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Food taboos in medieval Iberia: the zooarchaeology of socio-cultural differences

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ABSTRACT
The lives of both humans and non-human animals are determined by ideas about what makes an animal good or bad, or why some animals are deemed suitable to be eaten and some do not. Food taboos are indeed a key factor for understanding human-animal relationships and ways of socio-cultural and religious self-definition, but have surprisingly occupied little space in archaeological research so far. The medieval Iberian Peninsula was a melting pot of different socio-cultural and religious groups. Their research and their possible visibility through the zooarchaeological record are topics that have received increasing attention over the last few years. In this paper, the available zooarchaeological evidence will be reviewed, focusing on the visibility of dietary habits of Christian, Jewish and Muslim communities. Moreover, the preliminary results of the analysis of the faunal remains recovered at the Jewish site of Santa Marta, in Pancorbo (Burgos) are presented.

KEY WORDS
Animals, diet, Middle Ages, Islam, Christianity, Judaism, archaeology.

RÉSUMÉ
Les tabous alimentaires dans l'Ibérie médiévale : la zooarchéologie des différences socioculturelles.
Les idées sur ce qu'est un bon animal, ce qui constitue un mauvais animal ou un animal transgresseur, et pourquoi certains d'entre eux sont jugés aptes à la consommation et d'autres non, ont déterminé la vie des hommes et des femmes, et des animaux non humains. Les tabous alimentaires sont en effet un facteur clé pour comprendre les relations entre les hommes et les animaux et les modes d'autodéfinition socioculturelle et religieuse, mais ils ont étonnamment occupé peu de place dans la recherche archéologique jusqu'à présent. La péninsule ibérique médiévale était un creuset de différents groupes socioculturels et religieux. Leur recherche et leur éventuelle visibilité à travers les archives zooarchéologiques sont des sujets qui ont reçu une attention croissante au cours des dernières années. Dans cet article, les preuves zooarchéologiques disponibles seront examinées, en privilégiant la visibilité des habitudes alimentaires des communautés chrétiennes, juives et musulmanes. En outre, les résultats préliminaires de l'analyse des restes fauniques récupérés sur le site juif de Santa Marta, à Pancorbo (Burgos) sont présentés.

MOTS CLÉS
Animaux, alimentation, Moyen Âge, Islam, christianisme, judaïsme, archéologie.

INTRODUCTION

Food represents an important aspect in humans' life for a number of different reasons: it consists of nutrients supporting body growth and providing energy, it is an important tool in socialising, it is also a health and economic indicator and, vitally, food represents an important cultural marker. Indeed, humans often use food as a visible expression of the social, cultural, ethnical and/or religious background to which they belong (e.g., Ashby 2002; Grant 2002; Twiss 2007; Woolgar 2010). Food represents a powerful symbol of human identity, an "embodied material culture" (Dietler 2007: 222, 223): as a group of people usually eats a specific type of food, this becomes part of their cultural roots. However, multiple factors, such as group and/or individual strategies of food manipulation, available resources, politics, religion, gender and, of course, environmental changes may affect food choices.

One of the ways socio-cultural identities can be established through food is through the avoidance of specific products. But, what exactly are food taboos? The word "taboo" comes from the Polynesian *tabu* or *tapu*, meaning a prohibition of doing a certain action under threat of supernatural punishment (Brittanica s. d.). In anthropological literature, the expression is used as a way to refer to "food avoidance" or "ritually prohibited food", either because of religious observance or as a mean to identify oneself culturally (Harris 1985; Simoons 1994; Meyer-Rochow 2009).

The Iberian Peninsula in the Middle Ages was a cultural melting pot in which many different cultural groups and religious beliefs coexisted. Between the 8th and the 16th centuries AD, Christians, Muslims and Jews lived in Iberia. In the early 8th century AD, most of the Iberian Peninsula was conquered by Muslims that arrived from northern Africa. The Islamic rule lasted for centuries, although their territory progressively diminished until it was limited to the southernmost regions of the peninsula. At the very end of the 15th century AD, the Christian kings forced Jews and Muslims to abandon their kingdoms, or to convert to Christianity. The long presence of these three major religious and cultural groups left in Iberia wonderful examples of material and immaterial heritage. Medieval archaeologists have so far mainly focused on material culture (buildings, pottery, metals, etc.) and burial practices, but other types of visibility of these groups (especially the Jewish minority) have not been sufficiently investigated (for recent syntheses, see Eiroa Rodríguez 2018; Villanueva Zubizarreta 2018).

One of the approaches that has received increasing attention is zooarchaeology and, through it, the visibility of different socio-cultural groups in archaeological food remains. Indeed, can we identify these groups through their food remains? How can zooarchaeology detect the presence of specific communities characterised by specific religions and/or beliefs? One of the first things that a zooarchaeologist can detect while analysing the faunal material, is the absence of prohibited species. Another thing to look at is the presence of allowed animal species, but also, specific butchery evidence that regularly occur on the remains. Finally, the zooarchaeological analysis needs to be complemented with the analysis of other archaeological materials and historical sources.

The main aim of this paper is to bring together the zooarchaeological work that has been done until now on the topic of food taboos[1] and socio-cultural or ethno-religious differentiation in medieval Iberia, while reflecting on the ways humans interlink their identity through the use or the consumption of certain animals, and the avoidance of others.

Food taboos in Judaism

Of the three religions that will be discussed in this paper, Judaism is the one with the most dietary restrictions. The dietary rules (*kashrut*) are very strict in defining what is allowed (*kasher*) or not (Table 1). The most notorious forbidden animal species is probably pig, but also horse camel, rabbit, seafood, or fish without fins and scales. Apart from the non-*kasher* animals listed in Table 1, Judaism also prohibits the consumption of *terefah*, individuals of a *kasher* species that are considered unfit, due to pre-existing mortal injuries or physical defects. Moreover, *Leviticus* (11, 13-19) and *Deuteronomy* (14, 11-18) provide a list of non-*kasher* birds: the eagle, the vulture, the black vulture, the red kite, any kind of black kite, any kind of raven, the horned owl, the screech owl, the gull, any kind of hawk, the little owl, the cormorant, the great owl, the white owl, the desert owl, the osprey, the stork, any kind of heron, and the hoopoe (Anonymous 2017).

For the meat to be considered *kasher*, however, there is also a very specific ritual slaughtering and butchering process (called *shechita*) that must be followed and performed by a qualified butcher (*shochet*). Animals need to be slaughtered with a cut in the throat and all blood must be drained from their bodies. The sciatic nerve, the femoral artery, and other specific fats need to be removed (in a process called porging – or *nikur*). This process is so complex that only highly trained butchers are capable of doing it correctly, and in fact, medieval written sources say that Iberian Jewish communities had specific slaughterhouses and butchers to perform the *shechita* (Cantera Montenegro 2003). Often, when such capable butchers are not available, the hindlimbs of the animals are simply discarded or sold to non-Jews (Daróczi-Szabó 2004), but only meat from a Jewish abattoir is considered *kasher*. Lisowski (2019) investigated this process ethnoarchaeologically with specialised butchers in Israel, and noticed how this complex process of porging leaves clear patterns and marks on the bones that can potentially be identified in the zooarchaeological record. One of them is the removal of the heads of the femur and tibia in an oblique way. But also, he documented that porging often leaves clear marks associated to scraping all meat and fat out of the shafts of these long bones; these marks are repetitive, either longitudinal or transverse to the bone, and with different angles depending on the inclination of the blade towards the bone.

1. Please note that this article only deals with food taboos related to the consumption of animal meat and products of animal origin. Other foods are not considered here.

TABLE 1. — Summary of animals that are allowed (*kasher*) or not (including *terefah*) in Judaism, based on the *Torah* (Christian Pentateuch), the *Mishna* (*c*. 2nd century AD), the *Talmud* (3rd-5th century AD) and Mainonides' *Mishneh Torah* (12th century AD).

Categories	*Kasher*	Non-*kasher*	Depends on local tradition
Mammals	Chew the cud and split hooves (i.e. cattle, sheep, and goat).	All others: pigs, wild boar, horses, rabbits, camels, carnivores, bats, rodents, etc.	–
Birds	A bird that is not a bird of prey and it has an extra toe, a crop, and/or a gizzard that can be peeled (i.e. chickens, ducks, geese, and pigeons).	In general, birds of prey, vultures, fish-eating birds and the eggs laid by the non-kasher birds. However, as the written sources are not always clear the final say is dependent on local tradition.	Pheasants, turkeys, etc.
Reptiles	None	All	–
Amphibians	None	All	–
Fish	With fins and scales (i.e. cod, flounder, haddock, halibut, herring, mackerel, pickerel, pike, salmon, trout, and whitefish)	Without fins or scales (i.e. shark, eel, octopus, and skate).	Sturgeon, swordfish
Invertebrates	Orthoptera (but generally avoided)	All others, including shellfish, clams, crabs, lobster, oyster and shrimp.	–

TABLE 2. — Summary of animals that are allowed (*halāl*) or forbidden (*harām*) in Islam, based on the *Quran*, the *aḥadīth* and the *sunnah*.

Categories	*Halāl*	*Harām*	Depends on school of thought
Mammals	All others (sheep, goat, cattle, camel, etc.)	Pig, animals with fangs (i.e. carnivores, bats, etc.), donkey, mule	Wild boar, horse, rabbit
Birds	All others (i.e. chicken, dove, duck, geese, etc.)	Birds of prey, Hoopoe, those who eat carrion	–
Reptiles	None	All	–
Amphibians	None	All	–
Fish	All	None	Eels
Invertebrates	Locusts	Other insects, those who eat carrion	Crustaceans, molluscs, cephalopods

Food taboos in Islam

The only animal that is specifically forbidden (*ḥarām*) from being eaten by the *Quran* (5:3) is the domestic pig. Muslims also follow, however, the *aḥadīth* and the *sunnah*, accounts that contain the words, actions and approvals of Muhammad. Through these, horse, donkey and mule, animals with fangs (i.e. cats, dogs, bears, lions, wolves), birds of prey, apes, reptiles, insects and rodents are forbidden as well. Nonetheless, some branches or schools of thought of Islam show some particularities in the way they interpret these *aḥadīth*. For instance, Alevis do not eat rabbit and Sunnis allow eating horse meat. Fish and other sea animals are allowed, in principle, but Hanafism considers seafood as *makrūh* (disapproved), while the Shia prohibit eating eels (Table 2).

Although fundamentally different than *shechita*, Muslims also follow a very strict ritual slaughtering for consumption (*dhabīḥah*), that deems an animal, or an animal product, suitable or permissible for consumption (*ḥalāl*). The slaughtering method consists of a swift, deep incision to the throat with a very sharp knife, cutting the wind pipe, jugular veins and carotid arteries, but leaving the spinal cord intact. In principle, if correctly performed, this ritual does not involve any aspect that might be observable in the zooarchaeological record, but a cut mark might be left on the hyoid bone by an unexperienced butcher. Animals that die due to illness, injury, stunning, poisoning, or are not slaughtered in the name of Allah are considered *ḥarām*. Animals slaughtered by non-Muslims can also be considered *ḥalāl* if the slaughter is carried out in a similar manner and the name of God invoked; as a result, *kasher* meat is permitted by some Muslim communities (Freidenreich 2014).

Food taboos in Christianity

In principle, there are no food taboos in Christianity, as exemplified by the following quotes: "For every creature of God is good, and nothing is to be refused" (Timothy 4, 4), and "What goes into someone's mouth does not define them, but what comes out of their mouth" (Matthew 15, 11); but in practice, it depends on the level of observance of the rules of the *Old Testament* (Anonymous 2017). In branches that observe it closely (like the Seventh-day Adventist Church) or in Oriental Orthodoxy, for example, there are some food restrictions, but these would not apply to western Europe during the Middle Ages. Instead of permanent food taboos, what the majority of Christians follow are temporary restrictions (for example fasting during Lent, Wednesdays and Fridays) of consuming certain products, notably meat (e.g., Albala & Eden 2011). But, unlike Jews and Muslims, Christians do not fast because they consider specific foods unclean, but they rather do it as penance. The idea is quite different: meat and other products of animal origin are considered so delicious, pleasurable, nutritious, invigorating, and necessary, that temporarily restraining from consuming them is a form of self-punishment in order to be closer to God. Christian fasting is viewed as an act of contrition, to facilitate forgiveness and earn salvation, a devout act of piety.

In the 8th century AD, however, an official food taboo developed: the popes Zachary and Gregory the 3rd prohibited the consumption of horse meat, an attempt to establish greater religious orthodoxy while they perceived links of the

TABLE 3. — Faunal assemblages recovered in Spanish archaeological excavations, associated with Jewish communities. *, results of the zooarchaeological analysis mentioned, but not published in detail.

Site	Chronology	Location	Reference
Tàrrega	14th century AD	Lleida, Catalonia	Valenzuela-Lamas *et al*. 2014
Puigcerdà	14th century AD	Lleida, Catalonia	Valenzuela-Lamas *et al*. 2014
Cuirassa, Lleida	12th-late15th century AD	Lleida, Catalonia	Nieto-Espinet & Valenzuela-Lamas pers. comm.
Castro de los Judíos	Late 10th-12th century AD	Puente Castro, León, Castila y León	González Gómez de Agüero *et al*. 2010; FernándezRodríguez & Martínez Peñín 2015
Mota del Castrillo	1035-1311 AD	Castrojeriz, Burgos, Castilla y León	Moreno-García in press*
Lorca	Late Middle Ages	Murcia	Eiroa Rodríguez 2016*; García-García pers. comm.
Castil de los Judíos	13th-14th century AD	Molina de Aragón, Guadalajara, Castilla-La Mancha	García-García pers. comm.
Palma	Late Middle Ages	Mallorca, Balearic Islands	Valenzuela-Oliver pers. comm.

TABLE 4. — Number of Identified Specimens (NISP) of recorded taxa (please note that not all remains were recorded).

Taxa	Late Middle Ages	Transition	Modern Era
Cattle	36	33	51
Sheep/goat	184	125	172
Pig	5	0	1
Horse	3	6	6
Chicken	24	23	22
Goose	23	9	7
TOTAL	275	196	259

practice of hippophagy with pagan beliefs (Simoons 1994; Fern 2010). Further, although it only applies to a specific group of Christians, another food taboo developed in the early 6th century AD: the *Rule of Saint Benedict* (Dean & Legge 1964) was written by Saint Benedict of Nursia, with a series of precepts that became the norms and rules of monastic life in medieval times. Chapters 39 and 40 state that monks were not allowed to eat the flesh of four-footed animals; they were allowed to eat fish and birds, however.

Although it is well documented that Jewish butchers used to sell discarded parts (notably the hindquarters) to Christians or Muslims (i.e. Riera 1988; Ijzereef 1989; Banegas 2005; Diemling 2015), in the medieval Iberian Peninsula, some local laws and ordinances prohibited Christian butchers from selling meat discarded by Jews (Daas 2022: 9), especially those of the period after the Black Death (Bada 2009). It is unclear, however, if such prohibitions were enforced everywhere, or if they can be classified as a Christian food taboo against *kasher* meat.

THE ZOOARCHAEOLOGICAL EVIDENCE OF FOOD TABOOS IN MEDIEVAL IBERIA

During the most part of the Middle Ages, the Iberian Peninsula was highly hierarchical complex society, where three main faiths intermingled: Christianity, Islam, and Judaism. Studying how these complex identities were constructed and negotiated in medieval Iberia is of outmost interest, but also very challenging.

JUDAISM

Very few Jewish sites have been excavated in Spain, and even fewer faunal assemblages have been analysed and published; a summary is shown in Table 3.

I have partially analysed the faunal assemblage recovered at the site of Santa Marta (in Pancorbo, Burgos), which, based on the recovery of several *hanukkiot* fragments (Alfaro Suescun 2019) and the zooarchaeological evidence explained below, seems to correspond to an area of the town inhabited by Jewish communities. This site is still undergoing excavations to this date, but in this paper only the faunal materials recovered in 2015 are presented. Due to time constraints, only cattle, sheep/goat, pig, horse, chicken, and goose remains were recorded; although many animal species might have been ignored, those whose absence/presence are of most interest to detect Jewish food taboos were still recorded.

The faunal assemblages were divided in three different phases: Late Middle Ages (13th-15th century AD), Transition (15th-16th century AD) and Modern Era (16th-17th century AD). Table 4 shows the Number of Identified Specimens (NISP) that compose the analysed assemblage from Pancorbo. Sheep/goat (mainly sheep) predominate in all phases, being more than 60% of the sample. Cattle is the second most frequent taxon (representing 12% in the earliest phase and 20% in the latest). Domestic fowl follow, with chicken being between 8% and 11%, and geese decreasing from the 8% to the 3%. Horse is next, with percentages ranging between the 1% and the 3%. Last, the least frequent taxon is pig, with a 3% in the Late Middle Ages and less than the 0.5% in the Modern Era.

In fact, this scarcity of pig remains is perhaps the most striking aspect of the assemblage from Pancorbo. If we compare it with other contemporary sites in the region (Fig. 1), it seems clear that it is an unusual assemblage. Available evidence from other Jewish faunal assemblages in the Iberian Peninsula also suggest that pig percentages tend to be extremely low: in Castro de los Judíos (Fernández Rodríguez & Martínez Peñin 2015), Tàrrega and Puigcerdà (Valenzuela-Lamas *et al.* 2014), for instance, the proportion of pig remains represents less than 2% of the NISP (compared to cattle and sheep/goat).

Also, when the proportions of chicken and goose remains are compared to other sites in the region (Fig. 2), it appears that a high proportion of goose remains is somewhat unusual.

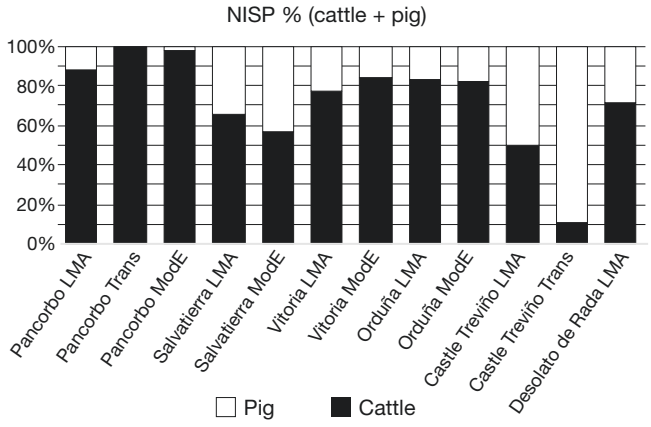

Fig. 1. — Comparison of cattle and pig Number of Identified Specimens (NISP) % in Santa Marta-Pancorbo (left) with contemporary sites from the region. Salvatierra (Grau-Sologestoa 2015), Vitoria (Castaños *et al*. 2011, 2012, 2013) and Orduña (Cajigas *et al*. 2003) are towns; Desolado de Rada is a rural settlement (Castaños & Castaños 2003). Abbreviations: **LMA**, Late Middle Ages; **ModE**, Modern Era; **Trans**, Transition.

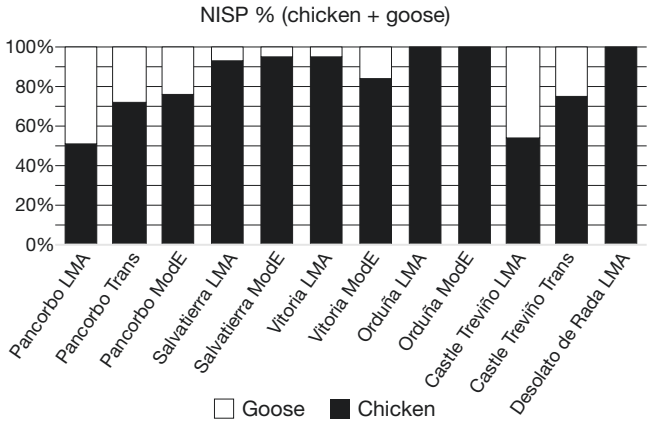

Fig. 2. — Comparison of chicken and goose Number of Identified Specimens (NISP) % in Santa Marta-Pancorbo (left) with contemporary sites from the region. Salvatierra (Grau-Sologestoa 2015), Vitoria (Castaños *et al*. 2011, 2012, 2013) and Orduña (Cajigas *et al*. 2003) are towns; Desolado de Rada is a rural settlement (Castaños & Castaños 2003). Abbreviations: **LMA**, Late Middle Ages; **ModE**, Modern Era; **Trans**, Transition.

High frequencies of goose, similar to those from Pancorbo, have only been recorded at the high-status castle of Treviño (Grau-Sologestoa pers. comm.), and at the Jewish settlement of Mota del Castrillo, where unusual cut marks on geese sterna are perhaps linked to the preparation of the so-called "Jewish ham" (Moreno-García's pers. comm.), a Sephardic delicacy made of cured goose breast meat and *kasher* salt; moreover, Spanish Inquisition records note the consumption of roast goose on the Jewish Sabbath (Gómez-Bravo 2014; Jawhara Piñer 2021).

As the analysis of the faunal remains from Pancorbo was only preliminary, a thorough analysis of butchery marks was not performed. It would be interesting to see if marks that are consistent with porging (as those described by Lisowski's [2019] ethnoarchaeological work) can be observed in future analyses. However, an underrepresentation of elements from the hindlimb long bones, as it has been suggested in some Jewish sites from Catalonia (Valenzuela-Lamas *et al.* 2014), is not clearly visible in Pancorbo: femur fragments are scarce, but tibiae (especially distal fragments) and pelves are relatively frequent. The intensity and the regularity of butchery marks in Pancorbo might have only been produced by a professional, highly skilled butchered, such as the ones that are required for performing successfully the *shechita* and the *nikur*.

Islam

The zooarchaeology of Al-Andalus, the region of Spain and Portugal that was under Islamic rule during the Middle Ages, has received quite a substantial amount of scholarly attention, with quite a large number of assemblages having been published (Grau-Sologestoa & García-García 2018), and now we do have some general reviews of the evidence (e.g., Morales Muñiz *et al.* 2011; Grau-Sologestoa 2017), all pointing out that the small proportion of pig remains is the norm. In general, pig remains are always scarce in Andalusian settlements, regardless of the type of site (i.e. rural, urban or high-status), although a progressive increase of pig proportions can be seen through time, perhaps in relation to an increase of Christian populations living under Islamic rule, or to a possible relaxation of the observance of Islamic dietary rules (Grau-Sologestoa 2017), while it is also possible that some Muslims consumed pork unknowingly, if it was sold as beef or mutton. The percentage of suid remains in many Islamic sites, though, seems to be slightly larger (around 5%) than in Jewish sites. García-García (2017) has suggested some hypotheses to explain this relatively large proportion of suids in a context where they were not expected. These suids could have been domestic pigs owned by a Christian community that was allowed to keep them, or wild boars hunted by a Muslim group with a relaxed attitude towards the Islamic prohibition of pork/wild boar consumption. This, as mentioned earlier, is the case for some Muslim communities (Simoons 1994; Moreno-García 2004).

It has been suggested that pig became a meaningful boundary between the three monotheistic religions only during the Early Middle Ages, when pig underwent a process of "Christianization", so that not only it was seen as a characteristic of Christian foodways, but it was also perceived by early medieval Muslims (and Jews) as related to Rome's imperialism (Kreiner 2020: 159-203). As such, pig was often symbolically utilised in situations of conflict. One very early archaeological example of the symbolic importance of pig in Iberian Islamic culture is exemplified by a pig cranium and mandible recovered at the site of Šaqunda, in the Andalusian city of Cordoba, studied by Martínez-Sánchez (2017) and García-García (2019). The written sources mention that, in 818 AD, the people living in this area of Cordoba were accused of participating in a rebellion against the emir of the town and, as a result, they were forced to exile, and their buildings were destroyed. The head was found right on top of the occupation level of a communal space that is thought to be a square or a patio. The head was fractured when still fresh by a large roof tile that fell on top of it, probably associated to the destruction of this space by the emiral forces. Martínez-Sánchez and García-García suggest

that this pig head could be related to a defixio, a curse, perhaps a symbolic deposition by non-Muslims against the Muslim community that lived here, or, perhaps an act for the desacralization of this area performed by the Muslims that were forced to abandon this area, preventing its future use by others.

Written sources also attest to the symbolic use of pigs. Christian chroniclers mention that the Umayyad caliph ʿAbd al-Malik (7th century AD) ordered all the pigs in conquered regions to be slaughtered, and one of his sons ordered the crucifixion of a treacherous general next to a crucified pig (Kreiner 2020: 166). In the early medieval written sources from Iberia (e.g., Lafuente Alcántara 1867; Gómez Moreno 1921; Marín Guzmán 2006), there are also examples of the use of pigs for the public ridicule of Muslims fallen in the battle: they often describe that Muslims were crucified (or their heads put on a pike) together with a pig (sometimes in combination with a dog, another animal that has negative connotations in Muslim cultures).

The scarcity of pig remains has been the main zooarchaeological marker for ascribing medieval faunal assemblages to Muslim communities in Iberia. However, other aspects have been also explored, albeit succinctly and in a few case studies, and their potential remains largely unexplored. For example, different ways of animal carcass processing have been identified in some multi-phase sites (e.g., Morales Muñiz 1988; Roselló Izquierdo & Albertini 1997; Morales Muñiz *et al.* 2011), but this type of analysis has not been systematically applied to see if Islamic butchery practices differed from the Christian ones in general, or if they might be used to identify medieval Muslim communities in Iberia.

Medieval dromedary remains are the last piece of zooarchaeological evidence that has only been found in Islamic contexts. To date, only few remains have been identified (Morales Muñiz *et al.* 1995; Riquelme Cantal *et al.* 1997, 2022; Moreno-García *et al.* 2007); they are all heavily butchered and often used as raw material for producing artefacts. While this is an animal that is forbidden to be consumed in Judaism, there is no evidence of its use in Christian areas, so its presence and consumption seems to have been restricted to areas under Islamic control.

Christianity

We now have a considerable number of zooarchaeological assemblages from Christian areas of medieval Iberia published (Grau-Sologestoa & García-García 2018). In general, sheep/goat predominate, followed by cattle and pig. Pig normally represents around 20% of the assemblages (compared to cattle and sheep/goat), and is slightly more frequent in high-status sites (Grau-Sologestoa 2017). Pig was, therefore, much more frequent in Christian sites than in Islamic or Jewish sites.

One would expect to see the most "Christian-like" diet in faunal assemblages recovered in monastic sites. However, despite the recent outstanding increase of zooarchaeological data from Christian medieval kingdoms in Iberia, the dearth of information regarding monastic sites is quite remarkable. To the best of my knowledge, only a few case-studies have been published so far: San Salvador de Cornellana in Asturias (Álvarez Laó 2001; Adán & Álvarez 2002), Cartuja de Santa María de las Cuevas in Sevilla (Morales Muñiz *et al.* 1991; Roselló Izquierdo *et al.* 1994; Bernáldez Sánchez & Bazo Carretero 2013), Santa Maria de Pedralbes in Barcelona (Lloveras *et al.* 2022), Santa María del Paular in Madrid (Bielza Díaz-Caneja 1996); and Santa Clara-a-Velha in Coimbra (Detry & Moreno -García 2008; Moreno-García & Detry 2010; Detry *et al.* 2014). Not only they are few, many are also rather succinct and focused on specific taxa (i.e. birds or cod); moreover, they are all dated to the late and/or post-medieval periods. As a result, our knowledge on medieval Iberian monastic diets and economies, from the zooarchaeological point of view, is very limited.

The *Rule of Saint Benedict* governed monastic life in Western Europe during the Middle Ages (Milis 1992). It stated that only the sick could eat the meat of four-legged animals (Ervynck 2004). Zooarchaeological research from other European areas has found an increased consumption of fish and birds in monastic sites, probably because monks were following the Rule (e.g., Müldner & Richards 2005), to the point that Christian fasting impositions have been argued to be one of the possible reasons behind the so-called "fish event horizon" *c.* 1000 AD (Barrett *et al.* 2004). However, examples of religious communities ignoring the precepts have also been identified, and possible differences between monastic orders and ecclesiastical hierarchies have been suggested (e.g., Ervynck 2004; Murray *et al.* 2004; Küchelmann 2012; Serjeantson *et al.* 2018). In some monasteries, zooarchaeologists have linked the presence of unusual species (such as otter, seal, or turtle remains), to some of the ways the monks bypassed the rule in order to keep eating meat (e.g., De Grossi Mazzorin & Minniti 2000; Murray *et al.* 2004). Concessions and misinterpretations of the rules were in fact quite common (Patrick 2016: 31), and in many cases, monastic diet was comparable to a high-status diet, both in terms of quality and quantity of food consumed (Harvey 1993: 34).

In Iberia, we cannot yet confirm that monks and nuns were eating more fish than lay Christians. Available evidence until now suggests that fish was scarcely consumed by medieval Iberian people in general, although fish remains seem to be more common in urban and high-status sites, rather than in rural settlements (González Gómez de Agüero 2014; Grau-Sologestoa 2015; Roselló Izquierdo *et al*. 2021). Analyses of dietary stable isotopes do not show any significant difference in the intake of fish between different religious groups (Alexander *et al.* 2015), but have shown an increase in the consumption of fish through time, regardless of religion (Toso 2018; Toso *et al.* 2021). We can suggest, however, according to the evidence available so far, that the diet of (late) medieval monks and nuns in Iberia was quite varied, including a wide range of fish and birds (e.g., Moreno-García & Detry 2010; Lloveras *et al.* 2022), but also some species that are

rarely found in medieval Iberia, such as turtles (Bernáldez Sánchez & Bazo Carretero 2013), possibly placing them closer to high-status groups, which tend to eat a wide range of food (Grau-Sologestoa 2017).

This is not the only example of medieval Christians not following dietary restrictions imposed by their faith. As mentioned before, since the 8th century AD, the consumption of horse meat was forbidden through papal bull. In line with zooarchaeological evidence from elsewhere in Europe (Poole 2013), Iberian data suggest that hyppophagy might have continued to be practiced during the Middle Ages, even if horse meat was only consumed occasionally (Grau-Sologestoa 2015: 134, 135).

The presence of Christian communities under Islamic rule has been identified through zooarchaeological research. At the site of Cercadilla, in Cordoba (García-García *et al.* 2021b), an increase of the proportion of pig remains in the High and Late Middle Ages was documented, clearly making the site an outlier amongst other settlements located in the area under Islamic rule. Moreover, biometric data and other zooarchaeological data suggest that both domestic pigs and wild boars were consumed at Cercadilla. Also, a perforated right shell of a scallop was found in a context dated to the 12th century AD, suggesting the presence of a person who had completed the pilgrimage to Santiago de Compostela, certainly a Christian. This assemblage proves, contrary to traditional beliefs, that Andalusian Christians did not disappear as a consequence of forced conversion or emigration after the Islamic conquest.

DISCUSSION

This paper has examined the available zooarchaeological evidence for the three main religious groups that existed in Iberia during the Middle Ages: Christians, Muslims, and Jews. In fact, archaeological faunal remains have proven to be one of the main strands of evidence that allows to infer which of these three groups produced these assemblages. It is indeed possible to recognise specific groups by looking for certain food taboos in the zooarchaeological record: the presence or absence of certain species, and carcass processing patterns are the main indicators.

Pig remains are central for this. As we have seen, proportions (when compared to cattle and sheep/goat) around 20% are the norm for Christian sites, while they are scarce (*c.* 5%) in Islamic sites, and very rarely found (0-2%) in Jewish assemblages. Although pig had many negative connotations for medieval Christianity (i.e. Ervynck 2004), it had strong links to Rome (especially as viewed by Jews living in the Roman Empire; Rosenblum 2010a, b), and it became a way for Christians to understand and define their own religion (e.g., Kreiner 2020: 159-203). This animal was indeed given an important symbolic role by people of the three religions (e.g., Shachar 1974; Fabre-Vassas 1997; Har-Peled 2016) and, as we have seen for medieval Iberia, its remains were used in ways of publicly undermining or insulting one another, even by people of the same faith. Dietary conflicts also occurred between people of the different religions in medieval Iberia (Resnick 2011).

Permanent food taboos like those of Muslim and Jewish communities are more easily recognised than the Christian temporary food restrictions. However, more zooarchaeological work is needed on assemblages recovered in ecclesiastical sites, which would provide exceptional evidence to contribute to our understanding of medieval monastic diets and economies.

Despite the huge potential of zooarchaeology and the recent spurt of interest in medieval environmental archaeology in the Iberian Peninsula, this discipline encounters some difficulties and limitations for recognising cultural and religious groups. First of all, this is more difficult to do with minorities; for instance, Jewish foodways might be confused with Islamic ones. But also, there were Christians living under Islamic rule, as well as Muslims living in Christian kingdoms. To complicate the picture even more, there were also groups of converted people who might have kept their old culinary traditions (e.g., García-García *et al.* 2021a). Only a careful excavation, recovery and documentation of the faunal assemblages, necessarily accompanied by a thorough zooarchaeological and taphonomic analysis of the remains, would allow us to recognise food refuse of these minorities. In this sense, it is necessary to mention that there are some limitations in relation to the way that most archaeological field work is carried out both in Spain and Portugal. Regrettably, many archaeological excavations of medieval chronology are still not sieved, certainly affecting the optimal recovery of faunal remains, notably of fish and bird bones which, as we have seen, might be important markers of socio-cultural status. Moreover, there are visibility problems related to waste management practices at urban settlements, from which the majority of the medieval faunal assemblages come from; oftentimes, faunal remains are not recovered from "closed" contexts produced by a single household, but rather, they are a mixture of refuse from varied origins.

We should also keep in mind that there might have been exceptions to the established, institutional religious norms, with ritualistic or symbolic practices that were non-normative, and these might be visible, albeit rare, in the archaeological record (e.g., Grau-Sologestoa 2018). After all, medieval religion was (as it is nowadays) a flexible process of re-elaboration and negotiation, characterised by syncretic tendencies, the co-existence of different liturgies, and popular traditions adapted to local contexts (e.g., Gurevich 1988; Geertz 1993; Gilchrist 2012).

It is also worth noticing that all the existing literature has focused on researching the three main socio-cultural and ethno-religious groups that have been discussed in this paper. Other minority groups, like the Roma, who are thought to have arrived to the Iberian Peninsula in the 15th century AD (Martínez San Pedro 2008), have been widely neglected (although this problem is not exclusive to the Iberian Peninsula, see for instance Bánffy 2013).

CONCLUSION

This paper, and most literature, discusses Christian, Muslim and Jewish medieval diets as three separate categories when, in fact, several other factors have played a key role in the construction of identities through foodways. Some of these factors are, for instance, social and economic differences, but also gender and age, as well as differences between branches of the same religion, or ethnical differences. For example, zooarchaeological literature on medieval and post-medieval Jewish diet, and ethnoarchaeological work on Jewish foodways are overwhelmingly about Ashkenazi Jews, while our knowledge of Sephardi Jews (which were the ones that lived in the Iberian Peninsula) on these specific topics is very poor. Can we assume that medieval Sephardi Jews prepared and consumed their meat in a similar way to how modern-day Ashkenazi Jews do it? Furthermore, did Muslim/Christian/Jewish women eat the same as Muslim/Christian/Jewish men? Did children eat the same as the adults? Did high-status people eat similar to low-status people? The answer to these interrogations is probably "no", but the truth is that we have just began to scratch the surface of what are surely complicated questions that are in the core of the construction of sociocultural identities in medieval Iberia. Zooarchaeology alone is unlikely to answer them; it is necessary to develop research projects that will tackle these issues from inter-disciplinary perspectives (for example, through the combination of zooarchaeological, material culture and isotopic analysis, as well as historical sources).

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