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Survey for the Studying of the Lead Projectiles and Findings from the Carevi Kuli-Strumica

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The sling is a weapon which use can be connected with the beginnings of the civilized living and first shape of wage war. It has a form of rope with one part in the middle for projectiles which primary has been made from stone and later from other materials. The projectiles are thrown by using of the centripetal force of the warriors who were specially trained for the techniques of using of this kind of weapon.

The sling was often made of dried animal intestines or veins, which are basically used in the preparation of the bows.¹

Due to the biodegradable material in the field today almost there are no archaeological remains of this type of weapon. Its specifications can be traced only through historical sources and many projectiles, as the only archaeological evidence of its use value.

Korfman, whose contribution to the study of this type of weapon is evident, believes that the first slings and projectiles which were made of stone, with a spherical shape, derived from the period of 10,000 BC. Later, about 6,000 BC biconical projectiles appeared, followed by egg-shaped or oval shaped projectiles.

The Weight of the stone projectiles ranges from 15 to 185 gr. while the weight of lead bullets ranges from 30 to 40 gr.

Diodorus reports that slingers from Baliaric islands who were very well trained in handling this kind of weapons from an early age used stone projectiles that weighed about 350 gr. with exceptional drilling strength, which could not defend any soldiers who were equipped with armor, helmets and shields. Their military equipment in battles was composed of three slings, one of which they wore around the neck, the second around the belt and third in their hand. Xenophon gives information about the Persian stone projectiles that were the size of the whole hand and had poor range.²

The slingers were part of the light armed units. Since this weapon was especially cheap, according to reports of Xenophon, it was most appropriate for slaves. The rank of these soldiers in the military hierarchy was in last place, after the archers, but he suggests that their presence in the battle along with other units sometimes was of particular importance.³ The use of this type of military units in

1 Snodgrass A.M, 1967, 84.

2 Diod.19.109.2 ; 5.18.3; Xenophon, Anab. 3.3.17; Pritchett V.K, 1991, 2, 43; Ashley R. J, 1998, 48.

3 Pritchett V.K, 1991, 53, 65.

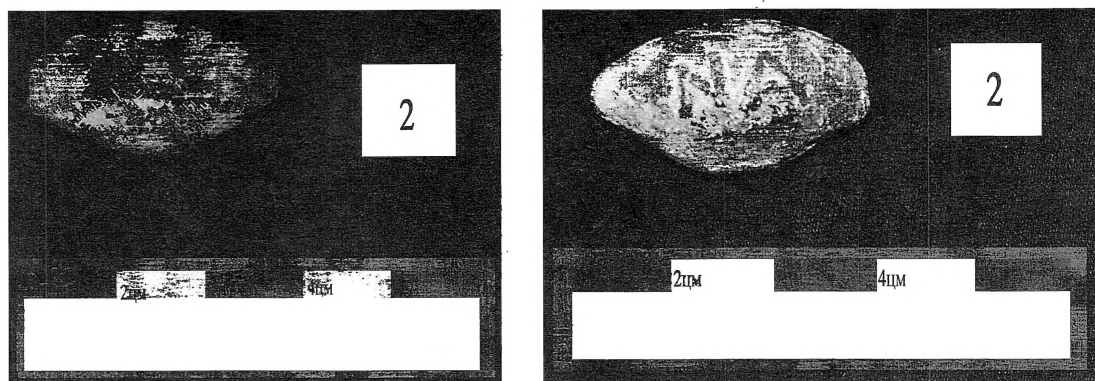


Fig. 1 Lead projectile – Carevi Kuli - Strumica

the military was widespread in the ancient world. Among the nations that sources highlight by technique of using this kind of weapons are Crete's people, due primarily to the rugged island terrain, which was more suitable for archers and lightly armed units, rather than cavalry and heavy infantry. Furthermore, Thessalians, Thracians, Achaeans, Aetolians, Rhodians, Persians, and Libyans were also wry skilful.

Throughout the classical period by the skill in handling of this kind of special weapon in particular emerging Rhodians, who were mostly engaged as paid soldiers in lightly armed troops.⁴

Hammond and Griffith consider that slingers in the army of Alexander III in the year 335 BC were Macedonians. They argue this opinion that in this type of lightweight units as allies there is no mention about any of the above nations.⁵

The importance of auxiliary units armed with slings probably derives from the fact that the range of projectiles thrown by this weapon was greater than the range of arrows or light spears, and of all kinds of light arms was the most difficult defense was against these missiles.⁶

At the same time should be noted that if used properly, in terms of technique and proper distance, lead projectiles could inflict severe and fatal physical injuries to which they were addressed.⁷

Based on the context in which are mentioned the use of sling by lightly armed units can be assumed that this was the most effective weapon in sieges. Namely, the army of Philip II in the siege of Olynthus had many slings, their presence is noted also in the army of Alexander III at the siege of Tyre, and Philip V during the sieges have hired Achaeans slingers as part of his lightly armed troops.⁸

About the way in which they were deployed and acting in battles, data has been provided by Livy and Polybius who report that they were normally distributed in front of the phalanx,⁹ they began the battle, and then retreated to protect the wings. In the battle of Perseus with the Romans in 171 BC clashes began with lightly armed

4 Snodgrass A.M., 1967, 84.

5 Hammond N.G.L. and Griffith G.T., 1979, HM 2, 430; Pritchett V.K., 1991, 54.

6 Strab. 8.3.33; Pritchett V.K., 1991, 56.

7 Veg. Mil. 1.17.

8 Pritchett V.K., 1991, 57.

9 Polyb.10.25.1; 8.8.9.

units or launchers of projectiles and light spears.¹⁰

Among the archaeological evidence emerging uncovered lead projectiles in Olynthus, some of which originate from 421 BC when Olynthians have taken the city from Athens, in this group of findings there are two clay molds for making projectiles labeled "XAΛKI". These projectiles include inscription "AΘENAIΩN", so consequently Robinson considered them that they are Athenians.¹¹

Many of the projectiles that are processed by Robinson probably originate from the time of Philip II siege of the city in 348 BC and were discovered in the southern part of the hill, which was a strategic position for conquering the city. These projectiles have carved sign with a message for the enemy, and among them there is a group in which is engraved the name of Philip and the names of some of his generals.¹²

By the inscription which was carved the projectiles can be divided in several varieties, inscriptions that containing a message to the enemy against whom bullet is directed, inscription which indicates the name of the ruler or a general, epithet or a symbol of victory, and the inscription which marks city name or personal name.

Inscription as specifics of the projectiles appears in the classical period.¹³

As to the specifics of the bullets which are defined as Macedonian, what is striking is the fact that Macedonian bullets compared with Olynthians one were heavier for a third, or the average weight of Olynthians lead projectiles totaled 20 gr. while the Macedonian 30 gr.¹⁴

On behalf of weight that assured greater impact strength range was decreased, which in case of siege is an advantage, and consequently can be assumed that heavier projectiles were actually used specifically in the siege.

Hellman that investigated bullets in Louvre museum, among which there were six Macedonian, one of which bears an inscription of the Macedonian general, supports the assumption that the projectiles were fabricated in Rhodes, probably due to the fact that from there came the best slingers.¹⁵ However this assumption cannot be taken without reserve, given that in Olynthus were detected molds, indicating local production of lead bullets.

Another group of projectiles from Pydna, Hammond are connected with the siege of Cassander in 317/16 BC.¹⁶

On the territory of the Republic of Macedonia with archaeological excavations at the site Carevi Kuli - Strumica, were discovered twenty lead bullets that are in relatively good state of preservation and relatively legible inscriptions, on whose basis and based on the context in which they are found one could determine their chronological frame, which varies widely around the IV century BC.

These projectiles are heavy 30 gr. that is within the standard weight for this

10 Pritchett V.K., 1991, 62.

11 Robinson D. M., 1941, 424.

12 ИСТО, 427/8.

13 Snodgrass A.M., 1967, 84.

14 Robinson D. M., 1941, 418/38; Snodgrass A.M., 1967, 117; Pritchett V.K., 1991, 45; Campbell B. D., 2006, 60.

15 Hellmann M. C., BCH 10, 1982, 75-87; ; Pritchett V.K., 1991, 47

16 Hammond N. G. L., 1984, JHS 104, 32; Pritchett V.K., 1991, 51-52.

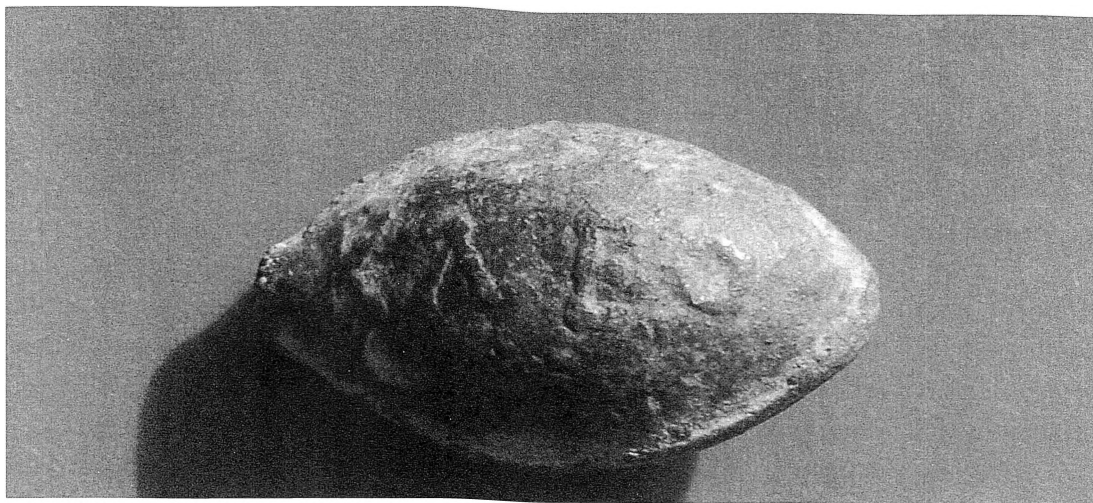


Fig. 1 Lead projectile – Carevi Kuli - Strumica

associated with the analysis of the inscription is in the direction that it may be a name of a Macedonian auxiliary unit that was stationed in period from the middle until the end of IV century BC.¹⁷ In this case the projectiles with this inscription can be determined as Macedonian.

One of lead bullets is labeled “KΛEO” on the front, while the inscription on the reverse is relatively damaged, but could be identified as “BOYΛOS” (T-2 Fig. 1). The inscription on the front has analogies with fifteen lead projectiles from Olynthus with inscription Kleoboulos, which assumes that the name probably refer to one of the officers in the army of Philip,¹⁸ although this assumption is not extracted on the basis of specific indications, so it wouldn't be taken without reserve.

Among the findings of Carevi Kuli stands a group of three lead projectiles with an inscription on the front which can be identified as “IPPO” and perhaps “NIKOV” on the reverse (T-2 fig. 2). This inscription probably refers to the personal name, or assumptions about its interpretation is in the direction that it is the name of Hiponik, one of the generals of Philip II, who participated in the siege of Olynthus in 348 BC.

The last of the bullets has no inscription.

Among lead projectiles from Carevi Kuli as a feature three variants could be distinguished, indicating that they were made from different molds. The projectiles with the inscription “MEP” on the front and “NA” on the reverse have elliptical form, as the same form has a copy without inscription, while the bullets with the inscriptions “KΛEO” on the front and “IPPO” on the front and “NIKOV” on the reverse have almond form.

The form itself may determine the performance of the projectiles, and on this basis can be assumed that those with elliptical shape were with more drilling power, more aerodynamic and with greater range.

These inscriptions are of extreme archaeological and historical importance, they are the real carriers of information, used for several thousand years, and their

17 Robinson D. M., 1941, 429; Pritchett V.K., 1991, 52.

18 Robinson D. M., 1941, 427/8.

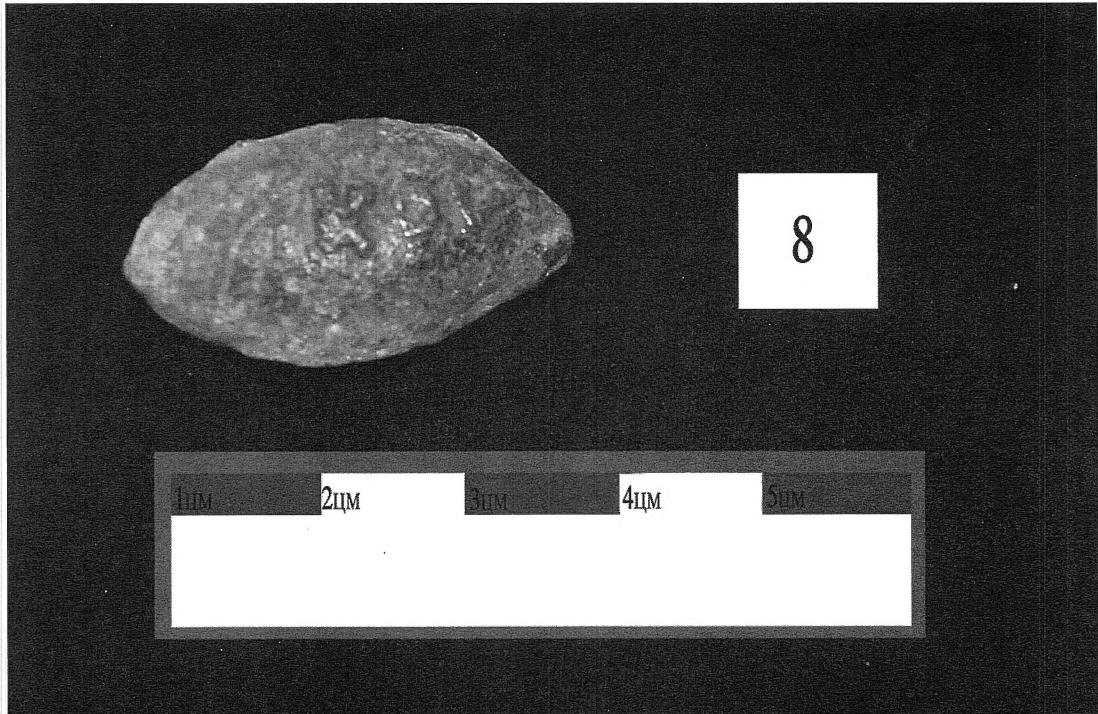
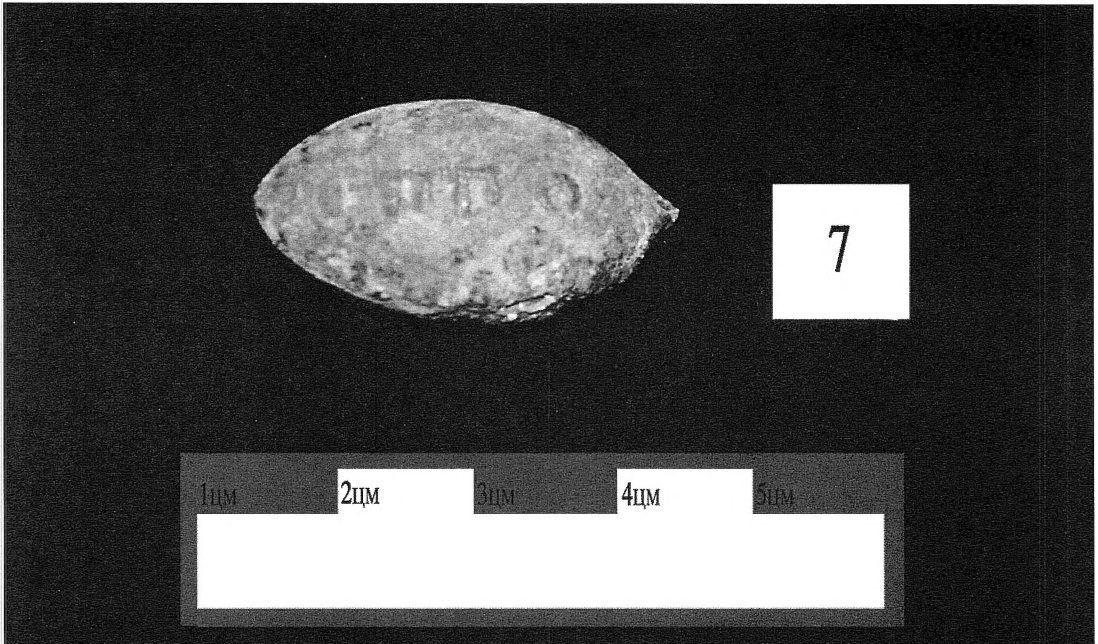


Fig. 2 Lead projectile – Carevi Kuli - Strumica

correct interpretation in a given constellation may be particularly important in terms of clarification or confirmation of a specific event or battle.

In terms of the context part of the projectiles were discovered in a pit 4 until some were found sporadically in the area of the acropolis or at the south and north wall. For the first time these projectiles have occurred during the archaeological campaign in 2008, also in the pit with almost identical content as the pit 4. Several lead projectiles without an inscription were sporadically discovered in the necropolis space in sector South Hill. The chronological frame of the projectiles, based on the context in which they were discovered, is situated in IV century BC but these data are not sufficiently indicative of their possible connection to a specific historical event that occurred in the area of Carevi Kuli.

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Резиме:**ПРИЛОГ КОН ПРОУЧУВАЊЕ НА ОЛОВНИТЕ ПРОЕКТИЛИ И НАОДИТЕ
ОД ЦАРЕВИ КУЛИ – СТРУМИЦА**

Праќата е оружје чишто почетоци се врзуваат за привите облици на цивилизациското живеење и првите војни. Главен материјал за изработка на ова оружје биле сушените животински црева и жили. Поради органскиот материјал од кој се изработувала праќата, главните ресурс за нејзино проучување претставуваат наодите на бројните оловни проектили, како и описите на античките историографи.

Ова оружје било карактеристика за најдолните рангови во воената хиерархија, а меѓу народите кои се издвојувале по својата вештина на ракување со овој вид на оружје биле Тесалијците и особено Родијците. Хамонд и Грифит сметаат дека прачкарите во војската на Александар III во 335 година п.н.е. биле Македонци, со оглед дека не се споменуваат други народи.

Значењето на ова оружје се огледа во неговите перформанси, неговиот голем дострел и пробивната моќ. Врз основа на археолошкиот материјал, особено проектите од Олинт, на којшто е испишано името на Филип и се врзуваат за опсадата на градот од страна на Филип II во 348 година п.н.е., може да се претпостави дека потешките проектили биле исклучително употребувани при опсади на градови. Натписите на проектите се посебно значајни при евентуално утврдување и реконструкција на некој историски контекст и битка.

Наодите од просторот на Цареви Кули имаат свои аналогии меѓу наодите од Олинт и меѓу нив можат да се издвојат три варијанти, врз основа на натписите и формата на проектилот. Временската рамка на овие проектили врз основа на контекстот во кој се откриени е сместена пошироко во IV век п.н.е. но тоа во овој случај се уште не е доволен индикатор за носење на поконкретни претпоставки и нивно евентуално поврзување со некој историски настан којшто се случил на просторот на Цареви Кули.

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