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AN INTERPRETATION OF THE BELL BEAKER CULTURAL SEQUENCE IN THE TAGUS ESTUARY REGION: DATA FROM LECEIA (OEIRAS)

by

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Abstract: This article discusses the significance of the bell beaker pottery found in the fortified Chalcolithic settlement of Leceia, for which specific contexts have been supplied with the aid of radiocarbon dating. Inside the fortification, the final phase of the most modern occupation, dating from the Middle Chalcolithic period, is characterised by its association with pottery decorated according to local tradition ("acacia leaf" and "cruciferae") and a few examples of bell beaker pottery considered to be the older type (the "maritime" beakers and bell-shaped pots decorated with dotted geometric designs), whose chronology, according to the available radiometric dates, lies between 2600 and 2200 BC. In the area outside the walls, two huts have been identified, with ellipsoidal ground plans. Although the decorated pottery from both consists exclusively of bell beaker material, typological differences may be observed which have chronological implications. The larger of the two is characterized by an association in which "maritime" beakers coexist with more modern forms such as the Palmela-type bell beaker cups, essentially featuring a dotted design, whilst in the smaller one there is a total absence of "maritime" beakers, which have been replaced by Palmela cups and large pots, mainly displaying incised decorations, characteristic of a more recent period. These conclusions have been confirmed by radiocarbon dates obtained in both cases. Therefore, the following evolution may be proposed for the presence of bell beaker pottery in Leceia: 1 – the co-existence, within the fortified area, of local materials together with the first bell beaker production, represented by "maritime" beakers and their associated forms, decorated with a dotted; design 2 – the rapid evolution of bell beaker pottery, together with the decline and disappearance of "indigenous" decoration, giving rise to new forms and regional decorations, typically represented by the Palmela cup found in the oldest hut, together with some remaining "maritime" beakers, in which the dotted decorative technique existed alongside, but predominates over the incised technique – the chronology for this hut confirms that it was occupied at the same time as the area inside the walls (the Middle Chalcolithic period); 3 – the smaller hut provides the most modern of the bell beaker collections, produced entirely locally; the classic form (the "maritime" beaker) and the production of local pre-beaker forms were abandoned and, at the same time, large recipients (pots, bottles and storage jars) began to proliferate, in association with the last of the Palmela cups, displaying heavily geometric designs and almost exclusively incised. This is a characteristic association of the Late Chalcolithic period in the region, present in the small, family-based agropastoral nuclei, whose emergence coincided with the abandoning of the large settlements. This model, which is merely a personal interpretation of the data collected during excavations undertaken by the author in Leceia

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over the past twenty years, still needs to be confirmed, given that, at present, there are still not enough absolute dates available and they are too imprecise (due to analytical limitations).

Key-words: Beaker; cultural sequence; fortified site of Leceia, Oeiras, Portuguese Estremadura.

Resumo: Neste trabalho discute-se o significado das cerâmicas campaniformes encontradas no povoado calcolítico fortificado de Leceia, para as quais se definiram contextos específicos, associados a datações de radiocarbono. No interior da fortificação, a ocupação mais moderna, do Calcolítico Pleno, é caracterizada, na fase final, pela associação de cerâmicas decoradas de tradição local ("folha de acácia" e "crucifera") a escassas cerâmicas campaniformes, de tipologia considerada mais antiga (vasos "marítimos" e caçoilas acampanadas com decoração geométrica a pontilhado), cuja cronologia se situa, segundo as datas radiométricas disponíveis, entre 2600 e 2200 a.C.. Na área extramuros, identificaram-se duas cabanas de planta elipsoidal. Conquanto as cerâmicas decoradas fossem, em ambas, exclusivamente representadas por materiais campaniformes, observaram-se diferenças tipológicas, com significado cronológico: assim, a maior, é caracterizada por uma associação onde coexistem vasos "marítimos" com formas mais modernas, como as taças Palmela, estando essencialmente presente a decoração a pontilhado, enquanto na menor faltam totalmente os vasos "marítimos", substituídos por taças Palmela e grandes caçoilas, com decorações predominantemente incisas, representando um momento mais recente. Tais conclusões encontram-se confirmadas pelas datações de radiocarbono obtidas para ambas. Deste modo, poder-se-ia admitir a seguinte evolução para a presença campaniforme em Leceia: 1 – coexistência, no interior da área fortificada, de materiais locais com as primeiras produções campaniformes, representadas por vasos "marítimos" e formas associadas, decoradas a pontilhado; 2 – evolução rápida das produções cerâmicas campaniformes, com declínio e desaparecimento das decorações "indígenas", dando origem a novas formas e decorações de carácter regional, cujo paradigma é a taça Palmela, presente na cabana mais antiga; permanência residual de vasos "marítimos", coexistindo a técnica a pontilhado com a incisa, sendo dominante a primeira; a cronologia desta cabana não deixa dúvidas quanto à sua sincronia face à ocupação do espaço intramuros (Calcolítico Pleno); 3 – na cabana de menores dimensões, encontra-se representado o mais moderno dos conjuntos campaniformes, com exclusividade de produções locais, acompanhando o abandono da forma clássica (o vaso "marítimo") e da produção de decorações locais pré-campaniformes, ao mesmo tempo que se assiste à proliferação de grandes recipientes (caçoilas, garrafas, vasos de provisões), associados às derradeiras taças Palmela, com decorações fortemente geometrizadas e quase exclusivamente incisas. Trata-se da associação característica do Calcolítico Final regional, presente nos pequenos núcleos de base familiar e carácter agro-pastoril, cuja emergência coincide com o abandono dos grandes povoados. Este modelo, que é apenas uma leitura pessoal de dados recolhidos nas escavações realizadas pelo signatário em Leceia nos últimos vinte anos, carece de confirmação, dado, por ora, serem ainda demasiado escassas e imprecisas (por limitações do método) as datações absolutas disponíveis.

Palavras-chave: Campaniforme; sequência cultural; povoado fortificado de Leceia, Oeiras, Estremadura Portuguesa

Traditionally there are considered to be three groups of bell beaker pottery in Estremadura, defined both by the shape of the recipients and by the techniques and motifs they display. A specific chronological and cultural significance has been attributed to each group. Ranging from the oldest to the most modern, the model accordingly classifies these as the International Group, the Palmela Group and the Incised Group (SOARES & SILVA, 1974/1977). In the region to the north of the Tagus, the largest and most significant collection is to be found in Leceia (Oeiras), a fortified Chalcolithic settlement (CARDOSO, 2000a). The importance of the conclusions obtained from there are, in fact, very important in any discussion of the

emergence and status of this kind of pottery production in the western Atlantic side of the Iberian Peninsula.

In Leceia, as in other Estremadura settlements that hosted important occupations during the Middle Chalcolithic period, it is the International Group, represented by its two most typical forms, the "maritime" bell beaker and the bell-shaped pot featuring dotted geometric decorations ("çaçoila"), that predominates in the area inside the walls, suggesting that it is older than the other previously mentioned bell beaker groups. During the excavation work that took place in the 1990s, new and important elements were added that allowed a reassessment to be made of the emergence and development of bell beaker pottery in the Estremadura region (CARDOSO, 1997/1998).

Two habitational structures that had been built outside the walls were identified and examined. Both had ellipsoidal ground plans, defined by alignments of blocks corresponding to the mounting of a superstructure made out of perishable materials (sun-dried bricks or three branches) which has not conserved. Their maximum dimensions, according to the largest axis, were 5 metres and 10 metres respectively. They are the only huts from the bell beaker period to have been identified and examined so far on Portugal. The larger of the two units which, judging by its characteristics, was obviously only occupied for a short period of time, yielded a collection of bell beaker pottery, in which "maritime" beakers, the Palmela cups and various types of incised pottery coexisted, all typical vessels from beaker productions. Such a set therefore illustrates the contemporary "dinner service" used in a habitational unit, thus challenging, on the one hand, the hypothesis that this was "prestige" pottery, as is still claimed by some authors (influenced by the remarkable decorations they usually display) and, on the other hand, the idea that these groups followed on from each other in strict chronological order, due to the fact that fragments from any one of these groups occurred in close association, so that they must definitely have been contemporary with each other.

The smaller hut provided a smaller collection of bell beaker pottery which belonged almost exclusively to the Incised Group, a situation which was chronologically significant, as we shall discuss later, and was proved by the radiocarbon dating also obtained. In fact, 26 fragments of beaker decorated pottery were recovered from this hut, with only 5 featuring the dotted technique. There were no examples of the "maritime, beaker and the set only consisted of local forms of production: large Palmela cups, narrow-necked spherical vessels ("bottles"), large pots ("storage jars") and small cups which were decorated around the rim and certainly intended as drinking vessels. It is therefore an association characterised by the absence of what is considered to be the older type of bell beaker productions, replaced by incised examples that can be attributed to the final phase of the sequence.

As far as the larger hut is concerned, the results of a study of the distribution of techniques and decorative styles displayed on the pottery that was recovered from there – which was also exclusively of beaker features – already enables us to conclude that, contrary to the previous example, around 75% of the decorations are made by the dotted technique, present on the “maritime” beakers and on large pots with geometric designs usually organized within two distinct areas, around the rim and on the bottom half of the sides, in addition to the small hemispherical cups. There were also Palmela cups, displaying both incised and dotted designs, with the rim always highly decorated. This feature was more developed in the incised pottery, which bore a more “baroque” decoration (corresponding to the latest Palmela cups). As we can be certain that all the forms and decorative techniques coexisted in this collection by necessity, due to the short “life-span” of any habitational unit, two conclusions can be reached:

- separate and distinct bell beaker forms and techniques coexisted in the area in which they were used, meaning that the criteria for establishing phases or periods for bell beaker pottery in Portugal are now very relative;
- it should be accepted that when incised decorations predominates in the bell beaker pottery collections and there are no examples of “maritime” beakers, as can be seen in the hoard recovered from the smaller hut, these sets are more recent than those featuring the dotted technique and “maritime” beakers.

Bell beaker pottery collections such as those recovered from the smaller Leceia beaker hut therefore embody the final moments of this kind of ceramics in the Lower Estremadura region, where they occur isolated in habitational contexts. This is also the situation in the neighbouring site of Monte do Castelo (CARDOSO, NORTON & CARREIRA, 1996).

Therefore, the typological sequence for the Estremadura bell beaker pottery that was proposed over twenty-five years ago is still valid overall, with adjustments made to the absolute chronology proposed at the time (CARDOSO & SOARES, 1990/1992). In fact, the calibrated radiocarbon data currently available still enables the emergence of bell beaker pottery to be located within the first half of the 3rd millennium BC, probably reaching a peak in the middle of this millennium.

As far as Leceia is concerned, two radiocarbon dates have been obtained for each of the huts in question. The larger of the two (Hut FM), whose foundations lie on the Late Neolithic Layer 4, gave a result of Sac – 1317 – 4220 ± 50 BP which, after calibration using the Stuiver & Reimer 1993 CALIB Rev. 3.03 program corresponds, with approximately 95% probability, to the period 2825 – 2654 BC. The smaller hut (Hut EN), founded on a layer of rubble from the fortification and therefore definitely more recent than the decline of this site, corresponds to the date

ICEN – 1241 – 3950 ± 90 BP representing, also with 95% probability, the period 2629 – 2176 BC. They therefore involve chronometric results that are statistically different, given that the respective periods of maximum probability are not superimposed.

Bearing this in mind, the situation seems to parallel the results of the study carried out by the British Museum radiocarbon laboratory in the British Isles: namely, the coexistence of different styles of bell beaker decoration, without any specific chronological significance “per se”. In terms of Portuguese territory, geographical factors also have to be taken into account. The predominance of dotted decoration over incised technique in the lower Sado region seems to illustrate a regional trend during a period in which this type of pottery was firmly established and which was different from that of the lower Estremadura region where, the incised style is much more common. The same criteria can be applied to the interpretation of the geographical distribution of Palmela cups, whose maximum occurrence is in the same region, and extending to the lower Tagus. To the north they are found less, and are exceptional in the Upper Estremadura region (CARDOSO, 2000b, 2002). The most northerly occurrences of Palmela cups discovered so far are in the lower Mondego area, where they have been identified in the cave of Eira Pedrinha in Condeixa-a-Nova (CORRÊA & TEIXEIRA, 1949, Est. V), in the Crasto settlement at Figueira da Foz (ROCHA, 1971, p. 146) and, further to the north, in Mamoa 1 at Chã de Carvalhal, Baião (CRUZ, 1992). It is therefore a form of pottery production that is markedly regional, especially around the mouth of the rivers Tagus and Sado.

On the other hand – and it is worth emphasising this point – the oldest dates for bell beaker pottery, including that of Leceia and especially the set recovered from the larger hut (the Palmela cups in particular), means that their origins in the Estremadura region have to be put back in time to at least the beginning of the Middle Chalcolithic period in the end of the first half of the 3rd millennium BC, the period in which this type of pottery was only used sporadically inside the Leceia fortification. Therefore, the traditional chronology for the “bell beaker phenomenon” in Estremadura are, of necessity, challenged. In fact, the absolute chronologies obtained in the 1990s for various bell beaker contexts, both domestic and funerary (CARDOSO & SOARES, 1990/1992) also meant that their presence had to be placed further back in time to the Middle Chalcolithic period, a cultural phase which began in Estremadura in around 2600 BC, according to the results obtained in Leceia (CARDOSO & SOARES, 1996). This therefore contradicts what had been claimed up until then, that their presence coincided with the Late Chalcolithic period.

In fact the interpretation of the “bell beaker phenomenon” has been subject to heated international debate and there is still no unanimous agreement on the conclusions that can be reached. There have been several, not infrequently contradictory, interpretations of the archaeological evidence, ranging from the existence of a “Beaker

Folk" according to diffusionist theory, involving diffusion (if not actual "invasions") and periods of "reflux", to the indigenous argument emphasising local evolution to the detriment of external stimuli, in addition to the idea of the restricted use of this sophisticated pottery by a dominant social group or its simple correspondence to "prestige" goods.

The archaeological data collected in Leceia has, as may be imagined, enabled a significant contribution and new arguments to be added to the discussion of this question. According to the available dates, in around 2600 BC the Leceia fortification was in a process of full decline, associated with a reduction in living space. During this cultural phase, namely the Middle Chalcolithic period, located roughly between 2600 and 2200 BC (CARDOSO & SOARES, 1996), pottery with "acacia leaf" and "cruciferae" decorations existed in association with bell beaker pottery in the upper part of the sequence. However, the few examples of bell beaker pottery dating from this period are different from those encountered in the two beaker huts. In fact, out of a total of thirty-nine fragments classified as having dotted decorations and only four that were incised, the "maritime" beakers prevail, with twenty-two dotted examples and only one incised. The linear dotted (two examples) and linear incised (one example) variety is also present, with the second largest group represented by the wide-shouldered pots with dotted decoration (twelve examples). In the set, there are only two examples of incised Palmela cups and the remaining groups (carinated pots, large pots and hemispherical cups) are of little significance, represented by only one example (CARDOSO, 1997/1998). This bell beaker association from the area inside the walls – which clearly coexisted with the local pottery from the pre-Beaker tradition, especially in the case of the group decorated with "acacia leaves" and "cruciferae" – contrasts markedly, from a typological point of view, with the bell beaker characteristics of the sets recovered from the two huts outside the walls previously described.

What is the cultural significance of such differences in the material record, observed in such close proximity and both contemporary with the occupation that was taking place at the same time in the area inside the walls? In other words, did the bell beaker pottery correspond to the establishment of new influxes of populations – not necessarily large in number – who rapidly intermingled with the inhabitants already based in the region? In fact, with the appearance of bell beaker pottery, the phenomenon of diffusion could be directly observed for the first time along the western Atlantic side of Europe, with two main focal points, one in Brittany and the other in the Lower Estremadura area (the estuaries of the Tagus and the Sado), featuring identical vessels (SALANOVA, 2000) and following exactly the same canons, namely the beakers expressly classified as "maritime" with dotted decorations of the AOO ("all over ornamented") type in their two most common forms: the

“herringbone” and the “linear”. Moreover, the occurrence in Portuguese Estremadura of the incised technique, associated with open forms such as the Palmela cups, suggests southern Peninsular affinities, thereby establishing it as a region in which both Mediterranean and Atlantic influxes combined, a phenomenon that would, from this time onwards, be observed recurrently in this geographical area, which would constitute a veritable “turntable” between the north Atlantic and the Mediterranean regions.

The following theoretical evolution may therefore be proposed to explain the material circumstances recorded in Leceia as described above:

1) The occupants of the fortified settlement, which had already been in a state of rapid decline since around 2600 BC, received the first beaker influxes (whose origins are impossible to determine), represented by pottery with dotted decorations characterised by the “maritime” beaker. These materials are associated stratigraphically with local pottery production, indicating a short period of time in which both traditions coexisted. Given that distinct material cultures reflect equally distinct social and cultural realities, the evidence identified in Leceia, which is supported by stratigraphical records observed in other settlements in the Lower Estremadura area such as Rotura, in Setúbal (FERREIRA & SILVA, 1970; SILVA, 1971; GONÇALVES, 1971), enables us to reassess the old question of the existence of a bell beaker culture or social/ethnic group responsible for the diffusion of the “beaker package”. The remarkable homogeneity, at least in relation to some of the “items” which make up the association, extending from East Europe to the Tagus and from the British Isles to Atlantic Morocco is, ironically, the main obstacle to a complete explanation within the current framework of investigation/research.

2) Shortly afterwards, during a period that is impossible to separate completely from the previous one using the analytical methods currently available, but which is still within the first half of the 3rd millennium BC, a small, maybe family-based, community became established, represented by the larger of the two huts built outside the fortification. The decorated pottery finds consist entirely of bell beaker sherds; their characteristics show that these populations had adopted forms, motifs and decorative techniques which were not originally part of their own pottery production. The bell beaker Palmela Group is rightly considered to be the result of such “indigenous” influences.

3) Finally, by the second half of the 3rd millennium BC, whilst the inside of the fortification was probably occupied by its last inhabitants, another hut was built, like the first one, outside the walls. Although decorated pottery continued to form part of the bell beaker set, the differences between this and the hoard from the earlier hut corroborate its more recent chronology, which has also been reinforced by radiocarbon dating. This later habitational unit, by the nature of spoils within the

context of small open-air beaker sites as a whole, clearly falls within the Late Chalcolithic/transition to the Early Bronze Age period in the region.

Whatever the circumstances, the end of the "bell beaker phenomenon" in Estremadura took place before the last quarter of the 3rd millennium BC. This conclusion can be corroborated not only by the chronometric data available, but also by a date obtained for the Middle Bronze Age settlement of Catujal, which, with 95% probability, corresponds to the period 2028 – 1752 BC (CARDOSO, 1994). In fact, out of the all spoils already recovered there, none of the "items" form part of the so-called "beaker package".

These final episodes of the Chalcolithic period in gradual transition to the Early Bronze Age, embodied in the Estremadura region by bell beaker pottery bore witness to the occupation of sites which, as a rule, lacked any artificial forms of defence, a situation whose socio-economic significance requires an explanation. Could it be that the general climate of tension – one that had prevailed throughout almost the entire 3rd millennium BC and which is so well documented in Leceia by the imposing fortifications, subject to successive reinforcements and extensions and thus giving clear proof of the climate of permanent instability and insecurity – had gradually or suddenly relaxed, as the decline of the settlement itself suggests, from the end of the early Chalcolithic period? In support of this hypothesis, it should be noted that the cyclopean apparatus requiring blocks weighing hundreds of kilograms was only used in the earliest constructional phase of the fort.

From the Middle Chalcolithic period onwards, the new socio-economic order which had gradually established itself, at least in the Lower Estremadura region, was consolidated at the end of the Chalcolithic period by the abandonment of the old fortified nuclei and by an increase in the number of small "habitats" in open locations, in which bell beaker pottery prevailed. The Monte do Castelo site to the south of Leceia, previously mentioned (CARDOSO, NORTON & CARREIRA, 1996) is an example of this type of open settlement.

Yet this apparent breaking up of the Chalcolithic social structure which led to a return to the settlement types and strategies of the Late Neolithic period can only be superficially confused with a retrocess in the social organization process that was at the time rapidly becoming established.

In fact, an increased social hierarchy is clearly revealed in the material record and by the continuation of large-scale networks of exchange and interaction which accompanied the diffusion of obviously standardised objects, namely the artefacts from the "beaker package" (beakers, copper arrowheads and daggers, votive archers' wrist guards and bone buttons). The abundance of copper artefacts, which presupposed the existence of stable and well-established transregional trading networks, has led to claims that the previously observed process of economic intensification had been

reinforced by the new model adopted at the end of the Chalcolithic period. This explanation is validated by the presence, for the first time in the archaeological record, of gold jewellery (spiral bracelets, beads and diadems), although the raw material could have been obtained locally in the sands of the Tagus river beaches. Be that as it may, the mere presence of gold items for the first time in the archaeological record – naturally reserved for the elites who were becoming increasingly well-established – was accompanied by a rising interest in weapons. In addition to Palmela points, there were also tanged daggers and finally tanged short swords, as in the documented example from Pinhal dos Melos (Fornos de Algodres). This array seems therefore to configure the emergence of a warrior elite, fully established in the Early Bronze Age, within a society that was also made up of shepherds, farmers, traders and artisans (CARDOSO, 2002).

The evidence gathered in Estremadura and in particular that which has emerged from the excavations in Leceia, one of the most characteristic fortified Chalcolithic settlements in the Iberian Peninsula, is very valuable, and enables us, on the basis of material evidence, to present and support a discussion of the chronology and socio-economic significance of the bell beaker pottery found there. In fact, the Lower Estremadura region has been recognised for several decades as one of the most important European focal points for the bell beaker presence (CARDOSO, 2001). In addition, however, the proto-urban characteristics of Leceia, the intra-community differentiation that can be glimpsed within it, and the openness of its inhabitants to the outside world – in particular the Mediterranean world from which it received various stimuli, as various artefacts reveal – shows that the Lower Estremadura region had established itself throughout the entire 3rd millennium BC as a region, in which the internal transformations of a dynamic society can be glimpsed, in the immediate antecedence of the first stratified societies of the Bronze Age.

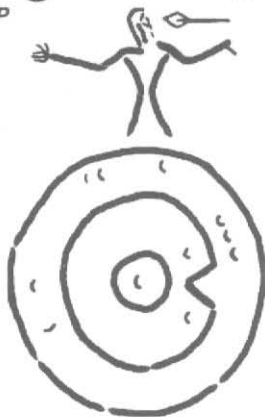
BIBLIOGRAPHY

- CARDOSO, J. L. (1994). Investigação arqueológica na área de Lisboa. Os últimos 10 anos. *Al-Madan*. Almada. Série II, 3: 59-74.
- CARDOSO, J. L. (1997/1998). A ocupação campaniforme do povoado pré-histórico de Leceia (Oeiras). *Estudos Arqueológicos de Oeiras*. Oeiras. 7: 169-187.
- CARDOSO, J. L. (2000a). The fortified site of Leceia (Oeiras) in the context of the Chalcolithic in Portuguese Estremadura. *Oxford Journal of Archaeology*. Oxford. 19 (1): 37-55.
- CARDOSO, J. L. (2000b). O “Fenómeno” campaniforme na Estremadura portuguesa. *Actas do 3º Congresso de Arqueologia Peninsular* (Vila Real, 1998). Porto. 4: 353-380.
- CARDOSO, J. L. (2001). Le phénomène campaniforme dans les basses vallées du Tage et du Sado (Portugal). *Bell Beakers Today* (Riva del Garda, Trento, Maio de 1998). Actas. Trento: Ufficio Beni Archeologici. 1: 139-154.

- CARDOSO, J. L. (2002). *Pré-História de Portugal*. Lisbon: Editorial Verbo.
- CARDOSO, J. L. & SOARES, A. M. M. (1990/1992). Cronologia absoluta para o campaniforme da Estremadura e do Sudoeste de Portugal. *O Arqueólogo Português*. Lisbon. Série IV, 8/10: 203-228.
- CARDOSO, J. L. & SOARES, A. M. M. (1996). Contribution d'une série de datations C 14 provenant du site de Leceia (Oeiras, Portugal) à la chronologie absolue du Néolithique et du Chalcolithique de l'Estremadura portugaise. Colloque de Périgueux (1995). *Revue d'Archéométrie*. Rennes. Supplément: 45-50.
- CARDOSO, J. L.; NORTON, J. & CARREIRA, J. R. (1996). Ocupação calcolítica do Monte do Castelo (Leceia, Oeiras). *Estudos Arqueológicos de Oeiras*. Oeiras. 6: 287-299.
- CORRÊA, A. MENDES & TEIXEIRA, C. (1949). *A jazida pré-histórica de Eira Pedrinha (Condeixa)*. Lisbon: Serviços Geológicos de Portugal.
- CRUZ, D. J. (1992). *A mamoa 1 de Chã de Carvalhal (Serra da Aboboreira)*. Coimbra: Instituto de Arqueologia da Faculdade de Letras (Conimbriga/Anexos 1).
- FERREIRA, O. DA VEIGA & SILVA, C. TAVARES DA (1970). A estratigrafia do povoado pré-histórico da Rotura (Setúbal). Nota preliminar. *I Jornadas Arqueológicas da Associação dos Arqueólogos Portugueses* (Lisboa, 1969). Lisbon. Actas. 1: 203-225.
- GONÇALVES, V. DOS SANTOS (1971). *O castro da Rotura e o vaso campaniforme*. Setúbal: Junta Distrital de Setúbal.
- ROCHA, A. DOS SANTOS (1971). *Memórias e explorações arqueológicas*. Coimbra: por ordem da Universidade. 2: 145-150.
- SALANOVA, L. (2000). Mécanismes de diffusion des vases campaniformes: les liens franco-portugais. *3º Congresso de Arqueologia Peninsular* (Porto, 1998). Porto. Actas. 4: 399-409.
- SILVA, C. TAVARES DA (1971). O povoado pré-histórico da Rotura. Notas sobre a cerâmica. *II Congresso Nacional de Arqueologia* (Coimbra, 1970). Coimbra. Actas. 1: 175-192.
- SOARES, J. & SILVA, C. T. (1994/1997). O Grupo de Palmela no quadro da cerâmica campaniforme em Portugal. *O Arqueólogo Português*. Lisbon. Série III, 7/9: 102-112.

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