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**Socio-economic status and religious identity in medieval Iberia:
the zooarchaeological evidence**

Idoia Grau-Sologestoa

University of Sheffield and University of the Basque Country

Personal address: 160 Stretford Road, M15 5JH, Manchester (UK)

e-mail: idoia_grau@hotmail.com

1 **Abstract**

2 This paper synthesizes faunal data from medieval archaeological sites in the Iberian Peninsula,
3 aiming to identify zooarchaeological evidence that can improve our understanding of socio-
4 economic status and cultural identities. The main zooarchaeological indicators for social
5 differentiation are explored: food procurement and cuisine (taking into account different types
6 of sites -high status, urban and rural), and different socio-political systems (Islamic and
7 Christian regions), from a diachronic perspective.

8 **Keywords:** fauna, diet, hunting, Middle Ages, Christian, Islamic, Spain

9 **1. Introduction**

10 The Iberian Peninsula was a cultural melting pot in the medieval period (broadly, between the
11 6th and the 15th centuries), not only because it was a highly hierarchical complex society, but
12 also because three main faiths intermingled there: Christianity, Islamism and Judaism co-existed
13 in Iberia for most of the Middle Ages. Studying how this complex identities were constructed
14 and negotiated in medieval Iberia is of central interest, but also very challenging. Human-animal
15 relationships in all their forms can be very revealing about identity. How animals were engaged
16 in life, attitudes to their death, meat processing and redistribution, cooking and animal
17 consumption are all aspects that signal different cultural attitudes and belief systems, including
18 social and economic differentiation (i.e. Pluskowski et al. 2010; Arbuckle & McCarty 2014;
19 Fagan 2015). All these are areas that can be explored by zooarchaeology. In this paper,
20 zooarchaeological evidence from the medieval Iberian Peninsula is examined in order to
21 understand different broad social, economic and religious identities, considering two main
22 strands of evidence: what people ate and how they procured food.

23 The potential of zooarchaeological evidence for the identification of social hierarchies and
24 social dynamics is a topic that has received attention by many scholars. There are three main
25 areas that have been tackled for the study of the Middle Ages: food as a way of reflecting social
26 status and defining social and cultural boundaries (Thomas 2007; Curet & Pestle 2010; Holmes

27 2015), the definition of what constitutes luxury food (Ervynck et al. 2003; Van der Veen 2003),
28 and feasting and communal celebrations (McCormick 2002). Food systems are in fact one of the
29 main ways of social differentiation and have therefore been analyzed by anthropologists,
30 economic historians and archaeologists (i.e. Lev-Tov & DeFrance 2010, DeFrance 2009, Twiss
31 2007 and 2012) and, in the last two decades, a way of understanding foodways as complex
32 systems composed of aspects such as production, preparation, distribution, consumption and
33 disposal has become widespread (Woolgar 2010). This new view has facilitated the
34 development of new research questions; among others, social and cultural differentiation is
35 perhaps the most important (Woolgar 2010; Ashby 2002), as “eating is both a social experience
36 and an activity that is socially divisive and socially indicative” (Grant 2002:17).

37 Food systems are directly related to identity (Twiss 2007) and are therefore a particularly
38 interesting topic to investigate archaeologically. Identity is here taken as a very broad concept
39 meaning the distinction of different population groups among others; and it is understood as a
40 multidimensional phenomenon (cultural, religious, economic, gender, etc.) (Twiss 2007: 2).

41 Most research dealing with these topics make the assumption that differences in diet and/or food
42 activities correspond to different social groups, however, "this simple equation is complicated
43 by the simultaneous relevance of multiple axes of social variation (e.g., gender and economics
44 and religion), by individuals' and groups' strategic manipulation of foodways, and by
45 diachronic change" (Twiss 2012). In fact, class-based dietary choices vary slightly from one
46 time and place to other (DeFrance 2009) and, therefore, zooarchaeological markers for social
47 differentiation are situational and shifting. Although presumed social markers may not apply to
48 different areas, certain markers are sufficiently general to be applied to a variety of cultural
49 contexts, both geographically and chronologically. For instance, meat-eating tends to have a
50 greater social significance than the consumption of vegetables (Grant 2002: 17) and, therefore,
51 archaeological faunal remains seem to be particularly well suited to the analysis of social
52 differences.

53 Diet has received a great deal of attention from Spanish medievalists who have examined this
54 topic through historical written sources (i.e. López Ojeda 2011). However, the use of these
55 documents for exploring socio-economic status and cultural identities is problematic. For
56 example, groups with lower socio-economic status are rarely represented and what and how
57 people ate in the past were often treated as anecdotes of daily life.. Available documents are
58 less numerous and less precise for the beginning of the medieval period. Also, in the medieval
59 context, the archaeologists' frequent lack of awareness of the written sources has been
60 highlighted (Quirós 2013).

61 For understanding social complexity, medieval archaeology in Spain has traditionally relied on
62 material culture (such as grave goods, fine pottery, etc.). In the last two decades, Spanish

63 medieval archaeology has experienced a remarkable development, mainly thanks to the
64 adoption of new approaches that had traditionally been used in prehistoric archaeology, such as
65 isotopic analysis (Alexander et al. 2015; Quirós 2013; Quirós et al. 2012). Among other
66 disciplines, zooarchaeology has been greatly developed; however, most works are case-studies
67 and synthesizing works are still rare. Some work has dealt with the possibility of identifying
68 certain social groups in the Spanish medieval zooarchaeological record. The attempt has mainly
69 relied on the comparison of different religious identities, such as Christian and Islamic (Morales
70 et al. 2011) or Christian and Jewish (Valenzuela et al. 2014). The possibility of identifying
71 certain socio-economic groups (wealthy/poor or religious observants), where foodways may
72 have played an important role, remains, however, largely unexplored. We now have a
73 remarkable amount of medieval faunal assemblages which have been studied. In this paper, for
74 the first time, the possible markers for the identification of both socio-economic status and
75 religious identity in the Iberian Peninsula during the Middle Ages (broadly, between the 6th and
76 the 15th centuries) are explored through a review of the zooarchaeological evidence. The major
77 aim of this work is to highlight the main patterns in order to contribute to the discussion over
78 issues of status, identities, hierarchies and inequalities during the Middle Ages.

79 **2. Materials and methods**

80 This account considers published and unpublished zooarchaeological data, taking into account
81 Iberian archaeological sites with well dated medieval faunal assemblages. Their location is
82 shown in Figure 1. Two different types of information were recorded: NISP (Number of
83 Identified Specimens)¹ of the main domesticates (cattle, sheep/goat and pig) and the
84 presence/absence of wild taxa.² These data are available in the form of tables in the on-line
85 supplementary materials: NISP is shown in Table S1, with the list of assemblages where more
86 than 100 NISP are reported; information about wild taxa is shown in Tables S2 (mammals) and
87 S3 (birds other than chicken). In all tables, the chronology of the site is shown, and the
88 categories for type of site (rural, urban or castle) are used broadly and are based on the
89 archaeologists' interpretation of each site, in order to identify general trends. Moreover, notes
90 about butchery and ageing were taken, where available. In order to carry out this analysis from a
91 diachronic perspective, data have been grouped in three main chronological periods: Early
92 Middle Ages (6th-10th c.), High Middle Ages (11th-12th c.) and Late Middle Ages (13th-15th c.).

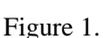
¹The methods for calculating the NISP may have differed between authors, and therefore we suggest checking the original publications for details on the methodology.

² Fish have not been recorded due to problems related to recovery techniques and to the patchy data available.

93 The bibliographic references for these sites are shown also provided in the supplementary
94 materials.

95 In the tables, the categories for type of site (rural, urban or castle) have been adopted in a broad
96 sense based on the archaeologists' interpretation of each sit. Also, the sites have been classified
97 as Christian or Islamic following more a political division than an actual religious one: by
98 Christian we mean sites that were under the control of a feudal kingdom and by Islamic we refer
99 to sites that were under the territory controlled by the Muslim state. However, it must be noticed
100 that this does not necessarily mean that (all) population within a given site was Christian or
101 Muslim. We know, for instance, that there were important Christian and Jewish minorities
102 living in sites under Islamic rule, and Muslim and Jewish minorities in settlements under
103 Christian rule (Meyerson & English 2000).

104 In total, data have been gathered for 60 archaeological sites and 85 period-assemblages with
105 more than 100 NISP. 53 sites and 62 period-assemblages have provided remains of wild
106 mammals, while birds were reported only in 36 sites and 40 period-assemblages.

107  Figure 1.

108 **3. Results**

109 Although much variation occurs between earlier and later medieval sites, between urban and
110 rural sites, and between sites of different social status, some patterns emerge from the analysis
111 that we present here. Domesticates predominate in every medieval faunal assemblage in the
112 Iberian Peninsula, though species proportions vary significantly between different sites. Wild
113 species are rare and only appear at specific sites. These may constitute trends related to the
114 social status or the cultural identities of the inhabitants of the site. For this reason, in the
115 following sections, two of the main potential zooarchaeological markers for socio-economic and
116 cultural differentiation will be discussed: hunting evidence and meat consumption.

117 3.1. Food procurement - hunting

118 In Figures 2 and 3 the number of wild mammal taxa and birds (respectively) per number of sites
119 are illustrated. Available evidence³ suggests that wild animals constituted a very marginal
120 contribution to all faunal assemblages and the most common species are always the red deer, the
121 rabbit and the goose. In general, there is no visible association of a particular species to a
122 particular type of site, but some patterns emerge regarding the diversity of species. The

³The complete list of sites used for this analysis is offered as supplementary on-line material; Table S2 provides the list of sites used to assess the presence or absence of wild mammals and Table S3, of birds other than chicken.

123 emerging pattern is different for mammals and birds. It seems that the diversity of wild
124 mammals tends to be greater in Islamic than Christian sites. The diversity of birds is greater in
125 both Christian and Islamic urban settlements, and specially high in Islamic towns, such as
126 Silves, Santarém and Beja.

127 Figure 2.

128 Figure 3.

129 Peasants had marginal access to forest resources, as some wild mammals (and less often, birds)
130 are found in most rural sites. High status social groups consumed wild mammals and birds more
131 often, and had access to a wider range of species. At peasant sites such as El Pelicano, La
132 Indiana or Zornoztegi, red deer and rabbit are the most common (and often the only) wild
133 mammals. These two species are the predominant wild resources at high status sites too, but
134 other wild mammals are also found: for example, remains of Spanish ibex (*Capra pyrenaica*)
135 were found in the castles of Aitzorrotz, Ambra, Petrer and La Mola. Other wild species
136 sporadically found at high status sites include roe deer (*Capreolus capreolus*) (the castles of
137 Aitzorrotz and Peñaferruz), wild boar (*Sus scrofa*) (Aitzorrotz, Desolado de Rada or El Pelicano
138 4) and badger (*Meles meles*) (the castles of Albarracín and Ambra).

139 Further remains of wild mammals include various fragments of cetaceans that have been
140 reported at La Solana, Santarém, the castle of Paderne, Ribat de Arrifana and Silves. Dolphin
141 bones were retrieved at medieval Pontevedra (López 2012: 368-369) and a whale rib at
142 medieval Górliz (pers. comm. J.A. Quirós). With the exception of the latter, the association
143 between cetacean remains and high status sites seems clear. Moreover, the importance of water
144 resources in medieval diet in Spain remains unclear from a zooarchaeological perspective: fish
145 remains have not been included in this review, due to the scarcity of available evidence. This is
146 due to various factors including the paucity of specialists and the rarity of sieved medieval
147 faunal assemblages in Spain.

148 Regarding birds, the most common species are goose (*Anser*) (Peñaferruz, Estavillo or Silves)
149 and partridge (*Alectoris*) (Estavillo, La Torrecilla or La Solana), but other species also occur.
150 Archaeological remains of raptors are fairly scarce, and include evidence uncovered from early
151 medieval contexts at Buzanca (an articulated female goshawk -*Accipiter gentilis*) and at
152 Begastri (a tibiotarsus of the same species) (Llorente et al. 2010). Other remains of raptors have
153 been found in later contexts in the Basque Country and include golden eagle (*Aquila*
154 *chrysaetos*) at late medieval Desolado de Rada and the castle of Aitzorrotz, and black kite
155 (*Milvus migrans*) dated to the 15th-16th centuries at Clarisas (Salvatierra-Agurain). Of these,
156 however, only the articulated female goshawk retrieved at Buzanca provides a strong indication
157 of falconry.

158 Remains of terrestrial chelonians have been reported from a number of sites, such as Prado de
159 los Galápagos, La Huelga, El Pelicano 9, Besalú or Paderne. This type of remains have not
160 received much attention until now and their number is still insufficient to infer anything about
161 their consumption.

162 The presence of wild animals is not the only possible indicator of high social status. In the
163 following section, other dietary markers for socio-economic and cultural differentiation are
164 examined.

165 3.2. Cuisine - Meat consumption

166 In the following graphs (Figures 4 to 8), the proportions (by NISP) of the main domesticates are
167 examined. The chronological divisions made are as follows: Early Middle Ages (6th-10th
168 centuries AD), High Middle Ages (11th-12th centuries AD) and Late Middle Ages (13th-15th
169 centuries AD).

170 In Figure 4, the relative proportion of sheep/goat compared to cattle and pig is shown. The most
171 frequent taxon in most sites is sheep/goat. These animals constituted a valuable resource,
172 especially in rural settlements. They provided wool and milk during their life and, once they
173 were old, they were slaughtered and consumed. During the Early and High Middle Ages, this
174 taxon was more frequent in urban areas. During the Late Middle Ages, sheep/goat reached
175 similar proportions at the three types of sites. A possible interpretation of the generalized
176 importance of sheep/goat is related to the importance that sheep/goat (but especially sheep)
177 animal husbandry acquired in the Iberian Peninsula for wool production and exportation.

178 Figure 4

179 In Figure 5, the relative proportion of cattle compared to other domesticates is shown. In most
180 sites cattle is the second most frequent taxon. During the Early and High Middle Ages, it
181 appears to be especially common in rural sites, where it was mainly used because of its traction
182 power, for ploughing. We can observe, however, a progressive increase of cattle remains in
183 urban sites during the Middle Ages, where beef probably contributed more to the diet than in
184 rural settlements.

185 Figure 5

186 A comparison of the relative proportions of pig remains with cattle and sheep/goat from a
187 number of medieval sites from the Iberian Peninsula (excluding Islamic sites) (Figure 6), shows
188 that the consumption of pork differed substantially between the different types of sites and
189 through time. However, the proportion of pig in rural and urban sites remained low (in
190 comparison with other domesticates) throughout the Middle Ages. The consumption of pig was
191 higher in rural sites than in urban settlements during all the medieval period. In high social
192 status sites, such as castles, the consumption of pig was especially high during the High Middle

193 Ages, when it can really be considered a clear social status marker. In the Iberian Peninsula, the
194 consumption of pig was not a clear status social marker during the Early and Late Middle Ages
195 - as it is visible in Figure 6, the proportion of pig in castles is not remarkably higher than in rural
196 sites. It is also clear that the consumption of pig was not a characteristic of urban diets during all
197 the Middle Ages.

198 Figure 6

199 When comparing the relative frequencies of the main domestic taxa, significant differences
200 between Islamic and Christian sites are expected, mainly due to the different dietary
201 requirements of each religion, but also due to differences in their respective economic systems.
202 In Figures 7 and 8, the relative frequencies of domesticates from a number of Islamic and
203 Christian sites dated to the High Middle Ages (Figure 7) and Late Middle Ages (Figure 8) is
204 compared. As mentioned in section 2, 'Islamic' and 'Christian' are not here used as religious
205 categories, but political instead. By 'Islamic' we mean those sites that belong to the Andalusian
206 state, while by 'Christian' we mean those settlements that were inside Christian Kingdoms in
207 the Iberian Peninsula; indeed, different religious communities were living in both regions.
208 During the High Middle Ages, the percentages of cattle and sheep/goat in rural sites, both
209 Christian and Islamic, are quite similar, probably as a consequence of productive diversification
210 and the importance of bovine traction in agriculture. Despite the much lower frequency of pig
211 remains on Islamic sites, the similar proportion of cattle and sheep/goats is perhaps reflecting
212 similar economic approaches among people of lower status, regardless of their religion. Suid
213 remains at Islamic settlements are marginal, especially in urban sites. Very high frequencies of
214 sheep/goat have been identified in Islamic urban areas and castles,

215 Figure 7

216 Figure 8

217 Some changes are visible when data from high and late medieval Islamic sites are compared.
218 The proportion of pig remains increased in Islamic sites over the later period. Also, the high
219 proportion of cattle remains in the only late medieval rural site (Alquería de Arge) indicates a
220 possible shift in animal husbandry practices towards a more specialized economy and intensive
221 farming in the Islamic rural economy.

222 4. Discussion

223 We have mentioned in section 1 the inherent difficulties of determining markers for social
224 differentiation that are valid for a variety of times and locations. However, a great deal of
225 zooarchaeological literature dealing with the Middle Ages has been dedicated to identifying
226 'high-status' patterns of consumption, and most authors agree that the main zooarchaeological
227 markers for identifying these are the following: a high number and variety of species, the

228 presence of game and wild birds, the presence of certain species that are related to high status by
229 regulations and/or fashions, the presence of rare and/or expensive species, a high proportion of
230 young animals, and a high proportion of selected meaty body parts (Crabtree 1990; Grant 2002;
231 Ashby 2002; Ervynck et al. 2003; Serjeantson 2009; Woolgar et al. 2009; Bartosiewicz et al.
232 2010; Kuehtreiber 2010; Rehazek & Marti-Graedel 2010; Kuechelmann, 2012: 88-89). The
233 relevance of these markers for the medieval Iberian Peninsula is examined in the following
234 sections.

235 4.1. Food procurement - hunting

236 In the early medieval period, hunting was an important economic activity for people of different
237 social status, as a supplementary meat contribution to diet. This has been explained as a
238 consequence of the generalization of the exploitation of uncultivated areas that followed the end
239 of the Roman Empire (Montanari 1993). In fact, the Visigothic law codes did not restrict
240 hunting to the nobility (Salisbury 1994). Progressively, hunting became one of the most
241 important elements for social differentiation of the secular elites (Ashby 2002; Sykes 2005;
242 Pluskowski 2010). This association has been found in most European countries, such as
243 England (Albarella & Davis 1996; Sykes 2004), Italy (De Venuto 2007), France (Clavel 2001),
244 Germany, Switzerland and Austria (Kühtreiber 2010) and Scandinavia (Andrén 1997). In the
245 Iberian Peninsula, some authors have suggested that this association between hunting and high
246 status did not occur until the Late Middle Ages, due to the progressive restriction to access
247 forest resources (Caro 2006). There were various reasons for this, such as the progressive
248 strength of social elites, the demographic increase, the extension of cultivated lands, and the
249 increasing control that cities had on their hinterlands (Montanari 1979), all of which limited the
250 access of peasantry to communal lands for hunting.

251 In zooarchaeology, hunting is normally examined indirectly -in many cases, it is not wild
252 animals themselves what were elements of high status, but the methods to procure them
253 (hunting and hawking, for instance). In any case, available evidence in the Iberian Peninsula
254 suggests that, although wild resources played a secondary role in the diet of all social groups,
255 they are more frequent and varied at those sites where there is evidence of social hierarchies. In
256 fact, it seems that wild mammals and birds did not substantially contribute to the diet of low
257 status communities in the medieval Iberian Peninsula (Grau 2014), where the main wild animals
258 were red deer and rabbit. It also seems that the diversity of wild mammals tends to be greater in
259 Islamic than Christian sites. This confirms a trend that had already been identified for early
260 Islamic sites (Morales et al. 2011). Our results also suggest that a high diversity of bird species
261 was present in urban settlements, both Islamic and Christian.

262 The earliest archaeological evidence for falconry in Europe is dated to late Roman times
263 (Prummel 1997), but the high frequency of wild birds in general, and birds of prey in particular,
264 during the 7th-9th centuries suggests that this practice became more widespread later on in
265 Britain and northern Europe (Murphy et al. 2000). The possession of birds of prey was not
266 restricted to high status social groups (Montanari 1979), but these were undoubtedly more likely
267 to be able to afford the costs of keeping and training a bird for hawking (Cherryson 2002).
268 Available evidence in the Iberian Peninsula is scarce so far, but it seems to support the trend
269 suggested for northern Europe: falconry arrived to the Iberian Peninsula in Visigothic times,
270 when it was also practiced in rural sites, and perhaps it became a more common practice in the
271 later centuries of the Middle Ages.

272 The occurrence of cetacean fragments in medieval contexts from the Iberian Peninsula has been
273 reported, but it has not received much attention yet. This is surprising, considering the
274 importance of the consumption of cetaceans as high status food (Gardiner 1997) in the medieval
275 period, as well as the importance that whale hunting and the commercialization of its products
276 had, especially during post-medieval times in the Basque Country (Azkárate et al. 1992). The
277 scarce evidence reported so far seems to confirm, in general, that the occurrence of cetaceans in
278 the faunal assemblages may be related to 'high status sites'.

279 4.2. Cuisine-meat consumption

280 4.2.1. Socio-economic differences in Christian settlements

281 Our analysis shows the central role of sheep and goat in the medieval economic system of the
282 Iberian Peninsula. In rural sites, these animals were of key importance for wool, milk, meat and
283 dung production (Davis 2002: 57-58). Moreover, their small size made them ideal for domestic
284 consumption, unlike cattle, that required special preservation techniques or communal
285 celebrations in order to use the large amount of meat produced by a single animal. It has also
286 been observed here that the overall frequencies of sheep increased through time, perhaps in
287 relation with the key role of wool production and trade in medieval Iberia. Our results also show
288 that the consumption of mutton was important in urban settlements.

289 The ratio between sheep and goat could potentially be an interesting indication of status or
290 wealth, as Ribeiro has suggested for modern Portugal (Ribeiro 1995: 404). The same author also
291 noted that the ratio is also linked to the nature of the terrain. However, the available evidence to
292 explore this subject in medieval times in Iberia is still too scarce. For now, it remains a topic
293 worthy of future exploration.

294 Regarding cattle remains, they seem to be specially common in rural sites, where they were of
295 key importance as traction animals for agricultural purposes and transport. We can also observe
296 a progressive increase of cattle remains in urban sites during the Middle Ages, where beef

297 probably contributed more to the diet than in rural settlements (as mentioned above, dealing
298 with the meat yield of a complete carcass of cattle in a rural settlement is complicated). This is
299 perhaps related to the concentration of wealth in medieval cities for the later centuries and to the
300 efficient redistribution system in urban areas (Albarella 2005).

301 The consumption of pig was higher in rural sites than in urban settlements during all the
302 medieval period. We must consider the possibility of pork being consumed as preserved food by
303 social groups of low social status (Albarella 2006: 86). However, it is also visible that pigs
304 predominate in high status sites dated to the High Middle Ages; nonetheless, it is quite likely
305 that this high frequency is not really reflecting an increased amount of pork consumption, but
306 rather a higher consumption of meat in general in this type of sites. The consumption of pork
307 decreased in later high status sites; perhaps the consumption of pork lost its social significance
308 for the aristocracy (Albarella 2006: 80) or the spread of enclosing techniques for raising pigs
309 probably contributed to keep these animals at a more domestic level (for example, being kept in
310 sties or fed with domestic refuse). It is also possible, however, that pork was never considered
311 high status food. In an economy based mainly on raising animals for meat, meat producing
312 livestock such as pigs would be proportionally better represented in the faunal assemblages
313 (Albarella & Davis 1996: 20). In this case, the high social status marker would be the
314 consumption of meat, but not specifically of pork and recent isotopic analysis confirmed this
315 idea: analysis of stable isotopes conducted on human and faunal remains from the Basque
316 Country has pointed out that the consumption of meat was a high social status marker, with a
317 higher protein consumption identified at elites sites (Quirós 2013), and a differential access to
318 proteins has also been seen between men and women at some of these sites (Quirós 2013: 28).
319 Evidence from other European regions, such as England (Grant 2002; Ashby 2002; Thomas
320 2007) and France (Durand & Leveau 2004), suggest that the consumption of pork could be
321 considered as a high social status marker during the Middle Ages. However, as mentioned
322 above, we suggest that the characteristic of high social status would be the consumption of meat
323 in general, and not of pork in particular, as meat producing animals, such as pig, would be more
324 frequent in meat producing economies. In words of Ashby (2002), “the rich could afford the
325 luxury of non-working livestock”, such as the pig, while peasants rarely kept livestock solely
326 for meat. Eating meat had, per se, a great social significance (Dyer 1983), and this has been
327 supported by isotopic analyses in Spain (Quirós 2013).

328 Other species of domestic animals may have been considered as high status food during the
329 Middle Ages. This is the case of rabbits, which were domesticated in French monasteries
330 around 600 AD (Carneiro et al. 2011). They were considered luxury foodstuffs in several
331 European regions (Ervynck et al. 2003). In the Iberian Peninsula, where they were native,
332 remains of rabbits (and lagomorphs in general) are generally not especially numerous, but are

333 present in most of the sites shown in our survey. It is also possible that some of these rabbits are
334 intrusions from later layers, due to their burrowing habits. Thus, it is not clear if the rabbit was
335 considered a high status foodstuff in the Iberian Peninsula during the Middle Ages.

336 Other two aspects related to meat consumption may be central to the study of identity through
337 zooarchaeological remains: the kill-off patterns and the butchery patterns (anatomical
338 distributions and cut marks). A detailed comparative analysis of butchery techniques and kill-off
339 patterns has not been made here, as data are not always available and methods vary between
340 authors. Butchery techniques and the predominance of certain anatomical parts can be useful
341 indicators of cultural differences, as it has been explored when comparing medieval Christian,
342 Muslim and Jewish populations from the Iberian Peninsula (Morales 1988; Valenzuela et al.
343 2014).

344 Moreover, the consumption of certain anatomical parts or cuts of meat can be an indicator of
345 socio-economic differentiation. However, particular patterns for the selection of certain
346 anatomical elements have not been pointed out in the literature.

347 Killing animals at a young age may be an indicator of high social status. The meat of young
348 animals is more tender, but its consumption also implies not very profitable animal husbandry
349 strategies. The use of different ageing techniques by Iberian zooarchaeologists, unfortunately,
350 does not allow to directly compare data from different sites. However, zooarchaeological
351 evidence shows that domesticates were killed at a younger age at some of the sites where there
352 is clear archaeological evidence of high social status. Domesticates were generally raised in
353 medieval sites in the Iberian Peninsula because of their value in providing secondary products
354 (traction, wool, milk), rather than for the consumption of their meat, although they were
355 consumed when they were no longer useful for this main purpose (Grau 2014).

356 4.2.2. Religious identity

357 Dietary differences are to be expected between different religious communities; as it is well
358 known, both Islam and Judaism have a strict dietary code (i.e. kosher, halal) that regulates what
359 people can, must not and should not eat (for example, pig), and therefore particular markers
360 could be expected in the zooarchaeological evidence, such as the lack of particular species (e.g.
361 absence of pig bones in Islamic and Jewish communities) or certain butchery practices (e.g.
362 absence of hind limbs in Jewish assemblages) (Armitage 1984; Insoll 1999; Morales et al. 2011;
363 Valenzuela et al. 2014). Jewish consumption patterns are beyond the scope of this paper:
364 zooarchaeologically they are difficult to identify, because they always constituted minorities
365 within broader communities of a different religion. But, differences in meat consumption
366 between settlements under Christian and Islamic rules have been analysed here.

367 Munde (2010) showed that there were no substantial dietary differences between Islamic and
368 Christian populations in the north-eastern and eastern Iberian Peninsula that she examined.
369 However, these results were only considering the bulk protein contribution to their diet, and not
370 more specific dissimilarities, while zooarchaeology can certainly contribute to clarify this
371 aspect, by offering species specific information.

372 Very similar economic patterns emerge in the zooarchaeological assemblages from rural sites,
373 regardless of their religious identity. This fact suggests that social and economical factors may
374 have played a more important role than religious factors in the consumption patterns among
375 rural communities.

376 The most significant difference is that related to the consumption of pork. Pigs always had a
377 marginal role in Islamic sites. However, a few number of suid remains are always found at these
378 settlements; it is possible that suid remains (or a percentage of them) belong in fact to wild
379 boars, which may be consumed according to Islamic religion (Morales et al. 2011). Perhaps
380 populations at rural sites and castles had greater access to forest resources and could consume
381 some wild boar. It is also possible that this small percentage of pork was consumed by
382 mozárabes (Christians that remained unconverted in Al-Andalus). In fact, biometrical analysis
383 carried out in the suid remains from Santarém proved that both pigs and wild boars were present
384 in the Islamic contexts (Davis 2006), and the same was suggested too for Silves (Davis et al.
385 2008). The increase of pig proportions in later Islamic periods shows an apparent relaxation on
386 the prohibition against pork consumption is shown by the greater proportion of suid remains in
387 Islamic sites of the later period. It could also reflect an increase of Christian population under
388 Islamic rule. However, it should also be noticed that the data derive from a small number of
389 sites. As such, these important questions are in need of further exploration.

390 The high frequencies of sheep/goat in Islamic urban areas and castles are probably related to the
391 great importance of mutton and lamb in the Muslim diet. Indeed, mutton and lamb are given a
392 high esteem in the Islamic world also nowadays (i.e. Khayat & Keatinge 1959).

393 Moreover, “luxury foods are also products derived from animals that are killed before their
394 optimal slaughter age (defined as the point in life in which the balance between the cumulative
395 costs of food input versus the value of meat weight gained has reached its optimum)” (Ervynck
396 et al. 2003: 433). A marked consumption of young animals, especially pigs, was considered a
397 characteristic of aristocratic diets. In Italian medieval castles, young domesticates and a wide
398 variety of wild resources have been recorded (Baker & Clark 1993). In early medieval France,
399 the consumption of suckling pork and lamb was considered a luxury (Durand & Leveau 2004).
400 Although the Iberian evidence is still scarce, it seems to point in the same direction.

401 **5. Conclusion**

402 Summing up, data from medieval Iberia suggest that the main zooarchaeological markers for
403 socio-economic differentiation were the following: the consumption of meat, the consumption
404 of young domesticates, and the consumption of a wide variety of food. Moreover, this review
405 has showed that the concept of aristocratic food probably changed throughout the medieval
406 period.

407 It has been noted that results from bulk carbon and nitrogen isotopic data can fall short on
408 enabling nuanced interpretations of faith differences in diet (Alexander et al. 2015). The
409 zooarchaeological data presented here, on the other hand, provides species specific information
410 that can shed further light on this issue. Both techniques or approaches have therefore a great
411 potential when used in combination. Our analysis suggest that there is in fact a significant
412 limited consumption of pork in Islamic settlements (perhaps substituted by mutton in Islamic
413 urban and high status sites, where sheep reaches very high proportions). However, this work has
414 also shown that internal socio-economical variability within populations of differing faith
415 exerted a great influence on the local diet, and therefore dietary differences cannot only be
416 interpreted from a cultural perspective.

417 This paper synthesizes published and unpublished faunal data from medieval archaeological
418 sites in the Iberian Peninsula, aiming to identify zooarchaeological evidence that can help
419 understanding socio-economic status and cultural identities. Such evidence is certainly partial
420 and incomplete and need to be considered together with documents and other archaeological
421 evidence. Nonetheless, there is now a remarkable body of zooarchaeological data enabling the
422 exploration of these important research topics. This paper has shown that dietary differences
423 cannot be explored merely on the basis of different religious identities; socio-economic status
424 also played a great role in foodways. Of course, variations occur, but it is the focus of this paper
425 to highlight the main trends in order to contribute to the increasing academic discussion over
426 issues of status, identities, hierarchies and inequalities during the Middle Ages.

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660

661 **Figure captions**

662 Figure 1. Location of the medieval sites mentioned in the text.

663

664 Figure 2. Number of medieval sites in the Iberian Peninsula with wild mammal taxa (from 0 to
665 7 taxa).

666

667 Figure 3. Number of medieval sites in the Iberian Peninsula with wild bird taxa (from 0 to
668 more than 7 taxa).

669

670 Figure 4. Average relative frequency (%) of **sheep/goat** NISP compared to cattle and pig in
671 various sites from the Iberian Peninsula (Islamic excluded). Only faunal assemblages larger
672 than 100 NISP (cattle+sheep/goat+pig) have been used. Inside the columns, number of sites.

673

674 Figure 5. Average relative frequency (%) of **cattle** NISP compared to pig and sheep/goat in
675 various sites from the Iberian Peninsula (Islamic excluded). Only faunal assemblages larger
676 than 100 NISP (cattle+sheep/goat+pig) have been used. Inside the columns, number of sites.

677

678 Figure 6. Average relative frequency (%) of **pig** NISP compared to cattle and sheep/goat in
679 various sites from the Iberian Peninsula (Islamic excluded). Only faunal assemblages larger
680 than 100 NISP (cattle+sheep/goat+pig) have been used. Inside the columns, number of sites.

681

682 Figure 7. Average relative frequency (%) of cattle, sheep/goat and pig NISP from various **high**
683 **medieval** sites from the Iberian Peninsula, comparing Islamic and Christian settlements. Only

684 faunal assemblages larger than 100 NISP (cattle+sheep/goat+pig) have been used. "N":
685 number of sites.

686

687 Figure 8. Average relative frequency (%) of cattle, sheep/goat and pig NISP from various **late**
688 **medieval** sites from the Iberian Peninsula, comparing Islamic and Christian settlements. Only
689 faunal assemblages larger than 100 NISP (cattle+sheep/goat+pig) have been used. "N":
690 number of sites.