

# **BONE ARTIFACTS FROM ROMAN CREMATION BURIALS: METHODS, RESULTS AND CONCLUSIONS. THE EXAMPLE OF THE CEMETERY OF KAISERAUGST-IM SAGER (CH)**

Artefactos de hueso romanos procedentes de enterramientos de cremación: métodos, resultados y conclusiones. El ejemplo del cementerio de Kaiseraugst-im Sager (CH)

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**ABSTRACT** In the Roman cremation graves from the middle of the 1<sup>st</sup> century onwards only a few bone artifacts have been found to date. In this article we discuss the methodological problems that lead to this result and how their effects can be minimized in future work. In this way we can show that the types of worked bone from the cemetery of Kaiseraugst-Im Sager differ considerably from the contemporaneous finds from the town of Augusta Raurica.

**Key words:** Roman Period, Cremations, Burnt Bones, Sieving, Bone Artifacts.

**RESUMEN** En las sepulturas de incineración romanas de mediados del siglo I en adelante, tan solo unos pocos artefactos han sido documentados hasta la fecha. En el presente artículo se presenta la discusión sobre los problemas metodológicos que llevaron a este resultado y cómo sus efectos pueden ser minimizados en trabajos futuros. De esa forma, podemos mostrar los tipos de hueso trabajado procedentes del cementerio de Kaiseraugst-Im Sager son considerablemente distintos de hallazgos contemporáneos documentados en la ciudad de Augusta Rurica.

**Palabras clave:** Época romana, Cremaciones, Huesos quemados, Cribado, Artefactos de hueso.

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## INTRODUCTION

Roman bone artifacts are quite a popular subject for case studies and monographs. In the last 35 years an impressive number of studies from different regions of the Roman Empire, but mostly from the northern provinces, have been published (e.g., Béal, 1983; Mikler, 1997; Deschler-Erb, 1998; Ayalon, 2005; Gostenčnik, 2005; Schenk, 2008; Biró, 2012; Jung, 2013; Lóránt, 2010; Hrnčiarik, 2016). They deal mostly with museum collections, and they often focus only, or at least mainly, on typological aspects. The archaeological context is often not known or not considered in the analysis, so in most publications there is no differentiated analysis of bone artifacts from urban layers and funerary contexts. Clear differences are apparent, however, from other find groups such as some ceramic and glass vessels or oil lamps (e.g., Baerlocher and Deschler-Erb, 2013). But what about bone artifacts? Are there objects that are typical of funerary contexts? There is one group of bone objects that is quite spectacular and therefore quite well known in Roman archaeology, the *klinai*, couches. They were made of hundreds of small bone elements that were fixed on a wooden framework. These beds were in use only till the early imperial period and seem to have been produced only in Italy for an upper class clientele. North of the alps they can be found exclusively in cremation graves and in early Roman military contexts, for instance in Vindonissa (Baerlocher and Deschler-Erb, 2013) or in Haltern/Germany (Berke *et al.*, 2015). What is left of them are thousands of small bone fragments, a puzzle that can take years to reconstruct.

After this initial period of military occupation, civilian sites were growing and became more important. An example is the colonial town of Augusta Raurica in Roman Switzerland, where about 15,000 people were living in the 2nd and 3rd centuries AD (Bossert *et al.*, 2006). There were large cemeteries along the roads outside the gates, but relatively few bone artifacts from these graves were known until recently (e.g., Deschler Erb, 2004 in Pfäffli *et al.*, 2004: 152-153). Among the 6.000 bone and antler artifacts analysed in the 1990s, only about 30 were found in graves (Deschler-Erb, 1998:315, tab. 12)<sup>1</sup>.

## METHODS

An interdisciplinary team is currently analysing the so-called cemetery of Kaiseraugst - Im Sager in the southeastern part of the former city of Augusta Raurica. In the first phase of the project we had long methodological discussions, and, in our opinion, there are different reasons why so few bone artifacts are actually known from funerary contexts:

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1. The same was noted by M. Biró (2009), 64 for the site of Intercisa/Hungary.

1. The tradition of furnishing the dead with material goods changed. No more couches with elaborate bone decorations were burnt on the pyre in the 2<sup>nd</sup> half of the 1st and 2nd centuries. There are also differences between a military and a civil occupation. When there are a lot of worked bone objects among the cremated human bones it is easier to recognize small bone objects in the course of excavations.
2. The number of burnt remains we find is connected to the collection activity at the site of cremation. Often the Romans collected only a small part of the cremation and put it into the grave, so the number of bone artifacts is small.
3. Due to the burning and the extinguishing of the fire with water or wine, all kinds of bones shattered, resulting in thousands of small fragments. But small fragments of bone artifacts may be overlooked if the sediment of the grave is not sieved or only partially sieved during and after excavation.
4. Several decades ago, cremated bones from graves were not kept at all (Martin-Kilcher, 1976:76). Today the cremated bones are often first given to anthropologists. They separate human from animal bones and then give the animal bones to the archaeozoologist. The problem is that they often do not recognize smaller animal bones such as bird bones or fetal bones from pigs (cf., Baerlocher *et al.*, 2013). Furthermore they are not familiar with toolmarks from working bone and therefore don't recognise artifacts.
5. Not all archaeozoologists pay attention to toolmarks. So they skip bone artifacts when analysing cremated bones from funerary contexts.

All these factors can reduce the quantity of bone artifacts recovered from cremation graves. In the Kaiseraugst-Im Sager project we tried to minimize them. Although the excavations were already underway in 1981 and mainly conducted in 1991/1992 (Müller, 1992; Berger *et al.*, 2012:346-348), the cremated material was recovered as a whole.

For the current study the sediment could be sieved (in some cases using a mesh size of 4mm and 1mm) and the bone material was sorted out.

Nevertheless, problems persist because the objects that are found are often highly fragmented and very small. Typological determination is often possible using small identifying details, which can be quite helpful, as we will demonstrate using some examples from Kaiseraugst-Im Sager:

## RESULTS

The first object (fig. 1) is a small calcified bone fragment with a planed, polished surface and parts of two concentric circles. These are common for Roman dice (Schmid, 1980). Gaming objects are quite often found in Roman graves (e.g., Martin-Kilcher, 1976:76-77; Luik, 1994; Fecher, 2010:256) and probably symbolise fate (Luik, 1994:372). Another object, a spoon (fig. 2), which may have been part of a funerary meal, has broken into seven parts. The convex side of the bowl is



Fig. 1.—The fragment of a dice from Kaiseraugst-Im Sager 1991.002.C09367.157. Length 0.5 cm.



Fig. 2.—Three fragments of a spoon from Kaiseraugst- Im Sager 1991.002.C09392.19. Length ca. 6.5 cm.

decorated with a point. These points are regularly found on spoons that are typical of the 1st century AD. This detail can be helpful for the identification of such objects even when the fragment is very small. However, that cannot be said about the handle fragments. When such rods are found in isolation they could also be identified as part of a hairpin (Deschler-Erb, 1998:159-166) or a needle (Deschler-Erb, 1998:140-142), so their function cannot be determined with confidence.

Fragments of cylindrical objects that have been worked on a turning lathe can also be found, but there are some details by which two object types can be differentiated. Some objects (fig. 3) have been worked only on the outside surface; others, however (fig. 4), have been worked on the inside and the outside. Furthermore, the first object (fig. 3) has a drilled depression on the inside surface. That is some kind of an accident from drilling the hole into the other side of the



Fig. 3.—Outside and inside of a hinge from Kaiseraugst- Im Sager 1991.002.C09190.70. Length 1.8 cm.

cylinder. The craftsmen obviously stopped drilling too late and touched the opposite side with the drill, so that is the proof that we have a fragment of a hinge. Roman bone hinges are cylinders, usually with one or more holes, into which wooden plugs were fitted, and used as pivots for doors and lids (Deschler-Erb, 1997; Deschler-Erb, 1998:182-189). The object shown in fig. 4 is worked on the outside and the inside. The border is not straight-edged like the hinge, but rounded. Furthermore, there is a shallow rim carved on the inside margin. That can only be found on so-called *pyxides*. The bottom or the cover of the *pyxis* was set upon this rim. *Pyxides* were used as containers for unguents and creams and were often placed in the grave as personal effects of the dead (Béal/Feugère, 1983; Deschler-Erb, 1998). This shows that different technical details can help to identify bone artifact types.

The last objects to be presented belong to two groups of small figurines. The first group certainly represents dolphins (six fragments) (fig. 5). The second group could be fishes or simplified dolphins (4 fragments) (fig. 6). All the figurines have a longitudinal perforation. Ten of these objects have been found in grave B72 of Kaiseraugst- Im Sager, and there is no parallel in the city of Augusta Raurica. B72 is a so-called *bustum* grave positioned directly at the place of the pyre, and all remains fell into the pit underneath during the burning process. A reconstruction of the original arrangement of the objects, however, is not possible due to this collapse. What could have been the function of these finds? Perforated objects are often considered to have been pendants and/or amulets. This might be true in the case of the grave of a baby from Nîmes/France who was less than a year old in which two transverse perforated animals made of amber, at least one of which can be identified as a fish, and three perforated cattle incisors have been found (Bel, 2012:209, fig. 14; Bel *et al.*, 2016:395-399, fig. 395). Perhaps those are remains of



Fig. 4.—Outside and inside of a pyxis from Kaiseraugst- Im Sager 1991.002.C09048.24. Length ca. 2 cm.





Fig. 5.—Left and right side of the dolphin from Kaiseraugst- Im Sager 1991.002.C07596.2. Length 6.5 cm.



Fig. 6.—The dolphin/fish (?) from Kaiseraugst- Im Sager 1991.002.C07612.4. Length 5.7 cm.

the *crepundia* that were worn by Roman children (Bíró, 2009:69). Similar objects made of bone and bearing a longitudinal perforation that come from Great Britain and other regions of the northwestern provinces have been published by St. Greep (Greep, 2012, 2013). Most of them were isolated finds. St. Greep mentions only two cases where several objects have been found in the same structure: The first is a pit from Catterick/GB with two fishes and two “crescent-shaped” objects. The second example is a pit from Intercisa with six similar perforated fish objects (Bíró, 2009:69). In these cases St. Greep is speaking about “larger arrangements”, but he is still thinking about a necklace (Greep, 2012:13). The largest arrangement of perforated bone objects by far has been found in grave B72 from Kaiseraugst-Im Sager. Furthermore the fragment of a perforated tooth similar to those from Nîmes, three bone pearls, and other perforated objects were found in this grave. But are we really only dealing with the remains of a necklace? All objects mentioned by Greep have, as far it can be seen on the figures (Green, 2012: fig. 1-8), a decorated front side and a non-decorated reverse side. The dolphins from grave B72 from Kaiseraugst-Im Sager, however, were decorated on both sides. Furthermore, quite a lot of bronze and iron rivets have been found in this grave. The figurines could have been fixed on a wooden box with the rivets, and, in this way, they would have been visible from both sides. Therefore, the only distinct pendants in this grave would be the tooth fragment and the other perforated objects.

Finally, we would like to look at the whole ensemble of bone artifacts found in the cemetery of Kaiseraugst-Im Sager. All in all, 139 fragments were discovered (fig. 7). Among them, fragments of furniture are most frequent by far. If the interpretation of the dolphin/fish objects is correct, the frequency of this category

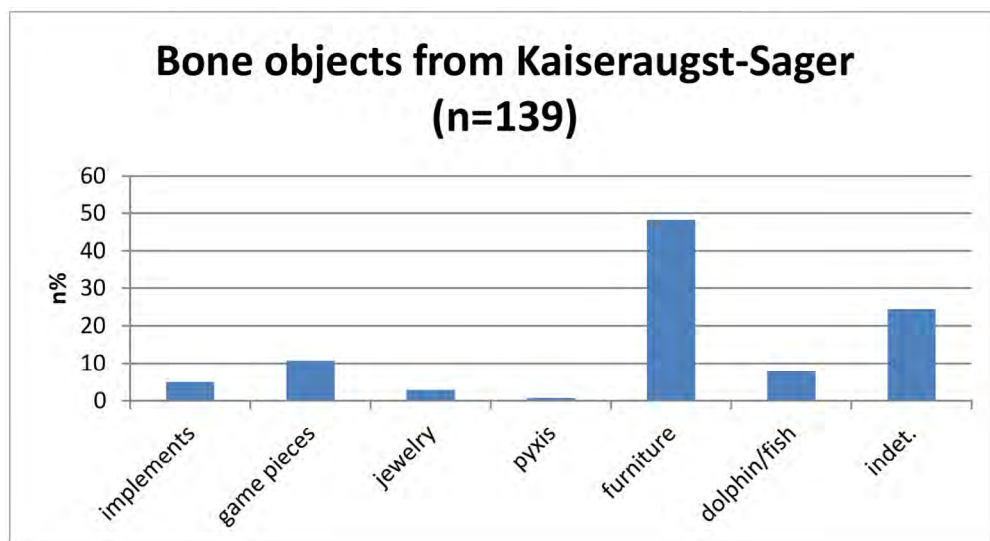


Fig. 7.—The frequency of different bone object types in the cemetery of Kaiseraugst- Im Sager.



is even higher. Objects such as hairpins, gaming pieces, and implements, however, are rather rare. These frequencies are quite different from what has been recovered from urban contexts from the same site (Deschler-Erb, 1998:200, fig. 277). It seems that there were specific bone object types and a typical spectrum of bone artifacts in funerary contexts.

## CONCLUSIONS

It appears that the quantity of bone objects recovered from funerary contexts depends on different—mostly methodological—factors. Interdisciplinary collaboration between excavators, archaeologists, anthropologists and archaeozoologists is essential. This is the only way that the study of bone objects can develop its full potential for answering cultural historical questions. In the case of Augusta Raurica, our data show that there were different uses assigned to objects intended for the living and the dead.

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## BIBLIOGRAPHY

- AYALON, E. (2005): *The assemblage of bone and ivory artifacts from Caesarea Maritima, Israel, 1st-13th centuries CE.*, BAR International Series 1457, Oxford.
- BAERLOCHER, J., AKERET, Ö., DESCHLER-ERB, S. and CUENI, A. (2013): “Prächtige Bestattung fern der Heimat – Interdisziplinäre Auswertung der frühromischen Gräber der Grabung Windisch-Vision “Mitte“ 2006-2009“, *Jahresbericht der Gesellschaft Pro Vindonissa* 2012, pp. 29-55.
- BAERLOCHER, J. and DESCHLER-ERB, S. (2013): “On a bed of bones - An early imperial burial from Vindonissa”, *The sound of bones. Proceedings of the 8th Meeting of the ICAZ Worked Bone Research Group in Salzburg 2011* (F. Lang, ed.), Archaeopress, Schriften zur Archäologie und Archäometrie an der Paris Lodron-Universität Salzburg 5, Salzburg, pp. 41-55.
- BÉAL, J.C. (1983): *Catalogue des objets de tabletterie du Musée de la civilisation gallo-romaine de Lyon*, Centre d'études romaines et gallo-romaines de l'université Jean Moulin Lyon III, nouvelle série 1, Lyon.
- BÉAL, J.C. and FEUGÈRE, M. (1983): “Les pyxides gallo-romaines en os de Gaule méridionale”, *Documents d'Archéologie Méridionale* 6, pp. 115-126.
- BEL, V. (2012): “Les dépôts de mobilier dans les tombes d'enfants et d'adolescents en Gaule Narbonnaise au Haut-Empire”, *L'enfant et la mort dans l'Antiquité* (A. Hermary and C. Dubois, eds.), Bibliothèque d'archéologie méditerranéenne et africaine 12, Editions Errance, Aix-en-Provence, pp. 193-216.
- BEL, V., BARBERAN, S., CHRISTOL, M., CONTÉRIO, M., FIGUEIRAL, I., FOREST, V., GAFÀ, MANNIEZ, Y. and ROUQUET, J. (2016): “Deux ensembles funéraires d'époque romaine, Avenue Jean-Jaures à Nîmes (Gard)”, *Revue archéologique de Narbonnaise Suppl.* 46, Montpellier-Lattes.

- BERGER, L., HUFSCHEMID, Th., AMMANN, S., SCHWARZ, P. A. and BROMBACH, U. (2012): *Führer durch Augusta Raurica*, Basel.
- BERKE, St., PAK, L., PECHTOLD, S. and VIAN-DEN, M. (2015): "Die römische Kline aus Haltern", *Archäologie in NRW 2010-2015* (T. Otten and J. Kunow, eds.), Schriften zur Bodendenkmalpflege in Nordrheinwestfalen 11:2, Darmstadt, pp. 67-70.
- BÍRÓ, M. (2009): "Historischer Überblick der Bein-schnitzerwerkstätten in Intercisa", *Archaeologiai Értesítő* 134, pp. 63-79.
- BÍRÓ, M. (2012): *Bone objects in Aquincum*, Budapest.
- BOSSERT, J., KOCH, P., LAWRENCE, A., STRAU-MANN, S., WINET, I and SCHWARZ, P.-A. (2006): "Zur Einwohnerzahl von Augusta Raurica", *Jahresberichte aus Augst und Kaiseraugst* 27, pp. 67-108.
- DESCHLER-ERB, S. (1997): "Bone, antler, tooth and ivory: Raw materials for roman artifacts", *Proceedings of the 7th ICAZ (Konstanz 26.09.-1.10.1994)*, *Anthropozoologica* 25/26, pp. 73-77.
- DESCHLER-ERB, S. (1998): *Römische Beinartefakte aus Augusta Raurica. Rohmaterial, Technologie, Typologie und Chronologie*, Forschungen in Augst 27:1 und 2, Augst.
- FECHER, R. (2010): *Die römischen Gräber von Rottweil-ARAE FLAVIAE*, Forschungen und Berichte zur Vor- und Frühgeschichte in Baden-Württemberg 115, Stuttgart.
- GOSTENČNIK, K. (2005): *Die Beinfunde vom Magdalensberg*, Klagenfurt.
- GREEP, St. (2012): "Five Little Fishes ..... or more?", *Lucerna, the Roman finds group newsletter* 43, pp. 8-11.
- GREEP, St. (2013): "Some more fish pendants", *Lucerna, the Roman finds group newsletter* 45, pp. 13.
- HRNČIARIK, E. (2016): "Roman Bone Artifacts from Iža", *Close to the bone: current studies in bone technologies* (S. Vitezović, ed.), Beograd, pp.140-145.
- JUNG, P. (2013): *Die römischen Beinartefakte aus dem Gebiet der Colonia Ulpia Traiana (Xanten)*, Darmstadt.
- LÓRÁNT, V. (2010): "Bone-Working in Roman Dacia", *Ancient and Modern Bone Artefacts from America to Russia. Cultural, technological and functional signature* (A. Legrand-Pineau, I. Sidéra, N. Buc, E. David and V. Scheinsohn, eds.), BAR International Series 2136, Oxford, pp. 55-64.
- LUIK, M. (1994): "Ein Körpergrab mit Spielsteinbeigabe aus Köngen, Kreis Esslingen", *Fundberichte Baden-Württemberg* 19/1, pp. 357-381.
- MARTIN-KILCHER, St. (1976): *Das römische Gräberfeld von Courroux im Berner Jura*, Basler Beiträge zur Ur- und Frühgeschichte 2, Derendingen-Solothurn.
- MIKLER, H. (1997): *Die römischen Funde aus Bein im Landesmuseum in Mainz*, Monographies Instrumentum 1, Montagnac.
- MÜLLER, U. (1992): "Ausgrabungen in Kaiseraugst im Jahre 1991", *Jahresberichte aus Augst und Kaiseraugst* 13, pp. 207-224.
- PFÄFFLI, B., SÜTTERLIN, H., AKERET, Ö., DESCHLER-ERB, S., LANGENEGGER, E. and SCHLUMBAUM, A. (2004): "Die Gräber aus dem Areal der Sägerei Ruder-ein Ausschnitt aus dem Nordwestgräberfeld von Augusta Raurica", *Jahresberichte aus Augst und Kaiseraugst* 25, pp. 111-178.
- SCHENK, A. (2008): *Regard sur la tabletterie antique. Les objets en os, bois de cerf et ivoire du Musée Romain d'Avenches*, Documents du Musée Romain d'Avenches 15, Avenches.
- SCHMID, E. (1980): "Beinerne Spielwürfel von Vindonissa", *Jahresbericht der Gesellschaft Pro Vindonissa* 1978, pp. 54-81.