To the West of Spanish Cantabria

The Palaeolithic Settlement of Galicia

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Chapter 5: Environment and Animal Resources in the Upper Pleistocene and Early Holocene of Northwest Iberia

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***Abstract**: Most soil types in modern Galicia (northwest Iberia) are not suitable for preserving organic material. However, in limestone areas in the eastern part of the region, some of the caves preserve faunal remains derived from human activity and also natural palaeontological deposits. This paper presents the information currently available for this geographical area, explaining the problems that still exist in this field of prehistoric research and the need to continue the archaeological work in this kind of environment.*

***Keywords**: Zooarchaeology, Archaeological sites, Palaeolithic, Mesolithic, Hunting, Northwest of the Iberian Peninsula*

***Resumen**: La mayoría de los suelos que encontramos en Galicia (Noroeste Ibérico) no son apropiados para la conservación del material orgánico. Sin embargo, en las áreas calizas de la región oriental, en algunas cuevas se encuentran restos faunísticos derivados de la actividad humana así como de depósitos paleontológicos. Este trabajo presenta la información disponible en la actualidad para esta área geográfica, explicando los problemas todavía existentes en este campo de la investigación prehistórica y la necesidad de continuar con los trabajos arqueológicos en este tipo de entornos.*

***Palabras clave**: Zooarqueología, yacimientos arqueológicos, Paleolítico, Mesolítico, Caza, Noroeste de la Península Ibérica.*

Introduction: Fossil Animal Remains in Northwest

Northwest Iberia is generally characterised by the conservation difficulties for bone remains, due to the rock types which produce an acidic pH (Grandal *et al*. 1997) and well-drained soils, causing the destruction of bone matter in a relatively short period of time. Some authors (Martínez Cortizas *et al*. 1993) have suggested that this period is equivalent, *sensu latu*, to about 3000 years. In our own experience, the destruction of this kind of organic matter can be much quicker, and few bone remains are over 2000 years old.

This limitation implies that only in very specific areas can be found faunal samples older than the aforementioned time, and among these areas, limestone outcrops are the most important. However, cave systems are affected by other factors that might impact directly on the potential faunal samples they may contain (Grandal *et al*. 1997). These factors are related to glaciation, which affected these sites to a varying extent, depending on their geographical location (altitude, proximity of Pleistocene glaciers, and so on).

In this context, little Zooarchaeological research has been carried out in the northwest until very recent times. The same is true of the field of Palaeontology, and Vidal Romaní's comment, made in the late 1970s, is sufficiently explicit, when he pointed out that information about Quaternary fauna at that time was based almost exclusively on isolated finds and/or remains collected out of any context (Vidal Romaní 1979), which means they are of little value.

With this situation in mind, and with no intention of being totally exhaustive, we are going to present the current state of zooarchaeological knowledge in the northwest of the Iberian Peninsula.

Finds of Non-Archaeological Fauna

As we have pointed out above, finds of fossil fauna, in contexts unrelated with human activity were, for a long time, rare and impossible to assign to any definite period, as they did not come from well-dated deposits. Some of these finds, however, are of considerable interest as they have remained until recently the only evidence of certain species in the region, and in some cases they are still the only known examples (Figure 1).

The first such case took place in the late 19th century, when six equid upper molars from the site of Los Baños (Carballo, A Coruña), in a very poor state of conservation, were deposited in the Natural Science Museum in Madrid. Alberdi (1982) classified them as belonging to *Equus hydruntinus*, based on a biometrical study.

Another classic find took place in 1961 in a quarry in Buxán (Lugo). This comprised two mammoth (*Elaphus*

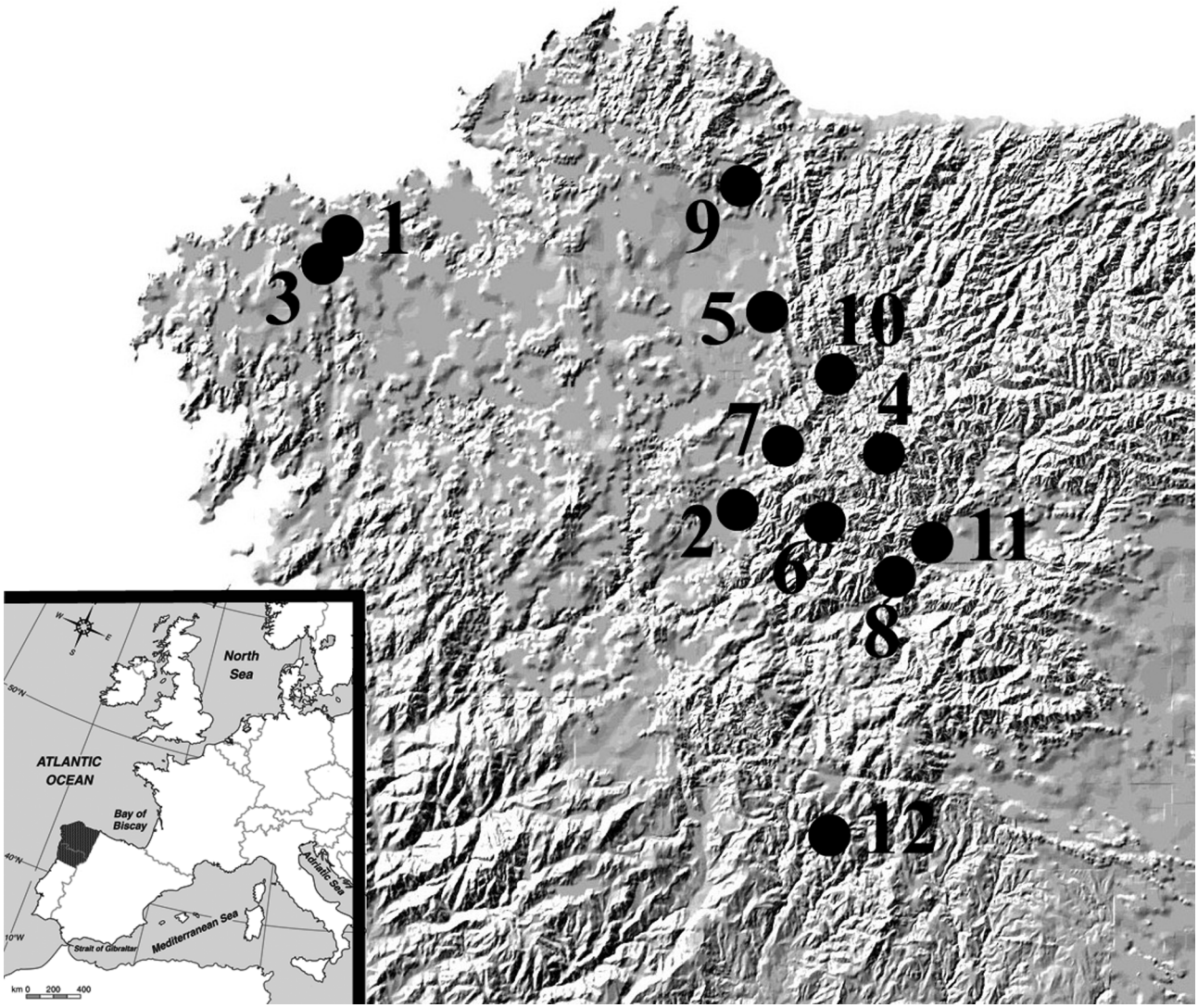

Figure 1: Location of the palaeontological sites: 1. Los Baños; 2. Buxán; 3. Braña Rubia; 4. Purruñal, Valdeabraira; 5. Praducelos; 6. Taro da Lastra, A Ceza; 7. Cancelo, Cova Eirós; 8. Pala da Zorra, Pala da Vella; 9. A Furada dos Cas; 10. Cova do Furco; 11. La Veiguiña; 12. Lorga de Dine.

primigenius) molars, a lower right and lower left, and other remains that could belong to the same animal: an incomplete vertebra, part of the vertebral body of another, an epiphysis fragment of a long bone, and several unidentified fragments (Torre Enciso 1962). To date, no more remains of this species, an indicator of cold climate phases, have been found in the northwest.

Henri Nonn (1966) made the first description of remains from the deposit at Braña Rubia (Coristanco, A Coruña): *Equus* teeth that were examined by Emiliano Aguirre and were thought to belong to an ancient species. The analysis of the clay and pollen in the deposit did not help to date them (Nonn 1966) and neither could they be associated with the quartz biface found in the same area, although on the surface. Vidal Romaní (1979) proposed an Eemian date for these teeth. Later, Alberdi (1982) undertook a new study: these were two upper teeth with different characteristics and therefore could only be ascribed generically to *Equus* sp. and dated within a wide period in the Upper Pleistocene. New studies made of the same deposit (Törnqvist *et al*. 1989) have shown that this does not seem to be older than 2500 BP, which would imply that these equid remains are much more recent than was originally thought.

Equally, many of the finds made in caves also suffer the same problems seen in the previous cases: the absence of a clearly-defined context, or the recovery of a very small sample, representing a single specimen. These are often the remains of bears. In Purruñal Cave, or Cova da Raposa (Pedrafita do Cebreiro, Lugo), a nearly complete skeleton of a large non-senile male adult *Ursus arctos* was assigned a probable Holocene chronology (Torres 1983). In Valdeabraira Cave, in the same municipality, the skull of a non-senile adult female cave bear was found (Torres 1983).

The remains recovered in Praducelos Cave (Suegos, Lugo) were also found outside any stratigraphic context. These

included remains of wild boar (*Sus scrofa*) (Golpe Posse and Vidal Romaní 1985), *Equus caballus* aff. *gallicus*, and a large bovid (Alberdi 1985). More recent studies have identified the later as bison (*Bison priscus*) (López González 2003).

Since the 1990s, the amount of information about palaeontological remains unrelated to anthropic activity has increased, as a result of research carried out within the framework of archaeological and palaeontological projects, and collaboration between researchers linked to Laxe Geological Laboratory and several speleological groups in Galicia, or due to the revision of old finds.

At Valdeabraira Cave, as well as the cave bear skull mentioned above, red deer and *Megaceros* remains have been cited (Grandal and Vidal 1991), although mention of the second has been omitted in later publications (Grandal *et al*. 1997).

The palaeontological assemblage at Linares Sur (Piedrafita, Lugo) formed part of the fill of a passage descending almost vertically, excavated during several seasons in 1994 and 1997. The presence of cave bear (439 remains), red deer (739), roe deer (9), horse (8), wild boar (4) and bison (2) has been documented. A full series of radiocarbon determinations have been obtained for this natural accumulation: eleven from red deer remains, of which seven were older than the limit for the method of 38,000 years BP, while another three were very near that limit: 37,865 ± 2070 BP (Ua-4808); 37,320 ± 1910 BP (Ua-4811) and 37,690 ± 1955 BP (Ua-4817). The last date, on antler, was quite different from the rest: 17,720 ± 185 BP (Ua-4594). Two determinations for *Ursus* remains were also obtained, one of which was older than the limit mentioned above and the other was of 35,220 ± 1440 BP (Ua-4593). Finally, attempts to date roe deer and bison remains were unsuccessful owing to the low collagen content in the samples (López González 2003).

Remains of cave bear and red deer have also been recovered at the caves of Taro da Lastra and A Ceza (Folgoso do Courel, Lugo) (Grandal and López 1998). At the latter site, bear remains were dated to 35,230 ± 1430 BP. Evidence of *Ursus spelaeus* has also been found at Cancelo Cave (Triacastela, Lugo) (Grandal and Vidal 1991) and above all, at Cova Eirós (Grandal 1993), where several seasons were devoted to recovering the remains. They have enabled a series of studies on the ethology of this species, and a radiocarbon determination for a bear bone produced a result of 24,090 ± 440 BP (Ua-4298).

The same species has been recorded at Pala da Zorra (Rubiá, Ourense) (Fernández 1993), a cave -now known as O Rebolal- where further remains have been found more recently (Grandal *et al*. 2006). Several determinations have been obtained: 30,455 ± 795 (Ua-24940), 27,970 ± 600 (Ua-24941), 22,915 ± 445 (Ua-24939) and 13,785 ± 110 (Ua-24252). The latter date has given rise to the suggestion that this species survived in the northwest after it had disappeared from other parts of Europe. However, the deposit raises many doubts, due both to its location and to the depositional characteristics, as the authors themselves point out in their study.

Finally, we can mention the fauna recovered in Level 3 at the site of Pala da Vella (Biobra, Ourense), a level where no evidence has been found of human activity (Fernández 2000; Fernández *et al*. 1996). Of the larger mammals, 22 of the 92 remains could be identified, belonging to the following species: *Equus ferus* (4 remains), *Cervus elaphus* (1), *Capra pyrenaica* (1), *Lepus granatensis* (1) and *Oryctolagus cuniculus* (15). The small-mammal assemblage was more significant, with the absence of typical Holocene immigrants, corresponding to xerothermal or Mediterranean conditions, and anthropogenic species, such as specimens from the *Mus* genus and species of *Crocidura*. In contrast, the assemblage included two characteristic Arvicolidae species in the Upper Pleistocene in northern Spain: *Microtus arvalis* and *Microtus oeconomus*. Few remains of birds were found in this layer, and mostly belong to rock-dwelling species (*Hirundo*/*Ptyonoprogne*) and are therefore not very representative. The presence of the alpine chough (*Pyrrhocorax graculus*) is of greater interest, and this bird is absent from the modern sedentary avifauna in Galicia.

Other sites that have been mentioned in connection with the supposed presence of ancient fauna are more dubious or can even be ruled out, such as the cases of A Furada dos Cas (Mondoñedo, Lugo) (Fernández 2000) or Cova do Furco (Becerreá, Lugo) (Fernández and Ramil 1995), as the remains that have been identified belong to domestic species.

Similar information is available for areas in the immediate surroundings of modern Galicia. One site that can be mentioned is La Veiguiña Cave (Toral de los Vados, León), which no longer exists, where remains of large bovid, horse, cervid and rhinoceros were collected in the mid-twentieth century (Fernández 2000). At Lorga de Dine (Vinhais, Bragança) the same species were found, as well as hyena, panther, cave lion and brown bear (Cardoso 1993). The human activity documented in this cave is much more recent than the age suggested by the faunal record, and is connected with Chalcolithic and Bronze Age burials (Bettencourt 2009).

The Archaeological Record in the Upper Palaeolithic

Only three archaeological sites are known in the northwest with occupations that can be dated in this period and for which information about fauna is available (Figure 2).

Cueva de A Valiña (Castroverde, Lugo)

Until recently, this was the only Pleistocene archaeological site that had been published in the northwest and which had yielded remains of fauna. A great deal of literature has

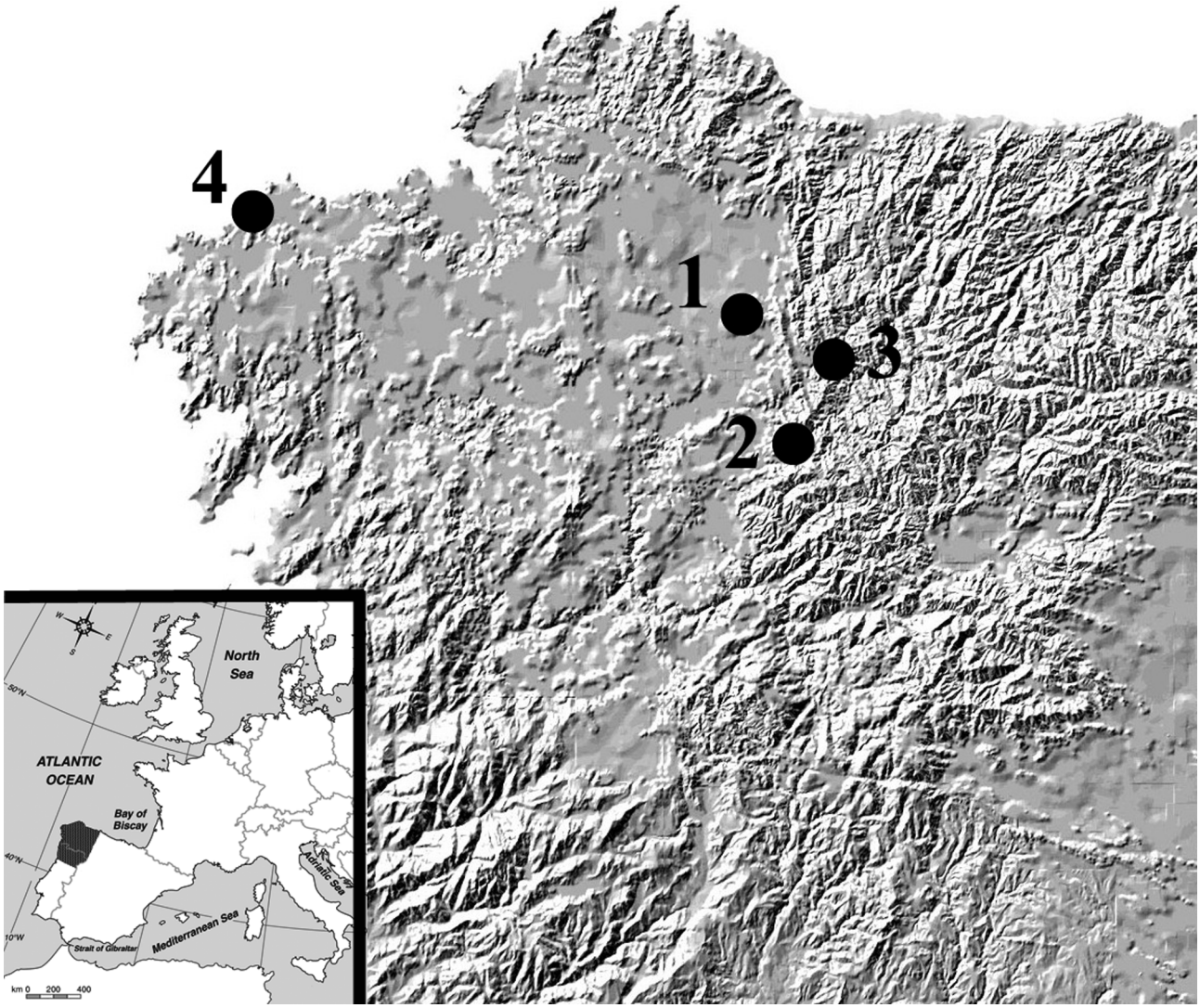

Figure 2: Location of the Upper Pleistocene and Early Holocene archaeological sites: 1. A Valiña; 2. Cova Eirós; 3. Valdavara; 4. Reiro.

been published on it, referring to different aspects of the excavations carried out in 1987, 1988 and 1992 and the reports made (e.g. Llana and Soto 1991; Llana *et al*. 1996), and also to the study of the osseous remains (Fernández 1991, 2000, 2006, 2010, among others). We shall therefore avoid repeating the exhaustive data about the fauna that has been studied and instead make an overall assessment of the results obtained to date.

The fauna collected within a stratigraphic context, therefore excluding that found during the working of the quarry in the mid-twentieth century (Vázquez Seijas 1965) or the pieces gathered from disturbed sediments (Fernández 2000), comes from two quite different areas: the actual entrance to the gallery that still exists, and a "stratigraphic profile" preserved on the opposite side to the gallery that has been blasted (Southern End).

The former of these is the area of the main archaeological excavation. The hypothesis we have put forward in different studies is that it is an ephemeral record in terms of human activity, with a radiocarbon determination of 31,600 ± 250 BP (GrA-3014) (Archaeological Level 1; Level IV in the stratigraphic sequence). Its attribution to any particular cultural period is difficult, as has been shown by a recent assessment of the lithic assemblage (Maíllo 2008), which concludes by stressing the scarce significance of the artefacts. However, the radiocarbon date suggests it corresponds to the Early Upper Palaeolithic, unless we propose that the Mousterian lasted longer than the chronological limits established for the rest of northern Iberia. In any case, the three spear points, found in the cave in the 1960s (Vázquez Seijas 1965), of which no equivalents have been recovered during the archaeological excavations, can hardly be attributed to this period (Fernández 2001), thus posing some interesting questions about possible human occupations in the cave. These are difficult to answer with the available data.

The underlying layer (Level V in the stratigraphic sequence) has yielded a very similar range of species as the previous level (Figure 3). There are also few differences from the

	LEVEL - IV					LEVEL - V				
	NR	%	MNI	W	%	NR	%	MNI	W	%
Stephanorhinus sp.	2	0.1	1	74	1.9					
Equus ferus	19	1.5	1	666	17.3	14	3.9	2	1431	21.8
Bos / Bison	7	0.5	1	460	11.9	10	2.8	2	3386	51.5
Cervus elaphus	47	3.6	3	1127	29.2	12	3.3	3	158	2.4
Capreolus capreolus	33	2.5	4	78	2.0	4	1.1	1	11	0.2
Sus scrofa	6	0.5	2	68	1.8	2	0.5	1	11	0.2
Ursus sp.	26	2.0	2	286	7.4	30	8.3	3	1120	17.0
Canis lupus	4	0.3	2	11	0.3	2	0.5	1	4	
Vulpes vulpes	49	3.8	8	99	2.6	19	5.3	4	12	0.2
Crocuta crocuta	28	2.2	3	719	18.6	17	4.7	3	373	5.7
Meles meles	3	0.2	1	7	0.2	2	0.5	1	2	
Martes sp.	8	0.6	1	5	0.1	2	0.5	1	1	
Mustela putorius	2	0.2	1	1						
Marmota marmota	3	0.2	1	6	0.1	1	0.3	1	3	
Castor fiber	1	0.1	1	3	0.1					
Hystrix sp.	1	0.1	1	2						
Lepus granatensis	39	3.0	3	32	0.8					
Oryctolagus cuniculus	1019	78.6	41	216	5.6	248	68.3	10	61	0.9
Identified	***1297***	***15.8***		***3860***	***50.7***	***363***	***11.3***		***6573***	***66.2***
Non identified	6908	84.2		3757	49.3	2839	88.7		3361	33.8
TOTAL	***8205***			***7617***		***3202***			***9934***	

Figure 3: Faunal remains from A Valiña Cave. Levels IV and V of the Northern excavation area (NR: Number of remains; MNI: Minimal Number of Individuals; W: Weight, in grams).

chronological point of view, as it has been dated to 31,730 +2880/-2110 BP (GrN-20833). In this case, however, no evidence of anthropic activity was found.

In both levels, a wide range of species was reported, with ungulates, rodents, lagomorphs and carnivores. However, it seems that the human contribution to this accumulation has been small. The taphonomic study of the remains has succeeded in showing a great deal of activity by carnivores (Fernández 2010), above all hyenas, whose presence is also revealed by the numerous coprolites (Fernández *et al*. 1995). Other species may also have taken part in the formation of the assemblage, such as porcupine (*Hystrix*) and fox (whose marks have been seen on some lagomorph remains). Some birds of prey may also have contributed, and their feeding habits might explain, at least in part, the large amount of small mammal remains in the deposit.

The faunal assemblages, of both large and small mammals, point towards wet temperate conditions at the time the deposit was formed, as well as some quite different biotopes, with open prairie-type vegetation as well as mixed forest and wetland (Fernández *et al*. 1993; Fernández 2000). In this respect, as regards the larger mammals, the association of roe deer (*Capreolus capreolus*) and wild boar (*Sus scrofa*) is significant, together with the large rodents, European beaver (*Castor fiber*) and porcupine (*Hystrix* sp.). All these species are traditionally linked with environmental conditions that are considered temperate, or at least, not cold. However, some small mammals, such as *Microtus oeconomus* and *Microtus nivalis* (Fernández *et al*. 1993; Peña and Rey 1995), are usually regarded as indicators of a harsher, colder and wetter climate, and *Marmota marmota* is associated with colder conditions than *Hystrix* (Sesé 1994). In conclusion, we should take into account that *Hystrix* and *Marmota* appear in minimal amounts, and the *Microtus oeconomus* and *Microtus nivalis* remains make up less than 2.0% of the total microfauna. It is therefore possible that their scarcity reflects the existence of borderline conditions as regards their optimal environmental needs (Fernández *et al*. 1993).

Species typical of open grassy (prairie) environments and suffruticose formations are seen to dominate (*Equus ferus*, *Stephanorhinus* sp., *Oryctolagus cuniculus*, *Talpa europaea*, *Pitymys lusitanicus*, etc.) although clear indicators of woodland areas (e.g. *Glis glis*, *Sorex minutus* and *Sus scrofa*) have also been recorded, together with a small group associated with wetlands (*Castor fiber*, *Galemys pyrenaicus*, *Arvicola sapidus*) (Fernández *et al*. 1993; Ramil Rego and Fernández 1996).

The pollen record in Level IV of the sequence (Ramil Rego 1993) is characterised by the predominance of arboreal taxa over herbaceous species and shrubs. *Pinus tp. sylvestris* is the dominant taxon, accompanied by smaller proportions of *Abies*, *Juniperus* and a wide range of deciduous trees: *Quercus*, *Corylus*, *Betula*, *Alnus*, *Castanea* and *Ulmus*. Among the non-arboreal species, the *Poaceae* dominate, with a presence of *Daphne*, *Ericaceae* and fern spores.

	LEVEL - IV					LEVEL – V	
	NR	**%**	**MNI**	**W**	**%**	**NR**	**%**
Equus ferus	6	2.2	1	104	14.1		
Bos / Bison	1	0.4	1	32	4.4		
Cervus elaphus	9	3.3	2	471	64.1		
Capreolus capreolus	4	1.4	2	32	4.4		
Ursus arctos / spelaeus	2	0.7	1	5	0.7		
Canis lupus	1	0.4	1	1	0.1		
Vulpes vulpes	13	4.8	2	13	1.8		
Meles meles	8	2.9	1	6	0.8	12	18.5
Martes sp.	3	1.1	2	1	0.1		
Lepus granatensis	13	4.8	2	5	0.7		
Oryctolagus cuniculus	213	78.0	8	65	8.8	53	81.5
Identified	**273**	**25.8**		**735**	**72.1**	**65**	**90.3**
Non identified	785	74.2		284	27.9	7	9.7
TOTAL	***1058***			***1019***		***72***	

Figure 4: Faunal remains from A Valiña Cave. Levels IV and V of the Southern End (NR: Number of remains; MNI: Minimal Number of Individuals; W: Weight, in grams).

The predominance of *Pinus* and the existence of *Abies* and *Juniperus* suggest harsher conditions than at the present. However, the great diversity among the deciduous species and mesophilic taxa (*Castanea*, *Ulmus*, *Daphne*) indicate quite temperate environmental conditions (Fernández 2000; Fernández *et al*. 1993; Ramil Rego and Fernández 1996).

We should naturally consider the possibility that northwest Iberia could have acted as a refugium for species during colder phases of the last glaciation. However, the results of palaeo-environmental studies carried out in this area show a moment of general climatic improvement during the Würm Interstadial (Isotope Stage 3), chronologically located between 58 and 28 ky BP. This period is characterised by climatic fluctuations, alternating relatively warm phases with colder ones, reflected in stages when deciduous forests expanded and times of more open vegetation (Gómez-Orellana *et al*. 2007; Ramil Rego *et al*. 2009). It is therefore not unlikely that the fauna sample at A Valiña is associated with a warmer period within the environmental variations during this interstadial.

From the other part of the cave that has been studied, as described above, the Southern End, come bone assemblages from two levels (Figure 4). A small number of bones were collected in Level IV but these seem to be the consequence of badger activity, which may have even occurred after the level itself was deposited. This was altered further by limestone quarrying in the last century.

The largest bone assemblage was found in the lower Level V. This has been correlated with Level IV of the sequence in the other gallery (Llana Rodríguez *et al*. 1996), which is problematic from our point of view. On one hand there are differences in the palaeontological record, particularly the inexistence of hyena remains in the sample at the Southern End. On the other, the radiocarbon determinations that have been obtained do not support this supposed synchronicity: 16,420 ± 70 (GrN-20836) and 21,870 +780/-710 (GrN-20835) (Ramil Rego and Fernández 1995).

The bone assemblage in this Level IV seems to be dominated by lagomorphs and carnivores. Ungulates are represented by several cervid remains (red deer and roe deer), equid, and just one large bovid bone. Any environmental interpretation, using these data, would be unreliable. In addition, no pollen analysis or study of the microfauna is available.

Cova Eirós (Triacastela, Lugo)

This site was known mainly for its deposit of cave bear remains (*Ursus spelaeus*) (Grandal 1993). The first archaeological trial excavation in the cave entrance, in 1993, recovered a significant number of lithic artefacts and bones, which were attributed to the Middle Palaeolithic and Early Upper Palaeolithic, although the only publication is not very clarifying (Nogueira 1997). New work has been carried out in the cave since 2008 (Fábregas *et al*. 2009, 2010), and therefore only interim results are available.

Levels 2 and 3 were formed by occupations during the Pleistocene. The oldest (Level 3) has been attributed to the Middle Palaeolithic. A preliminary study of the fauna has shown the presence of different ungulate species, above all red deer (*Cervus elaphus*), although roe deer, chamois, rhinoceros and possibly a large bovid, are also represented. Carnivores have been identified, predominating ursid remains, both brown bear (*Ursus arctus*) and above all *Ursus spelaeus*; the cave was a shelter for this species. Some canid bones have been documented (both wolf and fox), and two possible coprolites.

The small number of bones that have been identified to date

and the absence of greater chronological precision prevent any conclusive interpretation of the faunal assemblage, although the species that have been documented would not be unusual in northern Iberia in the Middle Palaeolithic. If we consider the absence of any taxa that are clear indicators of a cold climate, and that roe deer (*Capreolus capreolus*) suggests mild environmental conditions, we could propose a date for the formation of the level before the Initial Würm Stadial (Isotope Stage 4), i.e. before 79 ky BP, when the climate began to deteriorate in the northwest (Ramil *et al*. 2009). However, we must insist on the need for a larger sample and a more detailed study to be able to reach a more precise conclusion.

Level 2 at Cova Eirós has been attributed to the Early Upper Palaeolithic, and two radiocarbon determinations have been obtained with results of around 30,000 BP (Fábregas *et al*. 2009), supporting this adscription. The faunal sample is even smaller than that in Level 3, and therefore any possible assessment is still quite difficult. However, the ungulates red deer, roe deer and chamois, as well as bear and possibly wolf bones, have been identified and these species were also cited for the lower level. Equally, they were documented in Archaeological Level 1 at A Valiña, which is chronologically close to this level in Cova Eirós. The presence of chamois at this site and its absence at A Valiña is easily explained by the characteristics of the biotopes in the surroundings of the two caves.

Greater problems are caused by the identification, in this same Level 2, of several remains of pig and ovicaprids (Fábregas *et al*. 2009), which are totally out of place in a deposit attributed to the Pleistocene. Their presence has been explained by the existence of several medieval storage pits that cut through the stratigraphic sequence in several parts of the cave and might have caused a disturbance. However, the problem has still not been solved definitively, and the possibility of error in the identification of these remains can still not be ruled out.

Two new levels (B and 1) have been located in a new area that was excavated in the 2009 season (Fábregas *et al*. 2010), with evidence of more recent occupations than those described above, and which have generically been attributed to later phases of the Upper Palaeolithic. Virtually no faunal remains were found in Level B, whereas Level 1 has yielded several ungulates: above all chamois and, with doubts, red deer, ibex and rhinoceros; and also some carnivore remains: brown bear, cave bear, fox and perhaps lynx.

Valdavara (Becerreá, Lugo)

This is another interesting site currently being excavated. The archaeological work carried out in recent years has taken place in two nearby caves, which were used mainly for burials in the late Neolithic/Chalcolithic (Valdavara 1) and the middle Bronze Age (Valdavara 2). However, in the former cave, another occupation level has been documented (Level 4) and this has been attributed to the lower-middle Magdalenian, with two radiocarbon determinations of 13,770 ± 70 BP (Beta-235728) and 14,630 ± 70 BP (Beta-235726). Together with a series of *Dentalium novemcostatum* fragments, a small number of mammal remains have been recovered, and of these only wolf and chamois were identified (Fábregas *et al*. 2010). The same study cites the presence of woolly rhinoceros (*Coelodonta antiquitatis*) at Valdavara, without giving further details about the area or level of its provenance.

Early Holocene Fauna

Epipalaeolithic or Mesolithic faunal assemblages are practically non-existent in the northwest, even though the climatic improvement that occurred in the Holocene would have encouraged the movement of fauna and human groups towards mountain areas, which must have been unfeasible during much of the glacial period. In this respect, the results that have been obtained recently in the north-eastern part of the province of León, at over 1200m in altitude on the southern slopes of the Cantabrian Mountains, are particularly interesting. Three sites have been studied, the caves of La Uña, El Espertín (Neira *et al*. 2006) and La Braña-Arintero (Vidal and Prada 2010); however they lie outside the area of study of the present paper.

Despite a significant number of sites with similar chronologies located in well-surveyed parts of the northwest, such as the Serra do Xistral in Lugo (Ramil and Ramil 1996), the poor conservation of osseous remains makes it impossible to offer any kind of data about the faunal composition. The only exception is the coastal settlement of Paradero de Reiro (Arteixo, A Coruña) (Figure 2), where archaeological work in the 1970s succeeded in recovering lithic material corresponding to a Mesolithic occupation dated by radiocarbon to 6590 ± 70 BP (CSIC-508) (Ramil Soneira 1973). The small number of faunal remains is insufficient for an overall assessment, but allows us to document the presence of red deer (4 remains), roe deer (1) and wild boar (6) (Fernández 2000), as well as fish vertebrae.

Conclusions

Despite the progress of the research into Upper Pleistocene and early Holocene fauna, the information for northwest Iberia is still very limited in comparison, for example, with the available data for Cantabrian Spain.

In accordance with the results described here, and from a general viewpoint, we can highlight that, as regards the species that have been identified, the northwest exhibits no peculiarities differentiating it from neighbouring regions. However, the limited number of ancient human occupations in caves is perhaps a reflection of generally unsuitable locations, in terms of altitude and accessibility, and morphology (predominance of small entrances). In contrast, the number of bear shelters is quite high, with

a significant presence of *Ursus spelaeus* in the Würm Interstadial (OIS-3).

With this limited information available, it is not possible to propose any hypothesis about human activity in connection with existing faunal resources; particularly if we recall that in the case of the deposit at A Valiña, which has yielded the largest samples, the accumulation of bones has been the result of the activity of different (not exclusively) anthropic agents. We hope that the results of the excavations in progress at the sites of Eirós and Valdavara will provide new data to help define this aspect.

To conclude, our knowledge of the oldest archaeological fauna in the northwest is still based on a preliminary stage of research, and a great deal of work remains to be done. The problems for the conservation of bone organic matter are a severe obstacle, together with the unsuitability of many of the natural caves in this geographical area for human occupation.

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