

OPHIUSSA

REVISTA DO CENTRO DE ARQUEOLOGIA DA UNIVERSIDADE DE LISBOA

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



OPHIUSSA

REVISTA DO CENTRO DE ARQUEOLOGIA DA UNIVERSIDADE DE LISBOA



OPHIUSSA REVISTA DO CENTRO DE ARQUEOLOGIA DA UNIVERSIDADE DE LISBOA

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

Volume 6 - 2022

DIRECÇÃO E COORDENAÇÃO EDITORIAL

Ana Catarina Sousa

Elisa Sousa

CONSELHO CIENTÍFICO

André Teixeira

UNIVERSIDADE NOVA DE LISBOA

Carlos Fabião

UNIVERSIDADE DE LISBOA

Catarina Viegas

UNIVERSIDADE DE LISBOA

Gloria Mora

UNIVERSIDAD AUTÓNOMA DE MADRID

Grégor Marchand

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

João Pedro Bernardes

UNIVERSIDADE DO ALGARVE

José Remesal

UNIVERSIDADE DE BARCELONA

Leonor Rocha

UNIVERSIDADE DE ÉVORA

Manuela Martins

UNIVERSIDADE DO MINHO

Maria Barroso Gonçalves

INSTITUTO SUPERIOR DE CIÊNCIAS DO TRABALHO E DA EMPRESA

Mariana Diniz

UNIVERSIDADE DE LISBOA

Raquel Vilaça

UNIVERSIDADE DE COIMBRA

Victor S. Gonçalves

UNIVERSIDADE DE LISBOA

Xavier Terradas Battle

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

SECRETARIADO

André Pereira

CAPA

Desdobramento da decoração do «ídolo» cilíndrico oculado da Herdade da Cariola. Desenho Guida Casella a partir de fotos VSG.

COORDENADOR DAS RECENSÕES E REVISOR DE ESTILO

Francisco B. Gomes

PAGINAÇÃO

TVM Designers

IMPRESSÃO

AGIR – Produções Gráficas

DATA DE IMPRESSÃO

Dezembro de 2022

EDIÇÃO IMPRESSA (PRETO E BRANCO)

300 exemplares

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

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

DEPÓSITO LEGAL 190404/03

A edição segue as directrizes Creative Commons (licença CC/BY/NC/ND 4.0).



Copyright ©Revista Ophiussa 2022

EDIÇÃO

UNIARQ – Centro de Arqueologia da Universidade de Lisboa, Faculdade de Letras de Lisboa 1600-214 Lisboa.

www.uniarq.netwww.ophiussa.lettras.ulisboa.ptuniarq@lettras.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 e UIDP/00698/2020.

ÍNDICE

Pequenos sítios, objectos perdidos, artefactos sem contexto. 3. O «ídolo cilíndrico» de Ervidel (Herdade da Cariola) VICTOR S. GONÇALVES	5
<i>Heads & tails</i> : Bell Beakers and the cultural role of Montejunto Mountain (Portugal) during the second half of the 3 rd millennium BC ANA CATARINA BASÍLIO	23
O conjunto faunístico do Cerro dos Castelos de São Brás (Serpa, Portugal) no 3.º milénio a.n.e.: entre a <i>antroposfera</i> e a <i>zooesfera</i> FREDERICO AGOSTO	43
The materialization of an iconography: a LBA/EIA metallic representation of an “anchoriform” or “anchor idol” (?) from the Fraga dos Corvos habitat site (Eastern Trás-os-Montes, Portugal) JOÃO CARLOS SENNA-MARTINEZ, ELSA LUÍS, CARLOS MENDES, PEDRO VALÉRIO, MARIA DE FÁTIMA ARAÚJO, ANTÓNIO M. MONGE SOARES	69
A necrópole do Cerro do Ouro (Ourique): reflexões sobre os enterramentos em urna nas necrópoles tumulares do Baixo Alentejo FRANCISCO B. GOMES	85
O sítio arqueológico de Arruelas (Maiorca, Figueira da Foz, Portugal) no contexto da Conquista Romana do Ocidente Peninsular FLÁVIO IMPERIAL	105
A importação de ânforas do Tipo <i>Urceus</i> em Monte dos Castelinhos, Vila Franca de Xira JOÃO PIMENTA, HENRIQUE MENDES	127
<i>Traianeum</i> de <i>Italica</i> . Campaña arqueológica 2016/2017 SEBASTIÁN VARGAS-VÁZQUEZ	143
El asentamiento rural romano de la Venta El Parrao (Alcalá de Guadaíra, España): Nuevos datos arqueológicos LUIS-GETHSEMANÍ PÉREZ-AGUILAR, SALVADOR ORDÓÑEZ AGULLA	163
A ocupação romana da Lezíria (Castro Marim, Portugal) ANA MARGARIDA ARRUDA, MARGARIDA RODRIGUES	187
Os recursos animais no Noroeste da Lusitânia do período republicano à Antiguidade Tardia (Séculos II a.C. - VII d.C.): Uma perspectiva a partir das evidências zooarqueológicas do centro de Portugal PATRÍCIA ALEIXO, GIL VILARINHO	209
Recensões bibliográficas (TEXTOS: FREDERICO AGOSTO, ANA MARGARIDA ARRUDA)	231
<i>In memoriam</i>	243
Política editorial	246
Editorial policy	247

The materialization of an iconography: a LBA/EIA metallic representation of an “anchoriform” or “anchor idol” (?) from the Fraga dos Corvos habitat site (Eastern Trás-os-Montes, Portugal)

**Uma materialização de um símbolo iconográfico:
a representação metálica do Bronze Final/Primeira
Idade do Ferro de um “ancoriforme” (?) do habitat
da Fraga dos Corvos (Trás-os-Montes Oriental, Portugal)**

JOÃO CARLOS SENNA-MARTINEZ (1948-2022)

UNIARQ – Centre for Archaeology of the University of Lisbon
<https://orcid.org/0000-0003-3244-9518>

ELSA LUÍS

UNIARQ – Centre for Archaeology of the University of Lisbon
elsavluis@gmail.com
<https://orcid.org/0000-0002-3498-316X>

CARLOS MENDES

UNIARQ – Centre for Archaeology of the University of Lisbon;
Associação Terras Quentes.
administracao@terrasquentes.pt
<https://orcid.org/0000-0002-1248-6461>

PEDRO VALÉRIO

Centro de Ciências e Tecnologias Nucleares (C2TN),
Instituto Superior Técnico, Universidade de Lisboa
pvalerio@ctn.tecnico.ulisboa.pt
<https://orcid.org/0000-0002-3726-6975>

MARIA DE FÁTIMA ARAÚJO

Centro de Ciências e Tecnologias Nucleares (C2TN), Departamento de Engenharia
e Ciências Nucleares, Instituto Superior Técnico, Universidade de Lisboa
faraujo@ctn.tecnico.ulisboa.pt
<https://orcid.org/0000-0001-9192-9461>

ANTÓNIO M. MONGE SOARES

Centro de Ciências e Tecnologias Nucleares (C2TN),
Instituto Superior Técnico, Universidade de Lisboa
amsoares@ctn.tecnico.ulisboa.pt
<https://orcid.org/0000-0001-7112-0649>

ABSTRACT: A metallic artefact recorded in a LBA/EIA context in Northern Portugal, which can be one of the first known material representations of the so-called Southwestern Bronze Age “anchoriform” or “anchor idol”, is presented. The artefact comes from an intrusive LBA/EIA context into a MBA level at the hilltop settlement of Fraga dos Corvos (Macedo de Cavaleiros, Bragança, Northern Portugal). It is made of a ternary bronze alloy (Cu-Sn-Pb), consequently integrating the impressive Fraga dos Corvos collection of bronze artefacts currently known, whose affiliation, whether typological or in terms of chemical composition, should be mostly sought in Southwestern Iberian Peninsula. The significance of the presence of such artefact in this archaeological site is discussed, taking into account that it is chronologically and geographically far away from its cultural source.

KEYWORDS: LBA/EIA; Southwestern Bronze Age; Ideotechnic artefact; Radiocarbon dating; Archaeometallurgy.

RESUMO: Apresenta-se o que pensamos poder ser uma das primeiras materializações encontradas de um artefacto ideotécnico do Bronze Final/Primeira Idade do Ferro, o chamado “ancoriforme” do Bronze do Sudoeste, conhecido por representações iconográficas em lajes ou estelas existentes em contextos funerários desta época, eventualmente com um precedente anterior. O artefacto aqui em estudo tipológico e analítico provém de uma deposição intrusiva do Bronze Final/Primeira Idade do Ferro em níveis estratigráficos do Bronze Médio no sítio de habitat da Fraga dos Corvos (Macedo de Cavaleiros, Bragança, Trás-os Montes Oriental). A análise química não destrutiva a que foi sujeito permitiu verificar ser feito de uma liga de bronze ternária, integrável na importante colecção de artefactos metálicos da Fraga dos Corvos, a qual constitui, talvez, o mais importante conjunto artefactual do Bronze Final/Primeira Idade do Ferro com filiações meridionais actualmente conhecido no Norte de Portugal. O significado da presença deste artefacto situado longe, temporal e geograficamente, da provável origem cultural de seu modelo é também discutido.

PALAVRAS-CHAVE: Bronze Final/Primeira Idade do Ferro; Bronze do Sudoeste; Artefacto ideotécnico; Arqueometalurgia; Datação por radiocarbono.

1. INTRODUCTION

One of the most enigmatic iconographic representations of Western Iberian Bronze Age is the so called *anchoriform* or *anchor idol* of its southwestern cultural area (Schubart 1975: 100-109). Up to now, this *anchoriform* was only known in Iberia from its depiction in the engraved stelae and lid slabs of cist graves of the Southwestern Bronze Age (SWBA) Culture of the Iberian Peninsula, with its core area encompassing the Portuguese South (the entire region south of the Évora parallel), the province of Huelva and part of that of Badajoz, in Spain. There are only two known representations outside the Iberian Southwest: the statue-menhir of Corgas, at Fundão, Beira Interior (Banha – Veiga – Ferro 2009), which corresponds to the northernmost known limit of this kind of depictions, and the El Torcal stela, at Córdoba province, therefore far to the east of the core region of these depictions, and whose attribution to this group of engraved stones has been the subject of some controversy (Muñiz Jaén 1995).

The finding of a metallic artefact, FCORV-1807, in north-eastern Portugal with a shape similar to the symbol in question is here published for the first time¹. We present and discuss its shape, typology, metallic characteristics and archaeometallurgic analytical results, probable chronology, as well as its possible meaning and implication for our knowledge of the Bronze Age of Western Iberia and its societies.

2. THE SITE, THE ARTEFACT AND RELATED ARCHAEOLOGICAL CONTEXTS

Fraga do Corvos (FCORV) is a hilltop habitat site, under study since 2003, located in the north-western

¹ A first presentation and discussion of this artefact was held at a meeting at Uniarg, predating the actual pandemic situation, in 2018-10-16. The problems created by a bronze ternary alloy, as revealed by the chemical analysis of the artefact, which was recovered in a context then ascribed to a MBA stratigraphic unit, substantiated further reflexion and study before the artefact should be published, which led to the fact that it was only now possible to go ahead with this publication.

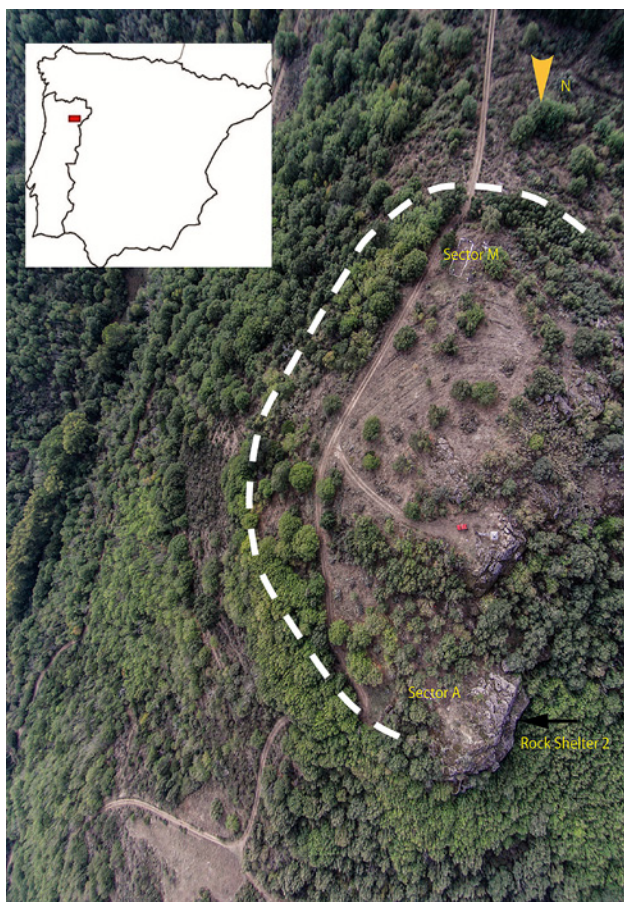


FIG. 1 Oblique aerial photograph of the site of Fraga dos Corvos (2004) and its setting in the Iberian Peninsula. The main features are highlighted, namely the Rock Shelter 2, just close to Sector A, while the white broken line indicates the wall that follows and stabilizes the slope that surrounds the archaeological site.

slope of Serra de Bornes, Eastern Trás-os-Montes (Fig. 1). With an altitude of 870 m, it rises over the modern parish of Vilar do Monte (municipality of Macedo de Cavaleiros, district of Bragança).

The site was identified as a Bronze Age settlement during 2003. The archaeological digging of its Sector A (2003-2011) – a platform with a gentle slope tilted to the northeast – brought to light a MBA occupation, documented in two areas: Area 3 with the dimension of 36 m² and Area 2 with 101 m², only 3 meters away from each other (see also Senna-Martinez *et al.* 2011: Figs. 2 and 3, for a more complete geographical setting of the site).

In **Area 3** only one occupation phase corresponding to a domestic context was found, which consists of two huts – Huts 2 and 4 – and a porch (Hut 6) adjacent to the western limit of Hut 4. Besides these structures, a very likely foundry facility was also recorded (Senna-Martinez *et al.* 2010: Figs. 10.2 and 10.3), apparently associated to Hut 4 and to the porch (Fig. 2).

In the area inside the oval structure corresponding to the Hut 4, which is defined by several post-holes (Senna-Martinez *et al.* 2010), a negative structure was recorded, also with an oval configuration (88 cm × 77 cm) (Fig. 2: A), while remains of a hearth or firepit (Fig. 2: B) were identified inside the porch area. This negative oval structure was interpreted as a “sand box” where metallurgical moulds were placed to be filled with molten metal from the firepit. In the space around the “sand box” and between it and the firepit, three metallic nodules of binary bronze, 71 vitrified stone fragments without any metallic remains, one crucible fragment with traces of Cu and Sn, two fragments of stone moulds for awls, and a fragment of a bronze blade were recorded. The vitrified remains were identified as pieces of shale that solidified after melting at a temperature higher than 1100 °C (Geirinhas *et al.* 2011), temperature high enough to melt bronze. It should be noted that bronze was the alloy identified in the aforementioned metallic artefacts, as well as most likely to correspond to the alloy whose remains were also identified adhering to the crucible wall (Senna-Martinez *et al.* 2010: 383).

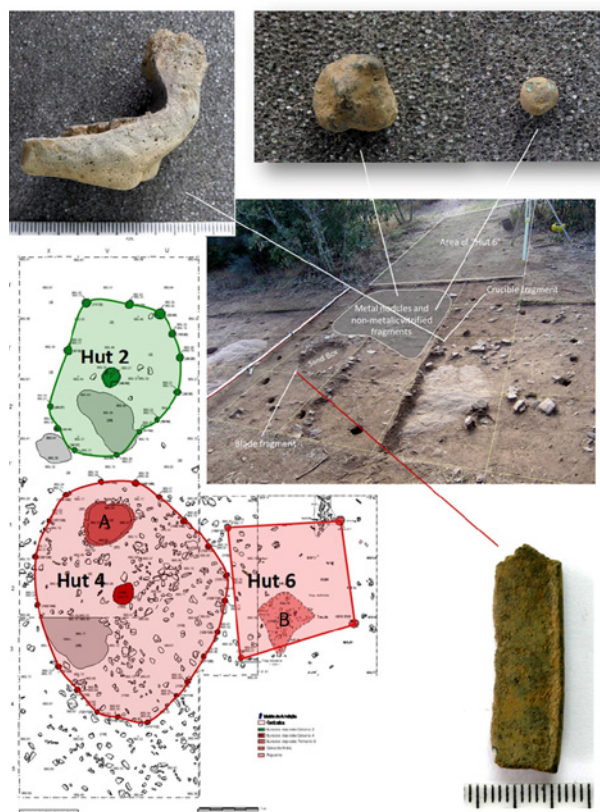


FIG. 2 Final plan and photograph of MBA Area 3 of Fraga dos Corvos with the main features and recorded locations of some archaeometallurgical finds. A - “sand box”; B - hearth or firepit

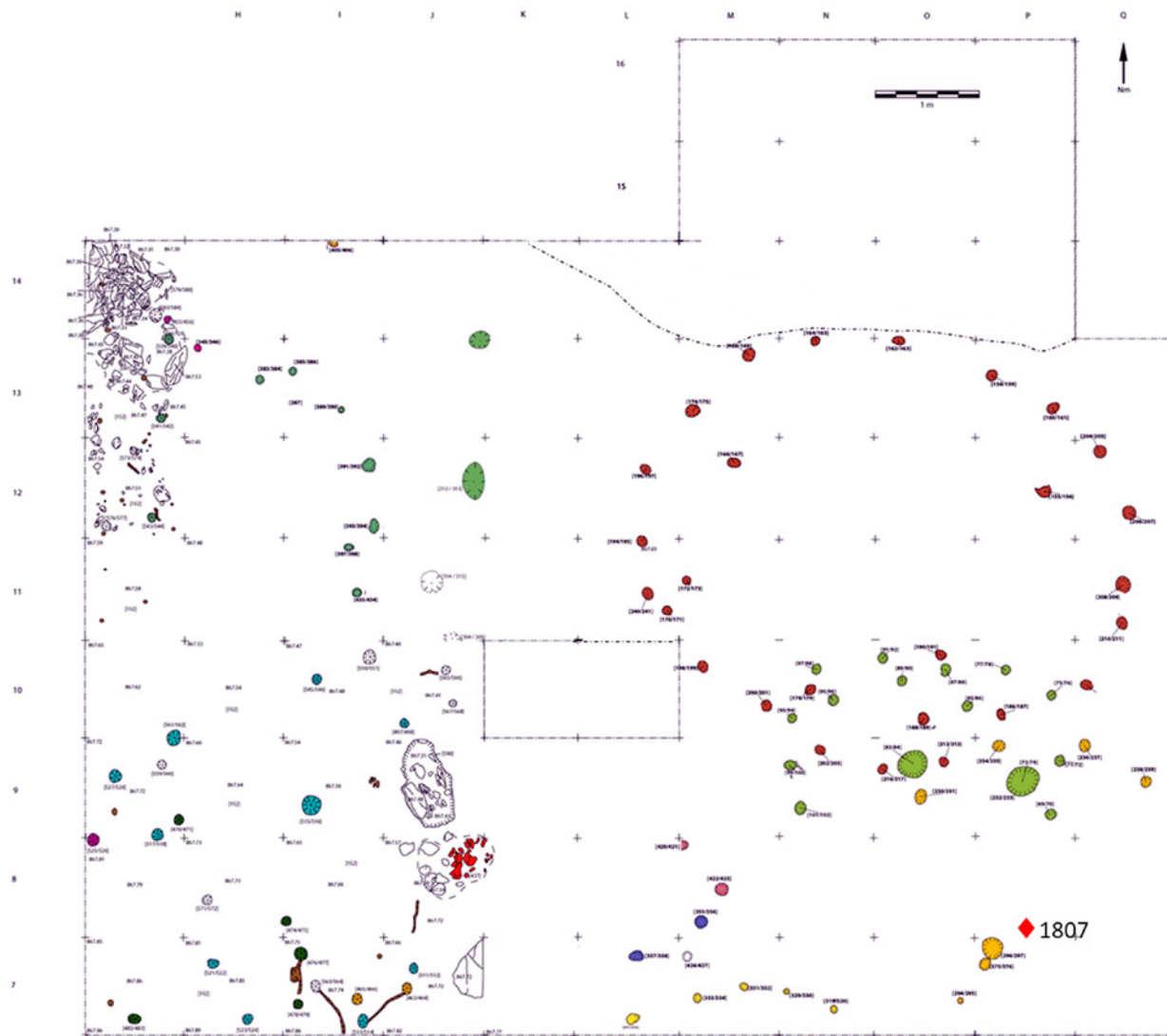


FIG. 3 Plan of upper interface of SU [152] (Area 2). The numbered red diamond indicates the location of the *anchoriform* finding.

All the other archaeological artefacts and faunal remains recovered from floors of these two structures, Huts 2 and 4, can be related to a simple domestic MBA environment.

Just 3 meters north from this Area 3, another survey was opened, **Area 2**, that showed a more complex stratigraphy encompassing six levels. Unfortunately, it was not possible to relate the occupation phase of Area 3 to any particular level of Area 2, due to the similarity of the material assemblage of these contexts.

In Area 2, it was possible to identify a total of 6 levels of occupation, each of them cut by postholes and, sometimes, shallow pits, defining 19 “hut” floors in association with pits, fireplaces and archaeological materials related to domestic environments, which present small variability along the stratigraphic sequence, namely with regard to pottery (Luís 2010; 2016: 239-244).

In the area where the artefact here under consideration comes from (Fig. 3), the stratigraphic sequence, in spite of being clear, seems as being compressed being each stratigraphic unit (SU) reduced to a few centimetres of thickness. Also, near the artefact a blue glass bead with a probable LBA/EIA chronology was found, clearly an intrusion from the site later occupation.

The artefact FCORV-1807 (Fig. 4) was first identified as a sort of “spatula” and was previously studied in the context of the local MBA metallurgy (Senna-Martinez *et al.* 2011: 384-385). However, during the installation, in 2016, of Coronel Albino Pereira Lopo’s Municipal Museum of Archaeology, at Macedo de Cavaleiros, and after a more careful examination and a stratigraphic revision of some contexts of Area 2, the inference arises that the artefact could indeed represent a LBA/EIA materialization in metallic material of

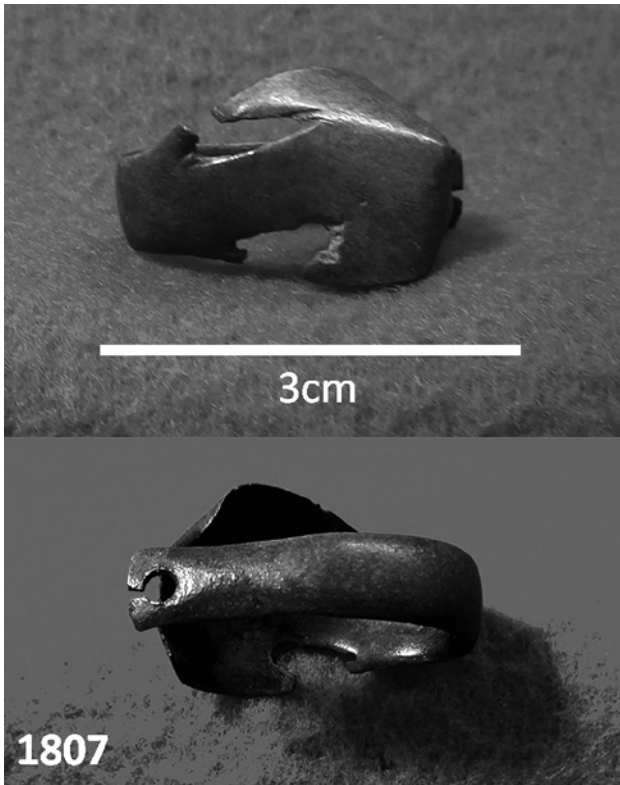


FIG. 4 The *anchoriform* after cleaning.

the well-known iconographic symbol of the SWBA or, at least, a late survival of its symbolic meaning.

As the artefact was found folded over itself, a flattened view of FCORV-1807 was needed in order to clearly review its shape. We asked our colleague Artur Ramos (Faculty of Fine Arts, Lisbon University) to provide us with a series of accurate drawings of such a view (Fig. 5). Accordingly, in its reconstructed original shape

(Fig. 5C) the dimensions of this artefact would be:

- Total length – 7.1 cm
- Head length – 3.0 cm
- Head width – 2.1 cm
- Shaft length – 4.1 cm
- Shaft width – 0.7 cm

As can be seen in Fig. 4, the shape of the *anchoriform* seems to have been obtained by cutting through the sheet of metal and will not simply result from fragmentation of the edge of previous hollowed parts. Given the dimensions of the artefact and the presence of a hole at the end of the shaft, the artefact can be interpreted as a pendant, as is the artefact FCORV- 252, recorded in Fraga dos Corvos Rock-Shelter 2, located close to Area A (see Fig. 1), which has dimensions (total length 5.5 cm) similar to the *anchoriform*, also featuring a circular hole at the end of the shaft (Figueiredo *et al.* 2009: Fig. 2; Senna-Martinez *et al.* 2012: Figs. 5 and 6). So, although the artefact FCORV-1807 has a shape similar to the *anchoriform* depicted on Southern Iberia stelae, it was placed upside down if used as a pendant, contrary to what is observed in those ones. Nevertheless, the small hole at the extremity of the shaft opens the possibility the artefact could be used attached to the end of a wooden rod. However, if the object is to be used attached to a wooden stick, perhaps as a symbol of status or power, the ensemble formed by the metallic *anchoriform* and the wooden rod seems too small and

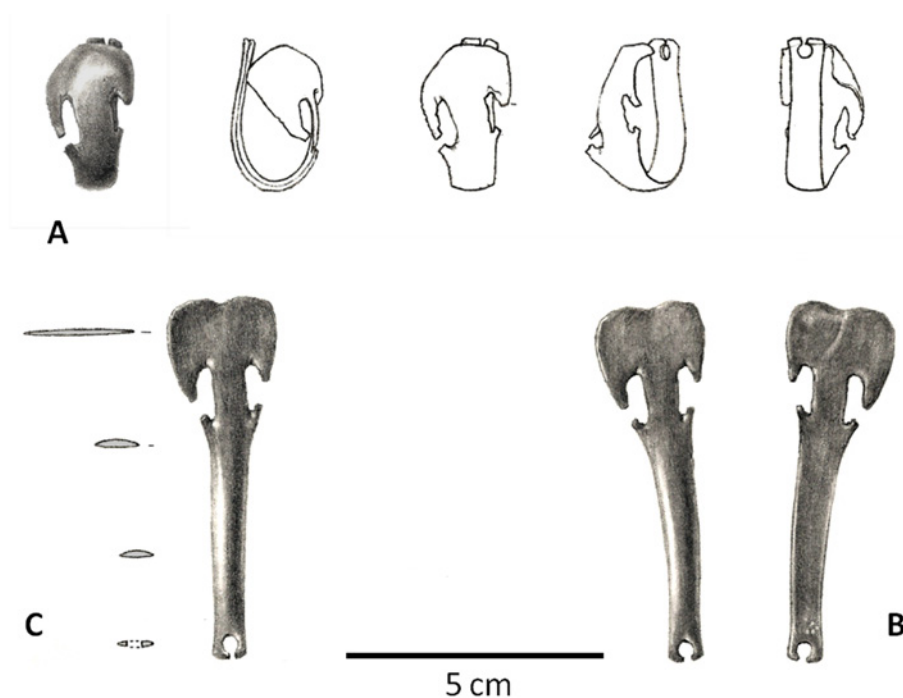


FIG. 5 Drawings of the *anchoriform* by Artur Ramos: A - condition in which it was found; B - simple extended view; C - probable original shape.

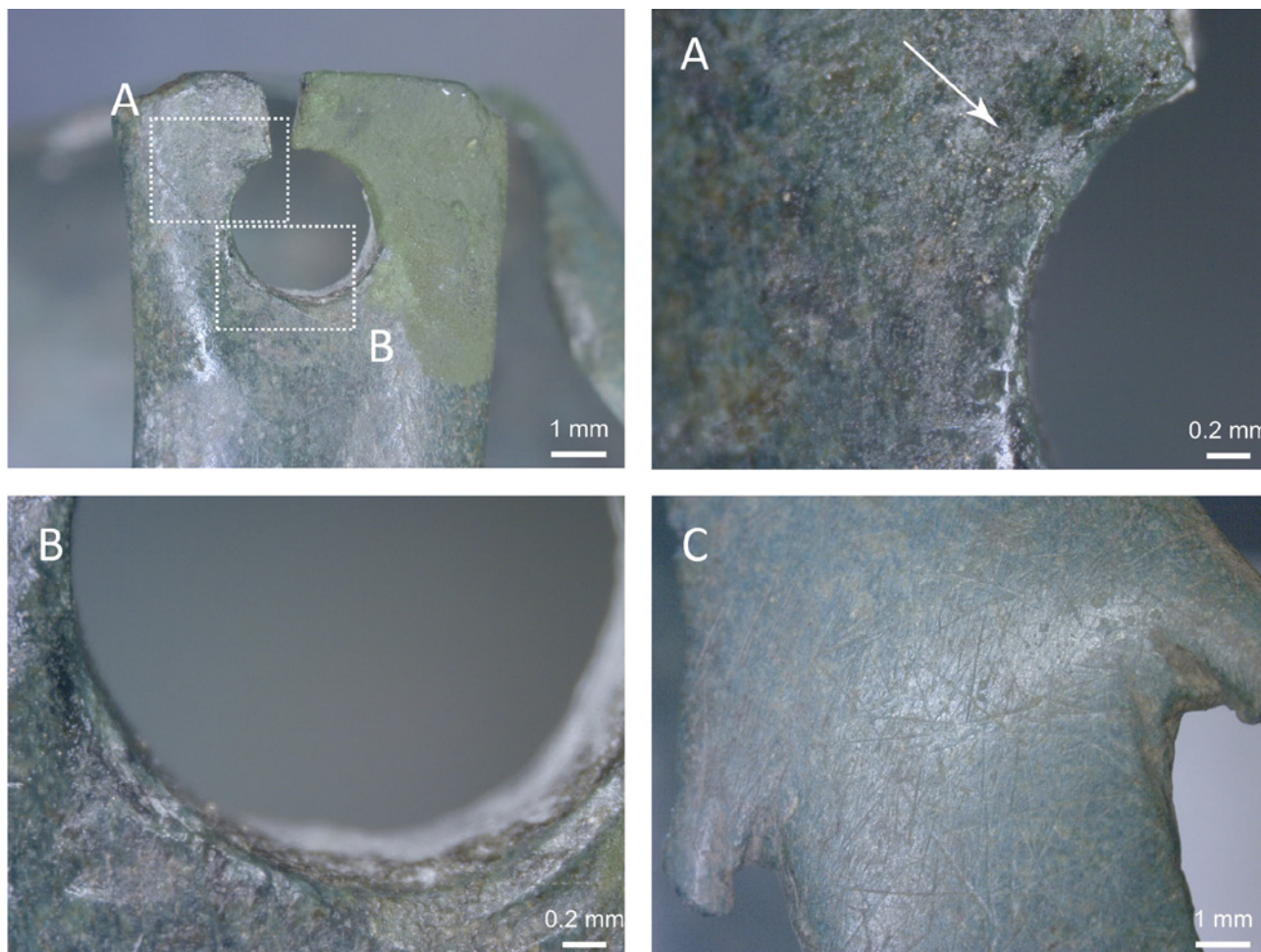


FIG. 6 Some features of the hole in the shaft end and on the surface of the *anchoriform* using optical microscopy.

fragile to have that function or that meaning of power.

In an attempt to identify any signs that would indicate how it had been used, its surface was observed under an optical microscope. Some use-wear marks seem to exist around the “suspension” hole, namely thin scratches in the form of incised concentric circular lines (marked by a white arrow in Fig. 6A). These marks possibly resulted from rotational movements of an element (perhaps a bead?) that was in contact with the *anchoriform* if used as a pendant on a necklace. On the other hand, there are many superficial and thin scratches with a chaotic disposition made on the corrosion layer (Fig. 6C), most likely produced by post-depositional events after the artefact has been folded.

The artefact FCORV-1807 comes from unit [152] (cf. Luís 2016: 241) (see Fig. 3). The folded condition in which it was recorded hints at a deliberate deposition, perhaps as a sacrificed metal offering. However, the compression of the stratigraphic units of habitational layers sequence in the Area 2, notwithstanding the carefully trowel excavation of all area, makes possible

that the deliberate deposition of FCORV-1807 is a LBA/EIA intrusion (perhaps in a very small pit, which was probably undetected during the archaeological digging due to the mentioned stratigraphic conditions). The same situation could account for the LBA/EIA glass beads intrusion in Area 2, as for two charcoal samples that were radiocarbon dated.

3. RADIOCARBON DATING AND CHRONOLOGIES

Two charcoal samples collected near the place where the artefact FCORV-1807 was found (Fig. 7) were dated at the ITN Radiocarbon Dating Laboratory (Lisbon) using the liquid scintillation technique. Results are presented in Table 1 and plotted in Fig. 8. Radiocarbon dates were calibrated using the IntCal20 curve (Reimer *et al.* 2020) and programs CALIB (Stuiver – Reimer – Reimer 2021) and OxCal v4.4.4 (Bronk Ramsey 2009) to build up Table 1 and Fig. 7, respectively.

TABLE 1 ¹⁴C DATES FROM CONTEXTS IN AREA 2 OF FRAGA DOS CORVOS

LAB. REF.	SAMPLE REF.	TYPE	δ13C (‰)	AGE (BP)	CALIBRATED DATE
Sac-2645	FCORV UE467	Charcoal	-26,61	2440±45	1σ: 741-692 cal BC (0.241783); 664-647 cal BC (0.086712); 547-414 cal BC (0.671505) 2σ: 756-680 cal BC (0.232275); 670-607 cal BC (0.15542); 596-405 cal BC (0.612306)
Sac-2646	FCORV UE467/552	Charcoal	-24,72	2580±45	1σ: 808-754 cal BC (0.791503); 681-669 cal BC (0.09323); 629-626 cal BC (0.010613); 609-593 cal BC (0.104654) 2σ: 823-734 cal BC (0.612823); 695-663 cal BC (0.104045); 650-545 cal BC (0.283132)

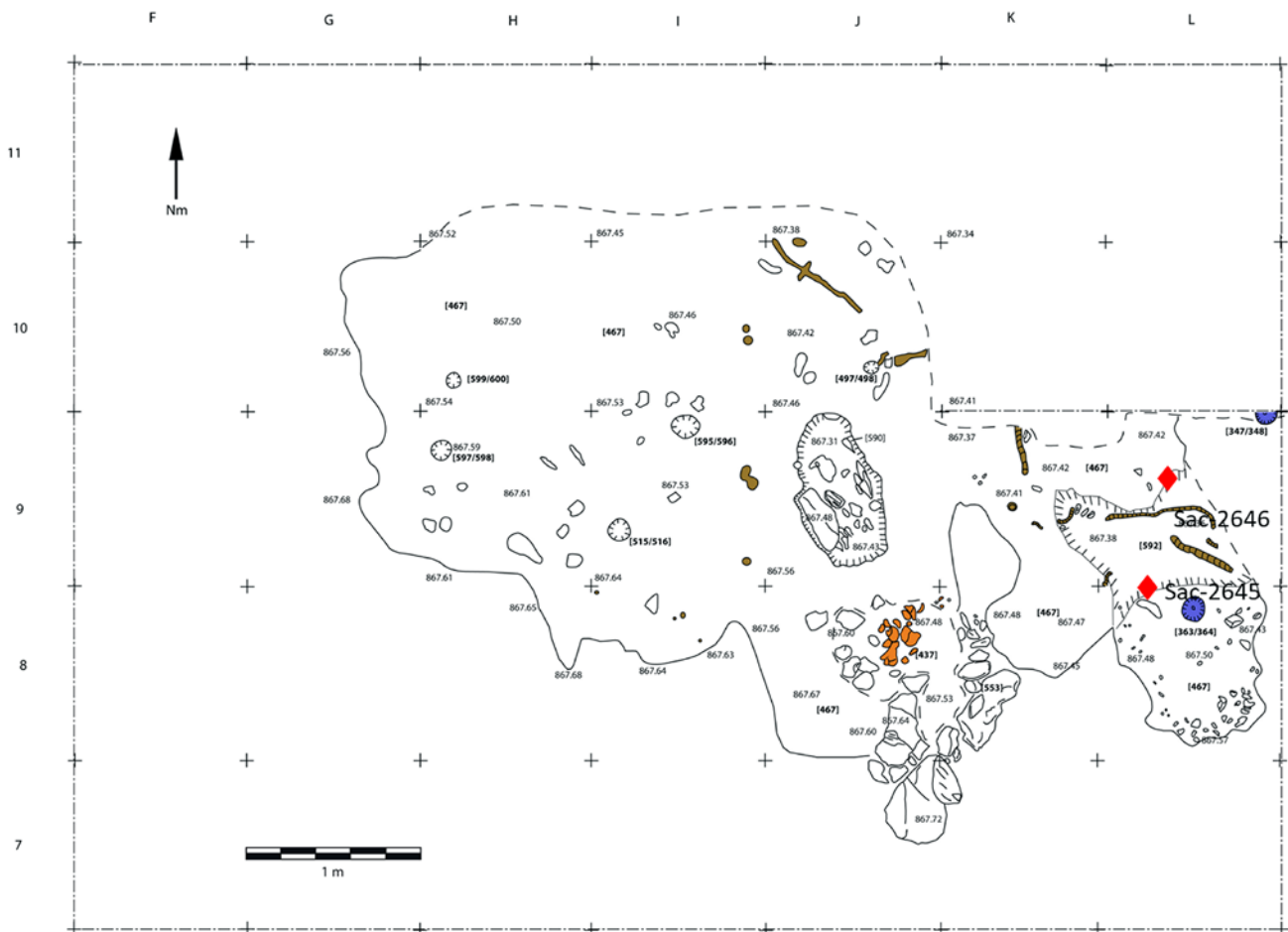


FIG. 7 Partial plan of SU [467] (Area 2) with the locations (numbered red diamonds) where the two charcoal radiocarbon dated samples were recorded. These locations are near the place where the *anchoriform* was found - see Fig. 3.

As can be seen in Fig. 8 the calibration of the two radiocarbon dates, given their values, uses the horizontal section of the calibration curve, the so-called “Hallstatt plateau”, which leads to obtaining calendar age intervals with a very low precision. Thus, the calibration of Sac-2645 leads to a time interval

between mid 8th century BC and the end of the 5th century BC, while the calibration of Sac-2646 produces a time interval between the late 9th century to mid 6th century BC, i.e. dated archaeological contexts must belong to the Late Bronze Age or already to the Early Iron Age. The chemical compositional analysis

of artefact FCORV-1807 may help to specify the time interval in which the context to which the artefact in question belongs should be integrated. On the other hand, it must be taken into account that these dates fit the relative chronology (8th - 6th centuries BC) provided by the LBA/EIA fibulae sequence found at Sector M (Senna-Martinez – Luís – Mendes *in press*).

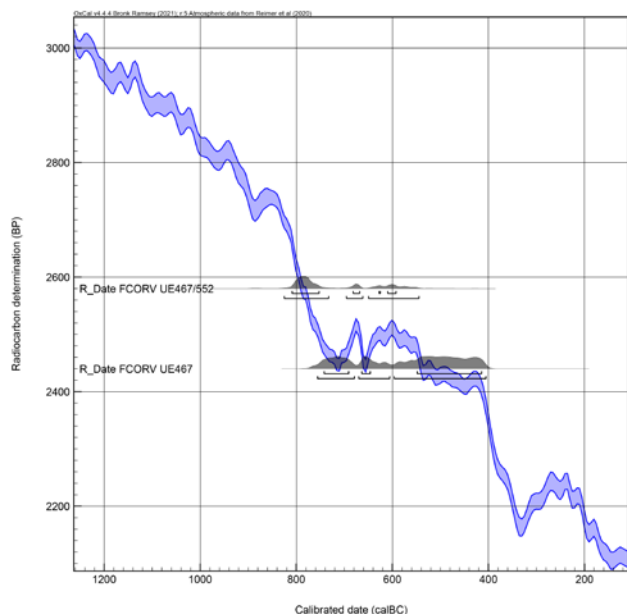


FIG. 8 Plot of calibrated radiocarbon dates (with the IntCal20 calibration curve plot) for the Protohistoric occupation of Fraga dos Corvos.

4. ARCHAEOLOGICAL STUDY

4.1. Material and methods

The preparation of FCORV-1807 for microanalyses involved the removal of the superficial corrosion layer in three selected areas. The cleaning process comprised the polishing of these small areas (c. 3-5 mm in diameter, Fig. 9) with diamond pastes of increasingly smaller grit size (6 μm , 3 μm and 1 μm). The efficiency of the cleaning process was ascertained by optical

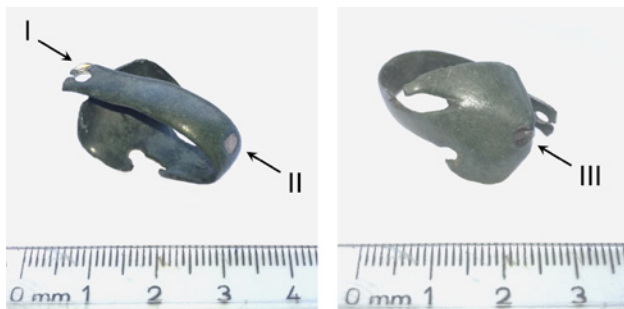


FIG. 9 Location of small areas on the *anchoriform* subject to archaeometallurgical analysis.

microscopy observations made with a Zeiss Discovery V20 stereomicroscope, which was also used to identify the possible existence of use-wear marks.

The chemical composition of FCORV-1807 was obtained by micro-EDXRF analyses in an ArtTAX Pro spectrometer with a 30 W Mo X-ray tube, focusing polycapillary lens and an electro-thermally cooled Si drift detector (FWHM of 160 eV at 5.9 keV – Bronk *et al.* 2001). Each selected area was analysed in four spots (about 0.1 mm diameter) to account for heterogeneities with 40 kV, 600 μA and 120 s of live time. Quantifications were made with WinAxil software, comprising experimental calibration factors calculated with the British Chemical Standards Phosphor Bronze 551 and BNF Metals Technology Centre Leaded Bronze C50.01. The relative uncertainty of quantification is lower than 10 %, while the quantification limits of identified elements are 0.05 % Fe, 0.10 % Ni, 0.50 % Sn and 0.10 % Pb (Valério *et al.* 2015).

4.2. Results

The areas analysed in *anchoriform* FCORV-1807 originated analogous results, establishing a homogeneous composition along the artefact length (Table 2). In fact, the object is composed of a leaded bronze alloy with a relatively high tin content (c. 13.7 % Sn) and a significant amount of lead (c. 4.3 % Pb). It is acknowledged that the tin and, especially, the lead additions to copper provide an increased castability to the metal, making it easier to cast objects with massive size or intricate decorations. However, this does not seem to be the case of FCORV-1807 given its small size and relatively plain shape.

As mentioned before, the MBA contexts of Area 3 at FCORV provided evidence of onsite production of binary bronze alloy artefacts (3 bronze nodules, 1 bronze blade fragment and a crucible with traces of Sn and Cu). Furthermore, the small set of local Orientalising artefacts already known (Figueiredo *et al.* 2009) comprises leaded bronzes and unalloyed copper items, apart from the common binary bronze alloys with somewhat lower contents of tin (Table 3). During the LBA, the copper-based metallurgy in Northern and Central Portugal was dominated by binary bronze alloys with c. 12 % Sn and very low amounts of other metallic elements, such as lead, arsenic, nickel or iron. Some good illustrations of this LBA metallurgy

TABLE 2 CHEMICAL COMPOSITION OF THE ANCHORIFORM FCORV-1807
 (average ± standard deviation of n analyses)

ANALYSIS AREA	Cu (%)	Sn (%)	Pb (%)	Ni (%)	Fe (%)
I (n=4)	82.3 ± 1.5	13.5 ± 0.3	4.1 ± 1.4	<0.10	<0.05
II (n=4)	81.3 ± 1.7	14.1 ± 0.1	4.5 ± 1.6	<0.10	<0.05
III (n=4)	81.8 ± 1.3	13.6 ± 0.2	4.4 ± 1.4	<0.10	<0.05
Global (n=12)	81.8 ± 1.4	13.7 ± 0.3	4.3 ± 1.4	<0.10	<0.05

TABLE 3 COMPOSITION OF PROTOHISTORIC COPPER-BASED COLLECTIONS FROM NORTHERN AND CENTRAL PORTUGAL
 (LBA: Coles de Samuel, Canedotes, Baiões, Freixianda and Vila Cova de Perrinho)

	BINARY BRONZE			COPPER	LEADED BRONZE
	Frequency	Sn (%)	n	n	n
<i>FCORV (Orientalising items)</i>	70 %	10.2 ± 1.3	7	1	2
<i>LBA collections</i>	96 %	12.2 ± 2.4	47	2	—
<i>Medronhal</i>	100 %	13.1 ± 1.5	37	—	—

are the artefact collections of Coles de Samuel (Cof-fyn 1985), Canedotes (Valério – Araújo – Canha 2007), Baiões (Figueiredo *et al.* 2010), Freixianda (Gutiérrez-Neira *et al.* 2011) and Vila Cova de Perrinho (Bottaini *et al.* 2012) (Table 3). Additionally, the LBA/Orientalising transition period collection of Medronhal follows the same trend (Figueiredo *et al.* 2013), evidencing the slow adoption of technological innovations by indigenous communities. Overall, this set of artefacts displays mostly binary bronzes; however the tin content of artefacts from Medronhal, perhaps coeval of LBA/EIA artefact FCORV-1807, is similar to that one of the *anchoriform*, although its composition, a leaded bronze, is therefore a rarity among the metallurgy of this region, at this time, being in line with its singular typology and suggested southern affiliation.

Regarding the possible meaning of the unusual alloy composition of FCORV-1807, it is widely known that high tin contents provide a golden colour to the bronze alloy. However, quite a different issue is to

determine if the colour of this particular alloy stood out from coeval bronzes. Mecking (2020) measured the CIELAB colour parameters (L^* - lightness; a^* - red/green; b^* - yellow/blue) in a wide range of Cu-Sn-Pb alloys. These measurements can be used to assess the human perception of a colour difference between two alloys (ΔE , Equation 1 – Mecking 2020). The human eye begins the differentiation at $\Delta E = 2$ and a clear difference between two colours occurs from a value of 3.5 (Mokrzycki – Tatol 2011). The ΔE value for the typical LBA bronze alloy (Cu-12 % Sn) compared to a Cu-14 % Sn alloy is only 1.2. However, the ΔE value increases to 3.2 when comparing a Cu-12 % Sn alloy to an alloy close to FCORV-1807 (Cu with c. 14 % Sn and c. 5 % Pb). The *anchoriform* FCORV would therefore have a more golden colour than most LBA bronzes, while such colour distinction supports a prestige character which may perhaps be assigned to this unique item.

$$\Delta E = \sqrt{(L_1^* - L_2^*)^2 + (a_1^* - a_2^*)^2 + (b_1^* - b_2^*)^2}$$

5. DISCUSSION: ANCHORIFORM OR ANCHOR IDOL – A SYMBOL OF POWER OR A SIMPLE IDEOTECHNIC PENDANT

The iconographic representation known by Iberian archaeologists as the *anchoriform* (Fig. 10) is actually known from 31 engraved slabs, most of them of schist, and two granite statues-menhirs, all of them constituting the so called *Estelas Alentejanas* (Almagro Basch 1966) or Type I stelae. The former were mostly found (66% – 21 schist slabs) in the southern Portuguese region of Lower Alentejo (Díaz-Guardamino 2010; Serra – Porfírio – Soares 2014; Fig. 6; Gomes 2015).

Seven of the known engraved schist slabs only depict the *anchoriform*, in three other the *anchoriform* is associated with a sword, and in another five it goes with a sword and a halberd (Serra – Porfírio – Soares 2014). Some researchers, taking into account the available chronology for the Iberian Bronze Age halberds and swords proposed a chronology for the *Estelas Alentejanas* between the last quarter of the 3rd millennium BC and the middle of the 2nd millennium BC, encompassing the EBA and part of the MBA in the Iberian Southwest (Senna-Martinez 2013a; Senna-Martinez *et al.* 2017). However, a more recent date for

the disappearance of these stelae can be suggested since the geographic distribution of these stelae overlaps the dispersal of some ceramic types, namely Odivelas and Santa Vitória cups, as well as bottles and pots with vertical ribs, corresponding to the Southwest Bronze II (following Schubart 1975). Soares *et al.* (2021) also proposed that the use of the *Estelas Alentejanas* covered the entire 2nd millennium BC, due to the depiction of a LBA shaft-hole axe in association with an *anchoriform* on a covering slab from a stone cist at Ervidel (Gomes – Monteiro 1976/1977: Fig. 3).

One of the founding fathers of Portuguese Archaeology and its National Archaeology Museum, José Leite de Vasconcelos, thought the *anchoriform* should be the depiction of an axe (Vasconcelos 1906; 1908), but its coexistence with hafted axes in several occasions (namely in the schist slab from Assento, Beja – Almagro Basch 1966: Lãm. XXVI) makes this interpretation, largely followed during the first half of the 20th century (Almagro Basch 1966), difficult to sustain.

A few years ago, Leonardo García Sanjuán and collaborators (García Sanjuán *et al.* 2013) published a large set of ivory pieces from a Chalcolithic funerary megalithic monument of the PP4-Montelirio Sector of Valencina de la Concepción (Seville, Spain). In one

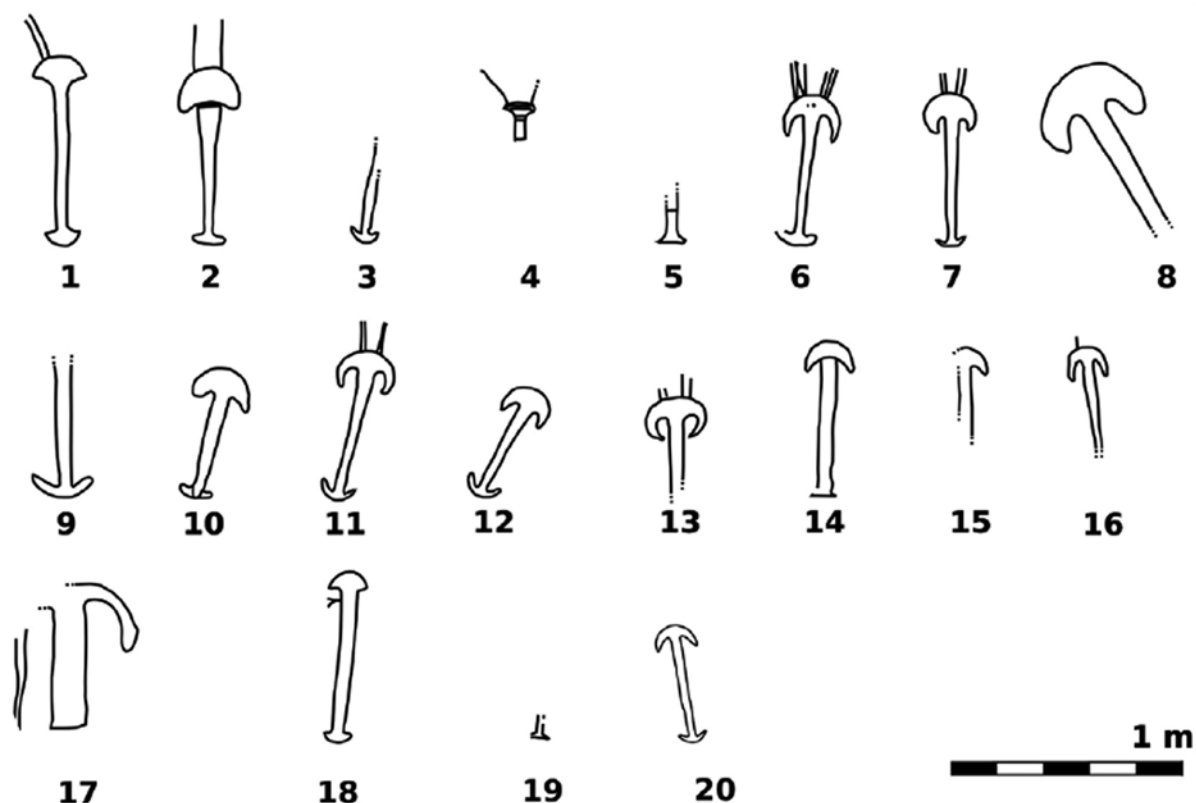


FIG. 10 SWBA *anchoriforms* following Serra – Porfírio – Soares (2014: Fig. 6).



FIG. 11 The Tapada da Moita stele.

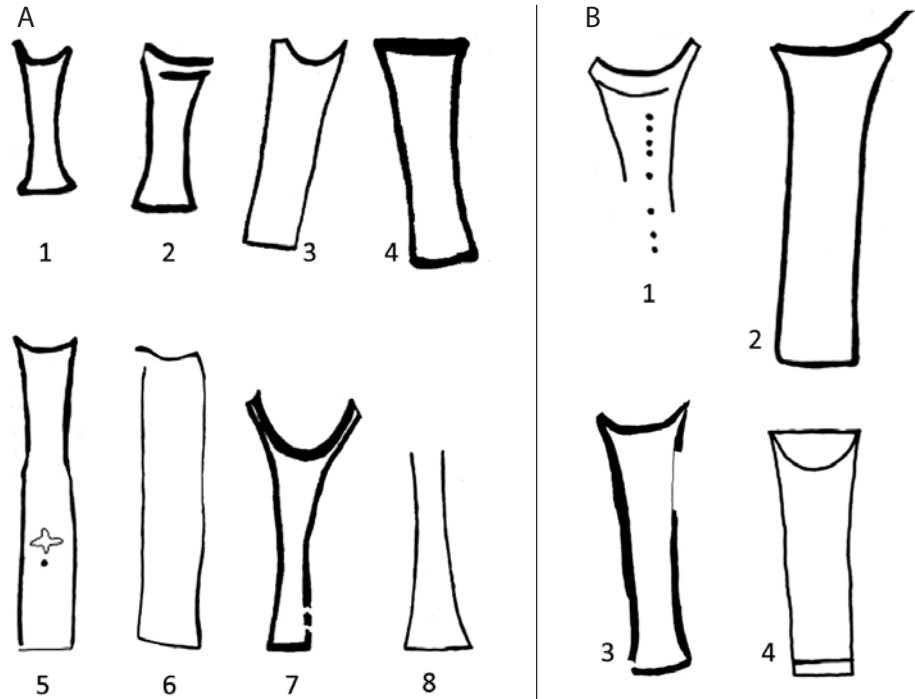


FIG. 12 A - Front *skeuomorphs* following Senna-Martinez (2018: Fig. 7); B - back *skeuomorphs* following Senna-Martinez (2018: Fig. 8).

of the chambers of the monument several fragments of carved ivory and a rock crystal blade of a dagger were found, allowing the reconstruction of what was probably its crescent-shaped ivory hilt and dagger sheath. The set of these artefacts (dagger blade, hilt and sheath) is perhaps the prototype for the symbol under discussion here (see reconstitution by Miriam Luciañez Triviño according to García Sanjuán *et al* 2013: 622, Fig. 11). This artefact is clearly a prestige item, eventually associated to the single young male burial recorded in the same chamber where the dagger was found, but in different stratigraphic units.

From 1995 onwards, following the exhibition “*A Idade do Bronze em Portugal. Discursos de Poder*”, in the National Archaeology Museum (Lisbon), the prevalent interpretation for the *Estelas Alentejanas* tends to see them as being part of the first of the successive “power discourses” that gave shape to the development of the Iberian Bronze Age (Jorge 1995). Within this line of interpretation the *anchoriform* is invested with a symbolic meaning as “a symbol of power”, which was probably used suspended from a collar worn around the neck. Stelae of Tapada da Moita, Castelo de Vide (Fig. 11) (Oliveira 1986), Passadeiras, Silves (Gomes 1994: 86-89) and, at least, another eight specimens (Serra – Porfírio – Soares 2014: Fig. 6) show

the depiction of a hanging object. This object is the *anchoriform* precisely.

Transition from the Chalcolithic to the EBA occurs at different places in each of the areas belonging to the cultural mosaic of Western Iberia. However, a common characteristic of this cultural phase seems to be a generalized disinvestment in the construction and maintenance of various architectural structures used for burial and/or ritual that developed from the Middle Neolithic onwards. Reuse of older structures or construction of other more economic architectural solutions seems to be the rule from the EBA onwards. It is in this context that the first masculine power figures emerge, together with a new panoply of arsenical copper artefacts, privileging “male items”, namely weapons and gold jewellery (Senna-Martinez 2013a; Senna-Martinez – Luis 2016).

A split occurring on the Portuguese Central Massif (highlands of Lousã, Açor and Estrela) between cultural areas seems to arise during the EBA/MBA. Northwards from the Sabugal area (in the transition from the Beira Interior to the Beira Alta regions) the *anchoriform* is replaced by another representation: the *skeuomorph*. This representation, depicting a skinned hide, occupying a large area either in the front or in the back of a male figure (Fig. 12), constitutes a probable cultural

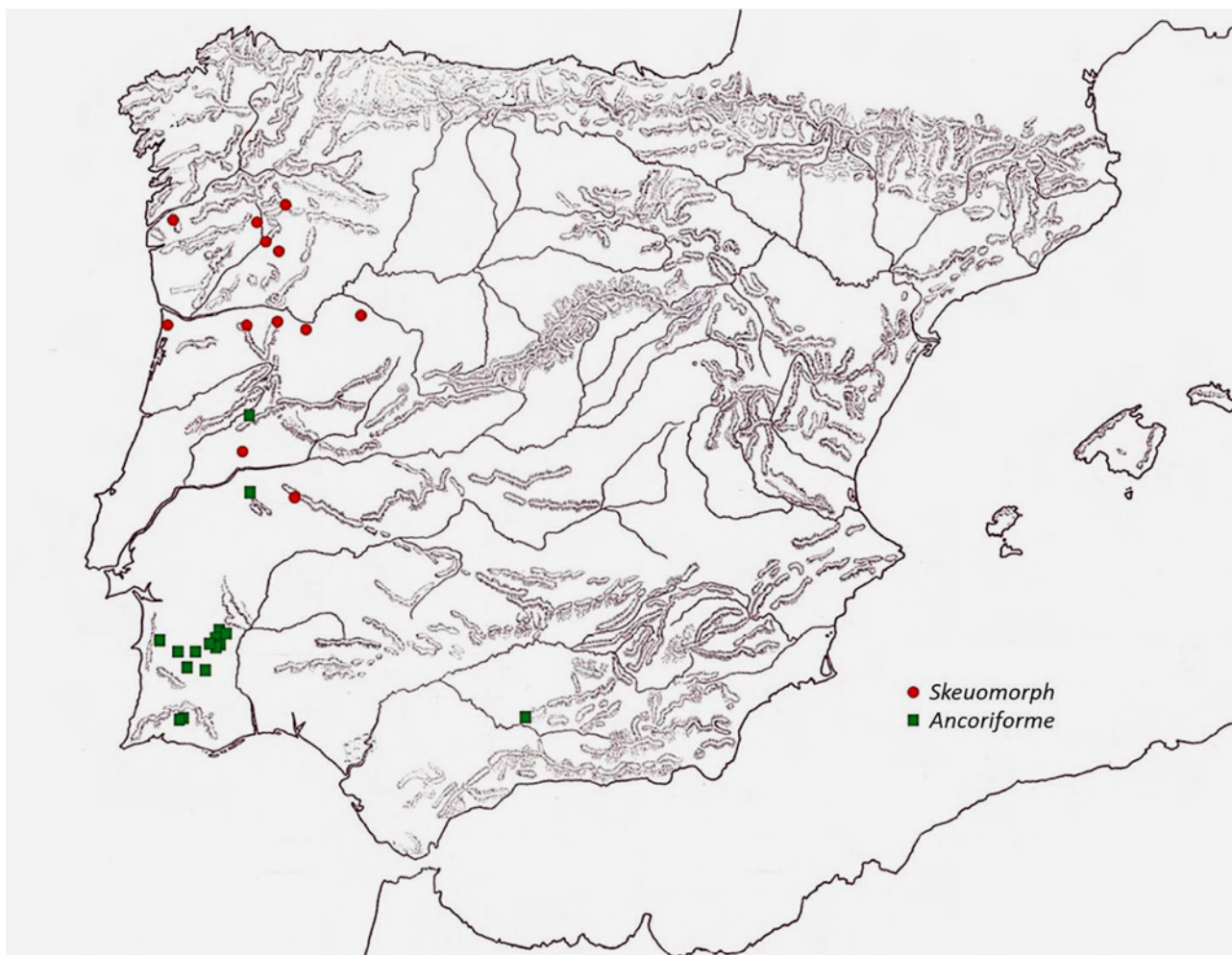


FIG. 13 Distribution of *anchoriforms* and *skeuomorphs* following Marta Díaz-Guardamino (2010: Fig. 92).

conservative trend² recuperating the Elizabeth Shee Twohig Neolithic symbol present in the “megalithic art” of the northern half of Western Iberia (Twohig 1981: 23). Concerning these two representations, the distribution analysis proposed by Marta Díaz-Guardamino (2010: 143) shows that the *anchoriform* is present from the Southwest to the Beira Interior, while to the north of this region the *skeuomorph* is predominant or the only one that exists (Fig. 13).

² In 2018 we already argued that “...various tensions and balances pass through the neo-chalcolithic system of beliefs that underlies the megalithic art in Beira Alta. For us, the symbolic oppositions / complementarities present in its iconography reflect the characteristics of the regional Neolithic, a world where hunting and pastoralism are associated with winter-fruits collecting (mainly acorns), in societies not yet fully agricultural, and in which andriarchal values and representations remain structural (Senna-Martinez and Ventura 2008: 328-332). In the new EBA system, male power legitimation can thus be seen in continuity with earlier, Neolithic, social beliefs adding and transforming what was needed to fulfil the new power agenda and legitimize the new power actors.” (Senna-Martinez 2018: 296). We still think this to be a valid interpretation of the available evidence.

Together, the *anchoriform* distribution follows mostly what we have been calling the “stelae route” (Senna-Martinez 2011: 291-293; 2013b; 2018). Of course, in prehistoric times, we are thinking not of something like a Roman road but of a series of traditional passways generally following what, in modern times, become the main delineation of the so called IP2 in the Portuguese road system (Fig. 14).

6. CONCLUDING: THE POSSIBLE SURVIVAL OF THE ANCHORIFORM AS A SYMBOL OF POWER OR ITS SURVIVAL AS A SIMPLE IDEOTECHNIC PENDANT

The iconographic representation known as the *anchoriform* depicted in engraved slabs in SWBA funerary contexts has usually been considered with a symbolic meaning - a symbol of power. A symbol of power often associated in the same slab, in a realistic



FIG. 14 Approximate layout of what we have been calling the “stelae route” (Senna-Martinez 2011; 2013b; 2018).

style, with weapons and tools, namely swords, halberds and axes and, more rarely, a bow, a chisel and a pair of sandals or feet. All these weapons and tools engraved on the stone strongly indicate its connection to male individuals, who would wear the *anchoriform* suspended over their shoulders or from a collar worn around the neck as the straps associated with it, which depart from the larger crescent of the object, also indicate.

The bronze *anchoriform* from Fraga dos Corvos certainly has a southern affiliation, but is much smaller than any of the stone depictions and it is very probably more recent than the last funerary manifestations ascribed to the SWBA. Its use may be reminiscent of the function it had at that time, but seems to have changed over time. The dimensions it presents prevent it from being interpreted as a symbol of power and it is also not plausible that it could be used as a sceptre, even if attached to a wooden rod, for instance. The typology of the artefact, as well as some apparently

use-wear marks next to the shaft hole, makes much more plausible that it was used as a pendant on a necklace, perhaps as a mere ideotechnic object. Also, the position in which the *anchoriform* symbol is shown on the pendant, contrary to that shown in its depiction in the *Estelas Alentejanas*, indicates that something of its function or symbolism would have already been lost. However, the raw material (a ternary bronze with a golden glow) with which it was manufactured as well as its shape, a pendant, leads to consider it as a prestige object, possibly indicative of the social status of the owner. It is also indicative of an exchange of materials and, of course, of concepts and ideas between north and south on the Atlantic facade of the Iberian Peninsula.

If we accept the Montelirio dagger, hilt and sheath as an early possible explanation of the origin of the *anchoriform* symbol and consider the FCORV one as a late expression of the same, these hypotheses open the possibility of further discussion, namely about the

permanence and transmission of symbolic meaning and the change or no-change over time of the symbolic significance inland and in more conservative societies.

Final note

This paper is the result of a team work led by Professor João Senna-Martinez, the first author. Sadly, he passed away before it was published. The other authors have finished this work, hoping that it stays true to his thought and line of research, and in order to keep alive the important contribution of Senna-Martinez to the Iberian Prehistory.

Acknowledgments

The support of Fundação para a Ciência e a Tecnologia (FCT) to C2TN (UIDB/04349/2020) is gratefully acknowledged. Authors also acknowledge the use of the micro-EDXRF spectrometer from Department of Conservation and Restoration (DCR/FCT-NOVA).

Bibliography

- ALMAGRO BASCH, M. (1966) – *Las Estelas Decoradas del Suroeste Peninsular*. Madrid.
- BANHA, C. – VEIGA, A. M. – FERRO, S. (2009) – A Estátua-Menir de Corgas (Donas, Fundão). Contributo para o Estudo da Idade do Bronze Na Beira Interior. Associação de Estudos do Alto Tejo. *AÇAFA On Line*, 2: 1-16.
- COFFYN, A. (1985) – *Le Bronze Final Atlantique dans la Peninsule Iberique*. Paris.
- BOTTAINI, C. E. – SILVA, A. L. M. – COVITA, D. S. – MOUTINHO, L. M. – VELOSO, J. F. C. A. (2012) – Energy dispersive X-ray fluorescence analysis of archaeological metal artifacts from the Final Bronze Age. *X-Ray Spectrometry*, 41: 144-149.
- BRONK, H. – ROHRS, S. – BJEUMIKHOV, A. – LANGHOFF, N. – SCHMALZ, J. – WEDELL, R. – GORNY, H. E. – HEROLD, A. – WALDSCHLAGER, U. (2001) – ArtTAX - A new mobile spectrometer for energy-dispersive micro X-ray fluorescence spectrometry on art and archaeological objects. *Fresenius Journal of Analytical Chemistry*, 371: 307-316.
- BRONK RAMSEY, C. (2009) – Bayesian analysis of radiocarbon dates. *Radiocarbon*, 51(1): 337-360.
- DÍAZ-GUARDAMINO, M. (2010) – *Las estelas decoradas en la Prehistoria de la Península Ibérica*. PhD Thesis presented to the Complutense University of Madrid. Unpublished.
- FIGUEIREDO, E. – ARAÚJO, M. F. – SILVA, R. J. C. – VILAÇA, R. (2013) – Characterisation of a Proto-historic bronze collection by micro-EDXRF. *Nuclear Instruments and Methods in Physics Research B*, 296: 26-31.
- FIGUEIREDO, E. – SENNA-MARTINEZ, J. C. – SILVA, R. J. C. – ARAÚJO, M. F. (2009) – Orientalizing artifacts from Fraga dos Corvos rock shelter in North Portugal. *Materials and Manufacturing Processes*, 24(9): 949-954.
- FIGUEIREDO, E. – SILVA, R. J. C. – SENNA-MARTINEZ, J. C. – ARAÚJO, M. F. – BRAZ FERNANDES, F. M. – INÊS VAZ, J. L. (2010) – Smelting and recycling evidences from the Late Bronze Age habitat site of Baiões (Viseu, Portugal). *Journal of Archaeological Science*, 37: 1623-1634.
- GARCÍA SANJUÁN, L. – LUCIAÑEZ TRIVIÑO, M. – SCHUHMACHER, T. X. – WHEATLEY, D. – BANERJEE, A. (2013) – Ivory craftsmanship, trade and social significance in the southern Iberian Copper Age: the evidence from the PP4-Montelirio Sector of Valencina de la Concepción (Seville, Spain). *European Journal of Archaeology*, 16(4): 610-635.
- GEIRINHAS, F. – GASPAR, M. – SENNA-MARTINEZ, J. C. – FIGUEIREDO, E. – ARAÚJO, M. F. – SILVA, R. J. C. (2011) – Copper isotopes on artifacts from Fraga dos Corvos First Bronze Age habitat site and nearby Cu occurrences: an approach on metal provenance. In MATA-PERELLÓ, J. M. – TORRO I ABAT, L. – FUENTES PRIETO, M. N. – CAMPO, A. N. – PUCHA RIART, O. (eds.) – *Actas del Quinto Congreso Internacional sobre minería y metalurgia Históricas en el Suroeste Europeu*. Madrid: 177-184.
- GOMES, M. V. (1994) – *A Necrópole de Alfarrobeira (S. Bartolomeu de Messines) e a Idade do Bronze no Concelho De Silves* (Xelb 2). Silves.
- GOMES, M. V. (2015) – *The Vale da Telha Necropolis (Aljezur) in the Context of the Southwest Iberian Bronze Age*. Lisbon.
- GOMES, M. V. – MONTEIRO, J. P. (1976/1977) – As estelas decoradas da herdade de Pomar (Ervidel - Beja) - Estudo comparado. *Setúbal Arqueológica*, 2/3: 281-343.
- GUTIÉRREZ NEIRA, P. C. – ZUCCHIATTI, A. – MONTERO-RUIZ, I. – VILAÇA, R. – BOTTAINI, C. – GENER, M. – CLIMENT-FONT, A. (2011) – Late Bronze Age hoard studied by PIXE. *Nuclear Instruments and Methods in Physics Research B*, 269: 3082-3086.
- JORGE, S. O. (1995) – Introdução. In JORGE, S. O. (ed.) – *A Idade do Bronze em Portugal. Discursos de Poder*. Lisboa: 16-20.
- LUÍS, E. (2010) – *A Primeira Idade do Bronze no Noroeste: O conjunto cerâmico da Sondagem 2 do Sítio da Fraga dos Corvos (Macedo de Cavaleiros)*. MA Thesis in Archaeology presented to the University of Lisbon. Unpublished.
- LUÍS, E. (2016) – *Mudança e transformação. Calcolítico, Bronze Inicial e Bronze Médio em Trás-os-Montes Oriental: reflexões a partir dos recipientes cerâmicos*. PhD Thesis presented to the University of Lisbon. Unpublished.
- MECKING, O. (2020) – The colours of archaeological copper alloys in binary and ternary copper alloys with varying amounts of Pb, Sn and Zn. *Journal of Archaeological Science*, 121: 105199.
- MOKRZYCKI, W. S. – TATOL, M. (2011) – Colour difference Delta E - a survey. *Machine Graphics and Vision*, 20(4): 383-411.
- MUÑIZ JAÉN, I. (1995) – Nuevos descubrimiento en la estela de “El Torcal”. Estela de tipo alentejano o estatua-menhir? *Antiquitas*, 6: 15-28.
- OLIVEIRA, J. (1986) – *A estela decorada da Tapada da Moita, Portalegre*. Castelo de Vide.
- REIMER, P. J. – AUSTIN, W. E. N. – BARD, E. – BAYLISS, A. – BLACKWELL, P. G. – BRONK RAMSEY, C. – BUTZIN, M. – CHENG, H. – EDWARDS, R. L. – FRIEDRICH, M. – GROOTES, P. M. – GUILDERSON, T. P. – HAJDAS, I. – HEATON, T. J. – HOGG, A. G. – HUGHEN, K. A. – KROMER, B. – MANNING, S. W. – MUSCHELER, R. – PALMER, J. G. – PEARSON, C. – VAN DER PLICHT, J. – REIMER, R. W. – RICHARDS, D. A. – SCOTT, E. M. – SOUTHON, J. R. – TURNEY, C. S. M. – WACKER, L. – ADOLPHI, F. – BÜNTGEN, U. – CAPANO, M. – FAHRNI, S. M. – FOGTMANN-SCHULZ, A. – FRIEDRICH, R. – KÖHLER, P.

- KUDSK, S. – MIYAKE, F. – OLSEN, J. – REINIG, F. – SAKAMOTO, M. – SOOKDEO, A. – TALAMO, S. (2020) – The IntCal20 Northern Hemisphere Radiocarbon Age Calibration Curve (0-55 cal kBP). *Radiocarbon*, 62(4): 725-757.
- SCHUBART, H. (1975) – *Die Kultur der Bronzezeit im Sudwesten der Iberischen Halbinsel*. Berlin.
- SENNA-MARTINEZ, J. C. (2011) – La «conexión lusitana»: contactos orientalizantes y búsqueda de estaño y oro en el Centro-Norte portugués. In DOMÍNGUEZ PÉREZ, J. C. (ed.) – *Gadir y el Círculo del Estrecho revisados. Propuestas de la arqueología desde un enfoque social*. Cádiz: 285-296.
- SENNA-MARTINEZ, J. C. (2013a) – Metals, Technique and Society. The Iberian Peninsula between the first Peasant Societies with Metallurgy and the “Urban Revolution”. In GUERRA, M. F. – TISSOT, I. (eds.) – *A Ourivesaria Pré-Histórica do Ocidente Peninsular Atlântico. Compreender para Preservar*. Lisboa: 11-20.
- SENNA-MARTINEZ, J. C. (2013b) – Um rio na(s) rota(s) do estaño: O Tejo entre a Idade do Bronze e a Idade do Ferro. *CIRA Arqueologia*, 2: 7-18.
- SENNA-MARTINEZ, J. C. (2018) – Parasitic frequentation or cultural continuity? The re-use of megalithic monuments in the Ancient / Middle Bronze Age of the Mondego’s Platform. In SENNA-MARTINEZ, J. C. – DINIZ, M. – CARVALHO, A. F. (eds.) – *De Gibraltar aos Pirenéus. Megalitismo, Vida e Morte na Fachada Atlântica Peninsular*. Lapa do Lobo (Nelas): 277-302.
- SENNA-MARTINEZ, J. C. – LUÍS, E. (2016) – Technique and Social Complexity: Development Trajectories of Peasant Societies with Metallurgy during the Bronze Age of Western Iberia. In SOARES, J. (ed.) – *Social complexity in a long term perspective. Proceedings of Session B15 of UISPP 17th Congress. Setúbal Arqueológica*, 16: 115-130.
- SENNA-MARTINEZ, J. C. – LUÍS, E. – ARAÚJO, M. F. – SILVA, R. – FIGUEIREDO, E. – VALÉRIO, P. (2011) – First Bronzes of North-West Iberia: the data from Fraga dos Corvos Habitat Site. In MARTINS, C. B. – BETTENCOURT, A. M. S. – MARTINS, J. I. F. P. – CARVALHO, J. (eds.) – *Settlement and Mining in the Atlantic Western Europe*. Braga: 377-390.
- SENNA-MARTINEZ, J. C. – LUÍS, E. – MATOS, R. – VALÉRIO, P. – ARAÚJO, M. F. – TERESO, J. – COSTEIRA, I. (2017) – O Enterramento da Idade do Bronze da Gruta das Redondas (Carvalhal de Aljubarrota): Um contributo para o estudo do Bronze Antigo na Estremadura Atlântica. In ARNAUD, J. M. – MARTINS, A. (eds.) – *Arqueologia em Portugal / 2017 – Estado da Questão*. Lisboa: 833-847.
- SENNA-MARTINEZ, J. C. – LUÍS, E. – MENDES, C. (in press) – Between the Atlantic and the Mediterranean: The Fraga dos Corvos mountain site (Macedo de Cavaleiros) in the Late Bronze Age/Early Iron Age Transition. *Colóquio Internacional “Romper Fronteiras, Atravessar Territórios”*, September 23rd and 24th 2021. Oporto.
- SENNA-MARTINEZ, J. C. – REPREZAS, J. – LUÍS, E. – FIGUEIREDO, E. – LOPES, F. – GOMES, S. S. – ARAÚJO, M. F. – SILVA, R. J. (2012) – Metal Artefacts of Mediterranean Affiliation from Fraga dos Corvos Habitat Site (Eastern Trás-os-Montes, Portugal): a First Appraisal. *O Arqueólogo Português, Série V(2)*: 241-263.
- SENNA-MARTINEZ, J. C. – VENTURA, J. M. Q. (2008) – Neolitização e Megalitismo na Plataforma do Mondego: Algumas Reflexões sobre a Transição Neolítico Antigo/Neolítico Médio. In HÉRNANDEZ PÉREZ, M. S. – SOLER DÍAZ, J. A. – LÓPEZ PADILLA, J. A. (eds.) – *Actas del IV Congreso del Neolítico Peninsular*. Tomo II. Alicante: 77-84.
- SENNA-MARTINEZ, J. C. – VENTURA, J. M. Q. – CARVALHO, H. A. – ARAÚJO, M. F. – FIGUEIREDO, E. – VALÉRIO, P. (2010) – “Melting the Power” – The Foundry Area of Fraga dos Corvos (Macedo de Cavaleiros, North-Eastern Portugal). In BETTENCOURT, A. M. S. – SANCHES, M. J. – ALVES, L. B. – FÁBREGAS VALCARCE, R. (eds.) – *Conceptualising Space and Place. On the role of agency, memory and identity in the construction of space from the Upper Palaeolithic to the Iron Age in Europe* (BAR Internacional Series 2058). Oxford: 111-117.
- SERRA, M. – PORFÍRIO, E. – SOARES, S. (2014) – A Estela da Idade do Bronze do Monte do Ulmo (Santa Vitória, Beja). *Conimbriga*, 53: 5-30.
- SOARES, A. M. – BAPTISTA, L. – MATALOTO, R. – MELO, L. – SILVA, A. M. – SOARES, R. M. – VALÉRIO, P. (2021) – The Bronze Age of Southwestern Iberian Peninsula: endogenous evolution versus migration stimuli. *Revista Portuguesa de Arqueologia*, 24(1): 59-82.
- STUIVER, M. – REIMER, P. J. – REIMER, R. W. (2021) – CALIB 8.2 [www program] at <http://calib.org> accessed 2021-12-4.
- TWOHIG, E. S. (1981) – *The Megalithic Art of Western Europe*. Oxford.
- VALÉRIO, P. – ARAÚJO, M. F. – CANHA, A. (2007) – EDXRF and micro-EDXRF studies of Late Bronze Age metallurgical productions from Canedotes (Portugal). *Nuclear Instruments and Methods in Physics Research B*, 263: 477-482.
- VALÉRIO, P. – SILVA, R. J. C. – SOARES, A. M. M. – ARAÚJO, M. F. – GONÇALVES, A. P. – SOARES, R. M. (2015) – Combining X-ray based methods to study the protohistoric bronze technology in Western Iberia. *Nuclear Instruments and Methods in Physics Research B*, 358: 117-123.
- VASCONCELLOS, J. L. (1906) – Estudos sobre a época do bronze em Portugal. *O Archeólogo Português, Série I(11)*: 179-189.
- VASCONCELLOS, J. L. (1908) – Estudos sobre a época do bronze em Portugal. *O Archeólogo Português, Série I(13)*: 300-313.

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 resenhas 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 resenhas bibliográficas.

Os autores / editores que pretendam apresentar uma obra para resenha devem enviar dois exemplares para a direcção da Revista Ophiussa: um para o autor/autora da resenha 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 resenhas 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 resenhas) 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 Committee 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.orkund.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 Committee 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.orkund.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. It 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 access.

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

ÍNDICE

Pequenos sítios, objectos perdidos, artefactos sem contexto. 3. O «ídolo cilíndrico» de Ervidel (Herdade da Cariola) VICTOR S. GONÇALVES	5
<i>Heads & tails: Bell Beakers and the cultural role of Montejunto Mountain (Portugal) during the second half of the 3rd millennium BC</i> ANA CATARINA BASÍLIO	23
O conjunto faunístico do Cerro dos Castelos de São Brás (Serpa, Portugal) no 3.º milénio a.n.e.: entre a <i>antroposfera</i> e a <i>zoosfera</i> FREDERICO AGOSTO	43
The materialization of an iconography: a LBA/EIA metallic representation of an “anchoriform” or “anchor idol” (?) from the Fraga dos Corvos habitat site (Eastern Trás-os-Montes, Portugal) JOÃO CARLOS SENNA-MARTINEZ, ELSA LUÍS, CARLOS MENDES, PEDRO VALÉRIO, MARIA DE FÁTIMA ARAÚJO, ANTÓNIO M. MONGE SOARES	69
A necrópole do Cerro do Ouro (Ourique): reflexões sobre os enterramentos em urna nas necrópoles tumulares do Baixo Alentejo FRANCISCO B. GOMES	85
O sítio arqueológico de Arruelas (Maiorca, Figueira da Foz, Portugal) no contexto da Conquista Romana do Ocidente Peninsular FLÁVIO IMPERIAL	105
A importação de ânforas do Tipo <i>Urceus</i> em Monte dos Castelinhos, Vila Franca de Xira JOÃO PIMENTA, HENRIQUE MENDES	127
<i>Traianeum de Italica</i> . Campaña arqueológica 2016/2017 SEBASTIÁN VARGAS-VÁZQUEZ	143
El asentamiento rural romano de la Venta El Parrao (Alcalá de Guadaíra, España): Nuevos datos arqueológicos LUIS-GETHSEMANÍ PÉREZ-AGUILAR, SALVADOR ORDÓÑEZ AGULLA	163
A ocupação romana da Lezíria (Castro Marim, Portugal) ANA MARGARIDA ARRUDA, MARGARIDA RODRIGUES	187
Os recursos animais no Noroeste da Lusitânia do período republicano à Antiguidade Tardia (Séculos II a.C. - VII d.C.): Uma perspectiva a partir das evidências zooarqueológicas do centro de Portugal PATRÍCIA ALEIXO, GIL VILARINHO	209
Recensões bibliográficas (TEXTOS: FREDERICO AGOSTO, ANA MARGARIDA ARRUDA)	231
<i>In memoriam</i>	243
Política editorial	246
Editorial policy	247