OPHIUSSA

REVISTA DO CENTRO DE ARQUEOLOGIA DA UNIVERSIDADE DE LISBOA

ISSN 1645-653X
E-ISSN 2184-173X

CENTRO DE ARQUEOLOGIA
DA UNIVERSIDADE
DE LISBOA
uniarq

8 - 2024

OPHIUSSA

REVISTA DO CENTRO DE ARQUEOLOGIA DA UNIVERSIDADE DE LISBOA

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OPHIUSSA REVISTA DO CENTRO DE ARQUEOLOGIA DA UNIVERSIDADE DE LISBOA

PUBLICAÇÃO ANUAL · ISSN 1645-653X · E-ISSN 2184-173X

Volume 8 - 2024

CAPA
Cervídeo da rocha 3 do Vale do José Esteves – Vale do Côa. Projeto RARAA – Repositório de Arte Rupestre de Acesso Aberto

IMPRESSÃO
AGIR – Produções Gráficas

DATA DE IMPRESSÃO
Dezembro de 2024

EDIÇÃO IMPRESSA (PRETO E BRANCO)
300 exemplares

EDIÇÃO DIGITAL (A CORES)
www.ophiussa.letras.ulisboa.pt

ISSN 1645-653X / E-ISSN 2184-173X
DEPÓSITO LEGAL 190404/03

EDIÇÃO
UNIARQ – Centro de Arqueologia
da Universidade de Lisboa,
Faculdade de Letras de Lisboa
1600-214 Lisboa.
www.uniarq.net
www.ophiussa.letras.ulisboa.pt
uniarq@letras.ulisboa.pt

Revista fundada por Victor S. Gonçalves (1996).
O cumprimento do acordo ortográfico de 1990 foi opção de cada autor.
Esta publicação é financiada por fundos nacionais através da FCT – Fundação para a Ciência e a Tecnologia, I.P., no âmbito dos projectos UIDB/00698/2020 (doi.org/10.54499/UIDB/00698/2020) e UIDP/00698/2020 (doi.org/10.54499/UIDP/00698/2020).

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OPHIUSSA · Volume 8, 2024, páginas 173-191. Submetido a 22.04.2024. Aceite a 12.06.2024. (CC/BY/NC/ND 4.0). https://doi.org/10.51679/ophiussa.2024.154

From economy to identity: towards an integrated approach to textile production and consumption in the Iron Age of Southern Portugal

Da economia à identidade: para uma abordagem integrada à produção e ao consumo de têxteis na Idade do Ferro do Sul de Portugal

FRANCISCO B. GOMES
UNIARQ – Centre for Archaeology of the University of Lisbon;
School of Arts and Humanities of the University of Lisbon
franciscojbgomes@gmail.com
ORCID iD: https://orcid.org/0000-0003-0664-6374

ÍRIS DIAS
UNIARQ – Centre for Archaeology of the University of Lisbon;
School of Arts and Humanities of the University of Lisbon;
Foundation for Science and Technology
iris.fcdias@gmail.com
ORCID iD: https://orcid.org/0000-0002-4379-7983

ABSTRACT: Despite the absence of preserved textile remains, there is substantial indirect evidence which can be explored in order to gauge the nature and organization of the different stages of textile production and consumption in the Southern Portuguese Iron Age. Fibre procurement can be discussed on the basis of palaeobotanical and zooarchaeological data. The former is scarce for the period under study, but the latter could indicate the comparative importance of wool production in regional economies of the 1st millennium BCE. For spinning and weaving, the data afforded by textile tools is somewhat more consistent but remains underexplored. The wide distribution of spindle whorls and, to a less extent, of loom weights suggests in fact a generalized panorama of household production, with just a few exceptions associated with sanctuaries in which production seems to have been more intensive. Data regarding the use and discard of textiles, on the other hand, is rarer, but certain evidence can still be noted, such as possible textile patterns reproduced in pottery, and especially the presence in the record of metallic dress complements. Iconographic data, while not abundant, offers further glimpses into the attire in use regionally during the Iron Age.
KEY WORDS: textile *chaîne opératoire*; fibre procurement; textile tools; household textile production; dress complements.

RESUMO: Apesar da ausência de vestígios têxteis preservados, existem abundantes evidências indiretas que podem ser analisadas para explorar a natureza e organização das diferentes fases da produção e consumo têxteis na Idade do Ferro do Sul de Portugal. O aprovisionamento de fibras pode ser discutido com base nos dados paleobotânicos e zooarqueológicos. Os primeiros são escassos para o período em análise, mas os segundos poderão indicar a importância comparativa da produção de lã nas economias regionais do I milénio a.n.e. Para a fiação e a tecelagem, os dados oferecidos pelos instrumentos têxteis são mais consistentes, mas permanecem por explorar em profundidade. A ampla distribuição de cossoiros e, em menor medida, de pesos de tear sugere um panorama dominado pela produção doméstica, salvo algumas exceções associadas com santuários, nos quais a produção parece ter sido mais intensiva. Os dados relacionados com os usos e descarte dos têxteis, por seu turno, são mais raros, mas podem notar-se algumas evidências, como os possíveis padrões têxteis reproduzidos em cerâmica, e especialmente a presença no registo arqueológico de complementos metálicos de indumentária. Apesar de não serem abundantes, os dados iconográficos oferecem vislumbres adicionais da vestimenta em uso regionalmente durante a Idade do Ferro.
PALAVRAS-CHAVE: cadeia operatória têxtil; aprovisionamento de fibras; instrumental têxtil; produção têxtil doméstica; complementos de indumentária.

(…)
"O, men, with sisters dear!
O, men, with mothers and wives!
It is not linen you're wearing out,
But human creatures' lives!
(…)
Thomas Hood, 'Song of the Shirt' (1843)

1. IRON AGE TEXTILE ACTIVITIES AND PRODUCTS IN THE SOUTHERN PORTUGUESE IRON AGE: SOME PRELIMINARY REMARKS ON THE STATE OF RESEARCH

Compared to other areas of Europe, and even to neighbouring Spain (Alfaro 2014), research on Iron Age textiles and textile activities in Portugal remains underdeveloped. In fact, for the Southern part of the country, studies directed specifically at the evidence related to such activities have only come to light in the last decade (e.g., Jorge 2013; Pereira 2013; Pereira 2016-2017; Gomes 2017; 2020; 2021a; Pereira – Soares – Silva 2021; Gomes *et al.* forthcoming) and remain sporadic at best.

Building on those studies and on other data dispersed in the literature, this paper aims to offer for the first time an integrated overview of the available evidence for the entirety of the textile *chaîne opératoire*, from fibre procurement, spinning and weaving, to the transformation and use of textiles (cf. Andersson Strand 2012). This exercise, however, is limited in its scope and depth by some pitfalls resulting from the nature of the archaeological evidence itself.

On the one hand, it should be clearly noted that textile finds are, for the moment, entirely absent in the Southern Portuguese Iron Age (see however Arruda – Vilaça – Gomes 2022). This hinders our understanding of their nature and their role in the material worlds of the period. The sources considered here are therefore secondary in nature, with all the attending limitations.

On the other hand, as stated above, much of the available information on textile production, textiles, and clothing available in bibliography is not as detailed as would be required for any in-depth analysis. For this reason, a lot of the insights presented here result from a preliminary exploration of potential sources which will need to be revised and further analysed in the future.

This being said, a thorough sweep of the bibliography on Iron Age sites, contexts, and materials in the area under consideration does nonetheless offer a considerable volume of evidence for a preliminary assessment of the nature, technological features, organization, and social context of textile activities and products. The panorama presented in the following pages aims to systematize said evidence, not to produce a final synthesis, but rather to create the working bases for future research.

2. THE TEXTILE *CHAÎNE OPÉRATOIRE* IN THE SOUTHERN PORTUGUESE IRON AGE (8TH/7TH – 2ND CENTURIES BCE): DIRECT AND INDIRECT EVIDENCE

2.1. The procurement of fibres

When considering the textile *chaîne opératoire* of Iron Age textile production in Southern Portugal, the first question to be raised is the issue of the procurement of textile fibres. Unfortunately, in this regard the absence of preserved textile remains hinders our understanding of the different materials that may have been in use and their respective weight in regional textile economies and cultures. Any approach to the procurement of fibres and its economic impact will therefore have to be based on indirect evidence only, in which the archaeobotanical and zooarchaeological data play a major role.

The introduction of (cultivated) flax in the Iberian Peninsula has usually been dated to the 3rd millennium BCE (Jover Maestre – López Padilla 2013: 150), although recent evidence has shown that flax fibres were already in use for textile production in the late 4th millennium BCE (Gleba *et al.* 2021). However, no positive data regarding its cultivation has so far come to light in Southern Portugal and its surrounding areas.

Nevertheless, its cultivation is attested regionally for earlier periods, namely the Chalcolithic and the Early/ Middle Bronze Age, both by the presence of seeds in settlement contexts (Paço – Arthur 1953) and by the preservation of some rare textile fragments identified as linen (Soares *et al.* 2018). The continuity of use of this bast fibre seems more than likely, especially when considering the nature of the Iron Age textiles documented elsewhere in the Iberian Peninsula, in which linen appears to remain dominant (see Alfaro 2014; Gleba 2020), while other fibres, namely wool, are only directly attested from the 5th century BCE on (Marín-Aguilera *et al.* 2019: 936 and Tab. 1), and then only rarely.

However, the exiguous number of preserved textiles limits their use as an accurate reflection of the patterns of fibre use during the Iron Age in this part of Western Europe, and convincing arguments have been made for an increase in the use of wool from the Bronze Age on, with wide-reaching technological but also social and political impacts (Jover Maestre – López Padilla 2013; Basso Rial 2022; Basso Rial *et al.* 2023; Basso Rial – Costeira forthcoming).

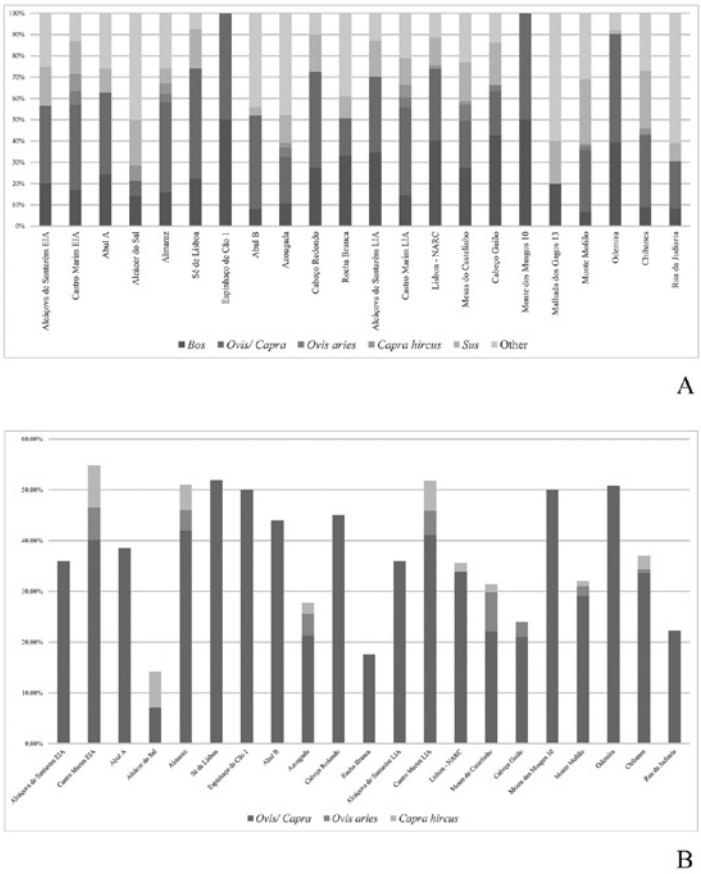


FIG. 1 A) Comparative composition of known Iron Age faunal assemblages (mammals) from Southern Portugal; B) Comparative size of the *Capridae* assemblages (for data sources, see Table 1).

Again, in Southern Portugal the nature of the available sources makes it difficult to assess whether a similar process took place. The study of textile tools being in an altogether incipient stage (see below), an assessment of the available data from faunal assemblages can nonetheless be attempted to try and gather some insights into the possible weight of wool in regional textile economies during the Iron Age.

Although not as numerous or, in some cases, detailed as could be wished, there are in fact several studied and published Iron Age faunal assemblages from Southern Portuguese sites, covering the entire time span of this period, from the 8th to the 3rd/2nd centuries BCE. When looking to the composition of these faunal assemblages[1], it becomes apparent that *Capridae* – that is to say, sheep (*O. aries*) and goats (*C. hircus*)

[1] For the purpose of this discussion, only mammal remains were considered.

TABLE 1 COMPOSITION OF KNOWN IRON AGE FAUNAL ASSEMBLAGES (MAMMALS) FROM SOUTHERN PORTUGAL

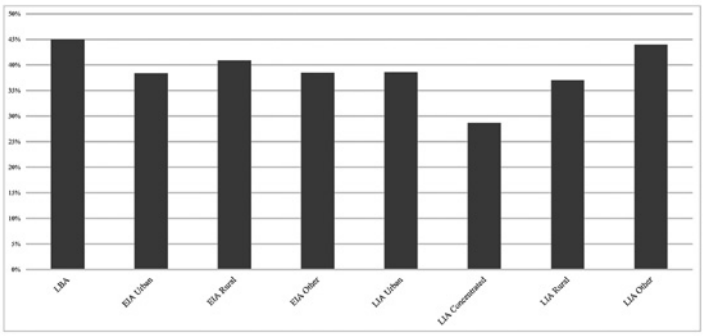
	BOS	*OVIS/ CAPRA*	*OVIS ARIES*	*CAPRA HIRCUS*	*SUS*	OTHER	REFERENCE
Alcáçova de Santarém EIA	20,0%	36,0%	0,0%	0,0%	18,0%	25,0%	Davis 2006
Castro Marim EIA	16,9%	40,1%	6,4%	8,3%	15,2%	13,2%	Davis 2007
Abul A	24,3%	38,5%	0,0%	0,0%	11,2%	26,0%	Cardoso 2000a
Alcácer do Sal	14,3%	7,1%	0,0%	7,1%	21,4%	50,0%	Cardoso 2000b
Almaraz	16,0%	42,0%	4,0%	5,0%	7,0%	26,0%	Dias *et al.* 2022
Rua da Judiaria	8,3%	22,2%	0,0%	0,0%	8,3%	61,1%	Nabais – Gabriel 2022
Sé de Lisboa	22,2%	51,9%	0,0%	0,0%	18,5%	7,4%	Arruda 1999-2000
Espinhaço de Cão 1	50,0%	50,0%	0,0%	0,0%	0,0%	0,0%	Nabais *et al.* 2018
Abul B	8,0%	44,0%	0,0%	0,0%	4,0%	44,0%	Cardoso 2000a
Azougada	10,6%	21,3%	4,3%	2,1%	12,8%	46,8%	Nabais and Soares 2017
Cabeço Redondo	27,5%	45,0%	0,0%	0,0%	17,5%	10,0%	Cardoso and Soares 2013
Rocha Branca	33,2%	17,6%	0,0%	0,0%	10,1%	39,1%	Cardoso 2000b
Alcáçova de Santarém LIA	35,0%	36,0%	0,0%	0,0%	17,0%	13,0%	Davis 2006
Castro Marim LIA	14,6%	41,1%	4,8%	5,9%	12,4%	21,2%	Davis 2007
Lisbon – NARC	40,0%	33,9%	0,0%	1,7%	13,0%	11,3%	Detry – Cardoso – Bugalhão 2016
Mesas do Castelinho	27,4%	22,1%	7,7%	1,6%	18,3%	23,0%	Valenzuela Lamas – Fabião 2012
Cabeço Guião	43,0%	21,0%	3,0%	0,0%	20,0%	14,0%	Arruda *et al.* 2017
Monte dos Musgos 10	50,0%	50,0%	0,0%	0,0%	0,0%	0,0%	Nabais *et al.* 2018
Malhada dos Gagos 13	20,0%	0,0%	0,0%	0,0%	20,0%	60,0%	Nabais *et al.* 2018
Monte Molião	6,7%	29,1%	1,9%	1,0%	30,5%	31,0%	Detry – Arruda 2013
Odemira	39,3%	50,8%	0,0%	0,0%	1,6%	8,2%	Davis – Vilhena 2017
Chibanes	9,0%	33,6%	0,8%	2,6%	27,1%	27,0%	Detry – Silva – Soares 2021

– are always well-represented (Fig. 1A and Table 1). In the most substantial assemblages, the percentages of sheep and goats consistently range between c. 35 and 60% and is in some cases even higher, which is in keeping with what little data is available regarding the regional Late Bronze Age (Cardoso *et al.* 1986; Liesau – García 2010; Nabais *et al.* 2018; Almeida *et al*. 2020; 2023; Dias *et al*. 2022).

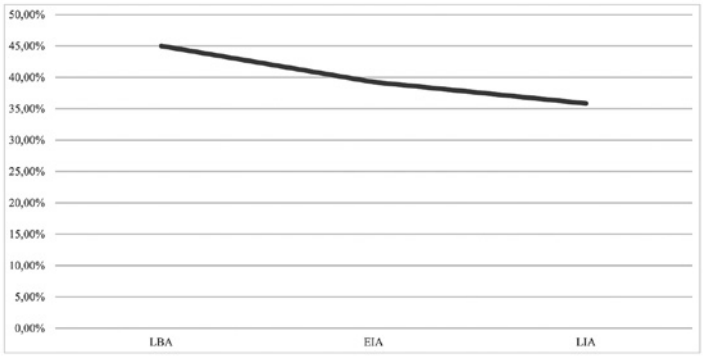
In fact, and while the significant percentage of *Capridae* in these assemblages is suggestive, it seems so far impossible to clearly identify any notable trends regarding the evolution of the exploitation of the possible resources offered by sheep and goats. There is no discernible chronological pattern underlying the data shown here, and even if the data is reordered taking into consideration not only chronology, but also the context of find – rural, urban, or other – there are again no clear-cut differentiated patterns (Fig. 2), which could point to a generalized and fairly stable pattern of animal husbandry.

Unfortunately, the implications of these considerations for the issue of wool production are limited by the fact that only in rare cases has it been possible thus far to differentiate sheep from goats, and then only in small portions of the overall available assemblages. Indeed, despite the criteria presented by J. Boessneck (1969) and M. Zeder and colleagues (Zeder – Lapham 2010; Zeder – Pilaar 2010), the level of preservation of the faunal record combined with the fact that these are two very closely related species does not always allow a reliable morphological distinction between the remains of these mammals.

Nevertheless, in those cases in which such an exercise was possible, a preponderance of remains of goats over sheep has been noted in several (but not all) sites (Fig. 1B). However, if the Minimum Number of Individuals (MNI) is taken into consideration instead of the Number of Identified Specimens (NISP), the values of both species are quite similar for most of the analysed sites, which may be a significant indication regarding the composition of the likely mixed herds. Again, this may be indicative, but not probative, as this apparent pattern could just be the result of the different status of the meat of each species and differing gastronomic choices and preferences. Further data is needed to fine-tune this apparent pattern further.



A



B

FIG. 2 Average percentage of *Capridae* in known Iron Age faunal assemblages from Southern Portugal by period and type of site (EIA = Early Iron Age, 7th – 6th/ 5th centuries BCE; LIA = Late Iron Age, 6th/ 5th – 2nd centuries BCE).

Age-at-slaughter patterns for sheep and goats, for example, can help determine whether the management of herds was primarily geared for the consumption of meat or the exploitation of secondary products such as milk, lanolin, and wool. In this particular regard, it is worth noting that most of the faunal assemblages for which this parameter was considered show a preponderance, or at least a strong representation, of older animals.

The data of one site in particular – Quinta do Almaraz (Almada) – is of special interest to this discussion, as it was possible to compare the mortality pattern between sheep and goats at the site. A preponderance, or at least a strong representation, of older animals was noted for the sheep, while the goats tended to be slaughtered at a younger age (Dias *et al*. 2022: 148). This could suggest that the latter were kept mostly for the consumption of meat, while the former were kept mostly for the procurement of secondary products. It is difficult to say whether wool or milk production was the primary goal of this livestock management strategy; however, the observed pattern

might suggest a focus on the one product which only sheep can offer – wool.

However, the one critical piece of data needed to understand the relative weight of each of these secondary products in herd management is still missing – i.e., the sex profile of the slaughtered animals. In fact, and while a preponderance of older ewes may indicate either a focus on milk or wool, a high representation of older rams and especially a significant percentage of wethers could rather indicate that wool was the primary product being sought (Barber 1991; Gleba 2020: 23). Unfortunately, this topic has only been considered in passing in the study of one Iron Age faunal assemblage from Southern Portugal – that of Alcáçova de Santarém – and the results were inconclusive (Davis 2006: 59-64).

While it is apparent that further studies of faunal assemblages, and more specifically of the role of sheep in regional Iron Age economies, are necessary in the future, compiling new data and deploying new analytical methods (such as ZooMS – see Richter *et al.* 2022), the data from such assemblages can be complemented with some other scattered archaeological evidence which seems to support the exploitation and use of wool during this period in Southern Portugal.

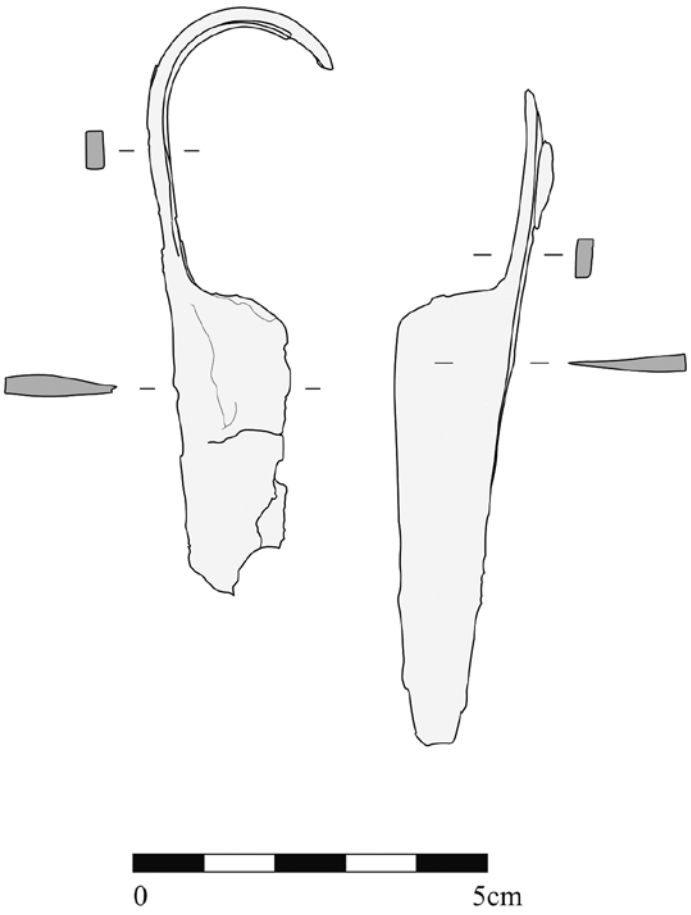


FIG. 3 Sheering (?) scissors from the necropolis of Olival do Senhor dos Mártires (Alcácer do Sal, Portugal) (after Gomes 2021).

It is worth noting, for example, the presence of scissors in several Iron Age sites, which could be interpreted as shearing scissors (cf. Rosell Garrido – Spagiari 2022). These include a possible example from Monte da Pata (Moura) (Albergaria – Melro 2013: Fig. 4.65), as well as the ones from the necropolis of Alcácer do Sal (Gomes 2021b: Est. LXII) (Fig. 3) and the settlements of Cabeço Guião (Cartaxo) (Arruda *et al.* 2017: Fig. 28) and Cabeça de Vaiamonte (Monforte) (Pereira 2018: Est. 107). Although several of the known examples do not have a well-defined archaeological context, the ones that do seem to indicate that such tools are present regionally at least from the 6th century BCE, through the 4th and possibly all the way to the 2nd centuries BCE, if not later.

Another significant element which can be considered here is the presence of a group of metallic artifacts in the aforementioned settlement of Cabeça de Vaiamonte, in Monforte, which have been interpreted as carding combs (Pereira 2018: Est. 99), clearly indicating that wool was being processed at the site. Unfortunately, however, this material comes from older excavations with a limited contextual record, so the exact chronology of these pieces cannot be ascertained, and they could also date to the later, Early Roman period.

2.2. Spinning and weaving

The insights afforded by the palaeobotanical and zooarchaeological data discussed above into the nature and organization of textile economies are, unfortunately, limited. Other evidence, however, clearly shows that textile activities were very widespread in the Southern Portuguese Iron Age. Chief among such evidence is the frequent find of textile tools – especially spindle whorls, but also, more rarely, loom weights – in many sites dating to this period (Fig. 4). Assemblages, however, are rarely large, and, as shall be seen, they seem to indicate for the most part a small scale, low intensity production throughout most, if not all the time span considered here.

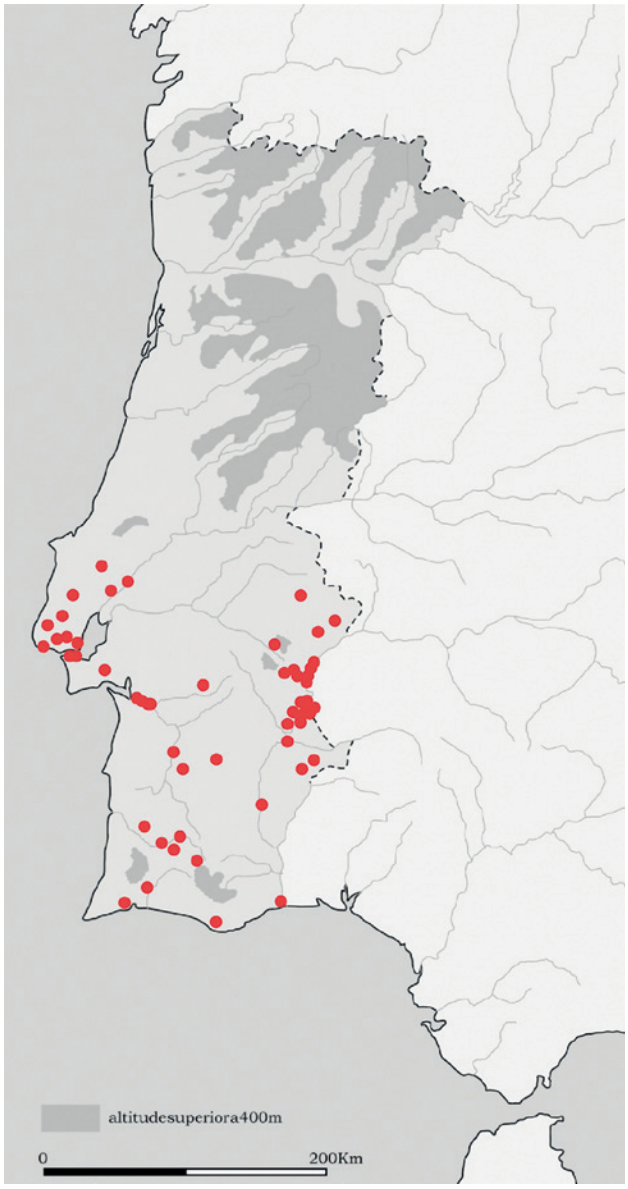


FIG. 4 Spatial distribution of Iron Age textile tools (spindle whorls and loom weights) in Southern Portugal (cartographic basis: Victor S. Gonçalves).

These tools are, nonetheless, well attested throughout all of the Iron Age. The earliest known examples can be dated between the late 8th and the 7th centuries BCE (Mayet – Silva 2000: Fig. 28; Calado – Mataloto – Rocha 2008: Fig. 12), while the latest extend well into the Early Roman period, starting in the late 2nd century BCE (e.g., Pereira 2013; Albergaria – Melro 2013: 234 e Fig. 4.143). Textile tools are found in virtually all types of contexts, from settlements – both large and small ones (see Gomes 2021a) – and necropolises (e.g., Gomes 2017) to sites which appear to have had a religious function or significance (Gomes *et al.* forthcoming).

As mentioned above, tools relating to spinning are by far the most common in the Southern Portuguese archaeological record, with spindle whorls being present in virtually all of the documented assemblages, although often in very small numbers. The typology of these tools is very diverse, but they can be roughly divided into seven broad morphological groups: 1) discoid/ toroid; 2) spherical; 3) cylindrical; 4) truncated conical; 5) biconical; 6) hemispherical; and 7) double hemispherical (Fig. 5A).

The earliest documented examples, from the late 8th and early to mid-7th centuries BCE, belong to the discoid/ toroid and spherical groups (Calado – Mataloto – Rocha 2008: Fig. 12), which become rarer in later assemblages. Beginning in the second half of the 7th – first half of the 6th century BCE, examples of the biconical group can be found (Mayet – Silva 2000: Figs. 28, 37 and 46), the first of a series which will be largely dominant in later assemblages. Cylindrical and truncated conical types appear to emerge somewhat later, in the 6th century BCE (e.g., Pereira 2016-2017; Gomes 2017; 2020), but, while attested throughout the rest of the Iron Age, always remain in the minority.

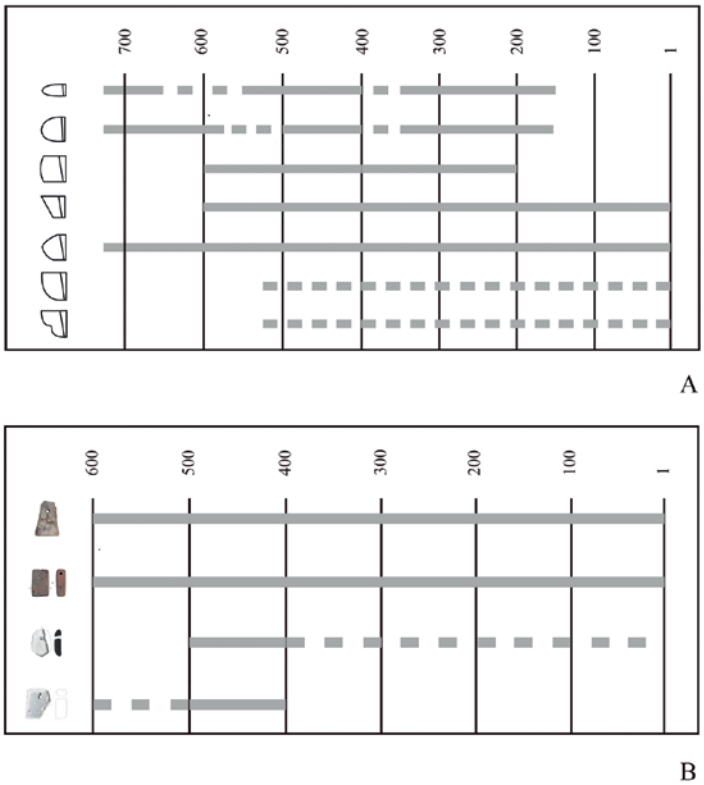


FIG. 5 A) Major typological groupings of Iron Age spindle whorls in Southern Portugal and their chronological distribution; B) Major typological groupings of Iron Age loom weights in Southern Portugal and their chronological distribution (illustrations after Gomes 2020, Soares – Soares 2017, and Calado – Mataloto – Rocha 2008).

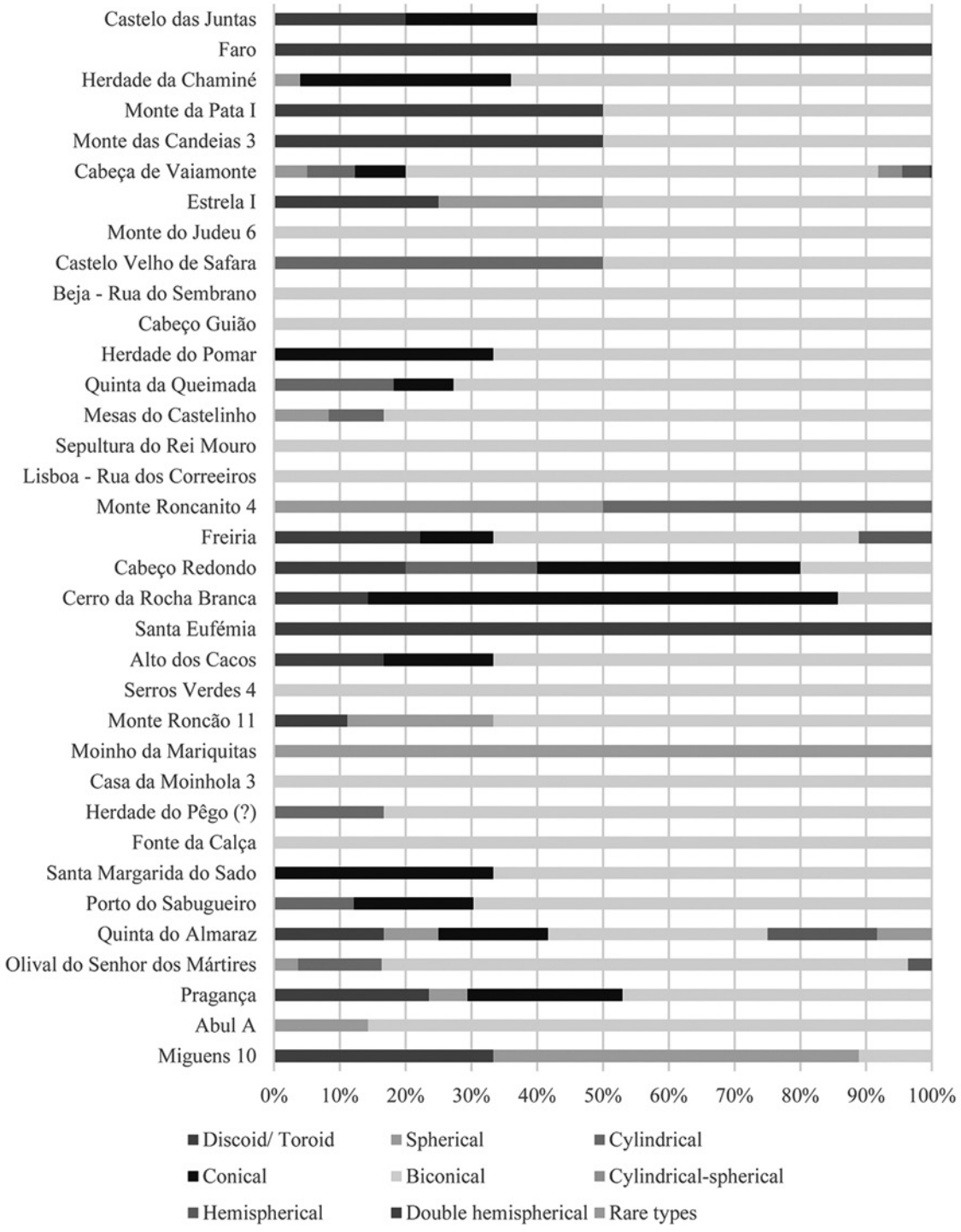


FIG. 6 Representation of the major typological groupings of spindle whorls in Southern Portuguese Iron Age assemblages.

The general presence and absence of these different groups in each site, as shown in Fig. 6, does not add much to the understanding of the practices surrounding spinning. It is still necessary to look in more detail to other aspects, such as the variations of the proportion of different morphological groups in different sites, different areas and at different times. Work on these variations is on-going, but a full discussion is beyond the scope of this more general presentation. The same applies to the great internal diversity of these overall morphological groups (for an overview of variations, see Pereira 2013: Fig. 2; Gomes 2017: Fig. 6), the significance of which is still to be assessed, namely through technological and experimental analyses.

The following stage of textile production, namely weaving, remains poorly understood, as loom weights or, more generally, loom components, remain very scarce (see Gomes 2021a: Fig. 2) and have seldom been the object of in-depth morphometric and technological studies (see, however, Gomes 2020: Figs. 12 and 13) which could help gain some insights into the productive and technological patterns and choices of local communities.

It also remains difficult to understand the shift in loom weight typology which seems to take place at the beginning of the regional Iron Age. In fact, the relatively rare loom weights dated to the Bronze Age in Southern Portugal show both morphologies which harken back to the Chalcolithic (i.e., thickened crescent-shaped weights – Mataloto 2013: Fig. 21) and others which seem to be a specifically Bronze Age innovation (i.e., cylindrical weights – Mataloto 2013: Fig. 8; Basso – Costeira forthcoming). Both of them, however, disappear with the transition to the Iron Age.

In fact, in this period loom weights, which once again become somewhat more common (although never to the level attested for the 3rd millennium BCE – see Costeira – Mataloto 2018; Costeira 2024), show new morphologies which differ significantly from those of the earlier period. The question of how these new models were introduced remains, however, unanswered. The similarities between some of the attested types and those in use in other areas of the Iberian Peninsula during the Iron Age (see, for example, Castro Curel 1980; Berrocal-Rangel 2003) could suggest a process of technological transference, but such a process remains poorly understood.

It would be tempting to interpret the comparative proliferation of warp weighted looms in the Southern Portuguese Iron Age with a Phoenician, and later Punic, influence. However, loom weights are extremely rare in Phoenician and Punic contexts in the Iberian Peninsula and the Western Mediterranean, a fact that has been related to the generalized use of two-beam looms which did not require such clay weights (Ruiz de Haro 2017: 183-185). This opens the possibility that the practice of weaving in warp weighted looms in the area may in some way tie back to its prehistoric precedents. This, however, does not explain the changes in the shape of loom weights, which could alternatively point to as-of-yet poorly understood processes of diffusion through contacts with local populations from other areas of the Peninsula.

Whatever the case, during the regional Iron Age four essential types of loom weights can be found: 1) truncated pyramidal weights (e.g., Silva – Gomes 1992: Fig. 61A; Soares – Soares 2017: Fig. 13; Gomes 2020); 2) parallelepipedal weights (e.g., Albergaria – Melro 2013: Fig. 4.143; Gomes 2020); 3) ovoid weights (e.g., Soares – Soares 2017: Fig. 13); and, more rarely, 4) trapezoidal weights (Calado – Mataloto – Rocha 2008: Fig. 41) (Fig. 5B).

Only the latter two types seem to show any degree of chronological specificity, as they have so far only been found in 5th century BCE contexts, and particularly in contexts of the Middle Guadiana valley (Calado – Mataloto – Rocha 2008; Soares – Soares 2017). Similar weights can also be found across the border in contemporary sites with an important and apparently specialized textile activity (Berrocal-Rangel 2003; Marín-Aguilera *et al.* 2019; Marín-Aguilera 2019). Truncated pyramidal and parallelepipedal examples, on the other hand, seem to have been in use from at least the 6th century until Roman times (see Pereira 2013).

Very few of these loom weights have been studied from a functional and technological point of view, but those which were show that these weights were perfectly fitted to their function; most examples are versatile and would be suitable for different loom set-ups, either for the production of coarse, medium quality or fine fabrics (Gomes 2020).

Apart from spindle whorls and loom weights, tools related to textile production are very scarce in the Southern Portuguese Iron Age. Still, the residual presence of pieces which can be identified as spools is worth noting. One such piece was retrieved in the sanctuary of Rua do Rato, in Alcácer do Sal, in a late 6th to 5th century BCE context (Arruda *et al.* 2021: 71 and Fig. 72), while two others hail from the small rural settlement of Herdade da Sapatoa, in Redondo, dating roughly to the same time period (Mataloto 2004: 214, 216, Est. 40).

While by no means common, the presence of spools in Iron Age contexts of Southwestern Iberia (previously identified as baetyls in some cases) has been noted in recent studies (Ruiz de Haro 2017: 234-248; Gómez Peña – Bermúdez Cordero 2023). Their

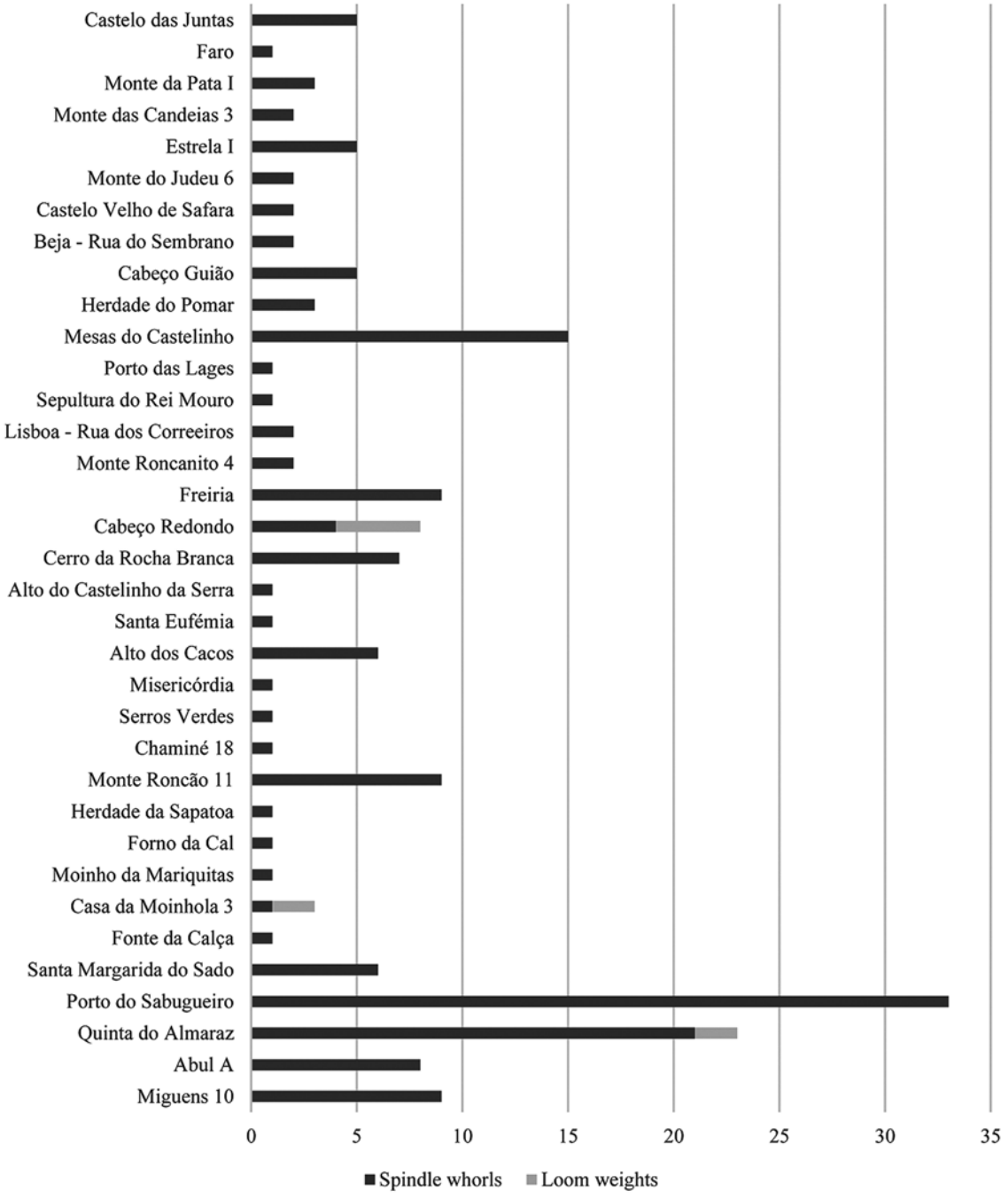


FIG. 7 Comparison of the size of documented textile tool assemblages in Southern Portuguese Iron Age settlements.

significance and usage in regional textile production remains to be fully ascertained.

As can be inferred from this overview, the study of Iron Age textile tools in Southern Portugal is still at an incipient stage, but while they do not yet allow any sustained inferences regarding the type of fibres used and fabrics produced, their distribution and spatial patterning can – with some caveats – offer some insights into the context, scale, and organization of textile production (Gomes 2021).

In fact, with the exception of a few sites with religious functions (Gomes *et al*. forthcoming), all the known assemblages of textile tools are relatively limited in size, indicating a small-scale production (Fig. 7). Furthermore, most of the excavated sites from this period have yielded textile tools, including small rural site, more concentrated settlements, and also urban sites. The available data thus suggests that textile production was, for the most part, independent and dispersed, while the spatial context of finds does not

suggest neither a concentration in specific sites nor, for that matter, within specific areas of any given sites.

On the contrary, the evidence seems to point to a generalized panorama of domestic production, either as part of subsistence economies (in the case of small rural settlements) or as part of a broad range of economic activities coexisting in domestic spaces (in the case of larger and more concentrated settlements). Contrasting the panorama from Southern Portugal with the well-established modes of textile production typified by Eva Andersson Strand (2003: Fig. 1), it can be said that in this area, during the Iron Age, there is a background level of small-scale, low intensity textile production, which can be framed in a generalized pattern of household production.

The only exceptions to this panorama are a few religious sites and contexts which have yielded larger – and, in some cases, much larger – textile tool assemblages which seem to suggest a different production model co-existing with the previous one (Gomes *et al*. forthcoming). While the organization of production in such sites and the exact purpose of their output (strictly ritual/votive, commercial, or both) remains unclear, it seems possible to suggest that, in such sites, textile activities were more closely aligned with an attached mode of production (Andersson Strand 2003: Fig. 1).

2.3. Finishing and Wearing Textiles

Regarding the following and final steps of the textile *chaîne opératoire*, it should be noted that, in the absence of actual textiles, very little is known about sewing and clothing making for this period. The only available evidence for these stages includes some rare needles which have been found in Iron Age contexts (Pereira 2018: Est. 100-101; Olaio 2020: 1382, Fig. 4; Gomes 2021b: Est. CXXX), unfortunately without very clear chronological coordinates. The scissors mentioned above can also be mentioned here again, as some of them may also have been used for other functions within textile production and the making of clothing, beyond their possible use for sheering sheep.

The scarcity of needles and other tools related to textile transformation could be the result of the use of perishable materials, such as wood, which are rarely preserved (Alfaro – Costa – García 2014: 39). The practice of draping, which is well documented in classical sources as well as in Greco-Roman iconography, could also explain the lack of such tools (Alfaro 1997: 61).

Despite the scarcity of data for the area considered here, it is also worth considering here the issue of dyeing. This process may have taken place in different stages of the *chaîne opératoire*, depending on available resources and the desired result. Dyeing could in fact be applied to the fibres, the threads, or the finished textile (Marín-Aguilera *et al*. 2018: 135).

The use of vegetable (Martínez García 2020) and animal dyes (Domínguez-Bella *et al*. 2011) is well attested in contemporary Mediterranean contexts, among which the so-called "Tyrian purple" takes pride of place. The importance of purple fabrics for ancient Mediterranean communities is well-known (for a history of research, see Haubrichs 2005), among whom it was used as a marker of social distinction (Marín-Aguilera *et al.* 2018: 128-129).

Despite the small number of studies of malacological fauna for Southern Portuguese Iron Age sites, shells of the *Muricidae* family were found in at least one context (Dias *et al*. 2022), which contrasts with their abundance in other areas of the Iberian Peninsula (Ramon 2004; Bernal Casasola *et al*. 2011; Alfaro – Costa – García 2014: 30). In Quinta do Almaraz, where textile production is also attested (Olaio 2020), a notable concentration of fragmented shells was documented, discarded together with pottery and ashes (Dias *et al*. 2022). While this could suggest that purple dye was produced at the site, the lack of other evidence for the extraction of this natural dye (see Garrido Chacón 2017: 147) and the limited representativity of *Muricidae* on the site is not enough to assume such a production.

This being said, some authors have posited that dyeing at this time in the Iberian Peninsula took place in perishable installations (Alfaro – Costa 2008: 199), which could justify the lack of identified contexts associated with this stage of the *chaîne opératoire*.

If data regarding textile production remains less than forthcoming, for textile consumption the panorama is even more limited. In particular, no information is available regarding the more than likely import of fine textiles, and possibly garments, during this period. Given the fame of and appreciation for Phoenician textiles – and particularly dyed textiles – in the Ancient Mediterranean (García Vargas 2010), it seems

difficult to accept that they played no role in the trade between the Levantine groups settled in southern Iberia and their descendants and the local communities of Southern Portugal. It is likely that textiles played an economic, but also a socio-ideological role at least as important as that of other prestige goods (Almagro-Gorbea 2008a; Ferrer Albelda 2022), but their perishable character means that they are almost always overlooked and disregarded.

The only exception to this rule can be found in some discussions surrounding certain styles of decorated pottery which appear regionally in the Late Bronze Age and continue to be popular during the earlier stages of the Iron Age (Cáceres Gutiérrez 1997). During the latter period, different styles of painted pottery – such as the "Carambolo style" and "Medellín style" wares – sport geometric decorations in repetitive patterns, often filled with reticulated motifs which seem evocative of the woven structure of fabrics and even, on occasions, of stitching or embroidery (Casado Ariza 2015; Rodríguez González – Celestino Pérez 2019; Naranjo 2020). Several authors have suggested that the spread of these decorative styles may correlate to the diffusion of high-end textiles, most likely imported and consumed by high-status individuals within local communities (Ruiz-Gálvez 1993: 56; 1998: 255; Cáceres Gutiérrez 1997).

While this hypothesis seems at least suggestive and should be further explored through new comparative and experimental approaches in the future, the truth is that very little is known about the uses of these putative fabrics – or, for that matter, any others – by local communities. The only major source of information available about dress styles and their significance are the metallic dress complements, which become much more abundant and diverse during the Iron Age than they had been in the preceding period (Arruda – Vilaça – Gomes 2022; see also Gomes 2022).

Fibulae are the most abundant among these complements (Ponte 2006), and the Early Iron Age sees the adoption by local communities of a series of models broadly distributed throughout Southwestern Iberia (Arruda – Vilaça – Gomes 2022: 85-95). These different models – first the double spring type, and later a range of bilateral spring models (the so-called "Alcores", "Acebuchal" and "Bencarrón" types) – seem to be essentially regional creations, possibly hailing, for the most part, from the Lower Andalusia region of Spain, but which became part of widespread and transcultural fashions and languages of power and status.

Towards the middle of the 1st millennium BCE, regional "Orientalizing" models are progressively replaced by different types of Annular Hispanic fibulae (Ponte 2006: 156-218), which were very widespread in all of Mediterranean Iberia, and which became the most popular model among local communities of Southern Portugal from the 5th century BCE on (Gomes 2022: 17-19), showing their continued ties with Southern Iberia and the Mediterranean.

During the Late Iron Age, however, other models also make their appearance in Southern Portuguese repertoires, which appear to reflect other cultural influences, and namely ties with the Celtiberian world of the interior of the Peninsula and the expansion of Celtic groups in the area (Ponte 2006: 233-244). In this context, the varying proportions of each type of fibulae in some regional assemblages may indicate that they reflect differing cultural influences and affinities, with the preponderance of Annular Hispanic model brooches pointing towards continued meridional and Mediterranean ties, while early La Tène models and their regional variants may indicate a stronger Celtic presence or influence (Gomes 2022: 19-20).

The other major group of metallic dress complements documented throughout the regional Iron Age are the so-called belt-buckles – a diverse group of fastenings for belts and sashes. This type of pieces first makes its appearance during the Early Iron Age, a period in which two different models seem to co-exist: the improperly called "Tartessian" and "Celtic" belt buckles (Arruda – Vilaça – Gomes 2022: 95-109).[2]

While the so-called "Tartessian" belt buckles do not seem to outlast the Early Iron Age, the "Celtic" group keeps developing throughout the central centuries of the 1st millennium BCE, but its offshoots become rarer in Southern Portuguese contexts, where no variants later than the 5th or possibly the 4th century are attested (Gomes 2022: 24-25).

During the latter century, however, some examples of the so-called "Iberian" type belt buckles are attested,

[2] It has long been recognized that the ethnonyms applied to these belt-buckles do not reflect the cultural setting or the distribution of these pieces. They are used here merely as typological labels, and not in any historical-cultural sense.

but only in the necropolis of Alcácer do Sal (Gomes 2022: 25-26). The distribution of this type of dress complements shows concentrations on the Iberian cultural area of the Eastern Peninsula and in the Celtiberian area of the inner Peninsula (Graells *et al*. 2018). The presence and distribution of these complements therefore show that regional communities were open to dress styles and fashions originating in, or at least shared with, other areas – a clear index of the comparative openness and connectivity of local groups, or at least their elites.

Finally, when talking about metallic dress complements, a quick mention must also be made to a series of objects which have been interpreted as buttons or, perhaps more likely, decorative appliques. By far the most well-studied are a group of gold buttons, some of which produced with "Orientalizing" techniques and sporting "Orientalizing" motifs (Vilaça – Armbruster 2012; see also Arruda – Vilaça – Gomes 2022: 109-117). These may have appeared at the end of the Late Bronze Age, and large concentrations are known, hailing from deposits (Vilaça *et al*. 2014; Soares *et al*. 2017) and, in one remarkable case, from a Phoenician-type sanctuary within a Late Bronze Age settlement where they seem to have been part of a garment deposited as an offering (Berrocal-Rangel – Silva 2010: 321-326).

The way in which these dress complements were worn is, however, difficult to assess. Sources regarding the actual garments and the position of these complements are scarce. Data from funerary contexts, for example, are limited, both due to cultural factors – namely the widespread use of cremation as a form of funerary treatment – and due to the history of research. The only useful data for this discussion come from the more recently excavated Early Iron Age inhumation necropoleis of the Beja region (see contributions in Jiménez Ávila 2017).

Here, despite the preliminary state of publication of many sites, it has been possible to note for the first time a gendered distribution of dress complements, with "Tartessian" belt buckles being primarily associated with female burials and "Celtic" belt buckles with male burials; fibulae, on the other hand, are found in burials of both sexes, but specific models may have also been associated with just one specific sex or gender (Gomes forthcoming). These patterns are similar to those found in other Early Iron Age necropoleis of Southwestern Iberia (Almagro-Gorbea 2008b; Fernández Flores *et al.* 2014), and strongly suggest that each sex wore a different and recognizable attire.

This being said, it should be noted that these brooches and fastenings may not always have been deposited in graves as dress complements. In fact, the anthropological study of the Early Iron Age necropolis of La Angorrilla, in Seville, together with the study of the position of buckles in the tombs, has highlighted the possibility that at least some of the deceased were buried with textile wrappings or shrouds (López Flores 2014: 569), thus affording further insights into the multiple uses and significances of textiles in these funerary settings. A similar possibility has been proposed for some Portuguese burials of the aforementioned Beja region necropoleis, although there it was the anomalous position of fibulae which caught the excavators' attention (Figueiredo – Mataloto 2017: 387).

Finally, when considering the possible sources for an understanding of garments for the period under analysis, it is also worth mentioning, albeit briefly, the possible contributions of iconography. These are limited, as anthropomorphic representations are very rare in the regional Iron Age iconographic repertoire, and many of the existing human representations are naked. Still, a couple of late epigraphic stelae in the so-called "Southwestern script" sporting human figures should be noted here (Guerra 2017), and namely the stela of Abóbada (Ourique), from the late 5th or early 4th century, which shows a warrior figure (Dias – Coelho 1970: 187) in what appears to be a tunica cinched at the waist with vertical stripes which could either indicate a specific woven pattern, draping, or just generally represent the woven structure of the fabric (Fig. 8A).

Another representation of interest can be found in Panel 3 of the rock art site of Mocissos (Alandroal), in the Middle Guadiana valley. The main focus of this panel is a hunting scene, possibly dating from the 5th century BCE, centred on a hunter on horseback which is represented wearing what appears to be an open front tunic cinched at the waist by a tight belt (Baptista – Santos 2013: Fig. 75) (Fig. 8B).

Other representations offer less information but are still worth mentioning. The so-called "smiting god" from Azougada (Moura) (Gomes 1983) does not show many details of the clothing worn by this likely divine

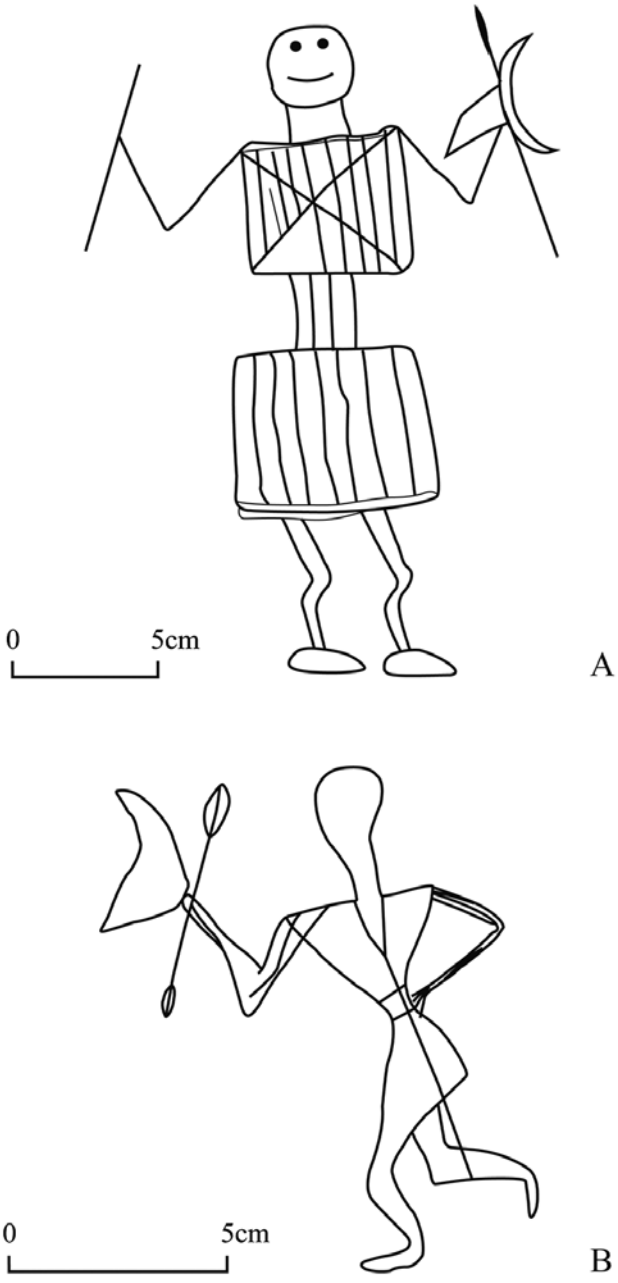


FIG. 8 Iconographic representations of dressed human figures from the Southern Portuguese Iron Age: A) Warrior from the Abóbada stela (Almodôvar); B) Hunter from the rock art panel of Mocissos 3 (Alandroal) (elaborated by the authors, based on Dias – Coelho 1970; Baptista – Santos 2013).

figure, although the presence of what appears to be a belt or sash is once again worth noting. The same could be said of an *ex voto* bronze figurine representing another warrior found in the Castle of Alcácer do Sal (Gomes 2008: 67) and probably dated in the 4th century BCE, in which the only highlighted aspect of dress is, once again, a belt or sash. Other comparable figurines from the site do not feature any details relating to clothing.

3. DRESSING THE SOUTHERN PORTUGUESE IRON AGE: FINAL REMARKS AND RESEARCH PERSPECTIVES

The overview of the (mostly indirect) data about textiles and dress in the Iron Age of Southern Portugal clearly shows that, while the actual fabrics themselves have not been preserved, there are nonetheless several avenues of inquiry which may lead to a better understanding of the economic, social, and cultural role of textiles and textile production during the 1st millennium BCE in this region. This contribution offers a preliminary and necessarily cursory inventory of the sources which may be used and, to an extent, of the approaches which may be deployed in order to achieve such an understanding.

Nonetheless, it is apparent that a great investment is still required on a number of fronts. With regard to the palaeoecological data on the production and procurement of textile fibres, it seems clear that a more focused approach to the palaeobotanical record is still necessary in order to identify potential markers of plant species cultivated for textile purposes, especially flax (cf. Orendi 2020; Cassuto – Orendi – Shai 2022).

As for the zooarchaeological data, the challenges for the future lay not so much in gathering primary material – although an expansion of the existing database is certainly desirable – but rather on broadening the scope of their study beyond diet and into other types of secondary product exploitation, namely fibre production. As mentioned earlier, there are real challenges in exploring this topic through conventional zooarchaeological studies. However, new and increasingly common interdisciplinary research methods such as ZooMS (Richter *et al*. 2022), proteomics (Hendy – van Doorn – Collins 2020) and aDNA (Sabatini *et al*. 2019) offer a wide range of possibilities for future research. The application of such methods to Portuguese samples in the future will hopefully shed further light on the topic of wool production, its introduction, development, and socioeconomic impact.

With regard to spinning and weaving, and while the evidence is somewhat more consistent, more systematic research is also required to unlock the full informative potential of the relatively abundant textile tools documented in Southern Portuguese Iron Age sites. Detailed technological studies of these

tools are still scarce, and more focused approaches are needed to gather data for proper morphometric and statistical work.

Furthermore, such morpho-technological approaches need to be complemented by other approaches which have yet to be applied to the Portuguese material at all. These include the analysis of use-wear marks on tools (cf. Forte – Lemorini 2017; Żebrowska 2020; Spinazzi-Luchesi 2022), which should ideally be coupled with experimental approaches, which in Southern Portugal have as of yet been limited to the Prehistoric material (Priola 2023).

On the other hand, it seems worth to pursue further the contextual analysis of the distribution of textile tools on different scales. Despite the apparent panorama of generalized and decentralized production outlined above, it would be important to analyse in more detail the spatial pattern of textile production with regard to aspects such as land and resource availability on a regional scale. On a more local approach, studies of the specific spaces of production are still required to understand the integration of textile activities with other crafts, as well as with other aspects of daily life.

Finally, on the uses of textiles, especially for dress, it is worth noting again that this is a challenging topic to approach with the available evidence. However, there is still potential to extract further information from the dress complements discussed above, namely through in-depth morphometric analyses (cf. Stig Sørensen 1997) and the study of potential use-wear and breakage patterns (cf. Graells – Camacho – Lorrio 2022). Experimental approaches should also be devised to test the use potential parameters for each type of complement when combined with different fabrics of different qualities and thicknesses arranged in various ways which are consistent with what is known of contemporary dress styles in the Western Mediterranean.

This outline of possible avenues for future research is in no way meant to disguise the inherent difficulties of studying textile production and use in the Southern Portuguese Iron Age. Apart from the challenges posed by the available documentation itself, which have already been stressed, the possible future work outlined here would require considerable human and material resources, the development of as of yet unavailable know-how, but also of continued and sustained interdisciplinary dialogue and collaboration. However, and while recognising these challenges is important, the outlook of this synthesis is optimistic. The panorama presented above shows the considerable potential for further studies, and it can only be hoped that this contribution will serve both as a tool and a stimulus for the development of new and innovative research on this topic.

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POLÍTICA EDITORIAL

Objectivos

A Ophiussa – Revista do Centro de Arqueologia da Universidade de Lisboa foi iniciada sob a direcção de Victor S. Gonçalves em 1996, tendo sido editado o volume 0. A partir do volume 1 (2017), a Revista Ophiussa converte-se numa edição impressa e digital da UNIARQ – Centro de Arqueologia da Universidade de Lisboa (ISSN 1645-653X / E-ISSN 2184-173X).

O principal objectivo desta revista é a publicação e divulgação de trabalhos com manifesto interesse, qualidade e rigor científico sobre temas de Pré-História e Arqueologia, sobretudo do território europeu e da bacia do Mediterrâneo.

Periodicidade

A Ophiussa – Revista do Centro de Arqueologia da Universidade de Lisboa publicará um volume anual. O período de submissão de trabalhos decorrerá sempre no primeiro semestre e a edição ocorrerá no último trimestre de cada ano.

Secções da revista

A revista divide-se em duas secções: artigos científicos e recensões bibliográficas. Excepcionalmente poderão ser aceites textos de carácter introdutório, no âmbito de homenagens ou divulgações específicas, que não serão submetidos à avaliação por pares. Isentas desta avaliação estão também as recensões bibliográficas.

Os autores / editores que pretendam apresentar uma obra para recensão devem enviar dois exemplares para a direcção da Revista Ophiussa: um para o autor/autora da recensão que será convidado para o efeito e outro para a Biblioteca da Faculdade de Letras da Universidade de Lisboa. Aceita-se igualmente a apresentação de propostas de recensões espontâneas.

Aceitam-se trabalhos redigidos em português, inglês, espanhol, italiano e francês.

Processo de avaliação por pares

Os artigos submetidos são sujeitos a um processo de avaliação por parte de revisores externos (double blind peer review).

Todas as submissões (artigos e recensões) serão avaliadas, em primeira instância, pela Coordenação Editorial, no que respeita ao seu conteúdo formal e à sua adequação face à política editorial e às normas de edição da revista. Os artigos que cumprirem estes requisitos serão posteriormente submetidos a um processo de avaliação por pares cega / double blind peer review (mínimo de dois revisores). O Conselho Científico, constituído pela direcção da UNIARQ e por investigadores externos, acompanhará o processo de edição.

Esta etapa será concretizada por investigadores externos qualificados, sendo os respectivos pareceres entregues num período não superior a três meses. Os revisores procederão à avaliação de forma objectiva, tendo em vista a qualidade do conteúdo da revista; as suas críticas, sugestões e comentários serão, na medida do possível, construtivos, respeitando as capacidades intelectuais do(s) autor(es). Após a recepção dos pareceres, o(s) autor(es) tem um prazo máximo de um mês para proceder às alterações oportunas e reenviar o trabalho.

A aceitação ou recusa de artigos terá como únicos factores de ponderação a sua originalidade e qualidade científica.

O processo de revisão é confidencial, estando assegurado o anonimato dos avaliadores e dos autores dos trabalhos, neste último caso até à data da sua publicação.

Os trabalhos só serão aceites para publicação a partir do momento em que se conclua o processo da revisão por pares. Os textos que não forem aceites serão devolvidos aos seus autores.

A lista dos avaliadores será publicada em ciclos de 3 anos, indicada no final da Revista Ophiussa (versão impressa e digital).

Ética na publicação

A Revista Ophiussa segue as orientações estabelecidas pelo Commitee on Publication Ethics (COPE, Comité de Ética em Publicações): https://publicationethics.org/

Apenas serão publicados artigos originais. Para efeito de detecção de plágio ou duplicidade será utilizada a plataforma URKUNDU (https://www.urkund.com/pt-br/). Serão rejeitadas práticas como a deformação ou invenção de dados. Os autores têm a responsabilidade de garantir que os trabalhos são originais e inéditos, fruto do consenso de todos os autores e cumprem com a legalidade vigente, dispondo de todas autorizações necessárias. Os artigos que não cumpram com estas normas éticas serão rejeitados.

As colaborações submetidas para publicação devem ser inéditas. As propostas de artigo não podem incluir qualquer problema de falsificação ou de plágio. As ilustrações que não sejam do(s) autor(es) devem indicar a sua procedência. O Conselho Científico e a Coordenação Editorial assumem que os autores solicitaram e receberam autorização para a reprodução dessas ilustrações, e, como tal, rejeitam a responsabilidade do uso não autorizado das ilustrações e das consequências legais por infracção de direitos de propriedade intelectual.

É assumido que todos os Autores fizeram uma contribuição relevante para a pesquisa reportada e concordam com o manuscrito submetido. Os Autores devem declarar de forma clara eventuais conflitos de interesse. As colaborações submetidas que, direta ou indiretamente, tiveram o apoio económico de terceiros, devem claramente declarar essas fontes de financiamento.

Os textos propostos para publicação devem ser inéditos e não deverão ter sido submetidos a qualquer outra revista ou edição electrónica.

O conteúdo dos trabalhos é da inteira responsabilidade do(s) autor(es) e não expressa a posição ou opinião do Conselho Científico ou da Coordenação Editorial.

O processo editorial decorrerá de forma objectiva, imparcial e anónima. Erros ou problemas detetados após a publicação serão investigados e, se comprovados, haverá lugar à publicação de correções, retratações e/ou respostas.

Serão considerados os seguintes princípios éticos:

1) RESPONSABILIDADE

A Revista Ophiussa através dos editores e autores tem a responsabilidade absoluta de aprovação, condenando todas as más práticas da publicação científica.

2) FRAUDE CIENTÍFICA:
A Revista Ophiussa procurará detectar manipulação e falsificação de dados, plágio ou duplicidade, com os mecanismos de detecção adequados.

3) POLÍTICA EDITORIAL E PROCEDIMENTOS
a) Os autores devem ter participado no processo de investigação e do processo de revisão, devendo garantir que os dados incluídos são reais e autênticos e estando obrigados a emitir retracções e correcções de erros de artigos publicados;
b) Os revisores devem efectuar uma revisão objectiva e confidencial e não ter conflitos de interesse (investigação, autores ou financiadores), devendo indicar obras publicadas relevantes que não foram citadas;
c) Na detecção de fraude ou má prática em fase de avaliação deve ser indicada pelos revisores e na fase de pós publicação por qualquer leitor.
d) Em caso de detecção de más práticas em fase de avaliação ou de detecção de artigos publicados previamente, o Conselho Editorial remeterá a ocorrência ao autor estabelecendo um prazo de 7 dias para esclarecimento, sendo posteriormente avaliada pelo Conselho de Redacção. Em fase de pós publicação, o Conselho Editorial poderá arquivar ou determinar a retratação num número seguinte, indicando-se os trâmites prévios.

Política de preservação de arquivos digitais
A revista garante a acessibilidade permanente dos objectos digitais através de cópias de segurança, utilização de DOI, integrando a rede Public Knowledge Project's Private LOCKSS Network (PKP-PLN), que gera um sistema de arquivo descentralizado.
Relativamente ao auto-arquivo, a revista integra também o Sherpa/Romeu
(https://v2.sherpa.ac.uk/id/publication/41841).

Política de acesso aberto
Esta edição disponibiliza de imediato e gratuitamente a totalidade dos seus conteúdos, em acesso aberto, de forma a promover, globalmente, a circulação e intercâmbio dos resultados da investigação científica e do conhecimento. A edição segue as directrizes Creative Commons (licença CC/BY/NC/ND 4.0).
A publicação de textos na Ophiussa – Revista do Centro de Arqueologia da Universidade de Lisboa não implica o pagamento de qualquer taxa nem dá direito a qualquer remuneração económica.
Esta publicação dispõe de uma versão impressa, a preto e branco, com uma tiragem limitada, que será distribuída gratuitamente pelas bibliotecas e instituições mais relevantes internacionalmente, e intercambiada com publicações periódicas da mesma especialidade, que serão integradas na Biblioteca da Faculdade de Letras da Universidade de Lisboa. Conta, paralelamente, com uma versão digital, a cores, disponibilizada em acesso livre.

Para mais informações contactar:
ophiussa@letras.ulisboa.pt

EDITORIAL POLICY

Objectives
Ophiussa – Revista do Centro de Arqueologia da Universidade de Lisboa started under the direction of Victor S. Gonçalves in 1996, with the edition of volume 0. After Volume 1 (2017) it became a printed and digital edition of UNIARQ – Centro de Arqueologia da Universidade de Lisboa (ISSN 1645-653X / E-ISSN 2184-173X).
The main objective of this journal is the publication and dissemination of papers of interest, quality and scientific rigor concerning Prehistory and Archeology, mostly from Europe and the Mediterranean basin.

Periodicity
Ophiussa – Revista do Centro de Arqueologia da Universidade de Lisboa will publish an annual volume. The submission period will always occur in the first quarter of each year and the edition will occur in the last quarter.

Journal sections
The journal is divided into two sections: scientific articles and bibliographic reviews. Exceptionally, texts of an introductory nature may be accepted, in the context of specific tributes or divulgations, which will not be submitted to peer-review evaluation. Exemptions from this evaluation are also the bibliographic reviews.
Authors / editors wishing to submit a book for review should send two copies to the direction of Revista Ophiussa: one to the author of the review who will be invited for the purpose and another to the Library of the School of Arts and Humanities of the University of Lisbon. Spontaneous proposals are also accepted.
Papers written in Portuguese, English, Spanish, Italian and French are accepted.

Peer review process
Submitted articles are subject to a double blind peer-review evaluation process.
All submissions (articles and reviews) will be considered, in the first instance, by the Editorial Board, regarding its formal content and adequacy in face of the editorial policy and the journal editing standards. Articles that meet these requirements will subsequently be submitted to a blind peer-review process (minimum of two reviewers). The Scientific Council, constituted by UNIARQ direction and external researchers, will follow the editing process.
This stage will be carried out by qualified researchers, and their feedback will be delivered within a period of no more than two months. The reviewers will carry out the evaluation in an objective manner, in view of the quality and content of the journal; their criticisms, suggestions and comments will be, as far as possible, constructive, respecting the intellectual abilities of the author(s). After receiving the feedback, the author(s) has a maximum period of one month to make the necessary changes and resubmit the work.
Acceptance or refusal of articles will have as sole factors of consideration their originality and scientific quality.

The review process is confidential, with the anonymity of the evaluators and authors of the works being ensured, in the latter case, up to the date of its publication.
Papers will only be accepted for publication as soon as the peer review process is completed. Texts that are not accepted will be returned to their authors.
The list of reviewers will be published in 3-year cycles, indicated at the end of *Ophiussa* (printed and digital version).

Publication ethics

The Journal Ophiussa follows the guidelines established by the Commitee on Publication Ethics (COPE, the Ethics Committee Publications): https://publicationethics.org/
Only original papers will be published. For the purpose of detecting plagiarism or duplicity, the URKUNDU platform (https://www.urkund.com/pt-br/) will be used. Practices such as the deformation or invention of data will be rejected. Authors are responsible for ensuring that the works are original and unpublished, the result of the consensus of all authors, and comply with current legality, having all necessary authorizations. Articles that do not comply with these ethical standards will be rejected.
Contributions submitted for publication must be unpublished. Article submissions can not include any problem of forgery or plagiarism. Illustrations that are not from the author(s) must indicate their origin. The Scientific Council and Editorial Board assume that the authors have requested and received permission to reproduce these illustrations and, as such, reject the responsibility for the unauthorized use of the illustrations and legal consequences for infringement of intellectual property rights.
It is assumed that all Authors have made a relevant contribution to the reported research and agree with the manuscript submitted. Authors must clearly state any conflicts of interest. Collaborations submitted that directly or indirectly had the financial support of third parties must clearly state these sources of funding.
Texts proposed for publication must be unpublished and should not have been submitted to any other journal or electronic edition.
The content of the works is entirely the responsibility of the author(s) and does not express the position or opinion of the Scientific Council or Editorial Board.
The editorial process will be conducted objectively, impartially and anonymously. Errors or problems detected after publication will be investigated and, if proven, corrections, retractions and / or responses will be published.
The following ethical principles will be considered:

1) RESPONSIBILITY:
Ophiussa through its editors and authors has the absolute responsibility for approval, condemning all bad practices of scientific publication.

2) SCIENTIFIC FRAUD
Ophiussa will seek to detect manipulation and falsification of data, plagiarism or duplicity, with the appropriate detection mechanisms.

3) Editorial policy and procedures:
a) Authors must have participated in the research process and in the review process, and must ensure that the data included is real and authentic and are obliged to issue retractions and corrections of errors of published articles;
b) Reviewers must carry out an objective and confidential review and have no conflicts of interest (research, authors or funders), and must indicate relevant published works that were not cited;
c) In the detection of fraud or malpractice in the evaluation phase, it must be indicated by the reviewers and in the post-publication phase by any reader.
d) In case of detection of bad practices in the evaluation phase or of detection of previously published articles, the Editorial Board will send the occurrence to the author, establishing a period of 7 days for clarification, which will be subsequently evaluated by the Editorial Board. In the post-publication phase, the Editorial Board may file or determine the retraction in a subsequent issue, indicating the previous procedures.

Digital file preservation policy

The journal guarantees the permanent accessibility of digital objects through backup copies and use of DOI, integrating the Public Knowledge Project's Private LOCKSS Network (PKP-PLN), which generates a decentralized file system.
Regarding the self-archiving, the magazine also includes Sherpa/Romeu
(https://v2.sherpa.ac.uk/id/publication/41841).

Open access policy

This edition immediately and freely provides all of its content, in open access, in order to promote global circulation and exchange of scientific research and knowledge. If follows Creative Commons guidelines (license CC/BY/NC/ND 4.0).
The publication of texts in *Ophiussa* – Revista do Centro de Arqueologia da Universidade de Lisboa does not imply the payment of any fee nor does it entitle to any economic remuneration.
This publication has a limited printed edition in black and white, which will be distributed free of charge by the most relevant international libraries and institutions, and exchanged with periodicals of the same specialty, which will be integrated in the Library of School of Arts and Humanities of the University of Lisbon. It also has a digital version, in color, available in open acess.

For more information contact:
ophiussa@letras.ulisboa.pt

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REVISTA DO CENTRO DE ARQUEOLOGIA DA UNIVERSIDADE DE LISBOA

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