



Leyre Morgado-Roncal and Karina Grömer

Textiles attached to Roman coins: Case studies and interpretations

Abstract

In Roman archaeology of the provinces situated in modern-day Europe, textile studies have been traditionally approached through written and iconographic sources. The archaeological textile *corpus* in the first half of the first millennium CE is particularly scarce, and often come from old excavations without detailed contexts. Moreover, the findings are difficult to locate in the scientific literature. In the last few decades, Roman period textiles have been studied with an interdisciplinary approach, including fibre or dyestuff analyses and scientific methods. For example, Raman and Surface Enhanced Raman Scattering (SERS), scanning electron microscopy (SEM), energy dispersive X-ray spectroscopy (EDS) and spectrophotometry. It is also important to study the contexts of the textiles, the graves, settlements and hoards and thereby understand the archaeological textiles *in situ*. This article provides an overview of a lesser-known phenomenon: textiles attached to Roman coins. It presents evidence of textiles preserved attached to coins in archaeological contexts from the Roman provinces (*Hispania*, *Noricum*, and *Pannonia*). It draws attention to a little studied textile function and compares findings from different regions of the Roman Empire.

Keywords: Textile archaeology, Roman coins, textiles, textile contexts, textile analysis

Introduction

Textiles influenced and embellished Roman life, they accompanied their wearers' daily life and wrapped them at their funerals. They were a basic need, a protection against climatic conditions such as heat, cold and rain, a way to express identity, gender, status, aesthetic decisions and much more. In a sense, textiles were the wrappings of Roman society, and an iconic sensory medium to showcase morals and taste.

When discussing textiles and their role in Roman archaeology, the focus is usually on garments, fashion, and attire (Croom 2002; Edmondson and Keith 2008; Harlow and Nosch 2014; Campanile et al. 2017; Radicke 2022), sometimes on interior furnishing (De Moor and Fluck 2009), on their funerary *milieux* (Carroll and Wild 2012) or their production, infrastructures and tools (Wilson 2003; Flohr 2013; 2017). As classical history and art history were the disciplines that traditionally dealt with textiles and dress, often

only written and pictorial sources were considered – partly owing to the issues with organic materials and textile preservation in Europe. The climatological conditions in Europe, especially in the Mediterranean countries, do not favour anaerobic conditions in which textiles are preserved. Many archaeological textiles were lost due to a lack of interest or attention or for not being considered primary archaeological evidence (Peacock 2005, 32–33; Gleba and Mannering 2012, 2–3). Furthermore, the varied textile sources (epigraphy, written sources, production tools and spaces, iconography, textile pseudomorphs, etc.) and the challenging task of merging them is still one of the greatest obstacles to understanding Roman textile production (Wild 2004, 23–24). Textiles and fibres are not often preserved because they are organic. However, they do survive in contact with metallic objects through mineralisation. The corrosion of the metal generates a cast around the fibres that are in



direct contact with it. The cast preserves the external morphology and dimensions of the textile without much alteration (Chen et al. 1998; Andersson Strand et al. 2010, 151–152; Gleba and Busana, forthcoming). In recent decades, archaeological textile finds from the Roman Empire have been compiled and reported in publications (Castelo Branco and Ferreira, 1971; Alfaro Giner 2001; Rast-Eicher 2001; Alfaro Giner 2005; Gleba 2008; Giuliani et al. 2011a; Gostenčnik 2012; Möller-Wiering and Subbert 2012; Wild 2012; Cerdán and Rodríguez Peinado 2013; Grömer 2014; Ciccola et al. 2020; Médard 2020, 212–275; Busana and Gleba 2021; Morgado-Roncal 2021a; Bustamante-Álvarez et al. 2023). This paper draws attention to Roman archaeological textiles in context, especially to those preserved in direct contact with coins.

Archaeological textiles are frequently preserved through mineralisation attached to metal objects such as *fibulae*, buckles, necklaces, etc. However, a rarely mentioned phenomenon detailed here is textiles preserved on coins dating from the first century to the sixth century CE from the Roman provinces of *Hispania*, *Noricum*, and *Pannonia*.

Case studies: evidence of Roman textiles attached to coins

Coins with textiles attached to them have been found in different types of archaeological settings: settlements, graves, and hoards. First, three examples from a military *vicus*, a Roman *domus* and a grave dating to the third century CE and Late Antiquity from *Hispania* and, secondly, other textile specimens from a hoard



Fig. 1: Roman coins from Puente Castro, León (Spain) with textiles attached. Photography of the remains (coins 50, 49, and analysed sample); microphotography of the sample (Images: after Ángel Morillo Cerdán and IPCE, Instituto de Patrimonio Cultural de España)



and several Late Antique graves from modern-day Austria are discussed.

Most of the textiles were excavated and analysed in the late 20th and early 21st centuries. Their preservation and examination are the result of a new awareness of textiles in archaeological practice. During the 20th century, the lack of attention to organic remains limited the evidence available. Many items were recorded without context and, in the best cases, given minimal publication at the end of long archaeological reports with sparse data. This led to the perception that such archaeological textiles did not exist. This was especially so for countries such as Spain and Portugal where the preservation conditions were not optimal (Morgado-Roncal 2021b) and therefore not many textiles have been recorded so far. Luckily, the state of textile research has been improved thanks to international projects, centres of research, and networks (DressID, EuroWeb project, CTR in Denmark, TRC in Leiden, etc.).

Military vicus: Puente Castro (León, Spain)

The military *vicus* of Puente Castro (*Ad Legionem*) is located 2.5 km from the camp of *legio VII gemina* in León (Spain). It dates from the mid-first century CE to the mid-third century CE, when it suffered violent destruction that accelerated its abandonment. This Roman site was barely known until its rediscovery during the construction of the south ring road in 2000. The archaeological excavations (2000 to 2001) uncovered several buildings organised orthogonally along a street with NW–SE orientation (Álvarez Ordás et al. 2000/2001; Morillo Cerdán et al. 2018, 145–149). Later excavations in 2011 confirmed the large size of the settlement, although its borders were not found (García Marcos 2010; Morillo Cerdán et al. 2018, 146). The fact that two military *vici* were associated with the same camp is also attested in other legionary camps such as *Carnuntum* in modern Austria (see below). Consequently, the *vicus* of Puente Castro follows the characteristics of similar sites of the septentrional frontier (Morillo Cerdán and Rodríguez Peinado 2013, 326–327).

Some of the buildings were identified as houses with a rectangular floorplan (striphouses). In one of the rooms of Domus 1, a coin hoard was found with textiles attached (Morillo Cerdán and Rodríguez Peinado 2013; Morillo Cerdán et al. 2018, 148). It was reported to be a linen moneybag or *bursa* that was preserved by the metal salts in contact with some of the coins. The *bursa* was preserved as five fragments attached to four coins (fig. 1). The coins were

antonians, one minted by Philip the Arab (numbers 51, 244 to 247 CE) and two by Gordian III (numbers 50, 242 to 244 CE; number 49, 240 CE). Overall, the *bursa* dates to the mid-third century CE and it has enabled the final date of the site to be identified (260 to 270 CE) (Morillo Cerdán and Rodríguez Peinado 2013, 327).

In 2006, two textile samples were analysed through optical microscopy, microchemical testing, and x-ray fluorescence spectroscopy. The thread count of the fabric is 12 to 13 threads per cm and different thickness were determined for the warp and weft threads, which creates a very loose and irregular cloth (Morillo Cerdán and Rodríguez Peinado 2013, 335). Indeed, some deformation is observable in all the fragments based on the cited thread density. It was identified as tabby with combined spin directions (z-single yarns in the weft and s-single yarns in the warp) which creates a well-balanced fabric. Flax and hemp were identified as the raw materials. It is now discoloured to a greenish hue owing to mineralisation. No further information indicated its original colour (Morillo Cerdán and Rodríguez Peinado 2013, 328, 335–336).

There were no vessels close to the coin hoard, so the fabric moneybag was not kept inside a jar or another kind of container (a practice that has been reported in other case studies such as Deutschkreutz, Austria). The linen moneybag was probably lost by its owner and left after the violent episode that provoked the abandonment of the site.



Fig. 2: *Domus* of Mitreo, *Augusta Emerita* (Mérida, Spain). *In situ* localisation of the coins with attached textiles (Images: after Consorcio Ciudad Monumental de Mérida and Bustamante et al. 2023, fig. 3A)

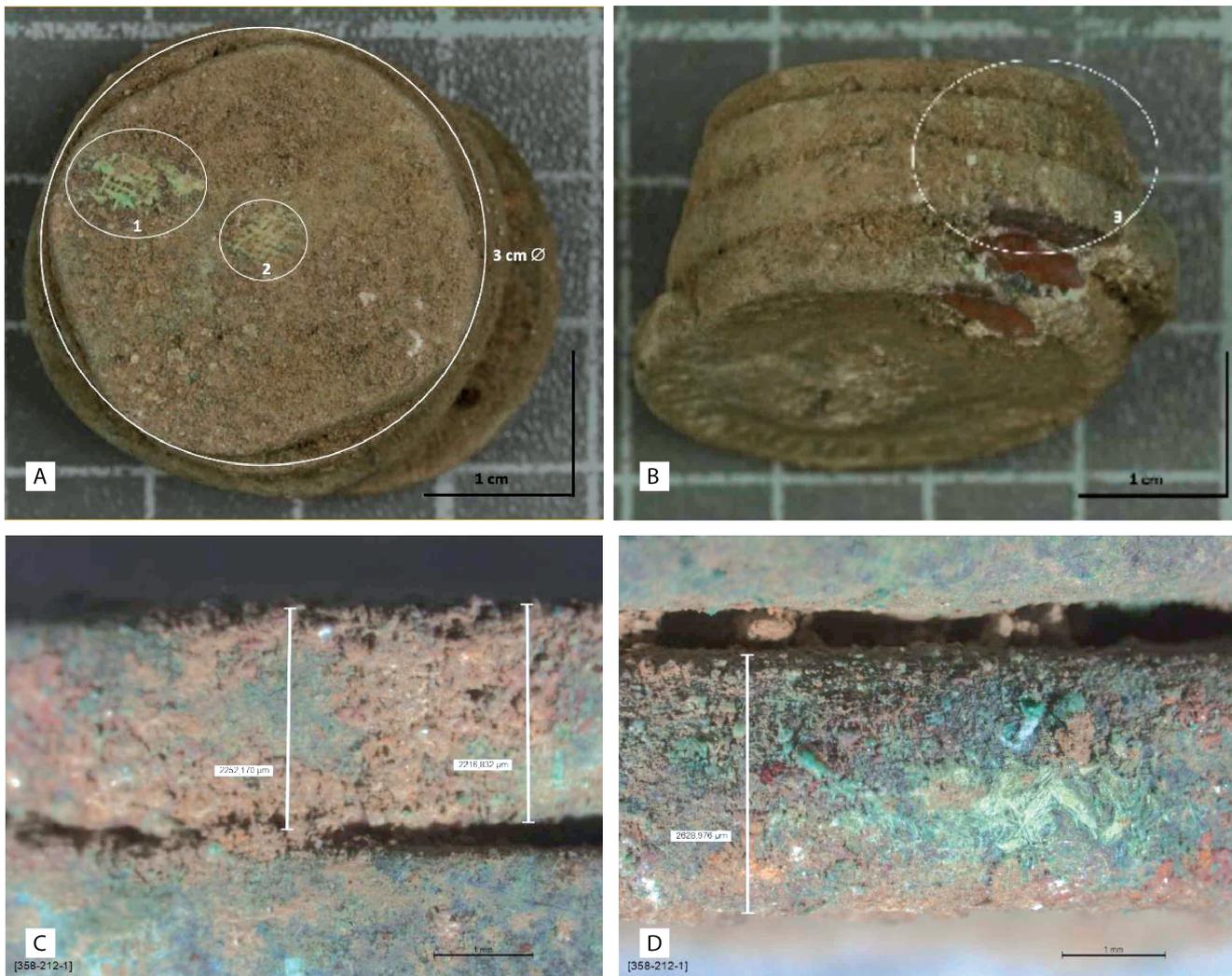
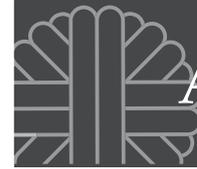


Fig. 3: *Domus* of Mitreo, *Augusta Emerita* (Mérida, Spain). Details of the coins with the attached textile fragments. Photographed with a stereoscopic and optical microscope with polarised light (LEICA DM750, X4-X200, software LAS v. 4.9.0) (Images: after Departamento de Bienes Culturales Universitat Politècnica de València, Servicios Microscopía (UPV) and Bustamante-Álvarez et al. 2023, fig. 4)

Domus of Mitreo: *Augusta Emerita* (Mérida, Spain)

The *domus* of Mitreo is situated *extra moenia* of the Roman city of *Augusta Emerita* (Mérida, Badajoz), the capital of the province of *Lusitania*. It dates to the end of first century/beginning of the second century CE to the end of the third century CE (Bejarano Osorio and Bustamante-Álvarez 2023a). It is one of the best examples of private architecture in the Iberian Peninsula. The house has wonderful mosaics (for example, the Mosaic of Cosmos), a complex architectural organisation as well as beautiful wall paintings. It was discovered in 1967 by García Sandoval and it consists of two different *domus*. Initially, during the Flavian era, two houses were designed, but they ended up as one large

architectural complex in the second century CE. Then, at the end of the third century CE, the *domus* of Mitreo suffered an unexpected fire that led to its abandonment. During the fifth century CE, the house became a place of uncontrolled destruction which led to its complete loss (Bejarano Osorio and Bustamante-Álvarez 2023b, 17–21).

The archaeological site has two big *nuclei*: the house – *domus* – and a semi-private bath – *balneum* (located in the east of the house). In one of the *balneum*'s rooms the textile find was unearthed (see Bustamante-Álvarez et al. 2023). During the archaeological excavations in 2017, a set of 53 coins with fabric attached to them was found in the southwestern corner of room 44 (fig. 2). This area had different uses over time, but



the discovery is associated with a later phase at the end of the third century CE/beginning of the fourth century CE that coincided with the traumatic fire that ended the use of the complex (Bustamante-Álvarez et al. 2023, 3–4).

The textile belongs to another *bursa/marsupium* – moneybag. The numismatic analysis of the coin hoard revealed 48 sesterces, two aces, a *dupondius*, and two antoninians (Velázquez Jiménez and Sardiña Linde 2023, 490, fig. 3). They date from the time of the Antonians to the mid-third century CE with a sesterce minted by *Gallienus* in Rome (253 to 254 CE).

Two small textile fragments (fig. 3) were archaeometrically examined (fragment 1, 3 square mm; fragment 2, 2 square mm). The threads of thread system 1 are very fine with a diameter of 0.17 mm and the threads of system 2 are more irregular, between 0.17 and 0.3 mm (Bustamante-Álvarez et al. 2023, 8–9). Detailed research on the threads indicated that they were produced by splicing, for which some oriental and Egyptian parallels can be identified (Gleba and Harris 2019, 2329–2346). The threads have s-twists in both systems. In thread system 2, the twist is tight to medium tight (28° to 26°) and in thread system 1, a 30° twist was detected, but parallel threads were also observed (potentially a characteristic of splicing).

Flax was identified with scanning electron microscopy (SEM/EDX) together with the diameter of the isolated fibres at 10 to 13 µm which indicates a delicate, high-quality linen (Bustamante-Álvarez et al. 2023, 9–11). An Egyptian origin has been suggested, although the use of Egyptian linen with a *Hispanic* construction cannot be excluded. Its greenish colour is the effect of mineralisation, a frequent effect observed on textiles in contact with coins.

This *bursa* has been interpreted as a small hidden deposit in an unstable situation – the fire and abandonment of the house – or the small savings of a person working at the *domus* (Velázquez Jiménez and Sardiña Linde 2023, 489–491). It can be considered small savings because of the low number of coins (53) and because most of them are sesterces, which are low value coins (48). A sesterce is a one hundredth part of an *aureus* (approximately 5.4 grammes of gold with Diocletian). Nowadays, the price of one gramme of gold is approximately €57.25 making one sesterce equivalent to €3.

On the one hand, it has been suggested that the delicate quality of the *marsupium* is consistent with long term use (Bustamante-Álvarez et al. 2023, 16).

It may have been hung up rather than worn or carried to avoid the deterioration of the fabric. On the other hand, there was a small pot near the coins that could have been the container for the wrapped coins. Both hypotheses would explain the delicate nature of the fabric. Generally, moneybags were made of leather; a material much more resistant to friction. If the only purpose of the textile was to keep a small group of coins together, then any kind of bag might have been suitable. However, moneybags were considered unimportant products and often crafted with recycled materials (Wild 2002, 23). Consequently, the use of such a fine fabric suggests either an intentional choice or maybe wealth. In the future, these questions should be further examined and compared with other archaeological finds.

Grave: Casais Velhos (Portugal)

The *villa* of *Casais Velhos* (nowadays Cascais, Portugal) was occupied from the first century CE to the seventh century CE, though its main period of activity was between the third century CE to Late Antiquity. The site is situated to the west of modern-day Lisbon on a hill close to the coast (Teichner 2007, 117). It was excavated in the 20th century (1945, 1968) as many of the archaeological remains were visible on the surface and in danger of being destroyed (D'Encarnação 1968; Castelo Branco and Ferreira 1971, 69–73). The site is known for its impressive *balneum* and the remains of its heating system (brick arches – *suspensurae*). *Casais Velhos* has other significant infrastructures such as building 4 (a *domus*). During the excavations of this house, a set of loom weights was found inside (Castelo Branco and Ferreira 1971, 72–73). This points to the manufacture of textiles in a domestic setting and in the context of a rural area. Furthermore, close

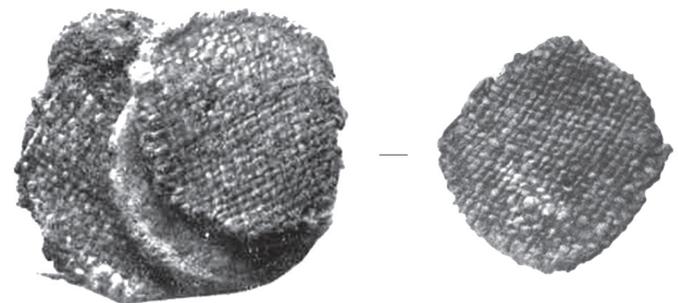
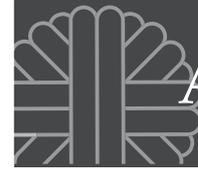


Fig. 4: *Casais Velhos*, a single coin with textiles attached (Image: after Castelo Branco and Ferreira 1971, plate VII; Cardoso and Encarnação 1990, 64, fig. 8)



to another building (number 3) there were two basins – *pilae* – excavated on the floor and coated with *opus signinum*. They were part of the artisanal economy and dyeing activities were suggested due to the presence of *murex* (Castelo Branco and Ferreira 1971, 82–83; Alarcão 1988, II 2, 122; Cardoso 1991, 49; Encarnação and Cardoso 1995, 205–206; Reis 2004, 126; Teichner 2007, 117–119, 125–124; Sarmiento 2012, 21–22), though this has been heavily discussed because it is not clear that the *murex* shell was fragmented. Even so, *Casais Velhos* has enough archaeological remains to highlight the presence of its textile manufacture and one of them is a textile fragment attached to a coin.

To the south of the *balneum* there is a *necropolis* (fifth/sixth century CE), and a coin with an attached textile was discovered in one of the inhumations. This is one out of the few archaeological textiles from Prehistory to Late Antiquity discovered in Portugal (Castelo Branco and Ferreira 1971, 80–81; Soares et al. 2018). Besides its known funerary origin, there is no further information on its *in situ* location. The textile fragments belong to the collection of old findings from the Museu Condes de Castro Guimarães (Cascais). It was first published as part of the report of the excavations (Castelo Branco and Ferreira 1971, 79–81), but without thorough archaeometric analysis. Later, only a few articles mention this exceptional textile (Cardoso and Encarnação 1990, 64; Sarmiento 2012, 20; Cardoso and Encarnação 2021, 106; Cardoso and Cardoso 2022, 115), and therefore, it was partly forgotten. Unfortunately, as reported (Sarmiento 2012, 53), the textile has also been lost and its location is currently unknown. Consequently, the discussion will be based on the available data.

It was reported as a linen textile that was preserved by the metal salts in contact with the coin (Castelo Branco and Ferreira 1971, 79) (fig. 4). As there are no known archaeometric analyses, the presence of other plant fibres such as in the *bursa* of Puente Castro (León) should not be disregarded. There is no information regarding its colour and the photographic documentation is in black and white. However, it could have had a greenish hue due to the effect of mineralisation. If there were remains of its natural colour it could have been white (the natural colour of flax), as is the case for the examples from Austria. The two fragments appear to be tabby-woven based on the photographs (Castelo Branco and Ferreira 1971, plate VII, 7; Cardoso and Encarnação 1990, 64, fig. 8).

The researchers deemed the coin illegible, hence the absence of a specific chronology. Despite this, out of the 21 coins discovered in *Casais Velhos*, 15 date to the Roman period (third to fourth century CE) (Sarmiento

2012, 53–55). If we also consider that the *necropolis* dates to Late Antiquity (fifth/sixth century CE), it could be suggested that the textile fragments date from the third century CE to the fifth/sixth century CE. This chronology appears to match with the other textile parallels.

Unlike the other case studies from *Hispania*, the textiles hold only one coin, so it is not clear that it was a *bursa*. The wrapping of one coin could be either associated with a dress adornment or a ritual practice. During the Roman imperial period, coins were placed in tombs to pay Caron's *obolus*. This ritual practice persisted for some time (Cardoso and Cardoso 2021, 115) and it could explain the decision to wrap a single coin.

Hoard: Deutschkreutz (Austria)

The provinces along the Danube (*Noricum* and *Pannonia*), faced a somewhat unsecure time in the third century CE. Troops of rival emperors or power factions within the Empire and plundering bands of barbarians invaded the provinces from north and moved through the country. In this situation, valuables were hidden, such as the find described above. In a forested area south of Deutschkreutz (Burgenland province in today's Austria), a small hoard find was discovered by chance. It consisted of a pottery vessel filled with Roman coins (Dembski and Lang 2007). No other settlement features are known around the findspot. In the jar, 185 coins were found, including various *denarii* and *antoninians* from Emperors Pertinax to Gallienus. The series of coins begins in 193 CE and the final coin dates to around 258 CE.

A special feature of this hoard is that two coins still had fabric remains adhering to them (Grömer 2014, catalogue; Rö-1 and table 13), preserved through contact with the metal. The two coins are *antoninians*. One of them could be identified as coinage of Valerian II (253 to 255 CE). Between the coins as well as on the surface of one of the coins, a tabby woven textile as well as fibre remains were found (fig. 5). The fabric is very fine with 0.2 to 0.3 mm s-single yarns and 17 threads per cm in one system and 0.1 mm s-single yarns and 35 threads per cm in the other. The denser thread counts in one thread system give it a repp-like appearance. The raw material was identified as flax by scanning electron microscopy. The textile might have been a natural off-white colour but is now discoloured into a greenish hue owing to contact with the metal coins.

Two different uses are conceivable for the textile remains. On the one hand, the coins could have been kept in a linen bag when they were placed into the jar and then buried. Remnants of seams that would

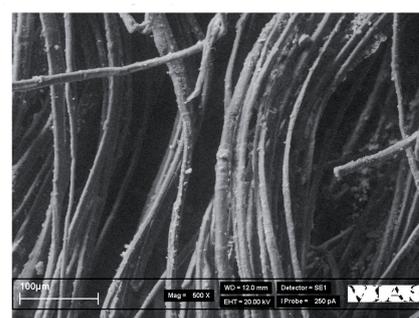
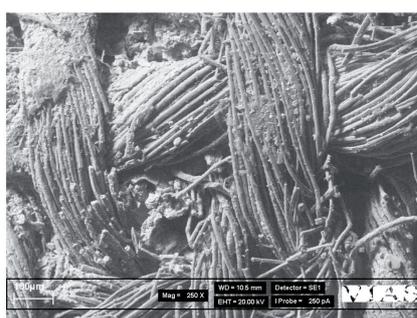
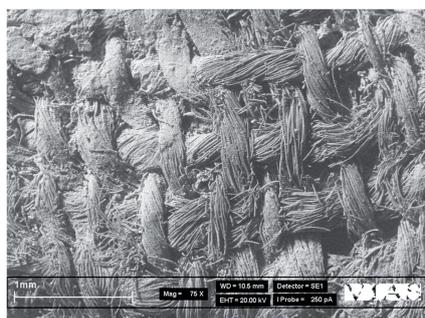
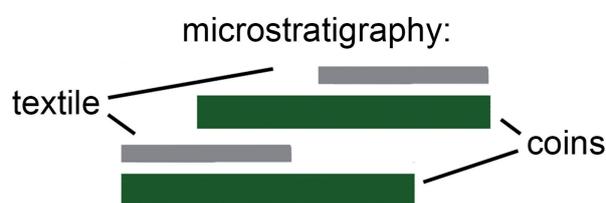
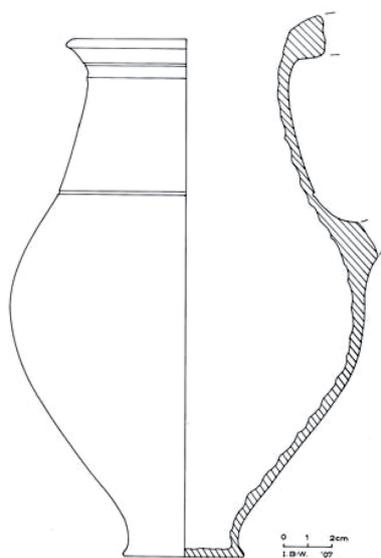


Fig. 5: Deutschkreutz (Austria), Roman coins with textiles from a coin hoard. Bottom row: analysis using scanning electron microscopy (Images: Karina Grömer, drawing of jar after Demski and Lang 2007)

indicate a sewn pouch could not be seen on the small textile fragments. On the other hand, the jar could also have been lined with the linen fabric and the coins stored between the folds of the fabric.

Graves: Carnuntum and Mautern-Burggartengasse (Austria)

Carnuntum (nowadays Austria), served as one of the main legionary fortresses in the Roman province of *Pannonia*. It was the capital city of *Pannonia superior* from 100 CE. It had more than 50,000 inhabitants and several grave districts. One of them is the cemetery belonging to the town that emerged as a civilian settlement, *canabae legionis*, south of the military camp (site *Carnuntum* parz. 691). One grave is of particular interest there. It is the tomb

of an infant (infant I, 18 months) buried in a third century CE sarcophagus made of white limestone (Grünewald 1982, 25–29). The child was found in a stretched supine position with some parts of the skeleton dislocated. As grave goods, the child had a glass bottle, a glass bead, an iron knife, an iron pin, and two coins, which are of interest here (fig. 6).

According to the first publication, textile remains adhering to a perforated coin were observed: "A coin ... lay on the left side of the chest, another ..., under which even a remnant of cloth has been preserved, between the long bones of the legs. ... Denarius of Septimius Severus, Rome, from 200 CE perforated. On the obverse also perforated remnant of fabric" (Grünewald 1982, 25). The textile (Grömer 2014, catalogue: Rö-7, plate 16) is a piece of a fine

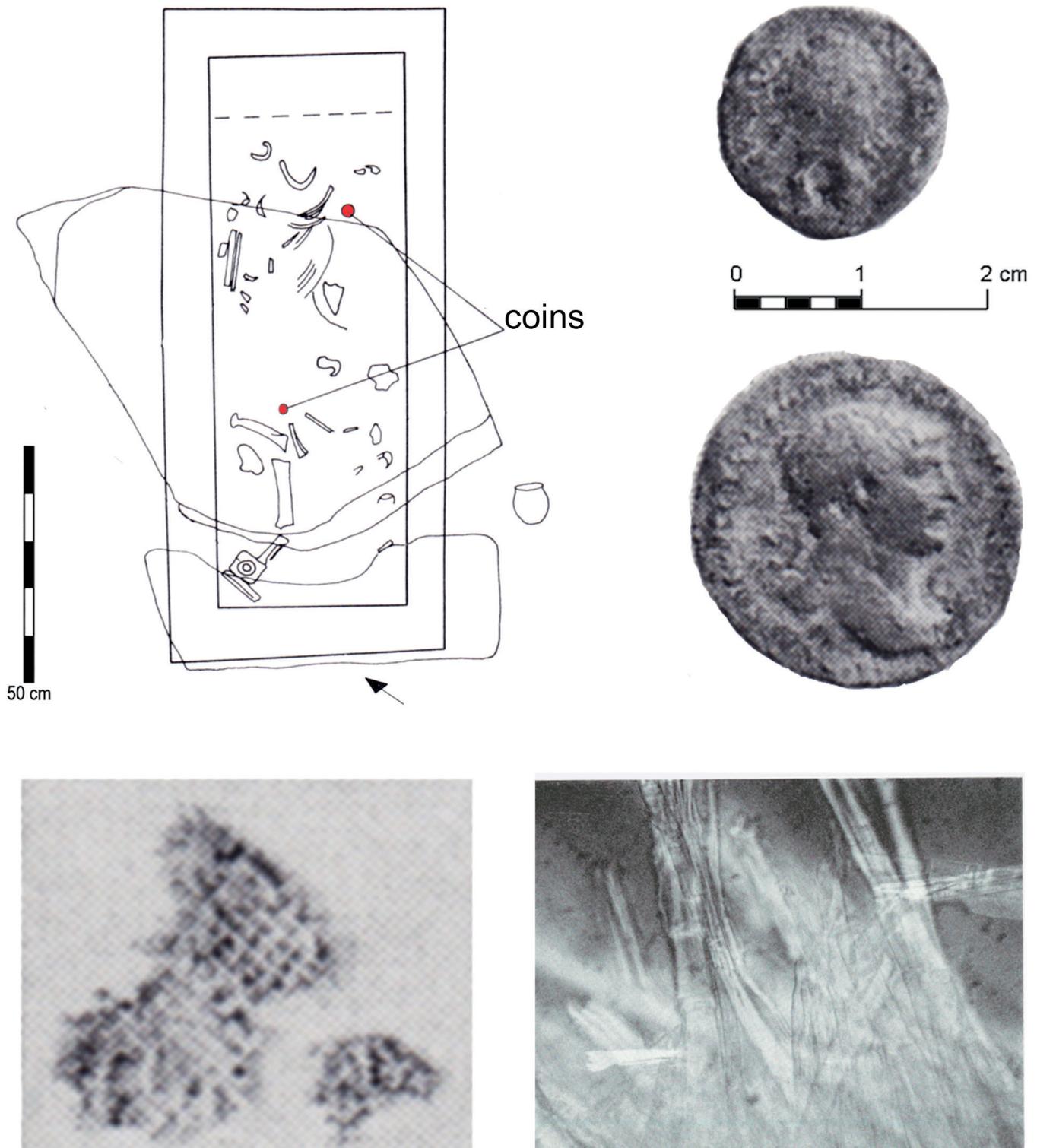


Fig. 6: *Carnuntum*, Parzelle 691 (Austria), a children's grave with a textile on a coin. Analysis using light microscopy (Images: after Grömer 2014, plate 16)



Fig. 7: Mautern-Burggartengasse (*Favianis*, Austria), grave 20: Sarcophagus grave with a textile attached to a group of coins (Images: Karina Grömer)

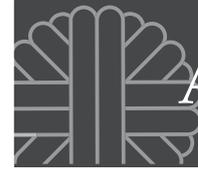
tabby, evenly woven with 0.1–0.2 mm z-single yarn in both thread systems. It is quite dense with 25 to 28 threads per cm in the warp and weft. It was made of off-white flax and is slightly discoloured.

At the site of Mautern-Burggartengasse (Wewerka 2000; Pieler 2004), in addition to settlement remains from the *vicus* of the Roman military camp *Favianis* (Imperial period), a large part of the Late Antique cemetery was identified. A total of 413 graves from the fourth to the fifth centuries CE were excavated there. Textile remains were found in 56 of them (Grömer 2014, Rö-25–101).

In the case of Mautern-Burggartengasse grave 20, the findings are as follows (Grömer 2014, plate 22): in a stone box grave with a stone slab cover, two skeletons were found, anthropologically identified as women, and equipped with bracelets and belt buckles. The second skeleton was found in a stretched supine position. Corroded iron pieces and bronze coins with leather remains and tabby woven textile fragments were found between the legs (fig. 7) (Grömer 2014, Rö-29). The textile was 5 x 1 cm in size and folded several times. The technical details of the textile determined it to be a medium-fine quality made of

0.3 mm s-single yarns in both thread systems with a thread count of between 14 and 16 threads per cm. The combination of leather and textile with the coins maybe represent a leather *bursa* lined with linen. The lining would further protect the metal from moisture and corrosion. There was also another textile in this grave (Grömer 2014, Rö-28). It was attached to the inner side of the iron belt buckle and thus can be interpreted as remains of a garment (a tunic), that was held together by a belt. It is a tabby, slightly finer than the textile on the coins, with 0.2 mm s-single yarns and 16 to 18 threads per cm in both systems.

A similar situation was encountered in Mautern-Burggartengasse grave 205. Again, coins were discovered in a stone box grave with two burials of adult individuals. The secondary burial had a *fibula* in the area of the shoulder. In the grave, five coins were found. They are *Constantinian-Valentinian* and thus date to the second half of the fourth century CE. A fine tabby-woven textile (Grömer 2014, Rö-77) was attached to one of the coins. The textile is made of 0.2 mm s-spun yarns in both directions. The fragments are very small and the thread count could not be determined with certainty, as only 3 threads could be counted across



a length of 3 mm. The coins, unfortunately, cannot be attributed to one particular individual in the grave. But, as they were found together and to the side of the skeletons, they might have been deposited in the grave in a purse, as in grave 20.

Discussion

Roman textiles should be considered beyond simply attire. They were the coverings of *amphorae*, the sails of ships, part of interior furnishings, subsidiary elements of fishing (nets etc.), cordage, basketry (Alfaro Giner 1984; Alfaro Giner 1997, 10; Wild 2004; Gleba and Mannering 2012, 1; Alfaro Giner 2020, 12; Morgado-Roncal 2021a, 188), and so much more. Consequently, textiles were also used for various objects of daily use, either as the primary material of which they were made or into which they were incorporated.

Textiles used as purses and wrappings for coins

Most trace presented here are clearly identifiable as purses or wrappings for coins. A textile cover for coins in a pot comes from the hoard find of Deutschkreutz in Austria. Other *bursae* or moneybags have been found in settlements in a military camp (Puente Castro, León) and in a luxurious *domus* (*Augusta Emerita*, Mérida) in Spain. In these two cases of *Hispania*, they did not seem to have been stored in a pot, but they could have been hung on the wall. The position would have protected the valuable material. The textiles are made of plant material, usually flax, although the one from Puente Castro was made of hemp. The examples from Spain are quite similar in terms of technicalities and chronology. Both *bursae* were stored during violent or traumatic events that led to the abandonment of the sites. The majority of coins at both sites, around 50 at each, date to the mid-third century CE.

Across the Roman Empire, there are repeated finds of coins in hoards to which textile remains were attached – usually these are tabby-woven fabrics made of flax. Comparative materials to that at Deutschkreutz and the two *bursae* from Spain, are similar finds of fine linen tabby fabric in a coin hoard made in Alzey in Germany (Wild 1970, table B, Kat. Nr. 36.), in Brig in Switzerland (Rast-Eicher 2001, fig. 10.6), in the Oldcroft in Lydney, United Kingdom (Rhodes and Wild 1974), or in Rome in Italy, at the site *Crustumerium*, Cisterna Grande (Giuliani et al. 2011b). They may be wrappings for the coins, sewn pouches or *marsupia*. In *Augusta Emerita* (Mérida, Spain), there are similar coin hoards to the one in “Antigua Campsa” with 15 coins (250 to 260 CE) in an area of demolition close to a building of the Oriental Necropolis (Bejarano and Ruivo 2005–2007, 301–313) or another one with 16 coins from the *domus*

of Anfiteatro (Ruivo 2008, 29). The three examples from *Augusta Emerita* include sesterces – of low value – and a small number of coins, hence their everyday use as pouches.

Not only in hoards but also in graves, evidence for purses or pouches made of textile or a combination of woven fabric and leather can be identified. The findings of Mautern-Burggartengasse graves 20 and 205 can probably be regarded as such. Comparison finds from other graveyards are known too (Zwentendorf in Austria: Grömer 2014, Rö-144; for Switzerland: Rast-Eicher 2001, 88). Sometimes, such remains are regarded merely as textile covers in which the coins were wrapped to be deposited into the grave.

Finds of completely preserved pouches and bags in the Roman and early Byzantine world have been published and summarised (Linscheid 2011, 188–192). They are usually known from dry preservation contexts in Egypt; for example, from Karanis, Dura Europos, Antinoopolis, and Saruna, as well as from one rare example in the more northern provinces, such as a find from Cologne in Germany (Linscheid 2011).

The small textile pouches were used primarily for storing and transporting personal items, especially coins. While leather pouches often had an elaborate construction with ornamentation (Linscheid 2011), textile pouches tended to be simpler. They were folded from a piece of linen or wool cloth and sewn together. They were minor faster productions and often produced with recycled material (Wild 2002, 23; Morillo Cerdán and Rodríguez Peinado 2013, 337). On a pouch from Saruna in Middle Egypt, the edge has buttonholes sewn around it, through which a string was pulled.

Small pouches also found their way into pictorial sources. For example, in a gladiator scene on the Magerius mosaic at Amira in Tunisia (Ben Abed-Ben Khader 2003, fig. 196). In addition to the image of gladiators fighting against animals, servants were also depicted with small pouches titled *saccis* according to the inscription. The pouches probably contained coins for the victorious fighter. Likewise, the coin pouch plays an important role in the nave mosaic in Ravenna, Sant Apollinare Nuovo, dating to the first half of the sixth century CE (Hutter 1991, number 69) since it is the representation of Christ before Pilate.

Other types of iconographic references come from the attributes of the deity Hermes/Mercury – god of trade, thieves, travellers, sport, and the messenger of the gods. The pictorial scenes of the *thermopolium* I, 8, 8 of Pompeii (Italy) depict a *bursa* between his attributes. In bronze sculptures, there are fascinating



cases from the Iberian Peninsula: for example, one in Zulema (Alcalá del Júcar, Albacete), another from the Salamanca collection in Museo Arqueológico Nacional de España (MAN) and one from the collection Castillo Javier (Navarra) (Bustamante-Álvarez et al. 2023, 14–15, fig. 8).

Textiles attached to garments and their symbolic meaning

The evidence from *Carnuntum* with a textile on a coin in the child's grave cannot be interpreted as purses. The fabric was perforated (according to a conservation assessment), which suggests that the coin may have been sewn onto the fabric, presumably a garment. It also might be possible that the coin was worn as a pendant on a necklace, which would be more common in the Roman area – and the fabric on the coin thus belongs to the garment where the necklace was placed. The case of *Casais Velhos* with the wrapping of a single coin does not seem to be a purse either. The Portuguese find could be part of a ritual funerary practice (Caron's *obolus*) or may be an element of the attire. The lack of information does not allow for further interpretation, but it highlights the symbolic meaning of coins in the funerary context.

Conclusion

The case studies and comparative materials presented here derive both from the authors' own investigations and publications in their study regions. Therefore, the geographical and chronological setting is focused on the Roman provinces of *Hispania*, *Noricum*, and *Pannonia*, dating from the first century to the sixth century CE. They represent regions with different political, climatic, and geographic conditions. The geographical range of the findings illustrates similarities both in practice and technology: for example, the use of textiles to wrap and contain coins (as pouches, also known as *bursae* or *marsupia*), as seen in two cases from *Hispania* and at Deutschkreutz, Austria, as well as the predominance of fine linen fabrics.

Additionally, the existence of other categories of use for Roman textiles and their relationship with coins has been highlighted – not only as moneybags or in relation to hoards, but also their appearance in tombs as part of funerary offerings (for example, Mautern-Burggartengasse graves 20 and 205 and *Casais Velhos*).

Prior to this survey, the relationship between textiles and Roman coins could be perceived as purely monetary: coin storage of some sort. However, the *Carnuntum* case study suggests a new and

exciting perspective: coinage as dress accessories. Its application as pendants or necklaces may have been frequent during the Roman era. Moreover, the Portuguese example with just one coin wrapped could indicate a ritual practice (Caron's *obolus*) or a dress ornament of some sort.

This paper shows the existence of a less-investigated Roman textile phenomenon. The comparison of different findings attests the frequency with which fabric would have partnered with coins. Objects such as *bursae* were minor textile productions, often the result of recycling, but immensely valuable as snapshots of daily life and everyday practices. In the future, it is hoped that new finds will contribute to the understanding of these fascinating Roman textile practices.

Acknowledgements

Thanks to EuroWeb's network (COST Action Grant Nr. CA19131: EuroWeb – *Europe Through Textiles: Network for an integrated and interdisciplinary Humanities* (2020–2024); and the travel grants given to attend the workshop, *Making, Wearing, displaying: Textiles and the Body* (Lisbon, 3–5 May 2023). Moreover, to Leyre Morgado-Roncal's PhD contract (FPU20/01827; Ministerio de Ciencia e Innovación de España). We would like to thank *TEXLUS. La economía del Artesanado Textil en la Lusitania Romana* (PID2022-13666NB-100; Generación de Conocimiento del Ministerio de Ciencia e Innovación de España, convocatoria 2022), for support and valuable contributions to this paper. Our gratitude also goes to researchers and institutions of Consorcio Ciudad Monumental de Mérida (Spain) and UNIARQ (Centro de Arqueologia da Universidade de Lisboa) for information regarding Spain and Portugal. Thanks are also due to Carmen Alfaro Giner, Macarena Bustamante-Álvarez, Ana Bejarano Osorio, Sofía Vicente-Palomino, Dolores J. Yusá-Marco, Ángel Morillo Cerdán, Laura Rodríguez Peinado, António de Castello Branco, Octávio da Veiga Ferreira, Guilherme Cardoso, and J. d' Encarnação for their contributions and inspiration.

Bibliography

- Alarcão, J. (1988) *Roman Portugal*. Warminster: Aris & Phillips.
- Alfaro Giner, C. (1984) *Tejido y Cestería en la Península Ibérica: Historia de su técnica e industrias desde la Prehistoria hasta la Romanización*. Madrid: Consejo Superior de Investigaciones Científicas, Instituto Español de Prehistoria.
- Alfaro Giner, C. (1997) *El tejido en época romana*. Cuadernos de Historia 29. Madrid: ArcoLibros.



- Alfaro Giner, C. (2001) Recent discoveries of gold textiles from Augustean Age (Gadir, Cádiz). In P. Walton Rogers, L. Bender Jørgensen and A. Rast-Eicher (eds), *The Roman Textile Industry and its influence. A birthday tribute to John Peter Wild*. Oxford: Oxbow Books, 77–83.
- Alfaro Giner, C. (2005) Golden Textiles from a Roman burial at Munigua (Mulva, Seville). In F. Pritchard and J. P. Wild (eds), *Northern archaeological textiles. NESAT VII: Textile Symposium, Edinburgh, 5–7 May 1999*. Oxford: Oxbow Books, 1–4.
- Alfaro Giner, C. (2020) Preface: Studies of Ancient Textiles in Spain. In B. Marín-Aguilera and M. Gleba (eds), *Interweaving traditions: Clothing and textiles in Bronze and Iron Age Iberia*. Sagvntvm-Extra 20. Valencia: University of Valencia, 11–16.
- Álvarez Ordás, J. C., Rodríguez González, P. and Martínez Murciego, N. (2000/2001) Instrumental médico procedente de la excavación del yacimiento de época romana de la carretera del cementerio. Puente Castro. León. Una aproximación. *Lancia* 4, 141–158.
- Andersson Strand, E., Frei, K. M., Gleba, M., Mannering, U., Nosch, M.-L. and Skals, I. (2010) Old textiles. New possibilities. *European Journal of Archaeology* 13 (2), 149–173.
- Bejarano Osorio, A. M. and Ruivo, J. (2005–2007) Depósito monetário do século III encontrado no terreno da Antiga Campsa (Mérida). *Nummus* 2a. S. 28/30, 301–314.
- Bejarano Osorio, A. M. and Bustamante-Álvarez, M. (2023a) *La casa del Mitreo de Augusta Emerita*. Memoria Monografías Arqueológicas de Mérida 3. Mérida: Consorcio de la Ciudad Monumental de Mérida.
- Bejarano Osorio, A. M. and Bustamante-Álvarez, M. (2023b) El solar de la domus del Mitreo. Contextualización e historiografía. In A. M. Bejarano Osorio and M. Bustamante-Álvarez (eds), *La casa del Mitreo de Augusta Emerita*. Memoria Monografías Arqueológicas de Mérida 3. Mérida: Consorcio de la Ciudad Monumental de Mérida, 17–24.
- Ben Abed-Ben Khader, A. (2003) *Image in stone. Tunisia in Mosaic*. Paris: Ars Latina.
- Busana, M. S. and Gleba, M. (2021) L'uso del tessuto nei rituali funerari del Veneto Antico: continuità in Èta Romana di una tradizione Preromana. In M. Gamba, G. Gambacurta, F. Gonzato, E. Pettenò and F. Veronese (eds), *Metalli, Creta, Una piuma d'uccello... Studi di Archeologia per Angela Ruta Serafini*. Documenti di Archaeologia 67. Mantua: Società Archaeologica (SAP), 187–195.
- Bustamante-Álvarez, M., Bejarano Osorio, A. M., Vicente-Palomino, S., Yusá-Marco, D. J. and Morgado-Roncal, L. (2023) Caracterización arqueométrica de una bursa textil localizada en Augusta Emerita (Mérida, Badajoz, España). *Arqueología* 29 (1), 11189.
- Campanile, D., Carlà-Uhink, F. and Facella, M. (2017) *TransAntiquity. Cross-Dressing and Transgender Dynamics in the Ancient World*. Oxford: Routledge.
- Cardoso, G. (1991) *Carta arqueológica do Concelho de Cascais*. Cascais: Câmara Municipal de Cascais.
- Cardoso, G. and Encarnação, J. (1990) Cascais no tempo dos Romanos. *Revista Arqueologia. Assembleia Distrital de Lisboa* 1, 59–74.
- Cardoso, G. and Encarnação, J. (2021) As villae de Cascais. O povoamento romano. In G. Cardoso and C. Nozes (eds), *Lisboa Romana Felicitas Iulia Olisipo: O ager Olisiponensis e as estruturas de povoamento*. Lisbon: Câmara Municipal de Lisboa, 102–109.
- Cardoso, G. and Cardoso, J. L. (2022) As necrópoles da Antiguidade Tardia na região de Cascais e Oeiras. In G. Cardoso and C. Nozes (eds), *Lisboa Romana Felicitas Iulia Olisipo: A morte no ager olisiponensis*. Lisbon: Câmara Municipal de Lisboa, 107–118.
- Carroll, M. and Wild, J.-P. (2012) *Dressing the dead in Classical Antiquity*. Gloucestershire: Amberley Publishing.
- Castelo Branco, A. and Ferreira, O. V. (1971) Novos trabalhos na estação lusitano-romana da Areia (Guincho). *Museu-Biblioteca Conde de Castro Guimarães: Boletim* 2, 69–83.
- Chen, H. L., Jakes, K. A. and Foreman, D. W. (1998) Preservation of archaeological textiles through fibre mineralization. *Journal of Archaeological Science* 25, 1015–1021.
- Ciccola, A., Serafini, I., Ripanti, F., Vincenti, F., Coletti, D., Bianco, A., Fasolato, C., Montesano, C., Galli, M., Curini, R. and Postorino, P. (2020) Dyes from the Ashes: Discovering and Characterizing Natural Dyes from Mineralized Textiles. *Molecules* 25, 1417.
- Croom, A.T. (2002) *Roman Clothing and Fashion*. Gloucestershire: Amberley Publishing.
- Dembski, G. and Lang, R. (2007) Ein Münzschatz aus der Umgebung von Deutschkreuz (Burgenland). *Römisches Österreich* 30, 1–18.
- Encarnação, J. (1968) *Notas sobre alguns vestígios romanos no Concelho de Cascais*. Estoril: Junta de Turismo da Costa do Sol.
- Encarnação, J. and Cardoso, G. (1995) A villa romana de Freiria e o seu enquadramento rural. *Revista Arqueologia. Assembleia Distrital de Lisboa* 2, 51–62.
- De Moor, A. and Fluck, C. (2009) *Clothing the house. Furnishing textiles of the 1st millennium AD from Egypt and neighbouring countries*. Proceedings of the 5th conference of the research group 'Textiles from the Nile Valley', Antwerp, 6–7 October 2007. Tiel: Lanoo Publishers.
- Edmontson, J. and Keith, A. (2008) *Roman Dress and the Fabrics of Roman Culture*. Toronto: University of Toronto Press.
- Flohr, M. (2013) *The world of the fullo: work, economy, and society in Roman Italy*. Oxford: Oxford University Press.



- Flohr, M. (2017) Beyond smell: The sensory landscape of the Roman fullonica. In E. Betts (ed), *Senses of the Empire. Multisensory approaches to Roman Culture*. Abingdon: Routledge, 39–53.
- García Marcos, V. (2010) *Trabajos arqueológicos para la construcción del Vial 1 en el suelo urbano no consolidado NC 22-05, Puente Castro, León*. Informe de excavación. León: Diputación de León.
- Giuliani, M. R., Rapinesi, I. A. and Ferro, D. (2011a) Testimonianze di tessili da siti archeologici della Roma antica. Il recente studio del ritrovamento di Tor Carbone. In C. Alfaro, J-P. Brun and Ph. Borgard (eds), *Purpureae Vestes III*. Proceedings of the 3rd International Symposium, Textiles and dyes in Antiquity, Naples, 13–15 November 2008. Valencia/Naples: University of Valencia, 119–126.
- Giuliani, M. R., Rapinesi, I. A., Di Gennaro, F., Ferro D., Arima, H., Rajala, U. and Ceci, F. (2011b) Crustumerium, Cisterna Grande (Rome, Italy): Textile traces from a Roman coin's hoard. In N. Holmes (ed), *Proceedings of the 14th International Numismatic Congress, Glasgow, 2009*. Glasgow: University of Glasgow, 696–708.
- Gleba, M. (2008) Auratae vestes. Gold textiles in the ancient Mediterranean. In C. Alfaro Giner and L. Karali (eds), *Purpureae Vestes II*. Proceedings of the 2. International Symposium, Dresses, textiles and dyes: studies on the production of consumption in Antiquity, Athens, 24–26 November 2005. Valencia: University of Valencia, 61–77.
- Gleba, M. and Mannering, U. (2012) Introduction: Textile Preservation, Analyses and Technology. In M. Gleba and U. Mannering (eds), *Textile and Textile Production in Europe from Prehistory to AD 400*. Oxford: Oxbow Books, 1–24.
- Gleba, M. and Harris, S. (2019) The first plant bast fibre technology: identifying splicing in archaeological textiles. *Archaeological and Anthropological Science* 11 (5), 2329–2346.
- Gleba, M. and Busana, M. S. (forthcoming) Using Scanning Electron Microscopy for the Study of Mineralised Textiles: The case of Roman Venetia. In F. Coletti, V. Forte, C. Margariti and S. Spantidaki (eds), *Multidisciplinary approaches to identify and preserve fibres and textile products in the archaeological field*. EAA, Budapest (online), 26–30 August 2020.
- Gostenčnik, K. (2012) Austria: Roman Period. In M. Gleba and U. Mannering (eds), *Textile and Textile Production in Europe from Prehistory to AD 400*. Oxford: Oxbow Books, 65–88.
- Grömer, K. (2014) *Römische Textilien in Noricum und Westpannonien – im Kontext der archäologischen Gewebefunde 2000 v. Chr. – 500 n. Chr. in Österreich*. Austria Antiqua 5. Graz: Uni Press Graz Verlag.
- Grünewald, M. (1982) Ein römisches Kindergrab aus Bad Deutsch Altenburg, NÖ. *Fundberichte aus Österreich* 21, 25–29.
- Harlow, M. and Nosch, M.-L. (2014) *Greek and Roman Textiles and Dress*. Ancient Textiles Series 19. Oxford: Oxbow Books.
- Hutter, I. (1991) *Frühchristliche und byzantinische Kunst. Malerei – Plastik – Architektur*. Belser Stilgeschichte 4. Stuttgart/Zürich: Belser.
- Linscheid, P. (2011) Bags and pouches in the Roman and Early Byzantine world. In A. DeMoor and C. Fluck (eds), *Dress accessories of the 1st millennium AD from Egypt*. Proceedings of the 6th conference of the research group “Textiles from the Bile Valley”, Antwerp, 2–3 October 2009. Tiel: Lanoo Publishers, 188–193.
- Médard, M. (2020) *L'artisanat du textile à Pompéi au Ier siècle après J.-C.* Collection du Centre Jean Bérard 51. Naples: CNRS.
- Morgado-Roncal, L. (2021a) Vestes hispaniae. Análisis histórico-arqueológico de los restos textiles de época romana localizado en la península ibérica. *Onoba* 9, 187–201.
- Morgado-Roncal, L. (2021b) Los estudios de Arqueología Textil en España: pasado, presente y futuro. *Arqueología y Territorio* 18, 71–82.
- Morillo Cerdán, A. and Rodríguez Peinado, L. (2013) Acerca de unos retazos de tejido de lino procedentes del vicus romano de Puente Castro (León, España). *Espacio, Tiempo y Forma* 6, 323–340.
- Morillo Cerdán, A., García Marcos, V., Salido Domínguez, J. and Durán Cabello, R. (2018) El vicus militar de Ad Legionem (Puente Castro, León). Las intervenciones arqueológicas de los años 2000–2001. *Spal* 27, 145–183.
- Möller-Wiering, S. and Subbert, J. (2012) Germany: Roman Iron Age. In M. Gleba and U. Mannering (eds), *Textile and Textile Production in Europe from Prehistory to AD 400*. Oxford: Oxbow Books, 153–181.
- Peacock, E. (2005) The biodeterioration of textile fibres in wet archaeological contexts with implications for conservation choices. Proceedings of *Intrecci vegetali e fibre tessili da ambiente umido. Incontri di restauro* 4, Trento, 28–30 May 2003. Trento: Soprintendenza per i beni culturali, 32–47.
- Pieler, F. (2004) Rettungsgrabungen im Bereich des westlichen Vicus von Favianis in Mautern, Melkerstraße. *Fundberichte aus Österreich* 43, 794–806.
- Radicke, J. (2022) *Roman Women's Dress. Literary sources, terminology, and historical development*. Berlin: De Gruyter.
- Rast-Eicher, A. (2001) Roman Textiles in Switzerland. In P. Walton Rogers, L. Bender Jorgensen and A. Rast-Eicher (eds), *The Roman Textile Industry and its Influence. A birthday tribute to John Peter Wild*. Oxford: Oxbow Books, 84–90.



- Reis, P. M. (2004) *Las termas y balnea romanos de Lusitania*. Studia Lvsitania 1. Mérida: MNAR.
- Rhodes, J. F. and Wild, J-P. (1974) The Oldcroft (1971–1972) Hoard of bronze Coins and Silver objects. *The Numismatic Chronicle* 14, 65–74.
- Ruivo, J. (2008) *Circulação monetária na Lusitânia do século III* (Thesis). Porto: University of Porto.
- Velázquez Jiménez, A. and Sardiña Linde, R. (2023) Un pequeño tesoro del siglo III d.C. en la Casa del Mitreo (Augusta Emerita). In A. M. Bejarano Osorio and M. Bustamante-Álvarez (eds), *La casa del Mitreo de Augusta Emerita*. Memorias Monografías Arqueológicas Mérida 3. Mérida: Consorcio de la Ciudad Monumental de Mérida, 407–420.
- Sarmento, G. S. (2012) *O povoamento Tardo-romano na localidade de Casais Velhos, Areia*. Doctoral dissertation, University Nova Lisboa.
- Soares, A. M. M., Ribeiro, M. I. M., Oliveira, M. J., Baptista, L., Esteves, L. and Valério, P. (2018) Têxteis arqueológicos pré-históricos do território português: identificação, análise e datação. *Revista portuguesa de arqueologia* 21 (1), 71–82.
- Teichner, F. (2007) Casais Velho (Cascais), Cerro da Vila (Quarteira) y Torreblanca del Sol (Fuengirola): ¿factorías de transformación de salsas y salazones de pescado o de tintes? In L. Lagóstera, D. Bernal and A. Arévalo (eds), *CETARIAE. Salsas y Salazones de Pescado en Occidente durante la Antigüedad*. Actas del Congreso Internacional, Cádiz, 7–9 November 2005. BAR International Series 1686. Oxford: John and Erica Hedges, 117–125.
- Wewerka, B. (2000) Ein spätantikes Gräberfeld im Bereich der Burggartengasse in Mautern/Favianis. In M. Krenn and B. Wewerka (eds), *Bericht zu den Ausgrabungen des Vereines ASINOE im Projektjahr 2000. Fundberichte aus Österreich* 39, 2000. Vienna: Verlag Berger, 213–243.
- Wild, J-P. (1970) *Textile Manufacture in the Northern Roman Provinces*. Cambridge: Cambridge University Press.
- Wild, J-P. (2002) The Textile Industries of Roman Britain. *Britannia* 33, 1–42.
- Wild, J-P. (2004) The Roman textile industry: problems, but progress. In C. Alfaro, J-P. Wild and B. Costa (eds), *Purpureae Vestes I. Proceedings of 1st International Symposium on Textiles and Dyes of the Mediterranean in the Roman period, Ibiza, 8–10 November 2002*. Valencia: University of Valencia, 23–27.
- Wild, J-P. (2012) England: Roman Period. In M. Gleba and U. Mannering (eds), *Textile and Textile Production in Europe from Prehistory to AD 400*. Oxford: Oxbow Books, 451–456.
- Wilson, A. (2003) The archaeology of the Roman fullonica. *Journal of Roman Archaeology* 16, 442–466.

Authors:

leyre@ugr.es

karina.groemer@nhm-wien.ac.at