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The equids from the Bronze Age levels of the El Portalón site (Atapuerca, Burgos, Spain)

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ABSTRACT

Although the Iberian Peninsula has been proposed as a possible focus of horse domestication during the Metal Age, zooarchaeological evidence of this process is scarce due to the very reduced samples of horses found at sites from this period. In this context, El Portalón from Cueva Mayor (Atapuerca Mountain Range, Burgos, Spain) is one of the most important sites for the study of Bronze Age horses because of the high number of horse remains identified there.

In this work, taxonomic, zooarchaeological and preliminary taphonomic studies of the equid remains from the Early and Middle Bronze Age levels of this site have been carried out. As a result, it is confirmed that just one species, the horse, is represented in these levels. Due to the absence of direct criteria in the sample to distinguish between wild and domestic horses, the equid from El Portalón has been classified as *Equus* sp. gr. *Equus ferus/Equus caballus*.

The butchery marks, the fire alteration, the fracture pattern and the percussion damage, observed on horse bone remains, indicate the human consumption of horses during the Early Bronze Age and the Middle Bronze Age level of the El Portalón site. The mortality profile is focused on consumption of the foal meat, in contrast with the management of this species in the majority of the Iberian sites of similar age. The large accumulation of equid remains and the role horses play at Bronze Age levels of El Portalón is notable and makes it one of the most significant sites from the Bronze Age in the Iberian Peninsula context.

1. Introduction

The horse is a constant element found in faunal associations from Western European archaeological sites. The remains of wild horses that had been hunted and consumed by man were already abundant in sites from the Paleolithic when horses dominated open landscapes, which were favorable for the development of the species (Sommer et al., 2011). Following a hiatus at the beginning of the Holocene when the horse was rarely found in zooarchaeological associations, even disappearing altogether from certain Western European regions (coinciding with forest expansion) (Bendrey, 2012), the horse population rebounded and horses were found once again, though in low numbers, in archaeological sites starting in the Neolithic (Chaix, 1996; Morales et al., 1998). It was not until the Bronze Age, however, that the horse's prevalence increased in faunal associations from archaeological sites.

The decrease in horse abundance during the Early Holocene was primarily considered a response to climatic and environmental changes (Mithen, 1994; Stuart, 1999; Yalden, 1999; Grayson and Meltzer, 2003; Guthrie, 2006). Some authors (Clutton-Brock, 1992; Arbogast et al., 2002) suggested over-hunting by humans as a possible cause for this decline decrease. Another possibility was that the human expansion during the Early Holocene affected the reproduction of wild horses (Berger, 1986; Clutton-Brock, 1992), or the absence/decrease of this species could be due to the small amount of sites from the Holocene that have been analysed (Levine, 2004, 2005). The increase in horse remain abundance during the

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Bronze Age was typically interpreted as evidence of horse domestication (Bibikova, 1986; Davis, 1989).

On the Iberian Peninsula, the evolution of the horse record is similar to that observed in Western Europe. At the end of the Late Pleistocene, the horse was a frequent element in different regions of the Peninsula (Altuna, 1998), after which there was a long period during the Early Holocene when sites containing horse remains were very rare (Castaños Ugarte, 1985/86, 1997; Altuna, 1998; Morales et al., 1998). It was not until the Chalcolithic or Bell Beaker culture when equine remains began to be abundant at some sites (Castaños Ugarte, 1997; Cabanilles and Martínez Valle, 1998). This increasing abundance, together with some other genetic arguments, has led some authors (Warmuth et al., 2011) to postulate the Iberian Peninsula as a possible secondary centre of domestication for this species during the Metal Age (besides the main centre on the Asian steppes). Nevertheless, according to mitochondrial DNA analysis, these ancient Iberian horse populations were incorporated into the domestic stocks, although it is not clear if this process was the result of an independent domestication episode or if it was due to the use of Iberian maternal lineages in a restocking process from the wild (Cieslak et al., 2010; Lira et al., 2010).

In this manuscript, the horse remains recovered from the Early and Middle Bronze Age of the El Portalón site from the Atapuerca Mountain Range (Burgos, Spain) are studied. El Portalón is one of the few Bronze Age sites that include a large sample of horse remains in the Iberian Peninsula. The role horses played in the subsistence economy of the Bronze Age societies of the North of Iberia is analysed through the taxonomic, zooarchaeological and preliminary taphonomic study of the bone remains of this site. Finally, this horse management is compared with that found in other societies in the Iberian Peninsula.

2. Regional setting

2.1. The site and previous excavations

The site known as El Portalón constitutes one of the entries to the Cueva Mayor-Cueva del Silo cave system, located in the Sierra de Atapuerca (Fig. 1). The Sierra de Atapuerca is a small NNW–SSE alignment (or hill range) of Late Cretaceous limestones surrounded by Miocene sediments; it is located near the city of Burgos in northern central Iberia. Over the last six million years, karstification of the limestones produced a complex system of caves, which were partially or completely filled with sediment during the Pleistocene and Holocene. Some of the sedimentary infillings of these caves outcrop in a railway trench, whereas others are preserved within them.

El Portalón is a large chamber in which a broad sedimentary sequence at least 10 m thick is preserved, dating from ca 30 ka BP onwards with some minor discontinuities and hiatuses scattered over the course of the sequence (Carretero et al., 2008; Ortega et al., 2008).

The first excavations on the site were conducted by F. Jordá in 1966. In 1972, G.A. Clark, L.G. Strauss and J.L. Uribarri dug two test pits that revealed a stratigraphic sequence formed by Roman, Bronze Age and phases from the Eneolithic. From 1973 to 1983, the team directed by J.M. Apellániz excavated the biggest area since; they separated it into two sectors (I and II), and defined a stratigraphic sequence that included Medieval and Late Roman remains and a significant occupation during the Bronze Age. The Bronze Age was divided into Late, Middle and Early Bronze Age sequences (Apellániz and Domingo, 1987) (Fig. 2).

The fauna from the Bronze Age levels of this site found during the Apellániz excavations was studied using zooarchaeological analysis by Castaños Ugarte (2005), who pointed out that the association in this horizon, attributed at the time to the Middle Bronze, was the only instance of an Iberian Bronze Age faunal association in which the horse was the dominant species. This author noted the predominance of immature individuals in the horse associations in the various levels of the Bronze Age at El Portalón and interpreted this in terms of mixed exploitation, suggesting that a major use of the horse livestock, which he considered domesticated, was as a source of meat.

2.2. Current stage of excavations

A new stage of excavations started in 2000 as part of the Atapuerca Research Project and is still ongoing. From 2000 to 2006, a disturbed fill of the clandestine excavation situated in the centre of the site was excavated and some archaeological remains were found outside of their original context (Carretero et al., 2008). The previously excavated surface and sections were identified, and a complete set of radiocarbon dates were obtained in order to evaluate the earlier interpretations of the stratigraphic sequence of the site. As a result, eleven stratigraphic levels (from 0 to 10) were recognised in this sequence, recording human activity during the Late Palaeolithic, Mesolithic, Neolithic, Chalcolithic, Bronze Age, Iron Age I and Roman and Medieval periods (Carretero et al., 2008; Ortega et al., 2008). It was discovered that the Late Bronze Age was absent and that all the Bronze Age horizons defined by Apellániz from the excavations carried out during the nineteen-seventies and eighties can be attributed to the Early and Middle Bronze Age. Level 3 and level 4 correspond to the Middle Bronze, whereas level 5 corresponds to the Early Bronze (Pérez-Romero et al., 2015; Fig. 3).

Level 3 (Middle Bronze Age) consists of a thin set of dark sandy–clay layers of some 16 cm in thickness. Organic material is abundant with a large number of charcoal, hand-made pottery fragments and domestic and wild fauna bones (Clark et al., 1979).

Level 4 (Middle Bronze Age) corresponds to a homogeneous layer of dark grey sandy–clay. It is 70–150 cm thick. This unit contains abundant organic matter and charcoal remains, with numerous large limestone blocks originating from when the cave roof collapsed. A lot of handmade potsherds, stone tools and animal bones are found in this unit.

Level 5 (Early Bronze Age) consists of greyish sandy–clay with thickness varying between 35 and 50 cm. Its lower part is rich in charcoal and ash layers. There are abundant potsherds and domestic faunal bones.

Radiocarbon dates from all three levels are: level 3 (C14 dates from 3330 ± 70 to 3560 ± 50 BP, from 1440 to 2030 calibrated BC), level 4 (from 3490 ± 40 to 3680 ± 40 BP, from 1910 to 2190 calibrated BC) and level 5 (from 3630 ± 40 to 3760 ± 40 BP, from 1890 to 2290 calibrated BC) (Carretero et al., 2008). Radiocarbon dates were calculated by Beta Analytic.

2.3. Archaeological context

A great quantity of ceramic material was found together with the bones. The ceramic material from Early and Middle Bronze Age levels has similar characteristics: the arrangement of decorative shards is analogous with incising, impressed or applied decorations. Nevertheless, among the objects found at the Early Bronze Age, a single carinated vessel is noteworthy (Fig. 4K, L), due to the amount of decoration found all over the pottery. Apellániz (1979) considered it “prestigious ceramic”. This ceramic was accompanied by three awls (Fig. 4A–C), three arrowheads made of bone (Fig. 4D–G) and two ornament objects (Fig. 4H–J). One of the punch tools was made from a

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