FISH AND BLADE: NEW DATA REGARDING THE USE OF FISH SKIN IN EARLY MEDIEVAL CARPATHIAN BASIN

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In the territory of modern-day Hungary, the Jászság region (found within Jász-Nagykun-Szolnok county) seemed to be 'poor' in the aspect of archaeological surveys, excavations, and material. This situation is caused by the fact that in the Jász Museum there was no working archaeological department, and that the region belonged to the official museum of the county, the Damjanich János Museum in the city of Szolnok. The aforementioned museum was mainly responsible for the archaeological works in the whole county, but owing to this fact, they could not focus on the Jászság region. This situation changed in 2016, when the archaeological department was established in the Jász Museum. This department was responsible for the archaeological works in this region.

One of the most forward-looking steps was the organization of the local archaeological community group. Now almost every week, a significant number of people equipped with metal detectors do archaeological field surveys in the Jászság. Then, they give the stray finds with GPS coordinates to the museum; and in excavations and other field works of the museum, numerous volunteers are helping the specialists. Owing to their work, the number of known archaeological sites in the Jászság significantly grew approximately by 50% since 2016. Unfortunately, the Jász Museum is too small to excavate all of these sites, nevertheless it built up a very wide network with universities and research centres. The archaeological site presented here is excavated through the joint mission of the Jász Museum, the Early Hungarians Research Team of the Research Centre for Humanities, and the Pázmány Péter Catholic University.

In 2021, we excavated the cemetery at Jászjákóhalma, Béke TSZ II in the third season. It is dated to the Hungarian Conquest Period, in the second half of the 10th century, and maybe the first third of the 11th century too. In three seasons we excavated 18 graves, out of which 15 are dated to the Hungarian Conquest Period. We will now present the 17th grave. In this grave *(Fig. 1)* there a young man *(iuvenis?)* was lying on his back, arms and legs stretched out. The orientation of the grave and the skeleton was W–E. The grave was disturbed in the Modern Age by agricultural works: the region of the pelvis was not in the grave, and the region of the ankles was also disturbed. There were no traces of medieval or Early Modern Age disturbances, but it is not ruled out. Grave goods *(Fig. 2):* on the left side of the head and torso fragments of a saber was lying (unfortunately the weapon was dislocated by the excavator and because of this, it broke into pieces). The grip was closer to the head. On the left side of the ankle region a fragmentary stirrup was found (the other stirrup was

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Fig. 1. Photo of grave 17, Jászjákóhalma, Béke TSZ II.

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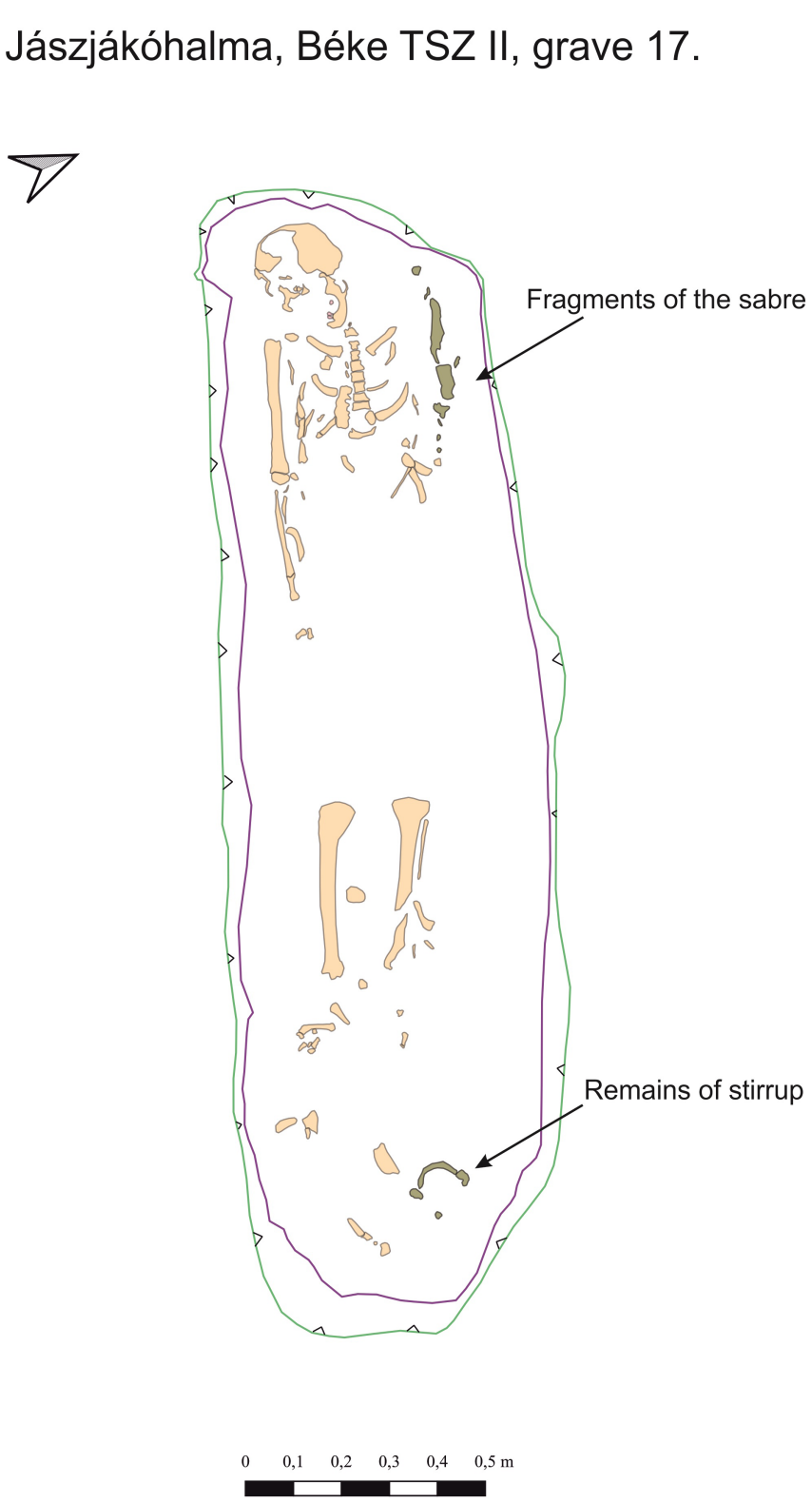

Fig. 2. Drawing of grave 17, Jászjákóhalma, Béke TSZ II.

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Fig. 3. The saber after the conservation process

not in the grave). Between the right ankle and the eastern side of the pit there was a hoof of a little horse (maybe a foal?). Therefore, the 17th grave is maybe a grave with a partial horse burial.

The saber was in need of a serious restoration *(Fig. 3)*. During the restoration process it was found out that on the grip of the saber there are remains of fish skin *(Fig. 4–5)*. There is not an infallible, 100% identification of the species of that skin. According to Nina Bogutskaya (Laboratory of Ichthyology, Naturhistorisches Museum, Wien), the species is a Russian sturgeon *(Acipenser gueldenstaedtii),* also known as a diamond sturgeon or Danube sturgeon. It can be found in the Black Sea, the Sea of Azov, in the Caspian Sea, and in the rivers which flow into the aforementioned bodies of water. This species was fished in the Carpathian Basin too. Another expert, László Kocsis assumes that the remains belonged to some type of ray *(Batoidea)* or shark *(Selachimorpha),* maybe from the Indian Ocean, Persian Gulf or the Red Sea. The first task our research team will do is to make a 100% identification of the species, because it is the key to the following analyses and conclusions about the grave and the saber.

We also do not know anything about the tanning of the leather. Chrome-tanning is unfortunately ruled out due to the fact that it was invented much later. In the Middle Ages, various methods were available for tanning skins (oil, smoke, vegetable and mineral too). If the fish skin is from the Carpathian Basin then we can make some presumptions. In the Hungarian Conquest Period samples, only traces of aluminium were revealed. This shows that maybe they used potash alum for tanning. On the other hand, the vegetable tanning requires months or in case of thick skins up to a year. It is

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Fig. 4. Macrophotography of the skin remains

unlikely that the ancient Hungarians who lived a nomadic or semi-nomadic lifestyle, used this method for tanning leather. Of course, only after specific research and examinations can we say this accurately.

We can find analogies for sword grips with fish skin in the early medieval Carpathian Basin and in Eastern Europe too. The best-known example is from Vienna, the so-called Vienna saber, or Charlemagne's sword from the Kunsthistorisches Museum, on which there is ray skin. There are a lot of other examples from the Carpathian Basin (Karos-Eperjesszög II/11, Vízkelet (Čierny Brod, Slovakia), Gnadendorf (Austria), Nemesnádudvar) but as far as we know, only the Gnadendorf skin remains were thoroughly examined. In Gnadendorf, we do not have a certain identification as it can be either gulper shark *(Centrophorus Granulosus)* or some kind of guitarfish *(Rhinobatidae)*. In Eastern Europe we can also find good examples of saber grips with fish skin (Podorvannaya balka, Verhniy Saltov, Karakaba). Wherever we found a description about the species those were ray skins. We have to say that these analogies are more prestigious than the Jászjákóhalma saber, the masters used gold and silver for most of them.

The conclusion strongly depends on the exact identification of the species, but we can say that in both situations the saber from the 17th grave of Jászjákóhalma, Béke TSZ II. is a very interesting find. If the remains are some kinds of shark, or ray skin, then there is a strong chance which indicates a direct or indirect trade connection between the Carpathian

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Fig. 5. Macrophotography of the skin remains

Basin and the Indian Ocean, Persian Gulf, and/or Red Sea (or between this places, and one of the previous living areas of the early Hungarians). The 17th grave of Jászjákóhalma, however, seems to be poor. Even though not every Hungarians were buried with a horse or a weapon, the value of the grave goods does not refer to a man with high prestige. But if the fish skin is ray or shark, then it indicates that the lower classes of society could also afford this import commodity, not just the higher classes. If the skin turns out belonging to a Russian sturgeon, then that is also an interesting situation. As they could get this type of fish from the local rivers (in Eastern Europe or in the Carpathian Basin as well), it can indicate the fact that the early Hungarians fished regularly. Currently we have no archaeological evidence on fishery of the early Hungarians (except some bones which can be identified as parts of a fishing web). On the other hand, we cannot exclude that this type of fish skin was also accessible by trade.

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