

DITCH 1 FROM PERDIGÕES WITHIN THE TRADITIONS OF LATE PREHISTORIC MONUMENTAL ARCHITECTURE IN THE MIDDLE GUADIANA BASIN (4TH-3RD MILLENNIA CAL BC)

El Foso 1 de Perdigoés dentro de la tradición arquitectónica monumental de la Prehistoria Reciente en la cuenca media del Guadiana (IV-III milenios cal AC)

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ABSTRACT: Traditional approaches to the Late Prehistory in the middle Guadiana basin (south-western Iberia), have subsumed a variety of site types under a unifying category labelled ‘settlement site’. That included ‘walled enclosures’, ‘ditched enclosures’ and ‘pit sites’. However, they are very different in their form and features, the formation of archaeological deposits and their chronology. This suggests that more fine-tuned analyses, in which the emergence and evolution of every type of site is studied on its own, could be fruitful. In the present paper, ditch 1 from Perdigoés (Reguengos de Monsaraz, Portugal) will be put in the wider context of the process of monumentalisation of the middle Guadiana landscapes in the 4th and 3rd millennia cal BC. From the perspective outlined above, we shall make a first attempt to set forth the genealogy of walled enclosures, pit sites and ditched enclosures in the region.

Key words: landscape; Neolithic; Chalcolithic; Megalithism; monumentality; ditched enclosures; walled enclosures.

RESUMEN: Las lecturas históricas tradicionales sobre la Prehistoria Reciente realizadas en la cuenca media del Guadiana (so de Iberia) han unificado bajo un mismo concepto de ‘poblado’ o ‘asentamiento’ yacimientos muy distintos en su morfología, en la formación del registro arqueológico o en su cronología. Bajo ese etiquetado se han incluido tanto los *yacimientos de hoyos* como los *recintos de fosos* y/o los *recintos murados/fortificados*. Sin embargo, todos ellos son muy diferentes en su forma y características, la formación de depósitos arqueológicos y su cronología. Esto sugiere que un análisis más preciso, en el que la aparición y la evolución de cada tipo de sitio se estudie por sí solo, podría ser fructífero. En el presente artículo se sitúa el Foso 1 de Perdigoés (Reguengos de Monsaraz, Portugal) en el contexto más amplio del proceso de monumentalización de los paisajes del Medio Guadiana durante el IV y el III milenio cal AC. Desde la perspectiva anteriormente descrita, haremos un primer intento de exponer la genealogía de los recintos amurallados, los sitios de fosos y los recintos abandonados en esta región.

Palabras clave: Paisaje; Neolítico; Calcolítico; Megalitismo; monumentalidad; recinto de fosos; recinto murado.

1. Introduction¹

'Ditch 1' is one of the most exterior of the up to 13 prehistoric enclosures identified thus far at Perdigões (Reguengos de Monsaraz, Portugal) (Fig. 1). Detected by aerial photographs taken in 1997 (Lago *et al.*, 1998), knowledge about its layout was greatly enhanced by magnetometric surveys carried out in 2009 (Márquez-Romero *et al.*, 2011a) (Fig. 2). The ditch runs in parallel and on the outer side of ditch 2. Both have a roughly circular form, but ditch 1 breaks the circular tendency of its layout to the East of the site to include several megalithic tombs of the type known as *tholos* (Lago *et al.*, 1998: 58-60).

Ditch 1 has been surveyed multiple times². In addition to the aforementioned aerial and geophysical surveys, the area has been the locus of both small-to-medium trenches and large open-area excavations. In 1997, the Portuguese company ERA Arqueologia conducted some excavations at the site. These include a trench over ditch 1, very close to one of its interruptions to the NE of the site that was called 'entrance 1'. Due to unforeseen circumstances the lower levels of the sequence of deposits

¹ To the memory of Rui Boaventura, who devoted his research career to the study of prehistoric communities of Portugal, and who has left us way too soon.

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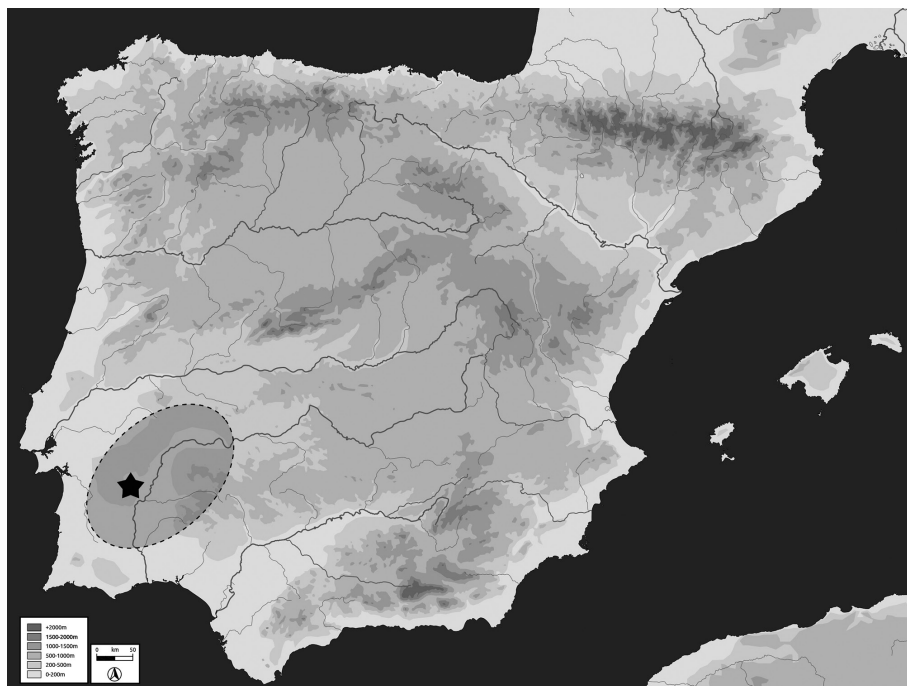


FIG. 1. Geographic location of Perdigões (Reguengos de Monsaraz, Portugal) (star) and the middle Guadiana basin study area (oval) within the Iberian Peninsula.

within the ditch were not studied at the time (Lago *et al.*, 1998: 71-74).

In the mid 2000s, A. Valera from ERA Arqueologia set up the *Perdigões Global Research Programme* (INARP). It included regular collaboration with the University of Málaga (UMA). In 2009 and 2010, a team from UMA resumed the excavation of the 1997 trenches over ditch 1 (Márquez-Romero *et al.*, 2011b). Later, in 2013, trench 2 was laid out to better characterise the upper levels of the sequence of ditch filling, and particularly to determine the existence of a possible re-cutting. Open area excavations undertaken between 2011 and 2014 in the entrance 1 area provided a deeper knowledge of its morphology and its relationships with other architectural elements in its proximity (Suárez-Padilla *et al.*, 2013, 2015). All this has confirmed that most features near entrance 1, including but not limited to ditches 1 and 2, are distributed in a similar fashion to those in other entrances to the enclosures, as shown by the magnetometer (Márquez-Romero *et al.*, 2011a: 183).

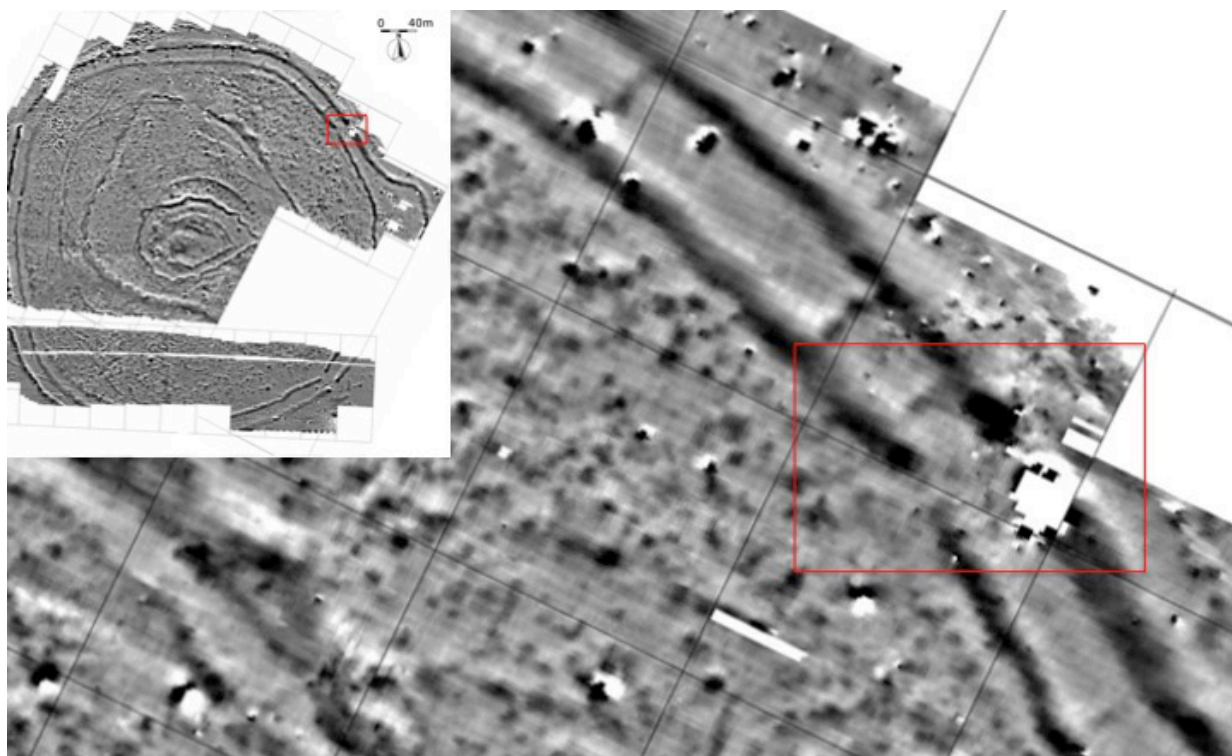


FIG. 2. Magnetogram of Perdigões with indication of the surveyed area around ditch 1.

2. The inner stratigraphic sequence and the chronology of ditch 1

At the investigated area around entrance 1, 12.40 m of ditch 1 have been excavated (Lago *et al.*, 1998; Suárez-Padilla *et al.*, 2013: 533). The ditch possesses a maximum width of 8.81 m, and gets progressively narrower towards the entrance, being only 2.37 m wide just before the interruption. It is a v-shaped feature, with a maximum recorded depth of 3.38 m, although it gets shallower towards the entrance. The ditch appears today as completely filled with archaeological deposits arranged in a very complex way. The internal complexity of the stratigraphic sequence suggested the existence of different phases of filling (Márquez-Romero *et al.*, 2011b) (Fig. 3).

From the bottom to the top, the first archaeological deposits formed (labelled su 140 and su 139) contained pebbles, animal remains and ceramic sherds, as well as a small flat figurine made of

schist (Mata-Vivar *et al.*, 2011) (Fig. 4). After that, a homogeneous layer with almost no archaeological items (su 129 = 136) sits on top of these ‘initial deposits’; it could have resulted from the weathering of the internal ditch walls or a possible adjacent bank. A series of small pits containing apparently placed depositions were dug into this layer (ssu 133.1, 135.1, 131.1, 137.1, 138.1 and 128.1). Later, a new layer covered the surveyed area in its entirety (su 122). Above this, a deposit very similar to 129 = 136, called su 123, was formed. It was followed by a ticker layer (su 118), inclusive of abundant artefacts and ecofacts, especially faunal remains and small-to-medium sized stones. Again, a pit (su 116.1) cut through this deposit (su 118) and the previous one (su 123). The pit is elongated in plan, looking more like a small ditch parallel to the axis of the main ditch. It contained ceramic sherds and animal bones, as well as medium and large sized stones. The upper part of the sequence as recorded in the 2013 diggings shows a very different dynamic.

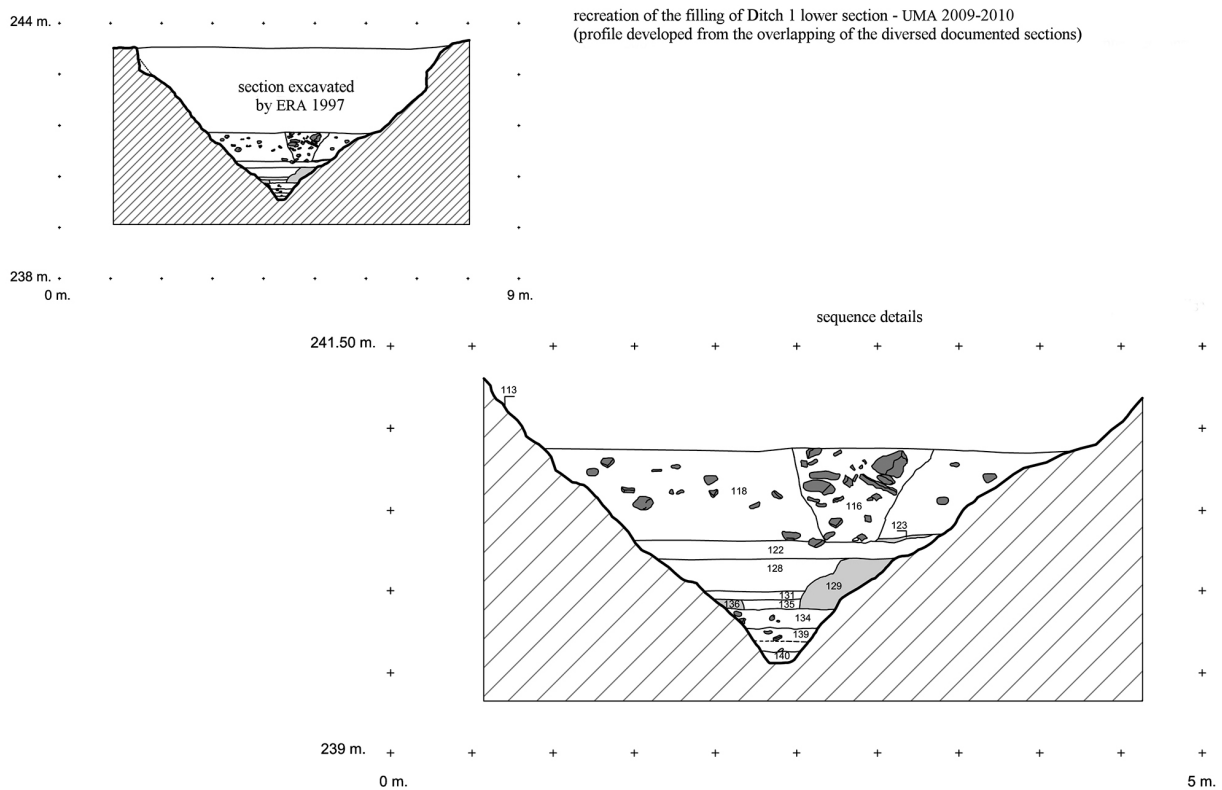


FIG. 3. Stratigraphic profile of ditch 1 at Perdigões after excavations by the Univ. of Malaga in 2010 (taken from Márquez et al., 2011b: fig. 9).

Layers are generally thicker and less diverse (ssuU 361, 360, 359 and 354 = 356). Both their nature

and their content, in terms of archaeological items, remain quite constant throughout: ceramic material,



FIG. 4. Close view of phase 1 within the filling of ditch 1 (SU 140 and 139) at Perdigões.

animal bones and some elements related to the execution of metallurgical activities. Lastly, the upper deposits appear to have been cut by a shallow pit of only 30 cm in depth, very rich in small and medium sized stones but poor in artefacts (pit 136). This is probably indicative of an episode of re-cutting of the ditch once this was already filled (Fig. 5).

On the basis of the typology of ceramic artefacts, ditch 1 was dated to the middle of the

Chalcolithic or Copper Age period (roughly the middle of the 3rd millennium BC) (Márquez-Romero *et al.*, 2011b: 173). In its deposits, flat and open ceramic types abound, such as thick rim plates, flat rim bowls and, to a lesser extent, simple and thick rim cups. Later, the analysis of radiocarbon from ten samples –nine taken from deposits in trench 1 (Márquez-Romero *et al.*, 2013; Valera *et al.*, 2014) and one from trench 2 (Caro-Herrero *et al.*, 2015)– provided more precise chronological data (Fig. 6). Most dates point towards the beginning of the sequence of filling in the third quarter of the 3rd millennium cal BC, perhaps reaching the first decades of the last quarter of the millennium. Two dates deviate from the expectations drawn from stratigraphy. They come from samples in the upper part of the sequence but are older than the remaining seven –first half of the 3rd millennium cal BC–. Thus far, they have been interpreted as a consequence of the introduction of older material –animal bones– into newer contexts, either inadvertently or deliberately. A similar occurrence was detected at ditch 4 (Valera and Silva, 2011: 9).

3. Ditch 1 from Perdigões in its context: the middle Guadiana basin

In what follows, we shall make an attempt to place ditch 1 from Perdigões within a broader context, both chronologically and geographically. Due to limited space, this study will look at general trends and regularities only; more detailed research will follow in future publications. Moreover, the views expressed here must be taken as preliminary and hence subject to revision.

It is always difficult to define the geographical scale of analysis to contextualise an individual site. For this paper, we have chosen the middle Guadiana basin, that is, the lands at both sides of the Guadiana River from approximately the city of Mérida (Spain) to that of Serpa (Portugal). Three reasons have motivated this. In the first place, it is a widely known space, both archaeologically and geographically, which has been used as frame of reference for regional studies before (e.g. Enríquez, 1900; Pavón, 1994; García Rivero, 2008; Hurtado, 2007, 2008). In the second place, it includes all the areas which surround Perdigões: a portion of the central and upper Alentejo (Portugal) and parts of the province of Badajoz (southern Extremadura, Spain). Finally, many ditched and walled enclosures have been found in the area (Fig. 7) (e.g. Hurtado, 2008; Valera, 2013a).

Determining the chronology and temporality of sites primarily comprising underground features poses multiple challenges (Márquez-Romero *et al.*, 2013; Valera, 2013b, 2013c; Valera *et al.*, 2014: 14). In our case, this is made more difficult by the scarcity of radiocarbon dates. Bayesian studies are still



FIG. 5. Upper part of the filling of ditch 1 at Perdigões, where a re-cut (pit 136) can be seen (2013 season).

almost non-existent. However, the theoretical and empirical revolution that is taking place in the last 15 years in the South-West of Iberia has made available some useful data. According to that, even if just provisionally, it appears that the first ditched enclosures in the region date back to the last third of the 4th millennium BC, while the last ones were abandoned near the end of the 3rd millennium (Márquez-Romero and Jiménez-Jáimez, 2010, 2013; Valera, 2013b y c; Valera and André, 2016-2017; Valera *et al.*, 2014, 2017). This will be our chronological framework.

We assume here that the construction of ditched enclosures at certain places could be explained as the intentional monumentalisation of open-air areas. These places could have been occupied for stretches, and domestic activities could have been carried out in them at times. In that sense, unlike other monuments such as megalithic tombs, ditched enclosures may be considered inhabited monuments. But we do not think that the ditches, and the palisades or banks that sometimes existed next to them, were built to increase the habitability of the places, or to defend them. They may have been instead the materialisation of strategies to monumentalise them and to make them stand out, both physically and symbolically, from their surroundings. Their purpose must have been eminently political. This prompts us to analyse them separately from other elements of the 4th and 3rd millennium BC landscapes in the middle Guadiana basin.

We have always sustained the idea that southern Iberian ditched enclosures must not be studied in isolation, but as a regional variant of a more general European phenomenon (Márquez-Romero and Jiménez-Jáimez, 2013; Jiménez-Jáimez, 2015). That is not an argument against research with a regional or local scale; it only means that individual sites and landscapes must be understood within a broader frame of reference. Few local studies have adopted this perspective so far, even though new discoveries and the information that is becoming increasingly available now allows for smaller-scale approaches. This is important because the construction of prehistoric monumental enclosures was

contingent upon other conditions –social, political– being met, and therefore did not necessarily occur in all places or in any period.

4. Enclosures and earlier forms of landscape monumentalisation in the middle Guadiana basin (second half of the 4th millennium BC-Late Neolithic)

Even though some evidence of megalithic funerary practices dating to the first half of the 4th millennium BC exists, the prevailing opinion seems to be that the construction of megaliths reached its peak in south-western Iberia in the second half of the 4th and the early 3rd millennium BC (e.g. Boaventura, 2011: 185; García-Sanjuán *et al.*, 2011: 147). Most of the portal dolmens and passage graves known in the area seem to have been built then. In southern Portugal, the period has traditionally been dominated in regional syntheses by the *Alentejo Culture* (Silva, 1987: 86; Gonçalves and Sousa, 2000: 70). In Extremadura, large burial chambers with corridors emerged, like those found in Santiago de Alcántara (Cáceres) (Bueno, 1987: 75) and Alburquerque, San Vicente de Alcántara or Barcarrota (Badajoz) (Bueno, 2000: 56). In nearby areas, recent studies³, have shown that the heyday of the megalithic funerary tradition is the second half of the 4th millennium BC, even if many of the structures continued under use in the 3rd millennium. Therefore, the idea that the biggest investment of energy and labour force in megalithic burials occurred during the Late Neolithic is supported almost unanimously.

The extraordinary visibility of death contrasts with a very noticeable invisibility of other aspects

³ See for the Lisbon Peninsula Boaventura, R.: *As antas e o megalitismo da região de Lisboa*, p. 336. Doctoral thesis presented in 2009 in the University of Lisboa; see for the upper Alentejo Silva Andrades, M. A.: *Megalitismo e comunidades megalíticas na área da Ribeira Grande (Alto Alentejo): definição e caracterização do fenómeno de 'megalitização' da paisagem na área austral do Norte alentejano*, p. 107. Doctoral thesis presented in 2009 in the University of Lisboa.

CONTEXT Perdigões	LAB. REF.	SAMPLE TYPE	DATE BP	±	DATE CAL		REFERENCE
					(68%) cal AC	(95%) cal AC	
FL_UE139a	Beta-315725	bone (middle-size mammal)	3890	30	2460-2350	2470-2290	Márquez-Romero <i>et al.</i> , 2013
FL_UE134	Beta-315723	bone (middle-size mammal)	3820	30	2300-2200	2450-2140	Márquez-Romero <i>et al.</i> , 2013
FL_UE133	Beta-315722	tooth (<i>Sus</i> sp.)	3840	30	2460-2350	2470-2290	Márquez-Romero <i>et al.</i> , 2013
FL_UE122	Beta-315721	bone (middle-size mammal)	3840	30	2390-2210	2460-2200	Márquez-Romero <i>et al.</i> , 2013
FL_UE118	Beta-315719	tooth (<i>Ovis/Capra</i>)	3780	30	2280-2140	2300-2060	Márquez-Romero <i>et al.</i> , 2013
FL_UE116	Beta-315720	tooth (<i>Ovis/Capra</i>)	3860	30	2450-2290	2460-2210	Márquez-Romero <i>et al.</i> , 2013
FL_UE360	Beta-374731	bone	3870	30	2450-2290	2470-2210	Caro <i>et al.</i> , 2015
FL_UE31	Beta-315718	jaw (<i>Sus</i> sp.)	4060	30	2830-2500	2840-2480	Márquez-Romero <i>et al.</i> , 2013
FL_UE11	Beta-315716	humerus (<i>Sus</i> sp.)	3770	30	2280-2140	2290-2050	Márquez-Romero <i>et al.</i> , 2013
FL_UE12	Beta-315717	astragalus (<i>Cervus elaphus</i>)	3980	30	2570-2470	2580-2460	Márquez-Romero <i>et al.</i> , 2013

FIG. 6. Radiocarbon dates from ditch 1 at Perdigões currently available.

of life in the archaeological record. Domestic architecture is not preserved in most cases, and evidence of daily activities seems to be mostly limited to pits. Sites mainly comprising pits are known in the literature as *campos de hoyos* –pit sites– or *po-voados abertos* –open settlements–. In the middle Guadiana basin many pit sites have been found. Amongst many others, we can highlight Cerro de la Muela, Araya, Los Castillejos, Los Caños, Los Barruecos, Torre de San Francisco, Possanco and Foz do Enxoé (e.g. Enríquez, 1990; Diniz, 1999; Cerrillo, 2005; Murillo, 2008). Also worth mentioning are the sites discovered in the context of rescue archaeology activities near the Alqueva reservoir, in the border between Spain and Portugal, which are part of a broader empirical revolution in the archaeology of the area⁴. They have generally been interpreted by their excavators as settlements with a multitude of grain storage pits. However, in the past we have interpreted them as a typical phenomenon of the European Neolithic, and as the materialisation of very specific settlement patterns and abandonment practices by communities that might not yet be fully sedentary (Márquez-Romero and Jiménez-Jáimez, 2010: 509). The most characteristic ceramic type in the archaeological assemblages of the period is the flat

⁴ Many of the reports stemming from these activities remain unpublished, but were presented in a workshop held in Beja (Portugal) in 2009 with the title *Estruturas negativas da Pre-história Recente e Proto-história peninsulares*.

carinated bowl, which defines the Late Neolithic in the region.

This is the context in which the earliest ditched enclosures in the middle Guadiana basin emerged, according to current data. It is true that other Iberian regions provide examples of earlier ditched enclosures –for instance, a small ditch was dug and filled during the Early Neolithic at Senhora da Alegria in Coimbra, northern Portugal (Valera, 2013a: 102)–. It is also possible that, in the Guadiana area, some of the ditched sites may have witnessed human activity in the first half of the 4th millennium BC –e.g. the digging of some pits or perhaps even ditches–. However, most of them were built in the last three centuries of the 4th millennium, coinciding with the expansion of flat carinated bowls and the local Late Neolithic. This seems to be the case for all southern Iberia (Márquez-Romero and Jiménez-Jáimez, 2010: ch. 11; 2013: 455).

Some of these early enclosures are El Lobo, Mo-reiros 2, Cabeço do Torrão, Porto Torrão, Juromenha 1, Ponte da Azambuja 2, Ficalho, and the earlier acts of ditch-digging at Malhada das Mimosas 1, Águas Frias, Perdigões –ditches 5, 6, 11, 12 and 13– or Fareleira 3 (Hurtado, 2008; Valera, 2013a; Valera *et al.*, 2017). The areas that these Neolithic ditched enclosures in the Guadiana basin enclose are generally not very large, ranging from less than 1 ha to less than 10 ha, with the possible exception of ditch 13 at Perdigões, which appears to be larger. The enclosures themselves are non-causewayed,

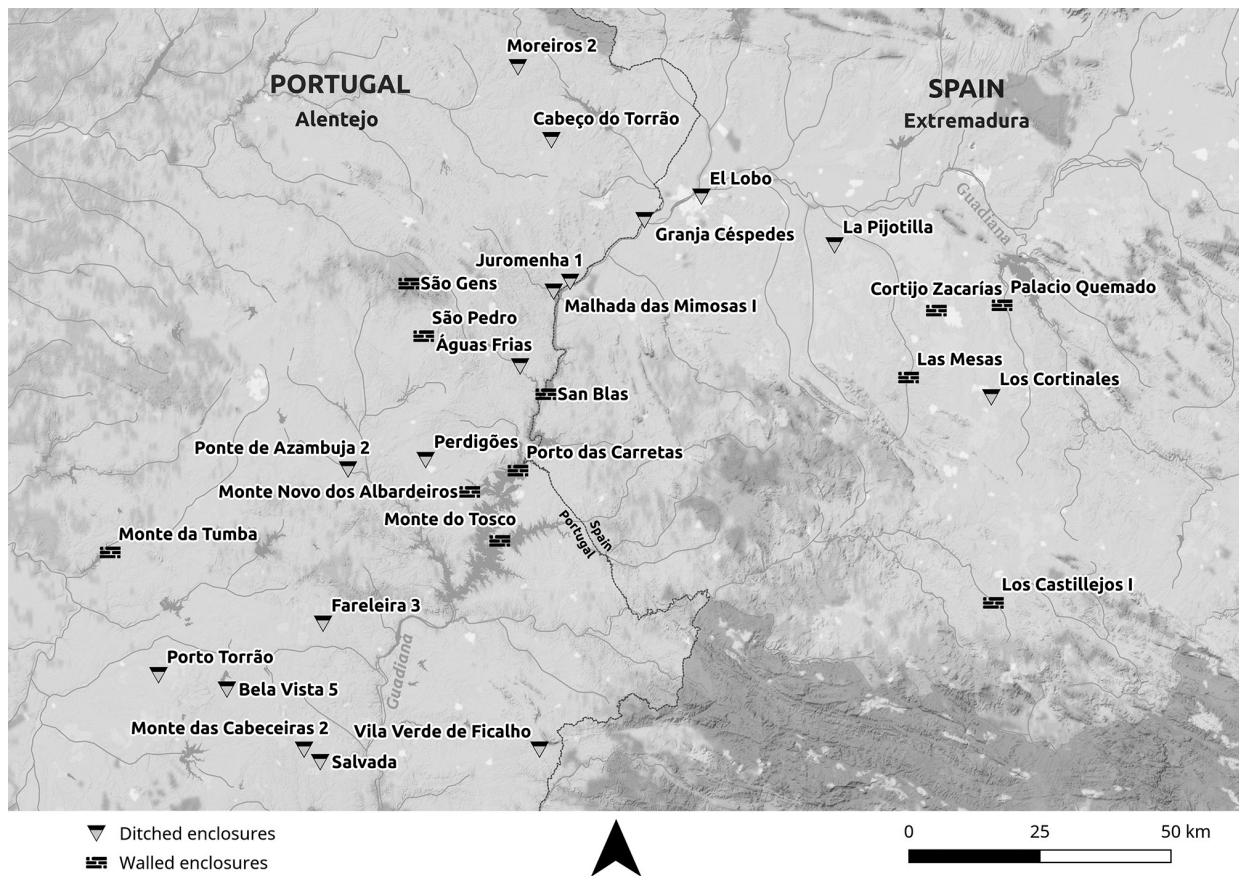


FIG. 7. Map of sites mentioned in the text in the context of the middle Guadiana basin.

and often wavy or sinuous (Márquez-Romero and Jiménez-Jáimez, 2010: 508-509; Valera, 2013c). Because of their chronology, form and features, as well as the formation of deposits and the invisibility of domestic architecture, establishing genealogical relationships between these enclosures and those in other regions of Neolithic Europe appears to be relatively straightforward (Márquez-Romero and Jiménez-Jáimez, 2010: 315-321).

The landscapes of the second half of the 4th millennium BC were thereby dominated by mortuary monuments, whereas evidence of daily life is ambiguous, with no recognisable residential structures, and restricted to pits sites and ditched enclosures. Although enclosures required some investment of labour, the amount of energy spent on the construction of megaliths seems remarkable. Human remains can be found in pits within or in the proximity

of ditched enclosures –also at pit sites–, but, paradoxically, enclosures and tombs of this period are not located next to each other (Jiménez-Jáimez and Márquez-Romero, 2016). A settlement pattern involving somewhat mobile groups, with places of recurrent activity – pit sites–, seems a plausible hypothesis. In that scenario, portal dolmens and other megaliths could act as territorial markers built by local communities. Occasionally, inter-community relations would require meetings or encounters, where feasts and other activities aimed at reinforcing or re-negotiating social relations would take place, including exchange, arrangement of marriages, etc. In this context, collective works could have been undertaken, sometimes in a competitive or agonistic form. These encounters would be held at certain times, regularly or in response to exceptional circumstances, and would perhaps produce

what we today perceive as ditched enclosures in the archaeological record. The monumentality of each site, in terms of the size of the enclosed area or the dimensions of the ditches, might be an indication of the amount of people gathered for the occasion. If that assumption is correct, it could be argued that the magnitude of the meetings in this period was moderate, given that enclosures were not generally very large.

5. Walls in the landscape (first half of the 3rd millennium BC)

In the middle Guadiana basin, the transition from the 4th to the 3rd millennium BC entailed a deep change in the way landscapes were monumentalised. Stone masonry based architecture emerged and quickly spread over lands previously populated by ditched enclosures and megaliths.

This is reflected in a novel funerary architecture. Some old-style megalithic tombs may have been built during this period employing traditional techniques –big standing stones and horizontal slabs–, while extant megalithic structures from the 4th millennium BC were repeatedly used and re-used for funerary purposes in the 3rd millennium (Boaventura, 2011: 179). Importantly, however, it appears that fewer tombs were built during the Copper Age. Moreover, there was a shift in the techniques used, with the appearance of *tholoi*: stone masonry built passage graves with corbel dome chambers.

The locations of some of these tholoi are worth noting. For example, in the Reguengos de Monsaraz area, corbel dome tombs, such as Comenda 2B, Farisoa 1B, Olival da Pega 2 and Herdade dos Cebolinhos, were erected in close proximity to older, orthostatic structures (Gonçalves, 2003a, 2015). This ‘second megalithic tradition’, based on the use of much smaller stones, probably required less effort as regards their extraction, transport and employment. This could also mean less need for cooperation and collective labour (García Sanjuán, 2006: 155-157).

At the same time, new forms of enclosure became visible in the archaeological record. Conventionally, these ‘walled enclosures’ –or ‘fortified settlements’ as they have traditionally been referred to– have been considered the hallmark of the Copper Age in the region. They are numerous, and many of them have been well excavated. Among others, Monte Novo dos Albardeiros, São Gens, São Pedro, Porto das Carretas, Monte do Tosco, Monte da Tumba (Tavares da Silva and Soares, 1987, 2010; Valera, 2000; Mataloto, 2005, 2010; Gonçalves and Alfarroba, 2010; Gonçalves *et al.*, 2013) in the Alentejo, and San Blas, Palacio Quemado, Castillejos I, Las Mesas and Cortijo Zacarías (e.g. Hurtado, 2004; Hurtado and Enríquez, 1991; Hurtado and Mondéjar, 2009; Cerrillo *et al.*, 2010; Murillo, 2010) in Spanish Extremadura. In light of this, it is worth wondering if some of the energy spent in the construction of megalithic funerary structures in the Late Neolithic was now invested in these walled enclosures instead.

The chronology of walled enclosures in the middle Guadiana basin seems to be restricted to the first half of the 3rd millennium BC (Valera 2014a: 302-303; Gonçalves *et al.*, 2013). Their temporality, and with it their active presence in the landscape, is complex. Many of them (e.g. Tavares da Silva and Soares, 1987, 2010; Valera, 2000; Mataloto, 2005, 2010; Gonçalves and Alfarroba, 2010; Gonçalves *et al.*, 2013) show similarities in their occupational sequences or biographies. Some activity, evidenced by the digging of pits, took place at these sites in the Late Neolithic. The first walls, including entrances and towers, were built, according to a well-structured design (Gonçalves *et al.*, 2013: 89), in the Early Chalcolithic –c. 2900-2800 cal BC (Gonçalves *et al.*, 2013: 79)–. Often, the enclosures were later abandoned, and their walls partially dismantled –e.g. São Gens–. Commonly, these places were re-occupied and new walls constructed some time after their abandonment, in the second quarter of the 3rd millennium BC, in what is called the Full Chalcolithic. They seldom follow the original plan, nonetheless. This is usually succeeded by a second abandonment phase –e.g. São Pedro,

Monte da Tumba—. Other sites only show one cycle of construction/destruction, occurred in the Full Chalcolithic —e.g. Porto das Carretas—. Most of these sequences end with new episodes of occupation materialised in the presence of huts and sometimes large towers (São Pedro, Porto das Carretas, Monte da Tumba), but not walls. Similar sequences of construction, abandonment and re-construction can also be seen at sites outside of the Guadiana basin; for example, in the nearby Portuguese region of Estremadura —e.g. Leceia, Sesimbra, Monte Fosco I—. This mostly took place from the middle of the 3rd millennium BC onwards —Bell-Beaker period—⁵.

6. Ditched enclosures in the first half of the 3rd millennium BC. Continuity or discontinuity?

In certain Southern Iberian contexts, such as the *Los Millares culture* in the South-East, walled architectures developed in the absence of ditched enclosures. By contrast, in the middle and lower Guadalquivir valley, walled enclosures are virtually non-existent, whereas ditched enclosures abound in the first half of the 3rd millennium and beyond (Márquez-Romero and Jiménez-Jáimez, 2010: ch. 11). Meanwhile, in the middle Guadiana basin, after a few centuries of ditched enclosure construction, the transition from the 4th to the 3rd millennium BC entailed a shift in the architecture of mortuary monuments and the arrival of walled enclosures. Did they coexist with ditched enclosures? Or was the tradition of enclosing open areas with ditches replaced by the new forms of practice instead? It is undoubtedly a complicated issue which will not be clarified until large-scale dating and Bayesian modelling are more widespread. For the time being, we will settle for a few preliminary observations.

⁵ A biographical approach to these southern Iberian walled enclosures is developed in Mata Vivar, E.: *Foso 1 del yacimiento de Perdigões (Reguendos de Monsaraz-Portugal). Aproximación histórica a la construcción, uso y abandono de un recinto de fosos tardío en el Alentejo (III milenio a. C.)*. Doctoral thesis presented in 2015 in the University of Málaga.

The dating programme developed at Perdigões (Valera *et al.*, 2014) and the first attempts at Bayesian modelling based on such data (Balsera *et al.*, 2015) seem to indicate a break in the construction of ditched enclosures at the site in the first few centuries of the 3rd millennium BC⁶. Several ditches remain undated, so what follows has to be taken with a pinch of salt. There appears to be a time gap between the Late Neolithic ditches —5, 6 and 12—, dated to the last third of the 4th millennium, and the Chalcolithic ones —3, 4 and, later, 1—, dated to the middle of the 3rd millennium onwards. This is in tune with what is known for other Portuguese ditched enclosures (Valera, 2013b: fig. 1; Balsera *et al.*, 2015: 149). It could be therefore argued that, on the right side of the Guadiana, the rise of walled enclosures coincided with a break in the ditched enclosure tradition. If so, the Alentejo would not exactly adhere to the general chronological model we proposed a few years ago for Southern Iberia as a whole (Márquez-Romero and Jiménez-Jáimez, 2013: 455). Unfortunately, data from the left side of the Guadiana is still insufficient to confirm or discount the validity of this hypothesis in Extremadura. Some ditched sites, including for instance La Pijotilla, Granja Céspedes and Los Cortinales, have been generically dated to a pre-Beaker Copper Age period on the basis of ceramic typologies, but radiocarbon dates are very scarce.

In the Guadiana basin, ditched and walled enclosures are generally located in different places. In the very few cases where both ditches and walls have been found at the same site, a clear relation of simultaneity between them is unusual. Walls succeed ditches and viceversa, but they rarely coexist within the same phase of occupation (Márquez-Romero and Jiménez-Jáimez, 2010: 526-527) —a possible exception in San Blas; see Hurtado, 2007—. Material culture items unearthed in both site types share a technological background and most types are present in both walled and ditched enclosures. However, certain classes of items are much more

⁶ Paradoxically, the construction of two *tholoi* at Perdigões has been dated to the first third of the 3rd millennium BC (Valera *et al.*, 2000, 2014: 21).

frequently found in the former than in the latter (Márquez-Romero and Jiménez-Jáimez, 2010: 520-533). For example, while metal artefacts and the residues of metallurgical production are well represented in the archaeological record from walled enclosures of the region, they hardly ever are documented within ditches. That is the case at Perdigões, where metallurgy is almost absent from the ditches except for a few items in the upper part of ditch 1 (Caro *et al.*, 2015) and ditch 4 (Valera, 2008: 21). A similar argument can be set forth regarding Early Chalcolithic ceramic types such as *copos canelados*, pots with ‘symbolic decoration’⁷ or *folhas de acácia*, which abound in walled enclosures –see e.g. several papers in Gonçalves and Sousa, 2010– and are rare at the ditched ones –and pit sites–.

Again, this historic narrative is necessarily limited by the availability and quality of data. The intricacies and complexity of the first half of the 3rd millennium in the area do not make it easy either. Because of that, our proposal must be taken just as a working hypothesis for now.

7. Ditch 1 from Perdigões. The epilogue of a long-lasting tradition in the second half of the 3rd millennium BC

The apparent break in the construction of ditched enclosures at Perdigões seems to end towards the middle of the 3rd millennium BC, when a new burst of building activity begins. This includes at least the digging of ditches 3 and 4 and, a bit later, ditch 1.

Considering Southern Iberia as a whole, very few new places with ditched enclosures are known for the second half of the 3rd millennium BC. In most cases, chalcolithic ditches were added to places where Late Neolithic ditches had been dug and subsequently abandoned. Ditched enclosures built at the time present particular characteristics. For example, they tend to become more monumental

both in terms of the size of the enclosed area and the dimensions of the ditches (Márquez-Romero and Jiménez-Jáimez, 2010: 518; 2013: 455). If the size of the enclosures is, in some way, a function of the magnitude of the social events that led to their construction, we have to conclude that processes of social aggregation were more intense in the Chalcolithic than in the Neolithic. There appears to be some kind of relationship between ditched enclosures of this period and contemporary or earlier chalcolithic tombs (Jiménez-Jáimez and Márquez-Romero, 2016). Finally, from the middle to the end of the 3rd millennium BC, new architectural forms –archaeologically recognised as walls of varied sizes and shapes– were added to some sites. These walls are often completing or reconfiguring the layout of ditches, especially in the proximity of some entrances. Again, many of these elements –ditches, walls, tombs– remain undated, and therefore the real meaning of these associations is unknown.

Many of these general regularities seem to manifest themselves in the more restricted context of the middle Guadiana basin, as well. For example, the addition of Late Chalcolithic ditches to Late Neolithic monuments can be seen at Porto Torrão and Perdigões. An exception to this rule is Bela Vista 5 (Valera, 2014b), where late Copper Age ditches were constructed in a place ‘founded’ *ex novo*. The re-occupied enclosures seem to have grown in size. For instance, ditches 3, 4 and 1 from Perdigões are larger than most of the inner, Late Neolithic circuits that preceded them –again, a possible exception to this could be ditch 13–. Although their chronology is still in need of more precision, chalcolithic ditches where apparently dug in sites such as Monte das Cabeceiras 2 –ditches 1 and 2– or Salvada –ditches 1 and 2–, surpassing 4 ha in size, and may reach 18 ha (Valera, 2013a: 102). The outer ditch at La Pijotilla, with around 70 ha, was also built in a chalcolithic context, although its precise chronology remains unclear as well (Hurtado, 2008). The association of ditched enclosures and necropolises has been recorded at Porto Torrão and La Pijotilla. At Perdigões, the outer ditch was constructed in such a way to include a couple of pre-existing *tholoi*

⁷ At Perdigões, ‘symbolic pottery’ is not scarce, but its distribution seems to be restricted to funerary assemblages within the *tholoi* (Valera *et al.*, 2000).

in the enclosed area, even if that meant a deviation from a more properly circular layout (Valera *et al.*, 2014: 20-21). All in all, ditch 1 from Perdigões, deep and wide and delimiting a vast area –16 ha–, including a necropolis of *tholoi*, appears to be a paradigmatic example of a Late Chalcolithic ditched enclosure in the middle Guadiana. The place had witnessed human activity since the Late Neolithic, also involving the construction of ditched enclosures. But now the context was very different. What role did this late monumental structure play in the life of the communities of the second half of the 3rd millennium BC in the middle Guadiana?

Available data suggests that less mortuary monuments, whether they are the older orthostatic megalithic dolmens or the newer stone masonry based *tholoi*, were built in this period. Funerary practices are more diversified, and generally less monumental (Valera, 2014a: 307). Likewise, walled enclosures tend to disappear, and at best only show some modest, non-walled re-occupation. By contrast, the construction of ditched enclosures experienced major changes in a clear shift towards more monumentality. It is possible that the focus of energy expenditure moved from the construction of funerary monuments to that of ditched enclosures. Again, if there is a relationship between the dimensions of the ditches and the amount of people that contributed to their construction, it appears obvious that the processes and events that took place there were more socially significant than in the Late Neolithic. Perhaps now ditched enclosures had a more central character, and more power was embedded in the social relations that were established and re-negotiated in those places.

If true, the social, economical and political structures of the Late Neolithic could have undergone drastic changes in the Late Chalcolithic. Thus, the construction of ditch 1 at Perdigões, and other Late 3rd millennium BC ditches, “more than a symptom of good social health, could actually have been the swan song of an ancient tradition” –our translation from original Spanish– (Márquez-Romero and Jiménez-Jáimez, 2010: 533). It is possible that these late ditched enclosures represent an attempt to prevent the demise of an obsolete world

through the realisation of old architectures to a bigger scale. The centrifugal tendencies of tribal societies could potentially have been countered with dynamics of aggregation where unequal relationships might be established, and where resistance could result in repressive or coercive actions.

8. Concluding remarks

In the middle Guadiana basin, two peaks in the construction of Prehistoric ditched enclosures can tentatively be inferred from current data. The first burst of constructive activity occurred in the second half of the 4th millennium BC, roughly coinciding with the heyday of the megalithic mortuary monument phenomenon in the area. This Late Neolithic landscape is not very dissimilar to those in other regions of Iberia or Western Europe (Márquez-Romero and Jiménez-Jáimez, 2010: ch. 5 and 6). The second spurt took place from the middle to the end of the 3rd millennium BC, reaching the transition to the Bronze Age. Now, ditched enclosures form part of very different landscapes to those in the Late Neolithic. They are the materialisation of a period of rapid change and very dynamic communities. They could be representing the final phase of development of a certain Neolithic being-in-the-world, in a deep crisis at the time.

Between those two peaks of activity there appears to be a time gap of only a few centuries. Importantly, this break occurred when the construction of walled enclosures and other stone masonry based monuments was at its height. This opens questions relative to the traditionally perceived simultaneity of walled and ditched enclosures, and about their relationship. Finally, the existence of regularities in the dynamics of occupation and abandonment at many walled enclosures calls for more subtle and detailed approaches to the temporality of these sites.

Bibliography

BALSERA, V.; BERNABEU, J.; COSTA, M.; DÍAZ DEL RÍO, P.; GARCÍA SANJUÁN, L. and PARDO, S. (2015): “The

- radiocarbon chronology of sothern Spain's Late Prehistory (5600-1000 Cal BC): a comparative review", *Oxford Journal of Archaeology*, 34 (2), pp. 139-156.
- BOAVENTURA, R. (2011): "Chronology of Megalithism in South-Central Portugal". In GARCÍA SANJUÁN, L.; SCARRE, C. and WHEATLEY, D. (eds.): *Exploring Time and Matter in Prehistoric Monuments: Absolute Chronology and Rare Rocs in European Megaliths, Proceedings 2nd European Megalithic Studies Group Meeting (Seville, 2008)*. Menga. Monograph, 1. Sevilla, pp. 159-192.
- BUENO, P. (1987): "Megalitismo en Extremadura: Estado de la cuestión". In *El megalitismo en la Península Ibérica*. Madrid, pp. 73-84.
- BUENO, P. (2000): "Espacios de la muerte en los grupos neolíticos y calcolíticos de la Extremadura española: las arquitecturas megalíticas". In JIMÉNEZ ÁVILA, J. and ENRÍQUEZ, J. J. (eds.): *El megalitismo en Extremadura (Homenaje a Elías Diéguez Luengo)*. Extremadura Arqueológica, VIII. Mérida, pp. 25-80.
- CARO, J. L.; COMPAÑA, J. M.; RODRÍGUEZ VINCEIRO, F. and SANTAMARÍA, J. A. (2015): "Primeros vestigios de metalurgia en el foso 1 (Puerta 1) del yacimiento de Perdigões. Un avance arqueométrico (Reguengos de Monsaraz, Portugal)". In MEDINA, N. (ed.): *VII Encuentro de Arqueología del suroeste peninsular (Aroche-Serpa, 2013)*. Aroche, pp. 279-298.
- CERRILLO, E. (2005): *Los primeros grupos neolíticos de la cuenca extremeña del Tajo*. BAR Intern. Ser., 1393. Oxford: Archaeopress.
- CERRILLO, E.; FERNÁNDEZ, J. M.; HERAS, F. J.; PRADA, A. and LÓPEZ, J. A. (2010): "Cambios y permanencia en el entorno de los Castillejos (Fuente de Cantos, Badajoz, España): de finales del Neolítico a comienzos de la Edad del Bronce". In GONÇALVES, V. S. and SOUSA, A. C. (eds.): *Transformação e mudança no Centro e Sul de Portugal: o 4.º e o 3.º milénios a.n.e. Colóquio Internacional (Cascais, 2005)*. Coleção Cascais, Tempos Antigos, 2. Cascais: Câmara Municipal, pp. 433-451.
- CERRILLO, E.; PRADA, A. and GONZÁLEZ, A. (2006): "Excavaciones arqueológicas en los niveles neolíticos de Los Barruecos (campanías 2001 y 2002)", *Memorias de Arqueología Extremeña*, 6, pp. 25-46.
- DINIZ, M. (1999): "Povoado neolítico da Foz do Enxóe (Serpa): primeiros resultados", *Revista Portuguesa de Arqueologia*, 2 (1), pp. 95-126.
- DRAKE, B. (2006): "Excavación arqueológica en el yacimiento de los sectores plataforma norte y sur del yacimiento 12B (Carrascalejo)", *Extremadura Arqueológica*, x, pp. 213-232.
- ENRÍQUEZ, J. J. (1990): *El Calcolítico o Edad del Cobre de la cuenca extremeña del Guadiana: los poblados*. Public. del Museo Arqueológico de Badajoz, 2. Badajoz: Edit. Regional de Extremadura.
- ENRÍQUEZ, J. J. (2001): "El Risco. Excavación de urgencia en Sierra de Fuentes (Cáceres) - 1991 y 1993", *Memorias de Arqueología Extremeña*, IV, pp. 1-124.
- ENRÍQUEZ, J. J. (2011): "Excavaciones arqueológicas en los yacimientos calcolíticos de Torrequemada y Torreorgaz". In BUENO, P.; ENRÍQUEZ, J. J. and GONZÁLEZ, A. (eds.): *From the Origins: The Prehistory of the Inner Tagus Region*. Oxford, pp. 219-232.
- GARCÍA RIVERO, D. (2008): *Campaniforme y rituales estratégicos en la cuenca media y baja del Guadiana: suroeste de la Península Ibérica*. BAR Intern. Ser., 1837. Oxford: Archaeopress.
- GARCÍA SANJUÁN, L. (2006): "Funerary ideology and social inequality in the Late Prehistory of the Iberian South-West (c. 3300-850 cal BC)". In DÍAZ DEL RÍO, P. and GARCÍA SANJUÁN, L. (eds.): *Social inequality in Iberian Late Prehistory*. BAR Intern. Ser., 1525. Oxford: Archaeopress, pp. 149-166.
- GARCÍA SANJUÁN, L.; WHEATLEY, D. and COSTA, E. (2011): "The numerical chronology of the megalithic phenomenon in southern Spain: progress and problems". In GARCÍA SANJUÁN, L.; SCARRE, C. and WHEATLEY, D. (eds.): *Exploring Time and Matter in Prehistoric Monuments: Absolute Chronology and Rare Rocs in European Megaliths. Proceedings 2nd European Megalithic Studies Group Meeting (Seville, 2008)*. Menga. Monograph, 1. Sevilla, pp. 121-158.
- GONÇALVES, V. S. and ALFARROBA, A. (2010): "Ver a alonge no 3.º milénio a.n.e. Sobre a localização e o significado do Monte Novo dos Albardeiros (Reguengos de Monsaraz)". In GONÇALVES, V. S. and SOUSA, A. C. (eds.): *Transformação e mudança no Centro e Sul de Portugal: o 4.º e o 3.º milénios a.n.e. Actas Colóquio Internacional (Cascais, 2005)*. Coleção Cascais, Tempos Antigos, 2. Cascais: Câmara Municipal, pp. 287-314.
- GONÇALVES, V. S. and SOUSA, A. C. (2000): "O grupo megalítico de Reguengos de Monsaraz e a evolução do megalitismo no Ocidente peninsular (espaços de vida, espaços da morte: sobre as antigas sociedades camponesas em Reguengos de Monsaraz)". In GONÇALVES, V. (ed.): *Muitas antas, pouca gente? Actas I Colóquio Internacional sobre Megalitismo*. Trabalhos de Arqueologia, 16, pp. 11-104.
- GONÇALVES, V. S. and SOUSA, A. C. (eds.) (2010): *Transformação e mudança no Centro e Sul de Portugal: o*

- 4.º e o 3.º milénios a.n.e. *Actas Colóquio Internacional (Cascais, 2005)*. Coleção Cascais, Tempos Antigos, 2. Cascais: Câmara Municipal.
- GONÇALVES, V. S.; SOUSA, A. C. and COSTEIRA, A. (2013): "Walls, gates and towers. Fortified settlements in the south and centre of Portugal: some notes about violence and walls in the 3rd Millennium BCE", *Cuadernos de Prehistoria de la Univ. de Granada*, 23, pp. 35-97.
- HURTADO, V. (2004): "El asentamiento fortificado de San Blas (Cheles, Badajoz). III milenio AC", *Trabajos de Prehistoria*, 61 (1), pp. 141-155.
- HURTADO, V. (2007): "Las técnicas de construcción en la Cuenca Media del Guadiana y el asentamiento de San Blas (III milenio a.n.e.)". In JORGE, S. O.; BETTENCOURT, A. M. and FIGUEIRAL, I. (coords.): *A concepção das paisagens e dos espaços na Arqueologia da Península Ibérica. Actas IV Congresso de Arqueologia Peninsular*. Centro de Estudos de Património. Promontoria monográfica, 8. Faro, pp. 13-26.
- HURTADO, V. (2008): "Los recintos con fosos en la Cuenca Media del Guadiana", *ERA-Arqueologia*, 8, pp. 182-197.
- HURTADO, V. and ENRÍQUEZ, J. J. (1991): "Excavaciones en Palacio Quemado (Alange, Badajoz), Informe preliminar". In *1 Jornadas de Prehistoria y Arqueología en Extremadura (1986-1990)*. Extremadura Arqueológica, II. Badajoz, pp. 69-87.
- HURTADO, V. and MONDÉJAR, P. (2009): "Prospecciones en Tierra de Barros (Badajoz). Los asentamientos del III milenio a.n.e.". In CRUZ AUÑÓN, R. and FERRER, E. (eds.): *Estudios de Prehistoria y Arqueología en Homenaje a P. Acosta Martínez*. Sevilla, pp. 187-206.
- JIMÉNEZ-JÁIMEZ, V. (2015): "The unsuspected circles. On the late recognition of Southern Iberian ditched enclosures", *Proceedings of the Prehistoric Society*, 81, pp. 1-20.
- JIMÉNEZ-JÁIMEZ, V. and MÁRQUEZ-ROMERO, J. E. (2016): "Prehistoric ditched enclosures and necropolises in Southern Iberia: a diachronic overview". In ARD, V. and PILLOT, L. (eds.): *Monumentality and territory: relationship between enclosures and necropolises in the European Neolithic. XVII World UISPP Congress (Burgos, 2014)*. Oxford, pp. 57-68.
- LAGO, M.; DUARTE, C.; VALERA, A.; ALBERGARIA, J.; ALMEIDA, F. y CARVALHO, A. (1998): "O Povoado dos Perdígões, Reguengos e o Sul. Povoado dos Perdígões (Reguengos de Monsaraz): dados preliminares dos trabalhos arqueológicos realizados em 1997", *Revista Portuguesa de Arqueologia*, 1 (1), pp. 45-152.
- MÁRQUEZ, J. E. and JIMÉNEZ-JÁIMEZ, V. (2010): *Recintos de Fosos. Genealogía y significado de una tradición en la Prehistoria del suroeste de la Península Ibérica (IV-III milénios a. C.)*. Málaga: Univ. de Málaga.
- MÁRQUEZ, J. E. and JIMÉNEZ-JÁIMEZ, V. (2013): "Monumental ditched enclosures in southern Iberia (fourth-third millennia BC)", *Antiquity*, 87, pp. 447-460.
- MÁRQUEZ, J. E.; SUÁREZ, J.; JIMÉNEZ, V. and MATA, E. (2011b): "Avance a la Secuencia Estratigráfica del 'Foso 1' de Perdígões (Reguengos de Monsaraz, Portugal) a partir de las campañas 2009 y 2010", *Menga*, 2, pp. 157-174.
- MÁRQUEZ, J. E.; MATA, E.; JIMÉNEZ, V. and SUÁREZ, P. (2013): "Dataciones absolutas para el Foso 1 de Perdígões (Reguengos de Monsaraz, Portugal). Reflexiones sobre su cronología y temporalidad", *Spal*, 22, pp. 17-27.
- MÁRQUEZ, J. E.; VALERA, A. C.; BECKER, H.; JIMÉNEZ, V. and SUÁREZ, J. (2011a): "El Complejo Arqueológico dos Perdígões (Reguengos de Monsaraz, Portugal). Prospecciones Geofísicas. Campaña 2008-09", *Trabajos de Prehistoria*, 68 (1), pp. 175-186.
- MATA, E.; FERNÁNDEZ, J. and CARO, J. L. (2011): "Figueirinha en xisto procedente del relleno de Foso 1 del Complejo arqueológico dos Perdígões", *Apontamentos de Arqueologia e Património*, 7, pp. 19-22.
- MATALOTO, R. (2005): "Meio mundo 2: a fortificação calcólica do Alto de São Gens (Redondo/Estremoz, Alentejo Central)", *Revista Portuguesa de Arqueologia*, 8, pp. 5-19.
- MATALOTO, R. (2010): "O 3º/4º milénio a. C. no povoado de São Pedro (Redondo, Alentejo Central): fortificação e povoamento na planície centro alentejana". In GONÇALVES, V. S. and SOUSA, A. C. (eds.): *Transformação e mudança no Centro Sul de Portugal: o 4.º e o 3.º milénios a.n.e. Actas Colóquio Intern. (Cascais, 2005)*. Coleção Cascais, Tempos Antigos, 2. Cascais: Câmara Municipal, pp. 263-295.
- MURILLO, J. M. (2007): "El asentamiento prehistórico de Torre de San Francisco (Zafra, Badajoz) y su contextualización en la cuenca media del Guadiana", *Memorias de Arqueología Extremeña*, VIII, pp. 1-135.
- MURILLO, J. M. (2010): "El poblamiento calcólico en la vega del Harnina (Badajoz): documentación y discusión del modelo sociopolítico y económico", *Norba*, 23, pp. 9-38.
- PAVÓN, I. (1994): *Aproximación al estudio de la Edad del Bronce en la cuenca media del Guadiana: La Solana del Castillo de Alange (1987)*. Cáceres: Instit. Cultural El Brocense.

- SILVA, C. T. (1987): "Megalitismo do Alentejo occidental e do Sul do Baixo Alentejo (Portugal)". In *El megalitismo en la Península Ibérica*. Madrid, pp. 85-93.
- SUÁREZ, J.; CARO, J. L.; MATA, E.; MÁRQUEZ, J. E.; ALBADALEJO, P.; JIMÉNEZ, V. and MILESI, L. (2015): "Excavaciones de la Universidad de Málaga (UMA) en el entorno de la Puerta 1 del yacimiento de Perdígões (Reguengos de Monsaraz, Portugal). Campaña de 2013". In *VII Encuentro de Arqueología del Suroeste (Aroche-Serpa, 2013)*. Aroche, pp. 279-298.
- SUÁREZ, J.; CARO, J. L.; MATA, E.; MÁRQUEZ, J. E. and JÁIMEZ, V. (2013): "Excavaciones en extensión de la Universidad de Málaga (UMA) en el yacimiento de Perdígões (Reguengos de Monsaraz, Portugal). El sondeo L1. Campañas 2011-2012". In *VI Encuentro de Arqueología del Suroeste Peninsular (Villafranca de los Barros, 2012)*. Badajoz, pp. 521-549.
- TAVARES DA SILVA, C. and SOARES, J. (1987): "O Povoado fortificado calcítico do Monte da Tumba 1, Escavações arqueológicas de 1982-86 (Resultados preliminares)", *Setúbal Arqueológica*, VIII, pp. 26-79.
- TAVARES DA SILVA, C. and SOARES, J. (2010): "O povoado fortificado do Porto das Carretas". In GONÇALVES, V. S. and SOUSA, A. C. (eds.): *Transformação e mudança no Centro e Sul de Portugal: o 4.º e o 3.º milénios ANE. Actas Colóquio Internacional (Cascais, 2005)*. Coleção Cascais, Tempos Antigos, 2. Cascais: Câmara Municipal, pp. 225-262.
- VALERA, A. C. (2000): "O Monte do Tosco 1: uma análise preliminar no contexto do povoamento calcítico e do início da Idade do Bronze na margem esquerda do Guadiana", *ERA-Arqueologia*, 2, pp. 32-51.
- VALERA, A. C. (2006): "A margem esquerda do Guadiana (região de Mourão), dos finais do 4.º aos inícios do 2.º milénio AC", *ERA-Arqueologia*, 7, pp. 136-210.
- VALERA, A. C. (2008): "Recinto calcítico dos Perdígões: fossos e fossas do Sector 1", *Apontamentos de Arqueologia e Património*, 3, pp. 19-27.
- VALERA, A. C. (2013a): "Recintos de fossos da Pré-História Recente em Portugal. Investigação, discursos, salvaguarda e divulgação", *Almadan*, 2.ª Série, 18, pp. 93-110.
- VALERA, A. C. (2013b): "Cronologia absoluta dos fossos 1 e 2 do Porto Torrão e o problema da datação de estruturas negativas tipo fossos", *Apontamentos de Arqueologia e Património*, 9, pp. 7-11.
- VALERA, A. C. (2013c): "Cronología dos recintos de fossos da Pré-história Recente em território português". In *Arqueologia em Portugal-150 Anos*. Lisboa, pp. 335-343.
- VALERA, A. C. (2014a): "Continuidade e descontinuidades entre o 3.ª e a primeira metade do 2.º milénio ANE no sul de Portugal: alguns apontamentos em tempos de acelerada mudança". In *A Idade do Bronze em Portugal: os dados e os problemas*. Antrope, Serie Monográfica, 1, pp. 297-317.
- VALERA, A. C. (2014b): *Bela Vista 5. Um Recinto do final do 3º milénio a.n.e. (Mombaja, Beja)*. Era Monográfica, 2. Lisboa.
- VALERA, A. C. and ANDRÉ, L. (2016-2017): "Aspectos da interacção transregional na Pré-História Recente do sudoeste peninsular: interrogando as conchas e moluscos nos Perdígões". In *A Rui Boaventura homenagem à sua memória*. Estudos Arqueológicos de Oeiras, 23. Oeiras, pp. 189-218.
- VALERA, A. C.; LAGO, M.; DUARTE, C. and EVANGELISTA, L. S. (2000): "Ambientes funerários no complexo arqueológico dos Perdígões: uma análise preliminar no contexto das práticas funerárias calcíticas no Alentejo", *ERA-Arqueologia*, 2, pp. 84-105.
- VALERA, A. C. y SILVA, A. M.ª (2011): "Datações de radiocarbono para os Perdígões (1): Contextos com restos humanos nos sectores I & Q", *Apontamentos de Arqueologia e Património*, 7, pp. 7-14.
- VALERA, A. C.; SILVA, A. M.ª and MÁRQUEZ, J. E. (2014): "The temporality of Perdígões enclosures: absolute chronology of the structures and social practices", *Spal*, 23, pp. 11-26.
- VALERA, A. C.; SIMÃO, I.; NUNES, T.; DO PEREIRO, T. and COSTA, C. (2017): "Neolithic ditched enclosures in southern Portugal (4th millennium BC): new data and new perspectives", *Estudos do Quaternário*, 17, pp. 57-76.

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Vol. LXXXI, enero-junio 2018

ÍNDICE

ARTÍCULOS

- The Lower Magdalenian osseous industry from Level 17 in El Mirón Cave (Ramales de la Victoria, Cantabria): A preliminary overview
LAWRENCE GUY STRAUS, JEANNE MARIE GEILING y MANUEL R. GONZÁLEZ MORALES..... 15-30
- Ditch 1 from Perdigões within the traditions of Late Prehistoric monumental architecture in the middle Guadiana basin (4th-3rd millennia cal BC)
JOSÉ E. MÁRQUEZ ROMERO, ELENA MATA VÍVAR y VÍCTOR JIMÉNEZ JÁIMEZ..... 31-45
- Las técnicas decorativas del Campaniforme Marítimo en el Centro-Norte peninsular a partir de nuevos hallazgos en el yacimiento de Los Husos 1 (Laguardia, Álava)
CRISTINA CAMARERO ARRIBAS y ERIK ARÉVALO MUÑOZ..... 47-70
- El poblado fortificado metalúrgico del Calcolítico Medio y Final de Puente de Santa Bárbara (Huércal-Overa, Almería)
PEDRO GONZÁLEZ QUINTERO, ALFREDO MEDEROS MARTÍN, ANTONIO DÍAZ CANTÓN, CHARLES BASHORE ACERO, JORGE CHAMÓN FERNÁNDEZ y MARCO A. MORENO BENÍTEZ..... 71-91
- Metalurgia prehistórica en Tierras de Antequera y su contexto andaluz
FRANCISCO RODRÍGUEZ VINCEIRO, MERCEDES MURILLO BARROSO, LUIS-EFRÉN FERNÁNDEZ RODRÍGUEZ e IGNACIO MONTERO RUIZ 93-115
- The Olival do Senhor dos Mártires necropolis (Alcácer do Sal, Portugal) during the Late Iron Age: new social, political and cultural insights
FRANCISCO B. GOMES..... 117-139
- Sobre el abastecimiento, la distribución y la evacuación hídrica en *Gades*
MACARENA LARA MEDINA 141-163
- Sobre la producción del primer *torcularium* de la villa romana de Los Villaricos (Mula, Murcia)
RAFAEL GONZÁLEZ FERNÁNDEZ, FRANCISCO FERNÁNDEZ MATALLANA y JOSÉ ANTONIO ZAPATA PARRA..... 165-186
- Circulation monétaire du site archéologique de *Dessobriga* (Osorno, Palencia/Melgar, Burgos). Approche numismatique d'une *mansio* romaine militarisée
SIMON CAHANIER..... 187-220

VARIA

- Khirbet Arair, 1964. El origen de la Arqueología Bíblica en España
JORDI VIDAL PALOMINO..... 223-236

RECENSIONES

- GARBATI, G. y PEDRAZZI, T. (eds.): *Transformations and Crisis in the Mediterranean: 'Identity' and Interculturality in the Levant and Phoenician West during the 8th-5th Centuries BCE*
FRANCISCO MACHUCA PRIETO 237-239
- IGLESIAS GIL, J. M. y RUIZ GUTIÉRREZ, A. (eds.): *Monumenta et memoria. Estudios de epigrafía romana*
JUAN JOSÉ PALAO VICENTE 240-243
- FLOHR, M. y WILSON, A. (eds.): *The Economy of Pompeii*
SANTIAGO SÁNCHEZ DE LA PARRA PÉREZ 244-247