



Metal Objects Were Much Desired: A Sixteenth-Century Shipwreck Cargo off the Coast of Esposende (Portugal) and the Importance of Studying Ship Cargos

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Abstract

During winter storms in 2014 and 2017, strong waves exposed hundreds of timbers and artefacts at the Belinho beach, in the North of Portugal. These ship remains were later discovered to belong to a 16th-century shipwreck, probably originating from Northern Europe. This paper aims to discuss the importance of cargo analysis through the study of the material culture associated with that site, consisting mainly of hundreds of pewter, brass, lead, iron, and stone artefacts. Most of these objects seem to have belonged to the ship's cargo and are tied to a European trade system reflecting economic, cultural, and symbolic behaviours.

Keywords Cargo · Pewter · Brass · Shipwreck

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Introduction

The purpose of this paper is to study the cargo from a shipwreck found in Northern Portugal. Although ships' cargos are frequently mentioned in archaeological publications, seldom, if ever, are those cargos approached theoretically, or are their importance to maritime archaeology debated. The reason seems simple when we consider that archaeologists usually study material culture within a system of cultural, social, and economic relations and entanglements between human and non-human agents and cargos, except when the study of "when and where they were made and by whom" cannot provide any extra information, especially with regard to use (Harding 2016, 5; Hodder 2012; Appadurai 1986). So how do we analyse this cargo in a way that provides more than just a quantification and description of artefacts, and discuss it beyond its economic importance and role in the trade networks? The answer is quite tricky, mainly because we lack knowledge of all the human-object relations, especially from the moment they entered the vessel. Of course, we can infer their potential use, which we did. However, when the ship was wrecked, the biography of those artefacts, or their lives, was interrupted. In his seminal paper "The cultural biography of things", I. Kopytoff asks the necessary questions to analyse the biography of any given commodity: "Where does the thing come from, and who made it? What has been its career so far, and what do people consider to be an ideal career for such things? What are the recognized ages or periods of a thing's life, and what are the cultural markers for them? How does the thing's use change with its age, and what happens to it when it reaches the end of its usefulness?" (1986, 66–67). When a ship is lost, its cargo's projected life is interrupted, and thus we cannot provide an answer to all these questions.

This interruption makes it difficult for certain cultural aspects related to use and consumption to be debated. These are the very same debates that archaeologists are so fond of in households, settlements, or even concerning other artefacts found on board a ship where they had a specific use, as in the physician's box on the *Mary Rose*, or an anchor, or a water barrel (Gardiner and Alen 2005). Debating the use of individual items can create patterns which allow archaeologists to construct narratives about the past and the people living in those spaces. For the Belinho wreck, we will try to reconstruct some of these narratives, especially in relation to the ship and its discovery. Where a lost ship's cargo is concerned, it does not follow the typical pattern of "objects in the past, as in the present, came into being, had a use-life, and went out of use" (Harding 2016, 8). In fact, cargos seem to reflect precisely the opposite, they are often objects that have had a premature death.

If cargo does not permit the study of the "complexity of relations between people and their material world," it is necessary to study the artefact's movements, and the artefacts in motion in variable geographies. And while we cannot use them to study identities as consumer goods, we can question "why and how things moved in the first place"? (Escribano-Ruiz et al. 2021, 14).

Although not identified, the Belinho 1 ship is believed to be Iberian. It can be dated roughly in the first half of the sixteenth century, based on the style of artefacts, hull fragments and artillery. Through the hull and the artillery point to an Iberian-built ship, the cargo can tell us about the point of origin and the itinerary of the ship's last voyage, one of the fundamental pieces of information needed to understand a ship's identity. In the specific case of the Belinho 1 shipwreck, although studies on its construction may have suggested that it was an Iberian ship, what does it mean to be an Iberian ship? Recently Sara Rich questioned the factors that form the identity of an Iberian ship. What makes it Iberian? Being built in Portugal or Spain? What about being built in an occupied territory by Portuguese shipwrights, or by someone

following traditional Iberian shipbuilding methods? What about a ship built abroad but commandeered or purchased by the Spanish or Portuguese navy? (Rich 2022, 63). To those who study the history of wooden shipbuilding in Europe, an Iberian ship is a ship built according to a set of rules that were traditional in the region during a certain period. These features, which are comprised of construction techniques, particular hull shapes, and design templates form a region-specific typology, despite occasional overlap with other culture-specific ship designs. These construction features have been called ‘architectural signatures’ (Rieth 2021, 2624) and are the equivalent of Richard Dawkins’ concept of *memes* in that they are either spread or contained in organic, non-intentional ways (Dawkins 1976). To historians, an Iberian ship is a different thing, based on Iberian cultural identity. This discussion is far too broad to be approached in the present paper, though there are cultural similarities shared by Spain and Portugal in the early modern age that can be identified in the archaeological record (Casimiro 2019; Castro 2008). Certain artefacts, like ceramics, jewellery, coinage, and others, can indicate an Iberian identity, though in the Belinho 1 shipwreck, apart from two pottery sherds, none of these objects were found. In this sense, is it considered an Iberian ship only because it was built with Iberian technology? The study of its cargo reveals that its final journey may have started far away from the Iberian Peninsula; is it still an Iberian ship if it was built in Spain or Portugal, but owned and operated by non-Iberian people? We will get back to that debate later, mainly because the study of cargo can seldom contribute to this discussion.

The investigation of a 16th-century shipwreck carrying pewter and brass objects holds considerable importance for maritime archaeology. This study provides insights into historical economic dynamics, revealing specific trade routes and relationships between regions. It enhances our understanding of maritime cultural interaction and exchange by tracing manufacturing influences, artistic styles, and craftsmanship techniques exchanged among seafaring communities during the sixteenth century. This analysis also contributes to our knowledge of technological developments during that era. It sheds light on the social aspects and daily life aboard ships, offering a unique perspective on the lives of sailors, traders, and passengers during the sixteenth century. The study also advances material conservation techniques, considering the challenges and opportunities presented by underwater preservation conditions. It contributes to the development of methodologies for underwater excavation, surveying, and documentation, enhancing the practices employed by maritime archaeologists. Furthermore, the findings contribute to educational programs and public outreach initiatives, captivating public interest and educating audiences about the significance of preserving underwater cultural heritage. Additionally, the study addresses legal and ethical considerations related to the protection of underwater cultural heritage, fostering the refinement of legal frameworks, ethical guidelines, and international cooperation in safeguarding maritime archaeological sites. In summary, the investigation of this shipwreck significantly enriches maritime archaeology across various dimensions, encompassing trade history, maritime cultural exchange, technological development, social practices, material conservation, underwater archaeology methods, and legal and ethical considerations.

The Discovery

During the winters of 2014 and 2017, exceptionally strong storms, known as *Hercules* and *Doris*, hit the northern Portuguese seashore. The violent impact significantly eroded several areas of sandy beaches. On one particular beach, known as Belinho, these storms revealed a previously unknown underwater archaeological site by throwing ashore a large

collection of ship timbers and artefacts (Fig. 1). The first observation of this evidence was not made by archaeologists. They were discovered by Luís Miguel Calheiros and João Sá, a local sculptor searching for raw materials for his work on the beach in 2014. Sá noted that the timbers were not natural looking, and were found along metallic artefacts, which were initially believed to be damaged “helmets”. Together with some relatives, Sá collected a sample of these objects and informed the local heritage authorities.

Ana Almeida and Ivone Magalhães, archaeologists from the Esposende Municipality, immediately initiated a recovery operation to collect the artefacts washed ashore. After an initial analysis, they determined that the storm had deposited materials from at least two distinct archaeological sites. On the one hand, there were hundreds of roman amphorae fragments, on the other, there were the timbers and artefacts of what was believed to be an early modern shipwreck. Because of the wealth of material culture presumed to remain, the site, named Belinho 1, was placed under daily surveillance between 2014 and 2017. Thanks to this, additional materials were discovered and collected during subsequent storms and low tides.

The story of this discovery, the study of its timbers, and the recognition of its origin as an Iberian ship based on naval construction have already been widely discussed in previous papers (Bettencourt et al. 2014; Martins et al. 2017; 2020; Almeida et al. 2017; 2020; 2022; Delmas et al. 2016). In this sense, the present paper will not approach this subject again, except for contextualizing purposes. Instead, it will focus on the study of the artefacts recovered in association with what is believed to be an Iberian wreck dating to the first half of the 16th -century. Every time a paper is published about this shipwreck, the hundreds of artefacts recovered at the site are always briefly mentioned, with the sole purpose of providing a chronology, without a thorough analysis that will permit and enhance the discussion about the economic, social, and cultural importance of these items.

Fig. 1 Map with the location of the Belinho beach



The Shipwreck and Previous Work

In 2014, immediately after the Belinho 1 site was discovered, researchers from the Portuguese Centro de História d'Aquém e d'Além-Mar (CHAM) at NOVA University of Lisbon undertook a preliminary study of the post-medieval timber collection under the direction of José Bettencourt, focusing on the key structural timbers that included the keel, stern knee, stern post, several floor timbers and hull planks. CHAM's team concluded that the surviving architectural signatures on the Belinho ship timbers are consistent with early modern Iberian shipbuilding technology (Bettencourt et al. 2014).

Following the announcement of the discovery of the Belinho site, historian Amândio Barros conducted an archival investigation to identify potential historical events related to the Belinho shipwreck disaster. His research focused on the Esposende area, near the beach of Belinho, during the late 16th and early seventeenth centuries. The research yielded an interesting candidate: a small merchantman with 70–80 tons of capacity named *Nossa Senhora da Rosa*, lost in the area during the winter of 1577. Further research uncovered documents that mention the salvage of part of the cargo on 14 March of the following year, 1578, from the Belinho beach. *Nossa Senhora da Rosa* was sailing from the Canary Islands to nearby Vila do Conde, with a cargo of pitch and Madeira wine (Barros 2016; 2020). As we will demonstrate, the material culture found on this site does not conclusively exclude that vessel, but is not consistent with this hypothesis.

Given the relevance of the Belinho artefact collection, the city council of Esposende invited a team of maritime archaeology and wood sciences experts from a Marie Curie funded project ForSEAdiscovery (2013–2017), to continue CHAM's preliminary study. This survey took place in the summer of 2015 (Almeida et al. 2022).

In 2017, during one of the year's lowest tides, the water conditions improved, and the original discoverers of the site, Alexandre Sá and João Sá, discovered two cannons and one anchor underwater. In the following days, Alexandre Monteiro and John Sexton investigated the site via SCUBA, confirming the presence of the anchor and the two bronze cannons. We believe these were part of the ship's defensive system and will not be included in our study. These bronze guns were found to be a pair of demi-culverins with octagonal sections, typical from the first half of the sixteenth century (Almeida et al. 2020, 197–198). They are similar to the bronze cannon found in the Oranjemund shipwreck, on the Namibian coast (Monteiro 2017). Two iron guns were also recorded, one a breech-loader, and another, a larger muzzleloader, both highly concreted (Almeida et al. 2020, 197–198). In 2018, during another monitoring dive, two additional iron guns were located, as well as several associated hull timbers and more artefacts.

An analysis of the timbers recovered suggests that this ship may have been built on the Iberian Peninsula, given some of the construction traits observed (Delmas et al. 2016), and the dendrochronological analysis did not identify any northern European source.

The Artefact Collection

The first analysis of the materials recovered associated with the site of the Belinho 1 shipwreck occurred in December of 2014 when, during the conservation process, artefacts were divided into categories. Metals were the most abundant and were divided

between copper alloys, pewters, ferrous materials, and lead. Other artefacts are made of stone, ceramics, and wood.

A collection of 664 artefacts were found in the intertidal zone. This number does not include wooden parts of the ship, lead fragments (which we believe to be parts of the hull's construction), stone ballast, or objects directly related to navigation. Because of this, the actual number of artefacts is much larger than 664. The objects found on the beach correspond mostly to pewter and brass objects (Fig. 2 and Table 1).

When the first objects were recovered on the beach (2014/2015) the Municipality of Esposende did not have the human resources or technicians to respond to the need that these types of artefacts, and their quantity, demanded in terms of conservation. That was the main reason for the request for external support from three main institutions: Texas A&M University (TAMU), the Conservation Laboratory of Vila do Conde Municipality (LCRGAMVC), and D. Diogo de Sousa Museum (MDDS). These three institutions, together with the Portuguese National Centre of Underwater Archaeology (CNANS), assisted with the first conservation needs, namely washing and drying the artefacts. Simultaneously the conservation professionals from the Vila do Conde Municipality and Texas A&M University were the first to identify stamped marks in the pewter objects.

Since the appearance of this shipwreck, the municipality of Esposende has reinforced its investment in the conservation of its cultural heritage. It started by building a freshwater holding tank to store and desalinate the wood. It invested in human resources capable of carrying out the conservation of these objects, acquired equipment such as a water demineralizer and conductivity meter, and acquired materials and tools. For the conservation of artefacts from this shipwreck, in 2022, CNANS donated a set of tanks to the municipality of Esposende, which allowed them to accommodate more material rescued from underwater archaeological sites. Since 2015 several metallic artefacts have been analyzed via X-ray radiography, especially those stuck inside concretions. These X-rays were only possible due to a partnership with the Valentim Ribeiro da Santa Casa da Misericórdia Hospital in Esposende. Presently most of the artefacts associated with this wreck are properly stored in a controlled environment and available to be studied by researchers.

Recently (2020), some of these objects were cleaned so they could be integrated into the exhibition *Patrimónios Emersos e Submersos—Do Local ao Global*, included in the commemoration of five hundred years since Mageallan's circumnavigation. Esposende Municipality employees were responsible for this process, according to the recommendations

Fig. 2 Objects found on the beach in 2014 (Ana Almeida)



Table 1 Number of finds found associated to the wreck

	Diameter (cm)	Fragments	NMI
Pewter circular plates	14	3	3
	18	71	60
	24	156	123
	22	19	16
	3	50	33
	40	10	8
	47	9	7
Pewter octagonal plate	18	4	4
Pewter bowls	18	3	3
Pewter tankard		2	2
Pewter spoons		2	2
Pewter cover		1	1
Unidentified pewter		156	–
Brass plates	47	89	27
Brass basin		1	1
Brass almsdishes plates		7	7
Brass candlesticks		4	4
Unidentified brass		26	–
Needle		1	1
Buckle		1	1
Chain mail rings		32	2
Lead bullet		2	2
Lead chunk		162	–
Stone bullet		33	33
Axe		2	2
Sword		6	2
Nail		1	1
Metal ring		1	1
Metal chuck		1	1
Caldron		1	1
Ballast fragments		27	2
Wood object		1	1
Concretions		4	–
Coconut		2	2
Pottery		2	2
Cork lid		1	1

made by the different partners. The first conservation actions in 2014–2015 were carried out by Chris Dostal (Texas A&M University) and Ana Valentim (Municipality of Vila do Conde), who also carried out the first cleaning of the materials. Since 2019 the municipality of Esposende has had a conservation and restoration technician working on its collections. The complexity and diversity of materials in the Belinho artefacts are demanding. To overcome the difficulties of being able to treat such a diverse collection, different partners are consulted. For example, to carry out the treatment of copper, brass, and iron,

the following were consulted: Texas A&M University and D. Diogo de Sousa Museum, Municipality of Vila do Conde and CNANS. The conservation actions carried out considered the proposals presented and the available resources. The Esposende Municipality is now working to acquire a space where these objects can be stored individually to avoid deterioration.

Concerning the study, the publication of cargo and material culture aboard Iberian wrecks is not frequent and is rarely reported with a monographic objective. This is one of the main reasons that make the study of the Belinho cargo so important, when combined with the analysis of the ship's architecture.

Iberian early modern cargoes and material culture, in general, tend to be neglected as monographic studies. For shipwrecks in or from both Portugal and Spain, there are only a handful of examples of early modern wrecks (dated from early 16th to late seventeenth century) that have been partially published where some concern was given to the cargo. This is the case of the Aveiro A, a wreck dated roughly from mid-15th to mid-sixteenth century (Alves et al. 1998; Carvalho and Bettencourt 2012), the *Bom Jesus* (1533) wrecked off the coast of Namibia (Werz 2015; Knabe and Noli 2012), the *São João* (1552) and the *São Bento* (1554), both off the coast of South Africa (Maggs 1984; Auret and Maggs 1982), and the Seychelles (Boudeuse Cay) Portuguese shipwreck. In addition, it probably includes *Santo Antonio* of 1589 (Blake and Green 1986), *Nossa Senhora dos Mártires* in the Tagus River (1606) (Afonso 1998; Castro 2005; Coelho 2008), *Nossa Senhora da Luz* (1613) (Bettencourt 2008), *Santíssimo Sacramento* wrecked off Bahia, Brazil (1668) (Mello 1979; Bandeira and Gomes 2016), or *Santo António de Tanná* in Kenya (1698) (Sansoon 1981; Teixeira and Gil 2012; Coelho et al. 2017).

Other Iberian shipwrecks have been found, some of them having had intense research as it is the case of the Red Bay Wreck (Grennier 2001; Grennier et al. 2007; Lowen, 1998), the Highbourne Cay (Smith et al. 1985), or the Emanuel Point wreck (Bendig 2019; Smith 2018) just to name a few. Others had their cargos pillaged and salvaged, and are known just through some publications (Marken 1994).

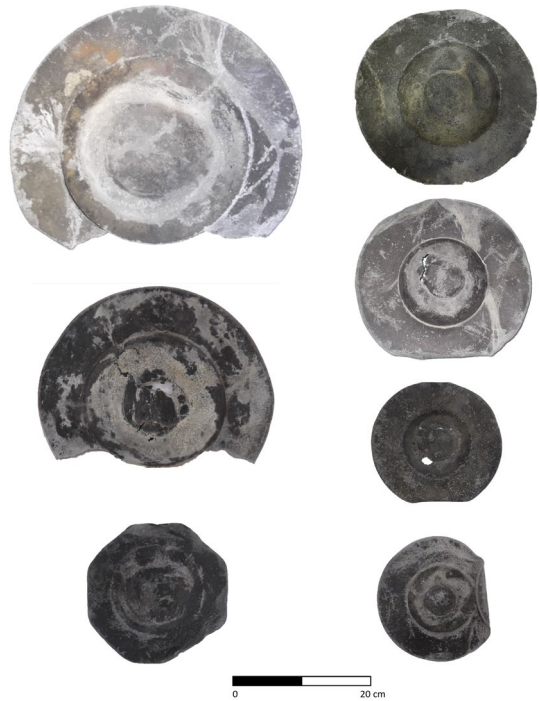
Exhaustive monographic studies of Iberian ships, or ships with Iberian-related cargoes were only made for a few dozen sites, such as the Studland Bay wreck in the United Kingdom (Gutiérrez 2003), the finds of the Ponta do Leme Velho wreck in Cape Verde (Gomes et al. 2014), possibly the *Esmeralda* (1503) shipwreck found in Oman, (Mearns et al. 2015; Casimiro 2018), for the Angra D (Bettencourt 2018) and the *San Giacomo di Galizia* (1597) (Casimiro et al. 2023; Castro et al. 2023).

Pewter

The most frequent items found on this site are pewter plates, with 490 fragments and 254 vessels (MNI) (Fig. 3). Morphologically the plates have a short flap and a round bottom. Seven different sizes of plates were recognized, with diameters ranging from 14 to 47 cm (cm). However, the most abundant have a rim diameter of 24 cm. Three porringers with two floral handles, and a rim diameter of approximately 17 cm were also recovered. A flat object seems to be the cover of a book or the lid of a box. Two pewter spoons were also found, as well as two tankards missing their lids (Fig. 4).

Pewter objects are among the most frequent finds in Early Modern Age wrecks, most frequently as part of the sailors' assets and not frequently as cargo. As cargo, the most recognizable is by far the so-called Pewter Wreck, sunk off Punta Cana somewhere in the sixteenth century and salvaged by treasure hunters, with more than 1200 objects made of

Fig. 3 Pewter plates (Tânia Casimiro)



copper alloy (Roberts 2012a, b, 2013), or *La Belle* (1686) a French shipwreck with over one hundred pewter artefacts (Bruseth and Turner 2004, 99).

As part of the crew or passengers' assets, the number increases exponentially, and just as an example, since many more exist, pewter objects were also discovered on board the



Fig. 4 Pewter and Brass objects (Tânia Casimiro)

English Ship *Mary Rose* (1545) (Weinstein 2005), some of the 1588 Armada shipwrecks (Martin 1975, 144), the Portuguese Namibian shipwreck (1533) (Knabe and Noli 2012, 185), the Alderney wreck sites (Parham and Cousins 2018), dating from the second half of the sixteenth century, and the Portuguese Indiaman *Nossa Senhora dos Mártires* (1606) (D’Intino 1998). These objects are found in wrecks, either as part of the cargo, or objects used in daily activities. Their resistance to breakage made them the perfect artefacts to resist the unstable environment inside any ship.

Portugal produced pewter plates, but few survive today. In 1539 King João III regulated the activity of the pewter makers (*picheleiros*), which were placed under the protection of *Nossa Senhora da Oliveira* (Zeller 1969). However, Portuguese marks are well-known and do not resemble any of the ones found at Belinho. Fifty-eight plates have marks of approximately 0.5 cm in size, and they are almost certainly all makers’ marks. Analysis revealed a variety of maker marks, all pointing to an origin in Northern Europe, where a majority of the workshops were located. The most abundant mark identified depict a crowned hammer. These crowned hammers have many variants, depending on the producer. In one case, it is possible to recognize two manufacturer initials, “U” and “C”, a brand type frequently used in Dutch or German productions (Fig. 5). Crowned hammers are represented in Belgium at the end of the fifteenth century (Greenland 1904, 94), in the sixteenth century in Switzerland, and in the seventeenth century in Scotland (Fiske and Freeman 2016). Another of the marks identified appears to depict a crown and a rose (Gadd 1999), which is a frequent mark since the sixteenth century on pewter plates demonstrating the quality of production (Cotterel 1963).

Cupreous Material

The number of brass plates is smaller, with 125 fragments corresponding to 34 artefacts (MNI). These are larger in size since their average size is almost 50 cm in diameter. Only one can be interpreted as a basin, and seven plates present decoration (Fig. 6). These correspond to what is usually known as Alms Dishes and seldom, if ever, are found in shipwrecks. The most important production centre for these objects was Nuremberg, although these were also produced in other parts of Germany, the Netherlands, and the Low Countries, though in smaller quantities (Martins 2010, 26). Alms Dishes are plates decorated with a large variety of motifs. The ones associated with the Belinho shipwreck had five variants. Two with floral decorations at the centre, one with St. Christopher, with a baby Jesus on his shoulders, holding a walking stick, and another with St. George fighting a dragon so he could rescue the princess. One plate is decorated with an Old Testament scene where Joshua and Caleb transport a cluster of grapes harvested in the valley of Eshkol, and two others show a scene where Adam and Eve are tempted by the serpent in paradise. Some of the plates have legible text, which reads: DER.I.N FRID.GEHWART—He who brings peace, and HILF.IHS. XPS.UND.MARIA—Jesus Christ and Mary.

This diversity of religious scenes points to use in an environment like a church (Gadd 2008). Some documents reveal that these objects were frequent in Iberian catholic churches and used to collect money among people or even during rituals such as baptism and the anointing of the sick (Martins 2010).

A single pot was found in 2016 with no handles, and it appears to have once had a lid. Its use is debatable. While all the other brass artefacts have been identified to have a specific function, this one could be just a storage vase. Four brass candlesticks were also recovered.

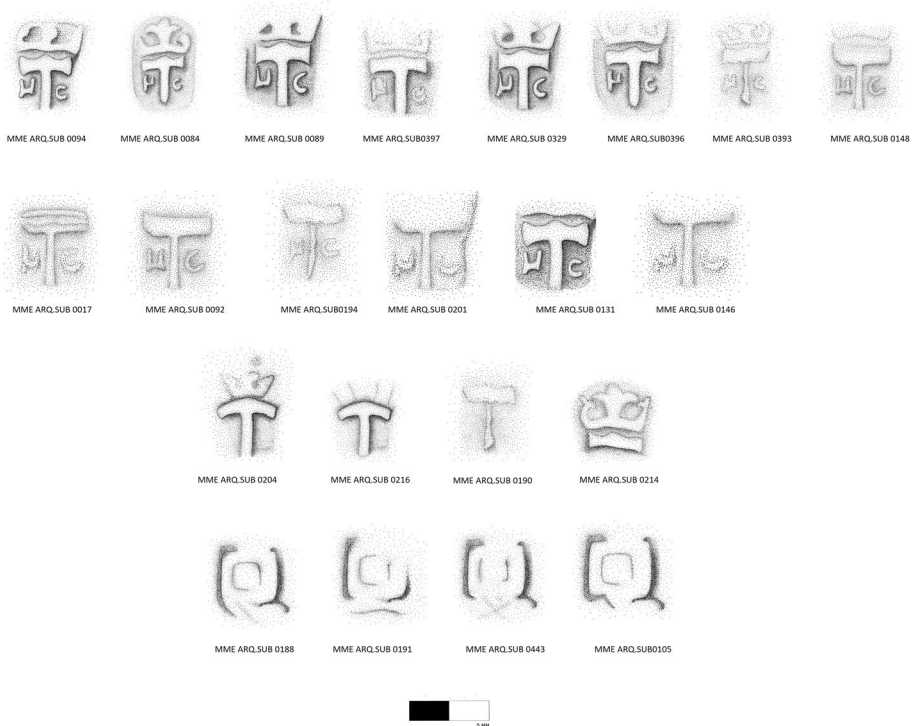


Fig. 5 Makers' marks identified in the pewter plates (A. Dempsey after C. Dostal)

Other copper alloy objects are residual, and correspond to two sets of chain mail, one with 24 rings and the other with 8 rings. The division into two artefacts relates to the fact that the diameter of the rings in each set and their manufacture are slightly different. There is also a fragment of a needle and a small bucket, which would have been ubiquitous at the time (Whitehead 1999). It is not possible to infer what these artefacts were doing on board; they could be personal effects of crew members or passengers, but they could also be cargo.

These copper alloy objects are frequently found on board shipwrecks and terrestrial archaeological sites because these were the types of things that were widely owned and used.

Iron

Seven iron objects were discovered in a state of poor preservation, and the concretions around them did not permit visual identification. Analysis via X-ray radiography revealed two axe head fragments belonging to two different objects and at least two swords (six total fragments) one with pommel, handle, and guard and the other with the tip of the sword's scabbard. The condition of these weapons did not allow us to go beyond general recognition of their function, and it is not possible to state if any of these objects were part of the cargo or tools and weapons used by people on board. One single iron nail was discovered, but it is impossible to accurately define its use.

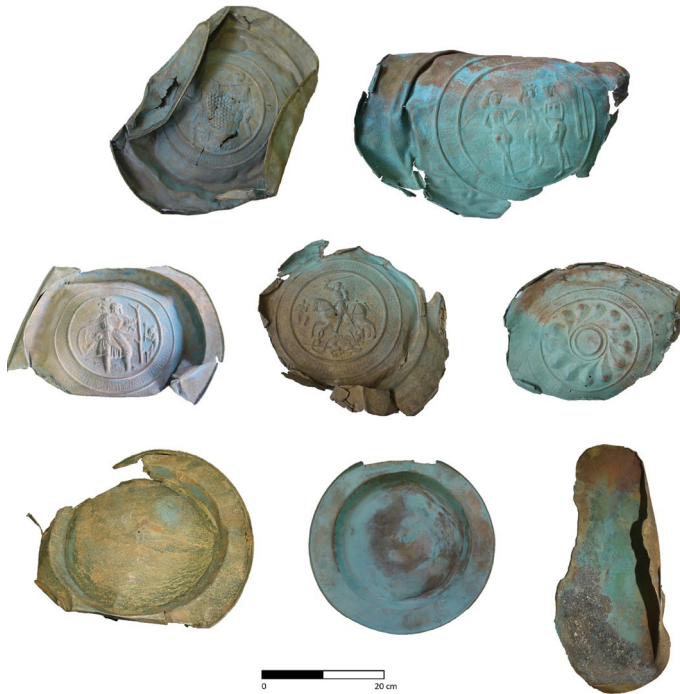


Fig. 6 Brass plates (Tânia Casimiro)

Stone

To date, 32 stone cannon balls have been recovered on the Belinho beach. Although the petrological analysis is pending, they appear to be cut of granite, limestone, and volcanic rocks, revealing different origins. Diameters vary between 7 and 9 cm on the smaller ones and between 12.5 and 18 cm on the larger ones. The inclusion of these stone cannon balls in this paper relates mainly to the fact that we cannot be sure if these objects were cargo or ammunition used on the boat.

Ceramic

Only two sherds were found on the beach, both corresponding to carinated bowls. The paste is light buff and covered with white tin glaze, decorated with cobalt blue lines. The materials and decorations suggest they are both Iberian, made in the sixteenth century, although the state of conservation of its surface does not permit a more refined chronological definition (Casimiro 2013).

Discussion

Ships were, among many things, fundamental parts of a well-established transportation system carrying people and things, and all the knowledge and ideas they brought with them, a key aspect of maritime archaeology. We may never discover the name of the ship wrecked at the Belinho beach in the sixteenth century. The study of its timbers and the construction of its hull led archaeologists to determine that this ship could be classified as Iberian. The material culture inside suggests that, although it may have been constructed with Iberian technology, the port where it sailed from for its last voyage was much further north than anywhere in Iberia, most likely from a northern European port. The coherence of the collection, especially the pewter and brass objects, suggests that they were most likely loaded in one single moment, in one port, or in nearby ports.

The pewter plates reveal the same production technology, and some of them bear similar or very similar marks. It is not easy to date pewter objects since these remain similar from the fifteenth to the nineteenth century, apart from some changes in the rims. Nevertheless, the crowned hammer is consistent with sixteenth-century production. As for the alms dishes, these are easier to situate in a narrower chronology. Although these were produced from the sixteenth to the late eighteenth century in several places, the styles of the objects found in the Belinho beach are quite similar to the productions made in the sixteenth century (especially between 1520 and 1580). Although metal plates are a regular find in European shipwrecks used for daily activities on board, the exceptionality of the brass plates indicates that these were part of the cargo.

In the case of the Belinho wreck, we do not know what its destination was meant to be, but we can discuss its origin or at least the origin of its cargo. Cargoes such as pewter and copper artefacts can travel from port to port, and change hands before their final destination. These may even have been destined for a Portuguese port and, although brass and pewter objects are not frequent finds in archaeological sites in this country, we know of their existence in Portuguese households through probate inventories. In the probate inventory of Catarina Loba, made in 1498, several pewter objects are mentioned. In her house she used plates of different sizes (*quatro partes grandes d'estanho usados (...) hum partell pequeno velho e quatro saloerinhas d'estanho (...) tres trinchos d'estanho*), one basin (*hũa baçia d'estanho grande grossa usada*), three porringers (*tres escudellas*), seven tankards (*sete pichees d'estanho*), a jar (*hũa albarrada*), and a salt cellar (*hum saleiro de pe alto d'estanho*). She also owned three candlesticks made of pewter. Oddly, the inventory also describes three pieces of pewter with no functionality, or at least a function that we are not aware of (*huns pedaços d'estanho que sam tres*) (Olaia and Pinto 2021). The fact that pewter plates of different sizes, porringers, tankards, and candlesticks were frequently described in inventories during the seventeenth and eighteenth centuries points to a demanding Portuguese market for them.

We propose that the pewter and brass dishes were cargo and not part of the crew's and passengers' personal items due to the uniformity of the collection and the high value and low utility of the plates.

With all of the evidence found on the Belinho 1 wreck dating to the sixteenth century, it is likely that this was a very valuable cargo. Church inventories reveal that alms dishes were often owned by religious institutions, further elevating their inherent value (Martins 2010). In the inventory of the possessions of wealthy nobleman D. Teodósio (c. 1505–1563), the average value of a small pewter plate (possibly akin to the 24 cm plates from Belinho) was around 60 reis. Brass objects were higher, and the average basin would be worth about 200

reis. As a comparison, a common ceramic plate at the time would cost no more than 5 reis (Fernandes 2013), and a porcelain or small tin glaze bowl would be worth around 60/75 reis. Pewter and brass objects were expensive commodities (Hallet and Senos 2018).

Terrestrial discoveries of pewter objects are rare. Metals are seldom found in domestic contexts, mainly due to their ease of recyclability. Nevertheless, if these were as frequent inside Iberian houses as they were in Northern Europe, they would be found in archaeological contexts. In Portugal and Spain, people preferred to consume their food on ceramic objects. Thus, this cargo could have been destined to be used onboard ships, where pewter plates were more frequent. As for the brass objects, their value and their absence from shipwrecks may indicate other uses. One should remember that brass objects in the mid-sixteenth century were still used on the coasts of Africa to trade for other commodities. No matter its destination, the value of these objects suggests that this ship's wreck was a huge economic loss for someone.

Conclusion

Despite the tentative identification of this shipwreck as the 1577 *Nossa Senhora da Rosa*, the elevated number of metal artefacts on board suggests a northern origin for the ship. The pewter plates have marks typical of the German-Swiss region, and the cannons suggest a tentative date for this shipwreck somewhere between the first and third quarters of the sixteenth century (Almeida et al. 2017). If the Belinho 1 ship was coming from the Canary Islands with a cargo of wine, it could have been carrying the pewter boxes on a second or third leg, a less probable, but not impossible hypothesis.

Perhaps more important than the ship or all the plates found and classified as cargo is the history of the discovery itself and what it meant for the concept of archaeology. When a ship wrecks so close to the shore, the objects and parts of the vessel itself are often thrown onto the beach, and there are historical accounts of populations, or even the sailors that survived the disaster, recovering those artefacts. The same happened to the Belinho wreck, but it happened around 500 years after it sunk. When things brought by the sea have a heritage value, it is not possible to ignore the relation to the adrift approach proposed by some archaeologists, where objects are found “far removed from their object and function” (Pétursdóttir 2023, 260). This belief, in fact, is what led to the discovery of this ship; an artist looking for interesting materials deposited by the sea for his artistic projects found the ship's timbers and artefacts. Although not the purpose of this paper, as archaeologists, we study the things from the past that still exist in the present, and the artefacts recovered on the beach in need of rescue and conservation allow us “to understand their pasts and their relevance to life” (Witmore 2023, 281). The Belinho 1 objects are as much a part of the past as they are of the present, and our narratives should have major importance in the debate of how previous time periods, the ones that archaeologists usually study, engage with the Anthropocene.

The value of this ship is enormous in terms of understanding the relational value of the contact between Northern Europe and the Iberian Peninsula through artefacts. Archaeologists try to reconstruct past human activity, in the present world, and try to understand the meanings and values associated with each particular artefact, in each particular environment where that artefact has been seen, used, coveted, bought, or sold. This cargo is but a small example of the interaction between people and commodities from different origins in the creation of economic and cultural value. The presence of such pewter objects made in

Northern Europe on board an Iberian ship, perhaps intended to be used in Iberian domestic environments, or perhaps to be traded for other commodities, reveals a network of relations between people and objects. Ships were the main actors in this geographical relationship between distant areas while travelling and carrying cargo, and how and where the ships were built was less important than the connection that these ships established.

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Declarations

Conflict of interest The authors declare no conflict of interest.

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