

# The Role of Early Empire Roman Cavalry in the Defence of Tauric Chersonesos

RADOSŁAW A. GAWROŃSKI  
RADOSŁAW KARASIEWICZ-SZCZYPIORSKI

Cavalry is not the first thing which comes to mind when one considers the activities of the Roman army. Naturally, that way of thinking is also present in works which focus their attention on the defensive capabilities of Roman frontier systems. Even though turf ramparts, watchtowers and camp remains are given the attention they deserve, the arrangements designed for mobile defence which required cavalry use, have received less interest, mostly due to the blurred and sketchy picture provided by the limited and fragmentary archaeological evidence.

Moreover, when it comes to the activities of the Roman army, connected with the Crimean Peninsula, the surviving literary records tend to diminish the role of the cavalry. And so, according to Tacitus's account, the Roman troops used in the Bosporan war of AD 49 were composed mostly of infantry units, and the cavalry contingents were provided by the allied Sarmatian *Aorsi* tribe.<sup>1</sup> Despite the fact that the particular passage in Tacitus' account could have been a reflection of the real situation during the Bosporan war, the surviving archaeological and epigraphic evidence suggests quite a different overall picture.

The problem is that the informative value and chronological distribution of surviving pieces of evidence are uneven. And so, the majority of equipment finds come from the 1<sup>st</sup> century AD, while from these times virtually no epigraphic evidence has survived to our times. In contrast,

the existence of many epigraphic sources coming from the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD provide us with a high amount of information about troop movements, while the cavalry equipment finds belonging to these times are rare.

Therefore, seven items which can be described as elements of horse furniture originate from the territory of Tauric Chersonesos, and most probably belong to the 1<sup>st</sup> century AD. All these items can be connected with the so-called expedition of the Moesian governor T. Plautius Silvanus, who crossed the Danube in the late Neronian times and probably reached as far as Olbia (some detachments could have been active even in the Crimean Peninsula). As the analysis of their context, chronology and connections with the expedition in question will be published elsewhere,<sup>2</sup> here we have decided to quote only the outline of the discussion, in order to allow for a confrontation of the archaeological evidence with the surviving epigraphic records. The list of these cavalry artefacts is as follows:

1. A find of the most uncertain chronology and origins comes from the city of Chersonesos itself. It is a bronze part of a Roman hackamore (**Fig. 1.7**) of a so-called *psalion*.<sup>3</sup> Analogies from

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<sup>1</sup> Tac., *Ann.* 12. 15.

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<sup>2</sup> The expedition of Plautius Silvanus was described in the Tibur inscription (CIL XVI 3608 = ILS 986), for more details, see SARNOWSKI 1990: 68–69; SARNOWSKI 2006a and SARNOWSKI 2006c. A detailed analysis of the context and chronology of the cavalry equipment finds from Chersonesos can be found in GAWROŃSKI, KARASIEWICZ-SZCZYPIORSKI, MODZELEWSKI 2014: 45–60.

<sup>3</sup> KOSTROMIČEV 2011: 108.

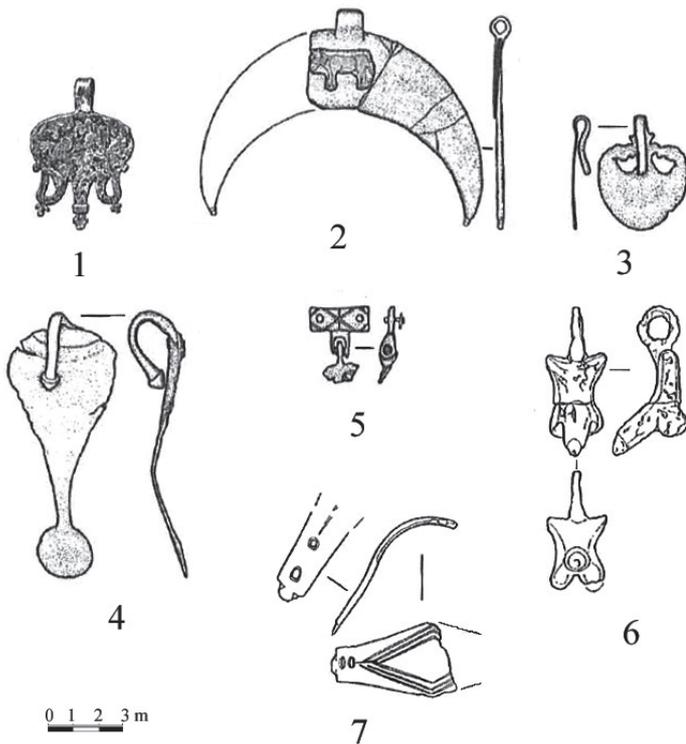


Fig. 1. Parts of horse furniture from Tauric Chersonesos. 1–6: Pendants; 7: Psalion (after KOSTROMIČEV 2011: 106, 108)

Рис. 1. Части конской сбруи из Херсонеса Таврического. 1–6: подвески; 7: псалий (по КОСТРОМИЧЕВУ 2011: 106, 108)

Novae may indicate that the item in question belongs to the late 2<sup>nd</sup> century AD, yet the other finds suggest a somewhat earlier date.<sup>4</sup>

2. In addition, a *phalera* pendant (Fig. 1.1), now lost, was recovered from the city's necropolis in 1908.<sup>5</sup> Such pendants were popular during the reign of the Julio-Claudian dynasty and the peak of their production can be firmly dated to the reign of Claudius.<sup>6</sup> Therefore, the item could have

found its way to the city of Chersonesos earlier. Some scholars are convinced that the above-mentioned pendant is somehow connected with the expedition of T. Plautius Silvanus.<sup>7</sup> Others prefer a wider chronology.<sup>8</sup>

3. The other pendant type (Fig. 1.3), of an openwork pelta-form design,<sup>9</sup> has analogies among Doorwerth finds,<sup>10</sup> and can be firmly dated to the late Neronian times or to the very beginning of the Flavian period, perhaps between the 60s and 70s of the 1<sup>st</sup> century AD.<sup>11</sup> In comparison to the Doorwerth finds, the piece from Chersonesos is very simplified. It is probably a lower-quality version<sup>12</sup> of a form which was made for an officer's use.

4. Another pendant of a phallic shape (Fig. 1.6) also comes from the city of Chersonesos. The item, obviously used as an element of horse furniture and as an apotropaic amulet, probably belongs to the 1<sup>st</sup> century AD.<sup>13</sup>

5. A further pendant, found in the port district, was made in a tear-drop shape (Fig. 1.4). The form clearly belongs to the 1<sup>st</sup> century AD.<sup>14</sup>

6. Another pendant was found in the north-eastern part of the city in 1977. This lunate pendant (Fig. 1.2) was made from silver and decorated with an engraved representation of a bull.<sup>15</sup> Lunate pendants were extremely popular in the 1<sup>st</sup> century AD and in the very beginning of the 2<sup>nd</sup>

4 KOSTROMIČEV 2011: 108. For the Novae analogy, see GENČEVA 2000: 62, fig. III 14. However, the find from Haltern may indicate that ornamented *psalia* with such wide nosebands were used from the beginning of the 1<sup>st</sup> c. AD, see JUNKELMANN 1992: 27. Wide-noseband *psalia* are also known from the sanctuary of Hercules Magusanus, from Empel on the territory of the ancient civitas Batavorum (near present day Nijmegen). The items in question almost certainly belong to the 1<sup>st</sup> c. AD, see van DRIEL-MURRAY 1994: 100. The later 2<sup>nd</sup>-century *psalia* have nosebands of an openwork design, see JUNKELMANN 1992: 33. Therefore, establishing a 1<sup>st</sup>-century chronology for the Chersonesos hackamore seems to be more probable.

5 TREISTER 2000b: 157–159; KOSTROMIČEV 2011: 106.

6 BISHOP 1988: 96–97, 145; CONNOLLY 1998: 236; DESCHLER-ERB 1999: 53–54, Taf. 26.

7 TREISTER 2000b: 158.

8 KALAŠNIK 1988: 55–56; KOSTROMIČEV 2011: 106.

9 KOSTROMIČEV 2011: 107.

10 BISHOP 1988: 96, 145, fig. 44, no. 3c.

11 The richly-decorated (silvered and niello-inlaid) parts of the deposit from Doorwerth, now kept in the Rijksmuseum van Oudheden in Leiden, clearly belonged to several different horse harnesses. These elements were intentionally stored during the Batavian uprising of AD 69–70, see JUNKELMANN 1992: 78.

12 KOSTROMIČEV 2011: 107.

13 KOSTROMIČEV 2011: 107–108. However, the closest analogy, a find from Nijmegen, could belong to AD 12–120, see NICOLAY 2005: 65–67, 347. Therefore, it is very difficult to establish a firm date for the find.

14 KOSTROMIČEV 2011: 107; see also BISHOP 1988: 96; DESCHLER-ERB 1999: 57, Taf. 26; 538; 31.607.

15 KOSTROMIČEV 2011: 107.

century AD; therefore, it is very difficult to establish a firm date for the find.<sup>16</sup>

7. Two round bronze *phalerae* (Figs. 2.2–3) come from pre-revolution excavations. One is seriously damaged, while the other is quite well preserved. The *phalera* in question is covered with silver and bears traces of engravings,<sup>17</sup> probably of a *niello* inlay.

A silvered and *niello*-engraved *phalera*, almost identical in shape and decoration, was recovered from the native Dacian hill fort at Ocnița (Fig. 2.1).<sup>18</sup> The *phalera* was found in a votive pit together with other elements of a horse harness. The Ocnița example even looks as if it belonged to the same set as the one from Sevastopol. It is slightly bigger and its *niello* decoration is a bit more sophisticated. However, this feature is natural for horse trappings composed of bigger and smaller *phalerae*.<sup>19</sup> Interestingly enough, a *phalera* very similar to the one from Ocnița was discovered at Augusta Raurica,<sup>20</sup> but it is extremely difficult to connect that particular find with the Crimean garrisons.

Such *phalerae* were certainly commonly used during the reign of the Julio-Claudian dynasty, starting from the times of Emperor Tiberius. The closing date of their use seems to have occurred in

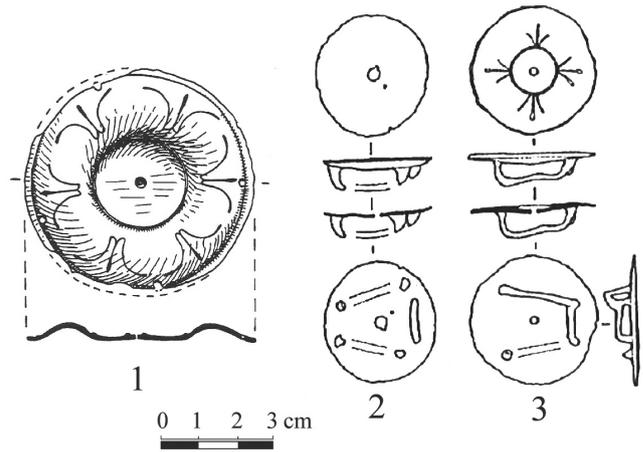


Fig. 2. *Phalerae*. 1: Find from Ocnița (after PETCULESCU 1994: 77); 2–3: Finds from Tauric Chersonesos (after KOSTROMIČEV 2011: 108)

Рис. 2. Фалары 1: находка из Окницы (по Петкулеску 1994: 77); 2–3: находки из Херсонеса Таврического (по Костромичёву 2011: 108)

AD 70,<sup>21</sup> as none such items were recovered from the newly-created upper German and Raetian frontiers or from the province of Dacia. The *niello*-engraved *phalerae* belonged to a certain type of Gallo-Roman harness. Such trappings were certainly produced in Gaul,<sup>22</sup> and they rapidly went out of fashion as their centres of production collapsed in the turmoil created by the Batavian uprising.

The most logical explanation for the presence of such *phalerae* at Tauric Chersonesos, and perhaps of the other above-mentioned parts of horse furniture, is the coming of some Roman cavalry

<sup>16</sup> BISHOP 1988: 98; UNZ, DESCHLER-ERB 1997: Taf. 48: 1312–1328; BISHOP, COULSTON 1993: 106, fig. 65.3; Kostromičev prefers dating the find to the second half of the 1<sup>st</sup> c. AD or to the beginning of the 2<sup>nd</sup> c. AD (KOSTROMIČEV 2011: 107).

<sup>17</sup> KOSTROMIČEV 2011: 108.

<sup>18</sup> Cf. PETCULESCU 1994: 69, 77.

<sup>19</sup> This was the case for the set from Xanten, see JENKINS 1985: 141–164. The Xanten set was clearly used for forty years before deposition, as one of its *phalerae* bears the inscription *punctim: Plinio praef(ecto) eq(uitum)*, see JENKINS 1985: 154 and CIL XIII, 10026.22 = ZPE 68, 261. On the basis of his nephew's letter (Plin., *Ep.* 3.5), we know for certain that Pliny the Elder served as a *praefectus alae* on the Rhine frontier. He held this function during the reign of Claudius, see MÜNZER 1899: 67–85; see also GAWROŃSKI 1998: 36. However, the horse trappings in question were buried during the Batavian uprising about AD 70.

<sup>20</sup> DESCHLER-ERB 1999: Taf. 33, 645.

<sup>21</sup> Petculescu correctly points out that the harnesses from Xanten and Doorwerth remained in use for a long period before they were buried during the events of AD 69–70 (PETCULESCU 1994: 69; see also BROUWER 1982: 165, note 33). According to Petculescu, the last *niello*-engraved *phalerae* were manufactured around that date.

<sup>22</sup> Cf. RABIESEN 1990: 73–95. The production centre at Alesia was working for twenty years, starting from about AD 60. RABIESEN (1990: 85) establishes a closing date for the trappings production at about AD 80, but that is based on the relative chronology of finds from the British and German frontiers. The Batavian uprising seems to be a more logical explanation for the rapid collapse of production centres. The rising turmoil and subsequent massive transfer of many auxiliary units certainly disturbed the buying markets. This factor had dire consequences for the production of luxurious silvered horse trappings.

detachments during the late Neronian or early Flavian periods. This perfectly matches the expedition of T. Plautius Silvanus. The most convincing argument in favour of such a hypothesis is the Ocnîța *phalera*, which was found in Dacia alongside the supposed route of the expedition,<sup>23</sup> and looks as if it belonged to the same set as the one found at Sevastopol.

Furthermore, there are some traces of fire and fighting, detectable at various late Scythian sites, which can be dated, accurately to within ten years, to the middle of the 1<sup>st</sup> century AD. Some scholars connect these traces with the *bellum Bosporanum* and with the expedition of Didius Gallus of AD 49, while others with the expedition of T. Plautius Silvanus.<sup>24</sup> The Sevastopol cavalry finds typologically fit perfectly with the earlier period and possibly could have been lost during the events of AD 49. The problem is that Tacitus, while discussing the Bosporan war, explicitly refers to the lack of cavalry among the Roman forces.<sup>25</sup> Moreover, according to Tacitus, the *bellum Bosporanum* of AD 49 was fought on the territory of the Bosporan Kingdom and the late Scythians were probably not involved in the conflict. Therefore, the traces of burning mentioned above should be connected with another event.

It is quite probable that in AD 62 the city of Chersonesos had problems with its Scythian neighbours.<sup>26</sup> These Scythians were not nomads,

as their forefathers, but they certainly fought as horse archers.<sup>27</sup> Only cavalry could have been effective against such a foe. And the mounted troops offered a perfect solution to the problem, as such a rescue force could move very fast even in broken terrain. The course of events probably looked as follows: somewhere in AD 62 the Moesian army, operating in the borders of Dacia, received news about the problems in Chersonesos. There was no time for logistic preparations,<sup>28</sup> thus T. Plautius Silvanus dispatched a cavalry relief force to solve the problem. The relief force travelled quickly along the Black Sea coasts and in a few days reached Scythian lands.<sup>29</sup> The cavalrymen scattered over, started pillaging and burning to divert Scythian attention from the troubled city of Chersonesos. If that was the case, the presence of the Roman cavalry lasted for a very short time,<sup>30</sup> and the Scythian king soon came to an agreement with the city of Chersonesos.<sup>31</sup> The majority of cavalry finds have established chronology pointing to the middle of the 1<sup>st</sup> century AD.

<sup>23</sup> Of course, no one would say that the expedition was travelling in the vicinity of the Ocnîța fort. It could simply have found its way into Dacian hands during the expedition and then years later it could have been deposited at Ocnîța fort.

<sup>24</sup> PUZDROVSKIJ 1992: 129–30. However, other scholars prefer to connect these traces with the expedition of Plautius Silvanus; for a critical view of such an approach, see SARNOWSKI 2006a: 128; see also SARNOWSKI 2006c: 87, note 14.

<sup>25</sup> Tac. *Ann.* 12. 15: *equestribus proeliis Eunones certaret, obsidian urbium Romani capesserent.*

<sup>26</sup> The Tibur inscription CIL XIV 3608 = ILS 986 in lines 23 and 24 refers to the siege of Chersonesos; about the veracity of that source, see SARNOWSKI 2006a: 129. Sarnowski points out that the spelling *Chersonesis* may indicate that the expedition only reached the Thracian coast. It seems that the author of the Tibur inscription had limited knowledge about the geography of the region, see also SARNOWSKI 2006c: 87–88. It is even possible that he mistakenly identified Tauric and Thracian Chersonesos.

<sup>27</sup> Horse bits, trilobate arrow tips and bow parts are quite common in late-Scythian grave assemblages, see PUZDROVSKIJ 2007: 67–68, 72–74, 135–138, 141–145, 290, 364–368, 374–382.

<sup>28</sup> Dispatching a seaborne relief force required extensive logistic preparation, such as gathering transport vessels, etc. It was also time-consuming and complicated, compare the account in the *Peloponnesian War* about the Athenian fleet departure on the eve of the Sicilian expedition, see Thuc. 6.30–32. Dispatching a cavalry force was cheaper and quicker.

<sup>29</sup> During the Soviet-Polish war in 1920, the Soviet 1<sup>st</sup> Cavalry Army was reported to cover a distance of about 120 km daily, see DAVIES 2009: 148–149. There is no doubt that the 1<sup>st</sup> Army could maintain such amazing marching speed for days. The Philippi tombstone (AE 1969/70, 583) of Ti. Claudius Maximus depicts a member of an elite mobile cavalry unit, who captured the Dacian King Decebalus. Maximus is shown lightly armed, bearing only a shield, sword and a pair of javelins, see JUNKELMANN 1990: 174–175. About Ti. Claudius Maximus, see also SPEIDEL 1970: 142–153. There is no doubt that such lightly-armed riders could travel very fast. A ride from Danube estuary to the city of Chersonesos probably lasted about five days.

<sup>30</sup> Neronian or early Flavian coins are virtually absent in the city of Tauric Chersonesos, see KARASIEWICZ-SZCZYPIORSKI 2013: 67.

<sup>31</sup> IOSPE I<sup>2</sup> 369; see also D'JAKOV 1941: 91–92; SOLOMONIK 1984: 10; KUTAJSOV 2001: 100.

Thus, if the proposed reconstruction of events is correct, it is quite possible that the above-mentioned cavalry finds belong to the Neronian period. However, frankly speaking, there is a slight possibility that some of these artefacts could have been used longer. The surviving firm evidence for the long use and late deposition of 1<sup>st</sup>-century AD cavalry harness pendants comes from Ewijk, located near present-day Nijmegen in the Netherlands. The pendant in question bears the inscription *punctim: leg(io) IX Hisp(ana)*. It seems that the pendant should have been deposited at Ewijk during the early years of Hadrian's reign after the transfer of the Ninth Legion from Britannia.<sup>32</sup> Anyone familiar with Roman horse harnesses would recognize the fact that such pendants were produced in the 1<sup>st</sup> century AD.

Moreover, the surviving epigraphic evidence confirms the presence of one unit which almost certainly possessed cavalry detachments in Chersonesos: an inscription of the cohorts *II Luc(ensium)* from the Trajanic period.<sup>33</sup> According to Spaul, the *cohors II Lucensium equitata* had been active as a part of the army stationed in Lower Moesia from AD 86 onwards (with the base established at Razgrad, ancient Abrittus), before it left the province before AD 134.<sup>34</sup> Therefore, it is quite possible, in light of the above-mentioned evidence from the Netherlands, to speculate that some of the cavalry finds under discussion belonged to the soldiers who served in that unit.

Nevertheless, two factors make such an interpretation highly unlikely. First of all, it is more probable that the time of deposition of so many artefacts happened closer to the date of their production, i.e. if the items in question had been buried later, a smaller sample should have survived to our times. Furthermore, anyone familiar with Roman military equipment knows that the great

majority of finds come from the 1<sup>st</sup> century AD, due to the constant practice of dumping unserviceable equipment. As a result, artefacts from that period were very frequently deposited, due to unit movements and intentional storing. Later this practice ceased, mostly due to the storage of raw material. The establishment of permanent bases also influenced this process, as in the new camps the practice of re-cycling damaged equipment became easier and more common. Paradoxically, if the Roman cavalry troops only stayed for a very short time, as should have happened in the times of the T. Plautius Silvanus expedition, they simply had a better chance of producing more traces of their presence. We should remember that such cavalry relief raids required high mobility and the practice of dumping or leaving unserviceable equipment could have occurred very frequently.<sup>35</sup> This picture clearly corresponds with the amount of available information. As certainly happened in the case of the cohorts *II Lucensium*, only small detachments of the original units were present at the location, encamped in permanent bases. In such conditions, the cases of deposition of unserviceable equipment should have happened less frequently. Therefore, thanks to the circumstances discussed above, the chronological interpretation of all these cavalry finds suggests a Neronian deposition date. If so, we would not have any firm evidence of mounted troop existence at Chersonesos in the Trajanic period.

Furthermore, with no surviving Roman defensive structures from the Neronian or Trajanic periods, and with limited –though existing – evidence confirming the “Trajanic” occupation of the Balaklava-Kadykovka fort,<sup>36</sup> we are able to recreate the activities of the contemporary Roman cavalrymen, no matter from which time, only through the sheer power of the imagination. And so, we can speculate that the *chora* of

<sup>32</sup> CAMPBELL 2010: 48–53; LENDERING, BOSMAN 2012: 110.

<sup>33</sup> IOSPE I<sup>2</sup> 555 = SOLOMONIK 1983: 19; SARNOWSKI 1990: Tab. 3, p. 80 n. 48.

<sup>34</sup> SPAUL 2000: 83–84.

<sup>35</sup> This was the case of the famous Corbridge deposit, which was dumped on the eve of the Dacian war, see BISHOP, COULSTON 1993: 35–36.

<sup>36</sup> KARASIEWICZ-SZCZYPIORSKI, SAVELJA 2012: 174, figs. 1:5, 6, 7 and 3–5.

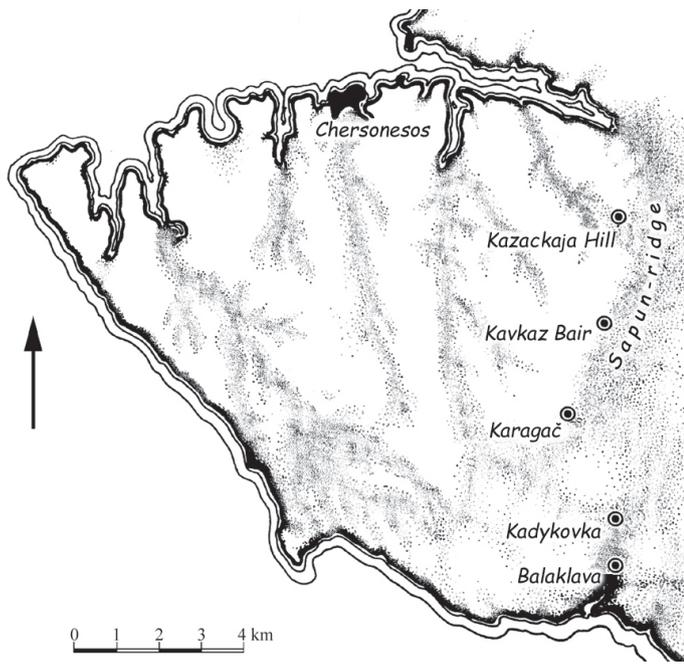


Fig. 3. The Roman outposts around Tauric Chersonesos

Рис. 3. Римские посты в пограничной зоне хоры Херсонеса Таврического

Chersonesos needed constant patrolling in order to detect potential threats.

The situation changed radically during the Antonine and Severan periods: a highly developed system of defensive structures existed around the ancient city of Chersonesos, located alongside the so-called Sapun Ridge, where the Romans had erected a chain of observation towers (Fig. 3). The Sapun Ridge forms a natural barrier, which divides the Heracleian Peninsula, on which the rural territory of the city of Tauric Chersonesos was located, from the distant eastern Inkermann and Balaklava valleys and from the lands inhabited by the “barbarians”. From the towering ridge, the borderland area could have been easily observed and any hostile activity could have been detected sufficiently early. At the top of Sapun Ridge, the remains of two Roman observation posts, similar in layout and dimensions, were found. These watch posts were located at the sites of Kazackaja Hill and Kavkaz Bair.<sup>37</sup> Two more

numerous Roman garrisons occupied the citadel of Chersonesos and the Kadykovka fort, located in the Balaklava Valley, on the important route to the Balaklava Bay.<sup>38</sup> This defensive system was certainly manned by infantry, which garrisoned the outposts, and cavalry, burdened with the job of patrolling and scouting along the Sapun Ridge (cf. Fig. 3).

With such a long presence of the Roman army, we should expect an increased amount of information. On the contrary, an opposite thing occurs: despite the presence of permanent defensive structures, the number of surviving small finds related to cavalry is considerably low. Only the epigraphic records provide a certain amount of information, but they are fraught with interpretational problems.

Moreover, some surviving artefacts can only presumably be connected with cavalry. And so, at the Roman outpost at Kazackaja Hill, among other finds, two damaged *lorica squamata* scales were found (Figs. 4.6–7). These scales belong to sets of armour typical for the late Antonine or Severan periods, made from long and narrow scales and fastened under the neck by two flat ornamented closers.<sup>39</sup> One broken piece certainly belonged to a cuirass composed from long and narrow scales (Fig. 4.6), as it has no traces of holes, which should have been drilled in its damaged upper part.<sup>40</sup> On the contrary, the other piece could have been very long and wide (Fig. 4.7). Such large scales were not only used in human armour, but were also fastened to the horse barding, as analogies from Dura Europos may indicate.<sup>41</sup> Among other small finds from

37 SARNOWSKI, SAVELJA, KARASIEWICZ-SZCZYPIORSKI 2002: 167–172; SARNOWSKI, SAVELJA, KARASIEWICZ-SZCZYPIORSKI 2009: 57–67.

38 For a short summary of the tasks performed by the defensive system, see KARASIEWICZ-SZCZYPIORSKI, SAVELJA, GAWROŃSKI 2015: 285–287. It seems that the location of the Balaklava-Kadykovka fort was chosen to secure access to the Balaklava Bay port, see KOVALEVSKAJA, SARNOWSKI 2004: 47.

39 BISHOP, COULSTON 1993: 117.

40 As in the case of the cuirass known from Newstead, see BISHOP, COULSTON 1993: 116.

41 The fragment in question is preserved very fragmentarily, yet originally it was at least 5 cm wide and 7 cm long, judg-

Kazackaja Hill, there were three trilobate tanged triangular arrow tips and a fragment of an iron socket, clearly belonging to a spearhead<sup>42</sup> (Figs. 4.8–11). But all these items could have been used by infantry as well.

To make matters worse, pieces of horse furniture are very badly represented in the assemblages from the Antonine and Severan periods. And so, from the old pre-revolution excavations comes a copper alloy plate, of an openwork design, shaped in the form of two symmetrical pelta-type ornaments (Fig. 5.3). The item was clearly part of decorated horse furniture.<sup>43</sup> Also an openwork leaf-shaped pendant was recovered from the Balaklava-Kadykovka fort (Fig. 5.1). As analogies from Celles-Les-Waremnes in Belgium may indicate,<sup>44</sup> such pendants adorned horse trappings, hanging from breast or crupper straps. A similar but bigger and slightly differently decorated pendant was recovered from Kerč (Fig. 5.2).<sup>45</sup> In addition, on the territory of the

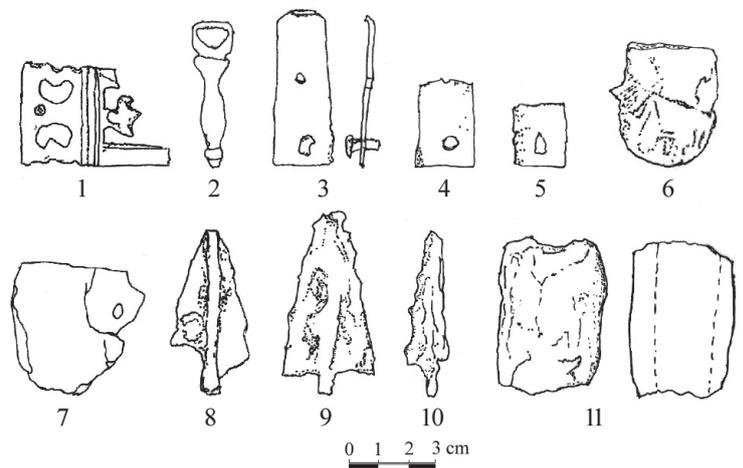


Fig. 4. Small finds from the Kazackaja outpost. 1, 2 — belt buckles and fittings; 3, 4, 5 — *lorica segmentata* fittings; 6, 7 — armour scales; 8, 9, 10 — arrow tips; 11 — spearhead fragment (drawings by R. Gawroński)

Рис. 4. Мелкие находки из поста на высоте Казацкая. 1, 2: пряжки и поясные накладки; 3–5: детали пластинчатого доспеха; 6, 7: детали чешуйчатых доспехов; 8, 9, 10 — наконечники стрел; 11 — фрагмент наконечника копья (рис. Р. Гавроньски)

ing from the position of the drilled holes. It is very difficult to determine the exact function of armour made from such big scales. Big scales are known from the contemporary Iža find in Slovakia, see TEJRAL 1994: 38 and from the Het Valkhof Museum, Nijmegen, see D'AMATO, SUMNER 2009: 125. For the horse barding scales from Dura Europos, see JAMES 2004: 130 and BISHOP, COULSTON 1993: 158.

42 Trilobate arrow tips are common in the native Scythian graves, see the above note 27, and such arrows were also used by the Roman army. The closest analogies come from Slovakian sites connected with the Marcomannic wars, see TEJRAL 1994: 34–35. The state of preservation of the spearhead socket prevents any statements about its supposed analogies.

43 KOSTROMIČEV 2011: 108–109. For the closest South Shields analogies, see ALLASON-JONES, MIKET 1984: no. 784.

44 At Celles-Les-Waremnes, parts of two sets of horse furniture were found, see *Saalburg Jahrbuch* 5 (1911/3 (1924)). The sets clearly belong to the end of the 2<sup>nd</sup> c. AD, see JUNKELMANN 1996: 85. On the photographs reproduced in 1924 in the *Saalburg Jahrbuch*, the openwork leaf pendants are clearly visible between two breast *phalerae*. Openwork leaf pendants are also known from other Roman sites, like Carnuntum, see JUNKELMANN 1996: 84. For further analogies, see SCHLEIERMACHER 2000: 187.

45 TREISTER 2000b: 161. This loose find can be connected with the Bosporan war, which occurred in the beginning of the reign of Septimius Severus, when the Bosporan King Sauromates II chose the wrong side during the civil war after the death of Commodus. The course of events was reconstructed on the basis of information provided by

Balaklava-Kadykovka fort, a bisected bronze rectangular plate was found (together with a small bronze ring, cf. Fig. 6). The item certainly belonged to a set of horse trappings. Such rectangular fittings or strap endings were characteristic of the 1<sup>st</sup> century AD.<sup>46</sup> However, analogies from Buciumi in Romania,<sup>47</sup> as well as the images of riders from the base of the Antoninus Pius column in Rome,<sup>48</sup> allow for changing the dating to the 2<sup>nd</sup> or early 3<sup>rd</sup> centuries AD.<sup>49</sup> In addition, a small pendant, dated to the 2<sup>nd</sup> century AD, found in

the Preslav inscription, see AE 1991: 1378 and SARNOWSKI 2006b: 236–246. The Bosporan elites certainly copied Roman military fashions, see TREISTER 2000a: 363–373. However, it seems that the pendant from Kerč is of Roman origin.

46 BISHOP 1988: 101.

47 JAMES 2004: 69.

48 See the junctions of the strap endings visible on the highly-detailed photograph from the front cover of MACDOWALL 2002.

49 Typologically, it is quite difficult to establish a precise chronology for artefacts belonging to the late 2<sup>nd</sup> or early 3<sup>rd</sup> centuries AD. But the layers from which the strap junction in question was recovered clearly belong to the Severan phase.

the city of Chersonesos, could have been a part of horse furniture (*Fig. 1.5*).<sup>50</sup>

A bronze gryphon head (*Fig. 7.2*) also comes from the same city, and it is most probably part of a parade cavalry helmet or a decorative element of a gladiatorial helmet. Despite the fact that the gryphon's head is connected with the Goddess Nemesis, analogies from other parts of the Roman Empire show that it was a part of cavalry parade equipment and could have been used during typical Roman *hippika gymnasia* performances.<sup>51</sup> It is noteworthy that the presence of *hippika gymnasia* performances at Chersonesos is indirectly attested by other archaeological finds. So far, the only cavalry training ground or manege was found on the Heracleian Peninsula. Analogies from other parts of the Empire and even pictorial evidence suggest that such training grounds were used to teach riders and horses rapid turns: in such a case some artificial barriers are necessary as they enforce turning.<sup>52</sup> The manege from the Heracleian Peninsula should have been in use in the times of Diocletian,<sup>53</sup> but the date for the

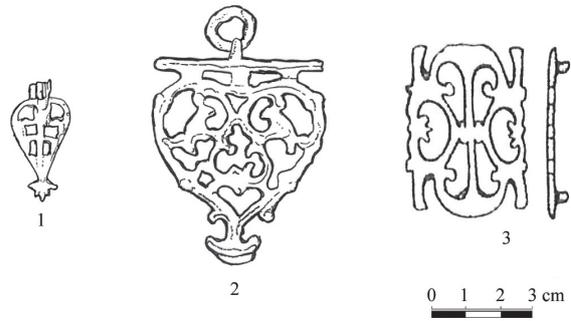


Fig. 5. Parts of horse furniture: 1 — from Balaklava-Kadykovka fort (drawing R. Gawroński); 2 — from Kerč (drawing R. Gawroński after TREISTER 2000b: 161); 3 — from Tauric Chersonesos (after KOSTROMIČEV 2011: 108)

Рис. 5. Части конской сбруи: 1 — из форта в Балаклаве-Кадыковке (рис. Р. Гавроński); 2 — из Керчи (рис. Р. Гавроński по ТРЕИСТЕРУ 2000: 161); 3 — из Херсонеса Таврического (по КОСТРОМИЧЕВУ 2011: 108)

<sup>50</sup> KOSTROMIČEV 2011: 106. On the photographs published in *Saalburg Jahrbuch* from the year 1924 the elements of horse furniture shown look slightly different, but the practice of adorning crupper or breast belts with such narrow and long fittings with pendants was typical for the 2<sup>nd</sup> c. AD, see the above note 44.

<sup>51</sup> Kostromičev correctly points out that numerous analogies, like those from Nydam, make the cavalry interpretation more probable (KOSTROMIČEV 2009: 3–14). Yet, the Nydam find was reported to be attached to a wooden pole, which disintegrated just after discovery. This suggests a secondary use as a standard, see GRANE 2007: 237. Such gryphon or eagle heads were certainly used as parts of cavalry helmets, see JUNKELMANN 1996: 48–49. Such helmets also appear in Roman triumphal art from the 1<sup>st</sup> c. AD onwards. A clear example of such a helmet can be seen on the trophy relief from Turin, kept in the Museo di Antichità, see D'AMATO, SUMNER 2009: 104.

<sup>52</sup> As pictorial evidence from northern Africa indicates, the Roman riders trained this aspect of horsemanship by following a figure which resembled the Arabic numeral eight. The training grounds were intentionally built with high walls to teach riders and horses rapid turns and facilitate learning manoeuvring in small spaces, see SPEIDEL 1996: 59.

<sup>53</sup> On the dating of the training ground in question, based on stamped Diocletianic *tegulae*, see KOVALEVSKAJA, SARNOWSKI 2002: 89–90.

recovered structure was based on stamped *tegulae* used during its construction. However, these tiles could have covered an earlier structure, as it is difficult to imagine a situation in which horses bred for the cavalry based at the Balaklava-Kadykovka fort were deprived of adequate training grounds.<sup>54</sup> Moreover, the later superstructure could have been built on the earlier training ground, finished with perishable materials (simple straw or hay bundles are much safer for riders during falls). But so far the lack of sufficient evidence for the earlier use of the Heracleian training ground excludes categorical statements.

There is yet another interesting clue which has to be discussed in connection with the find of the

<sup>54</sup> The authors of the original publication on the training ground, though they incorrectly described it as an enclosure made for keeping goats, dated its remains roughly to the late Roman period. However, they had suggested that the initial phases of the enclosure were built after AD 250, see KUZNIŠTIN, IVANČIK 1998: 219–221. However, this is pure speculation, based on the correlation of the supposed economic change (from wine production to goat keeping) with the coming of the Goths. As nothing like that happened in reality and the structure in question is certainly a horse training ground, then its initial phases should be correlated with the period of cavalry presence. And such a situation occurred somewhat earlier, in Severan times (we have no firm evidence for the later Roman army presence at Chersonesos; its return is dated to the reign of Diocletian). Therefore, it is possible that the initial phases of the enclosure could have been erected even during the first half of the 2<sup>nd</sup> c. AD.

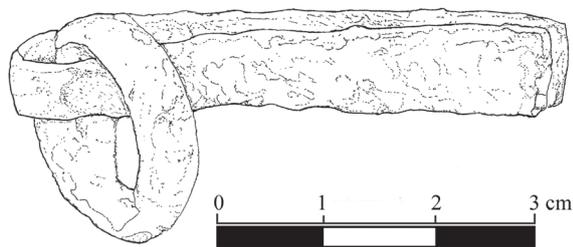


Fig. 6. Element of the horse furniture from Balaklava-Kadykovka fort (drawing R. Gawroński)

Рис. 6. Элемент конской сбруи из форта в Балаклаве-Кадыковке (рис. Р. Гавроński)

bronze gryphon's head: in Ostrov, in present-day Romania, a 2<sup>nd</sup>-century AD cavalry helmet was found, made in the form of a Phrygian cap, with cheek pieces decorated with the images of Castor and Pollux (now in Constanța Archaeology Museum).<sup>55</sup> The Phrygian cap was adorned with the representation of an eagle's head: the point is that it was a piece of real battle equipment, as there was no mask attached.<sup>56</sup> Interestingly enough, a 2<sup>nd</sup>-century AD monument from the Grosvenor Museum in Chester bears a representation of an auxiliary Sarmatian horseman<sup>57</sup> wearing such a piece of equipment.<sup>58</sup> Therefore, one can speculate that the appearance of a fragment of a gryphon's head helmet and the supposed presence of large-scale (horse?) armour at the Kazackaja Hill outpost is not a coincidence. And indeed, it is quite possible that in Severan times, after the problems with the Bosporan Kingdom,<sup>59</sup> the arms and armour of Roman horses were remodelled according to Sarmatian fashion, in

<sup>55</sup> D'AMATO, SUMNER 2009: 188–189.

<sup>56</sup> As in the case of the Phrygian style masked Crosby Garrett helmet, now in a private collection, see JAMES 2011: 133. Interestingly, the cavalry parade helmet had a gryphon's image attached to the top of the cap.

<sup>57</sup> For a photograph of the Grosvenor Museum Chester monument, see JAMES 2011: 217.

<sup>58</sup> Such an interpretation of the Grosvenor monument and Ostrov helmet can be found in D'AMATO, SUMNER 2009: 191. However, it should be stressed that the *Spangenhelm* interpretation clue is closer to the artist's intentions and seems to be closer to the real helmet, used by the Grosvenor horseman.

<sup>59</sup> See *supra* note 46.

order to match the fighting styles of the Bosporan cavalry.<sup>60</sup> The subject warrants further investigation. It is also noteworthy that some troopers used standard Roman equipment: a rivet from the auxiliary cavalry helmet of Hedderenheim/Niederbieber type was found on the territory of Chersonesos (Fig. 7.1).<sup>61</sup> This find may suggest that the supposed "sarmatization" of cavalry equipment was far from complete.

Moreover, the theory about the presence of cavalry at the Kazackaja Hill outpost can be given further support: the analysis of the bone remains recovered from the site indicates that at least some horsemeat was consumed at the site. Furthermore, horsemeat was consumed only occasionally, probably in times of great need,<sup>62</sup> and one can easily imagine that only animals unfit for service were slaughtered. Yet, despite the certain presence of horses at the Kazackaja Hill post, we should stress the fact that this is only indirect proof of cavalry presence at the site.

We should also add that in the vicinity of the citadel of Tauric Chersonesos ten horse burials were found, roughly dated to the Roman period. However, as all these finds come from pre-revolutionary excavations, the lack of surviving proper documentation prevents precise chronological assignment: only two of these burials were reported to contain identified coins, belonging to the late Roman period (from Constantine to Arcadius).<sup>63</sup> Therefore, it is also possible that all other burials also belong to the late Roman period. Nevertheless, the presence of such burials may indicate that mounted forces played an important role in the defence of Tauric Chersonesos.

<sup>60</sup> The Bosporan horse from the period were very heavily influenced by Sarmatian arms and armour, see MIELCZAREK 1999: 86–88.

<sup>61</sup> KOSTROMIČEV 2011: 50, 53. Such helmets, made with protruding crossbar reinforcements, attached with the use of conical rivets, were extremely popular in the 2<sup>nd</sup> and 3<sup>rd</sup> c. AD, see JAMES 2004: 102.

<sup>62</sup> WRÓBEL, PIĄTKOWSKA, KARASIEWICZ-SZCZYPIORSKI 2012: 103–104, 106.

<sup>63</sup> On the horse burials from Chersonesos, see KARASIEWICZ-SZCZYPIORSKI 2013: 77–78.

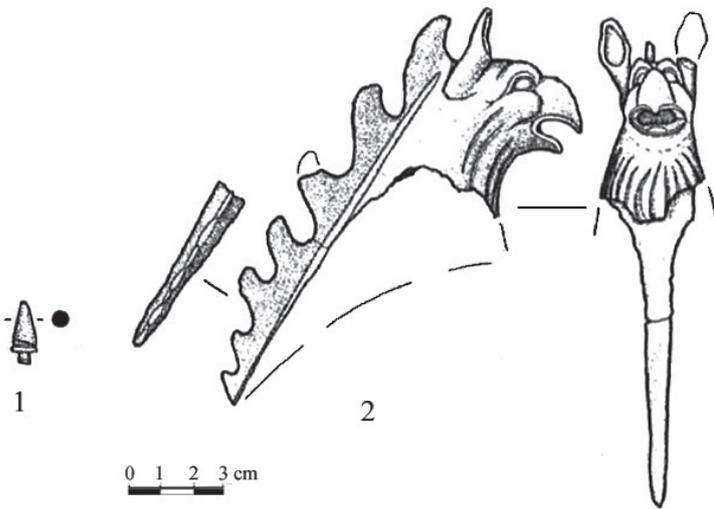


Fig. 7. Cavalry helmets elements from Chersonesos: 1 — a rivet from Hedderenheim/Niederbieber auxiliary cavalry helmet; 2 — gryphon's head from the Roman cavalry parade or gladiatorial helmet (after KOSTROMIČEV 2011: 50)

Рис. 7. Элементы кавалерийских шлемов из Херсонеса: 1 — заклепка шлема вспомогательной кавалерии типа Геддеренгеим / Недербебер; 2 — голова грифона — фрагмент гладиаторского шлема или парадного шлема вспомогательной кавалерии (по КОСТРОМИЧЕВУ 2011: 50)

Therefore, in order to obtain precise information about cavalry forces employed in the defence of Tauric Chersonesos, we have to examine epigraphic evidence. Sadly, the epigraphic records give us no firm proof of cavalry presence in the Antonine period. The only piece of evidence comes in the form of an inscription (Fig. 8), which mentions a certain *M(arcus) Maecilius*, a soldier from the cohorts *I Bracaraugustanorum*.<sup>64</sup> According to Spaul, that particular unit was active

in Lower Moesia from AD 99 to AD 134.<sup>65</sup> Therefore, the inscription should belong to the Trajanic or Hadrianic periods.<sup>66</sup> But newly-obtained photographs have revealed the fact that the Roman number 'I(one)' was inscribed in the form of a sign similar to the letter 'T'. Therefore, it is quite possible that the stonemason made a mistake and tried to fix it by adding a horizontal bar above the letter 'I'. If that was the case, it is quite possible that he had in mind the cohort *II Bracaraugustanorum equitata* instead. In addition, it is noteworthy that the particular unit came to Lower Moesia much later, shortly before AD 145.<sup>67</sup> If our reconstruction of the inscription is indeed true, the unit should have been active in the Crimea after that date. One can argue that without firm evidence such speculations are unjustified. But we should bear in mind that someone must have been doing the patrolling, screening and scouting alongside the newly-created Sapun Ridge defensive system and we have no other candidate for that role.

The situation changed considerably in Severan times. From the vicinity of the Balaklava-Kadykovka fort, from the nearby graveyard, comes a tombstone of a trooper named *Iul(ius) V(ales)*, decorated with an image of a Thracian rider. The stone states that the trooper served in the *ala Atector(igiana) tur(ma) Ce[l]si*.<sup>68</sup> The *ala I Gallorum Atectorigiana* was attested in the Balkans

64 IOSPE I<sup>2</sup> 553; SARNOWSKI 1990: Tab. 3, p. 80, no. 60; SOLOMONIK 1983: 33; *M(arcus) Maecilius / mil(es) c(o) ho(rtis) I(I?) Bra(caraugustanorum equitata?) / mil(itavit) an(nis) X cen(turia) / Bicani/ h(eres) f(ecit)*. According to ROSTOVCEV' (1909: 21), the cohort in question was *I Bracaraugustanorum*. On the other hand, ZUBAR' (2004: 80), though accepting the above-mentioned possibility, suggested a more probable (in his opinion) reading: *I Bracarum*. He pointed out that the latter unit was based at Durostorum, in a place where the *legio XI Claudia* had his permanent base (one should remember that soldiers of that particular legion formed the backbone of Crimean *vexillationes* from the late 2<sup>nd</sup> c. AD onwards). Before the revolution, the identification with *I Bracaraugustanorum* was justified, bearing in mind the limited available evidence, but nowadays the increased amount of data enables renewed discussion. In contrast, *I Bracarum* is less probable, due to the fact that the soldier shown on the monument wears his gladius on the right side of the body: that particular fashion went out of use in the later 2<sup>nd</sup> c. AD. S. James (2011: 188) states that the change was completed about AD 200; therefore, the monument should have been created before that date, perhaps even before AD 150). This excludes the argument connected with the *legio XI Claudia* as it appears at Chersonesos later, in Severan times. Therefore, the discussion should focus on the identification with *I or II cohorts Bracaraugustanorum*.

65 SPAUL 2000: 89–90.

66 As the army of Lower Moesia was responsible for the maintenance of the Crimean garrisons.

67 SPAUL 2000: 91.

68 *D(is) M(anibus) / Iul(ius) V(ales) eq(ues) / alae Atector(igiana) / tur(ma) Ce[l]si/ vix(it) annis XXXX / posuit Iul(ius) Vales aer(es) bene merenti*, see SAVELJA, SARNOWSKI 2000: 191–192; ZUBAR' 2004: 98.

from AD 154 onwards and in 224 was still based at Tomis.<sup>69</sup> Therefore, it is quite possible that after the Bosporan war, which happened during the reign of Septimius Severus, Crimean garrisons received cavalry reinforcements.<sup>70</sup> The above-mentioned presence of cavalry finds at Balaklava-Kadykovka fort suggests that at least some detachments of that unit were stationed there.

It is also noteworthy that a probably mid-3<sup>rd</sup>-century stone from Chersonesos seems to mention an irregular unit of Dalmatian horse: *vix(illatio) mil[(itum) legg(ionum) XI] Cl(audiae) et I Ital(icae) [et eqq(uitum) D]almat[arum]*.<sup>71</sup> However, in regard to that particular inscription we should stress two facts. First of all, large parts of the inscription have been restored and we have no firm confirmation about Roman army presence at Balaklava at the time.<sup>72</sup> Secondly, even if the reconstruction of the missing letters is correct, we have no precise information about the character of the unit in question. It could have been an irregular detachment of Dalmatian horsemen, or less probably, a part of the cohorts *III Dalmatarum equitata*, stationed then in Sacidava in Dacia.<sup>73</sup> Nevertheless, their presence should have been very short-lived. The general conclusion is that from the beginning of the 3<sup>rd</sup> century AD the Chersonesos cavalry contingent was strengthened considerably, most probably in reaction to the Bosporan war, but they were withdrawn soon in the turmoil of the 3<sup>rd</sup>-century crisis.

<sup>69</sup> SPAUL 1994: 48.

<sup>70</sup> The situation looks similar at the Aj-Todor fort, located near present-day Jalta, where the *vexillatio alae I Arrevacorum* was present during Severan times, see IOSPE I<sup>2</sup> 677; SARNOWSKI 1990: Tab. 3, p. 80 no. 73; SARNOWSKI 2000: 269. On the intervention of the Roman army during the Bosporan war, see SARNOWSKI 2006b.

<sup>71</sup> SARNOWSKI 2000: 269; ZUBAR', SARNOWSKI, ANTONOVA 2001: 106–115.

<sup>72</sup> As all troops were withdrawn earlier. Some evidence suggests that the general withdrawal of the Crimean *vexillationes* had something in common with the preparations of the Persian campaign of Gordian III, see GAWROŃSKI 2011: 66; see also *ibidem*: 63 note 18, for a discussion of the reliability of numismatic evidence for establishing a closing date for the end of Roman presence in Balaklava.

<sup>73</sup> SPAUL 2000: 306.



Fig. 8. Tombstone of Marcus Maecilius and details of the inscription  
Рис. 8. Надгробие Марка Мецилия и детали надписи

At this point we should recall the finds of the large scales and the discussion about the possible significance of the gryphon's head helmet from Chersonesos. As already stated, they can somehow be connected with the Balkan cavalry tradition. If our interpretation is correct, these two finds may suggest the presence of Sarmatian-modelled cavalry of Balkan provenience. It matters not the *ala Aetorigiana* had Gallic origins. As can be judged on the basis of the figured evidence of the Gerulata (Slovakia)<sup>74</sup> and Tipasa (Tunisia)<sup>75</sup> tombstones, some cavalry units of supposed Germanic origins (Tungrian and Canninefatian), after a long stay on the Danubian frontier, had adopted Sarmatian fighting styles, such as the use of long *contus* lances.<sup>76</sup> Moreover, there is firm archaeological evidence that the local Thracian warriors had adapted Sarmatian fighting styles as early as in the 1<sup>st</sup> century AD.<sup>77</sup> This hypothesis provides further support to the theory that strengthening the cavalry contingent was somehow connected with the Bosporan war. If this was the case, the transfer of the *ala Aetorigiana* horsemen was triggered by the need for finding troops able to match the heavily-armoured Bosporan horse. On the other hand, the slopes of Sapun Ridge required constant patrolling. This could have been done by some lighter troops, perhaps horse

archers (the finds of arrowheads discussed above can support such a hypothesis). Additionally, such a scheme of cavalry use repeats the solutions known from other regions. For example, in Upper Germania and Rhaetia, horse units stationed in the Welzheim, Friedberg and Aalen forts were never used to penetrate the barbarian lands, as the nearby mountainous terrain excluded the use of cavalry. In clear contrast, the very same troops could move very fast along the frontier, using fine Roman roads, and respond to any attempts in breaching the border.<sup>78</sup> As one can see, such a system, albeit on a smaller scale, was copied in the Tauric Chersonesos. Lighter troops, horse archers perhaps, were used for patrolling and screening duties along the Sapun Ridge, while heavier horse, probably stationed at Balaklava fort, would be sent into action in response to any serious threat. It is also noteworthy that the system developed over time. The basics were introduced in the Antonine period, but the subsequent response to the Bosporan war triggered sending reinforcements, in the form of the transfer of the formidable the *ala Aetorigiana*. With that, the development of the system was finally completed. The general conclusion is that the defensive system worked quite well, as we have no traces of violence in the area.

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74 For the Gerulata tombstone, see SPEIDEL 2004: 121.

75 For the Tipasa stone, see JUNKELMANN 1992: 144 and BISHOP, COULSTON 1993: 111.

76 For a different view on the subject, see SPEIDEL 2004: 121–122. Speidel argues that such lances are an effect of adopting an indigenous Germanic tradition, but the Sarmatian connection with the long *contus* lances seems to be more probable. For the Gerulata and Tipasa stones, see also SPEIDEL 1987: 63.

77 As the finds from Čatalka tumulus may indicate, see D'AMATO, SUMNER 2009: 198–199.

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78 BREEZE 2012: 61, 78.

## Роль римской кавалерии в охране Херсонеса Таврического в первых веках нашей эры (Резюме)

В пограничной зоне сельской округи Херсонеса Таврийского в первых веках нашей эры функционировали римские посты (рис. 3). Безопасность греческой общины охраняло, вероятнее всего, три наблюдательные башни, расположенные вдоль хребта Сапун-горы. В результате предыдущих исследований найдено две из них, которые были расположены в местах, носящих местные названия: Казацкая (Kazackaja Hill) и Урочище Кавказ (Kavkaz Bair). Третий пост находился, вероятнее всего, в местности называемой Карагач (Karagaç). С этой (южной) части Сапун-горы был виден форт в Балаклаве-Кадыковке (Balaklava-Kadykovka), который дополнял систему охраны пограничной зоны, а также контролировал единственную выгодную дорогу к порту в Балаклаве. Удерживание коммуникаций между фортом и башнями, а также контроль лежащих дальше на восток Инкерманской и Балаклавской долин, вероятно, требовало использования кавалерии.

Опираясь на анализ археологических (рис. 1, 2, 4–7) и эпиграфических источников, авторы пытаются сделать реконструкцию механизма смены гарнизонов, постов на границе через подотделы,

выделенных из некоторых *alae* и *cohortes equitatae*, базировавшихся в Нижней Мезии. Конница находилась, вероятнее всего, в составе всех *vexillationes* высылаемых в Тавриду, количество всадников однако изменялось со временем. Во времена правления династии Северов участие кавалерии было, вероятнее всего, наибольшим. Возможно также, что именно тогда вооружение римской кавалерии начали модифицировать, опираясь на сарматские образцы, с целью подгонки к стилям борьбы конницы Боспорского царства.

Перевод Наталия Рудыка

### Radosław A. Gawroński

Institute of Archaeology  
University of Cardinal Stefan Wyszyński  
ul. Wóycickiego 1/3  
01-938 Warszawa, PL  
rgawr@o2.pl

### Radosław Karasiewicz-Szczypiorski

Institute of Archaeology  
University of Warsaw  
ul. Krakowskie Przedmieście 26/28,  
00-927 Warszawa, PL  
radoslaw.szczypiorski@gmail.com

## Ancient authors

- Plin., *Ep. Tac., Ann.* C. *Plini Secundi Epistularum libri decem*, R.A.B. Mynors [ed.], Clarendon Press, Oxford 1963.  
Cornelii Taciti *Annalium. Ab excessu divi Augusti libri*. *Recognovit brevique adnotatione critica instruxit* C.D. Fisher, Oxonii 1959.
- Thuc. Θουκυδίδης, Ἱστορία τοῦ Πελοποννησιακοῦ Πολέμου. *Thucydides: Historiae* H.S. Jones [ed.], Oxford 1953.

## Abbreviations

- AE *L'Année épigraphique*, Paris 1888 ff.  
BAR-IS British Archaeological Reports. International Series  
Bjб *Bonner Jahrbücher*  
CIL *Corpus Inscriptionum Latinarum*, Berlin, 1863 ff.  
ILS H. Dessau, *Inscriptiones Latinae Selectae*, Berlin 1856–1931.  
IOSPEI<sup>2</sup> B. Latyshev, *Inscriptiones antiquae Orae Septentrionalis Ponti Euxini. Inscriptiones Tyrae, Olbiae, Chersonesi Tauricae aliorum locorum a Danubiousque ad regnum Bosporanum*, Petropoli 1916.  
JRMES *Journal of Roman Military Equipment Studies*  
JRS *Journal of Roman Studies*

MAIÈT / МАИЭТ	<i>Materijaly po Arheologii i Ètnografii Tavriki / Материялы по Археологии и Èтнографии Таврики</i>
RA / PA	<i>Rossijskaja Arheologija / Российская Археология</i>
SJ	<i>Saalburg Jahrbuch</i>
Stratum Plus	<i>Stratum plus. Archaeology and Cultural Anthropology</i>
VDI / ВДИ	<i>Vestnik Drevnej Istorii / Вестник Древней Истории</i>
ZPE	<i>Zeitschrift für Papyrologie und Epigraphik</i>

## Literature

- ALLASON-JONES, L., MIKET, R. 1984. *The Catalogue of Small Finds from South Shields Roman Fort*, Newcastle upon Tyne.
- BISHOP, M.C. 1988. Cavalry Equipment of the Roman Army [in] *Military Equipment and the Identity of the Roman Soldiers, Proceedings of the Fourth Roman Military Equipment Conference*, J.C. Coulston [ed.], BAR-IS, 394, Oxford, 67–195.
- BISHOP, M.C., COULSTON, J.C.N. 1993. *Roman Military Equipment*, London.
- BREEZE, D.J. 2012. *The Frontiers of Imperial Rome*, South Yorkshire.
- BROUWER, M. 1982. Römische Phalerae und anderer Lederbeschlag aus dem Rhein, *Oudheidkundige Mededeelingen uit het Rijksmuseum van Oudheden te Leiden* 63, 145–199.
- CAMPBELL, D.B. 2010. The Fate of the Ninth. The Curious Disappearance of Legio VIII Hispana, *Ancient Warfare* 4/5, 48–53.
- von CARNAP-BORNHEIM, C. [ed.], 1994. *Beiträge zu römischer und barbarischer Bewaffnung in den ersten vier nachchristlichen Jahrhunderten, Marburger Kolloquium 1994*, Veröffentlichung des Vorgeschichtlichen Seminars Marburg. Sonderband 8b, Lublin – Marburg.
- CONNOLLY, P. 1998. *Greece and Rome at War*, London.
- D'AMATO, R., SUMNER, G. 2009. *Arms and Armour of the Roman Imperial Soldier*, London.
- DAVIES, N. 2009. *Orzeł biały, czerwona gwiazda*, Kraków.
- DESCHLER-ERB, E. 1999. *Ad arma*. Römishes Militär des 1. Jahrhunderts in Augusta Raurica, *Forschungen in Augst* 28, Augst.
- D'JAKOV, V.N. 1941. Okkupacija Tavriki Rimom v I v. n.è., *VDI* 1941/1, 91–92. / Дьяков, В.Н. Оккупация Таврики Римом в I в. н.э., *ВДИ* 1941/1, 91–92.
- van DRIEL-MURRAY, C. 1994. Wapentuig voor Hercules [in] *De tempel van Empel. Ein Hercules Heiligdom in het woongebied van de Bataven*, N. Roymans, T. Derks [eds.], 's-Hertogenbosch, 92–107.
- GAWROŃSKI, R. 1998. *Bella Germaniae libri XX i De iaculatione equestri* Pliniusza Starszego, a sposób walki kawalerii Germanów. Próba interpretacji przekazu Tacyty (Germania 6), *Eos* 85, 35–45.
- 2011. *Dura Europos* 'Shield Map' and Expedition of Gordian III against the Persians, *The Journal of Juristic Papyrology* 63, 59–66.
- GAWROŃSKI, R., KARASIEWICZ-SZCZYPIORSKI, R., MODZELEWSKI, S. 2014. The Early Empire Military Assemblages from the Crimean Peninsula as Traces of Activity of the Roman Army, *Archeologia* (Warszawa), 62-63 (2012-2013), 45–60.
- GENČEVA, E. 2000. Metalowe części wyposażenia żołnierskiego z Novae, *Novensia* 12, 49–99.
- GRANE, T. 2007. *The Roman Empire and Southern Scandinavia — A Northern Connection. A Re-evaluation of Military-Political Relations between the Roman Empire and the Barbaricum in the First Three Centuries AD with the Special Emphasis on Southern Scandinavia*, Copenhagen.
- JAMES, S. 2004. *Excavations at Dura Europos 1928–1937: Final Report VII. The Arms and Armour and other Military Equipment*, London.
- 2011. *Rome: the Sword. How Warriors and Weapons Shaped Roman History*, London.
- JENKINS, I. 1985. A Group of Silvered-Bronze Horse Trappings from Xanten (*Castra Vetera*), *Britannia* 16, 141–164.
- JUNKELMANN, M. 1990. *Die Reiter Roms*, vol I: *Reise, Jagd, Triumph und Circusrennen*, Mainz.

- 1992. *Die Reiter Roms*, vol. III: *Zubehör, Reitweise, Bewaffnung*, Mainz.
- 1996. *Reiter wie Statuen aus Erz*, Mainz.
- KALAŠNIK, JU.P. 1988. Hersoneskaja falera. Problemy issledovanija antičnogo i srednevekovogo Hersonesa 1888–1988 gg. Tezisy dokladov naučnoj konferenciji, Sevastopol'. / S Калашник, Ю.П., *Херсонеская фалера. Проблемы исследования античного и средневекового Херсонеса 1888–1988 гг. Тезисы докладов научной конференции*, Севастополь.
- KARASIEWICZ-SZCZYPIORSKI, R. 2013. The Roman Army in Tauric Chersonesos. City and Burial Areas, *Światowit* 51/A (2012), 59–88.
- KARASIEWICZ-SZCZYPIORSKI, R., SAVELA, O.Å. 2012. Excavations in Balaklava (Sevastopol, Ukraine) — Season 2011, Discovery of Fortifications of a Roman Fort in Balaklava, *Światowit* 50/A (2011), 173–182.
- KARASIEWICZ-SZCZYPIORSKI, R., SAVELJA, O.J., GAWROŃSKI, R.A. 2015. With contribution by FILIPPENKO, A.A., The Remains of the Roman Fort at Kadykovka (Balaklava) in the Crimean Peninsula [in] *Limes XXII. Proceedings of the 22<sup>nd</sup> International Congress of Roman Frontier Studies Ruse, Bulgaria, September 2012*, L. Vagalinski, N. Sharankov [eds.], Sofia, 286–290.
- KOVALEVSKAJA, L.A., SARNOWSKI, T. (Ковалевская, Л.А., Сарновски, Т.) 2002. О хозяйственном укладе одной из Hersoneskich usadeb v pozdnerimskoe vremja, *VDI* 2002/1, 85–92. / О хозяйственном укладе одной из Херсонесских усадеб в позднеримское время, *ВДИ* 2002/1, 85–92.
- 2004. О zaštite Hersonesckogo gosudarstva sojuznym rimskim kontyngentom, *RA* 2004/2, 40–50. / О защите Херсонесского государства союзным римским контингентом, *РА* 2004/2, 40–50.
- KOSTROMIČEV, D.A. (Костромичёв, Д.А.) 2009. Bronzovyj grifon iz Hersonesa, *МАИЕТ* 15, 3–14. / Бронзовый грифон из Херсонеса, *МАИЭТ* 15, 3–14.
- 2011. Rimское voennoe prisustvie v Hersonese v načale I – pervoj polovine V vv. (po dannym archeologii), *Stratum plus* 4, 9–164. / Римское военное присутствие в Херсонесе в начале I – первой половине V вв. (по данным археологии), *Stratum plus* 4, 9–164.
- KUTAJSOV, V.A. 2001. Severo-zapadnyj Krym i Hersones v I v. n.è. – seredine I v. do n.è., *Bahčisarajskij istoriko-arheologičeskij sbornik* 2, 95–105. / Кутайсов, В.А., Северо-западный Крым и Херсонес в I в. до н.э. – середине I в. н.э., *Бахчисарайский историко-археологический сборник* 2, 95–105.
- KUZIŠTIN, V.I, IVANČIK, A.I. 1998. 'Usad'ba Basilidov' v okrestnostjah Hersonesa Tavričeskogo, *VDI* 1998/1, 205–233. / Кузищин, В.И., Иванчик, А.И., 'Усадьба Василидов' в окрестностях Херсонеса Таврического, *ВДИ* 1998/1, 205–233.
- LENDERING, J., BOSMAN, A. 2012. *Edge of Empire. Rome's Frontier on the Lower Rhine*, Rotterdam.
- MACDOWALL, S. 2002. *Late Roman Cavalryman AD 236–565*, Oxford.
- MIELCZAREK, M. 1999. *The Army of the Bosporan Kingdom*, Łódź.
- MÜNZER, F. 1899. Die Quelle des Tacitus für der Germanenkriege, *BJb* 104, 67–111.
- NICOLAY, J. 2005. *Gewapende Bataven. Gebruik en betekenis van wapen- en paardentuig uit niet-militaire contexten in de Rijndelta*, Amsterdam.
- PETCULESCU, L. 1994. Roman Military Equipment in the Dacian Hill-Fort at Ocnița [in] von CARNAP-BORNHEIM 1994: 61–77.
- PUZDROVSKIJ, O.È. (Пуздоровский, О.Е.) 1992. Krimaska Skifija kinci II st. do n.è. – pers. pol. III st. n.è., *Arheologija* (Kyiv), 2 125–135. / Кримська Скіфія в кінці II ст. до н.э. – перш. пол. III ст. н.э., *Археологія* (Київ) 2, 125–135.
- 2007. *Krymskaja Skifija, II v. do n.è. – III v. n.è. Pogrebal'nye pamjatniki*, Simferopol'. / *Крымская Скифия. II в. до н.э. – III в. н.э. Погребальные памятники*, Симферополь.
- ROSTOVCEV, M.I. 1909. Novuja latinskija nadpisi s' juga Rossii, *Izvestija imperatorskoj arheologičeskoj kommissii*, Выпуск' 33-й, 1–22. / Ростовцевъ М.И., Новыя латинскія надписи съ юга Россіи, *Извѣстія императорской археологической комиссии*, Выпускъ 33-й, 1–22.
- RABIESEN, E. 1990. La production d'équipement de cavalerie au 1er s. après J.C. a Alesia, *JRMES* 1, 73–98.
- SARNOWSKI, T. (Сарновски, Т.) 1990. Römisches Heer im Norden des Schwarzen Meeres, *Archeologia* (Warszawa) 39 (1988), 61–98.
- 2000. Römische Besatzungstruppen auf der Südkrim im Spiegel der neuen Funde [in] SARNOWSKI, SAVELJA et al. 2000: 265–228 (= K voprosu o rimskoj okkupacii Južnogo Kryma v svete novyh dannyh / K

- вопросу о римской оккупации Южного Крыма в свете новых данных] [in] SARNOWSKI, SAVELJA *et al.* 2000, 269–272.
- 2006a. Plavtjij Silvan i ěskadra-prizrak na Ěernom more v I v. n.ě., *VDI* 2006/1, 117–131. / Плавтий Силван и эскадра-призрак на Черном море в I в. н.э. *ВДИ* 2006/1, 117–131.
- 2006b. Bosporskaĵa vojna perioda pravlenija Septimija Severa v Rime i Savromata II na Bospore. Problema s niŹnemezijskoj perspektivoj / Боспорская война периода правления Септимия Севера в Риме и Савромата II на Боспоре. Проблема с нижнемезийской перспективой, *Ėtudes et Travaux* 20, 236–246.
- 2006c. Ti. Plautius Silvanus, Tauric Chersonesos and Classis Moesica, *Dacia* 50, 85–92.
- SARNOWSKI, T., SAVELJA, O.Ja. *et al.* 2000. *Balaklava, Römische Militärstation und Heiligtum des Iupiter Dolichenus* (Balaklava. Rimskaĵa voennaĵa baza i svjatilišĉe Jupitera Dolichena / Балаклава. Римская военная база и святилище Юпитера Долихена), *Światowit Suppl. Ser. A* 5, Warschau.
- SARNOWSKI, T., SAVELJA, O.J., KARASIEWICZ-SZCZYPIORSKI, R. 2002. *Extra fines Imperii. Rzymski posterunek wojskowy w okolicach Sewastopola na Krymie*, *Światowit* 45/A, 167–172.
- 2009. Roman Military Sentry Posts in the Border Zone of Crimean Chersonesos, *Archeologia* (Warszawa) 58 (2007), 57–67.
- SAVELJA, O.J., SARNOWSKI, T. 2000. Das Grabstein des Iulius Veles aus Balaklava [in] SARNOWSKI, SAVELJA *et al.* 2000: 191–196.
- SCHLEIERMACHER, M. 2000. Römisches Pferdegeschirr aus den Kastellen Saalburg, Zugmantel und Feldberg, *BJb* 50, 167–193.
- SOLOMONIK, Ė.I. (Соломониќ, Э.И.) 1983. *Latinskie nadpisi Hersonesa Tavriĉeskogo*, Moskva. / Латинские надписи Херсонеса Таврического, Москва.
- 1984. *Graffiti s hory Hersonesa*, Kiev. / Граффити с хоры Херсонеса, Киев.
- SPAUL, J. 1994. *Ala. Cavalry Units of the Pre-Diocletianic Imperial Roman Army*, Andover.
- 2000. *Cohors<sup>2</sup>. The Evidence for and a Short History of the Auxiliary Infantry Units of Imperial Roman Army*, BAR-IS, 841, 2 vols., Oxford.
- SPEIDEL, M.P. 1970. The Captor of Decebalus. A New Inscription from Philippi, *JRS* 60, 142–153.
- 1987. Horsemen in the Pannonian Alae, *SJ* 43, 61–65.
- 1996. Roman Cavalry Training and the Riding School of the Mauretanian Horse Guard, *Antiquités africaines* 32, 57–62.
- 2004. *Ancient Germanic Warriors. Warrior Styles from Trajan's Column to Icelandic Sagas*, London – New York.
- TEJRAL, J. 1994. Römische und Germanische Militärausrüstungen der Antoninischen Periode im Licht nord-danubischer Funde [in] von CARNAP-BORNHEIM 1994: 27–60.
- TREISTER, M.JU. 2000a. Local Imitations of the Details of Roman Military Costume in the Bosporan Kingdom, *Kölnner Jahrbuch* 33, 363–373.
- 2000b. K nahodkam metalliĉeskikh detalej rimskogo voennogo kostjuma i konskoj sbrui v Severnom Priĉernomor'e, *RA* 2000/2, 156–164. / Треистер, М.Ю., К находкам металлических деталей римского военного костюма и конской сбруи в Северном Причерноморье, *РА* 2000/2, 156–164.
- UNZ, C., DESCHLER-ERB, E. 1997. *Katalog der Militaria aus Vindonissa, Militärische Funde, Pferdegeschirr und Jochteile*, Veröffentlichungen der Gesellschaft pro Vindonissa, 14, Brugg.
- WRÓBEL, M., PIĄTKOWSKA-MAŁECKA, J., KARASIEWICZ-SZCZYPIORSKI, R. 2012. Meat Eaten by Roman Soldiers at the Sentry Post on Kazackaya Hill near Inkerman (Sevastopol, Ukraine), *Światowit* 48/A (2010), 101–115.
- ZUBAR', V.M. 2004. Tavrika i rimskaĵa imperija, Kiev. / В.М. Зубарь, *Таврика и римская империя*, Киев.
- ZUBAR', V.M., SARNOWSKI, T., ANTONOVA, I.A. 2001. Novaja latinskaĵa nadpis' iz raskopok citadel i nekotorye voprosy pozdeantiĉnoĵ istorii Hersonesa [in] ANAXAPΣIΣ: *Pamjati Jurija Germanoviĉa Vinogradova*, M.I. Zalotarev [ed.], Sevastopol', 106–115. / Зубарь, В.М., Сарновски, Т., Антонова, И.А., Новая латинская надпись из раскопок цитадели и некоторые вопросы позднеантичной истории Херсонеса [в] ANAXAPΣIΣ: *Памяти Юрия Германовича Виноградова*, М.И. Золотарёв [ed.], Севастополь, 106–115.