

Ritual use of dogs and wolves in the Late Bronze and Early Iron Age in the South-Eastern Alpine region. New evidence from the archaeo(zoo)logical perspective

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Introduction

The dog (*Canis familiaris*) was the first animal to have been domesticated by the Upper Palaeolithic hunter-gatherers, with the gray wolf (*Canis lupus*) being regarded as its only ancestor (Vilà *et al.*, 1997). Several large canid fossils dated to approx. 30,000 to 24,000 BC found in both Europe (Germonpré *et al.*, 2009, 2012, 2015a) and Asia (Ovodov *et al.*, 2011) have been interpreted as domestic dogs; however, recent analyses suggest that the first domestications only took place in the Late Glacial time bracket between 18,000 and 10,000 BC (Boudadi-Maligne and Escarguel, 2014; Morey, 2014; Perri, 2016; but see also Germonpré *et al.*, 2015b). Initially, dogs could have been useful to man as hunting companions and protectors, possibly also by performing cleanup functions as can still be seen in indigenous societies traditionally living with these animals. Nevertheless, by far the best-attested use of early dogs in most parts of Europe is as meat-producing animals and as a source of pelts (Horard-Herbin *et al.*, 2014, p. 28-29; and references therein). Millennia later, after stocks of other domestic animals had been stabilized and become consistently available, cynophagy begun to gradually lose its primary significance. This process, however, was not straightforward, as dog meat is known to have been limitedly eaten throughout prehistory (see e.g. Bartosiewicz, 1999, p. 314; Méniel, 2006; Hambleton, 2008; Vretemark and Sten, 2010; Chrószcz *et al.*, 2013; Horard-Herbin, 2014). An almost complete cessation of the practice in Europe and the Mediterranean is presumed to have taken place with the introduction of new culinary habits of the Roman world (Bartosiewicz, 1994; Horard-Herbin *et al.*, 2014; and references therein), even though consumption of dog meat

continued in some European areas until mid-20th century or takes place even nowadays (Horard-Herbin, 2014, p. 72).

Other dog functions within past communities were more symbolic. In Europe, the most prominent manifestation of its special cultural role are several examples of individual and group burials of these animals as well as depositions of single bones as grave-goods, however, several other ritualistic uses of canids are known from archaeological records (e.g. agricultural rituals, building offerings, dogs as healing agents or associated with childbirth) (Andrašojc, 1993; Chenal-Velarde, 2006; De Grossi Mazzorin, Minniti, 2006; Kmeťová, 2006; Prummel, 2006; Trantalidou, 2006; Wilkens, 2006; Horard-Herbin *et al.*, 2014, p. 28-29; Lazăr *et al.*, 2016; and references therein; for wolves see e.g. Radovanović, 1999; Pluskowski, 2006, p. 288-95). A similar transition from meat (but possibly also milk; Outram *et al.*, 2009) producing animal directly following domestication to an element with a pronounced symbolic function in latter times has been observed for the horse. Nevertheless, if ritual depositions of the latter are well-attested in the South-Eastern Alps (Mlinar, 2002; Dular, 2007) as well as in central Europe (see e.g. De Grossi Mazzorin, Minniti, 2006; Kmeťová, 2014; Kmeťová, Stegmann-Rajtár, 2014) in general, at least from the Early Iron Age onwards, similar records of dogs are much less common (Gabrovec, 1960, p. 23-25; Barth, 1969, p. 149; Riedel, 1977; Hencken, 1978, p. 61; Dular, 1991, p. 45; Tecco Hvala *et al.*, 2004, p. 66). This is even truer for wolves, as ritual deposits of *Canis lupus* in Late Prehistoric and Historic Europe seem to be all but absent (see e.g. Prummel, 1992; Pluskowski, 2006). The observed scarceness might be in part linked with the problem of identification. Indeed, distinguishing between the archaeozoological remains of dogs and wolves is rather difficult and, particularly where the evidence is fragmentary and individual elements cannot be clearly identified, virtually impossible. Consequently, in cases of doubt, analysts tend to identify dog over wolf because this is what they expect to find (Pluskowski, 2006, p. 270-280 and p. 286-287). Such an approach lowers even more the already limited presence of the latter species in the European archaeological record, which is likely explainable by the apparently infrequent practice of wolf hunting and its biogeography.

In spite of what has been said, records of wolf ritual deposition from Iron Age Europe are not completely unknown. One of the notable examples was documented in the cave of Jama I na Prevali or Skeletna jama (Grotta delle Ossa/Knochenhöhle), which is one of the most outstanding prehistoric sites in South-Eastern Alpine region (Fig. 1). In this 46 m deep karst abyss at least 11 skeletons (8 male and 3 female individuals) and more than 1000 animal bone remains were excavated (Szombathy, 1913; Riedel, 1977; Merlatti, 2001). Among the latter, bones (including 11 skulls and 28 mandibles or fragments of) and teeth belonging to at least 15 wolves and 3 dogs have been found (Riedel, 1977, p. 163-181). Other peculiarities of the recovered archaeozoological material include a preponderance of large adult bull/oxen remains and an above-average representation of horse (Riedel, 1977, p. 188-189). Numerous artefacts, namely bronze and iron weapons, bronze situlae, jewellery and fragments of pottery were also found. The site itself, together with the Velika jama na Prevali or Mušja jama (Grotta delle Mosche/Fliegenhöhle) nearby (Teržan *et al.*, 2016) was a sacred place at the “meeting point of worlds” (Teržan, 2016) where sacrificial rites and cult rituals were performed during the Late Bronze up to Late Iron Age.¹

1. Unfortunately, more detailed dating of individual faunal finds is not available (Merlatti, 2001).

Considering all of the above, the present paper aims to shed some new light on the spread of ritual depositions of dogs and – to a much lesser extent also wolves – in funerary and settlement contexts in the South-Eastern Alpine region (= present-day Slovenia), focusing on the Late Bronze and Early Iron Age. The presented data are then discussed within the framework of a more general background related to Central Europe and northern Mediterranean areas.

Dog and wolf remains in funerary contexts

In the Late Bronze and Early Iron Age, dog skeletons or individual dog bones from funerary contexts in Central, Northern, and Eastern Europe, were relatively rare (Andražojc, 1993, p. 67-68, fig. 5; Scheibner, 2013, p. 45, 80-83, maps 20-21; Kmeťová, 2006, p. 29-34; Ramminger, 2012, p. 234-236; see also Toškan, Štular, 2008, p. 153, 156). The research of Italian archaeozoologists reveals the same picture (De Grossi Mazzorin, 2001, p. 79-80; De Grossi Mazzorin, Minniti, 2006, p. 64; Wilkens, 2006). Remains of wolves are extraordinary. One exceptional case is represented by the Middle Bronze Age finds from the Calferi di Stenico site in Trentino, where bones of wild animals – bear, wolf, wild boar, and deer – were discovered in a barrow next to human skeletons (Perini, Corrain, Capitanio, 1991; Riedel, Tecchiati, 1992, p. 41; Nicolis, 2001, p. 358). In Slovenia, dog or wolf bones have so far not been documented in Bronze Age graves, and finds from some Early Iron Age graves in Ljubljana and Bled are among the oldest (Tab. 1; Fig. 1 & 3).

An analysis of funerary contexts containing canid bones should differentiate between the cases in which bones were discovered in the grave itself, i.e. in the grave pit or in the urn, and the cases in which bones were found in the fill of the grave or in the barrow. In addition to the finds from graves, there are some examples in which bones were discovered in special “ceremonial” areas within cemeteries. No human bones were discovered there, which means these areas were not graves but rather special areas, where strictly defined funerary rituals were practiced before, during, or after the burial. Such cases are known from the Bled – Pristava site and from the more recent excavations at Novi trg in Ljubljana (Tab. 2; Fig. 1).

The table with all the documented dog and possible wolf bones found within the context of Early Iron Age burials in Slovenia clearly shows that graves or grave/barrow fills practically always contained only individual teeth/bones (Tab. 1). The sole exception is the “skeleton of a large dog” (a small wolf?), designated as Grave 13, found in Barrow I in Podzemelj – Škrilje in the region of Bela krajina in south-eastern Slovenia (Barth, 1969, p. 149). In addition to the skeleton, the grave contained a clay ring, and fragments of a vessel and a bowl.² According to the report of the excavator Szombathy, there were no human bones at that location, which means this was a dog or less likely wolf burial.³ The same barrow contained 22 other graves, both cremation and inhumation burials. In all other cemeteries, only individual dog bones – teeth, mandibula, vertebra and baculum (*os penis*) – were discovered (Tab. 1; Figs. 2: 4; 3: 1).

2. Another known case of a canid skeleton was discovered at the Bled – Pristava cemetery, but it is most likely an early medieval large dog/small wolf burial (Gabrovec, 1960, p. 47, t. 39; Toškan, Štular, 2008). The latter option is mentioned due to the size of the specimen, apparently significantly exceeding the size of (other) contemporary local dogs (Toškan, Štular, 2008), and the special role of the wolf/wolf herdsman in Slavic mythology (Mencej, 2001).

3. Unfortunately, bones are not preserved (Barth, 1969, p. 149) therefore the archaeozoological analysis is not possible.

Regarding individual canid finds, we should differentiate between remains such as isolated teeth, jaws, or the baculum (*os penis*), and limb bones, ribs, or the pelvis. Interestingly, the remains discovered in graves were indeed teeth, jaws, a baculum and a caudal vertebra. They could be interpreted as grave-goods or apotropaion for the deceased. The tooth found in Grave VII/51 in Magdalenska gora was perforated, which means it had been used as a pendant, very likely functioning as an amulet. Dog tooth amulets were supposed to protect one against the forces of evil and to ward off diseases (Scheibner, 2013, p. 81-82). Similar was probably the significance of a possible wolf jaw from a barrow in Vinji Vrh and an unperforated dog tooth from Grave 87 of Barrow 13 in Magdalenska gora (Fig. 2: 4). Found in the chest area of a female skeleton, its very position indicates that this also was a pendant/an amulet, clearly separate from a rich amber and glass necklace worn by the deceased around her neck (Tecco Hvala *et al.*, 2004, p. 66). A dog fang just like this one was found in Grave 16 in the Saletto cemetery in Italy (Tagliacozzo, 1998, p. 52, fig. 12:8). Another interesting case are a pig, a wolf and a dog tooth pendants/amulets found beside a skeleton at Hallstatt in Austria (Kromer, 1959, p. 61, Taf. 23: 4, 5a, 5b). Dog bones were discovered also at Este – Casa di Ricovero in northern Italy. Grave 19 contained a carpal bone in a stone chest within the grave itself, while a fragment of hemimandible and a metacarpal bone were found in its fill (Tagliacozzo, 1998, p. 51, fig. 12:2-4). Another interesting case is the perforated metacarpal bones of a canid, more likely a big dog than a wolf, found in a child's grave from the Early Iron Age in the Castelletto Ticino cemetery in Italy. Archaeologists consider them to be pendants of a necklace or an amulet (Venturino Gambari, Gambari, 2015, p. 191).

The outstanding find of a baculum is probably to be understood in a similar way. Grave 275 from the Dvorišče SAZU site in Ljubljana contained burnt human bones and an unburnt canid baculum, in addition to a clay vessel, an iron bow fibula, a bronze pin, and a spindle whorl (Fig. 1 & 3). Considering the size of the baculum, which is believed to be related to the whole body-size (Čanádý, Čomor, 2013), it could have belonged either to a large dog or a small wolf. Nevertheless, according to the results of stable isotope analysis the specimen is to be ascribed to a dog ($\delta^{15}\text{N} = 7.6$; $\delta^{13}\text{C} = -17.53$),⁴ as the $\delta^{13}\text{C}$ value exceeds the range for prehistoric as well as recent wolves (see e.g. Ewersen, Ziegler, 2010-11, Tab. 4; Kays, Feranec, 2011; Losey *et al.*, 2011; see also: Guiry 2012). Grave 275 itself is dated to the Early Iron Age, i.e. the end of the 9th and the 8th century BC (Škvor Jernejčič, 2014, p. 158, fig. 6.28). Anthropological analysis showed that the grave contained an adult male,⁵ while pieces of jewellery as grave-goods indicate that another female person might have been buried in the same urn. In the area of Slovenia and even in Central Europe and northern Mediterranean regions, a dog baculum as a grave-good is a unique find without a proper analogy. A cave bear baculum from Križna jama cave, located approx. 20 km to the south of Ljubljana, is merely an indirect analogy. It is, namely, a much earlier find from the Palaeolithic and was discovered in a different context, not related to any burial (Bavdek *et al.*, 2009, p. 22). Similar holds true for an ornamented specimen of both the same species and age from Vindija cave in the neighbouring Croatia (Malez, 1988, p. 230, fig. 5:2a-2d; see also Karavanić, Smith, 2013, p. 14).⁶ Nevertheless, there is no doubt that the dog baculum from Ljubljana had a special symbolic, apotropaic character, as finds of bacula within

4. The C:N ratio is within the acceptable range (Ambrose, 1990).

5. The anthropological analysis was made by Dr Tomazo - Ravnik Tatjana. See Škvor Jernejčič (2014, appendix 3).

6. The authors would like to thank M. Mihelič, who brought this find to our knowledge.

graves are known from different continents and chronologies (see e.g. Stearns, 1940, p. 5; Nomokonova *et al.*, 2011, p. 35; Janssens *et al.*, 2016, p. 569).

More intriguing is the interpretation of the caudal vertebra of either a dog or a wolf from Grave 181 at the Dvorišče SAZU site in Ljubljana. This grave also belonged to an adult person, presumably a female. In addition to the urn and a shallow bowl, the grave contained female jewellery: a two-looped bow fibula, a pin/hairpin, a ring, and some studs (Puš, 1971, t. 31, p. 5-10). The fibula dates the grave to the Early Iron Age, to the end of the 9th and the 8th century BC (Gabrovec, 1970; Škvor Jernejčič, 2014, p. 101). Because the only animal bones found in this grave were the three fragments of a dog/wolf caudal vertebra, and also from the shape of the bone, it could be presumed that this again was some sort of a pendant/amulet.

A different pattern is indicated by the dog remains from the fill of graves or barrows, as well as by the finds not originating directly from graves but from special “ceremonial” areas within cemeteries. Here, other types of bones were discovered, the most common being limbs. At the Novi trg – Ljubljana site (Fig. 1; Gruškovnjak *et al.*, 2018), an assemblage of dog bones was found, which certainly did not belong to a single animal. The layer between two barrows, partly covering both of them, contained fragments of at least two femurs, a humerus, a radius, a pelvis, three caudal vertebrae and an isolated tooth (Tab. 2). This layer was interpreted as the walking surface between the two barrows with cremation burials. In addition to numerous remains of other domesticates (cattle, pig, goat and possibly sheep),⁷ fragments of intentionally broken clay vessels were discovered in the same layer. Animal bones as well as the intentionally broken pottery seem to be the remains of funerary rituals, which included offerings and feasting, and took place near the graves. The dog bones could thus be the remains of sacrifices that were part of the funerary rituals.

A similar case is known from the Bled – Pristava site, where an Early Iron Age cemetery was excavated (Gabrovec, 1960; see also Pleterski, 2008). Animal bones were found either in the fill of the graves or in the round stone covering above them, but never in the graves themselves. Dog bones were discovered in two cases – in the fill of Grave 15 and in the “ž 22” area, where cremated human bones were absent. The latter location, 3 × 0.8 m in size, is a special area of the cemetery, where a burnt layer contained numerous fragments of pottery, charcoal, and animal remains (predominantly isolated teeth and a fragmented metatarsal bone) belonging to cattle, goats, sheep, and a dog. Again, it can be presumed that these are the remains of the funerary rituals that took place before, during and/or after the burial – sacrifices, offerings, even funerary feasting.

Different pattern can be observed when it comes to the analysis of dog and wolf remains found in cemeteries (either in graves or in grave fills) *vs.* those from special areas within the cemetery. In grave or barrow fills and in “ceremonial” areas, dog bones and teeth were always discovered together with those of other animal species. In graves, however, canid remains are the only animal finds there. The only exception is the wolf (?) mandible from Barrow II/1880 in Vinji Vrh, found together with the remains of several other species, but

7. A human femur was found in the same layer (SU 1134), which might actually be associated with a cemetery, dating to the Late Antiquity, also documented at the same location.

the data on the exact location of these bones is missing (Tab. 1). It is therefore not known whether the bones were grave-goods or belonged to the fill of the barrow. It should be mentioned that some of the bones were ascribed to horse and were discovered near a human skeleton. This is the only known case in Slovenia where canid and horse remains were found in the same funerary context, but, as said, their exact location within the barrow is unknown.

Horse and dog bones were discovered together in the Hungarian sites of Sútto, Százhalombatta, and Szentes – Vekerzug (Vadász, 1983, 1986; Kmeťová, 2011; Vörös, 1993; Párducz, 1952, 1954, 1955; Bökönyi, 1952, 1954; Vörös, 2015), where there are proper horse burials with entire horse skeletons interred. Next to them, dog skeletons or individual dog bones were found. Only in the Tiszavavári – Csárdapart site in Hungary (Kemenczei, 2009, p. 156, Abb. 7:41) were horse and dog bones accompanied by some individual human bones.⁸ Another combination of a horse skeleton, dog bones, and bones of other animals was found in cremation burial in Doroslovo, Serbia (Trajković, 2008, p. 35-36, 190; Blažić, 2008). Grave 3 from the Signal cemetery, also in Serbia, is a fascinating example of a dog burial. The dog skeleton was oriented in the same direction as human skeletons from the same stone barrow, and it had a vessel as a grave-good (Filipović, Bulatović, 2011, p. 74-76, figs. 3:1 and 4). This all seems to indicate that in the above cases of burials from the so-called Vekerzug Culture in Hungary and individual graves from Serbia, Early Iron Age burial practice was quite different from that known in Slovenia. The skeletons of horses and dogs could be interpreted as sacrificial animals, who “accompanied” their owners into their graves. Interesting in this sense are the depictions of dogs and horses on some situla art monuments, where both of these animals appear in a hunting scene accompanying a hunter. One such case is a belt buckle from Zagorje ob Savi in Slovenia (Fig. 4) (Turk, 2005, p. 32, 57, figs. 43 and 88).

Dog and wolf remains in settlement contexts

As elsewhere in Mediterranean and Central Europe (Bökönyi, 1974, p. 337-436; Riedel, 1986, p. 89-90; 1989, Tab. 1; Bartosiewicz, 1994, Fig. 1, Tab. 3; Sanchis, Sarrión, 2004, Tab. 1; Trantalidou, 2006, Tab. 2; Horard-Herbin *et al.*, 2014, p. 25), wolves and dogs are scantily represented in Bronze and Iron Age settlements in the South-Eastern Alps (Tab. 3; Fig. 1). This is hardly surprising considering the former’s quantitative decline in the Holocene and its apparently infrequent hunting (Sommer, Benecke, 2005, p. 232; Pluskowski, 2006), combined with the latter’s longstanding special status in human communities. Indeed, the dog has played the role of man’s best friend, hunting and war companion, protector of domestic space, tracker of pack animals, an important essential element in various rituals, ceremonies, funeral practices, etc. and only occasionally also as a source of food. Consequently, the scarce number of dog remains within butchering and kitchen waste deposits in post-Neolithic contexts is fairly understandable. In addition to this, many of the forms of its secondary exploitation could be inferred exclusively from indirect information, since specimens used for work may not have even been interred within the settlement itself (e.g. hunting accidents, guard dogs kept with the herd). Indicative of the latter are extensively

8. For discussion and further bibliography on dogs and horses in graves see Kmeťová (2014, p. 160, 264).

excavated sites containing only sporadic dog remains but revealing rather wide-spread gnawing marks (see e.g. Bartosiewicz, 1985).

As shown in Table 3, in the South-Eastern Alpine region no more than 15 Late Bronze and/or Early Iron Age settlements are known to have yielded canid remains. Unfortunately, in most cases, poor chronostratigraphic data prevent them from being detailedly analyzed in relation to their cultural and functional background. A notable exception is represented by the site of Tribuna, located in the central part of the Slovenian capital of Ljubljana (Vojaković, 2013, 2014), where 22 canid remains from five different constructional phases have been recovered.

Excavated in 2007 and 2008 on an area of 4,200 m², Tribuna yielded the remains of the oldest thoughtfully planned and organised settlement in the central part of the present-day Slovenia (Fig. 5). In the early phase (13th/12th century BC) it was mainly concentrated on the nearby Castle Hill, where an acropolis may be assumed, but the habitation area was also documented in Prule near the Tribuna site itself (Žerjal *et al.*, 2014). In the 11th/10th century BC, the settlement expanded to new areas – including Tribuna – forming its protourbane part, the so-called lower town or suburb (*suburbium*). The studied area was settled continuously between the 11th and the 8th centuries BC and then again for a short period in the 5th century BC (Vojaković, 2014, p. 66-71). The recovered archaeozoological sample is fairly rich. It consists of 3,665 taxonomically identified remains of no less than 15 different animal species, including dog and possibly wolf (Tab. 3).

There are, of course, many complexities regarding canid finds from Late Bronze and Early Iron Age Tribuna, but most are not important as far as the topic of this paper is concerned. It is worth pointing out, however, that some circumstances might indeed be indicative of the local ritual use of dogs. Since animal offerings within settlement contexts are often difficult to detect, making their identification dependent on careful consideration of complete material evidence in the background, the following paragraphs inevitably include many “dull” descriptive details. By omitting them, however, the convincingness of the presented (supposedly) ritual contexts would be lost.

By chronological order, our first comment is dedicated to the skeletal element representation data for the construction phase I (11th/10th century BC), as left mandibles (N = 4) were the sole dog finds there. Considering the excavating techniques (Vojaković, 2013, p. 17-19), it is improbable that such a result is due to inappropriate sampling. It might, however, be indicative of deliberate collection/placement of dog mandibles⁹ as a manifestation of their possible symbolism. Noteworthy in this regard is a similar situation documented at the coeval site of Ormož, another major protourbane center some 100 km to the east (Dular, Tomanič Jevremov, 2010).¹⁰ As a matter of fact, three out of four recovered dog remains there were also mandibles. All of them originate from the location of Skolibrova ulica, which is characterized by the highest representation of skeletal elements from the meatiest

9. This phenomenon was not limited to canids, alone. At Tribuna, for instance, a brown bear (*Ursus arctos*) mandible was found within one of the post-holes of the same constructional phase (i.e. construction phase I). See also Wilson (1999, p. 298–301).

10. For the remaining two roughly contemporaneous regional settlement centres in the Southeastern Alps skeletal representation data are not available (Bartosiewicz, 1985; Bökönyi, 1994).

parts of cattle and pig carcasses as well as of horse in comparison to other sectors, while the number of game finds is scantier than elsewhere (Toškan, Dirjec, 2010, p. 206–212).

At Ormož, two out of three dog mandibles were found within the perimeters of large dwelling houses (i.e. Skolibrova ulica: Buildings 13 and 15; Dular, Tomanič Jevremov, 2010, p. 90, 94). In contrast to this, the four mandibles from Tribuna's construction phase I apparently lay mixed to the gravel and other deposits on individual streets and lanes. This circumstance does not speak in favour of their deposition being ritual (Paulsson-Holmberg, 1997, p. 168–169), but it does not completely negate it either. As a matter of fact, several examples of dog (as well as other animal) remains found outside the exterior walls of ancient buildings have been interpreted as representing building offerings (Capelle, 1987, p. 190–192, 199, 204–205). As far as the site of Tribuna is concerned, two other assemblages of canid remains might be worth commenting on in this regard (Fig. 5). They originate from the construction phase II and are thus datable to the 10th century BC. Both are minuscule, being composed of four and five remains, respectively. Although this does not seem to be much, it has to be stressed that only one single additional dog bone has been found among faunal remains from this construction phase on the entire site.

Considering the data on skeletal element representation and the available bone measurements (Tab. 4), the remains from the larger assemblage might all belong to a single, medium-sized specimen (De Grossi Mazzorin, Tagliacozzo, 2000). Not surprisingly, they all lay within a single basic grid unit in-between of Buildings 15 and 17, so (very) close together (Fig. 5).¹¹ Contrary to this, bones forming the other assemblage happened to be scattered along a narrow lane between Buildings 11 and 12=13 over an area measuring between approx. 15 and 30 m² (Fig. 5). They belong to at least two animals: a medium sized dog (right mandible) and a much larger specimen, possibly even a wolf (left mandible, radius) (Riedel, 1977; De Grossi Mazzorin, Tagliacozzo, 1997; Sansalone *et al.*, 2015). If so, the ritual connotations of the finding only gain credibility. The isolated P₄ seems to belong to the larger animal as well.

The most likely dog-related ritual manifestation at Tribuna, however, is the placement of remains in post-holes. The practice, which has clearly not been limited to the dog, must have been fairly widespread from the Early Iron Age onwards (Capelle, 1987, p. 194; Paulsson-Holmberg, 1997, p. 167; Schmidt, 2001; Trebsche, 2005). Nevertheless, since remains of post-hole building offerings often do not differ at first sight from the ordinary household waste in habitational layers, they are very difficult to detect (Capelle, 1987, p. 189; Trebsche, 2005, p. 217–218). What might be of help (apart from the meticulously done field work) is the presence of bones that are incongruous or differ from the expected (e.g. presence of rare species, the predominance of certain skeletal elements). Dog remains often fall into this category, but additional indicators might be needed.

At Tribuna, dog bones have been found in fillings of two post-holes altogether: SU 4583 (related to Building 8a of construction phase III, i.e. 9th century BC) and SU 1711 (related to Building 12=13 of the construction phase IV, i.e. 8th century) (Fig. 5). The recovered bone

11. The basic grid unit during excavations at Tribuna in 2007 and 2008 was a 4 × 4 m square. Nevertheless, since it is known for the mentioned dog remains to have been found in quadrant D9 (sector 2) outside the perimeters of the nearby Buildings 15 and 17, which covered most of the same quadrant, the bones must have actually lain on an area not larger than 2 m².

assemblages from the two features, as well as from the related buildings in general, seem to be distinctive enough to allow for a ritual interpretation of their deposition.

In SU 4583 (filling SU 4584), for instance, a dog mandible was found together with five taxonomically identified and an additional eight unidentified animal remains (Tab. 5). The mandible is only partially preserved (ramus and part of the body are missing). Nevertheless, as neither chop-marks nor cut-marks have been observed on the specimen, the possibility of the fragmentation being post-depositional cannot be excluded.¹² If so, its presence within the post-hole filling might not be coincidental, as symbolic depositions of cranial skeletal elements into post-holes are well-attested (see e.g. Capelle, 1987, p. 194). After all, both the cattle mandible and humerus fragments do bear cut marks, thus probably merely represent household waste that entered the post-hole accidentally.

Additional arguments for the considered dog mandible possibly representing a symbolic deposition emerge from the taxonomic richness of the coeval archaeozoological material, originating from the entire area of Building 8a (NISP = 61). Indeed, the mentioned assemblage does not include only the omnipresent cattle, ovicaprids and pig bones, but also far more rarely represented red deer (4 fragments of worked antler; NISP_{site total} = 81), roe deer (unworked antler; NISP_{site total} = 3) and a taxonomically not better identified bird bone (NISP_{site total} = 5). Interestingly enough, the roe deer antler was discovered close to (under the?) foundation of the building wall, thus probably representing a building (foundation) offering itself. This might go along well with the lead archaeologist's impression, that Building 8a was one of the two most important buildings in that part of the settlement at the time (Vojaković, 2013, p. 322). Worth noting is also the discovery of a bronze socketed axe stuck into the pavement of Building 8b. The latter stood just to the south of Building 8a during construction phase III, however, was formerly joined to it forming a single building (i.e. Building 8; Fig. 5; Vojaković, 2013, p. 136–140, 325). The axe does not show any signs of usage and must thus have been deliberately driven into the pavement as yet another example of the offering (Teržan, 2006, p. 267–268; Hänsel *et al.*, 2011, p. 27).

As far as the post-hole filling SU 1712 (roof ridge post-hole SU 1711) is concerned, it yielded an isolated dog sesamoid bone,¹³ a human distal phalanx and five taxonomically unidentified bone fragments (Tab. 5). Two of the unidentified specimens are burned. The filling has been water-sieved; thus, not much should have been missed. In addition to animal remains, an all but complete vessel together with the bases of a further three specimens have been found, which is not to be neglected.

Our first comment goes rightfully to the human phalanx, as it is the sole human bone found at the site. Nevertheless, similar examples are known from prehistoric Europe and have

12. At Tribuna, most of the archaeozoological finds have been hand-collected, which is known to result in biased samples in favour of the larger elements. The share of isolated sheep/goat teeth in the hand-collected material (NISPCaprinae = 596), for instance, falls just short of 25%, while it approaches 75% if considering the remains obtained by sieving (NISPCaprinae = 79). Consequently, if smaller fragments of the considered dog mandible were indeed present in the post-hole filling (of which, however, there is no direct proof), they might well have been missed by the excavators and thus discarded.

13. The small size of a skeletal element is not necessarily in contradiction with it having been used as a ritual object (see e.g. Choyke, 2010; Vretemark and Sten, 2010). Nevertheless, given the undistinctive shape of the dog sesamoid bone, its presence in the mentioned post-hole might be due to the interment of perishable animal parts (e.g. skin/fur), with the bone still attached to it (O'Connor, 2003; Choyke, 2010, p. 198). Such a practice has indeed been documented in local contemporary necropoles (Grömer *et al.*, 2017; see also Ryder, 1990; Kirkinen, 2015).

been convincingly interpreted as building offerings (see e.g. Paulsson-Holmberg, 1997, p. 171–172). Indeed, it is hardly likely that human bones constituted a normal feature in the floor and post-hole fillings of a house, nor could they be ordinary food refuse. It is much more tempting to relate the single human – and possibly also dog – remain to a deliberate deposition in accordance with the wish to confer powerful protection to the building.

Moreover, the building in question (i.e. Building 12=13) seems to have been especially significant. It was one of only two buildings within construction phase IV yielding the remains of a fireplace, a complete inventory of pottery (tableware, kitchenware and kitchen utensils), several spindle whorls as well as slag and bungs (Vojaković, 2013, p. 327–329). Moreover, bones of no less than nine animal species were represented among the mere 27 taxonomically identified remains collected from within the perimeters of the building. The list also includes hare and chicken, which were not detected anywhere else at Tribuna. In fact, both mentioned animals are relatively rare on Iron Age sites in general, with the chicken find being one of the oldest yet recorded in Central Europe (Kyselý, 2010; De Grossi Mazzorin, 2005; for another local early record see Hincak, 2011). Interestingly, the character of most of these early finds is believed to reflect ritual practices (Kyselý, 2010, p. 29; De Grossi Mazzorin, 2005; Sykes, 2012; Hincak, 2011).

Conclusions

From antiquity onward dogs played a significant role in funerary rituals, foundation offerings, purification rites, sacrifices, and were even used as healing agents (see e.g. De Grossi Mazzorin, Minniti, 2006). In this contribution, we seek to demonstrate that canids had a significant role in funerary rituals and possibly also building offerings in the South-Eastern Alpine region at least from the Late Bronze and Iron Age onward. Our analysis of dog and wolf remains in funerary contexts differentiated teeth and bones found in the graves themselves and those found in the fill of the graves or fill of the barrows, or even in specially designated places within the cemeteries, where no human bones were found. On the basis of the archaeological and archaeozoological data, we believe that these contexts require different interpretations of ritual practices.

Remains found in the fill of the graves/barrows or at “ritual” places within a cemetery were always discovered together with bones of other species (Tab. 2) and could be interpreted as the remains of funerary celebrations, which included sacrifices, offerings, and even funerary feasting. On the basis of archaeological data, it was difficult to say whether these are the remains of funerary rituals which took place before, during, or after the burial, or even in all of these cases. A different case is the dog and wolf bones discovered in the graves themselves (Tab. 1; Fig. 2 & 3). In these contexts we are dealing with individual specimens: teeth, jaws, a baculum, a caudal vertebra; and it could be assumed that they were primarily of an apotropaic character, i.e. these bones carried a special power and protected their owners from evil, provided assistance, or healing. The baculum found in a grave in Ljubljana is an exceptional find (Fig. 3: 1), and according to the results of the analysis of the stable isotope $\delta^{13}\text{C}$, it can be attributed to a larger dog. There is no doubt about the special character and symbolic meaning of this bone, for which analogies are hard to find. It is somewhat surprising that burials of canids (i.e. burials of entire skeletons together

with their owners or in their vicinity) are practically unknown in the South-Eastern Alpine region in the time of the Late Bronze Age and Iron Age. The closest analogies for such dog burials can be found in cemeteries in Hungary and Serbia (Vadász, 1983, 1986; Kmeťová, 2011; Vörös, 1993; Párducz, 1952, 1954, 1955; Bökönyi, 1952, 1954; Vörös, 2015; Kemenczei, 2009, p. 156, Abb. 7:41; Trajković, 2008, p. 35–36, 190; Blažić, 2008; Filipović, Bulatović, 2011, p. 74–76, figs. 3:1 and 4; for other regions see Bill, 2003, p. 75). It is very likely that these animals “accompanied” their masters into graves as their guardians and companions.

Ritual archaeozoological features of the kind of building offerings within settlement contexts are much more difficult to detect. This is in great part ascribable to their very diverse and complicated nature (see e.g. Capelle, 1987; Paulsson-Holmberg, 1997, p. 170–172). In addition to this, their identification is dependent on careful excavation techniques and sensible treatment of animal remains, which are often lacking. One way of effectively discerning osteological offering gifts is by focusing on large, well-preserved bones (often crania and cannon bones) of unexpected species recovered from inside or under sealed elements of construction (post-holes, wall foundations, paved floor, etc.). Of the canid remains discussed in this paper, those originating from two of Tribuna’s many dug post-holes best fit these particular circumstances: the two isolated dog bones do not bear any chop- or cut-marks, were joined by several other non-common animal species remains, including man (Tab. 5), and are related to buildings with fairly atypical archaeo(zoo)logical inventory. If the two assemblages are indeed ritual, the presence of a dog as a generally non-edible animal might be indicative of the offerings suiting into the guardian category. Both entire skeletons and isolated elements are known to have been deposited for this purpose (Capelle, 1987; Paulsson-Holmberg, 1997, p. 169; De Grossi Mazzorin, Minitti, 2006, p. 65). Apparently, even a single bone has been reputed sufficient to “house” the spirit of a dead creature, called to become the guardian of the building in question. This is further corroborated by the presence of the human phalange, as single human bones recovered in such contexts likely belong to the same (= guardian) category (Capelle, 1987, p. 184–185; Paulsson-Holmberg, 1997, p. 169, 172).

Our final comment goes to the chronological framework of the discussed dog and possibly also wolf remains from the settlement of Tribuna and its respective cemetery (Dvorišče SAZU, Novi trg, Kongresni trg; see Fig. 1 & 3), as it seemingly indicates a local peak in ritualistic use of canids starting with (being limited to?) the 9th and 8th centuries BC (i.e. Tribuna constructional phases III and IV). Especially notable in this regard is the pairing of the two supposed examples of post-hole building offerings from Tribuna with the baculum and the caudal vertebra from Dvorišče SAZU graves 275 and 181. Also interesting, however, is the cluster of dog remains related to Barrows 1 & 2 and to Barrow 1003 at the nearby locations of Novi trg and Kongresni trg, respectively, as both have also been preliminarily dated to the same period. In fact, most of the canid remains in funerary contexts in the South-Eastern Alpine region are dated to the initial phases of the Early Iron Age, with the only exception being represented by the site of Magdalenska gora (Tabs. 1 & 2; Fig. 2).

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Abstract

The paper explores the ritual use of dogs and wolfs in south-eastern Alpine region (Slovenia) in Late Bronze and Iron Age from different archaeological contexts: graves, settlements and hoards. Archeo(zoo)logical analysis showed that dog and wolf bones were seldom put into the Early Iron Age graves. Recent excavations on the prehistoric settlement of Tribuna (Ljubljana, Slovenia) revealed that dog bones were sometimes placed in the foundations of the prehistoric dwellings. According to the analogies from the Italian archaeological sites, we could interpret this ritual practice as foundation offerings and for the protection of the buildings. Wolf and dog bones were also found in the prehistoric hoard in Skeletna cave near fikočjan on the Kras plateau. Beside the mentioned archeo(zoo)logical records, dogs and wolfs appeared as a frequent iconographic motive on the products of the so called “situla art”. As dogs were often linked with the death and underworld (graves, caves, iconography), we might interpret here presented archaeological contexts as dog sacrifices being part of the “rites de passages”. Further insights into the role of canids has been inferred by stable isotope analyses ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) of main animal species as well as man.

Résumé

Cette communication explore l'usage rituel des chiens et des loups dans les Alpes orientales (Slovénie) à l'âge du Bronze et à l'âge du Fer à partir de l'étude de différents contextes archéologiques : sépultures, implantations et dépôts rituels. Les analyses archéozoologiques montrent que les ossements de chien ou de loup sont rarement présents dans les tombes du premier âge du Fer. Les fouilles récentes du site préhistorique de Tribuna (Ljubljana, Slovénie) ont révélé que des ossements de chien étaient parfois placés dans les fondations des habitations. Par comparaison avec des sites italiens, il est proposé d'interpréter cette pratique rituelle comme une offrande de fondation ou de protection des bâtiments. Des restes de chien et de loup ont été également trouvés dans les dépôts de la grotte de Skeletna sur le plateau karstique de Škocjan. De plus, le chien et le loup paraissent avoir été un fréquent motif iconographique sur la vaisselle de bronze décorée appelée « Situla ». Comme la figure du chien est souvent liée à la mort et l'au-delà (sépultures, grottes, iconographie), nous interprétons les contextes archéologiques susmentionnés comme des sacrifices de chiens faisant partie des « rites de passage ». D'autres perspectives sur le rôle des canidés ont pu être fournies par les analyses des isotopes stables du carbone ($\delta^{13}\text{C}$) et de l'azote ($\delta^{15}\text{N}$) des restes animaux et humains.

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Illustrations

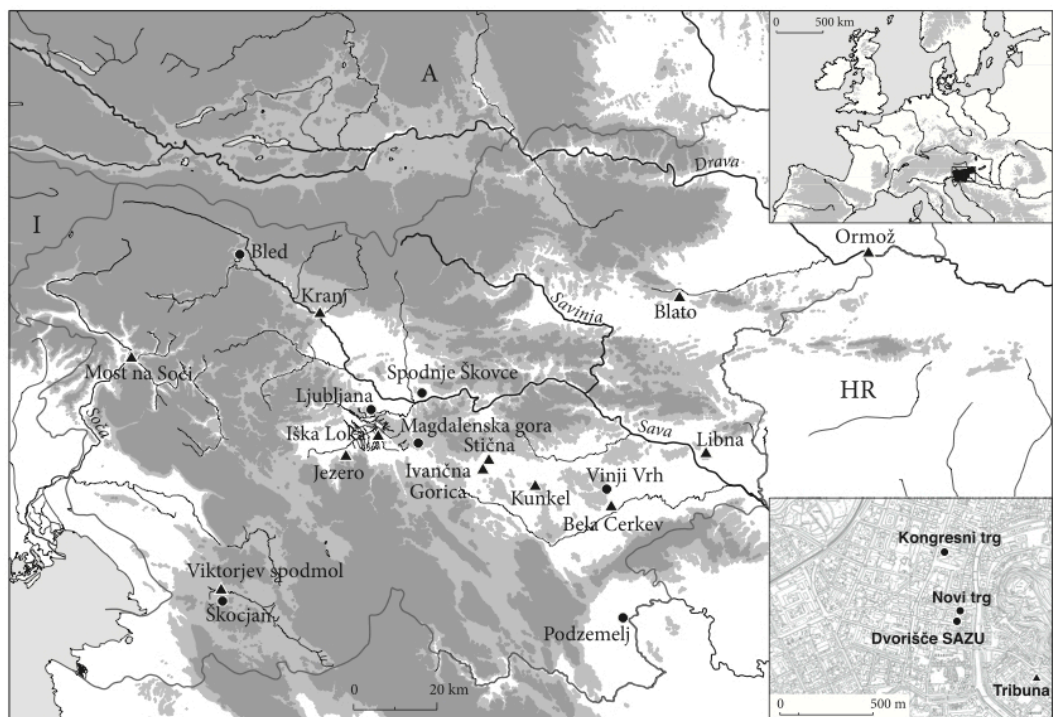


Figure 1: Geographical position of the mentioned archaeological sites in the survey area. Dots = cemeteries; triangles = settlements. Separate sites at Ljubljana in the lower frame.

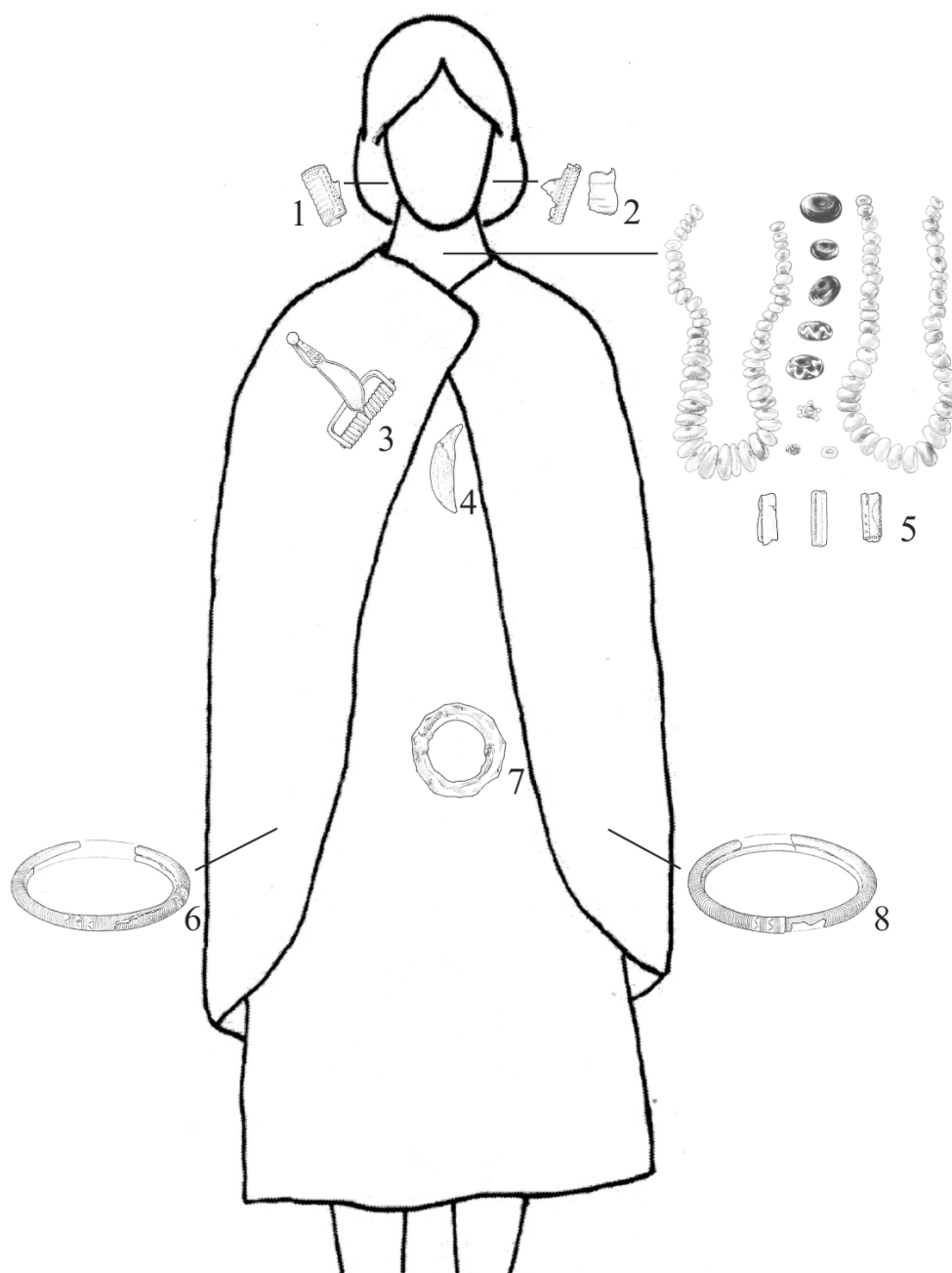


Figure 2: Possible reconstruction of the female attire from grave 13/87 at Magdalenska gora – Preloge, Slovenia. 1-2: bronze earrings, 3: bronze fibula, 4: canine tooth – amulet (?), 5: amber, glass beads and bronze small tubes, 6, 8: bronze bracelets, 7: bronze ring (Modified from Tecco Hvala *et al.* 2004, tab. 95: A). Scale of all grave-goods = 1:4.

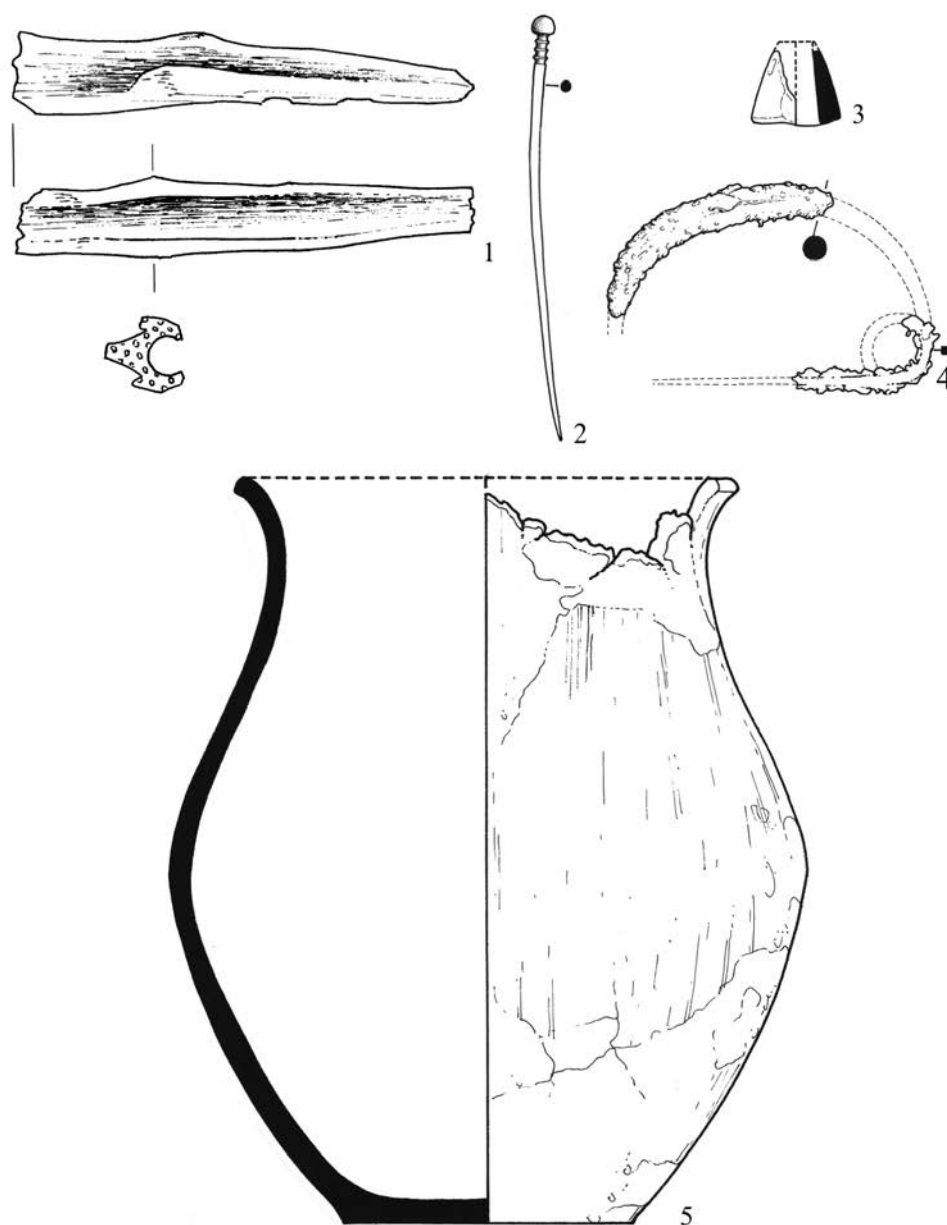


Figure 3: Cremation grave 275 from Ljubljana - Dvorišče SAZU, Slovenia (1 drawing Tamara Korošec; 2–5 modified from Puš 1982, t. 6). 1: baculum, 2: bronze pin, 3: spindle whorl, 4: iron fibula, 5: ceramic urn. Scale 1–4 = 1:2; 5 = 1:4.

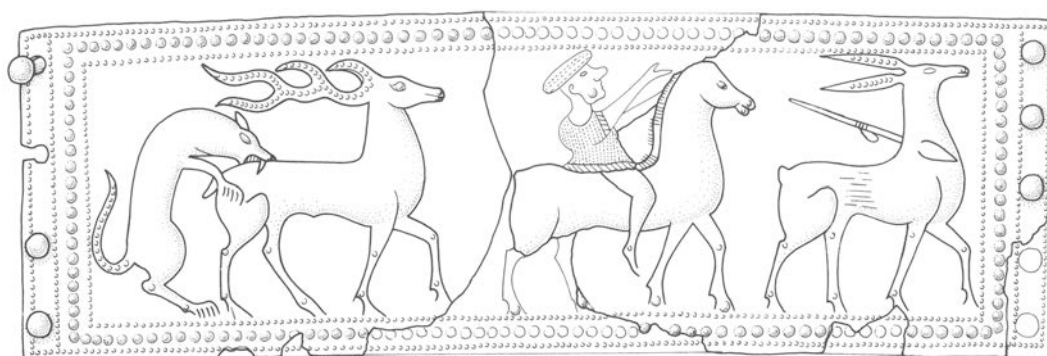


Figure 4: A rectangular bronze belt buckle with a partly reconstructed hunting scene from Zagorje ob Savi, Slovenia (after Turk 2005, fig. 43).



Figure 5: Ground plan reconstruction of the prehistoric construction phase II at Tribuna site in Ljubljana showing its proper street layout, consisting of the main road, several streets, lanes and squares positioned perpendicularly or parallel to others. (Modified from Vojaković 2014, Figure 1).

Site /context	Dog/wolf remains	Other animal remains	Burial mode, age, sex	Location of dog/wolf remains	Bibliography
Podzemelj, Škrilje, Barrow 1 / Grave 13	<i>"Skeleton of a large dog"</i>	/	Dog (?) grave	In the grave	A & F: Barth 1969, p. 149
Magdalenska gora, Preloge, Barrow 7 / Grave 51	<i>Canis</i> indet. tooth with a hole	/	Inhumation, ♂? grave	In the grave	A & F: Hencken 1978, p. 61; Tecco Hvala 2012, Fig. 36
Magdalenska gora, Preloge, Barrow 13 / Grave 87	<i>Canis familiaris</i> canine tooth	/	Inhumation, ♀ grave	In the grave	A & F: Tecco Hvala <i>et al.</i> 2004, p. 66; Tecco Hvala 2012, Fig. 36; Fig. 2
Ljubljana, Dvorišče SAZU, Grave 275	<i>Canis familiaris</i> os penis	Indet. spec.	Cremation, ♂ adultus + ♀ ? grave	In the grave	A: Puš 1982; Škvor Jernejčič 2014; Fig. 3 F: own unpublished data
Ljubljana, Dvorišče SAZU, Grave 181	<i>Canis</i> indet. 3 vertebrae cocc.	/	Cremation, ♀ adultus grave	In the grave	A: Puš 1971; Škvor Jernejčič 2014; F: own unpublished data
Ljubljana, Dvorišče SAZU, Grave 293	<i>Canis familiaris</i> Radius dia (dex.)	Indet. spec.	Cremation	In the grave	A: Puš 1982; Škvor Jernejčič 2014; F: own unpublished data
Vinji vrh, Laze nad Vinjim Vrhom, Barrow II / 1880	<i>Canis lupus?</i> mandibula	<i>Equus caballus</i> , Indet. spec.	?	In the barrow, exact location unknown	A & F: Dular 1991, p. 45

Tableau 1: Dog/wolf remains from the Early Iron Age graves in Slovenia. Explanation of abbreviations: A – archaeological bibliography; F – faunistic bibliography. See also fig. 1.

Site/context	Dog/wolf remains	Other bone remains	Burial mode, sex	Location of dog/wolf remains	Bibliography
Ljubljana, Kongresni trg Barrow 1003 / layer above the grave (SU 9588)	<i>Canis familiaris</i> femur dist. (dex.)	<i>Homo sapiens</i> phalanx Indet. spec.	Cremation, ♂+ ♀ grave	Layer above the central grave	A: Masaryk <i>et al.</i> 2011; F: own unpublished data
Ljubljana, Novi trg, cover of the Barrows 1 & 2 (SU 1135)	<i>Canis familiaris</i> femur dia. (dex.) pelvis (dex.)	<i>Bos taurus</i> , radius proks. (dex.) <i>Ovis s. Capra</i> , mandibula with M1-3 (sin.) tibia dia. (sin.) humerus dist. (sin.) humerus dia. (dex.) tibia dia. (dex.) <i>Sus sp.</i> , maxilla with teeth (sin.+dex.) tibia dia. (sin.) humerus dia. (dex.) Indet. spec.	2 cremation graves	Cover of the barrows	A & F: Gruškovnjak <i>et al.</i> in press
Ljubljana, Novi trg, walking surface between Barrows 1 & 2 (SU 1134)	<i>Canis familiaris</i> dens sup. (sin) femur prox. (sin) femur dist. (sin.) radius dia. (dex.) humerus dia. (dex.) pelvis (dex.) 3 vertebrae cocc.	<i>Bos taurus</i> dens sup. (sin.) dens inf. (sin.) dens sup. (dex.) mandibula (sin.) os carpale (dex.) ulna (sin.) cranium (dex.) <i>Capra hircus</i> mandibula with P4-M3 (dex.) radius prox. (dex.) <i>Homo sapiens</i> femur dia. (dex.) <i>Ovis s. Capra</i> pelvis (sin.) radius dia. (sin.) astragalus (sin.) tibia dia. (sin.) dens sup. (dex.) dens sup. (sin.) dens sup. (dex.) <i>Sus sp.</i> humerus dia. (sin.) humerus dia. (dex.) humerus dia. (dex.) Indet. spec.	2 cremation graves	Walking surface between two barrows	A & F: Gruškovnjak <i>et al.</i> in press
Bled, Pristava, cover of the Grave 15	<i>Canis familiaris</i> coxa (sin.)	<i>Bos taurus</i> humerus dia. (sin.) metatarsus dist. (sin.) metatarsus dia. (sin.) dens inf. mandibula with M3 phalanx 1 phalanx 2 os centrotarsale (sin.) <i>Bos sp.</i> mandibula (dex.) <i>Ovis s. Capra</i> astragalus (sin.) scapula (dex.) Indet. spec.	Cremation, ♂? grave	Cover of the grave	A: Gabrovec 1960, p. 23; see also Pleterški 2008 F: Gabrovec 1960, p. 23; own unpublished data
Bled, Pristava, "žg 22" - ritual place	<i>Canis familiaris</i> dens sup. (dex.) C1	<i>Bos taurus</i> , dens sup. (dex.) metatarsus <i>Ovis s. Capra</i> dens inf. (sin)	/	Ritual place within the cemetery	A: Gabrovec 1960, p. 25; see also Pleterški 2008; F: Gabrovec 1960, p. 25; own unpublished data

Tableau 2: Dog/wolf remains from the fill of the grave/barrows and from special areas within cemeteries in Slovenia dating to the Late Bronze Age and Early Iron Age. Explanation of abbreviations: dia.- diaphysis, A- archaeological bibliography; F - faunistic bibliography. See also fig. 1.

Site	NISP	NISP _{dog}	NISP _{wolf}	Bibliography
Bela Cerkev	491	1	-	A: Križ 2003 F: own unpublished data
Blato (S. Konjice)	24	1	-	A: Bricelj 2014 F: own unpublished data
Iška Loka	45	1	-	A: Velušček 2005 F: Toškan 2005; own unpubl. data
Ivančna Gorica	21	1	-	A: Plestenjak (Ed.) 2013 F: Toškan, Dirjec 2013
Jezero (Podpeč)	84	1	-	A: Žorž 2014 F: own unpublished data
Kranj: Jelenov kl.	1,742	24	-	A: Tomažinčič 2011 F: own unpublished data
Kranj: Lajh	5,828	13	1	A: Urek et al. 2015 F: own unpublished data
Kunkel (Vrhtrebnje)	282	13	-	A: Dular, Tecco Hvala 2007 F: Bartosiewicz 1991
Libna	N/A	>1	-	A: Vojaković et al. 2014 & RT F: Vojaković et al. 2014 & RT
Ljubljana: Tribuna	3,665	18–21	1–4	A: Vojaković 2014 F: own unpublished data
Most na Soči	5,153	5	-	A: Svoljšak, Dular 2016 & RT F: Bartosiewicz 1985
Ormož	1,791	5	-	A: Dular, Tomanič Jevremov 2010 F: Toškan, Dirjec 2010
Spodnje Škovce	86	4	-	A: Žorž, Nadbath 2010 F: own unpublished data
Stična (Phases I–III)	3,924	192	20	A: Gabrovec 1994 F: Bökönyi 1994
Viktorjev spodmol	178	4	-	A: Turk (Ed.) 2004 F: Toškan, Dirjec 2004

Tableau 3: Number of dog and wolf remains from settlement contexts in South-Eastern Alpine region (= present-day Slovenia) covering the Late Bronze and Early Iron Age. The data are expressed as the Number of Identified Specimens (NISP). Explanation of abbreviations: A – archaeological bibliography; F – faunistic bibliography; & RT – and references therein.

Assemblage location	Taxonomic identification	Skeletal element	Anatomical orientation	Part preserved	Size (in mm)
Quadrants B2-4	<i>C. familiaris</i>	Femur	Right	Diaphysis	SD = 11.0
		Femur	Right	Distal end	-
		Tibia	Left	Proximal end	SD = 13.5
		Tibia	Left	Distal half	SD = 12.5 Bd = 21.0 Dd = 16.5
		Metatarsus 2	Left	Complete	GL = 65.5
Qu. D9	<i>C. familiaris</i>	Mandibula	Right	Body	M ₁ (A) = 21.0
	<i>Canis</i> sp.	Mandibula	Left	Body	M ₁ (A) = 27.0
		Dens (P ₁)	Right	Complete	-
		Radius	Right	Diaphysis	SD = 14.0

Tableau 4: Content of two small canid assemblages at the site of Tribuna in Ljubljana (Slovenia), dated to the 10th century BC or constructional phase II (see also Fig. 5). Measurement data were taken according to von den Driesch 1976. Explanation of abbreviation: M₁(A) – length of the carnassial alveolus.

Post-hole	Taxon	Sk. element	Part preserved	Notes
SU 1711	<i>C. familiaris</i>	Os sesamoideum	Complete	-
	<i>H. sapiens</i>	Phalanx 3	Complete	-
	Gen. indet.	Indeterminatus	5 small fragments	2 fragments burned
SU 4583	<i>C. familiaris</i>	Mandibula	Body (part of)	No cut/chop-marks
	<i>B. taurus</i>	Dens (M ^{1/2})	Complete	-
		Mandibula	Ramus (part of)	Chop-marks
		Humerus	Diaphysis	Chop-marks
	Caprinae	Dens (M ^{1/2})	Complete	-
		Maxilla	Part of left side	-
	Gen. indet.	Costa	Body (part of)	Small ruminant
		Indeterminatus	6 small fragments	-

Tableau 5: Archaeozoological finds from the fillings of post-holes SU 1711 and 4583 at the site of Tribuna in Ljubljana, Slovenia (see also Fig. 5).