



Evidence of butchery marks and anthropic modifications on horse remains in a Late Bronze Age site of northern Italy: The case of Bovolone

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ABSTRACT

The site of Bovolone (Verona, northern Italy) was discovered in 1996 and has been the subject of systematic excavations until 2005. The settlement has been dated to Late Bronze Age on the basis of pottery remains and bronze objects. Analysis of its faunal remains shows a predominance of domestic fauna in comparison with wild fauna. When compared to other contexts of the Bronze Age in northern Italy, the presence of horse is attested to a high number of remains. The low frequency of horse remains in the living contexts has always been considered a consequence of the value that this animal had during the Bronze Age. The site of Bovolone opens a new perspective because the remains analyzed have yielded evidence of anthropic traces attributable to various processes of the slaughter chain and the use of certain anatomical elements to manufacture artefacts.

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1. Introduction

1.1. Exploitation of the horse in the Bronze Age

The archaeozoological data available till now for the Bronze Age settlements shows a constant lack of skeletal remains related to the horse in faunal assemblages when compared with the frequencies of other domestic species (De Grossi Mazzorin, 1995; De Grossi Mazzorin et al., 1998). This aspect has often been interpreted as a consequence of the fact that these animals had to play a certain role in traction or transportation, and not in the alimentary purposes (De Grossi Mazzorin et al., 1998).

Over the years, with particular regard to the Bronze and Iron Age, the hypothesis that has increasingly been consolidated in the Italian territory is that this animal was a status symbol and that it was available to only a few small groups of people (De Grossi Mazzorin et al., 1998).

This hypothesis was essentially supported by three main factors. Firstly, the amount of remains within the archaeological sites when compared to other domestic animals was reduced. Secondly, the bones found within the residential contexts were often complete and free from traces of butchering or cooking. This aspect, according to the same authors, was supported by some archaeological finds. For example, the case of the village of Frattesina (Rovigo - northern Italy) where the limb of a horse was found in anatomical connection with evident traces left by carnivores (De Grossi Mazzorin, 1995; De Grossi

Mazzorin et al., 1998). And lastly, the horse seemed to have a value of religious character, reinforced by the presence of many clay figurines found within villages of the Terramare (Bettelli, 1997).

The aim of this work is to bring to light recent results of the analyses conducted on the equine remains found within the Late Bronze Age site of Bovolone, that reveal new aspects of the economic exploitation of this animal during the Late Bronze Age in northern Italy.

1.2. Spread of the horse in Italy

When and how the horse was domesticated is a question that for years has been the subject of research and debate in an international context (Anthony, 2007; Levine, 1996, 1999, 2004, 2005, 2006).

The researches undertaken in the last twenty years have certainly broadened our knowledge enabling us to recover some important information regarding its dissemination and domestication in the Eurasian continent, aspects that according to some authors (Anthony, 2007; Outram et al., 2009) would seem to be related to the dissemination of the Indo-European languages and cultures, of metallurgy and of specialized forms of combat. During the Pleistocene, the wild horse was fairly common in Europe, hunted by the hunter-gatherers. This animal is generally correlated with open environments of prairie, where there are relatively poor habitats with strong seasonal variations (van Asperen, 2010).

On the basis of the archaeological record, with the start of the Holocene, there is a decline of this animal in the European territory (Anthony, 2007; Levine, 2004), so much so that, in some areas, it seems to have completely disappeared (Arbogast et al., 2002; Bendrey, 2012). The drastic demise is certainly due to the presence of more

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temperate climatic periods with the beginning of the Holocene, in association with an increase in forest cover (Bendrey, 2014; Orlando et al., 2013).

The distribution of wild horse populations during the chronological period in which domestication began, is clearly related to the Steppes extended across the north of the Eurasian continent (Bendrey, 2014; Sommer et al., 2011; Warmuth et al., 2011).

Genetic analysis carried out on modern populations of horses in various villages of the northern Eurasian steppe has provided additional support for the origin of horse domestication in Eurasian steppe, as suggested by archaeologists (Warmuth et al., 2012). Warmuth et al. (2011) investigated the patterns of genetic diversity in modern purebred horses from different European locations in order to distinguish the regions where the domestic population might have originated from a local wild population, and the regions where the horses were imported from in the past. The results show a high genetic diversity in breeds from Iberian and Caspian Sea regions.

The presence of open environments in the Iberian Peninsula and in south-eastern and eastern Europe (the Balkans, the northern area of the Pontus and the Russian plain) might have provided refuge areas for wild horses due to the persistent expansion of forest cover in south-central Europe during the Holocene (Warmuth et al., 2011).

On the basis of archaeological data, the wild horse seems to have disappeared in the Italian peninsula towards the end of Upper Pleistocene, and then reappeared in its full domesticated form in the Holocene during the Bronze Age (Azzaroli, 1985; De Grossi Mazzorin, 1995; De Grossi Mazzorin et al., 1998).

The isolated case of Monte Fellone in Puglia is perhaps the only evidence of wild horses in the Italian territory during the Early Neolithic (Azzaroli, 1985). According to Azzaroli (1985), it was perhaps one of the last wild populations of horses that survived in the Peninsula, but the same author raises serious doubts regarding the dating of the site's deposit.

Therefore, the most ancient evidence seems to be traceable to some Eneolithic contexts including the “bell-beakers” village of Querciola (Firenze) (Corridi and Sarti, 1989–1990) and the burial site of Cerqueto-Fianello (Roma) (Curci and Tagliacozzo, 1994). According to the authors, these sites have yielded skeletal remains attributable to the domestic horse, thus placing a *post quem* term for the reintroduction of this animal in the Peninsula towards the end of the Copper Age. Previously, there were sporadic reports on the discovery of this animal in Eneolithic contexts, such as the necropolis of Remedello (Colini, 1898–1902) and the sites of Conelle and Berbentina of Sassoferrato. According to Peroni (1989), these sites, dated between the Late Eneolithic and the first phase of the Early Bronze Age, could constitute a tangible proof for the presence of horse during the Italian Eneolithic despite the uncertainty concerning the dating of their contexts.

Archaeological documentation concerning the domestic horse in the Early Bronze Age is still scarce. In fact, the most ancient finds are concentrated in northern Italy and come from villages of Mori loc. Colombo (Trento) (Marconi, 2005), Sonnenburg (Bolzano) (Riedel, 1984) and Barche di Solferino (Mantova) (Riedel, 1976), and are mainly characterized by a small number of artefacts.

The recent analysis of faunal remains from the villages of the Early Bronze Age in Lavagnone (Desenzano, Brescia) (De Grossi Mazzorin and Solinas, 2013) and Povegliano (Verona) (Bertolini et al., 2015) could provide new and important evidence concerning the presence of this animal in this territory and in this prehistoric phase.

The precise documentation of domestic horse in these sites would accordingly favour or support the hypothesis that the import took place from the north, probably through the Alpine passes of Brenner or Dobbiaco and the Adige valley, up to its mouth in the Po Valley (Azzaroli, 1972, 1985; De Grossi Mazzorin, 1995).

In central Italy, the situation is more uncertain since the artefacts come from old or chronologically unclear contexts. In addition to their discovery in the necropolis of Cantalupo (Roma) (Colini, 1898–1902),

there are equine remains in Conelle of Arcevia (Ancona) and Berbentina of Sassoferrato (Ancona), Azzaroli (1985) expresses many doubts about the dates of these sites.

Starting from the Middle Bronze Age, the amount of sites that have yielded remains of horse greatly increases, indicating that the equine breeding was already fairly widespread in this chronological phase (De Grossi Mazzorin, 1995).

The central Po Valley, especially Veneto, eastern Lombardy, and Emilia-Romagna, is the area in which more discoveries are centred.

Despite a significant increase in the number of documentations with respect to the Early Bronze Age, the amount of remains found is always very small when compared to other domestic taxa. Exceptions to the above observation are certain Terramare sites such as Poviglio (Reggio Emilia) (Riedel, 1989) and Gorzano (Modena) (Azzaroli, 1972) where 65 and 102 bone fragments respectively of horse were discovered. In central Italy, remains of horse associated with pottery finds dating back to the Early Bronze Age and the beginning of the Middle Bronze Age were discovered in the submerged village of Vicarello in Bracciano lake (Fugazzola Delpino, 1982). However, given the nature of the archaeological deposit, their datings are not secure. In addition to them are the remains found in the swamps of Celano (L'Aquila) (De Grossi Mazzorin, 1989) and S. Mauro (Salerno), and those at the site of Tufariello of Buccino (Salerno) (De Grossi Mazzorin, 1995, 1996).

Between the Middle and the Late Bronze Age, there is a significant increase in the documentation of this animal which, however, as in the previous phases, is accompanied by a small number of remains that generally never exceed 70 remains. With respect to the Middle Bronze Age, the dispersal of this animal appears to embrace the entire Peninsula by highlighting how the domestication of the horse was part of the cultural heritage of the community of the Bronze Age present in our territory (De Grossi Mazzorin, 1995).

1.3. The site of Bovolone

The site is located in the countryside to the east of the town of Bovolone and situated a few kilometers south of Verona. The site was discovered in 1995, during agricultural works, to the north of Via Crosare which is located to the east of the town (Fig. 1).

Traces of a complex and probably a stable village appear according to the archaeological evidence already starting the Middle Bronze Age. The site, however, seems to reach its full development during the Late Bronze Age (1350–1170 BCE) as documented from archaeological material found. Archaeological investigations have brought part of an extensive and structured village to light.

The buildings are characterized by a rectangular plan and consist of wooden structures identified due to the presence of postholes for the housing of the poles (Fig. 1). In total, at least a dozen houses have been recognized with dimensions reconstructed into units of about 10×7 m, and in some cases, small modules of 7.5×7 m.

Extreme closeness to the ancient river-bed of Menago river and the dense presence of post-holes would support the hypothesis of a raised wooden deck. However, the presence of some hearths at the ground level seems to suggest the use of structures located below or beneath the deck.

A second phase in housing can see the replacement of some structures oriented along the north-south axis, with others oriented along the northwest-southeast axis and limited to a not-used area. This change, according to the archaeological evidence, could be due to a retraction of the village and its rearrangement likely correlated to a flood event that changed the morphology of the Menago river's bank.

1.4. Faunal composition

Overall, the osteological material examined is composed of 5218 remains belonging to mammals, birds, amphibians and reptiles, of which, 2724 were determined at the level of species, genus or family. The

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