Quaternary International xxx (2017) 1–15

Contents lists available at ScienceDirect

Quaternary International

journal homepage: www.elsevier.com/locate/quaint

From western cowboys to eastern shepherds: Funerary practices and animal husbandry in Mauretania and Numidia from the first millennium BC to *circa* 500AD

Irene Cruz-Folch [a], Silvia Valenzuela-Lamas [b, *]

[a] GRACPE-Universitat de Barcelona, C/Montalegre 6-8, 08001 Barcelona, Spain
[b] CSIC-Institució Milà I Fontanals, C/Egipcíaques 15, 08001 Barcelona, Spain

ARTICLE INFO

Article history:
Received 3 February 2017
Received in revised form
8 October 2017
Accepted 25 October 2017
Available online xxx

Keywords:
Zooarchaeology
GIS
Maghreb
Protohistory
Phoenician-Punic
Roman times

ABSTRACT

The use of Geographic Information Systems (GIS) in zooarchaeological studies and the comparison with other data sources are still very limited. This paper presents the results of a combined study of funerary monuments and animal husbandry practices dated from the first millennium BC to *circa* 500 AD in the present-day territories of Morocco, Algeria and Tunisia. The main objectives were to determine whether Roman boundaries in the Maghreb were created based on existing cultural differences, and to explore changes and/or continuities in funerary practices and meat diet between territories and cultural groups. The multi-disciplinary approach revealed the existence of clear differences between the western and eastern area considered, both in animal husbandry and funerary practices. A prevalence of primary inhumations in bazinas was attested in Morocco and western Algeria, contrasting with the prevalence of secondary 'defleshed' depositions in dolmens in eastern Algeria and Tunisia. Regarding animal husbandry, sites located in present-day Morocco and western Algeria had higher relative frequencies of cattle compared to sheep/goats oriented husbandry at sites in eastern Algeria and Tunisia, at both Phoenician-Punic and indigenous sites. The results suggest the existence of distinct cultural groups that display different funerary practices and animal husbandry strategies in the first millennium BC, and that these differences persist over time. A possible economic frontier sits between the eastern limit of the Atlas Tellien and the Aures Mountains. Interestingly, a mixture of indigenous funerary practices is attested there, which suggests that it was an area of contact between different cultural traditions. The combined results roughly coincide with the limits of the Roman provinces of *Mauretania Tingitana, Mauretania Caesariensis* and *Africa Proconsularis*, thus suggesting that Romans considered previous existing boundaries to organise the territory.

1. Introduction

North African boundaries in pre-Roman times are barely known. After the Numidian Kingdoms collaborated with Romans against Carthage during the Third Punic War, the territory close to Carthage was integrated into the Roman Republic (146 BCE). The province of *Africa* (Cartago and Libyan coast) was created then. Later, Julius Caesar annexed eastern Numidia (46 BCE) and created a new province – *Africa Nova* –, different from the older province of Africa (*Africa Vetus*). In 27 BCE, all of the conquered territory was merged into one province: *Africa Proconsularis*. The western frontier, according to Pliny (*Natural History,* book V), was in the river Tamus and the surroundings of Cirta. Later (40 AD), new territories of the northern Maghreb were annexed, thus originating the provinces of *Mauretania Caesariensis* and *Mauretania Tingitana* (Livius, book XXXVI, pp. 3).

Pliny stated that the Numidians were nomads – hence their name (*Natural History*, book V, pp. 3-II). Recent archaeological research at Althiburos (e.g. Kallala and Sanmartí, 2011; Sanmartí et al., 2012) and the study of bioarchaeological remains (López-Reyes and Cantero, 2016; Valenzuela-Lamas, 2016) suggest that Numidians were already sedentary in the 10th – 9th centuries BC, and that the economy was based on intensive agriculture of cereals and mixed animal husbandry (mainly cattle, sheep/goats and pigs).

* Corresponding author.
E-mail addresses: icruzfolch@gmail.com (I. Cruz-Folch), svalenzuela@imf.csic.es (S. Valenzuela-Lamas).

https://doi.org/10.1016/j.quaint.2017.10.023
1040-6182/

Data compiled from several archaeological surveys (e.g. Ferchiou, 1988) suggest the existence of fortified villages located on hilltops with good control over the territory in pre-Roman times. Unfortunately, and as other authors have mentioned, more modern excavations are needed to better understand these pre-Roman societies (e.g. Fentress, 2006).

To-date, the megalithic necropolises constitute the most extensive data source on the indigenous Berber communities of the northern Maghreb (Camps, 1961). They are located on the Atlas Mountain and its foothills, where the local calcareous stone is easily available, and constitute a unique cultural landscape across the northern Maghreb. Some of them have hundreds of monuments and may contain more than one funerary rite (i.e. inhumation, secondary depositions with defleshing, cremations; Camps, 1961). One of the main problems in defining funerary types and assessing their temporal variations is the lack of modern archaeological excavations. Radiocarbon dates are scarce, complicating correlations between funerary data and socio-political changes occurring in the area.

Despite these limitations, funerary monuments and practices are commonly accepted as key elements of cultural and social identity (e.g. Myer, 1993; Hingley, 1996; Bradley, 1998; Reimers, 1999; García-Sanjuán et al., 2008). Similarly, diet – especially meat consumption – is another cultural trait susceptible to persist for generations as an element of cultural identity (e.g. Harris, 1985; Scholliers, 2001).

The present paper provides an updated review of the funerary evidence for the first millennium BC and Roman times from the northern Maghreb (present-day Morocco, Algeria and Tunisia), and integrates this dataset with a synthesis of published zooarchaeological studies for the area. This innovative approach aims to contribute to the debate on the extent to which funerary practices and animal husbandry can be used to identify cultural groups, and to what extent these were used to establish the limits of the provinces of *Mauretania* and *Africa Proconsularis* in Roman times.

2. Materials and methods

The funerary monuments and zooarchaeological data were georeferenced and integrated into a Geographic Information System (GIS). The database also included topographic information using a global digital elevation model (DEM) from U.S. Geological Survey's EROS Data Centre, as well as climatic data (annual rainfall and vegetation cover) from the World Weather Information Service. Figs. 1–3 show the location of the necropolises and the zooarchaeological assemblages analysed in this study within the Roman boundaries (50 AD) and climatic areas (annual rainfall and vegetation cover).

2.1. Funerary monuments

The funerary monuments database was built on the basis of bibliographical research, most notably on the works of Camps (1961) and Gsell (1900), as well as modern archaeological surveys (Bokbot, 1991; Tanda et al., 2009; Sanmartí et al., 2015; Ben Younès, 2007). The funerary monuments database included 117 pre-Roman necropolises (Table 1), described on the basis of five parameters:

1) *Geographic location and climatic conditions*. Decimal coordinates were used to geo-reference the data and integrate the data with topographical and climatic information. In general, all the sites are located in areas with Mediterranean climate and vegetation, in regions with a present-day annual rainfall between 500 and 1000 mm^3.
2) *Structure typology*. The structures were classified according to their building characteristics. ***Dolmens*** usually have a burial chamber made from slabs of about 1 m in length, surrounded by a circle of big stones and covered by a small stone mound. Usually, dolmens occur over a vast territory and can be grouped in hundreds or thousands (Camps, 1995). A second type of structure, called ***bazina*** by Amazigh people, is described as a complex dolmen bordered by circular walls. Although many variations exist (Camps, 1995), it is basically a monumental version of the tumulus (see below; Camps, et al., 1985) as it either does not have a funerary chamber, or is built with small stones instead of slabs. The ***tumulus*** consists of a circular mound of small stones with no burial chamber. Camps (1961) referred to them as *tertres* and also *tumuli*. This type of structure is difficult to identify because many colonial archaeologists did not use the same descriptive parameters, while others used the word *tumulus* to describe *dolmens* (e.g. Margat and Camus, 1958–59). Here we follow the terminology detailed in Camps (1961).

Chouchets are also rounded structures with a low stone tower, without chamber, and are similar to the drum-shape-tombs of the Fezzan (Mattingly et al., 2010; Mattingly, 2011). For the pre-Roman period, the only dated *chouchets* are from the necropolis of Timgad. Other kinds of isolated monumental tombs include the ***tower-monuments***, with Near Eastern influences and dated from the 3rd to 2nd century BC (Prados-Martínez, 2008), and the ***Kabylian chambered corridors***, dry-stone built monuments with different chambers and corridors that connect the burial area with the exterior. These later structures have only been recorded in the Kabylia area (Camps, 1953), but more studies are needed. The ***haouanets*** are burial chambers carved into rock, often with painted and carved decorations featuring Lybico-Phoenitian motifs. Phoenician and Punic necropolises can be identified by the presence of shaft tombs with access usually through steps - depending on their depth and size. They can be single or multi roomed, both in Punic rock-cut tombs and simple rock-cut inhumations (Ben Younès, 2007). The database also includes other less represented or studied funerary types, like pits and cave burials, which complete the pre-Roman burial structures present in the Maghreb.

3) *Treatment of human remains*. Three types of treatment of the human body were observed in the necropolises: inhumation, secondary depositions with defleshed human bones, and cremation. The secondary depositions usually included the skull and long bones, ribs and some teeth in the burial chamber.
4) *Animal graves*. These graves are uncommon, but we did register those cases where some animals were deposited in the necropolises.
5) *Total number of monuments*. We documented the total number of monuments per necropolis whenever possible to understand the density and distribution of monuments on the North African landscape. Those data were recorded through archive documents from the 19th century located in the "Bibliothèque Nationale de France", from the Atlas Préhistorique de la Tunisie (A.P.T) (Camps, 1973; Ben Baaziz, 2005), the Atlas Archéologique de l'Algérie (A.A.A) (Gsell, 1911), and the Atlas Préhistorique Marocain (A.P.M) (Souville, 1973). In addition, we also included more recent archaeological records.

One of the main difficulties encountered in the study of necropolises is the low number of excavations and the even lower number of radiocarbon dates mentioned above. In addition, most necropolises were used over centuries, in some cases from the Neolithic through Roman times. Therefore, we analysed the whole

Please cite this article in press as: Cruz-Folch, I., Valenzuela-Lamas, S., From western cowboys to eastern shepherds: Funerary practices and animal husbandry in Mauretania and Numidia from the first millennium BC to *circa* 500AD, Quaternary International (2017), https://doi.org/10.1016/j.quaint.2017.10.023