

## ANALYTIC SUMMARY

# ZEPHYRVS

## REVISTA DE PREHISTORIA Y ARQUEOLOGÍA

ISSN: 0514-7336 – e-ISSN: 2386-3943 – DOI: <http://dx.doi.org/10.14201/zephyrus201881> – CDU: 902 : 903

IBIC: Arqueología (HD) – BIC: Archaeology (HD) – BISAC: SOCIAL SCIENCE / Archaeology (SOC003000)

LXXXI, January-June 2018 - 252 pages

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### **The Lower Magdalenian osseous industry from Level 17 in El Mirón Cave (Ramales de la Victoria, Cantabria): A preliminary overview**

*Zephyrus*, LXXXI, January-June 2018, pp. 15-30

Level 17 is the principal Cantabrian Lower Magdalenian horizon in the outer vestibule area of El Mirón Cave, dating by radiocarbon to c. 15,500 uncal BP. It has yielded very rich faunal and artifactual collections associated with numerous hearths and abundant fire-cracked rocks. Among the many osseous artifacts are a striation-engraved red deer scapula and a spearthrower reported on elsewhere. This article presents a description and preliminary typological and metric analyses of the antler points, bone needles and other artifacts, as well as of the supports for the production of osseous items, namely antlers and bones with evidence of extractions. The *sagaies* include many that are characteristic of this period in this region –quadrangular sections, single-bevel bases, geometric engraved designs, including tectiforms–. Production, use –hunting- and domestic-related–, reuse and discard of osseous artifacts were major activities during the long period of repeated human occupation of El Mirón during Oldest Dryas.

*Key words:* Cantabrian Spain; Upper Paleolithic technology; bone and antler tools; sagaie; spearthrower.

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## **Ditch 1 from Perdigões within the traditions of Late Prehistoric monumental architecture in the middle Guadiana basin (4<sup>th</sup>-3<sup>rd</sup> millennia cal BC)**

*Zephyrus*, LXXXI, January-June 2018, pp. 31-45

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

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

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## **The decorative techniques in ‘Maritime Bell Beakers’ in the North-Centre of the Iberian Peninsula, from new findings at the site of Los Husos I (Laguardia, Álava)**

*Zephyrus*, LXXXI, January-June 2018, pp. 47-70

After the discovery of two ‘Maritime Bell Beaker’ pottery fragments in Los Husos I rock shelter (Laguardia, Álava) and due to the extraordinary nature of this type of Bell Beaker pottery in this region, we studied 14 vessels of the three types of ‘Maritime Bell Beaker’ –MHV, ILV and CZM– distributed in 11 sites in the surrounding area of Los Husos I.

In this paper we present the results of the techno-typological and decoration technology analysis. We also carry out an experimental program to replicate these decorations and determine the tool used to make them. We used a bone comb and four different shell species.

We compared the results of the experimentation with archaeological potteries. We determined that the tool used in all these containers was a potter’s comb, due to the similarity of the imprints with those made with the experimental comb and the incompatibility with the prints of the shells. This analysis allowed us to reconstruct the gestures that the potter made to make these decorations.

*Key words:* Chalcolithic; comb-decorated ceramic; experimental archaeology; ceramic decorative technology; potter’s comb; shell.

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## **The fortified metallurgical settlement from the Middle-Late Chalcolithic in Puente de Santa Bárbara (Huércal-Overa, Almería)**

*Zephyrus*, LXXXI, January-June 2018, pp. 71-91

The fortified chalcolithic settlement in Puente de Santa Bárbara (Huércal-Overa, Almería), with 1.5 ha, located 3 km away from the Cerro Minado copper mines, and exploited at least during the Late Chalcolithic, presents copper ores, crucible smelting and melting debris such as slags, casting prills, reduction vessels and crucibles. 4% of all the ceramic fragments correspond to reduction vessel and crucible fragments, spatially distributed in the three excavated sectors and suggest the generalization of the metallurgy within the habitat. The percentage of metallurgical evidences could only be compared in the southeast of the Iberian Peninsula to the Copper Age settlements of Parazuelos (Lorca, Murcia) and Agua Amarga (Lorca, Murcia), another minor site of 0.25 ha. These data suggest the hypothesis of small settlements specialized in the production of tools or small metallic ingots made in rectangular crucibles during the Late Chalcolithic in the Southeast and peninsular Levant.

*Key words*: Southeast Iberia; Copper Age; Bell Beaker; metallurgy; micro-spatial analysis.

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## **Prehistoric metallurgy in Tierras de Antequera and its Andalusian context**

*Zephyrus*, LXXXI, January-June 2018, pp. 93-115

Tierras de Antequera is located between the two main research foci of the Iberian Late Prehistory: the Southwest and the Southeast. This peripheral nature, coupled with a shortage of metallurgical evidence in the area, contributed to generalize the idea that Malaga was systematically importing metals from other regions. However, the *Project Investigación Arqueometalúrgica de la Provincia de Málaga* showed the existence of both copper outcrops potentially exploitable by prehistoric societies, as well as significant archaeometallurgical by-products in several sites from the 3rd and 2nd millennium BC. Moreover, recent archaeological excavations have documented prehistoric metallurgical by-products in the core of Tierras de Antequera. This fact has forced us to reassess the topic and rethink our hypothesis on the models of copper production by these communities.

In this paper we review prehistoric archaeometallurgical evidence, present new elemental composition information as well as lead isotope analyses and, in light of recent findings, we approach the socio-economic role that copper production played in its broader Andalusian context and especially in relation to the two main metallurgical foci.

*Key words:* Copper Age; Bronze Age; Málaga; copper outcrops; copper production; lead isotope analyses; elemental composition analyses.

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## **The Olival do Senhor dos Mártires necropolis (Alcácer do Sal, Portugal) during the Late Iron Age: new social, political and cultural insights**

*Zephyrus*, LXXXI, January-June 2018, pp. 117-139

In the necropolis of Olival do Senhor dos Mártires (Alcácer do Sal, Portugal) the transition to the Late Iron Age was marked by an important transformation both in burial rites and in material culture which seems to point to significant ideological, social and political changes. These changes can be compared to those documented around the same dates in other areas of the Iberian Peninsula and the Mediterranean basin. It is in fact possible to track the emergence of warrior elites in the funerary record, a trend that could be part of an overall transition towards aristocratic political forms. The development of this new political *statu quo* seems to be accompanied by a reorientation of the supra-regional relations of the community of Alcácer do Sal. This is particularly reflected in a number of convergences with the social representation formulae of the Iberian elites of the Southeast and the Levant.

*Key words:* Archaeology of Death; funerary practices; social identities; ideology; ‘iberization’.

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## On water supply, distribution and sewerage system in *Gades*

*Zephyrus*, LXXXI, January-June 2018, pp. 141-163

The Roman aqueduct of Cádiz has been the main subject of numerous studies, from the 16th century. Authors like A. de Horozco or Suárez de Salazar have approached to different aspects regarding to this hydraulic building, question that have occupied several chapters in their most known books. Despite this enormous bibliography, the hydraulic structures exhumed in the city of Cádiz have not been analysed enough. This situation is more surprising when it is stated that, though the volume of remains is not excessive, the available information indeed is abundant.

This work aims to present a typological and functional analysis of the Roman structures for obtaining, storage and distribution of water at the Roman *Gades pomerium* associated. Its review and analysis has allowed us to detect the evolution of structures and techniques of hydraulic supply in the city, as well as the disposal of liquid waste. These data also provide significant information on the possible urban plan of Cádiz.

*Key words*: Roman urbanism; *Baetica*; hydraulic structures; *castellum aquae*; tank; *aquae ductus*; evacuation.

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## On wine production from the first *torcularium* in the Roman villa of Los Villaricos (Mula, Murcia)

*Zephyrus*, LXXXI, January-June 2018, pp. 165-186

Between 1990 and 1994 a series of archaeological works were carried out in the Roman villa of Los Villaricos that brought to light some stone remains which were interpreted as olive oil production structures. It was, therefore, a *torcularium* in which some rooms were interpreted for an specific purpose such as a *tabulatum*, a room where the olives were pressed, a *lacus*, cuvettes and, finally, a large room that was identified as a *cella olearia*. Now, almost 25 years later, and thanks to the continuous work done on this archaeological site, we have now documented a large building of almost 700 m<sup>2</sup> in size that is almost certain to have been destined to olive oil production. Consequently, we believe we are able to demonstrate that the production of the first *torcularium* was not intended for olive oil after all, but for wine, which would make this site one of the most important wine production centers of Roman Hispania.

*Key words*: *Pars fructuaria*; wine cellar; *calcatorium*; *lacus*; *cella vinaria*; wine.

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### **Ancient Coin Supply in the Archaeological Site of *Dessobriga* (Osorno, Palencia/Melgar, Burgos). Numismatic Approach of a Roman Militarized *mansio***

*Zephyrus*, LXXXI, January-June 2018, pp. 187-220

The numerous monetary finds during the archaeological excavations carried out since 2014 on the site of *Dessobriga*, and the presentation of several coins from five new private collections, make it necessary to update the monetary corpus of this antique *mansio*. The study of the chrono-stratigraphic horizons of circulation of coins discovered in archeological context, as well as the evaluation of the whole corpus, according to the more traditional approach of a statistical study of the productive horizons based on the mints and the chronology of the emissions, allow us to formulate new hypotheses regarding the identity of *Dessobriga*, its regional context and the chronology of its occupation. It is thus possible to fix the Roman foundation of this urban agglomeration during the first half of the Principate of Augustus, and the frequency of certain phenomena –countermarks and partitions– underlines the close relations that it maintained, at least originally, with the military camps of the North-West of the Peninsula to which it is connected by a road of first importance. The final abandonment of the site, which seems to occur during the second century, could finally be linked to a mutation of the road network.

*Key words*: Monetary supply; army; Roman way; Augustus; Tiberius; Claudius.

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### **Khirbet Arair, 1964. The beginning of Biblical Archaeology in Spain**

*Zephyrus*, LXXXI, January-June 2018, pp. 223-236

The aim of this paper is to analyse the history and meaning of the archaeological mission in Khirbet Arair-1964, led by Emilio Olávarri. That mission is a landmark in the history of Spanish archaeology, since it was the first excavation of a non-prehistoric settlement in Syria-Palestine. Then, it must be considered as the foundational work of Biblical Archaeology in Spain. This paper is based on the study of four unpublished reports written by the archaeologists of the Casa de Santiago and kept in the Archivo General de la Administración (AGA, Alcalá de Henares). Data held in these reports, alongside recent contributions, enable us to undertake a complete reconstruction and analysis of such episode. Thus, this analysis allows us to clearly appreciate the difficult development of Ancient Orientalism in Spain, pointing out who were the key figures and institutions in the starting of Spanish Biblical archaeology as well as the political and economic circumstances that conditioned it.

*Key words*: Emilio Olávarri; Casa de Santiago; Aroer; Joaquín González Echegaray; Orientalism.