

BELL BEAKER OR NOT BELL BEAKER: AN PERSPECTIVE ON CHALCOLITHIC AT THE IBERIAN PENINSULA PAIRED FINGERNAIL IMPRINTS IN S-SHAPED VESSELS

Campaniforme o no Campaniforme: una perspectiva sobre las cerámicas ‘pelliscadas’ en vasos con perfil en ‘s’ del Calcolítico en la Península Ibérica

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ABSTRACT: The Bell Beaker phenomenon is the sum of several regional answers. Those are diluted into a reality with several shared characteristics. Nevertheless, and although being one of the most studied expressions of the European Recent Prehistory, more specific adaptations are still to be understood. This is the case of the paired fingernail imprints, or pinched motifs, that due to their scarceness are mostly unnoticed in Iberia. However, one was able to highlight a scarceness of these standardised motifs in funerary contexts and a concentration in contexts dated from the last quarter of the IIIrd millennium BC, in the precise period of transition in the way of life of the peninsular human groups. Also, the regression in the communicative ability of the vessels, but at the same time clear links with other European Bell Beaker contexts seems to strengthen the hypothesis that this large-scale style must be understood as another agent in the ongoing identity and social processes acting, as such, in the transition to the beginning of the Peninsular Bronze Age.

Key words: IIIrd millennium BC; Early Bronze Age; Iberian Peninsula; paired fingernail imprints; Bell Beaker phenomenon; s-shaped vessels.

RESUMEN: El fenómeno campaniforme se entiende como la suma de varias respuestas regionales. Estas se diluyen en una realidad con diversas características compartidas. Sin embargo, y aunque sea una de las expresiones más estudiadas de la Prehistoria Reciente europea, aún no se comprenden adaptaciones más específicas. Este es el caso de los motivos ‘pelliscados’, que, debido a su escasez, pasan desapercibidos en la Península Ibérica. A pesar de ello, se puede destacar una muestra reducida de estos motivos –bastante estandarizados– en contextos funerarios concentrados en sitios arqueológicos que datan del último trimestre del III milenio a. C., en un preciso período de transición en la forma de vida de los grupos humanos peninsulares. A esto se suma una importante regresión en la capacidad comunicativa de los recipientes, al mismo tiempo que aparecen vínculos claros con otros contextos campaniformes europeos, lo que parece reforzar la hipótesis de que este estilo de gran escala debe entenderse como otro agente en los procesos de conformación de una identidad social que estaba en curso en la transición a comienzos de la Edad de Bronce peninsular.

Palabras clave: III milenio a. C.; Bronce Inicial; Península Ibérica; cerámica ‘pelliscada’; Campaniforme; vasos con perfil en ‘s’.

1. Introduction¹

The prehistoric groups left us with an uncountable number of undecipherable materialisations of their daily behaviours and routines, but also of their beliefs, symbols and ideological systems. Those, when shifting, might leave tangible alterations (Hayden, 2018). That can be perceived in the archaeological record. For example, through sometimes-subtle changes, that might have local, regional or international impacts, depending on the degree of mobility, contact and relation of each of the involved groups. This can be the case of the Chalcolithic ceramics with pinched motifs or paired fingernail imprints addressed in this work that. Due to

their general scarcity, are widely unnoticed, being only approached in the site of Penha Verde (Cardoso *et al.*, 1993), but particularly in Fraga da Pena (Valera, 2007, 2017), where they were linked with the regional Bell Beaker phenomenon.

When one focuses the scale of analysis in this specific style and its incidence in Iberian Peninsula contexts, several questions can be asked, in order to understand the nature, expression and meaning of the pinched decorated motifs. First it is necessary to clarify the type of motifs that we are analysing here. However, adress, at the same time, the high standardization either of the s-shaped vessels in which these motifs are imprinted, their technological characteristics – that suggests a general disinvestment,



FIG. 1. Examples of the paired fingernail motifs here understudy.

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either in the clay treatment, but likewise in the communicative potential behind the decorative motifs – and also its apparent role outside funerary contexts (even if new data seems to suggest that they might have a meaning in those contexts after all).

Still, one must test possible links with European networks, specifically to recognize and quantify the

influence of the Bell Beaker elements in the pinched pottery, to which it is contextually and morphologically connected. This allows one to question if they can be seen as part of the beaker phenomenon itself or must be recognised as an independent reality, an innovation with a distinct meaning and agency or even a reinterpretation of an already existing phenomenon (Fig. 1).

The chronology, that broadly places these decorative motifs in the second half of the IIIrd millennium BC, particularly close to the transition between the end of the Chalcolithic and the beginning of the Early Bronze Age, will also be stressed, considering not only the emergence of different social answers, trajectories and pressures, but also the reinforcement of a contemporaneity with Bell Beaker elements and contexts.

Nevertheless, those connections and associations must be materialised and quantified, to bring one closer to the main characteristics, behaviours, agencies and functions of the Iberian paired fingernail imprints in s-shaped vessels.

2. Paired fingernail imprints or pinched motifs: What are they?

The archaeological assemblages of the IIIrd millennium BC are multiple in Iberia, being this also valid to the motifs, shapes and decorative techniques identifiable in the ceramic sets. As such, one must consider a high internal variability within every region and even site, recognising the impact of reinterpretation, reutilisation and adaptation processes as a canvas to local/regional morphologies, motifs, designs and techniques. These adaptive and transformative behaviours might be the trigger to the appearance of the binominal decoration/shape here under study.

The pinched motifs result from the act of pinching the surface of a freshly moulded vessel, meaning that a pair of fingernails is used to form a couple of opposite nail impressions, being also known as 'paired fingernails' (Gibson and Gill, 2013) or 'pincements' (Besse, 2003; Salanova, 2000a). In

some cases, besides the impressions, a modification of the in-between clay is done. In this process an over-pressuring force emphasises the central component of the impressions, being this an integrant, and commonly repeated, part of the decorative motif itself.

It is also noteworthy that some of the pinched decorated vessels are enriched by the addition of individual nail impressions, either in the body of the vessel or in the rim, always representing a minority in the decorative assemblage. This behaviour highlights the apparent connection between the pinched –or paired fingernail– and the single fingernail techniques, that share the same decorative 'tools' and general methods.

The use of nail/nails to create patterns is not exclusive of the pinched motifs, once it can also be detected in simpler and chronological widespread decorations, such as the fingernail imprint motifs, usually referred to as 'ungulations'. These decorations can be identified in Iberian archaeological records at least since the Early Neolithic (Diniz, 2011), being the vessels profoundly decorated with individual nail impressions. Through time, this individual imprinting kept appearing, with a significant decrease in its representation in the course of the Chalcolithic, not being standard, in Iberia, vessels with single nail impressions as the predominant decoration in this later chronology.

Besides the motifs and techniques, the studied vessels share other physical characteristics, namely the design, the decoration distribution and the propensity to a general invisibility of the motifs (Fig. 2). In the decoration layout, it is not possible to recognise a specific pattern, being mainly depicted a general image of chaotic and disordered elements with a slight tendency, in the better-preserved containers, to a line organisation. Those decorations, so far only detected in the exterior side of the containers, are distributed throughout the entire surface of the vessels, sometimes with individual nail impression in the rims. Still, the depth and dimension of each pair of fingernail imprints can affect the visibility of the general decorative arrangement and, as such, influence its communicative potential. So

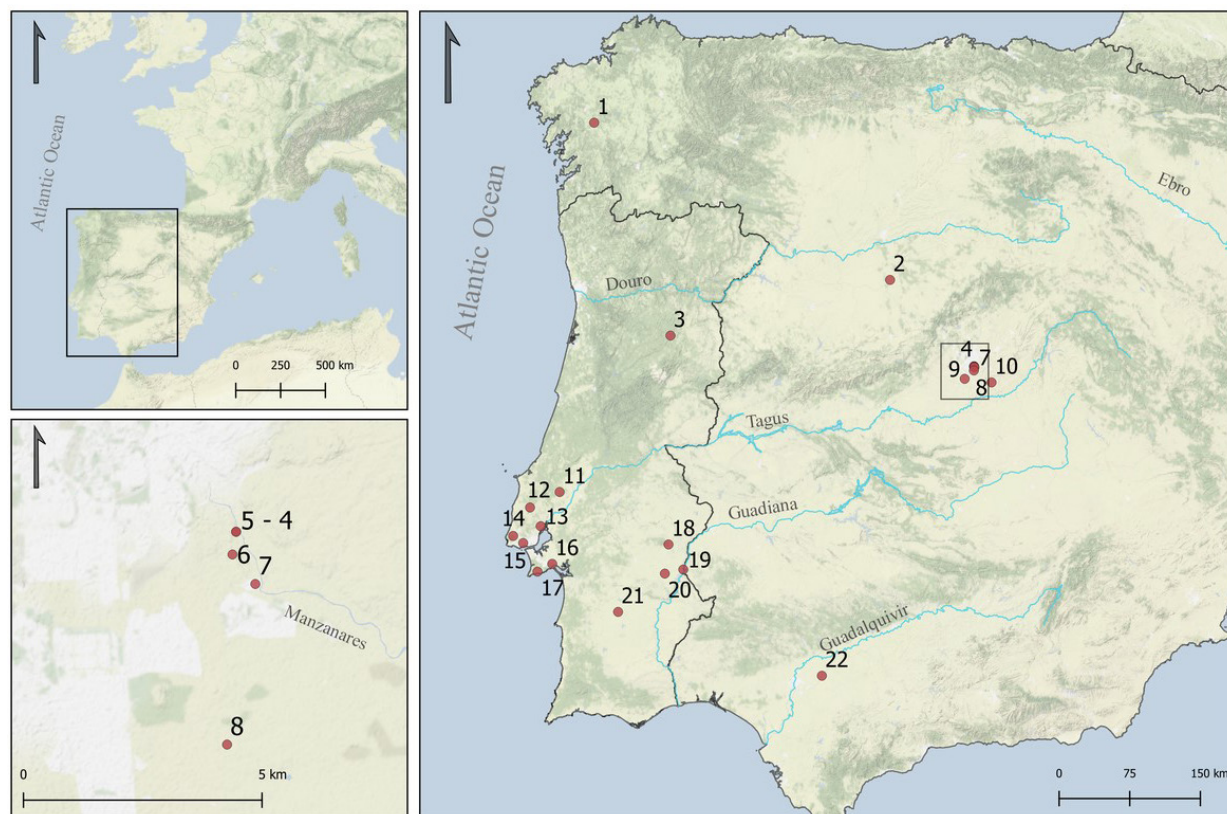


FIG. 2. Iberian sites with pinched motifs: 1) Devesa do Rei; 2) La Calzadilla; 3) Fraga da Pena; 4) Tejar de Don Pedro; 5) Fábrica Euskalduna; 6) Arenero de Pedro Jaro II; 7) El Ventorro; 8) El Juncal; 9) Humanejos; 10) Barranco de la Peña del Agua; 11) Vila nova de São Pedro; 12) Castro do Penedo; 13) Moita Ladra; 14) Penha Verde; 15) Leceia; 16) Castro da Rotuna; 17) Outeiro Redondo; 18. Fonte Ferrenha; 19) Miguens 3; 20) Perdigões; 21) Porto Torrão; 22) El Acebuchal.

far, one was not able to recognise the usage of white inlay, or any other materials, to highlight these impressions, as it occurs, for example, in beakers.

Furthermore, the shapes in which these motifs are imprinted is one of the most determinant variables and associations considered in this work, mainly because it almost exclusively corresponds to s-shape vessels, like the ones in which Bell Beaker motifs are traditionally drawn. Although some morphological differences are noted. Firstly, the height of the recipients where the paired fingernails are made. On the context in which they were identified, it always corresponds to one of the deeper and most prominent vessels in terms of volume, which can justify its usual interpretation as 'storage vessels' (Garrido *et al.*, 2019). Secondly, the presence of a smoother profile that, due to its

stretching, creates a silkier and more harmonious vessel shape.

Adding to that, the technological processes and the type of clay used in the manufacturing of the paired fingernail imprinted vessels suggests decantation and firing processes that result in a higher presence of non-plastic elements and more friable and darker vessels, with thicker walls.

Overall, there is a notable standardisation of the vessels, starting with the decorative technique (pinches) and the general motif distribution, usually favouring a line/chaotic organisation spread throughout the entire exterior wall of the container. Adding to that, a precise adaptation of what one might call the 'traditional' Bell Beaker s-shape, with a transformation or reinterpretation of the general morphology, generating

deeper vessels with smoother silhouettes. Also, there is a tendency to a rougher clay treatment, which is materialised in the higher presence of non-plastic elements, but also a shared firing process, which creates generally darker surfaces, that could erase, even more, an already barely visible decoration. This can also lead to a numerical invisibility of these motifs, that can be mixed with older –Neolithic– and earlier –Middle Bronze Age– decorative elements, or even with local decorations, as can it occur in the Parpantique Horizon in the Spanish Meseta (Delibes de Castro and Fernández Manzano, 2000; Fernández Moreno, 2013). This panorama possibly generates and perpetuates a lack of either graphic or textual mentions, that is materialised in the reduced expression of the understudied elements in Iberian contexts.

3. The archaeological contexts and its geography

According to the available data, from a total of 22 Iberian archaeological sites in which it was possible to identify paired fingernail imprints in s-shaped vessels, 12 are in the current Portuguese territory, while the remaining ten are in Spain. They present diversified typologies and have individual biographies associated with them, being only identified two cases in which it was possible to directly associate the pinched motifs to funerary contexts. In these archaeological sites, a pattern starts to appear, with the coexistence between the Bell Beaker phenomenon, present in all the 22 of them, and the paired fingernail imprints (Fig. 3).

The seven walled enclosures are all located in Estremadura –Leceia, Penha Verde, Castro do Penedo, Moita da Ladra and Vila Nova de São Pedro, in the Lisbon Peninsula, and Castro da Rotura and Outeiro Redondo in the southern margin of Tagus river (Cardoso, 1998; Cardoso *et al.*, 2013, 2010; Gonçalves, 1971; Paço and Jalhay, 1942; Spindler and Trindade, 1970)–. These sites are thought to belong to the same general architectural, cultural and chronological environment –‘fortified’ settlements (Cardoso, 1998; Cardoso *et al.*, 2013; Gonçalves,

1971)– but at the same time present diversified trajectories, related with the different sizes, structures, materials and occupation intensities (Valera *et al.*, 2019). This reality and the intense processes of internal modifications makes it unclear which contexts, chronologies and artefacts can be directly linked to the pinched motifs. In most of the mentioned sites, those decorations are related to widespread stratigraphical layers; nevertheless, only in Castro da Rotura, it was not possible to identify a contextual relationship between the pinched pottery and beakers. This spatial coexistence seems to be mainly related either with the ‘Maritime’ beaker motifs or with the Geometric dotted style, however, only a total of 17 vessels were identified, which, even though the reduced expression, highlights what might be a relevant presence of this decorative motif in this specific type of sites, particularly in Penha Verde (Cardoso, 2010), with a minimum number of nine vessels.

The same does not occur in the ditched enclosures, that together merely concentrate three containers. The identified sites are in the Alentejo region –South of Portugal–, namely Perdigões and Porto Torrão. Both are examples of an exponentially crescent architectural and cultural phenomenon (Valera, 2013), being two of the larger ditched enclosures of the region (Valera *et al.*, 2019). However, the existing information is discrepant between them. While Perdigões has a continuous and vast history of research, that showed a long and complex sequence of multiple structures and uncountable social practices, from the mid-IVth millennium to the end of the IIIrd millennium BC (Valera, 2015; Valera *et al.*, 2014), Porto Torrão suffers from an insufficient characterisation, still not being fully understood in what concerns its dimensions, social meanings, agencies and its relation with the existing networks (Valera, 2018a). In this specific case, the paired fingernail imprints seem to be absent, according to the sparse published bibliography. Nevertheless, considering the possible dimensions, the known archaeological contexts (Valera, 2018a), in which beakers and exotic materials are included, and the attractiveness of this type of sites to local collectors, it is not surprising that an unquantifiable

SITES	LAB.	DATA BP	CAL BC (2 σ)	CONTEXT	SAMPLE	REFERENCE
Perdigões	ICA-17B/0104	3700 ± 30	2199-2164 (8.7%) 2151-2017 (84.5%) 1995-1981 (2.2%)	Pit 79 [488]	fauna	Valera and Basilio, 2017
	ICA-16B/0913	3690 ± 30	2196-2171 (4.6%) 2146-2010 (85.6%) 2001-1977 (5.1%)	Pit 79 [500]	<i>Cervus elaphus</i>	
Penha Verde	Beta-260300	4000 ± 40	2831-2821 (0.5%) 2631-2454 (94%) 2418-2408 (0.5%) 2374-2369 (0.2%) 2361-2356 (0.2%)	Hut 2		Cardoso, 2017
	Beta-296578	3700 ± 30	2199-2164 (8.7%) 2151-2017 (84.5%) 1995-1981 (2.2%)	Hut 2		
	Beta-296580	3680 ± 40	2196-2170 (5%) 2147-1950 (90.4%)	Hut 2		
	Beta-276398	3830 ± 40	2459-2196 (91.5%) 2170-2148 (3.9%)	Hut 2		
	Beta-276400	3970 ± 40	2579-2346 (95.4%)	Ditch		
Miguens 3	Wk-18507	3934 ± 33	2563-2534 (6.1%) 2494-2334 (85.6%) 2324-2301 (3.8%)	[35]	charcoal - <i>Olea</i>	Mataloto and Boaventura, 2009
	Wk-18508	3902 ± 38	2480-2283 (94%) 2249-2233 (1.4%)	[55]	charcoal - <i>Olea</i>	
Castro da Rotura	OxA-5538	4100 ± 50	2873-2565 (90.6%) 2525-2496 (4.8%)	IIIa 2	horn	Gonçalves and Sousa, 2007
	OxA-5537	4075 ± 55	2866-2804 (15.9%) 2774-2770 (0.4%) 2764-2476 (79.1%)	IIIa 1	horn	
Moita da Ladra	Sac-2370	3930 ± 80	2835-2818 (0.8%) 2664-2645 (0.8%) 2639-2198 (93.3%) 2165-2151 (0.5%)	Ditch 8	fauna	Cardoso <i>et al.</i> , 2013
	Sac-2335	4240 ± 45*	2542-2259 (95.4%)	Ditch 8	<i>Venerupis decussata</i>	
	Sac-2336	4360 ± 50*	2736-2420 (95.4%)	Ditch 8	<i>Venerupis decussata</i>	
Fraga da Pena	Sac-1543	3710 ± 60	2287-1944 (95.4%)	S1 [3]	charcoal	Valera, 2007
	ITN- Lum 41	4010 ± 200		S1 [3]	sediment	
	ITN- Lum 42	3999 ± 200		S1 [3]	ceramic	
	ITN- Lum 43	4007 ± 200		S1 [3]	ceramic	
	ITN- Lum 44	3989 ± 200		S1 [3]	ceramic	
Outeiro Redondo	Sac-2365/6	4060 ± 30	2840-2813 (7.7%) 2678-2483 (87.7%)	Phase 3	fauna	Cardoso <i>et al.</i> , 2010/2011
	Sac-2342	4550 ± 35**	2892-2686 (95.4%)	Phase 3	<i>Pecten maximus</i>	
	Sac-2372	3800 ± 50	2457-2417 (4.4%) 2409-2130 (87%) 2086-2050 (4%)	Phase 3	fauna	
	Sac-2339	4450 ± 40**	2836-2558 (95.4%)	Phase 3	<i>Patella</i> sp.	
	Sac-2115	3690 ± 70	2287-1895 (95.4%)	Phase 3	fauna	
	Sac-2089	4340 ± 40**	2657-2417 (95.4%)	Phase 3	<i>Pecten maximus</i>	
	Sac-2083	4220 ± 40**	2477-2227 (95.4%)	Phase 3	<i>Patella</i> sp.	
Devesa do Rei	Ua-21686	3555 ± 45	2023-1761 (95.4%)	plain vessel		Aboal <i>et al.</i> , 2005
La Calzadilla	GrN-27817	3700 ± 80	2346-1883 (95.4%)	bottom of the pit	wood charcoal	Liesau <i>et al.</i> , 2014
Humanejos	GrM15291	3910 ± 25	2472-2335 (90.90%) 2324-2306 (4.5%)	Ind.1	human bone	Garrido <i>et al.</i> , 2019
	CNA4023	3941 ± 33	2566-2523 (11.6%) 2498-2337 (81.9%) 2322-2308 (1.9%)	Ind. 2	human bone	
El Ventorro	VENT13	3881 ± 90	2581-2123 (93%) 2092-2043 (2.4%)	Hut 13	charcoal	Priego and Quero, 1992

* Weighted average value of ΔR is 110 ± 40 (Cardoso *et al.*, 2013).

** Weighted average value of ΔR is 85 ± 35 (Cardoso *et al.*, 2010/2011).

*** Weighted average value of ΔR is 320 ± 75 (Cardoso *et al.*, 2010/2011).

FIG. 3. Detailed information about the Iberian sites with paired fingernail imprints.

number of sherds with pinched motifs are known to exist, due to oral information, in the local museum deposits (Fig. 4).

In Perdigões, the contextual coexistence is materialised in a feasting context – a cairn that covers a pit filled with faunal remains (Basílio and Cabaço,

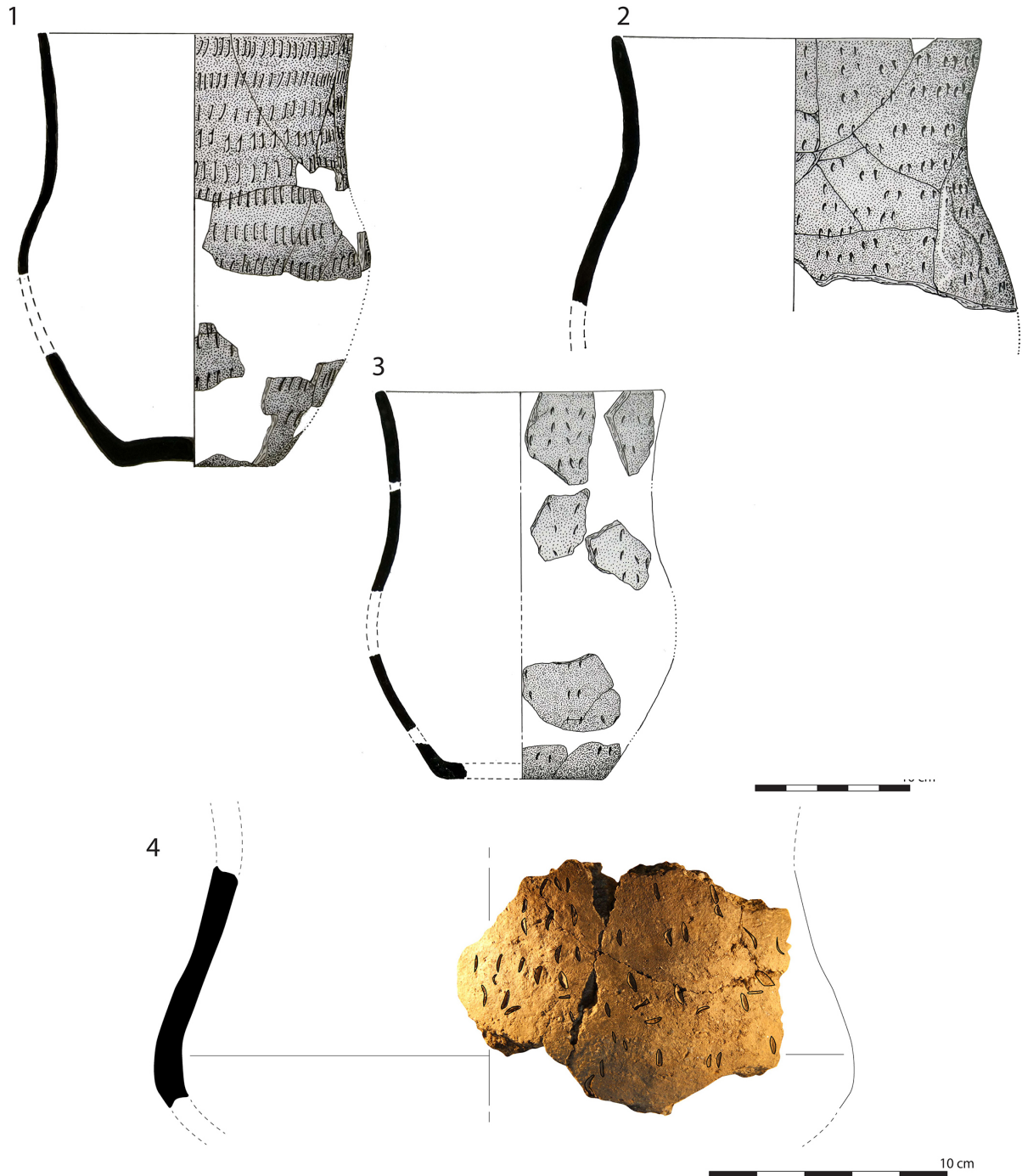


FIG. 4. Pinched motifs: 1-3) *Fraga da Pena* (from Valera, 2007); 4) *Tomb 4 of Perdigões*.

2019). In this structure, a clear stratigraphic relation with a 'Maritime' Bell Beaker was noted, being this the minority type of beaker decoration in the enclosure (Valera and Basílio, 2017). The second vessel from Perdigões corresponds to the particularly

exciting Tomb 4 in which one was not able to find a direct link between these two stylistic phenomena. In this tholoi type tomb with secondary depositions, two distinct funerary phases were identified, corresponding the first one to the funerary utilisation of

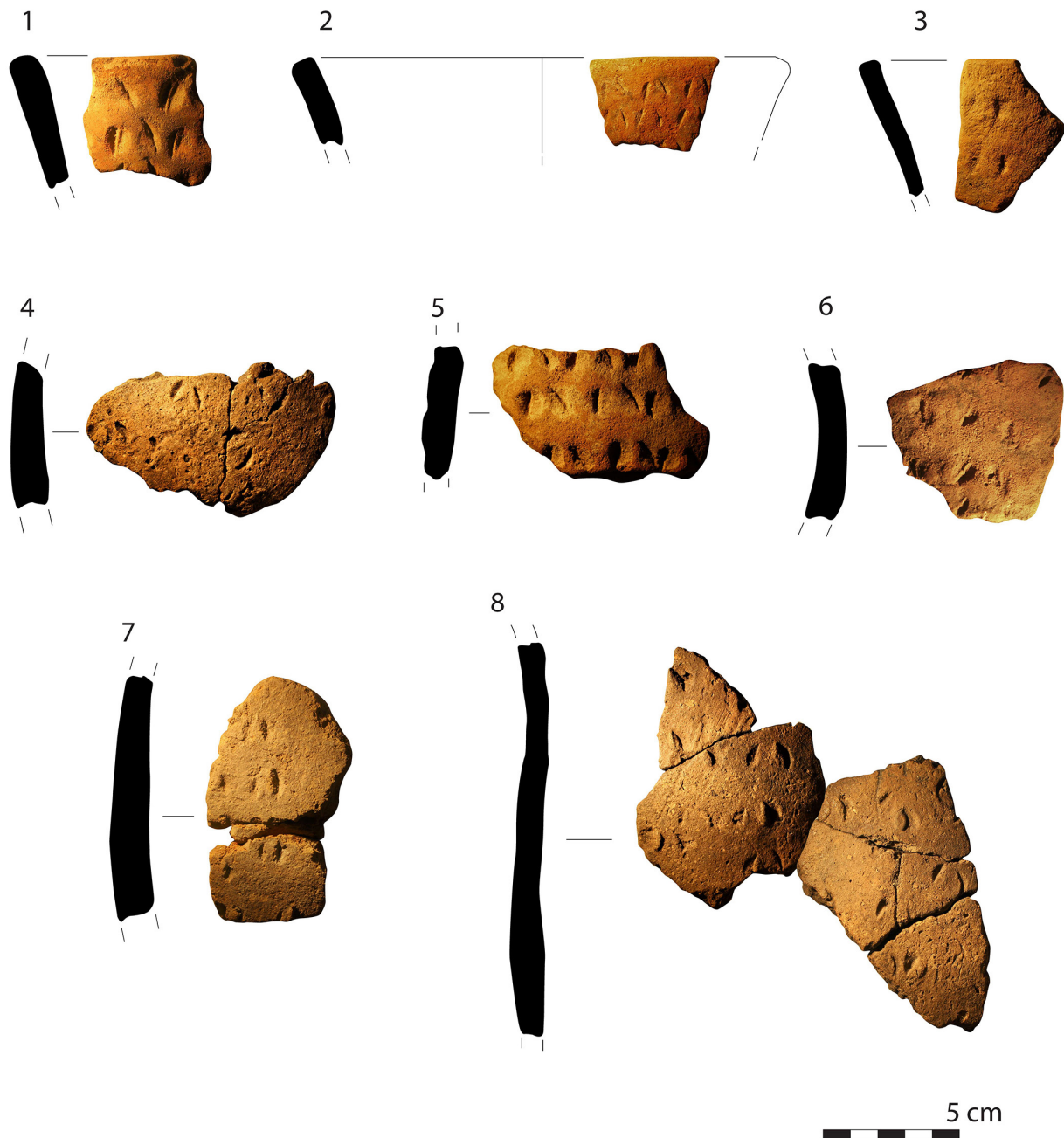


FIG. 5. Paired fingernail imprints from: 1-3 and 5-6) Penha Verde; 4 and 8) Moita da Ladra; 7) Leceia.

the monument, with deposition of human remains, and the second to an architectural reformulation in which a tumulus was built² (Valera, 2018b). In the oldest, a sherd with pinched motifs was included, as an integrant part of the votive elements, being one of the two funerary contexts, in which paired fingernail imprints in s-shaped vessels were identified.

The other funerary context corresponds to Tomb 5 of the Bell Beaker graves of Humanejos. This site, in a broader analysis, can be understood as a 'pit settlement' –'campos de hoyos/fossas' in Spanish/Portuguese bibliography– that contains around 2,500 archaeological structures, that span between the beginning of the Chalcolithic to the medieval period (Garrido *et al.*, 2019). The 'Bell Beaker burials' correspond to a total of nine structures that are spatially spread, mixed with other non-funerary structures, which make it impossible to consider them as part of a structured necropolis (Garrido *et al.*, 2019). In what concerns Tomb 5, that would correspond to a hypogeum with an entrance hall, it had two primary burials of older men –between 35 and 45 years old–, whose relationship was not fully understood –would it correspond to an individual or double burial (Garrido *et al.*, 2019). Nevertheless, they both were associated with elements from the traditionally European 'Beaker package', including 'Maritime' and Geometric dotted Bell Beakers, to which a copper axe and a dagger were added (Garrido *et al.*, 2019). In an apparently later moment, in which the funerary structure was being closed, commensality rituals would have taken place, being this materialised in a 'ceremonial kit' in which a complete s-shaped vessel with paired fingernail imprints was included (Garrido *et al.*, 2019) being, as such, contextually contemporaneous of Beaker motifs and practices (Fig. 5).

The 'pit settlement' of La Calzadilla presents a different situation when compared to Humanejos, having contexts dated from the Neolithic to the

² Valera, A. C.: *Relatório dos trabalhos de escavação nos recintos dos Perdigoês*. Unpublished report deposited in 2018 in the Direcção Geral do Património Cultural, Lisbon.

Roman period (Liesau *et al.*, 2014). The chalcolithic pit, where the pinched sherd was recovered, corresponds to the material evidence of a ritual ceremony in which several decorated Bell Beakers from the Ciempozuelos style and a beaker with symbolic motifs –representations of deer– were associated to a deposition of faunal remains (Liesau *et al.*, 2014). This pit emphasises the non-funerary character of the pinched motifs again, although presenting a unique connection with the Ciempozuelos style. Other 'pit settlements', such as Fábrica de Euskalduna or Tejar de Don Pedro that, due to their spatial proximity might correspond to a single site (Garrido, 2000), present similar contexts to the ones of La Calzadilla. In the excavated Pit 1 of Fábrica de Euskalduna, it was once again noted the contextual relationship between Ciempozuelos sherds and one fragment with paired fingernail imprints (Garrido, 2000). The same happened in survey works carried out in the 'pit settlement' of Arenero de Pedro Jaro II, with the recovery of Ciempozuelos elements, but as well of 'Maritime' and Geometric dotted beakers alongside another pinched decorated sherd (Garrido, 2000).

Also, the excavation of a pit from the 'pit settlement' of El Juncal provided another copy of the understudy vessels. This context, however, raises some questions concerning its typology, since it contains several elements of the already mentioned 'Bell Beaker package', being those carefully deposited, alongside the paired fingernail imprinted vessel, in the western half of the pit, without the presence of any human remains (Martínez *et al.*, 2015). Nonetheless, it has been interpreted as a funerary context because it aggregates all the traditionally European Bell Beaker funerary paraphernalia, including 'Maritime' decorations (Garrido *et al.*, 2019; Martínez *et al.*, 2015), which is not the case of the present work since one considers that it can also reflect other types of social practices (Fig. 6).

El Ventorro, on the other hand, has been interpreted as a habitat, counting with seven archaeological campaigns between 1963 and 1981 (Garrido, 2000; Priego and Quero, 1992). In the most recent ones, in which two phases were defined



FIG. 6. Vessel recovered in Tomb 5 of Humanejos with paired fingernail imprints and single nail imprints in the rim (from Garrido et al., 2019).

—a Pre-Bell Beaker and a Beaker one— 3 ‘huts’ and 23 pits were excavated (Garrido, 2000; Priego and Quero, 1992). This originated a total of 205

records of Ciempozuelos Beakers, a large number of metallurgical evidence, mainly in hut 13, and 19 sherds with paired fingernail imprints

–minimum number of nine vessels– that share the same contextual origins as the beakers (Priego and Quero, 1992). These fragments, due to the dimension of the assemblage, served as a decorative

reference to many of the sherds recovered in survey works in the Southern Spanish Meseta area, being interpreted as ‘non-Beaker decorations’ (Garrido, 2000).

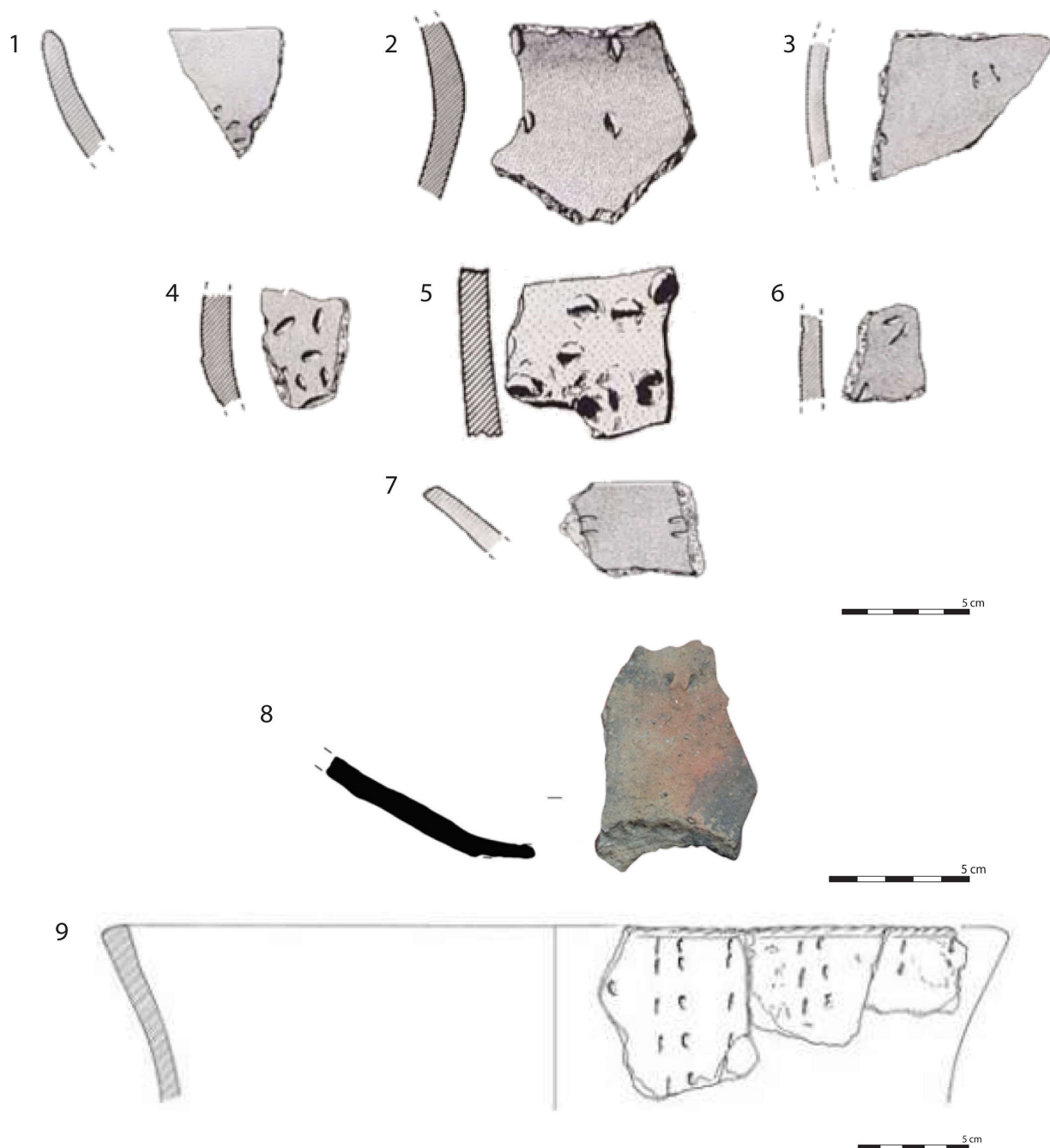


FIG. 7. *Pinched motifs*: 1-6) *El Ventorro* (from Priego and Quero, 1992); 8) *Perdigões* (from Basilio, op. cit. n. 2); 9) *Devesa do Rei* (from Aboal et al., 2005).

Other types of sites that congregate multiple contexts and social practices, correspond to ‘ceremonial sites’, where Devesa do Rei and Fraga da Pena are included. In Devesa do Rei, the northernmost Iberian site with pinched motifs where the activities would not be strictly domestic, two pinched decorated vessels were recovered in contextual coexistence with the ‘traditional’ beaker vessels and motifs, corresponding to the biggest and deeper containers of the ceramic set (Aboal *et al.*, 2005). This also happens in the granitic tor where Fraga da Pena is implanted. In this ceremonial site—a walled enclosure formed by two walled spaces with a short occupation span (Valera, 2007)—almost orchestrated ceramic depositions were detected, including ‘Maritime’/Geometric dotted Bell Beaker sherds and 11 pinched vessels, corresponding to the bigger assemblage identified (Valera, 2007).

Adding to these, the compound of Miguens 3, where beakers and a single pinched vessel coexist. This is a particularly notable site because it seems to correspond to an *ex novo* ‘Maritime’ Bell Beaker context (Calado, 2002; Valera *et al.*, 2019), being formed by dry stone circular structures, with radial linear small walls, also identified in other regional sites like Perdigões (Valera *et al.*, 2019; Valera and Basílio, 2017).

However, if in 19 of the sites it was possible to identify its general contextual typology, in the case of Fonte Ferranha, El Acebuchal and Barranco de la Peña de Agua, the provenance of the three exemplars of pinched pottery is unclear. This mainly occurs because while the available surface information for Fonte Ferranha seems to point to some type of settlement/enclosure (Calado and Mataloto, 2001), in the case of Barranco de la Peña de Agua, there is no mention to a possible site typology (Garrido, 2000). The problem in El Acebuchal is that the mention to tombs (Lazarich González *et al.*, 1995; Harrison and Hibbs 1976) makes it impossible to clearly distinguish if the single vessel identified is associated with funerary contexts and beakers, or not.

In sum, there is a total of 51 vessels with paired fingernail imprints distributed by 22 archaeological contexts in the Iberian Peninsula. This spatiality

does not seem to be intimately linked with the typology of the sites, being the more significant concentrations of vessels dispersed between the ‘ceremonial site’ of Fraga da Pena, the walled enclosure of Penha Verde and the habitat of El Ventorro that individually, present more or less the same amount of vessels—between 11 and 9. It is also noteworthy that there is a reduced expression of this decoration in funerary contexts, being the only two exceptions Tomb 4 of Perdigões and Tomb 5 of Humanejos—. However, there is a common characteristic that connects all these 22 Chalcolithic sites, being related between themselves due to the presence of Bell Beaker decorations, mainly ‘Maritime’ or Geometric dotted (Fig. 7).

4. Time matters: the chronological panorama

As part of the contextualisation of the paired fingernail imprints, the chronological information’s must be considered, being one of the most critical variables, once it allows creating empirical links and relations. This topic is thus structural in the study of the pinched motifs and the clarification of its relationship with the Bell Beaker and other possibly contemporaneous complexes.

Of the 22 sites in which pinched motifs were recovered, 13 have available chronological information—five walled enclosures: Moita da Ladra, Outeiro Redondo, Castro do Rotura, Leceia, Penha Verde; the compound of Miguens 3, the ceremonial sites of Fraga da Pena and Devesa do Rei, the ‘pit settlement’ of La Calzadilla, the habitat of El Ventorro, the funerary context of Humanejos and the two ditched enclosures: Perdigões and Porto Torrão—.

Nevertheless, some of these chronological information’s have different levels of reliability, being influenced by taphonomic disturbances inherent to extended and dynamic stratigraphy’s, but also by the old excavation and record methodologies. Adding to that, radiocarbon measurements from the ’90s, originate standard deviations that are too large to be considered nowadays—equal or higher than 100—, or that present unclear stratigraphic associations.

N.º	NAME	LOCATION	TYPE	EXCAVATION	N.º VESSELS	BEAKER STYLES	REFERENCES
1	Devesa do Rei	Vedra, Spain	ceremonial site	●	2	'Maritime' Geometric dotted	Aboal <i>et al.</i> , 2005
2	La Calzadilla	Valladolid, Spain	pit settlement	●	1	Ciempozuelos	Liesau <i>et al.</i> , 2014
3	Fraga da Pena	Fornos de Algodres, Portugal	ceremonial site	●	11	'Maritime' Geometric dotted	Valera, 2007
4	Tejar de Don Pedro	Madrid, Spain	pit settlement	○	1	Ciempozuelos Geometric dotted	Garrido-Pena, 1999
5	Fábrica de Euskalduna	Madrid, Spain	pit settlement	●	1	Ciempozuelos	Garrido-Pena, 1999
6	Arenero de Pedro Jaro II	Madrid, Spain	pit settlement	○	1	'Maritime' Ciempozuelos	Garrido-Pena, 1999
7	El Ventorro	Madrid, Spain	habitat	●	9	Ciempozuelos	Priego and Quero, 1992
8	El Juncal	Getafe, Spain	pit settlement	●	1	'Maritime' Geometric dotted Ciempozuelos	Martínez <i>et al.</i> , 2015
9	Humanejos	Parla, Spain	burial-hypogeum	●	1	'Maritime' Geometric dotted	Garrido-Pena <i>et al.</i> , 2019
10	Barranco de la Peña de Agua	Chinchón, Spain	undetermined	○	1	Ciempozuelos	Garrido-Pena, 1999
11	Vila Nova de São Pedro	Azambuja, Portugal	walled enclosure	●	1	undetermined	Paço and Jalhay, 1942
12	Castro do Penedo	Torres Vedras, Portugal	walled enclosure	●	1	undetermined	Spindler and Trindade, 1970
13	Moita da Ladra	Vila Franca de Xira, Portugal	walled enclosure	●	3	'Maritime' Geometric dotted	Cardoso <i>et al.</i> , 2013
14	Penha Verde	Sintra, Portugal	walled enclosure	●	9	'Maritime' Geometric dotted	Cardoso, 2010
15	Leceia	Oeiras, Portugal	walled enclosure	●	1	'Maritime' Geometric dotted	Cardoso, 1998
16	Castro da Rotura	Setúbal, Portugal	walled enclosure	●	1	'Maritime'	Gonçalves, 1971
17	Outeiro Redondo	Sesimbra, Portugal	walled enclosure	●	1	'Maritime' Geometric dotted	Cardoso and Martins, 2018
18	Fonte Ferrenha	Borba/Redondo, Portugal	undetermined	○	1	Ciempozuelos	Calado and Mataloto, 2001
19	Miguens 3	Alandroal, Portugal	compound	●	1	'Maritime'	Calado, 2002
20	Perdigões	Reguengos de Monsaraz, Portugal	ditched enclosure	●	2	'Maritime'	Valera <i>et al.</i> , 2014
21	Porto Torrão	Ferreira do Alentejo, Portugal	ditched enclosure	●	1	'Maritime' Geometric dotted	Valera, 2010, 2018a
22	El Acebuchal	Carmona, Portugal	undetermined	●	1	'Maritime' Geometric dotted	Lazarich <i>et al.</i> , 1995

FIG. 8. Detailed information of the Radiocarbon dates from sites with pinched motifs.

As such, one must only use reliable chronological data, preferentially data sets with samples well contextualised with reduced standard deviations (Fig. 8).

In a broad view, if one considers all the available chronological information, the pinched decorations seem to have a quite extensive presence throughout time, reaching a time span that starts from around 2800 BC until the first years of the second millennium BC, in the Iberian Chalcolithic, as already noted (Cardoso *et al.*, 1993).

However, several problems and inconsistencies can be detected in some of the available dates. This reality hampers the establishment of a direct link between the dating elements, the stratigraphic units and the under-study decorated sherds, being this particularly true in the Estremadura's walled enclosures. In Layer 2 of Leceia (Cardoso, 1998), the existing chronological data set present a variation of 1000 years, being this justified by the contamination of both older and newer datable archaeological

elements. As such, this type of data is inapplicable and to avoid randomly include/exclude C14 dates, the information of Leceia was not considered in the general radiometric analysis. Also, several dates with a standard variation equal and/or bigger than 100 were present in Leceia's, Penha Verde and El Ventorro sets and were excluded.

A brief note can be added concerning the excavation of Penha Verde and the type of disturbance that this site might have due to the presence of densely forested areas (Gonçalves and Sousa, 2006). Nevertheless, the recovered information has a general statistical correspondence and, as such, will be considered as valid to the analysis, although not 100% reliable. Also, the date from Devesa do Rei does not come from an archaeological layer, but instead from the residues inside an undecorated vessel that was later, due to a micro-spatial analysis, associated with the context in which Beakers and pinched containers appear (Aboal Fernández *et al.*, 2005).

This filtration process creates a more cohesive chronological span, resorting to 31 dates, that are now concentrated in the second half of the IIIrd millennium BC, with some intervals starting around 2600 BC. Nevertheless, there is a higher amount of dates around the last 200 years of that same millennium, being this scenario mainly drawn by Fraga da Pena, Devesa do Rei, Miguens 3, some dates of Outeiro Redondo and Penha Verde, being the first three sites the most reliable in the dataset. Adding to those, the closed contexts of Perdigões also emphasise this later chronology –the Cairn structure (Valera and Basílio, 2017; Basílio and Cabaço, 2019) and Tomb 4 of the same enclosure that, although not yet published, presents a compatible data set (Valera, 2018b)–. This tendency is slightly interrupted by the Beaker burials of Tomb 5 of Humanejos, which place the paired fingernail ‘phenomenon’ a little bit earlier, in the 3rd quarter of the IIIrd millennium (Garrido *et al.*, 2019).

The only exception is the chronological data of Castro da Rotura, that points to a presence of the pinched motifs right at the beginning of the Chalcolithic –1st half of the IIIrd millennium BC–, in layer IIIa, with two statistically compatible dates. Those

have been interpreted as representing the beginning of the settlement and other similar sites (Gonçalves and Sousa, 2006). However, this spatially concentrated and reduced layer was profoundly affected by a quarry, which might have shifted the original archaeological context, being noteworthy that in Castro da Rotura several decorated beakers, including ‘Maritime’ beakers, were recovered in nearby contexts (Gonçalves, 1971).

As such, the pinched motifs production and presence are mainly concentrated in contexts dated from the second half of the IIIrd millennium BC, with what might be interpreted as an intensification, in specific cases, at the end of the same millennium. This occurs in the ceremonial sites of Devesa do Rei and Fraga da Pena and also in the compound of Miguens 3, the three of them with short occupations. It is also noteworthy that Fraga da Pena presents the most significant assemblage of pinched decorated vessels in Iberia with an advanced chronology in the IIIrd millennium BC. This tendency can be noted as well in the most recent contexts identified so far in Perdigões, but, at the same time, placing this pinched pottery right in the moment of collapse of the Iberian chalcolithic trajectory –the transition from the IIIrd millennium BC to the Early Bronze Age (Valera, 2015)–.

More importantly is that the chronological range defined for the occurrence of pinched motifs in Iberia presents an almost total compatibility with the Bell Beaker phenomenon (Mataloto *et al.*, 2013; Valera *et al.*, 2019), even in what has been related to its early appearance in Iberia, connected to the ancient dates in walled enclosures in Lisbon peninsula (Cardoso, 2017; Kunst, 2017), but also in the North of Portugal and Galicia (Sanchez and Barbosa, 2018a, 2018b). This relation could explain the impression of an antique chronology in Estremadura and its connection with the ‘Maritime’ motifs, that are usually seen as the oldest beaker expressions (Salanova, 2000b; Garrido *et al.*, 2019). Nevertheless, the pointed problems to these ancient dates work as well in what concerns the beaker contexts (Valera *et al.*, 2019). Still, this temporal synchronicity serves as an indicator that

strengthens the already noted similarities not only in terms of morphology and decorative organisations, but also in the contextual and chronological coexistence that reaches the last years of the IIIrd millennium BC, in what one might consider the end of a way of life in which the beaker phenomenon was an included agent.

Nevertheless, the pinched pottery does not only present relationships with the Iberian Beakers. It might allow understanding different social processes that can be related to diffusion and reinterpretation of ideas and/or vessels that can be connected to other central European environments –Early Beaker ‘packages’ or even with prior decorative tendencies (Fig. 9)–.

5. Identities, relationships and mobility

The question to be or not to be a beaker is one of the most crucial interrogations concerning the Iberian paired fingernail imprints of the second half of the IIIrd millennium BC, being noteworthy that the variables needed to be considered a beaker are constantly shifting due to the growing focus on regional studies (Salanova, 2000b; Sanches and Barbosa, 2018a, 2018b; Valera *et al.*, 2019; Valera and Basílio, 2017). This change of scale allowed to realise that the Beaker phenomenon is essentially multiple, with equally multiple rhythms. Therefore, it does not correspond to a culture or to ‘folks’, but instead it reflects much more complex ideological expressions whose dispersion, dependent on a certain degree of human mobility, and acceptance can be related to the a multifunctional social role and collective character of this phenomenon (Olalde *et al.*, 2018; Linden, 2004; Valera and Rebugue, 2011)³. As such, and considering that the Beaker phenomenon has several material expressions, can one integrate the s-shaped pottery with pinched motifs in the same phenomenon? Which are the pros and cons?

³ Basílio, A. C. (2018): *Dinâmicas ocupacionais na segunda metade do 3º milénio a. C. nos Perdígões: Continuidades e descontinuidade*. Master’s Thesis presented in 2018 in the University of Algarve.

There are several common characteristics that link both motifs. In one hand, both phenomena present generally the same vessel morphology that corresponds to the ‘classical’ European Bell Beaker shape –deeper s-shaped vessels with a smoother curvature–. This feature is usually assumed, by the researchers who study the origins of the Bell Beaker expressions, as the result of the adaptation of previous morphological traditions, such as the Early European Beakers and the All Over Ornamented (Fokkens, 2012) whose sherds are scarcely present in Iberia (Jorge, 2002). As such, this characteristic is, at the same time, contradicting what occurs in the Peninsular beaker contexts, where this type of elongated beakers is uncommon, detaching the understudy phenomenon from the Bell Beakers.

Also, the distribution of the decorative motifs throughout the complete exterior surface of the vessel also resembles the beaker behaviour. On the contrary, and functioning as a con, the same does not occur in the motifs organisation, that in the pinched vessels tend to be chaotically or vertically displayed, forming lines, opposing the general band trend of the Bell Beakers. Furthermore, the technique used and the mastery needed to produce the decorations are very divergent amongst both decorative grammars, being the impression of paired fingernails simpler than the application of combs/shells/awls used to create the elaborate beaker motifs (Salanova, 2002).

Another shared behaviour between the two stylistic expressions regards their low representativeness in the ceramic assemblages and the decorated sets. However, in a specific analysis that focused in 256 Portuguese Chalcolithic Archaeological sites with decorated beakers, a minimum number of 1892 vessels was identified (Valera *et al.*, 2019). On its turn, the 33 Portuguese containers with paired fingernail imprints are only present in 5,9% of the total of Beaker sites, which makes them an even small expression when compared with the already rare Bell Beaker motifs.

Besides this, the exclusive and monothematic use, and repetition, of the same fingernail impressions generate a smaller number of possible combinations, which clearly affect the communicative potential and

the agency of the pinched decorative motifs, reducing, or increasing, the symbolic complexity of the transmitted message and used language, when compared with the more flexible Bell Beaker patterns.

It could also affect the possible role that the pinched motifs would play in the existing networks of the second half of the IIIrd millennium BC, mainly in what concerns the scale of the network involved in the distribution of these motifs and if there would be specific material associations –to Bell Beakers and/or other expressions–.

Firstly, the clear dispersion and almost isolation of the 22 Iberian archaeological sites with paired fingernail motifs, that only present three slight concentrations –Portuguese Estremadura, the Middle Guadiana area and the Southern Spanish Meseta–. This geographical panorama suggests different relationships and dispersion routes mainly connected to rivers with greater flow, as it occurs in all the mentioned clusters with connections to the Tagus Basin, the Guadiana area, which has already been pointed to the distribution of other exotic artefacts (Valera *et al.*, 2015), and the Manzanares.

Nevertheless, the isolated presence of these type of motifs can also be related to pre-existing or in development ‘cultural tendencies’ and to its acceptance or resistance towards the combination between the pinched designs, vessels shape and possibly associated meanings (Rogers, 1983). This is materialised in the absence of pinched s-shaped vessels not only in several inland Iberian regions but also in what is known as the ‘Parpantique Horizon’ (Delibes de Castro and Fernández Manzano, 2000; Harrison *et al.*, 1994).

These decorative motifs are mainly present in the Spanish Meseta, with a concentration in the northern Submeseta, surrounding the Douro River. This group is primarily constituted by plain vessels with plastic applications –cords and nipples– that sometimes can have digitations, unguations and pinches spread throughout the vessel (Harrison *et al.*, 1994) – equal to the ones here under study–. However, there is a clear difference between Parpantique groups and the pinched pottery, since Parpantique designs are not used in the decoration

of s-shaped containers. This absence is not related with unfamiliarity with the beaker shape, or even with the decorated Bell Beaker motifs themselves, that in most of the identified cases present a contextual coexistence with the Parpantique decoration, either in caves, settlements or funerary contexts (Delibes and Fernández Manzano, 2000; Harrison *et al.*, 1994). Also, it is not correlated with different chronologies, once there is an overlap and coexistence period between either the Bell Beaker exemplars, the pinched pottery and the Parpantique motifs, especially in the last quarter of the IIIrd millennium BC (Valera, 2007).

As such, although sharing the same chronology and technique, according to the available information, the pinched s-shaped vessels do not appear associated with elements from the Parpantique Horizon, with what might correspond to an intentional exclusion between both decorative expressions. The ritual pit of La Calzadilla, in Valladolid, is an exception, since it is located right in the ‘Parpantique area’. Nevertheless, although it was categorised as an s-shaped vessel with pinched decoration since it was not possible to identify any plastic element, it can also correspond to a ‘Parpantique’ exemplar. Adding to that, the absence of dotted beaker styles and the exclusive association to the Ciempozuelos Beaker motifs, a behaviour also perceptible in Parpantique contexts, can also strengthen the integration of Calzadilla’s sherd in the ‘Parpantique’ cultural environment. The same questions could be aimed at both the sites of El Ventorro and Fábrica de Euskalduna. However, and considering that they are outside the traditionally ‘Parpantique area’ and coexist with close by contexts with dotted Bell Beaker motifs, one must not exclude them from the analysis of the paired fingernail imprints phenomenon (Fig. 10).

But if in the Parpantique Horizon there is a coexistence with the later Ciempozuelos Beaker motifs, in the pinched pottery this correlation, as already highlighted, seems to be intimately linked with the ‘Maritime’ and Geometric dotted styles.

This connection to European trends is also visible in the existence of the same pinched motifs drawn in s-shaped vessels outside Iberian borders.

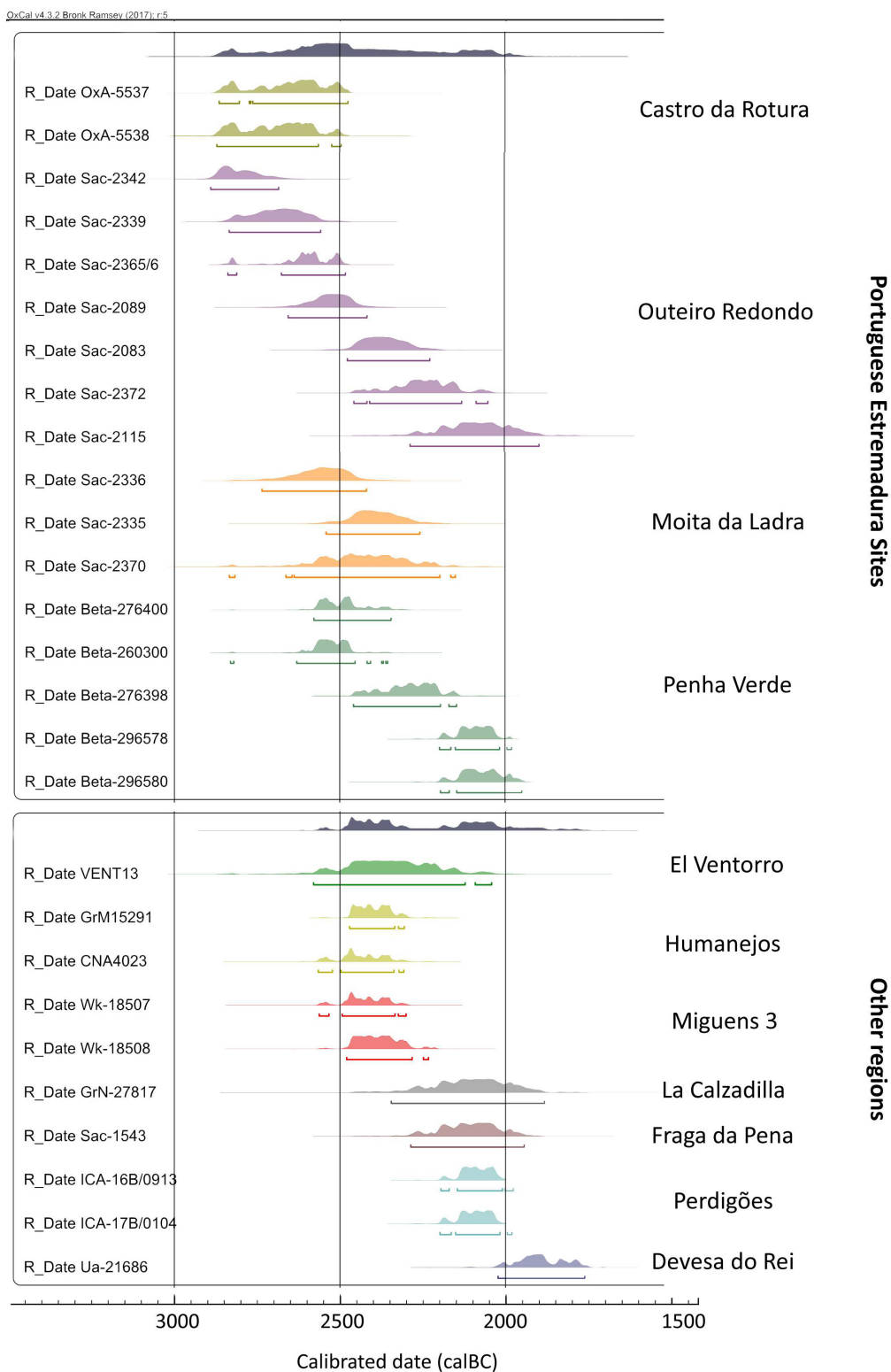


FIG. 9. Calibrated radiocarbon dates from sites with paired fingernail imprints.

Those vessels, whose decoration is categorised as organised/disorganised paired fingernails, are usually integrated into the more general pre-Bell Beaker 'Fingernail imprints', being considered as a variant of the technique and motifs (Besse, 2003). Nevertheless, it presents several communal characteristics with the Iberian counterparts, not only the same morphological shape of the vessels but also the motifs themselves, the distribution and the organisation of those same motifs throughout the exterior surface of the containers.

It was thus possible to compile at least 23 sites that do not form substantial clusters, being individualised in contexts from Czech Republic, Italy, the Netherlands, England, France and Germany (Besse, 2003). Of those only five are funerary, which maintains the Iberian tendency to a more relevant presence of pinched vessels in non-funerary contexts. Still, and regardless the scarcity of sites, it was possible to verify once again that the vessels from Central Europe are also in association with decorated Bell Beakers, either 'Maritime', Geometric dotted and local stylistic variants, that can even be chronologically previous to the Beaker motifs (Besse, 2003).

However, and although this type of decoration was recently briefly studied (Besse, 2003), there is a generalised absence of contextual provenances and chronological information for the paired fingernails motifs, pointing the available dates mainly to the second half and the last quarter of the IIIrd millennium BC (Besse, 2003; Piguet and Besse, 2009). Though, its contextual relationship with the fingernail imprints in several of the sites where the pinched vessels appear, and the association of this motif with the pre-Beaker European cultural environments, can suggest a northern origin to both the disordered/ordered fingernail imprints (Besse, 2003; Piguet and Besse, 2009) and possibly to the beginning of the pinched motifs. Those would have a starting point around 3100-2600 BC in the Corded Ware/Funnel Beaker expressions, both with shapes like the posterior beaker s-shaped vessels (Piguet and Besse, 2009), being associated with the Beaker phenomenon around 2400 BC/2350 BC (Piguet and

Besse, 2009). Nevertheless, this contextual and possibly chronological coexistence can only be attested in s-shaped vessels outside Iberian borders, once in Iberian Chalcolithic contexts from the second half of the millennium, the single fingernail impressions are scarcer, if not absent, than the pinched variants, which justify the individualisation of both realities in the present study.

Even so, the presented chronology could make sense if one assumes that the distribution, and even the origin, of the pinched motifs, could be related to influences external to Iberia, having this style different acceptance rates through the Peninsula, as previously noted in the All-Over decorated Beakers (Jorge, 2002). The intrinsic mobility and contacts associated with the possible spread of this type of motifs, from North to South, could be the justification behind the concentration of the pinched pottery in contexts dated from the last quarter of the IIIrd millennium BC in the Iberian Peninsula and the of presence of this motifs, in the beginning of the second half of the same millennium in Humanejos (Garrido *et al.*, 2019). Although, one must not forget the slightly ancient chronology suggested by the available information for the Estremadura's walled enclosures that, even though with reliability problems, could shift the presented panorama, inverting the 'contact/dispersion network', relating the origin of the paired fingernail imprints with the early Iberian beakers.

Apart from this hypothesis and the struggle to empirically comprehend hypothetical networks and relationships between distant regions and different cultural environments, quite classical in the Historic culturalist Bell Beaker studies, is important to high spot that the connection between the several pinched elements is not only just formal and decorative, but it also presents the same general tendency to have a lower expression in funerary contexts. This allows one to emphasize a possible collective meaning and even suggest the existence of a decorative 'language', but also a shared social function, that would imply normative behaviours, whose geographical extension would not be dependent of direct contacts. Moreover, the combination of this

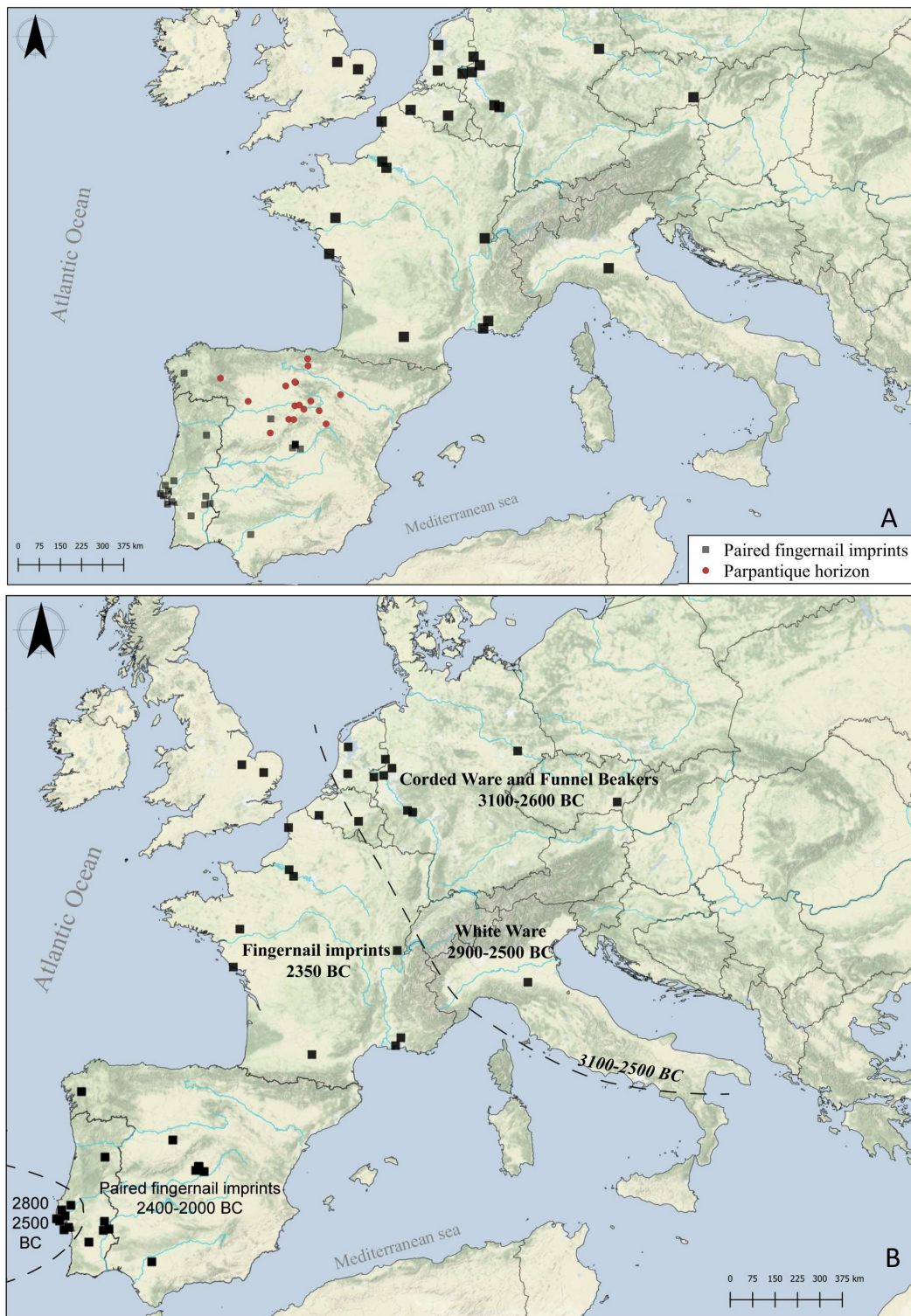


FIG. 10. Europe maps: A) paired fingernail imprints and the relationship with some Parpantique sites; B) hypothetical influences of the paired fingernail imprints (adapted from Piguet and Besse, 2009).

motifs and new decorative organisations with the maintenance of a widely spread and familiar Bell Beaker shape, can, on one hand, highlight what seems to be a dependence between a transformation and reinterpretation process that creates an entirely new style –the paired fingernail motifs– and an already existing message/interpretation related to the vessel morphology (Sanches, 1997; Valera, 2007).

On the other hand, can reflect changes that could be not only associated with shifts in the scales of the group's identities, due to the participation in networks of extended exchanges (Valera, 2007), but at the same time adaptations to new social dynamics. These can be connected to the intensification of social inequalities and the emerging idea of rank in the second half of the IIIrd millennium BC, that would be more receptive to the establishment of broader relationships and to the circulation of exotic objects (Valera, 2015). Those goods tended to be more homogeneous, standardised and normative (Sanches, 1997), being these characteristics applicable to the Beaker phenomenon and, as seen above, even to the paired fingernail motifs/vessels.

The increasingly higher demand would create stress in the prehistoric groups that, when connected to several other shifting variables (Valera, 2018b) and possible population increase due to migrations (Olalde *et al.*, 2018, 2019), might have changed their identification strategies. This would allow a metamorphosis of the transregional signs and messages, in order to deal with the increased consumption without completely losing the belonging and participation feelings, in a moment where their identity would be in mutation (Sanches, 1997; Valera, 2007).

In this sense, the 'simplification' seen in the pinched motifs and its slightly invisibility in the vessels, can reflect a process of disinvestment in communication through the decorative codes, which would spare time in the production of those same vessels and instigate different relationships with the pottery. Or, in opposition, could materialise a complexification of the signs, that would combine almost 'encrypted' supra-regional messages that implied the establishment of highly

normative combinations between the vessel shape, motifs, organisation of those same elements and even in what concerns the production phase of the imprinted containers (Sanches, 1997; Valera, 2007). This would, all together, build the symbolic meaning of the pinched style.

Yet, it is necessary to recognise that, according to modern preconceptions, the simpler decorations/motifs tend to be secondary in the analysis of contexts where beakers, with elaborated styles, are present, not being possible to access the true meanings behind either of these specific motifs.

Besides the changes in the motifs and in the communicative function of the pinched vessels, one can also mention a technological modification, for there is evidence to generalised shift in the manufacturing process of the pottery that, when analysed, high-point the local character of the pinched pottery –as noticed in Fraga da Pena (Dias *et al.*, 2000). This is particularly visible in the sloppier treatment of the clay, which can reflect a quicker production process or a change in the original functionality, that was also identified in the undecorated vessels of the last quarter of the IIIrd millennium BC in the ditched enclosure of Perdigões. In this site, near the end of the Chalcolithic, there is an evident disinvestment in the production of the vessels, that start to include a large amount of bigger non-plastic elements⁴. Still, and considering that this is a tendency so far only attested in the south of Portugal, it is still necessary to confirm if this disinvestment is a general Iberian trend or if is just a sw Iberian answer and adaptation in the end of the IIIrd millennium BC (Valera, 2015; Valera and Basílio, 2017)⁵.

In this particular period of Iberian and European Prehistory, numerous shifts can be noted, possibly related to several climatic events, usually grouped under the name '4.2 ka climatic event' (Blanco-González *et al.*, 2018). This can be linked to other disruptions in the ongoing social systems (Valera, 2018b), such as the several demographic inputs suggested by recent aDNA studies (Olalde *et al.*, 2018, 2019) that, even presenting some unresolved

⁴ Basílio, *op. cit.* n. 2.

⁵ Also Basílio, *op. cit.* n. 2.

friction and problems (Linden, 2019), might be related do the dispersion of not only these pinched motifs but also responsible to some social instability.

A generalised Iberian modification seems to occur (Valera, 2015, 2018b)⁶, originating different social answers, that justify the general invisibility of architectures and settlements in the sw region (Valera, 2015; Valera and Basílio, 2017; Basílio and Cabaço, 2019)⁷ but, at the same time, an over-all stability, with an enlargement of contacts in the North of Portugal (Bettencourt, 2018; Sanches and Barbosa, 2018a, 2018b) and the appearance of the highly stratified system of El Argar in the SE Spain (Lull *et al.*, 2011). This rupture moment allows to clearly distinguish a shift in what was an ideology more linked to a notion of community during the Neolithic and Chalcolithic, that, in the beginning of the Bronze Age, changed its focus to a generalised valorisation of the individual, of the integrity of the body and the involved identities (Valera, 2015; 2018b).

Alongside this recognition, one can also perceive the disappearance of all ideotechnique representations (Valera, 2015; 2018b), but at the same time, some apparent maintenances in the final moments of the IIIrd millennium BC, mainly in the material sphere, such as the presence of the same generalised ceramic morphologies and also of some of the decorative elements, such as the Bell Beakers. This apparent artefactual continuity –mainly morphological– in the exact moment of the transition to the IIrd millennium BC, can be noted primarily on sw Iberian sites with longer biographies that allow to clearly distinguish a social trajectory and a repetition of practices, as perceived, for example, in the latest context of Perdígões (Valera, 2015; Valera and Basílio, 2017; Basílio and Cabaço, 2019)⁸.

As such, the pinched motifs and techniques might reflect or visually accentuate the acceleration process felt in other components of the IIIrd millennium BC social systems, with a disinvestment not only in the production but also in what concerns

the agencies and meanings associated with these vessels. It is also noteworthy that these motifs are the ones that probably bring us closer to the individual(s) involved in the drawing/impression of the decoration, once it results from the direct contact between potter and vessel, which could be somehow related with a foreboding of the individualism of the Early Bronze Age or as an identarian expression, or even a resistance mechanism, since the majority of the peninsular vessels are connected to ‘meeting/reunion places’.

6. Final remarks

The identification of paired fingernail imprints in s-shaped vessels allowed to draw attention to a way of expression from the third and fourth quarter of the IIIrd millennium BC that, due to its scarcity, was only sparsely approached, apart from Fraga da Pena (Valera, 2007, 2017) and Penha Verde (Cardoso *et al.*, 1993), originating an unclearness concerning the chronology, cultural relationships and distribution of these decorated elements.

In the end, it was then possible to identify 22 Iberian archaeological sites in which the highly standardized paired fingernail impressions were present. This panorama confirmed that these decorations are scarce in Iberia but also all over Europe, where the standardisation is also visible. Adding to that, several radiocarbon dates defined that the period of this style corresponds to the second half of the IIIrd millennium BC, with a relevant probability in the last quarter of the same millennium, in a transition phase, being also depicted what might correspond to a slight antiquity in the Portuguese Estremadura. This could be somehow related to one of the theoretical origins of the Bell Beaker, whose presence in Iberian contexts matches the mentioned chronological span (Cardoso, 2017; Kunst, 2017).

The noted contextual coexistence of Bell Beakers and the pinched pottery in one of the most essential characteristics of the pinched style, being not only noted in the Peninsula, but also through the European contexts. This association seems to be mainly

⁶ Also Valera, *op. cit.* n. 2.

⁷ Also Basílio, *op. cit.* n. 3.

⁸ Also Valera, *op. cit.* n. 2.

related to specific decorated beaker motifs, 'Maritime' and Geometrical dotted, particularly outside funerary contexts –being the exception Tomb 4 of Perdigões and Tomb 5 of Humanejos–.

The connection and coexistence between these two phenomena allowed to depict that these motifs, in Iberia, would not correspond to an innovation or reutilisation of the beaker shape in local decorative expressions. Instead, it should be comprehended as a specific style or way of expression that it does not occur independently of the Beaker phenomenon –a trend in which there is a broader sharing process that simultaneously recognises and accepts the diversity amongst the different regions⁹. At the same time permitted the identification of exclusion and resistance processes, as in the Spanish Meseta, in which motifs that share the same techniques, intentionally reject the beaker shape –Parpantique Horizon (Harrison *et al.*, 1994)–.

Summarising, the pinched motifs correspond to a part of a whole, representing the 'whole' –the Bell Beaker phenomenon– in a specific and standardised manner. Nevertheless, its presence in contexts dated from the transition from the IIIrd to the IInd millennia BC highlighted a disinvestment in the communicative potential of the decoration, being this a social and identarian answer to an unstable atmosphere. As such, this large-scale style, although numerically scarce, is another agent to be considered in the comprehension of the de-structuring of the old Neolithic/Chalcolithic networks (Valera, 2015, 2018b) and the adaptation processes to identarian pressures and newly emerging social orders. It is also an active element that mirrors the changing processes that lead to the end of a way of life.

Bibliography

ABOAL, R.; AYÁN, X. M.; CRIADO, F.; PRIETO, M. P. and TABARÈS, M. (2005): "Sites without stratigraphy: Devesa do Rei, a cultural site in Galician late Prehistory and the Iron Age?", *Trabajos de Prehistoria*, 62, pp. 165-180.

⁹ Basílio, *op. cit.* n. 3.

- BASÍLIO, A. C. and CABAÇO, N. (2019): "An end that perpetuates: a cairn from the end of the 3rd millennium BC at Perdigões". In VALERA, A. C. (ed.): *Fragmentation and Depositions in Pre and Proto-Historic Portugal*. Lisboa: Núcleo de Investigação Arqueológica (NIA)-Era Arqueologia SA, pp. 105-124.
- BESSE, M. (2003): *L'Europe du 3e millénaire avant notre ère. Les céramiques communes au Campaniforme*. Cahiers d'Archéologie Romande, 94. Lausanne.
- BETTENCOURT, A. (2018): "Entre o Mediterrâneo e o Atlântico: o Noroeste da Ibéria dos finais do 3.º aos finais do 2.º milénio AC". In LOPES, S. S. and GOMES, S. (eds.): *Seminário Internacional Entre o 3.º e o 2.º milénio AC: Que tipo de viragem?* Coimbra, pp. 8-9.
- BLANCO-GONZÁLEZ, A.; LILLIOS, K. T.; LÓPEZ-SÁEZ, J. A. and DRAKE, B. L. (2018): "Cultural, Demographic and Environmental Dynamics of the Copper and Early Bronze Age in Iberia (3300-1500 BC): Towards an Interregional Multiproxy Comparison at the Time of the 4.2 ky BP Event", *Journal of World Prehistory*, 31, pp. 1-79.
- CALADO, M. (2002): "Povoamento pré e proto-histórico da margem direita do Guadiana", *Al-Madan*, II, 11, pp. 122-127.
- CALADO, M. and MATALOTO, R. (2001): *Carta arqueológica do Redondo*. Redondo: Câmara Municipal do Redondo.
- CARDOSO, J. L. (1998): "A ocupação campaniforme do povoado pré-histórico de Leceia (Oeiras)", *Estudos Arqueológicos de Oeiras*, 7, pp. 89-153.
- CARDOSO, J. L. (2010): "O Povoado Calcolítico da Penha Verde (Sintra)", *Estudos Arqueológicos de Oeiras*, 18, pp. 467-551.
- CARDOSO, J. L. (2017): "O povoamento campaniforme em torno do estuário do Tejo: cronologia, economia e sociedade". In GONÇALVES, V. S. (ed.): *Sinos e taças junto ao oceano e mais longe. Aspectos da presença campaniforme na Península Ibérica*. Estudos & Memórias, 10. Lisboa, pp. 126-141.
- CARDOSO, J. L.; CARREIRA, J. R. and FERREIRA, O. da V. (1993): "Cerâmicas ungluladas do povoado calcolítico da Penha Verde", *Al-Madan*, II, 2, pp. 35-38.
- CARDOSO, J. L.; SOARES, A. M. M. and MARTINS, J. M. M. (2010): "Fases de ocupação e cronologia absoluta da fortificação calcolítica do Outeiro Redondo (Sesimbra)", *Estudos Arqueológicos de Oeiras*, 18, pp. 553-578.
- CARDOSO, J. L.; SOARES, A. M. M. and MARTINS, J. M. M. (2013): "O povoado campaniforme fortificado

- da Moita da Ladra (Vila Franca de Xira, Lisboa)”, *O Arqueólogo Português*, 3, pp. 213-253.
- DELIBES DE CASTRO, G. and FERNÁNDEZ MANZANO, J. (2000): “La trayectoria cultural de la Prehistoria Reciente (6400-2500 BP) en la Submeseta Norte: principales hitos de un proceso”. In 3.º *Congreso de Arqueología Peninsular (UTAD, Vila Real, Portugal, 1999)*. Vila Real: ADECAP, pp. 95-122.
- DIAS, M. I.; PRUDÊNCIO, M. I.; PRATES, S.; GOUVEIA, M. A. and VALERA, A. C. (2000): “Tecnologias de produção e proveniência de matéria-prima das cerâmicas campaniformes da Fraga da Pena (Fornos de Algodres-Portugal)”. In 3.º *Congreso de Arqueología Peninsular (UTAD, Vila Real, Portugal, 1999)*. Vila Real: ADECAP, pp. 253-268.
- DINIZ, M. (2011): “O povoado da Valada do Mato (Évora, Portugal)”. In BERNABEU, J. (ed.): *Des Res Ceramiorum*. Saguntum Extra, 12. Valencia, pp. 255-258.
- FERNÁNDEZ MORENO, J. J. (2013): *El Bronce Antiguo en el Alto Duero: Los poblados del Parpantique de Balluncar y Los Torojones de Morcuera (Soria)*. Studia Archaeologica, 98. Valladolid.
- FOKKENS, H. (2012): “Background to Dutch Beakers: a critical review of the Dutch model”. In FOKKENS, H. and NICOLIS, F. (eds.): *Background to Beakers: Inquiries into Regional Cultural Backgrounds of the Bell Beaker Complex*. Leiden: Sidestone Press, pp. 9-36.
- GARRIDO, R. (2000): “El Campaniforme en la Meseta Central de la Península Ibérica (c. 2500-2000 AC)”. *BAR Intern. Ser.*, 892. Oxford: Archaeopress.
- GARRIDO, R.; FLORES, R. and HERRERO, A. M. (2019): *Las sepulturas campaniformes de Humanejos (Parla, Madrid)*. Madrid: Dirección General de Patrimonio Histórico.
- GIBSON, A. and GILL, D. (2013): “Beaker occupation at Cavenham Quarry, Suffolk”. In PRIETO, M. P. and SALANOVA, L. (eds.): *Current Researches on Bell Beakers. Presented at the Proceedings of the 15th International Bell Beaker Conference: From Atlantic to Ural (Poio, Pontevedra)*. Santiago de Compostela: Copynino, pp. 251-264.
- GONÇALVES, V. dos S. (1971): *O Castro da Rotura e o vaso campaniforme*. Setúbal: Junta Distrital de Setúbal.
- GONÇALVES, V. dos S. and SOUSA, A. C. (2006): “Algumas breves reflexões a propósito de quatro datas 14C para o Castro da Rotura, no contexto do 3.º milénio ane nas penínsulas de Lisboa e Setúbal”, *O Arqueólogo Português*, 24, pp. 233-266.
- HARRISON, R. J. and HIBBS, V. A. (1976): “The Beaker pottery from El Acebuchal, Carmona (Sevilla)”, *Madridrider Mitteilungen*, pp. 79-141.
- HARRISON, R. J.; LÓPEZ, G. M. and LEGGE, A. J. (1994): *Moncín: un poblado de la Edad del Bronce (Borja, Zaragoza)*. Zaragoza: Diput. de Zaragoza.
- HAYDEN, B. (2018): *The power of ritual in Prehistory: Secret societies and origins of social complexity*. Cambridge: CUP.
- JORGE, S. O. (2002): “Um vaso campaniforme cordado no Norte de Portugal: Castelo Velho de Freixo de Numão (V. N. de Foz Côa)”, *Revista da Faculdade de Letras: Ciências e Tecnologias do Património*, 1, pp. 27-50.
- KUNST, M. (2017): “Campaniforme em Zambujal (Torres Vedras)”. In GONÇALVES, V. S. (ed.): *Sinos e taças junto ao oceano e mais longe. Aspectos da presença campaniforme na Península Ibérica*. Estudos & Memórias, 10. Lisboa, pp. 194-213.
- LAZARICH, M.; LADRÓN DE GUEVARA, I.; RODRÍGUEZ DE ZULOAGA, M. and SÁNCHEZ ANDREU, M. (1995): “El yacimiento de ‘El Acebuchal’ (Carmona, Sevilla): un análisis de las estructuras calcolíticas a través de los escritos inéditos de J. Bonsor e historiografía”, *SPAL*, 4, pp. 81-100.
- LIESAU, C.; GUERRA, E. and DELIBES DE CASTRO, G. (2014): “Casual or ritual: The Bell Beaker deposit of La Calzadilla (Valladolid, Spain)”, *Quaternary International*, 330, pp. 88-96.
- LINDEN, M. V. (2004): “Polythetic networks, coherent people: a new historical hypothesis for the Bell Beaker phenomenon”. In CZEBRESZUK, J. (ed.): *Similar but different: Bell Beakers in Europe*. Poznan: Adam Mickiewicz University, pp. 35-62.
- LINDEN, M. V. (2019): “Toward a clearer view into human prehistory”, *Science*, 363, pp. 1153-1154.
- LULL, V.; MICO, R.; HERRADA, C. R. and RISCH, R. (2011): “El Argar and the beginning of class society in the Western Mediterranean”. In HANSEN, S. and MÜLLER, J. (eds.): *Sozialarchäologische Perspektiven: Gesellschaftlicher Wandel 5000-1500 v. Chr. Zwischen Atlantik Und Kaukasus. Archäologie in Eurasien (Internationale Tagung Kiel 2007)*. Mainz: Philipp von Zabern, pp. 381-414.
- MARTÍNEZ, V.; MORENO, E.; GALLEGO, C. and LÓPEZ JIMÉNEZ, O. (2015): “El yacimiento inédito de El Juncal (Getafe). Primera aproximación”. In *La arqueología en el trazado ferroviario del sur de la Comunidad de Madrid. Una aventura fascinante*. Madrid: ADIF, pp. 243-280.

- MATALOTO, R.; MARTINS, J. M. M. and SOARES, A. M. M. (2013): "Cronologia absoluta para o Bronze do Sudoeste. Periodização, base de dados, tratamento estatístico", *Estudos Arqueológicos de Oeiras*, 20, pp. 303-338.
- OLALDE, I.; BRACE, S.; ALLENTOFT, M. E.; ARMIT, I.; KRISTIANSEN, K.; BOOTH, T.; ROHLAND, N.; MALLICK, S.; SZÉCSÉNYI-NAGY, A. and MITTNIK, A. (2018): "The Beaker phenomenon and the genomic transformation of northwest Europe", *Nature*, 555, pp. 190-196.
- OLALDE, I.; MALLICK, S.; PATTERSON, N.; ROHLAND, N.; VILLALBA, V.; SILVA, M.; DULIAS, K.; EDWARDS, C. J.; GANDINI, F. and PALA, M. (2019): "The genomic history of the Iberian Peninsula over the past 8000 years", *Science*, 363, pp. 1230-1234.
- PAÇO, A. do and JALHAY, E. (1942): *A povoação eneolítica de Vila Nova de S. Pedro: notas sobre a 3ª, 4ª e 5ª campanhas de escavações 1939, 1940 e 1941*. Brotéria, 34. Lisboa.
- PIGUET, M. and BESSE, M. (2009): "Chronology and Bell Beaker Common Ware", *Radiocarbon*, 51, pp. 817-830.
- PRIEGO, M. C. and QUERO, S. (1992): *El Ventorro, un poblado prehistórico de los albores de la metalurgia*. Madrid: Ayto. de Madrid.
- ROGERS, E. M. (1983; 3rd edit.): *Diffusion of innovations*. New York: Free Press.
- SALANOVA, L. (2000a): *La question du Campaniforme en France et dans les îles anglo-normandes: productions, chronologie et rôles d'un standard céramique*. Documents préhistoriques. Paris: Société Préhistorique Française.
- SALANOVA, L. (2000b): "Mecanismos de diffusion des vases campaniformes: les liens franco-portugais". In 3.^o Congresso de Arqueologia Peninsular (UTAD, Vila Real, 1999). Vila Real: ADECAP, pp. 399-410.
- SALANOVA, L. (2002): "Fabrication et circulation des céramiques campaniformes". In GUILAINE, J. (ed.): *Matériaux, Productions, Circulations du Néolithique à l'Âge du Bronze*. Paris: Errance, pp. 151-168.
- SANCHES, M. de J. (1997): *Pré-história recente de Trás-os-Montes e Alto Douro*. Sociedade Portuguesa de Antropologia e Etnologia, 2. Porto.
- SANCHES, M. de J. and BARBOSA, M. H. (2018a): "Campaniforme no Norte de Portugal: perspectivas interpretativas instigadas pela leitura de dados recentes", *Portugália*, 39, pp. 97-150.
- SANCHES, M. de J. and BARBOSA, M. H. (2018b): "Campaniforme: chronology, pottery, and contexts of a long-term phenomenon in the Portuguese Douro Basin", *Journal of Neolithic Archaeology*, pp. 23-58.
- SPINDLER, K. and TRINDADE, L. (1970): "A povoação eneolítica do Penedo, Torres Vedras". In *Actas I Jornadas Arqueológicas*. Lisboa, vol. II, pp. 57-191.
- VALERA, A. C. (2007): *Dinâmicas locais de identidade: estruturação de um espaço de tradição no 3 milénio AC (Fornos de Algodres, Guarda)*. Braga: CMVA-TA.
- VALERA, A. C. (2013): *As comunidades agro-pastoris na margem esquerda do Guadiana. Da 2.ª metade do IV aos inícios do II milénio AC*. Memórias d'Odiviana. Évora.
- VALERA, A. C. (2015): "Social change in the late 3rd millennium BC in Portugal: The twilight of enclosures". In MELLER, H.; RISCH, R.; JUNG, R. and ARZ, H. W. (eds.): *2200 BC-Ein Klimasturz Als Ursache Für Den Zerfall Der Alten Welt? 2200 BC-A Climatic Breakdown as a Cause for the Collapse of the Old World. (7th Archaeological Conference of Central Germany, 2013, Halle, Saale)*. Berlin, pp. 409-427.
- VALERA, A. C. (2017): "Beakers in Central Portugal: social roles, confluences and strange absences". In GONÇALVES, V. S. (ed.): *Sinos e taças junto ao oceano e mais longe. Aspectos da presença campaniforme na Península Ibérica*. Estudos & Memórias, 10. Lisboa, pp. 214-229.
- VALERA, A. C. (2018a): "Ferreira do Alentejo no contexto dos recintos de fossos pré-históricos do interior alentejano". In *Ferreira: 5000 Anos de História. Comemoração dos 500 Anos do Foral Manuelino de Ferreira do Alentejo*. Ferreira do Alentejo: Câmara Municipal de Ferreira do Alentejo, pp. 7-30.
- VALERA, A. C. (2018b): "Morte no Expresso do Ocidente: razões para um colapso social no final do 3.^o milénio a. C. no Sudoeste da Península Ibérica". In LÓPES, S. S. and GOMES, S. (eds.): *Seminário Internacional Entre o 3.^o e o 2.^o milénio AC: Que tipo de viragem?* Coimbra, pp. 34-39.
- VALERA, A. C. and BASÍLIO, A. C. (2017): "Approaching Bell Beakers at Perdígões enclosures (South Portugal): site, local and regional scales". In GONÇALVES, V. S. (ed.): *Sinos e taças junto ao oceano e mais longe. Aspectos da presença campaniforme na Península Ibérica*. Estudos & Memórias, 10. Lisboa, pp. 82-97.
- VALERA, A. C.; MATALOTO, R. and BASÍLIO, A. C. (2019): "The South Portugal perspective. Beaker sites or sites with Beakers?". In GIBSON, A. (ed.): *Bell Beaker settlement of Europe: the Bell Beaker phenomenon from a domestic perspective*. Oxford: Oxbow Books, pp. 1-23.

VALERA, A. C. and REBUGE, J. (2011): “O Campaniforme no Alentejo: contextos e circulação. Um breve balanço”. In *3^{as} Jornadas de Arqueologia do Norte Alentejano (Fronteira, 2005)*. Lisboa: Edições Colibri-Câmara Municipal de Fronteira, pp. 111-121.

VALERA, A. C.; SCHUHMACHER, T. X. and BANERJEE, A. (2015): “Ivory in the Chalcolithic enclosure of

Perdigões (South Portugal): the social role of an exotic raw material”, *World Archaeology*, 47, pp. 390-413.

VALERA, A. C.; SILVA, A. M. y MÁRQUEZ, J. E. (2014): “The temporality of Perdigões enclosures: absolute chronology of the structures and social practices”, *Spal*, 23, pp. 11-26.

