУРТАГ

Бисерка Гайдарска / Димчо Чанчан / Илка Ангелова / Мария Горов / Славчо Янев

(резюме)

Предмет на тази статия са фрагменти от молюска спондилус и свързаните с тях съчетания и орнаменти, намерени в съдът от втори строителен хоризонт на селищната могила Омуртаг, разположена на 1 км северно от едноимения град в Североизточна България. Обектът е проучен от Илка Ангелова през 1982 г. Колективната находка се състои от 34 предмета – единът е почти произведеен съд, в който са поставени за съхранение 11 фрагмента от спондилусови гривни (с егейски произход); 8 малки спондилусови фрагмента; една необработена мида Cardium (с черноморски произход); едно съдване от кост с перфорация; едно полирано каменно мънисто; два плоски кости предмета; три зъба от свиня (всячки с местен произход); два фрагмента от кремъчна пластина (от Североизточна България); един фрагмент от вулканична скала – полизъртен излом като разстояние на прозрачен пласт (с егейски произход); една миннатюрна полирана каменна тесличка с трапецовидна форма (с източно-нордозапск или по-далечен произход); и две поли-