The text discusses an iron ornamented stirrup from Bribirska Glavica. This finding does add a great deal to the picture of the Bribir past, from the 9th to the 12th century, and yet in their fundamental cultural indicators do not depart from the framework that we know of for this site, from earlier work, and from other finds of the early medieval period. Analysis in terms of typology and chronology was used to try to show the different influences on the making of this object or their direct import from the then bigger workshop centres in Central Europe or the Byzantine Empire. His quality and excellence of workmanship tellingly documents the high level of life in Bribir in the centuries in which the nobles Breberienses started their economic, military and political rise.

Key words: Central Dalmatia, Bribirska Glavica, combat equipment, stirrup, Early Middle Ages, Byzantium, Carolingian period

Bribirska Glavica in Central Dalmatia (ancient Varvaria - medieval Breberium - today Bribir) is well known to be a prolific archaeological site with a long period of existence, from the prehistoric Liburni to the modern age (fig. 1). It has been excavated with varying degrees of intensity for more than a century, but the pick and trowel have not been blessed by fortune. First of all, after the ending of World War I, when, in the new Kingdom of the Serbs, Croats and Slovenes, the aim was to put a stop to the research of all finds that had anything Croatian about them. The second time came in World War II, when, in the same key, the museum building on Bribir was burned and the heritage objects from it were tipped down to the foot of the hill. The third time, again for the same reasons, the archaeological heritage from the museum builds were dumped over the surrounding meadows, with anything that was recognisable in form or appearance having been previously stolen. Such experience from the past occasionally led to archaeological finds being moved from Glavica to safer places, firstly to the Museum of Croatian Archaeological Monuments in Split, and then to Šibenik Municipal Museum. Since these transfers were almost always made in a hurry because of some impending threat, not enough care was always taken about the information that should have accompanied given finds. Thus during the course of time in these museums, collections were formed in which the objects wanted the basic accompanying data, save for the fact that they derived from Bribir. From such holdings that came into being in the Museum of Croatian Archaeological Monuments (MCAM), a few items of weaponry and combat equipment have been picked out and are here published, items that in our opinion are important for an understanding of the Bribir past as a whole. One is a decorated stirrup from horse harness. An iron stirrup was noticed quite recently among non-inventoried items kept in a box in the Museum on which the word “Bribir” was written, with no additional data. It has a markedly triangular shape (fig. 2). On the upper end it finishes with a plate of a flat pentagonal shape on which there is an elongated rectangular slot through which to pull the strap. In the place where the strap plate joins with the arms of the stirrup are two expansions with circular perforations. We assume that these have no practical purpose, but are there merely to balance the thickening at the end of the arms aesthetically. The right arm is broken in the centre. The tread of the stirrup is hammered out so as to be rectangular and slightly curved. The whole of the outside of the stirrup is decorated with damascene work, with fine gold and silver wire. Traces of decoration with silver wire on the arms are minimal and are only preserved in a few places, while the external side of the wrought iron treads is decorated with a fine, reticular, diagonally placed ornament in the same material. The most complex decoration is found on the outer side of the strap plate. The central motif is made in silver, and composed of a triangular shape created by two stylised (headless) bird bodies. Part of the decorative composition of the triangular shape on the strap plate consists of two long bands with a twisted volute at the top placed opposite to each other. These two are done in damascene work with silver wire, just like the edges on all the perforations of the plate. The rest of the plate is filled with plant and tendril ornaments done in damascene work with gold wire.

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The stirrup from Bribir was put into excellent order through a creative conservation-restoration procedure by Dalibor Popović, museum restorers in the Museum of Croatian Archaeological Monuments (MCAM).

The overall height of the stirrup is 21.8 cm, the maximum breadth is 14.6 cm, and the treads are wrought to a depth of 3.1 cm. The height of the decorated plate is 6.5 cm, and its width is 6.3 cm. Inv. no. 18.202 MHAS, Collection of Medieval Weaponry and Cavalry Equipment.
The decorated iron stirrup is a very particular find. It was put into the collection of the MCAM without any data about the context of the find; all that was written was that it derived from Bribir. In the coastal area of early medieval Croatia, stirrups are a very rare find, and apart from this Bribir example, we know of just one more from Bribir while two iron stirrups were found at an early medieval castrum in Podgradina, on the western edge of Buško Blato [lake].

And the other Bribir find too is unaccompanied by any ancillary archaeological information. It was published in a short and general text some thirty years ago, and from the photographs appended it can be seen that it belonged to the form of round stirrup with a rectangular lug and a wrought circular plate for the tread. The publication assumed justly that it belonged to types characteristic of the 10th century. In the case of the stirrup from Buško Blato, we are confronted with accidental finds uncovered as a result of metal-detector searches. They were bought for the MCAM in 2011, and a given as inv. no. 18.000 and 18.001 in the Collection of Weaponry and Military Equipment. The size of the complete example is 16.3 x 11.3 cm, and that with a broken lug is 15.8 x 9.9 cm.

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A. MILOŠEVIĆ, Iz armatorija, fig. 15.
Fig. 2. Bribir stirrup in a view from all around (photograph: A. Z. Alajbeg)

d of late Avar stirrups, but these have no lugs for the leathers at the top, but a rectangular plate with a hole⁹, rather like the Bribir example. An exception among the stirrups of this area is a find from the site of Diven by Cirkovljani not far from Prelog. During dredging for sand in the river at this site, a grave was destroyed from which an early Carolingian K-type sword and one damaged iron egg-shaped stirrup with a wrought tread and a loop for the leather, placed at right angles to the arc of the stirrup¹⁰. This example, from the end of the 8th and early 9th century, like the sword, belongs in the early Carolingian cultural circle, with many analogies in the Germanic and Viking areas¹¹.

A find of a pair of iron silver-damascened stirrups from the Sava-Drava inter-riverine area is interesting. With ten more luxury items, they were part of an inventory from one of two equestrian graves destroyed around 1900. Today they are in a museum in Budapest¹². Z. Vinski hypothesises a date for them of, at the earliest, the middle or the second half of the 7th century, that is, the “central phase of Avar domination”¹³. Having drawn attention to the exceptional rarity of the manner in which these Baranya stirrups were damascened with silver, Vinski nevertheless left the discussion of the find unfinished. He stated that this was a technique that was used very seldom in the Carpathian basin, but that it was very common in central Europe and Scandinavia, mainly among equestrian requisites of the 7th century, on bits and spurs¹⁴. The find was then discussed in greater detail and at greater length by É. Garam, who on the whole supported Vinski’s determination and dating of the culture and time¹⁵. We would nevertheless observe that the technique of damascening with silver and gold wire is not typical only of the 7th century for – primarily in cavalry equipment – it was used in the later centuries of the Middle Ages, as shown by finds from other parts of Europe, and also


¹¹ Ž. TOMIĆIĆ, Rezultati ranosrednjovjekovnih arheoloških istraživanja u Medendarskom i varaždinskoj regiji. in: Arheološka istraživanja u sjeverozapadnoj Hrvatskoj (Izd. HAD-a 2), (ed. Ž. Rapanić), Zagreb, 1978, p. 212, fig. 2. See also A. MILOŠEVIĆ, Iz armatorija, fig. 16.


¹⁵ J. HAMPEL, Alterthümer des frühen Mittelalters 2, pp. 844-846. – J. HAMPEL, Alterthümer des frühen Mittelalters 3, Taf. 498-500 (whole find), stirrups on plate 499/1-2. It is questionable whether this is a grave unit or finds from several ruined graves. Good quality drawings in: Ž. TOMIĆIĆ, Panonski periplus. Arheološka topografija kontinentalne Hrvatske, Zagreb, 1999, p. 227. See also A. MILOŠEVIĆ, Iz armatorija, fig. 18.


¹⁷ Z. VINSKI, O nalazima 6. i 7. stoljeća, p. 50, n. 175a.

from Dalmatia\(^a\) and from what was once the Duchy of Greater Moravia\(^b\). It is our opinion then that the stirrups from Zmajevci, typologically, can be compared with examples found in the late Avar equestrian grave at the site of Kruje, Zagreb, which puts them chronologically in the last quarter of the 8th or in the early 9th century, but we shall leave this debate for some other occasion.

On the whole, there is a widespread opinion that the use of metal stirrups\(^a\), with a reflex (composite) arch, is the most important achievement in the development of military strategy and warfare on the medieval battlefield\(^b\). An opposite opinion is given by P. P. Azbelev, who assumes that in the earliest phase of the existence of stirrups – which at the beginning were created as a simple and practical seating for the feet of the rider – had no kind of connections with pushing the state-of-the-art in warfare. He thinks that they were originally just riding tack for the aristocracy, i.e., that this was equestrian equipment that was foreign to the nomad tradition\(^\#\). He gives examples of proto-stirrups that go back to the first century CE, for example, on a seal from Pakistan of the 1st century, or on a bronze vase from the valley of Kullu in northern India of the 3rd century (fig. 3.1-2)\(^1\).

Archaeologists and historians have long debated and wondered about its origin. On the whole, the opinion prevails that the stirrup was first used by the Chinese and other nomadic nations in the Asian steppes as early as the 5th century (fig. 3.3-5)\(^2\) and that it was brought to Europe by the Avars in the last decades of the 6th and early 7th century\(^3\). Proponents of the Avar theory build this assumption on the fact that in several cases stirrups were found in the Avar graves along with coins from the Byzantine emperors Justinian (518-527) and Phocas (602-610). After the Avars had conquered the Carpathian basin, for some time, a new territorial unity was created, a certain social and economic coherence and stability that from time to time favoured them having more vigorous contacts with their neighbours\(^4\).

It is also supposed that these conquests set off a new migration of the Langobards to the west, and thus the transfer of the stirrup as an important part of the accoutrements of the cavalry, as confirmed by finds of stirrups in Langobard graves in Italy and contemporaneous Bavarian finds in southern Germany\(^5\).

A different group of experts, inspired by the book of L. White\(^6\), point to the importance of the Byzantine milieu as


\(^{b}\) Great Moravia and the Beginnings of Christianity. (Ur. P. Koufil), Brno, 2014, p. 344 (Mikulčice, K-swords), p. 369 (Mikulčice, spurs with set), p. 373 (Ducove, spur), p. 374 (Preostějov stirrup with damascened arms) and other finds, mostly from the 9th century.

\(^\#\) It is assumed that the prototypes of the metal spurs might be similar artefacts made of organic material, of wood, leather or rope; however, these materials by their very nature could not have survived. This idea is backed up by the fact that in many European languages the concept of stirrup contains the original form of this riding aid (cf. W. A. SEALBY – P. WOODFIELD, *Viking Stirrups*, 89. – Ž. TOMIČIĆ, Prilog istraživanju karolinškog oružja u Međimurju, p. 218, n. 36)

\(^1\) Both objects are in the British Museum. Cf. PI. AŽBELEV, Ešće o ranim стременама, in: *Российский археологический ежегодник* 4, Санкт-Петербург, 2014, pp. 297-322, gives several monuments on which it is possible to see the very early use of stirrups among the Asian peoples. Reference is made to examples of “proto-stirrups” that go back to the first century CE (for example, from a seal from Pakistan of the 1st century, p. 304, fig. 6 or from a bronze vase from the Kullu valley in northern India of the 3rd century, p. 305, fig. 7).


\(^3\) The conclusion that at that time there was a free circulation of goods and people. In some areas this resulted in an almost total restructuring of economic traditions22. He gives examples of

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\(^5\) Different group of experts, inspired by the book of L. White28, point to the importance of the Byzantine milieu as
Fig. 3. Stirrups on monuments from the first millennium: 1. Pakistan (after: П. П. Азбелев); 2. India (after: П. П. Азбелев); 3. Xi′ana in the province of Shaanxi in China (after: W. Menghin); 4. Sargatka in Russia (after: G. László); 5. district of Perm in Russia (after: A. Milošević); 6. Valencia – Bibliothèque municipale (drawing: N. Šimundić Bendić, after: M. Schulze Dürrlamm); 7. S. Ambrogio in Milan (after: https://piccolenote.ilgiornale.it); 8. Golden Psalter of S. Gallen (after: А. Н. Кирпичников).
a mediator that first of all integrated the practical use of the stirrup – from Asia via the Arabs – into its own cavalry, and then, via the themes north of the Black Sea, transmitted it to the cavalry equipment of European men-at-arms. But the archaeological support put forward as confirmation of such an opinion is not entirely convincing, for the earliest, and key, finds, on which such assumptions can be built, come from mixed archaeological contexts that do not permit any simple classification and identification, because of the diverse cultural influences present in these units. The hypothesis of a Byzantine origin for the stirrup would tend to be supported by the fact that from that milieu came the earliest information about this part of horse tack, and in two places it is mentioned in the Strategikon, the authorship of which is ascribed to Emperor Maurice (582-602). According to the writing of Emperor Leo VI (886-911) we know that in his age the stirrup was part of the standard equipment of Byzantine heavy cavalry.

On the basis of available data, it is still difficult to draw a generally acceptable conclusion about the origin of the stirrup in Europe. Both theories, the Avar and the Byzantine, rely on indirect or dubious evidence, because of which their conclusions are untrustworthy. Most probably, as already stated in the literature, the introduction of the stirrup into Europe should be explained as the result of a long process in which new technologies in military equipment were applied, and, as a result, in the techniques of warfare. It is also completely certain that the process started in the 4th or 5th century, in distant Asia, and that through the several ages, not only the Avars might have taken part in it, but also the Byzantines and the Arabs.

Whatever the case may be, it seems incontrovertible today that stirrups came into wide use in Europe at the turn of the 7th / 8th century. Such an opinion is based on findings of several cavalry graves from the Germanic area, but it is still unsettled whether they were plunder or gifts from the Avar Khazar, or perhaps imitations, which were created as a result of frequent contacts with the Avars. Finally, L. White, after a brief analysis, concludes that stirrups came into wide use in Western Europe in the first half of the 8th century, in the Charles Martel period (718-741), which is partially confirmed by archaeological finds. When the French cavalry was reorganised in the early Carolingian period, under the impact of the Vikings, from the end of the 8th century, stirrups gradually came into general use, as shown by many archaeological finds in various European countries, and also in the first visual performances. The earliest such depictions in European art, it is often said, are two equestrian motifs on the golden altar of St Ambrose’s in Milan, from about 840 (fig. 3.7) and several miniatures in the Golden Psalter from the monastery of St Gallen of the second half of the 9th century (fig. 3.8). To these visual productions we can add a miniature from an early medieval Apocalypse from the first third of the 9th century, showing a warrior who was riding a fantastic animal, his feet in stirrups (fig. 3.6). Since this manuscript is from the first third of the 9th century, it is also one of the earliest depictions of the use of the stirrup in European art.

The numbers of stirrups found in European and Central Asian sites and their diversity long ago inclined experts to deal with their typological classification and chronological determination, and on some occasions with an attempt to group them culturally and regionally. Sometimes there has been an attempt, by the study of this kind of find, to explain possible cultural and mercantile contacts, as well frequent military clashes to which were connected the displacements of different ethnic groups that were associated with a given type of stirrup.

A key contribution to these endeavours was made by great experts and honoured precursors of the turn of the

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...to the end of the 9th century, and have been found in a string of sites, from the Steppes to Western and Northern Europe. On them there are on the whole mainly plates with a hole for the leather, with the geographically closest analogies in the early Carolingian stirrups from Slovenia. Their opulent tread is straight or bent, concavely or convexly. An important detail on the Bribir stirrup is the thickening at the bottom of the arms, at the join with the straight hammered tread, which is proper to northern European finds of the 10th and early 11th century (fig. 4). In a typological sense, the Bribir stirrup of a marked triangular shape, as compared with European examples, shows a simpler form, which could be a reason to date it earlier. The round perforations at the joints of the arms of the stirrup and the plate for the leather strap have no analogies in medieval examples.

The specific feature of the Bribir stirrup is its decorative nature. Originally the whole of the outer face of it was ornamented, the lower side of the tread, and the plate for the strap. The decoration has been almost completely effaced from the arms and is preserved only in traces. It can be guessed that it was done with silver damascene wire. The lower side of the tread was done in the same technique, being

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* W. A. SEABY - P. WOODFIELD, *Viking Stirrups*, pp. 87-122.


* E. GALL, An attempt to classify the stirrups dating from the 10th century and the first quarter of the 11th century in the Transylvanian Basin, the Crișana/Partium and the Banat with an outlook to the Carpathian Basin, in: *Warriors, Weapons and Harness from the 5th-10th centuries in the Carpathian Basin*, (ed. C. Cosma), Cluj - Napoca, 2015, pp. 355-406.


* С. КАРО, Die Typologie der frühmittelalterlichen Steigbügel aus slowenischen, pp. 165-173.


* See n. 49-59. The main reference indicators for their typological determination are the basic shape of the stirrups, the appearance of the lugs or plates with a hole through which to draw the leathers and the form of the wrought tread. Not a single one of these indicators is specific for just one type, for they are used in variations and combinations.


* С. КАРО, Die Typologie der frühmittelalterlichen Steigbügel aus slowenischen, pp. 167-169, figs. 3-4 (examples defined as Type 2 and dated to the end of the 8th and the early 9th century).

* W. A. SEABY, Late Dark Age Finds from the Cherwell and Ray, 1876-86, *Oxoniensia* 15, Oxford, 1950, pp. 33-34, 38-39, fig. 14, T. VI/A. – W. A. SEABY - P. WOODFIELD, Viking Stirrups, fig. 4-10. This thickened detail was long ago noted as an important feature of Nordic stirrups of the Carolingian age by R. ZSCHILLE - R. FORRER, *Die Steigbügel*, pp. 4-6, fig. 3.
entirely covered with diagonal network of small regular squares (fig. 2.4). One early Carolingian stirrup from Celje, Slovenia (fig. 5)\textsuperscript{54} is decorated in the same technique and with a similar ornamentation, and a very good analogy for our Bribir specimen is a 9th century Swiss stirrup, the strap plate of which is also decorated with a silver diagonal reticulation. Particularly interesting for us is that this stirrup has a markedly triangular shape and a thickening at the joins of the arcs with the hammered out tread (fig. 6.2)\textsuperscript{55}. The same diagonal reticulated ornament is also produced with damascened brass wire on the pommel of a sword from Hessen in Germany (fig. 6.1)\textsuperscript{56}.

The most complexly ornamented is the outer side of the plate of the Bribir stirrup (fig. 7, 8). The whole surface of it is decorated with various motifs produced in damascening with gold and silver wire. The central silver motif is composed of two opposed headless birds placed in a triangle, perhaps modelled on early medieval gables of roodscreens on which birds are placed in just the same way at the sides of

\textsuperscript{54} Š. KARO, Die Typologie der frühmittelalterlichen Steigbügel aus slowenischen, p. 168-169, fig. 4/1.
\textsuperscript{55} R. ZSCHILLE - R. FORRER, Die Steigbügel, p. 20, T. 1.20.
a cross, the most frequent iconographic motif. At the peak of a triangle so formed is placed a crowned male head, with a crown of the open type, with pendants or a part that covers the head on both sides, in a manner similar to that found in a large number of examples on imperial Byzantine coins\textsuperscript{57}, and also on the well-known altar screen that is today incorporated into the Split baptistery\textsuperscript{58}. A very good comparison is also the crown on the head of a rider engraved on a cut platter from the Yamal Peninsula in northern Russia (fig. 9), which perhaps starts up other research possibilities. The rest of the space of the plate, applying the principle of horror of the vacuum, is filled up with plant and tendril ornaments done with damascened gold wire.

For the temporal and cultural determination of the Bribir stirrup, the technique of decoration could well be interesting, that is, the gold and silver wire damascening. In the European Early Middle Age, it was used more and more from the Merovingian period on, particularly central Europe and Scandinavia, most often on artefacts that belonged to harness and the accoutrements of riders\textsuperscript{60}. In a reduced extent, objects of the same kind were damascened in the later centuries of the Early Middle Age. We would refer, as the closest find geographically, to a pair of iron spurs with a partially preserved fastening set from Biskupija by Knin\textsuperscript{61} and to early Carolingian swords from Žeževica and Koljane (fig. 10)\textsuperscript{62}. We have already mentioned the Celje stirrup (fig. 5). To it should be added several products from Greater Moravia

\textsuperscript{57} Ph. GRIERSON, Byzantine Coinage. Washington D.C., 1999, p. 29.
\textsuperscript{59} Н. В. ФЕДОРОВА, Торевтика Волжской Болгарии. Серебряные изделия X-XIV вв. из зауральских коллекций, Труды Камской археологической экспедиции, Вып. 3, Пермь, 2003, pp. 141-142, fig. 6. Dated variously to the 8th or to the 10th and 11th centuries.
It is impossible to say at the moment with any certainty whether the Bribir stirrup originated in a workshop in one of these regions, or whether it was made under the influence of them\(^{66}\), but it is very probable that it is an early medieval product, without direct analogies in similar objects of the time in Europe. The decoration technique and particularly the shape of the stirrup are the reasons for this kind of thinking, although we must be aware that artefacts of warfare were decorated in a similar way in the later centuries of the Middle Ages. A very good example of this is the decorated maces from the Balkan sites that were once part of the Byzantine Empire (fig. 11)\(^{67}\). But however further study of the Bribir stirrup finally ends up, we believe that it will not get out of the temporal framework bounded by the 9th and 11th century. At this moment, since this is a unique finding of a stirrup and in terms of its luxurious workmanship is worthy of some early medieval Bribir princeps, it was not part of our remit to evaluate it definitively in terms of time and culture, rather to start up a debate about it, and once again to draw attention to Bribir as a very important archaeological site in which any archaeological effort will pay off handsomely.

The examples of cavalry equipment that we discuss here have made a considerable contribution to illuminating the past of Bribir, but with their cultural indicators they have not gone outside the framework that is known to us about this site from earlier and other finds of the early medieval

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\(^{63}\) E.g. Great Moravia and the Beginnings of Christianity, pp. 327, 344, 345, 369, 370, 373, 374, 376.


\(^{66}\) Perhaps interesting from this point of view is a fragment of a stirrup decorated in Scandinavian Borre-style, found in an early medieval grave on the Samland/Sambia peninsula in the Kaliningrad district (cf. N. GOSSLER, Wikingerzeitliche Waffen, pp. 4-6, fig. 3).

\(^{67}\) And example is provided by R. D’AMATO, The war-mace of Byzantium, the 9th-15th c. AD. New evidence from the Balkans in the collection of the World Museum of Man, Florida, Acta Militaria Mediaevalia 7, Kraków – Rzeşów - Sanok, 2011, pp. 38, 40, fig. 23.5. This iron specimen decorated with a damascened...
A number of similarly decorated maces from Bulgaria are cited by S. POPOV, *The Maces from the Present Bulgarian Lands* (10th–17th c. AD). Vatevi Collection, Sofia, 2015, p. 296, cat. no. 297, p. 298, cat. no. 299, p. 280, cat. no. 414, p. 404, cat. no. 448. On the whole they are dated to the 13th to 14th centuries.

With typological and chronological analysis we also wanted to show the different influences under which these objects were created or directly imported from the big workshop centres in central Europe and the Byzantine Empire. Their quality and excellent workmanship document the high level of life at Bribir in the centuries in which the nobiles Breberienses started their economic, military and political rise.

*Translated by G. McMaster*

silver lattice is said to have been found in the Balkan part of the Danube valley. It is hypothesised to have belonged to a senior officer in the period between the end of the 12th and the 14th century. A number of similarly decorated maces from Bulgaria are cited by S. POPOV, *The Maces from the Present Bulgarian Lands* (10th–17th c. AD). Vatevi Collection, Sofia, 2015, p. 296, cat. no. 297, p. 298, cat. no. 299, p. 280, cat. no. 414, p. 404, cat. no. 448. On the whole they are dated to the 13th to 14th centuries.