Ioannis Bellas
Independent Researcher
ORCID ID: 0000-0003-3416-0224

OBLICZA WOJNY
TOM 10 • NARZĘDZIA WOJNY
ŁÓDŹ 2023 • ISBN 978-83-8331-461-7 • s. 11–28
https://doi.org/10.18778/8331-461-7.02

BOWS AND ARROWHEADS FROM ANCIENT MACEDONIA: FROM HUNTERS TO ARCHERS

Summary. A passage by Demosthenes, who emphatically stated that it was through light infantry troops and their flexibility, rather than the sluggish Macedonian phalanx, that Philip II of Macedon secured his victories, illustrates how important the organization of light infantry units was to Philip II. After describing the lightly armed soldiers, the cavalry, and the mercenaries, Demosthenes made reference to archers. Based on this passage and the rich assemblage of arrowheads discovered in ancient Olynthos and Stagira – Greek cities once besieged by Philip II – the author will try to approach the problem of the presence of archers in Philip's army. First of all, the analysis of the collected data shows that in both areas the presence of specific categories of arrowheads is evidence of the siege laid by Philip's troops; secondly, it shows that Philip managed to organize a remarkable corps of Macedonian archers in a relatively short period of time. Although their contribution to Philip's victories was underestimated by the researchers, it seems that in fact, they played a very important role, especially in the difficult conditions of urban combat.

Keywords: bows, arrowheads, stone mold, archers, hunters, ancient Macedonia

In a passage from the Third Philippic, the Athenian orator Demosthenes showed how much importance Philip II of Macedon placed on the organization of light infantry units such as archers, slingers, and javelin throwers.[1] Demosthenes emphatically stated that it was through these units and their flexibility, rather than the sluggish Macedonian phalanx, Philip secured his victories. But what was the attitude of the ancient Macedonians towards archery? Did they use bows for hunting or as weapons of war? Finally, is it possible that units of Macedonian archers existed before Philip II? This paper argues that the combined analysis of the available sources – a few archaeological finds and references in ancient written records – can provide potential answers to the above-mentioned questions.

[1] Demosthenes, *Philippica* 3, 49–50: "ἀκούετε δὲ Φίλιππον οὐχὶ τῷ φάλαγγ' ὁπλιτῶν ἄγειν βαδίζονθ' ὅποι βούλεται, ἀλλὰ τῷ ψιλούς, ἱππέας, τοξότας, ξένους, τοιοῦτον ἐξηρτῆσθαι στρατόπεδον".

Fig. 1. a. Arrowhead from the Tombs Cemetery in Vergina (Source: M. Andronikos, *Vergina I. The Tombs Cemetery*, pl. 96); b. Arrowheads from Vergina's citadel (Source: I. Bellas, *Bows, arrows and quivers…*, pp. 269–270, no. 34–37); c. Arrowheads from ancient Pella (Source: I. Bellas, *Arrowheads from ancient Pella…*, p. 85, no. 17, pl. 2; N. Akamatis, *A house of the early Hellenistic period from Pella*, p. 13, no. 47)

Based on the evidence available to date, the use of a bow in Macedonia seems to have been limited – although not unknown – until the mid-4th century BCE. The few known remains are limited to Pella, Vergina, and Palatiano (ancient Ioron). From Vergina, and specifically the Tombs cemetery, come 22 iron arrowheads (fig. 1a) dating back to the 10th–8th century BCE.[2] They were found in graves in groups of three, along with other weapons, such as swords and

[2] M. Andronikos, *Vergina I. The Tombs cemetery* (in Greek), Athens 1969, pp. 272–273, 279, pls. 96, 111, 117; A. Bräunig, I. Kilian-Dirlmeier, *Die eisenzeitlichen Grabhügel von Vergina. Die Ausgrabungen von Photis Petsas 1960–61*, Mainz 2013, p. 264, fig. 201; K. Rhomiopoulou, I. Kilian-Dirlmeier, *Neue Funde aus der eisenzeitlichen Hügelnekropole von Vergina, Griechish Makedonien*, „Praehistorische Zeitschrift" 1989, vol. 64 (1–2), pp. 97, 114, 133.

spears. In terms of their type, they are tanged and barbed, triangular in shape, missing a boss. Four additional arrowheads (fig. 1b) of the same type (barbed without boss) were discovered in the city's citadel.[3] Based on their type and features, they could be dated to the period between the 6th and 4th centuries BCE, although they were discovered in archaeological layers dated to a later period (3rd–2nd centuries BC). However, it is possible that due to their small size, these arrowheads might have been displaced and moved through archaeological layers, and thus their dating should not be based solely on the context in which they were discovered.[4]

Ancient Pella provides two more arrowheads (fig. 1c), which belong to the same type as those from Vergina, with a triangular body and long barbs without a boss.[5] Both of them were found in a late Classical layer (second half of 4th century BC). The first one comes from the area of the east stoa of the city's agora within a 3rd century BCE layer, while the second comes from a courtyard of an early Hellenistic house. Based on the stratigraphy, they should be dated from the end of the 4th to the beginning of the 3rd century BCE. However, like in the case of the finds from Vergina, the typology and history of development suggest an earlier date, at least in the Classical period (5th–4th centuries BC). Taking into consideration that a cemetery from the Iron Age and the Archaic period has been found in Pella (specifically in the area of the new entrance to the archaeological site discussed in this paper), perhaps these arrowheads should be linked – if not to this particular cemetery – at least to the settlement or the town of the same period, which could not have been situated too far away.[6] Therefore, dating these arrowheads between the 7th and 5th centuries BCE seems more plausible.

---

[3] P. Faklaris, *Vergina. Acropolis excavation 1994* (in Greek), „AergoMak" 1994 [1998], vol. 8, pp. 120, 123; I. Bellas, *Bows, arrows and quivers in the ancient Greek world* (in Greek, Ph.D. Thesis Aristoteles University of Thessaloniki), Thessaloniki 2018, pp. 85, 269–270, no. 34–37.

[4] About the dating of the arrowheads *vide*: I. Bellas, *op. cit.*, pp. 224–226; H. Baitinger, *Die Angriffswaffen aus Olympia*, "Olympische Forschungen" 2001, vol. 29, p. 7.

[5] I. Bellas, *op. cit.*, pp. 85, 270, no. 38; I. Bellas, *Arrowheads from ancient Pella: a weapon as a tool or a tool as a weapon?*, „Eulimeni" 2020, vol. 21, p. 85, no. 17, 18; N. Akamatis, *A house of the early Hellenistic period from Pella*, „Makedonika" 2015, vol. 40, p. 13, no. 47.

[6] On the Iron Age and Archaic times cemetery, *vide*: I.M. Akamatis, *Archaeological activity in Pella in 2008. General conclusions* (in Greek), „AergoMak" 2008 [2011], vol. 22, pp. 144–146; M. Lilimpaki-Akamati, I.M. Akamatis, *Pella from the Bronze to the Hellenistic Age*, [in:] *Threpteria. Studies on ancient Macedonia Tiverios*, eds. M. Nigdelis, P. Adam-Veleni, Thessaloniki 2012, pp. 9–12.

Fig. 2. Stone mould from Palatiano (Source: H. Anagnostopoulou-Chatzipolichroni, *Archaeological site of Palatiano. The South-East sector*, "AergoMak" 2004 [2006], vol. 16, p. 76, 83, pl. 2)

Another important find comes from Palatiano, where the ancient city of Ioron is located, in the region of ancient Crestonia.[7] Excavations there unearthed a stone mould for the production of arrowheads (fig. 2), only part of which is preserved.[8] It is a small stone slab with engraved outline of the arrowhead and a casting hole.[9] One side ends into the. The mould was intended to produce two-edged socketed arrowheads (fig. 2), a category that appeared in the Greek region during the 7th century BCE and remained in use until the 5th century BCE, a period that corresponds to the discovery layer of the mould.[10] More specifically, the mould was found in a chronological horizon of the late Iron Age for Macedonia (ca. 6th–5th centuries BCE). The mould is also significant because it shows the production of arrowheads in the area of ancient Macedonia, during a period when the archaeological finds concerning the bow are few in general.

[7] For ancient Ioron *vide*: H. Anagnostopoulou-Chatzipolichroni, *Palatiano (ancient Ioron): a city of ancient Crestonia* (in Greek), „Archaeologia" 1997, vol. 64, pp. 83–88.

[8] I. Bellas, *Bows, arrows and quivers*..., pp. 196–197, 324, no. 224; H. Anagnostopoulou-Chatzipolichroni, *Archaeological site of Palatiano. The South-East sector*, „AergoMak" 2004 [2006], vol. 16, pp. 76, 83, pl. 2.

[9] L. 12.5 cm. W. 7 cm., Th. 3.2 cm.

[10] For the two-edged socketed arrowheads in the Greek area *vide*: I. Bellas, *Bows, arrows and quivers*..., pp. 117–145.

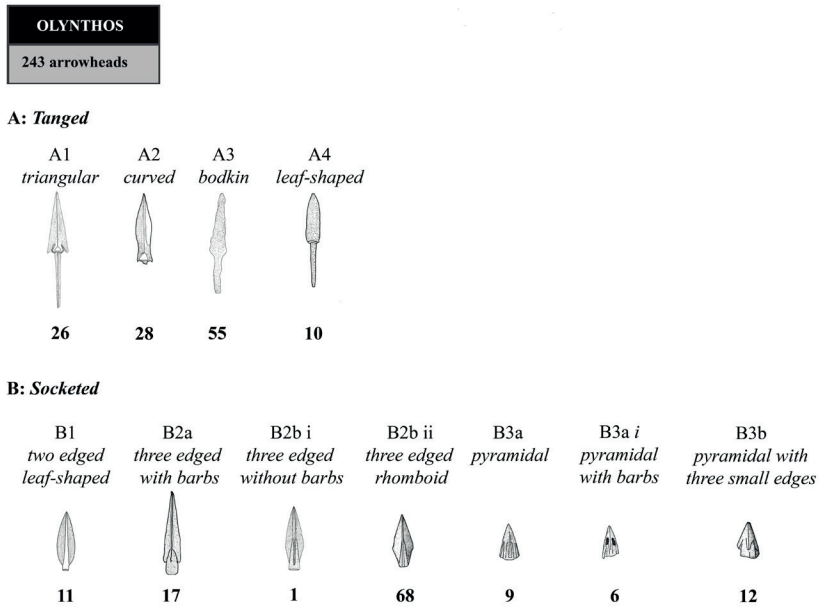

Fig. 3. Arrowheads from ancient Olynthos (Source: Author's own elaboration)

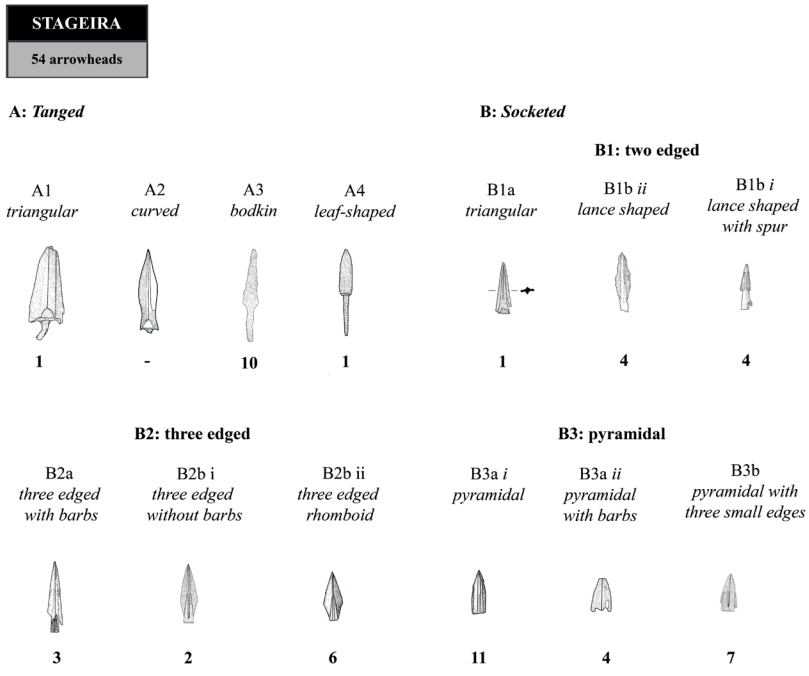

Fig. 4. Arrowheads from ancient Stagira (Source: Author's own elaboration)

Moving on to the 4th century BCE and especially in its middle, the respective finds increase in numbers. Olynthos, Stagira, Vergina, and Pella comprise the most important sources of information. In ancient Olynthos and Stagira – interrelated by their respective and equally decisive and destructive sieges by Philip II – a large number of arrowheads have been identified and studied. More specifically, 243 arrowheads have been discovered in ancient Olynthos.[11] These arrowheads can be divided into two main types, tanged and socketed (fig. 3). The tanged arrowheads can also be divided according to the shape and the cross-section into triangular, curved, bodkin, and leaf-shaped,[12] while the socketed ones into two-edged, three-edged, and pyramidal. In ancient Stagira, 53 arrowheads were found (fig. 4), which fall into the two major types that exist in Olynthos. The difference in this case, though, is that in Stagira, the tanged arrowheads are limited to the bodkins, except one triangular and one leaf-shaped arrowhead.[13] In Vergina and more specifically in the so-called tomb of Philip II 74 arrowheads were found located inside a quiver (*gorytos*).[14] The arrowheads are socketed, with barbs and a three-edged body. Eight similar arrowheads belonging to the same category were found in a tomb in ancient Pella (fig. 5) dating back to the third quarter of the 4th century BCE.[15] The arrowheads of this category (socketed, three-edged, with barbs) date back to the period from the 5th through the middle of the 4th century, while the majority of them, at least in Greece, could be placed in the 4th century BCE.

In Olynthos, 52% (fig. 6) of the arrowheads were discovered on the north hill, where the classical city was situated, on the streets and in the destruction layer, both inside and outside the houses.[16] 14% of them were found on the south hill, where the archaic city is located, while about 9% were found in the field between the two hills. An important question is whether these arrowheads can be associated with

[11] D.M. Robinson, *Excavations at Olynthus X. Metal and Minor Miscellaneous Finds*, Baltimore 1941, pp. 379–409.

[12] For the categories *vide*: H. Baitinger, *op. cit.*, pp. 9–25, 94–142; I. Bellas, *Bows, arrows and quivers*..., pp. 59–194; A. Snodgrass, *Early Greek Armour and Weapons*, Edinburgh 1964, pp. 144–153.

[13] I. Bellas, *Bows, arrows and quivers*..., pp. 265, no. 21, 280–282, no. 76–84, 283, no. 88.

[14] M. Andronikos, *Vergina. The Royal Tombs and the ancient city*, Athens 1991, 77, 186, fig. 38; P. Faklaris, «Weapons», [in:] *Vergina. The Great Tumulus. Archaeological guide*, eds. S. Drougou, Ch. Saatsoglou-Paliadeli et al., Thessaloniki 1994, p. 110; I. Bellas, *Bows, arrows and quivers*..., p. 147.

[15] I. Bellas, *Arrowheads from ancient Pella*..., pp. 73, 89, nos. 39–45.

[16] D.M. Robinson, *op. cit.*, pp. 382–409; J.W.I. Lee, *Urban combat at Olynthos, 348 BC*, [in:] *Fields of conflict: Progress and Prospect in Battlefield Archaeology*, eds. P.W.M. Freeman, A. Pollard, Oxford 2001, pp. 13–19.

any of the three known war events that occurred in the area of Olynthos. The first was the destruction of the archaic city by the Persians in 479 BCE;[17] the second was the destruction of the classical town by Philip II in 348 BCE.[18] The third war event involved the siege of the city by Sparta and its allies in 382 BCE. The Olynthians moved inside the walls, trapped their opponents between the towers within their firing range, and forced them to flee by throwing projectiles.[19]

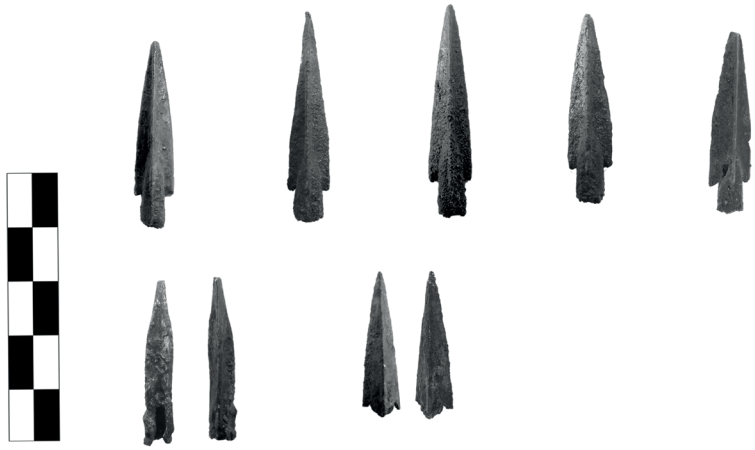

Fig. 5. Arrowheads from ancient Pella (Source: I. Bellas, *Arrowheads from ancient Pella*..., pl. 4, nos. 39–44, 49–50)

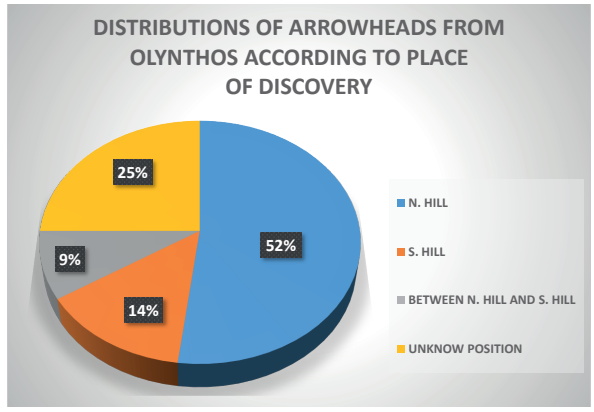

Fig. 6. Distribution of arrowheads from ancient Olynthos (Source: Author's own elaboration)

[17] Herodotus, *Historiae*, 8, 126–127; D.M. Robinson, *op. cit.*, p. 378.

[18] Diodorus Sicilus, *Bibliotheca historica*, 16, 53, 2–5.

[19] Xenophon, *Hellenica*, 5, 3, 5.

The presence of the archers (and possibly slingers) who managed to push back the Spartans and their allies becomes clear from the above events, as they are documented in the extant written sources. However, it is generally accepted by research that most of the arrowheads found in the north hill are related to the destruction of the city by Philip.[20] Due to the context of their finding – namely the city's destruction layer – and the great number of sling bullets, any other interpretative approach, including various aspects of everyday life such as hunting, should possibly be abandoned.[21] As for typology, these arrowheads belong to the subcategories (fig. 3) A1 (tanged and triangular), A3 (bodkin), B2 (socketed three-edged, with or without barbs), and B3 (pyramidal). The last, the pyramidal, was used widely in Greece during the 4th century BCE.[22]

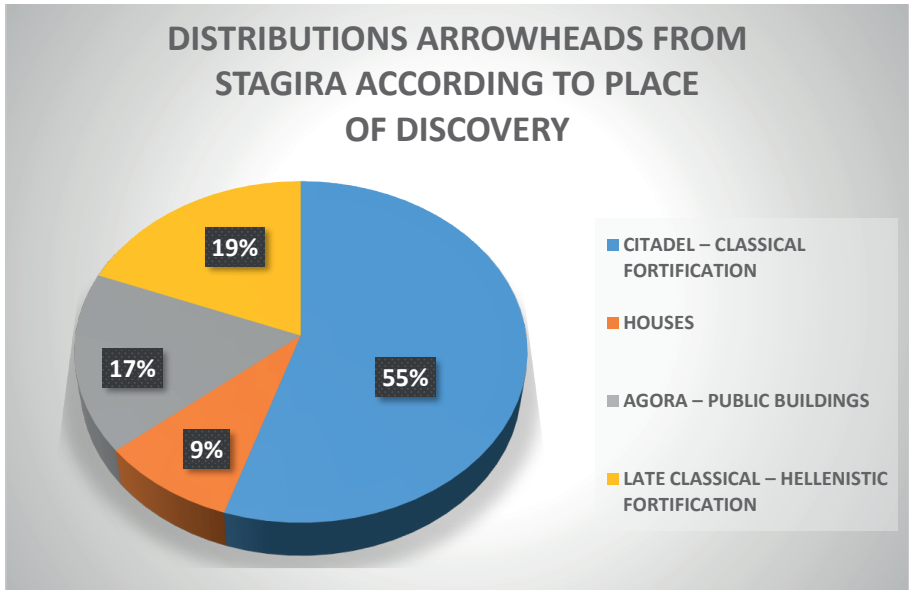

Fig. 7. Distribution of arrowheads from ancient Stagira (Source: Author's own elaboration)

[20] D.M. Robinson, *op. cit.*, p. 382; J.W.I. Lee, *op. cit.*, pp. 13–16.

[21] J.W.I. Lee, *op. cit.*, p.15. Similarly, the arrowheads from the south hill are mainly associated with the destruction of the city by the Persians, due to the place where they were found and their dating. D.M. Robinson, *op. cit.*, pp. 378–381; I. Bellas, *Bows, arrows and quivers*..., pp. 111–112, 142–145.

[22] *Vide* above: note 29.

In ancient Stagira, 55% (fig. 7) of these arrowheads were found along the internal and external front of the north part of the city wall, in the area of the circular tower and inside the citadel. In this area, there exist two rectangular buildings whose military character has been highlighted.[23] The rest were found within the city scattered in houses (9%), in public buildings, and in the agora (17%), while 19% were found along the late classical/Hellenistic city wall.

Could these arrowheads be the result of a war event? In ancient Stagira there were at least two such events known: the first is related to the first phase of the Peloponnesian War, when the city (in 424 BCE) allied with the Spartan Brasidas and brought about Cleon's intervention the following year.[24] The latter launched several unsuccessful attacks using the port of Eion (near Amphipolis) as his base of operations. The second and more significant event was the siege and conquest of the city by Philip II around 349–348 BCE.[25] The arrowheads found along the classical fortification and on the citadel could seemingly be related to either of these events, originating either from the attackers or the defenders. This interpretation is reinforced by the large number of lead sling bullets found in the area.[26] Given that the Athenians used their fleet and carried out their attacks from Eion, having, thus, the ability to attack the coastal city wall, most of the above arrowheads should be associated with Philip's attack. The Macedonian's lack of a fleet predicated Philip's reliance exclusively on his infantry. Hence, he must have concentrated his attack on the northern part of the city wall, where most of the arrowheads were found.[27] Typologically speaking (fig. 4), most of the above arrowheads belong to the subcategories A3 (bodkin), B2 (three-edged), and B3 (pyramidal).

[23] For the arrowheads of the area *vide*: K. Sismanidis, *Excavation of Ancient Stagira 1992* (in Greek), "AergoMak" 1992 [1995], vol. 6, p. 460; idem, *Ancient Stagira 1993* (in Greek), "AergoMak" 1993 [1997], vol. 7, p. 435; I. Bellas, *Bows, arrows and quivers*..., pp. 98, 120, 126, 137, 147, 159, 166, 175, 181, 185. For the buildings on the citadel *vide*: K. Sismanidis, *Ancient Stagira 1994* (in Greek), "AergoMak" 1994 [1998], vol. 8, p. 280.

[24] Thucydides, *Historiae*, 4, 88, 2 and 5, 6, 1.

[25] Diodorus Sicilus, *Bibliotheca historica,* 16, 52, 9.

[26] K. Sismanidis, *Ancient Stagira 1994*, p. 283.

[27] This connection is also reinforced by the inscribed lead sling bullets which are related to Philip or his officers. *Vide* above: note 26.

Common arrowheads categories

	A3 *bodkin*	B2a *three edged with barbs*	B2b i *three edged without barbs*	B2b ii *three edged rhomboid*	B3a *i pyramidal*	B3a *ii pyramidal with barbs*	B3b *pyramidal with three small edges*
							
Olynthos	**55**	**17**	**1**	**68**	**9**	**6**	**12**
Stageira	**10**	**3**	**2**	**6**	**11**	**4**	**7**

Fig. 8. Common arrowhead categories (Source: Author's own elaboration)

Comparison of the arrowheads from Olynthos and Stagira allows the emergence of some points. Thus, it seems a) that the arrowheads from ancient Stagira are fewer, b) they are more restricted in terms of their typology (almost exclusively socketed), and c) they have several categories in common with those from Olynthos (fig. 8). This smaller number of arrowheads from Stagira, however, is not insignificant at all. Furthermore, this can be explained by the fact that – unlike Olynthos – a large part of the city has not been investigated, while the city was rebuilt by Philip and partially re-inhabited.[28] The latter would probably involve some sort of cleaning of the area including a possible collection of the arrowheads for further use. However, the finding of arrowheads belonging to the common categories is of particular importance in further approaching Philip's archers during two historical events. With the exception of the three-edged rhomboid arrowheads (fig. 8), which appeared in Greece from the 6th century, were in wide use in the 5th century and declined during the 4th century BCE,[29] the rest of the categories – bodkin, three-edged with barbs, and pyramidal (A3, B2a, B3) – belong to types that

[28] Plutarchus, *Alexander*, 7, 3; K. Sismanidis, *Ancient Stagira. Birthplace of Aristotle*, Athens 2003, p. 15.

[29] I. Bellas, *Bows, arrows and quivers*..., pp. 156–170. It is indicative that although many of them were found on the north hill of Olynthos, Lee does not connect them to the events of 348. J.W.I. Lee, *op. cit.*, p. 16, draft memorandum.

appeared from the end of the 5th century BCE and were used widely throughout the 4th c. BCE.[30] This means that, on the one hand, one could disconnect them from earlier historical events (the Persian and Peloponnesian Wars), and, on the other hand, place them within the chronological framework of the war episode of 349–348 BCE that involved both cities. It should also be taken into account that in both cases these arrowheads were accompanied by a large number of inscribed and non-inscribed lead sling bullets, many of which bear names associated with Philip or his officers.[31]

The next question that arises is whether the above arrowheads are connected to Philip's archers or to defenders. First of all, as far as the Olynthians are concerned, we know that they had capable archers, since they managed to repel the Spartans and their allies several years prior. The answer to this question is therefore not easy, especially if one takes into account that in the case of Olynthos, despite the betrayal of Euthycrates and Lasthenes, a battle was fought within the city, where pockets of resistance must have existed. These were probably fortified in houses or other buildings using bows or slingshots as weapons.[32] Similar incidents occurred in Plataea during the invasion of the Thebans in 431 BCE,[33] and in Olympia between the Elians and the Arcadians in 364 BCE.[34] Furthermore, during the surrender of the Thessalian city of Pharkadona to Philip in 354 BCE, some of the residents trapped his mercenaries by throwing spears and arrows from the roofs of houses and towers.[35] It is therefore understandable that in an urban battle, the ridding of the area from pockets of resistance was not an easy task and presupposed the existence of a capable corps of archers and slingers. In such a case, arrows would be fired

[30] For the distribution of the arrowheads in general *vide*: I. Bellas, *Bows, arrows and quivers...*, pp. 95–104, 145–190.

[31] For the leads *vide*: D.M. Robinson, *op. cit.*, pp. 419–443; J.W.I. Lee, *op. cit.*, p. 13–14; K. Sismanidis, *Ancient Stagira 1994*, p. 283. For the interpretation of the names *vide*: E. Nankov, *The mobility of Macedonian army in Thrace during the Reign of Philip II and the inscribed Lead Sling Bullets from Kozi Gramadi*, „Bulgarian e-Journal of Archaeology" 2015, vol. 5.1, pp. 1–6; I. Bellas, *Sealing Issues on Projectiles in the Late Classical and Hellenistic periods*, [in:] *Історія давньої зброї. Дослідження 2020: збірник наукових праць*, упор. Д.В. Тоїчкін, Київ 2023, pp. 16–23.

[32] J.W.I. Lee, *op. cit.*, pp. 18–19.

[33] Thucydides, *Historiae*, 2, 2, 4; *vide*: J.W.I. Lee, *op. cit.*, p. 19.

[34] Xenophon, *Hellenica*, 7, 4, 31.

[35] Polyaenos, *Strategemata*, 4, 2, 18.

from either side, so much so that the location of the findings is not truly indicative of who launched them.[36]

The most likely answer is that both sides used arrows equipped with arrowheads of these well-known and widespread categories of this period (A3, B2a, B3). Attempting to narrow this down a little further, it seems that a closer connection between the Macedonian archers and the three-edged barbed and pyramidal arrowheads did exist.[37] On the one hand, these arrowheads belong to the subcategory that has been found in 4th c. tombs of Vergina and Pella; on the other hand, arrowheads of this subcategory were used in Stagira almost exclusively by the Macedonians, as suggested by their finding at areas where Philip's attack occurred (north part of the wall, citadel). However, it cannot be entirely clear whether they were used by only one side. Moreover, the tanged triangular arrowheads (A1, fig. 3) are known in the research as Cretan and were mainly used by Cretan archers,[38] and should, therefore, be connected to Philip's army, who employed Cretan mercenaries.[39]

[36] It makes sense that during a siege the arrows of the defenders were located outside or on the perimeter of the city walls, where the enemies were attacking. On the other hand, projectiles within the city would be the result of the besieger's firing. In an urban battle, however, this reasoning cannot be valid because both sides are inside the walls and use houses or other buildings as refuge and base of operations.

[37] These arrowheads are characterised as Macedonian or Thracian. D.M. Robinson, *op. cit.*, pp. 405–410.

[38] We can safely maintain that the Cretans exclusively used these kinds of arrowheads, which several cities of Crete depicted in a series of coins of the 4th century BCE. *Vide*: J. Forsdyke, *Some arrowheads from the battlefield of Marathon*, „Proceedings of the Society of Antiquaries of London" 1919, vol. 32, p. 155; I. Bellas, *Bows, arrows and quivers*..., pp. 216–217. They are also characterised as 'Cretan' (κρητικαὶ ἀκίδαι) in an inscription of the same period from the opisthodomos of the Parthenon (*IG* II/III2, 1424a, 383). Probably these arrowheads would be easier to use than those used by the Cretan archers. The last one used to use a kind of bow, which according to an inscription of Delos, is characterised as Cretan (τόξα κρητικά *(toxa kretika, cretan bows)*), *IG* XI, 2, 161. *Vide*: I. Bellas, *Bows, arrows and quivers*..., p. 47). Nevertheless, we cannot exclude the use of these arrowheads by non-Cretans, especially after the 4th century. This development probably took place after the employment of Cretan mercenaries and their coexistence with the Macedonian archers. The Cretans, as more experienced, possibly contributed to the elevation of archery in Macedonia.

[39] Even though written sources refer to Alexander's army, it is generally accepted that Philip too employed Cretans. Besides, the amalgamation in Alexander's army of the two different units – Macedonian and Cretan – into one coherent corps presupposes a strong presence of Cretan mercenaries in Macedonia before 334 BCE. H. Berve, *Das Alexanderreich auf prosopographisher Grundlage*, Munich 1926, pp. 131, 156.

A final issue is whether a corps of Macedonian archers existed before Philip. It is well established that the ancient Macedonians had a powerful cavalry and that Philip, when he assumed the kingship, undertook to organise the infantry with two important innovations: the Macedonian phalanx and the sarissa, the large spear, which was carried by the phalangites. There is no mention of archers and archery. The only pieces of evidence are the arrowheads of the 6th and 5th centuries from Pella and Vergina, as well as the early mould from Palatiano.

At this point, it should be noted that the operation of a bow presupposes exercise, skill, and accuracy. For this reason, during the Hellenistic period, archery was introduced in gymnasia, as at least the gymnasiarchical laws of Veroia and Amphipolis indicate.[40] Furthermore, a distinction should be made between hunter-archers and warrior-archers. A hunter-archer was capable of handling the bow, but lacked battle tactics that would require different kinds of shots. On the contrary, the Cretans, the leading warrior-archers of the ancient Greek world, carried a dagger and a small shield – the *pelte* – in addition to a bow. This way, they could carry out various missions during a battle or a siege.[41] In any case, an archer-hunter could still be the reasonable choice for recruitment in a military corps of archers. It emerges as a defensible conclusion, then, that in Macedonia there were archers who were engaged in hunting, and, when needed, were trained and organised into a military corps of archers. This view is supported by the arrowheads of the 6th and 5th centuries from Pella and Vergina, which, although few, are evidence enough of the presence of archers. The strongest evidence, however, is given the mould from Palatiano, which testifies to the production of arrowheads locally. Furthermore, hunting with a bow was not unusual in ancient Macedonia. A locally-produced black-figure column-krater dating to the early 6th c. BCE, featuring a scene in which a hunter with a bow in his hand aims at two deer, was found during the excavations of the ancient settlement at Karabournaki, in the area of the Thermaic gulf.[42] Consideration of the historical events and the arrowheads

[40] P. Gauthier, M.B. Hatzopoulos, *La loi gymnasiarchique de Beroia*, Athens 1993, pp. 20, B10–12, 68–69, 162.

[41] Xenophon, *Anabasis*, 5, 2, 28–32.

[42] E. Manakidou, *Crater with deer hunt from Karabournaki (in English)*, [in:] *Namata. Honorary volume for Prof. Dimitris Pantermalis*, eds. S. Pingiatoglou, T. Stefanidou-Tiveriou, Thessaloniki 2011, pp. 282–284.

themselves can lead to several thoughts concerning the time when the transformation from hunter-archers to warrior-hunters might have occurred. In 349 BCE Philip started an expedition against Chalkidiki that ended a year later with the destruction of Olynthos, the capital of the Chalkidean League. In the 350s he had captured the cities of Amphipolis (357 BCE), Pydna (357 BCE), and Methoni (355 BCE). During the siege of Methoni, he lost his right eye when a man named Aster struck him with an arrow.[43] In 349–348 BCE, he besieged and destroyed Stagira,[44] while at about the same time (probably after the siege of Stagira) he conquered the cities of Mykiverna, the port of Olynthos, and Toroni by treachery.[45] All these are sites where common types of arrowheads have been found, excluding only the Cretan arrowheads, which were discovered only in Olynthos.

It appears that the cases of Pydna and Methoni played a significant role in Philip's decisions, signaling another innovation in the operation of the Macedonian army. It is not clear whether during these two sieges Philip had any archers at his disposal, as the findspot of arrowheads in Pydna relates them with the defenders rather than the attackers.[46] On the other hand, it is highly possible that Philip realized the need for light and more flexible corps of archers next to the heavy siege engines, which would be particularly useful for combat conducted in urban settings, where archers could be placed in streets, houses, or other buildings. The deployment of siege engines in such

[43] The majority of ancient authors and contemporary historians converge towards the opinion that this incident occurred during the siege of Methoni (Diodorus Siculus, *Bibliotheca historica*, 16, 35; Theopompus, *FGrH*, 115, 52; Justinus, Epitome, 7.6.15), while Plutarch based on Callisthenes believes that the incident took place in Olynthos (Plutarchus, *Moralia*, Greek and Roman parallel stories 307, D, 1–8).

[44] F. Papazoglou, *Les villes de Macédoine à l'époque romaine*, "Bulletin de Correspondence Hellenique", Supplement, vol. 16, École Française d'Athènes 1988, p. 435.

[45] A. Cambitoglou et al., *The metal objects*, [in:] *Torone I*, vol. 2, eds. J. Papadopoulos, A. Cambitoglou, G. Joyner, Athens 2001, pp. 727–728; Diodorus Sicilus, *Bibliotheca historica,* 16, 53, 2.

[46] In the archaeological site remains of ditches were traced associated with the city at the time when it was besieged by Archelaus I (410 BCE), by Philip II (357 BCE), and by Cassander (316 BCE). Ditch B especially was related to the siege of Philip II, while the lead sling bullets and the arrowheads found inside the ditch had been attributed to the counterattacks of the Pydnaians at the fortification works of the besiegers. M. Besios, A. Athanasiadi, *North cemetery of Pydna* (in Greek), "AergoMak" 2001 [2003], vol. 15, pp. 365–367.

cases was probably not possible.[47] This type of combat could take place even after the fall of a city by betrayal, as pockets of defenders could still remain inside the urban area.[48]

If the above reasoning is valid, then Philip had at his disposal six years to transform the Macedonians from hunter-archers to warrior-archers. In this he was probably successful, as the contribution of his corps of archers was substantial in Stagira and especially in Olynthos. In Stagira there were probably also battles within the city, as shown by the dispersion of arrowheads in the houses and the agora. A further ascertainment that can also be made concerns the likely time of employment of the Cretan archers, which probably took place before the siege of Olynthos, as – in contrast to Stagira and Toroni – it is the only site in which Cretan arrowheads were found.

In conclusion, the arrowheads of the specific categories identified in the sites of Olynthos and Stagira point towards a historical event common to both cities: namely, their siege and conquest by Philip II. Further, it becomes evident from the above discussion that Philip II successfully organised a remarkable corps of Macedonian archers in a relatively short period of time, the role of which – despite being underestimated in research[49] – seems to have been essential, and it evidently operated with a high degree of efficacy. This is especially illustrated by its performance during difficult urban battles, which it handled almost on its own. Moreover, the employment of Cretan archers, perhaps before the siege of Olynthos, certainly had to do, on the one hand, with the further strengthening of the Macedonian archers and, on the other hand, with war tactics. In conclusion, it seems that Demosthenes, when he presented the *Third Philippic* speech in 341 BCE did not speak vaguely, but his choice of words reflected reality. He probably had in mind all the above cases, in which it was the *psiloi* (light infantry units) with the archers at their core that contributed significantly to the conquests of cities and won important victories for Philip.

[47] An incident that occurred in 364 BCE in ancient Olympia is quite telling. During the battle between the Eleans and the Arcadians inside the Altis, the Eleans were being attacked in the spaces between the porticus, the Bouleuterion, and the Temple of Zeus by the Arcadians, who were probably deployed in a skirmish line. Xenophon, *Hellenica*, 7. 4. 31.

[48] This view is reinforced by the siege of Pharkadona by Philip II in 354 BCE. *Vide*: above p. 6, note 35.

[49] N.G.L. Hammond, G.T. Griffith, *A History of Macedonia*, vol. 2, Oxford 1972, pp. 429–430.

BIBLIOGRAFIA • BIBLIOGRAPHY • БИБЛИОГРАФИЯ

Źródła drukowane • Printed sources • Печатные источники

Demosthenes, *Philippica 3*, [in:] *Demosthenis orationes*, ed. S.H. Butcher, vol. 1, Oxford 1903.

Diodorus Sicilus, *Bibliotheca historica (lib. 1–20)*, ed. F. Vogel, K.T. Fischer, *Diodori bibliotheca historica*, vol. 3, Leipzig 1906.

Herodotus, *Historiae*, [in:] *Hérodote. Histoires*, vol. 8, ed. Ph.-E. Legrand, Paris 1932.

Justinus, *Epitome of Pompeius Trogus' Philippic Histories*, ed. rev. J.S. Watson, https://www.attalus.org/translate/justin10.html#7.1 (access: 13 X 2023).

Plutarchus, *Alexander*, [in:] *Plutarchi vitae parallelae*, vol. 2, ed. K. Ziegler, Leipzig 1968.

Plutarchus, *Parallela minora* [Sp.] (305a–316b), [in:] *Plutarchi moralia*, vol. 2.2, ed. W. Nachstädt, Leipzig 1935.

Polyaenos, *Strategemata*, [in:] *Polyaeni strategematon libri viii*, ed. E. Woelfflin, J. Melber, Leipzig 1887.

Theopompus, *Fragmenta*, FGrH 115: 2B: 536-617.

Thucydides, *Historiae*, [in:] *Thucydidis historiae*, vol. 1–2, ed. H.S. Jones, J.E. Powell, Oxford 1942.

Xenophon, *Anabasis*, [in:] *Xenophontis opera Omnia*, vol. 3, ed. E.C. Marchant Oxford 1904.

Xenophon, *Hellenica*, [in:] *Xenophontis opera Omnia*, vol. 1, ed. E.C. Marchant, Oxford 1900.

Opracowania • Secondary sources • Литература

Akamatis I., *Archaeological activity in Pella in 2008. General conclusions* (in Greek), "AergoMak" 2008 [2011], vol. 22, pp. 141–146.

Akamatis N., *A house of the early Hellenistic period from Pella*, "Makedonika" 2015, vol. 40, pp. 1–35.

Anagnostopoulou-Chatzipolichroni H., *Archaeological site of Palatiano. The South-East sector*, "AergoMak" 2004 [2006], vol. 16, pp. 73–84.

Anagnostopoulou-Chatzipolichroni H., *Palatiano (ancient Ioron): a city of ancient Crestonia* (in Greek), „Archaeologia" 1997, vol. 64, pp. 83–88.

Andronikos M., *Vergina I. The Tombs cemetery* (in Greek), Athens 1969.

Andronikos M., *Vergina. The Royal Tombs and the ancient city*, Athens 1991.

Baitinger H., *Die Angriffswaffen aus Olympia*, "Olympische Forschungen" 2001, vol. 29.

Bellas I., *Arrowheads from ancient Pella: a weapon as a tool or a tool as a weapon*, „Eulimeni" 2020, vol. 21, pp. 65–100.

Bellas I., *Bows, arrows and quivers in the ancient Greek world*, (in Greek, Ph.D. Thesis Aristoteles University of Thessaloniki), Thessaloniki 2018.

Bellas I., *Sealing Issues on Projectiles in the Late Classical and Hellenistic periods*, [in:] *Історія давньої зброї. Дослідження 2020: збірник наукових праць*, упор. Д.В. Тоїчкін, Київ 2023, pp. 23–37.

Besios M., Athanasiadi A., *North cemetery of Pydna*, "AergoMak" 2001 [2003], vol. 15, pp. 363–368.

Berve H., *Das Alexanderreich auf prosopographisher Grundlage*, Munich 1926.

Bräunig A., Kilian-Dirlmeier I., *Die eisenzeitlichen Grabhügel von Vergina. Die Ausgrabungen von Photis Petsas 1960–61*, Mainz 2013.

Cambitoglou A., Jones O.T., Joyner G., McLoughlin B., *The metal objects*, [in:] *Torone I*, vol. 2, eds. J. Papadopoulos, A. Cambitoglou, G. Joyner, Athens 2001.

Faklaris P., *Vergina. Acropolis excavation 1994* (in Greek), „AergoMak" 1994 [1998], vol. 8, pp. 119–124.

Faklaris P., «Weapons», [in:] *Vergina. The Great Tumulus. Archaeological guide*, eds. S. Drougou, Ch. Saatsoglou-Paliadeli et al., Thessaloniki 1994, pp. 104–112.

Forsdyke J., *Some arrowheads from the battlefield of Marathon*, „Proceedings of the Society of Antiquaries of London" 1919, vol. 32, pp. 146–157.

Gauthier P., Hatzopoulos M.B., *La loi gymnasiarchique de Beroia*, Athens 1993.

Hammond N.G.L., Griffith G.T., *A History of Macedonia*, vol. 2, Oxford 1972.

Lilimpaki-Akamati M., Akamatis I.M., *Pella from the Bronze to the Hellenistic Age*, [in:] *Threpteria. Studies on ancient Macedonia Tiverios*, eds. M. Nigdelis, P. Adam-Veleni, Thessaloniki 2012, pp. 8–25.

Lee J.W.I., *Urban combat at Olynthus, 348 BC*, [in:] *Fields of Conflict: Progress and Prospect in Battlefield Archaeology*, eds. P.W.M. Freeman, A. Pollard, Oxford 2001, pp. 11–22.

Manakidou E., *Crater with deer hunt from Karabournaki (in English)*, [in:] *Namata. Honorary volume for Prof. Dimitris Pantermalis*, eds. S. Pingiatoglou, T. Stefanidou-Tiveriou, Thessaloniki 2011, pp. 277–288.

Nankov E., *The mobility of Macedonian army in Thrace during the Reign of Philip II and the inscribed Lead Sling Bullets from Kozi Gramadi*, „στο Bulgarian e-Journal of Archaeology" 2015, vol. 5.1, pp. 1–13.

Papazoglou F., *Les villes de Macédoine à l'époque romaine*, "Bulletin de Corespondance Hellenique" 1998, Supplemment, vol. 16.

Rhomiopoulou K., Kilian-Dirlmeier I., *Neue Funde aus der eisenzeitlichen Hügelnekropole von Vergina, Griechish Makedonien*, "Praehistorische Zeitschrift" 1989, vol. 64 (1–2), pp. 86–150.

Robinson D.M., *Excavations at Olynthus X. Metal and Minor Miscellaneous Finds*, Baltimore 1941.

Sismanidis K., *Ancient Stagira 1993*, „AergoMak" 1993 [1997], vol. 7, pp. 429–443.

Sismanidis K., *Ancient Stagira 1994*, „AergoMak" 1994 [1998], vol. 8, pp. 276–287.

Sismanidis K., *Ancient Stagira. Birthplace of Aristotle*, Athens 2003.

Sismanidis K., *Excavation of Ancient Stagira 1992*, "AergoMak" 1992 [1995], vol. 6, pp. 451–460.

Snodgrass A., *Early Greek Armour and Weapons*, Edinburgh 1964.

Ioannis Bellas

ŁUKI I GROTY STRZAŁ ZE STAROŻYTNEJ MACEDONII: OD MYŚLIWYCH DO ŁUCZNIKÓW

Streszczenie. Cytat z Demostenesa, który dobitnie stwierdził, że to dzięki oddziałom lekkiej piechoty i ich elastyczności, a nie powolnej macedońskiej falandze, Filip II Macedoński zapewnił sobie zwycięstwa militarne, ilustruje, jak ważna była organizacja jednostek lekkiej piechoty dla Filipa II. Po opisaniu lekkozbrojnych żołnierzy, kawalerii i najemników, Demostenes odniósł się także do łuczników. Opierając się na tym fragmencie oraz bogatym zbiorze grotów strzał odkrytych w starożytnych miastach Olint i Stagira, które niegdyś były oblegane przez Filipa II, autor niniejszego artykułu spróbuje zbadać kwestię obecności łuczników w armii Filipa II. Po pierwsze, analiza zebranych danych pokazuje, że na obu obszarach występowanie określonych kategorii grotów strzał jest dowodem oblężenia przeprowadzonego przez wojska Filipa II. Po drugie, wskazuje ono na fakt, że Filip II zdołał zorganizować w stosunkowo krótkim czasie niezwykły oddział macedońskich łuczników. Chociaż ich wkład w zwycięstwa Filipa II był dotąd niedoceniany przez badaczy, wydaje się, że w rzeczywistości łucznicy odegrali bardzo ważną rolę, zwłaszcza w trudnych warunkach walki w terenie miejskim.

Słowa kluczowe: łuki, groty strzał, kamienne formy, łucznicy, myśliwi, starożytna Macedonia