

Archaeozoology of Classical antiquity in Croatia

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This paper presents a short overview of the state-of-the-art in archaeozoological studies of the Classical periods. A brief list of all currently known, mostly published, archaeofaunal analyses for the Greek, Hellenistic and Roman period sites of present-day Croatia is given. The list of analysed assemblages is arranged according to the types of sites from which they originate, subdivided into two main chronological groups: pre-Roman and Roman. Finally, the main issues considered by individual analyses are briefly discussed with the aim of merging these mostly heterogenous analyses into more comprehensive understanding of life during the period of Classical antiquity.

Keywords: *archaeozoology, Classical Greece, Hellenistic period, Roman period, Croatia*

1. Introduction

Our knowledge of animals and the use of animals from the time of Greek colonisation through the Roman period in Croatia is very limited. Although many archaeological sites are known, faunal remains have mostly been ignored. However, the situation has changed in the last ten years, and the awareness of the importance of faunal remains has increased. Yet only a small number of faunal assemblages have been analysed so far. Even less has been published, mainly in the form of preliminary or summary reports. As a result, relatively little is still known about animals, their significance and exploitation during these periods.

This paper presents a review of archaeozoological research from Classical antiquity sites to the present day Croatia (Fig. 1). The review is divided into three sections. In the first two, a brief outline of faunal studies to date is given, based on both published and unpublished data. The first covers the period of Greek colonisation of the eastern Adriatic, while the second details the Roman period. The third section combines known data and discusses the state-of-the-art archaeozoological research by topics that have been addressed by these studies.

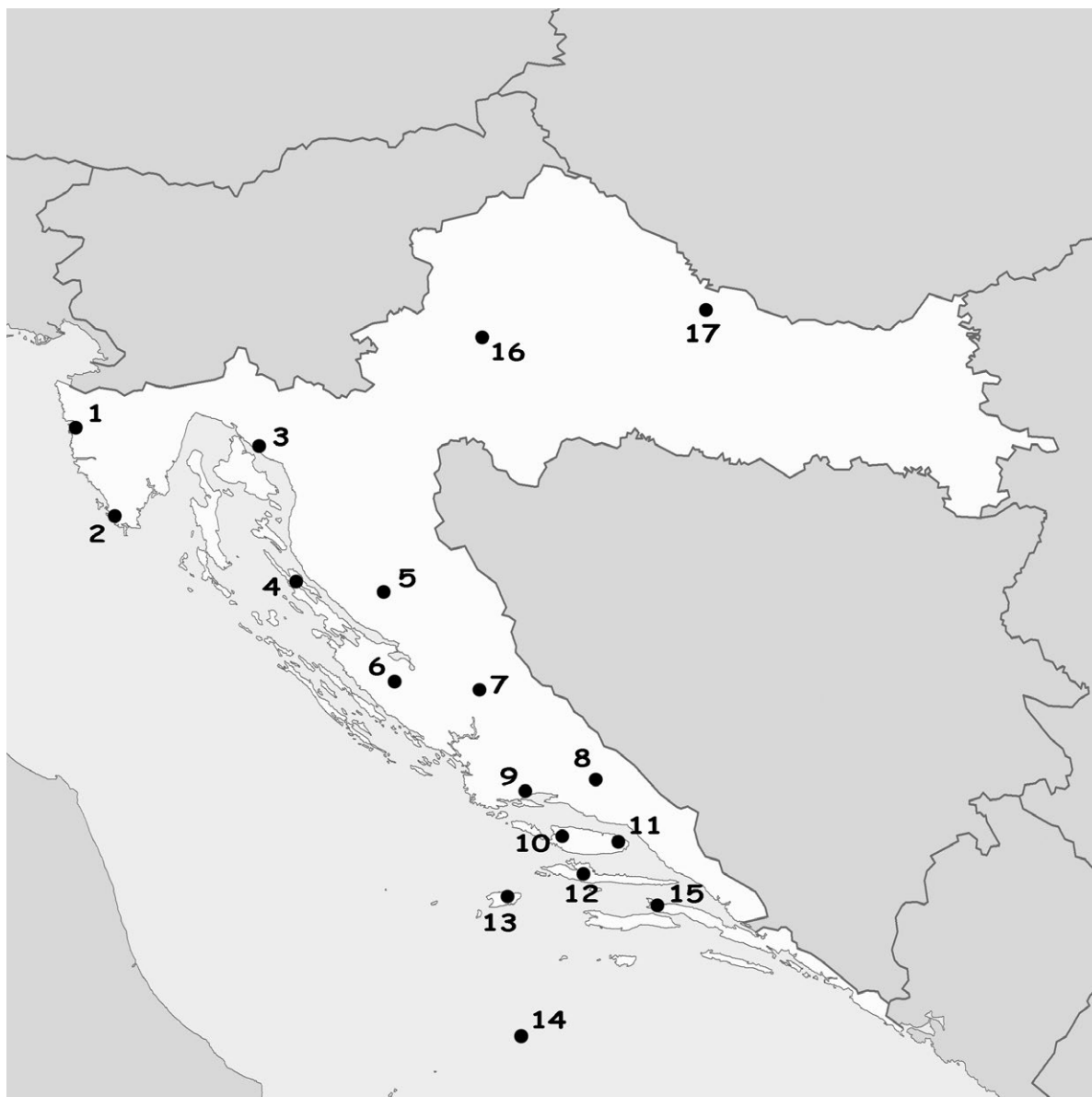


Figure 1. Archaeological sites that are referred to in the text. 1. Loron, 2. Krvavići-Boškina, 3. Pola, 4. Crikvenica-Igralište, 5. Caska (Pag), 6. Lički Ribnik, 7. Nedinum, 8. Burnum, 9. Tilurium, 10. Resnik, 11. Rat (Brač), 12. Bunje (Brač), 13. Pharos (Hvar), 14. Issa (Vis), 15. Palagruža (Palagruža), 16. Nakovana, 17. Šepkovčica, 18. Virovitica Kiškoriya South.

2. Archaeozoological research of the second half of the 1st millenium BCE

The earliest period of interest for this review is the period of Greek colonisation. Geographically, it is limited to the eastern Adriatic, more precisely to middle and south of present-day Dalmatia. Considering it is still unclear whether the oldest colonies were established during the Classical or Hellenistic Greek periods (e.g. Cambi *et al.* 2002; Sanader 2008; Poklečki Stošić 2010), this chapter covers a chronological range rather than a specific cultural affiliation. That said, this is in fact the Iron Age period when Dalmatia was a territory controlled by local indigenous populations. Considering certain degree of interactions between Greek settlers and the locals, causing the latter to be at least to a certain degree culturally influenced by the former, it seems methodologically correct to include archaeozoological analyses of indigenous sites from this period as well, if we are to understand reality and legacy of Greek presence in the Adriatic. Therefore, this section is divided into three parts according to the type of archaeological sites that are mentioned here, firstly including non-Greek settlements.

2.1. Local indigenous settlements

So far, only two indigenous sites from Dalmatia from this period have been archaeozoologically analysed: hillforts Nadin near Zadar and Rat on island Brač.

Nadin hillfort is located in Ravni Kotari and was an economic, cultural and administrative center of the Liburnian territory. This settlement was transformed into a formal Roman municipium *Nedinum* in the 1st century CE. It was inhabited until Late Antiquity when it declined to eventually be abandoned (Chapman *et al.* 1996: 250). While several occupational phases are known from Nadin, it is the Iron Age complex which is of interest here. Although the site is currently being systematically excavated, recent archaeozoological analysis is focused only on the faunal remains from the Roman period (Martina Čelhar, personal communication). So far, the results of a single study that also included faunal material from the Iron Age Liburnian phase were published as a very summarised report (Schwartz 1996). Within the assemblage of remains of almost exclusively domestic animals, sheep and goats dominate, followed by significantly fewer cattle and even fewer pigs. Certain significant changes were observed in the composition of faunal assemblages from Roman period, which will be discussed further below.

The hillfort of Rat is located on the island Brač. It was occupied from the Early Bronze to Iron Age. Very detailed archaeozoological study covered material from all strata (Gaastra *et al.* 2014). Similarly to the previous case, domesticated animals dominate the assemblage, with sheep and goats being the most numerous taxa. Unlike the contemporary Nadin faunal assemblage, here pig is the next common taxon with cattle being the third. While pigs and cattle were used for meat, ageable data for sheep showed temporal oscillations in animal management practices during the life of hillfort Rat. Exploitation of sheep fluctuated between meat and milk production and wool production. However, it remains to be resolved what caused these temporal trends in herd management (Gaastra *et al.* 2014: 22).

2.2. Greek settlements

Probably the oldest and the largest Greek colony in the eastern Adriatic is *Issa*, located on the island of Vis. Although the Greek (and later Roman) settlement and surrounding cemeteries have been thoroughly excavated and studied, archaeozoological remains are almost neglected. Only a single published paper with preliminary results of the analysis of the selected marine molluscs and fish assemblage found within houses and graves is available (Paladin *et al.* 2018). All recorded species still live in the surrounding sea, and the ancient population did not have to venture too far from the coast to collect or fish them. Unfortunately, the studied material was not sorted out between Greek and Roman stratigraphic contexts and does not differentiate between urban and cemetery assemblages, making the use of this data relatively limited. In addition, faunal material from Hellenistic and Roman period graves recovered within the eastern necropolis is currently under study. Preliminary results indicate that animal remains found in the former graves are dominated by domesticates, mostly sheep and goats, sporadically accompanied by rare finds of marine molluscs and fish (Radović, unpublished data).

Also well known is the Greek colony *Pharos* on the island of Hvar. Faunal material from the recent excavations have been analysed in detail (Gaastra, in press). Here too, sheep and goats are the most numerous taxa, followed by cattle and pigs. Concerning wild animals, the most hunted species is red deer. Both sheep and goats were predominantly slaughtered as subadults or young adults, while cattle were culled in an adult age, suggesting primarily meat exploitation for all domesticates (Gaastra, in press).

The third analysed faunal assemblage comes from the coastal settlement at Resnik in Kaštela Bay. It is still not clear whether it was a native settlement or perhaps some sort of Greek outpost, before the Roman town *Siculi* was founded in the same place. However, it has relatively rich Hellenistic deposits that yielded faunal remains which were analysed (Sanford 2011). As in all contemporary sites in the wider region, sheep and goats predominate the assemblage, although in a slightly smaller degree in comparison to others. A relatively high proportion of cattle stands out as the highest among the surrounding analysed assemblages (Gaastra 2017: 22). Age profiles show that most sheep were culled in adulthood, as also were cattle.

Generally, with the exception of *Issa* due to a lack of data, all analysed faunal assemblages from both indigenous and Greek settlements show similar patterning in the faunal composition dominated by small ruminants.

2.3. Sacred places

A small number of archaeological sites from the Classical antiquity in the eastern Adriatic were used for different, sacred purposes. These places were secluded and only a small number from the second half of the first millennium BCE are known. Of these, only a few have been archaeozoologically analysed.

The oldest is a Greek sanctuary discovered on the remote Palagruža island dedicated to the Trojan hero Diomedes. It was founded around the late 6th century BCE and occasionally visited by Greek seafarers by the 1st/2nd century CE (Kirigin *et al.* 2009). The sanctuary was destroyed by human activity in later periods. So far the only published faunal analysis focused on a small bird assemblage recovered from deposits dated between Bronze Age and late Roman period, including also the material deposited during the period when sanctuary was in use. The analysis revealed a presence of two distinct groups of bird taxa: seabirds that nested here and passage birds that used Palagruža island as a stopover during flight across the sea. Within the former, the most interesting is the first record of the Northern Gannet in the Adriatic Sea (Oros Sršen *et al.* 2017). However, the paper itself remained focused on the palaeoecology of the Palagruža island during the Late Holocene and natural palaeoenvironmental conditions that may have caused the accumulation of bird remains without actually attempting to make a direct connection to the archaeological context.

The only other sacred site from this period that has been archaeozoologically studied is the Late Iron Age sanctuary in Nakovana cave on the Pelješac peninsula. Its interior chamber was actually used by local people and not by Greeks. However, the exclusive imported Hellenistic fineware indicates strong contacts with the Greek colonies on the neighbouring islands (Kaiser & Forenbaher 2012). This sanctuary was in use for circa 300 years until the chamber was sealed, probably by natural causes, no later than the 1st century BCE to be recovered only in recent excavations. As such it was extraordinarily well preserved which allowed for a unique possibility to study ritual activities practiced here. A very detailed archaeozoological study is available for the faunal material recovered there. The faunal assemblage from Nakovana cave is heavily dominated by very young sheep and goats, of which mostly head and lower limb elements are present. The material is highly fragmented but butchery traces are very scarce. Based on these criteria as well as its contextual surroundings it has been suggested that animal remains have been deposited as the result of some ritual (Appleby & Miracle 2012), which will be discussed further below.

3. Archaeozoological research of the Roman period

Starting with the late 1st century BCE but probably not longer after the *Bellum Batonianum* ended, Rome consolidated its presence in the eastern Adriatic with the emergence of the first permanent Roman settlements and military camps (Wilkes 1969). A variety of types of sites is evidenced with an equally variable degree of archaeozoological studies, both in number and quality of data.

3.1. Urban sites

A great number of Roman urban centres are known from the territory of the present-day Croatia. Unfortunately, these are the least known from the aspect of subsistence economy and animal use in general. Only a handful of faunal assemblages from urban centres are studied. Roman Issa, already mentioned in the previous chapter, has been poorly studied. The quality of data available is even worse in comparison to that of Greek Issa, due to the much smaller number of analysed graves (Radović, unpublished data). Some of the results from the archaeomalacological study mentioned earlier (Paladin *et al.* 2018) also relate to this period, but since the material was analysed as a whole, these data are not very useful.

Subsistence of the Roman *Nadinum* is better known. Although recent archaeozoological studies have not yet been published, the results of the older analysis are published (Schwartz 1996). As noted above, certain significant changes were observed in the composition of faunal assemblages from Roman period in comparison to older Iron Age assemblage. In particular, an increased frequency of pig remains is evidenced, followed by a relative decrease of the sheep and goats (Schwartz 1996: 240). However, the summarised reporting provided of these data restricts further discussion. In addition, recent excavation has yielded numerous cattle remains, although its significance is yet to be seen (Martina Čelhar, personal communication).

Finally, recent excavations alongside the southern wall of the Archaeological Museum of Istria recovered mixed Iron Age and Roman context, with the latter consisting of only a single uppermost layer. The recovered faunal assemblage was archaeozoologically analysed. Unfortunately, considering extremely low number of remains attributed to the period of Roman *Polja* it was only possible to note that sheep and goats are the dominant taxa, followed by less numerous cattle and pig (Brajković *et al.* 2011).

3.2. Rural sites (villages)

So far, faunal material from two rural sites located in the Roman province of *Pannonia* have been studied. Virovitica Kiškorija South was a Roman village, situated in the present-day Slavonia. Regardless of the complexity of the site, due to very unfavourable preservational conditions in the soil, only a small sample of animal remains has been collected and analysed (Radović 2015; Šoštarić *et al.* 2015). The majority of assemblage consists of heavily fragmented teeth enamel and dentine fragments, most of which come from cattle, followed by sheep or goat with only a few equid and pig remains. It can be argued that such a taxonomic composition is biased towards larger mammals is due to the aforementioned soil acidity and its destructive effects on bones, so these results should be looked at with caution.

The archaeological site of Šepkovčica near Velika Gorica (Turopolje) is categorised as a rural complex without a specific cultural or functional attribution identified. Two cemeteries were discovered nearby. A mixed one with both cremated and skeletal graves was archaeozoologically studied in detail (Hincak *et al.* 2007). Both human and animal burnt and unburnt bone samples were analysed, with the use of microscopic analysis (see further below). The results showed presence of small ruminants (mainly sheep and goats), pig and cattle in graves, sporadically accompanied with red deer, fish and bird remains. The paper itself focused more on the methodological approach to the study of fragmented human and animal remains from graves and ignored any interpretation of the significance of these finds.

3.3. Villas and workshops

This category of the types of sites from the Roman period is much better studied in the context of their economy. Based on large volume of evidence for pottery production and agricultural activities (e.g. olive oil production), a lot is known about everyday life in Roman villas and workshops. Still, aspect of their diet is commonly neglected.

Loron is situated on the western side of Istrian peninsula. The most numerous taxa are sheep, goats and cattle, closely followed by pig. The ageable data for sheep and goats indicate that the majority were culled as subadults, suggesting that at Loron they were used primarily for meat. This same meat exploitation could be said for cattle although one cannot exclude the possibility of them being used as draught animals as well. Within a small number of equid remains, several are identified as ass (Brajković & Radović, in press). These results are in concordance with the results of a previous study (Brajković & Paunović 2001). In addition, the archaeomalacological assemblage was also studied indicating limited exploitation of marine molluscs (Alväs-Marion 2001).

Also on the Istrian peninsula, the faunal assemblage from the villa at the site Krvavići-Boškina is equally dominated by cattle and small ruminants. They are followed by less numerous pigs (killed in a juvenile age) and even fewer horses. Infrequent remains of wild boar and red deer testify to rare episodes of hunting (Trbojević-Vukičević & Štilinović 2007).

Further south-east, at the site of Crikvenica-Igralište, within the area of the *Ad Turres* settlement, remains of the pottery workshop complex were recovered. Detailed analysis of the faunal assemblage confirmed similar taxonomic composition dominated by domesticates as above. The majority of remains belong to cattle, followed by sheep and goats, and with a lesser number pigs and equids. Red deer is the most common wild species attesting to sporadic hunting activities (Miculinić 2018).

Recent discovery and excavations of the villa at Lički Ribnik near Gospić revealed a large sample of archaeobotanical remains and only a handful of animal bones, originating from the kitchen area. However, even this extremely poor faunal assemblage fits well with others in the region: only cattle and sheep are determined, while their remains bore traces of butchery and burning, indicating some specific patterns of food preparation (Reed *et al.* 2019).

Archaeological research of a Roman villa in Caska Bay on the island of Pag yielded numerous animal remains. The analysis is still in progress but preliminary results indicate relatively large number of cattle remains, in addition to smaller number of small ruminants and pigs (Radović, unpublished data). Other taxa are present but in much smaller numbers. However, the most striking find is a partially articulated camel skeleton, consisting of complete skull, all of the cervical vertebrae and most of the thoracic vertebrae, with just a few rib fragments. The rest of the body was not found (Radović & Radić Rossi 2016). More on this exclusive finding will be discussed later in the text.

The final site from this group that yielded relatively a large faunal assemblage comes from a Roman villa near Bunje on the island of Brač. Here the archaeozoological analysis is also in progress. So far, preliminary results suggest very similar composition of domestic animals, with sheep, goats and cattle dominating the assemblage. Worth mentioning, however, is a relatively noticeable number of cervid remains, suggesting certain significance of hunting activities here (Radović, unpublished data).

3.4. Military camps

The final group of Roman period sites includes permanent military camps in Roman Dalmatia: *Burnum* and *Tilurium*. The results of the archaeozoological analysis of the assemblage from *Burnum* indicate large number of pigs and sheep/goats, with the latter being slightly numerous. Cattle and red deer are present but negligible. Other faunal finds include rare bird and molluscs remains. Pigs are slaughtered in while in the infantile and juvenile ages, while other animals were culled mostly during their adulthood (Campedelli 2007). Unfortunately, these results are based on a small sample.

A significantly larger faunal assemblage has been studied from the military camp *Tilurium* at Gardun near Trilj, although the only published paper is limited to a single stratigraphic unit – a pit with a small number of animal bones. Only the remains of two pigs were identified bearing numerous cut and chop marks indicating extensive butchery (Šimić-Kanaet et al. 2005). The majority of faunal material is currently being studied and/or prepared for publication. Preliminary results indicate high proportions of all main livestock species: cattle, sheep/goats and pigs, with cattle being the most numerous taxon. A point of interest is a moderate number of neonate and infantile individuals of all species mentioned above. This could suggest the breeding of some animals within the camp itself (Radović & Buljubašić, unpublished data).

4. Discussion

A summary of archaeozoological studies and their results given above, is shown here in the context of scientific research, or topics that were discussed, in order to better understand complexity of human-animals relationship in the Classical antiquity.

4.1. Subsistence economy and diet

Almost all of the above listed studies considered diet to a certain degree. It is the most discussed aspect of animal use at any archaeological site. It can be argued whether this is because it is seemingly the simplest question to answer. One eats what is available (of course, that is to say, what is edible), so species representation at a site gives us pretty good indication of what could have been eaten there. However, this can also be a very slippery slope given the possibility of certain other factors that could affect dietary choices, such as local laws and traditions, just to name a few. Also, neglecting for the time being pets and sacred animals, not all 'ordinary' animals were used exclusively for food; sheep give wool, cattle can be used as a beast of burden, and horses used for transport. Still, even such exploitation of animal resources forms economy, though not necessarily related with diet. With all that in mind, here is the summary of what is known about Greek and Roman subsistence economy and dietary habits in general, and what are specifics related to certain types of sites, if any.

Common to all analysed faunal assemblages is the absolute dominance of domesticates, in particular livestock. Most numerous are cattle, sheep, goats and pig, although their quantitative ratio varies between sites. Wild taxa are rare and when they are present, red deer is the most common species. A similar

distribution of animal species can be seen at all sites from the Iron Age indigenous settlements to the Roman period military camps. However, while small ruminants (sheep and goats) form the basis of the subsistence economy in the earlier periods, as is commonly seen anywhere in the Mediterranean, pigs and cattle dominate in the later, Roman period. That transition is clearly visible in the faunal assemblage from Nadin hillfort where both periods are studied (Schwartz 1996: 240). Overall, cattle are more common at all Roman period sites (grave contexts excluded). However, situation is different for *Burnum* with surprisingly low percentage of cattle (Campedelli 2007). It is even more striking when compared to faunal assemblage from *Tilurium*. Although they are from the same type of site (military camp), same period and located in the same province, the latter assemblage shows clear pattern of predominance of cattle. If these results are true and unbiased (i.e. result of a small sample size, unfavourable taphonomic conditions and/or excavation methods) it will be very interesting to try and resolve the reason for this difference.

All the above mentioned livestock were eaten. However, data about age-at-death of animals, indicating the age when they were culled, suggest that in some cases sheep were probably used for milk and/or wool, and cattle for milk and/or as a draught animals (mostly in villas). Pigs provided much appreciated meat so that was their sole purpose. In addition to above mentioned livestock, a few remains of equids (horse, ass or their hybrids) and dogs are present almost at any Roman site. Both were usually not eaten, with the former being used for work and transport. Such faunal composition is very common in the Roman period in Europe (Bököny 1974; Riedel 1996; Peters 1998; Kron 2002).

The common scarcity of wild animals indicates their minor contribution to the diet and relative negligence of hunting in general. However, they were still used (cervids, at least) to provide raw material used in crafting, or at least that can be concluded based on the fact that cervid remains are represented mostly by their antlers and metapodials.

Finally, with the exception of the aforementioned assemblages from *Issa* and *Loron*, sporadic mollusc remains are at best preliminarily identified and briefly mentioned in the reports. Fish remains are extremely rare, which may be due either to unfavourable preservation conditions or excavation methods. Generally, evidence of fishing and shellfish gathering are scarce and almost exclusively limited to islands and coastal sites. The true extent of the use of marine (and freshwater) resources within these periods is yet to be determined.

4.2. Communications, trade and import

As said earlier, within the analysed faunal assemblages, both Greek and Roman, domestic animals predominate. As these species were already present in the region, it may seem impossible to look at them as potential evidence for travel, trade and import. However, through a detailed analyses of faunal material from Greek colonies in the Adriatic, a certain aspect of the Greek colonisation in Dalmatia, previously unknown, is revealed. By looking at domestic taxa varieties between indigeneous settlements, Greek colonies and Greek mainland, through a comparison of livestock biometric data, it was possible to infer a level of interactions between Greek colonists and local native populations (Sanford 2012). The reasoning is simple. If the Greeks were bringing herds with them, they would match in body size with those in Greece or wherever they actually came from. The study of material from Greece showed that cattle are getting bigger throughout the classical to Hellenistic periods in Greece, and so do sheep. This pattern is mirrored in the size of livestock at Greek colonies in southern Italy (Sanford 2014). In the biometric analysis of contemporary faunal assemblages from Dalmatia and from southern Italy and Greece certain patterns emerged. There is evidence for an increase in the size of livestock in Dalmatian Greek colonies. Sheep in the settlement at Resnik are bigger as opposed to smaller local breed, while cattle are in between (possibly mixed) (Sanford 2011). A somewhat different situation is evidenced from the Greek colony of *Pharos* and in the sanctuary at Nakovana cave used by local indigenous people. Both assemblages have some larger animals but mostly both sheep and cattle are of mixed sizes. The most striking point is the clear difference in livestock size profiles between Resnik and *Pharos*. Resnik seems to have fully Greek-sized sheep, while in *Pharos* local breeds seem to retain a stronger presence for a while at least, which does not fit the pattern seen for Greek colonies on the other side of the Adriatic. It is suggested that such difference in livestock body size may be a result of either the translocation of Greek sheep and cattle to new settlements (i.e. their movements with colonists) or some improvements to local livestock subsequent to the colonisation (Sanford 2012). It could be argued that

Resnik had more conservative, not to say xenophobic approach towards local domesticates, while *Pharos* seems to be more open and had intermingled groups of local and Greek livestock. Also, Resnik is a century or so later than the *Pharos* sample, so it could be a chronological issue (Sanford 2012: 192). All this indicates a more complex process of the Greek colonisation of the eastern Adriatic than previously thought, at least from the faunal point of view.

A similar example is seen in cattle from the Roman military camp of *Tilurium*, where preliminary metric analysis indicates a smaller-sized breed (Radović & Buljubašić, unpublished data). Considering a similar trend at the indigenous sites in the region, such results may suggest that cattle were probably procured locally and not imported from other parts of the Empire.

During Roman period, the acquisition of exotic and display animals was not uncommon, although often very expensive (Peters 1998). Despite the scarcity of published archaeozoological studies for Classical antiquity archaeological sites in Croatia, a single case has been reported. Recent archaeological excavations in the economic complex of the Roman villa in Caska yielded faunal remains among which camel bones were identified. Camels are not native to Europe so this important discovery contributes significantly to our understanding of communication and trade routes in the Mediterranean during the Roman Empire. The original interpretation has put this finding in association with the noble Roman family of *Calpurnii Pisones*, who owned the villa in the Caska Bay (Radović & Radić Rossi 2016). However, direct radiocarbon dating of the camel bone indicates a younger age, although still Roman (Irena Radić Rossi, personal communication). This obviously warrants a different interpretation of this find, though it does not diminish its uniqueness and significance.

4.3. Rituals

One of the most interesting aspects of archaeozoological studies are animal remains found in ritual contexts because of their potential symbolic role within given society (O'Day *et al.* 2004). It is also one of the most notorious and difficult aspect to interpret. Unlike other subjects this one requires close liaison between an archaeozoologist and an archaeologist who supervised excavations and understands associated remains of material culture. Not only that it is difficult to recognize ritual contexts in a first place, but it is much more difficult to accurately reconstruct processes that caused such animal assemblage, and nearly impossible to understand the reason behind it (unless helped through written contemporary sources). With that in mind, faunal remains can contribute greatly to our understanding of ritual actions that took place in sanctuaries or at cemeteries.

Two sacred sites described earlier are dated to the second half of the first millennium BCE: Palagruža island and Nakovana cave. The only published paper dealing with faunal remains from Palagruža focuses almost exclusively on the occurrence of certain bird species at the site and provides valuable data about the local palaeoenvironment. However, due to its unique geographical position, Palagruža island stands out as an important stopover site between western and eastern Adriatic, both for birds and for humans, which may have somehow affected the foundation of the sanctuary here. Although authors concluded that the remains of all species (except domestic chicken) were accumulated by natural death and not by human actions (Oros Sršen *et al.* 2017: 6), it is worth noting that certain birds have very special meaning within the Diomedes cult, according to ancient sources (Kirigin *et al.* 2009). Further analyses are in progress and it will be very interesting to see the results of these studies, in particular those that will emphasise the possible connection of discovered bird species and their significance in the life of this Greek sanctuary, if any.

On the other hand, the faunal assemblage from Nakovana cave has been studied in detail precisely because of its potential connection to the sanctuary. The faunal assemblage is dominated by domesticates. Several criteria were used to suggest that animal remains from Nakovana inner chamber represent remains of sacrificed animals. Based on the body part representation and bone surface modifications, it is argued that animals were most likely sacrificed at the site, but there is not sufficient evidence to indicate that feasting occurred there as well (Appleby & Miracle 2012: 280). Due to relatively small size of the analysed sample and approximate duration of 300 years of use of this site, it is impossible to suggest the frequency of these rituals; however it is unlikely that they occurred frequently or included a large number of sacrificed animals (Appleby & Miracle 2012: 282). What strikes the most is the obvious difference between exclusivity

of imported Hellenistic fineware and ordinariness of domestic animals, where the former represent exotic and expensive luxuries as opposed to the latter. Examples of Greek livestock imports were mentioned earlier in the text, but that is hardly the case here. The local origin of these animals is further supported by their biometric data, which confirmed that they came mostly from smaller-sized animals, typical of local breeding (Jane Sanford, personal communication). So what this discrepancy in exclusivity between the two groups of finds tells us about the ritual is not clear. In addition, interpretation for the ritual pattern of consumption in the cave has recently been disputed, through re-evaluation of criteria used for ritual patterning and comparison with faunal assemblages from other contemporary sites in central Dalmatia (Gaastra 2017). Thus the ritual aspect of these finds remains uncertain until further analysis.

While animal remains found within sanctuaries may be questionable, as shown above, those that are found within graves are more likely to be interpreted as ritualistic unless they are intrusions from younger periods. Regardless of the number of excavated Greek and Roman settlements and corresponding cemeteries, only two have been archaeozoologically analysed.

One form of ritual behaviour that has been associated with cemeteries is the placement of animal remains within or surrounding graves. They can be interpreted as food offerings to deceased person, sacrifices to deities or remains of the funerary feast. The only two examples of the archaeozoological studies of animal remains from graves are from *Issa* cemetery and from *Šepkovčica* cemetery, with the former being still under study, while the latter made no attempt to interpret recovered remains within the context of funerary customs during Roman period.

4.4. Miscellaneous

Finally, some studies focused on different aspects of research, not directly contributing to any of the above mentioned topics. Methodological issues were tackled in a single study of human and animal remains from graves at *Šepkovčica* (Hincak *et al.* 2007). The aim of this paper was to test the effectiveness of using the new method in identifying skeletal remains. In particular, microscopic analysis of histological samples (i.e. histological analysis) was successfully used to prove its usefulness in analysis when dealing with highly cremated remains.

5. Conclusion

This paper presents the results of all faunal studies of Classical antiquity sites in the present-day Croatia made so far. Although relatively few and often unrelated, when put together, these studies represent a clear source of information for anyone concerned with the reconstruction of any and all aspects of human-animals relations in the past.

It is an overview, summarising all known data regarding archaeozoological studies of the material from the second half of the 1st millennium BCE to late Roman period, without any agenda to replace cited papers. The modest scope of this paper did not permit a detailed retelling and re-interpretation of the mentioned studies. The ultimate goal here is to encourage further studies, not only archaeozoological but any contributing to our understanding of animal husbandry, diet, funerary customs and other rituals in the Classical antiquity. A more extensive approach exceeds the scope of this paper while any decreased effort would fail in addressing the problem.

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