NÚCLEO DE INVESTIGAÇÃO ARQUEOLÓGICA

ERA ARQUEOLOGIA

14

APONTAMENTOS

de Arqueologia e Património

ABR 2020

ISSN: 2183-0924

APONTAMENTOS

de Arqueologia e Património

14

ABRIL

2020

Título: *Apontamentos de Arqueologia e Património*
Propriedade: *Era-Arqueologia S.A.*
Editor: *ERA Arqueologia / Núcleo de Investigação Arqueológica – NIA*
Local de Edição*: Lisboa*
Data de Edição: *Abril de 2020*
Volume: *14*
Capa: *Sepultura romana 16 de Bantum*
(Foto: José Carvalho)

Direcção: *António Carlos Valera*

ISSN: 2183-0924

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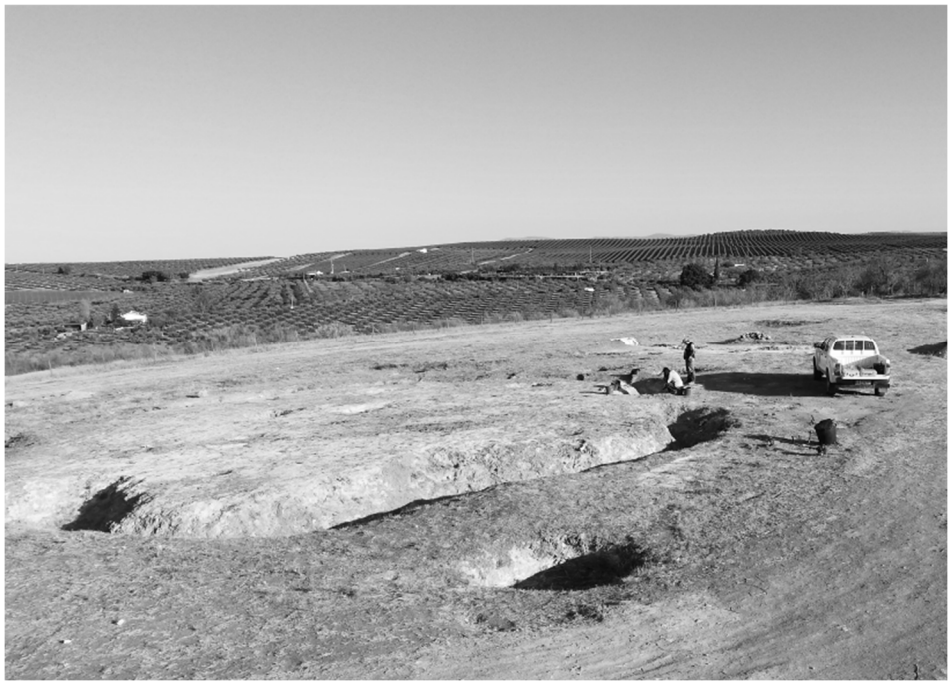
Revista digital.
Ficheiro preparado para impressão frente e verso.

O uso do acordo ortográfico está ao critério de cada autor.

ÍNDICE



EDITORIAL

A Apontamentos de Arqueologia e Património completa em 2020 treze anos de existência. Se a isto somarmos os oito anos anteriores (e oito volumes publicados) da revista ERA Arqueologia e o arranque das séries monográficas (a ERA Monográfica, com três volumes editados, e a Perdigões Monográfica, com um número publicado e outro no prelo), fica claro o empenhamento e o compromisso que a ERA Arqueologia sempre manteve com divulgação do resultado do seu trabalho. Um compromisso feito também de resiliência, porque os tempos nem sempre foram fáceis.

A publicação do décimo quarto número ocorre, novamente, num contexto de dificuldades e de algumas (muitas) incertezas. Contudo, há já algum tempo que ele estava previsto para agora e a sua publicação não assume qualquer particular simbolismo ou declaração relativamente a este tempo que vivemos em Abril de 2020. Revela apenas o continuar resiliente de uma trajectória de direcção única (o que, como Almada Negreiros bem sublinhou, é o oposto de única direcção).

António Carlos Valera

THE FAUNAL RECORD FROM SANTA VITÓRIA (CAMPO MAIOR): AN INITIAL APPRAISAL BASED ON THE REMAINS FROM 2018 AND 2019 EXCAVATIONS.

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Resumo:
O registo faunístico de Santa Vitória (Campo Maior): uma primeira avaliação baseada nos restos provenientes das escavações de 2018 e 2019.

A investigação sobre recintos de fossos tem-se desenvolvido crescentemente, porém os dados relacionados com os registos arqueofaunísticos são ainda escassos. Neste artigo fazemos uma avaliação inicial do registo faunístico do recinto de fossos de Santa Vitória (Campo Maior, Portugal). Identificaram-se algumas diferenças entre as espécies faunísticas presentes nos fossos interior e exterior. O último apresentava um pequeno conjunto de restos de equídeo, vaca, cabra/ovelha e suíno. Do fosso interior foram recuperados restos de equídeo, ovelha, cabra, veado, suínos (incluindo javali) e leporídeos (sobretudo coelho selvagem), acompanhados por alguns moluscos (amêijoa-boa e vieira). Indicadores tafonómicos de acção antropogénica são escassos e comparativamente mais abundantes no conjunto do fosso interior. Especificidades relacionadas com as abundâncias anatómicas e formação destes contextos são discutidas preliminarmente.

Abstract:

Research on ditched enclosures is increasingly growing but information regarding archaeofauna records is still scarce. We present an initial appraisal of the faunal record from the ditched enclosure of Santa Vitória (Campo Maior, Portugal). Some differences were noticeable between the faunal species present in the inner and exterior ditches. The latter had a small assemblage with a few equid, cattle, goat/sheep, and swine remains. From the inner ditch, we identified equid, goat, sheep, red deer, swine (including wild boar) and leporid (mainly wild rabbit) accompanied by a few molluscs (clam and scallop). Taphonomic indicators of anthropogenic action were scarce but comparatively more abundant in the inner ditch assemblage. Specificities related to anatomic abundances and formation of these contexts are preliminarily discussed.

1. Introduction.

The research on ditched enclosures from South Portugal increased substantially in the last decades. Among excavated sites, a special space is reserved for the small ditched enclosure of Santa Vitória, located in Campo Maior, Portalegre. It was the first of its kind to be identified and subjected to archaeological research in Portuguese territory, with several excavation campaigns occurring between 1986 and 1993 (Dias, 1996). Even so, as previously stated, the stratigraphies, absolute chronologies and the majority of material culture and faunal record, rhythms and practices remain unknown (Valera et al., 2019). In the scope of the project Santa Vitória: Temporalidades, Arquitecturas e Prácticas Sociais num pequeno recinto de Fossos (Santa Vitória: Temporalities, Architectures and Social Practices in a small ditched enclosure - SANVIT), new excavations were made in this enclosure, resulting in the acquisition of several faunal elements from the inner and exterior ditches. In this article, the results of the analysis of the archaeofaunal records from this site are presented and aspects related to different species representativeness, anatomical abundances and the formation of these assemblages are discussed.

2. Materials and Methods

The faunal remains studied were recovered in the 2018 and 2019 archaeological excavations made at Santa Vitória (Campo Maior) (Figure 1) in the scope of the project SANVIT under the scientific responsibility of António Carlos Valera and Ana Catarina Basílio. Published absolute dates place the use of Santa Vitória in the third quarter of the 3rd millennium BC and the 3rd/2nd millennium BC transition. The final phase of use is characterized by recuttings in the ditches infillings and the stone clusters on top of these that date to the beginning of the Bronze Age, while the oldest date (from ditch 1) could relate to an older bone from an earlier phase that was remobilized inside the recutting (Valera *et al.*, 2019: 16). The acquisition of a finer chronology for the different contexts is ongoing so we opt for the separate presentation of the assemblages from ditch 1 (inner) and ditch 2 (exterior) but the addition of more information will allow for a better separation of remains and specific contexts discussion in future results divulging.

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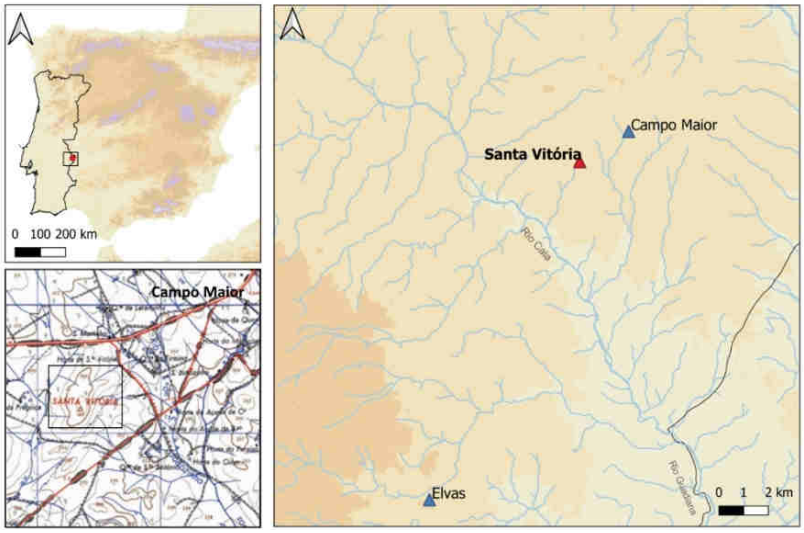

Figure 1 – Location of Santa Vitória ditched enclosure.

Analysis followed common methodologies in zooarchaeology and taphonomy (Lyman 1994; Reitz, Wing 2008). Taxonomic identification took into account biometrical data and morphological characteristics of similar species, as is the case of *Ovis aries* and *Capra hircus* (*e.g.*, Zeder, Lapham 2010; Zeder, Pilaar 2010). Measurements were acquired with a Lux calliper following Driesch (1976), with further additions specifically for swine and caprines (Payne, Bull 1988; Davis, 1996; Albarella *et al.*, 2005). Demographic profiling was achieved through the record of bone development, teeth eruption and use wear (Bull, Payne 1982; Grant, 1982; Payne, 1987; Zeder, 2006; Lemoine *et al.*, 2014; Zeder *et al.*, 2015). Groups implemented according to age-at-death comprise infant, juvenile/sub-adult, adult and senile individuals. Taxonomically undetermined remains were arranged in generic weight groups: very small (<20 kg), small (20-100 kg), average (100-300 kg) and large size (>300 kg). Results are presented by means of the Number of Specimens (NSP), Number of Identified Specimens (NISP), Minimum Number of Elements (MNE) and Minimum Number of Individuals (MNI) (Lyman, 2008).

Breakage patterns of long bone diaphysis were assessed according to delineation, degree and surface of fracture planes, and length and section completeness (Villa, Mahieu 1991). Macroscopic and microscopic analysis was implemented for the identification of surface modifications. Processing of remains, both anthropogenic or by carnivores, took into account the presence of breakage (*e.g.*, percussion indicators, peeling), cutmarks (incisions, chop, saw and scrape marks), tooth marks (*e.g.*, pits, notches, scores) (Binford, 1978, 1981; Brain, 1981) and thermo-alteration (Stiner *et al.*, 1995; Solari *et al.*, 2015). These indicators were recorded according to location, morphology and intensity. Other taphonomic indicators, such as the presence of vermiculations and weathering (Behrensmeyer, 1978), trampling (Behrensmeyer *et al.*, 1986), precipitation of manganese oxides (López-González *et al.*, 2006), and the formation of concretions (Courty *et al.*, 1989), were recorded quantitatively and qualitatively (Almeida, 2017).

3. Results

3.1. Ditch 1

The assemblage from ditch 1 is represented by a 294 NSP, mainly from Stratigraphic Units [134] (23.8%), [140] (23.1%) and [131] (8.2%). Mammal remains (280 or 95.2%) are better represented in comparison to malacological fauna (14 or 4.8%), and taxonomical identification was possible in 26.5% of the cases.

A relevant taxonomic variety was identified, comprising wild and domestic species, as well as others whose status was not clear due to the absence of morphological and biometrical data (Tables 1 and 2). One of these cases is the presence of equid remains, namely four proximal phalanges. A similar situation was recorded for *Cervus elaphus* since only proximal phalanges were recovered. In all cases, both size and general ossification of the elements are suggestive of adult individuals.

Caprines correspond to the second largest group and include both *Capra hircus* and *Ovis aries*, however, the more general group *Ovis*/*Capra* is clearly predominant. Goat and sheep were identified based on mandible remains, and although these are generally not the most discriminant elements, these species can be effectively separated in cases where they are more complete or certain teeth are present (Zeder, Pilaar 2010). *Capra hircus* was identified based on an almost complete left mandible from an adult individual aged between 48 and 72 months. A portion of a right mandible indicated the presence of an adult cf. *Ovis aries*, while a left mandible (M1, dp4, dp3, dp2) from a young *Ovis aries* individual, aged between 6 and 12 months, was also recorded. The remaining record of Caprines remains comprises axial, appendicular and mainly cranial remains and are concordant with the MNI calculated.

Better represented quantitatively and qualitatively, swine are by far the largest group in this assemblage. Separating pig from wild boar is generally very difficult, especially in Western Iberia (Albarella *et al.* 2005) and even more in commingled assemblages as is the case discussed. Nonetheless, the identification of a large lower canine and a very large IV metatarsal allows us to indicate their presence at least in these two cases, both of which could correspond to the same adult individual. Among *Sus* sp. remains, several smaller measurable elements that could be from the domesticated variant were recorded but unfortunately corresponded largely to juvenile/sub-adults, this way hindering a concise separation due to age-related aspects. Altogether, swine anatomical representativeness seems less biased in comparison to the remaining taxa but loose teeth, teeth fragments, and appendicular extremities are better represented. Also, the only clearly articulated records from this assemblage are one mesial and distal phalanges from *Sus* sp. found in SU [140].

Smaller mammals comprise the wild rabbit *Oryctolagus cuniculus*, represented mainly by long bones and metatarsals, corresponding to one immature (5 to 8 months) and one adult (>10 months) individuals. One Leporidae (wild rabbit/hare) femur was also identified.

Overall, cranial remains, loose teeth and vertebrae are abundant in the taxonomically unidentified sample. Remains classified to a general category correspond mainly to long, flat and unidentified bones. Among this sub-sample, almost half (48.3%) were undetermined from a weight perspective; 28.3% are from 20-100 kg mammals and only 2% from animals >300 kg. Larger taxonomically unidentified remains are scarce, suggesting a selection of the materials corresponding to these species since we would expect to have other elements (or at least bone fragments) from larger-sized mammals if selection was not an issue. From a strictly economic perspective, phalanges are elements that can easily be broken for culinary purposes, but this is not the case in both equid and red deer phalanges recovered.

A preliminary assessment of the molluscs demonstrates that they are less abundant than mammals but equally commingled. Scallop (*Pecten* sp.) and clam (*Ruditapes decussatus*) were identified but hardly can be considered part of these groups' diet, at least in a relevant way. One of the unidentified shells was perforated and possibly used as a pendant but its eroded state hindered a more specific identification. Probably only the circulation of the shells of scallop occurred. Scallops can be found in certain western coastal areas of Portugal, but since their circulation was part of established contact networks their provenance is unclear. As for the clams, the circulation of exogenous molluscs in conditions of consumption was already discussed for the Southwestern area of the Iberian Peninsula, and their association to ritual consumption was suggested as well in several cases (Valera, André 2016/2017).

This assemblage is highly fractured and fragmented with 84% of the remains having a maximum size <5 cm and only 2% >10 cm (Figure 2). A total of 35 specimens from 20-100 kg or larger were analysed according to completeness demonstrating the high breakage of diaphysis in terms of length and section. Fracture planes analysis implemented in 102 fracture planes from 43 diaphysis show the relevance of oblique and longitudinal delineations, right and mixed degrees, and a predominance of smooth surfaces. The important breakage of the diaphysis seems to be highly related to a dry or semi-dry state of the remains, even if some amount of green fracture (and to a lesser extent some possible post-thermo-alteration) could have existed has suggested by oblique delineations and degrees, and smooth surfaces.

Anthropogenic action is represented by the presence of cut-marks, breakage and thermo-alteration but with relative abundances between 1 and 2% (Table 3). A *Sus* humerus, one *Ovis*/*Capra* atlas and two long bone fragments presented cut-marks. Their functional meaning (*sensu* Bunn, 1991: 449) would be respectively filleting/dismemberment incisions, segmentation chop marks, and filleting incisions on the diaphysis fragments. Dynamic fracture is present in one *Sus* humerus and diaphysis fragments with a predominance of isolated notches, one cortical extraction, striae, and one percussion cone.

Burnt remains are scarce and in initial to mid-stages, i.e., brown and black tonalities corresponding to a carbonization stage at maximum. They were recorded in a *Sus* sp. distal phalange and taxonomically unidentified fragments (2 long bones, 1 vertebra, 1 unidentified). Possible boiling was recorded in one undetermined and five long bone fragments but even if proven to have occurred it does not seem to be of relevance. As for mechanical damage, the following indicators are present: one possible scooping out in a *Sus* sp. scapula, one specimen with fracture planes notches, a small (<30 mm) Leporid femur cylinder and a Caprine astragalus with possible digestive damage.

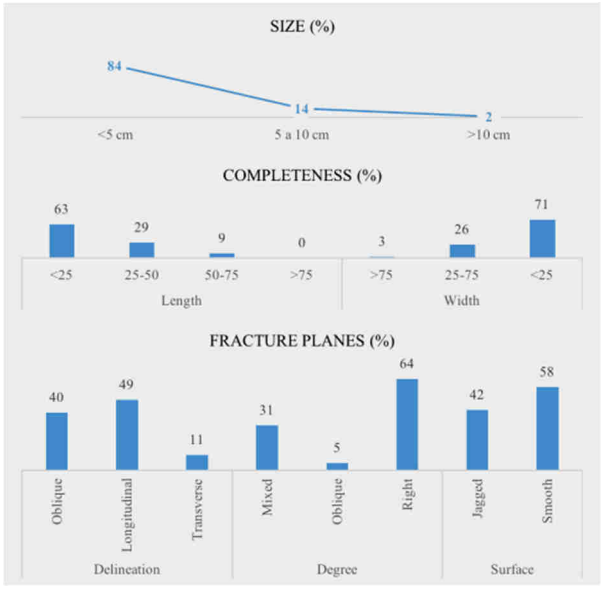

Figure 2 – From top to bottom: relative abundances of maximum size, diaphysis completeness and fracture planes for ditch 1.

Other indicators are mainly in the initial stages of affectation and with relative abundances between 5 and 9% (Figure 3). Weathering appears mainly in initial stages with degrees 1 and 2 corresponding to 72% of the total weathered remains. Nonetheless, degree 3 is fairly represented (24%) while higher degrees comprise only degree 4 (4%). Root etching and precipitation of oxides were recorded in initial stages, mainly in <25% of the exposed surfaces, with values of 88.9% and 93.3% respectively. Concretions are more widespread between degrees, with affectations of degrees 1, 2 and 3 but highest degrees are absent. Altogether, these features are suggestive of a relatively fast sedimentation or at least few moments of re-exposition of faunal remains. The formation of concretions is the result of moments of humidity, when precipitation of manganese oxide occurred, followed by fast desiccation.

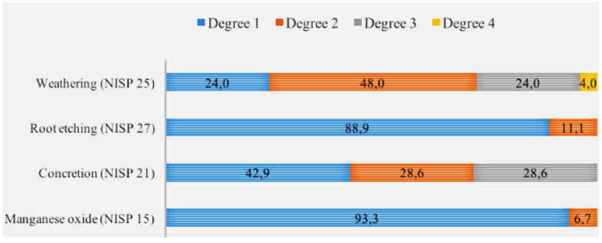

Figure 3 – Relative abundances of taphonomic indicators per degrees of affectation for ditch 1.

3.2. Ditch 2

The assemblage from ditch 2 is comparatively smaller with a 60 NSP, comprising entirely mammal remains (Tables 4 and 5). The dispersal of records among identified Stratigraphic Units indicates that the majority of remains are from SU [216] (48.3%) and [217] (31.7%). Taxonomic identification was possible in 20% of this sample.

Caprines are more abundant, followed by swine, with equids and cattle having minimum values. Bones from appendicular extremities are predominant, as is the case for both equids and bovids, identified based on these elements. For Caprines, loose teeth are comparatively common. Wild animals were not recorded but domestic (*Bos* cf *taurus* and *Ovis*/*Capra*) and species of unclear status (*Equus* sp. and *Sus* sp.) were identified.

Taxonomically identified remains are consistent with one equid, cow and sheep/goat adult individuals each, with *Sus* sp. being represented by two adult individuals. Taxonomically unidentifiable remains were considered mainly unfit for weight group classification (26 or 54.2%) or <300 kg (12 or 25%). Similarly, to what is observed in the ditch 1 assemblage larger-sized remains are lacking if we consider the MNI obtained.

The maximum size of the records analysed is <5 cm in 92% of the cases and complete elements are scarce (6.7%) (Figure 4). Five diaphysis of >20 kg mammals hardly allows for an evaluation of breakage in the assemblage, still they demonstrate the relevance of lower completeness of length and sections. A total of 17 fracture planes from 8 remains suggests that this breakage is mainly in a dry and semi-dry state, with relevant longitudinal and transverse delineations, right and mixed degrees with oblique degrees being absent.

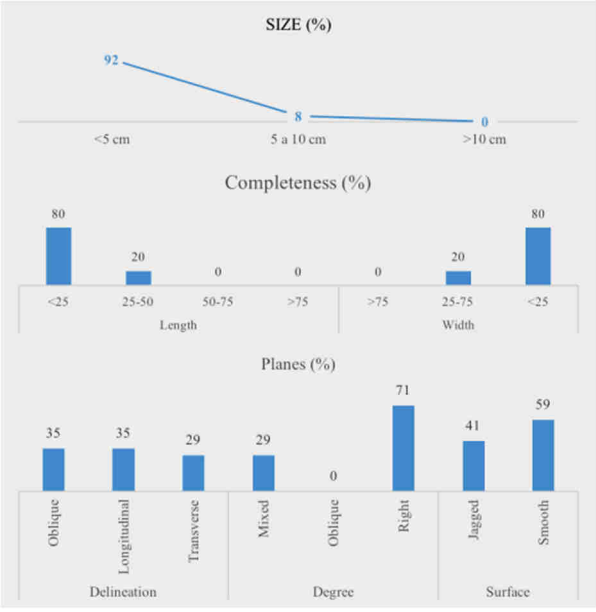

Figure 4 – From top to bottom: relative abundances of maximum size, diaphysis completeness and fracture planes for ditch 2.

Burnt is the only taphonomic indicator associated with what could have been anthropogenic action (Table 6). It is present in 18.3% of this assemblage and in all cases in a double coloration of degrees 2 (brownish) and 3 (black – carbonization), in the external and internal surfaces of diaphysis or near-to epiphysis, respectively. These are long bone fragments from average to large-sized mammals from SU [201] (n 2) and [216] (n 9).

In this assemblage, weathering is more abundant (26.7%) in comparison to concretions, precipitation of manganese oxide and root etching. The quantity of remains with these indicators hinders a concise discussion on their presence and characteristics. In fact, weathering is more abundant and even so was only recorded in a total of 16 remains. Still, its presence in several degrees of affectation suggests a relatively slower sedimentation in comparison to ditch 1 and/or moments of re-exposition of the faunal remains (Figure 5).

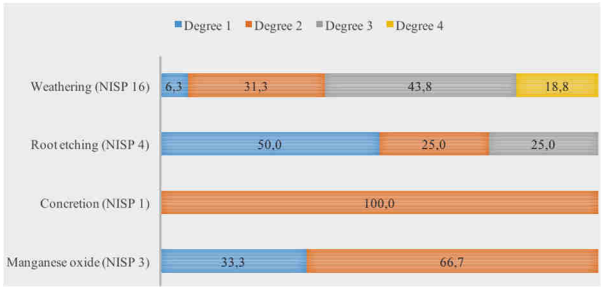

Figure 5 – Relative abundances of taphonomic indicators per degrees of affectation for ditch 2.

4. Discussion and final considerations

From a zooarchaeological perspective and setting aside quantitative comparisons among the assemblages from ditch 1 and 2, major differences correspond to the presence of molluscs in ditch 1 and their, so far, absence in ditch 2. To some extent, a part of these molluscs probably corresponds to a non-economic component of the assemblage since one of the shells was found perforated, possibly used as an adornment, made in exogenous material, and eventually obtained through exchange networks. As for the mammals, cattle remains are absent from ditch 1, while wild rabbits and red deer are absent from ditch 2. On the one hand, ditch 2 assemblage had no record of wild animals, but a few remains of *Sus* sp. must be considered; one the other hand, ditch 1 encompasses several domestic but also wild species (red deer, wild boar and wild rabbit).

Besides these differences, some aspects are common to both assemblages, including their commingled state with remains generally below 5 cm of maximum dimension. Fragmentation, i.e., breakage in a dry or semi-dry state, occurred in both assemblages and an abundance of thermo-alterations, both burnt and possible boiling, are not noticeable enough to be clearly related to a part of the more abundant fracture planes delineations. The presence of weathered burnt remains, especially in ditch 2, is notice worthy. Their coloration throughout the bone surface with slight differences between the inner and

outer surfaces could relate to the absence of soft tissues (Asmussen 2009). They were probably incorporated in these contexts already in a weathered state. The incorporation of disarticulated dry bones was already suggested for Caprines phalanges in burials (Valera, Costa 2013a; Melo, Silva 2016) and it seems to have occurred also in this site (willingly or not) if we consider the presence of a few remains with higher weathering in comparison to the remaining assemblage. One could also argue that they could have been differentially subjected to re-exposition moments due to the dynamics of context formation (e.g., recuttings, time between infillings), or there is a different treatment of specific types of bones, eventually from certain species or with different characteristics (burnt or not) but this needs further analysis.

Anthropogenic indicators related to butchering and consumption are absent from ditch 2 (exception of burnt remains) and scarce in ditch 1 thus suggesting either a lack of preservation that could allow their identification, a specific type of butchering (*e.g.*, privileging larger portions of meat as opposed to filleting) or a small incidence of these indicators in the assemblage as a whole. Generally, bone surfaces were considered well preserved so the "small incidence" hypothesis seems more plausible, especially taking into account that filleting marks are not entirely absent from diaphysis. However, it is known that the degree of breakage can decisively influence anatomic and taxonomic identification, but also the identification of cutmarks (Abe *et al.* 2002; Domínguez-Rodrigo 2003: 384-385) and tooth marks (Blumenschine 1988: 499). We must acknowledge that the presence of percussion notches does not relate to the number of movements (Pickering, Egeland 2006: 466-467) and the presence of cutmarks does not reflect the intensity of butchering (Egeland 2003) or the number of movements and cuts. The use of total frequencies of specimens with cutmarks alone is not representative of the behaviour related to the butchering process itself (Domínguez-Rodrigo, Yravedra 2009: 892) so, even if indicators of intense butchering and consumption are scarce or absent, a contextual approach must be made and a higher number of remains is needed to better assess these questions.

Another interesting issue is the relevance of complete phalanges from red deer and equids. This behaviour of larger-sized animals being represented by complete loose phalanges lacking any type of anthropogenic alteration was also noticed elsewhere for cattle (Valera *et al. in press*). The presence of complete loose phalanges in Late Neolithic funerary contexts was previously emphasised (Valera, Costa 2013b). Equids and cervids phalanges assume a special interest in cases where their morphology is altered given rise to the so-called "idols" discussed in a recent synthesis by Valera (2015).

In the assemblages under study, appendicular extremities in anatomical connection only occur in one case (*Sus* sp. mesial and distal phalanges), this way demonstrating a different behaviour in comparison with funerary contexts from Late Neolithic to the Middle Bronze Age from South Portugal (Valera, Costa, 2013a; Costa, Baptista 2014). Even in cases where swine paws were recorded, as in the Late Neolithic pit burials from Perdigões (Moreno García, Cabaço 2009; Valera, Godinho 2009), they were more complete than a simple articulation of two phalanges.

Interestingly, larger sized animals, as is the case mainly of equids but also cattle and red deer to a lower extent, are almost entirely circumscribed to complete proximal phalanges in both Santa Vitória ditches. Ditch 1 had one red deer proximal phalange in [137] and another in [139], and three equid proximal phalanges in [140] (Figure 6F) and one in [133]. A medial phalange from *Bos* cf. *taurus* was found in SU [216] from ditch 2.

This "preference" for proximal phalanges echoes on what occurs for "idols" but no indicators of anthropogenic alteration of the phalanges recovered in Santa Vitória were recorded. Still, their position in the stratigraphy and possible association with specific elements of the material culture is of notice since the equid phalanges were found pared with different fragments of one "horned idol". It has been discussed that the increment of idols made in equid phalanges identified after the mid 3rd millennium BC could relate with the changes in animals' socio-economical and ideological status more than resulting from morphological aspects alone (Valera 2015). These possibilities can and should be analysed also in the scope of Santa Vitória faunal remains and other contemporaneous sites in South Portugal.

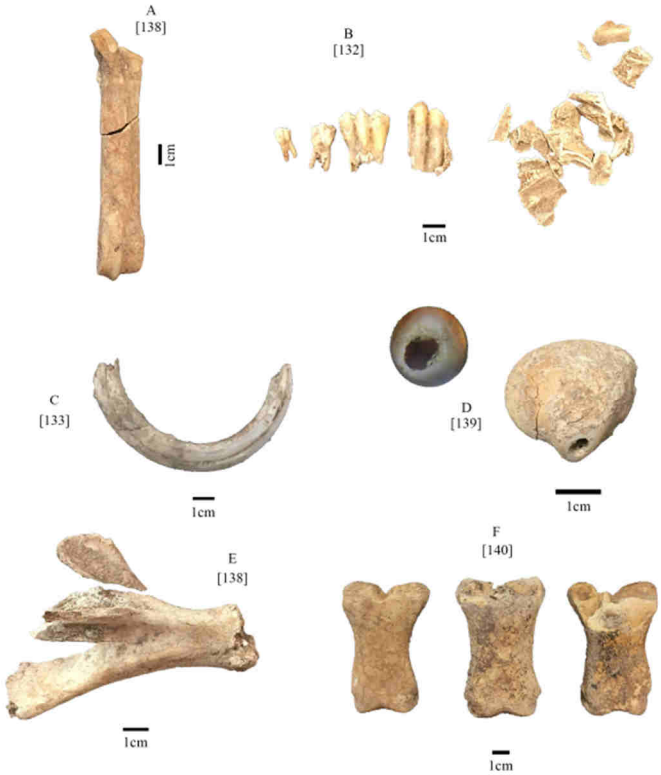

Figure 6 – Selection of materials recovered from Santa Vitória: wild boar IV metatarsal (A) and lower canine (C), lamb mandible (B), perforated shell with a detail of the perforation (D), swine scapula with mechanical action in the neck (E), and three equid proximal phalanges from Stratigraphic Unit [140].

Acknowledgements

The authors acknowledge the support from the Municipality of Campo Maior and the Direcção Regional de Cultura do Alentejo, partner entities in the SANVIT project led by ERA Arqueologia.

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Attachments: Tables

Table 1 - Ditch 1 absolute and relative NISP and MNE values.

Mammals	**NISP**	**NISP%**	**MNE**	**MNE%**
Equus sp. (equid)	4	5.3	4	7.5
Capra hircus (goat)	1	1.3	1	1.9
Ovis aries (sheep)	1	1.3	1	1.9
cf. *Ovis aries* (sheep)	1	1.3	1	1.9
Ovis/Capra (sheep/goat)	18	24.0	10	18.9
Cervus elaphus (red deer)	2	2.7	2	3.8
Sus scrofa (wild boar)	2	2.7	2	3.8
Sus sp. (pig/wild boar)	37	49.3	24	45.3
O. cuniculus (wild rabbit)	8	10.7	7	13.2
Leporidae (wild rabbit/hare)	1	1.3	1	1.9
Total	75	100	53	100
Molluscs				
Pecten sp. (scallop)	1	7.1		
Ruditapes decussatus (clam)	2	14.3		
Unidentified	11	78.6		
Total	14	100		

Table 2 - Ditch 1 anatomical representativeness according to NISP and MNE values. EQ – Equus sp., CH – Capra hircus, OA – Ovis aries, cf. OA – cf. Ovis aries, O/C – Ovis/Capra, CE – Cervus elaphus, SS – Sus scrofa, S – Sus sp., ORC – Oryctolagus cuniculus, LEP – Leporidae, UN – Unidentified.

	EQ	**CH**	**OA**	**cf. OA**	**O/C**	**CE**	**SS**	**S**	**ORC**	**LEP**	**UN**
Cranial skeleton											
Cranium (maxilla)					4(3)			1(1)			15
Mandible		1(1)	1(1)	1(1)	2(2)		(1)	1(2)			
Molar					7			2			1
Pre-molar								3			
Incisor								4			
Canine							1	2			
Tooth											5
Axial skeleton											
Vertebrae					1(1)			2(1)			21
Rib											5
Appendicular skeleton											
Scapula					1(1)			1(1)			1
Humerus								1(1)	1(1)		1
Radius								1(1)			
Ulna					1(1)			1(1)			
Pelvis					1(1)				1(1)		2
Femur										1(1)	
Tibia								2(2)	3(2)		3
Fibula								1(1)			
Metacarpus								2(2)			
Metatarsus							1(1)		2(2)		
Metapodials								3(1)			1
Astragalus					1(1)						
Phalange 1	4(4)					2(2)		2(2)	1(1)		
Phalange 2								2(2)			1
Phalange 3								6(6)			
Other											
Long bone											64
Flat bone											38
Carpal/tarsal											1
Unidentified											46
Total	4(4)	1(1)	1(1)	1(1)	18(10)	2(2)	2(2)	37(24)	8(7)	1(1)	205

Table 3 - Main taphonomic indicators absolute and relative abundances for ditch 1.

Indicator	**n**	**%**
Cutmarks	4	1,4
Anthropogenic breakage	7	2,4
Burnt	5	1,7
Boiling (?)	6	2,0
Carnivore action	3	1,0
Root etching	27	9,2
Weathering	25	8,5
Concretions	21	7,1
Manganese oxide	15	5,1
Complete elements	26	8,8
Modern breakage	149	50,7

Table 4 - Ditch 2 absolute and relative NISP and MNE values.

Mammals	**NISP**	**NISP%**	**MNE**	**MNE%**
Equus sp. (equid)	1	8.3	1	12.5
Bos cf. *taurus* (cow)	1	8.3	1	12.5
Ovis/Capra (sheep/goat)	7	58.3	3	37.5
Sus sp. (pig/wild boar)	3	25.0	3	37.5
Total	12	100	8	100

Table 5 - Ditch 2 anatomical representativeness according to NISP and MNE values. EQ – Equus sp., BT – Bos cf. taurus, O/C – Ovis/Capra, S – Sus sp., UN – Unidentified.

	EQ	**BT**	**O/C**	**S**	**UN**
Cranial skeleton					
Antler/horn					1
Cranium(maxilla)			(1)		3
Mandible			(1)		
Molar			6		
Appendicular skeleton					
Radius				2(2)	
Pelvis					1
Metapodials				1(1)	
Carpal/tarsal	1(1)				1
Phalange 2		1(1)	1(1)		
Phalange 3					
Other					
Long bone					20
Flat bone					3
Unidentified					19
Total	1(1)	1(1)	7(3)	3(3)	48

Table 6 - Main taphonomic indicators absolute and relative abundances for ditch 2.

Indicator	**n**	**%**
Burnt	11	18,3
Root etching	4	6,7
Weathering	16	26,7
Concretions	1	1,7
Manganese oxide	3	5,0
Complete elements	4	6,7
Modern breakage	30	50,0

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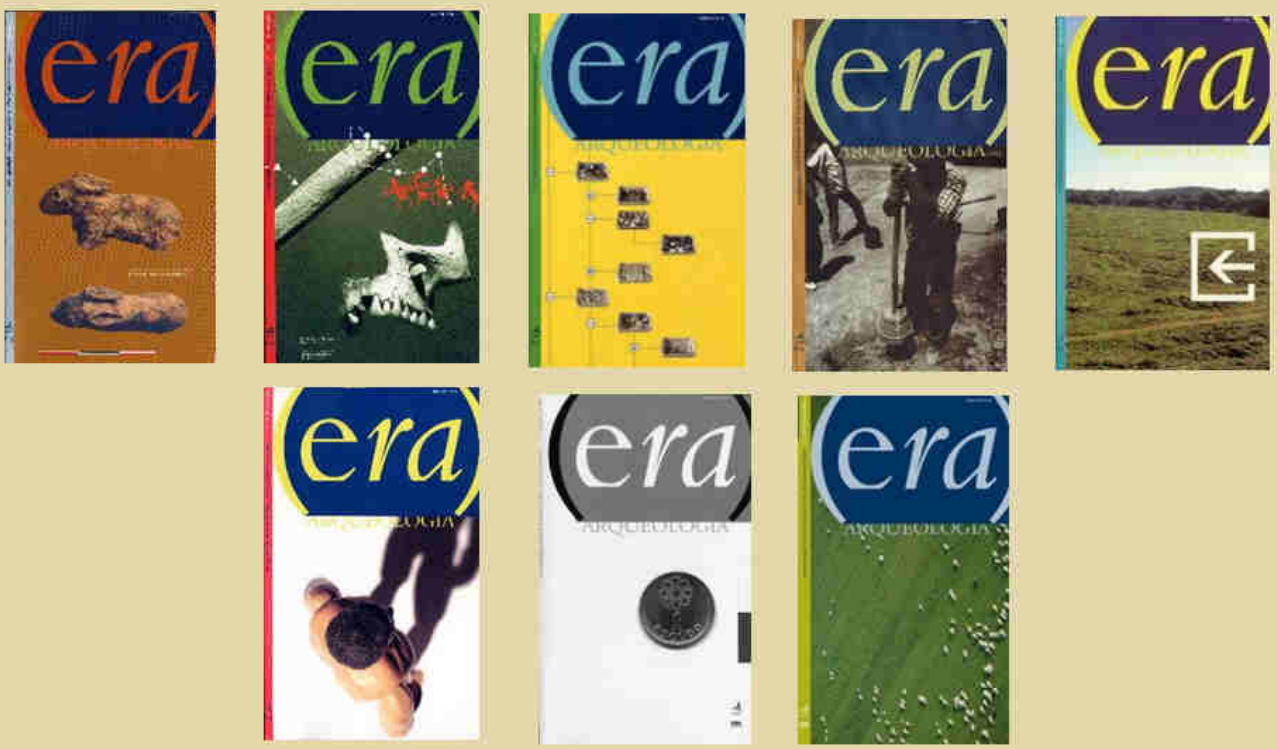

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