SUPPLEMENTARY TEXT 1: COVA DE LES CENDRES

Cova de les Cendres is located in Teulada-Moraira (Alicante), on the karst escarpment that connect Punta de Moraira and Cap de la Nau. The cavity is made up of two distinct parts: one exterior and well exposed to the sunlight, with detachments of large blocks from the drip, and another interior area, poorly lit and wider than 600 m^2. In this latter part of the cavity, thirteen Palaeolithic levels were excavated between 1995 and 2017. The excavated area covered over 21 m^2 and was organised in two sectors, named A and B, with different stratigraphic conditions related both to human activity and complex sedimentary processes.

The cultural adscription of all levels was determined except for the lower one (XVII), which was poor in archaeological records and could represent the base. According to that, the Pleistocene sequence comprises of the Aurignacian (levels XVID and XVIC), the Gravettian (levels XVIB, XVIA, XV), the Solutrean (levels XIV and XIII) and the Magdalenian (levels XIIB, XIIA) (Villaverde *et al.,* 2019).

The entire Palaeolithic sequence is sustained by a rich series of absolute dates, both through radiocarbon methods and by AMS, which provides a solid chronological framework. Regarding the Solutrean occupation, on which our study was focused, ^{14}C dates show a chronological range between 24,620 cal BP (Beta-287544) and 24,030 cal BP (Beta-287545) for level XIV, and between 23,230 cal BP (Beta-118026) and 20,050 cal BP (Beta-287542) for level XIII (Villaverde *et al.,* 2019).

The two Solutrean levels were excavated in 1999 and 2000, over an area of approx. 11 m2 (the so-called sector B). The average depth of the sedimentary record was way larger in level XIII (approx. 45 cm) than in level XIV (less than 10 cm), a difference that eventually biased the abundance of the archaeological finds. Moreover, both levels showed a complex structure composed of laminations caused by erosive processes that displaced and re-deposited archaeological records from the underlying levels. In addition, since the strata were leaning on a flowstone, the excavated area showed irregular surface and dips with respect to the general trend of the sedimentary package. For these reasons, previous works on level XIII were led to consider the whole level as a single package (Roman & Villaverde, 2014; Villaverde *et al.* 2010; Bel, 2020).

In this sense, Martínez-Alfaro *et al.* (2019) have recently published a typological study of the lithic and osseous industry retrieved in level XIII, which showed a mixture of archaeological materials associated with both Upper Solutrean and Solutrean-Gravettian phases. According to the authors, by comparing the different projectiles recovered in Cendres with those found in other sites with similar chronologies in the Mediterranean area (such as Parpalló, Malladetes, Beneito, la Boja, Finca de Doña Martina or Ambrosio), level XIII can be related chiefly to the Evolved Solutrean.

Other works focused on the Solutrean occupation of Cendres so far. Regarding the archaeobotanical record, the study of Martínez-Varea *et al.* (2019) has newly provided anthracological and carpological data that shed light not only on the landscape surrounding the cavity, but also on the hunter-gatherers' plant resource exploitation during LGM. From a climatic point of view, a significant rise in aridity was detected based on the reduction of pine woods, alongside the increment of juniper and woody Fabaceae. Moreover, since these species point to the supra-Mediterranean belt, the mean annual temperature in the Moraira headland was estimated between 8 and 13ºC, while the current mean is about 17 ºC.

Another interesting aspect of the Solutrean landscape is the position of the coastline. According to geomorphological data, this was about 15 km far away from the cavity and a broad coastal plain had emerged, with wetlands and lakes on it and dunes near the shoreline (Fumanal *et al*., 1993). The hight diversity of environments around Cova de les Cendres is also supported by the aforementioned archaeobotanical data, which documented a variety of species from different biotopes (*ibid*.).

With regard to the faunal record, scant zooarchaeological works were carried out for the Solutrean phase until now. Firstly, an early study was performed on a sample of bone remains from the survey (squares A17-B17) excavated in 1998 (Villaverde *et al*., 1999, 2010). This work gave a general picture of the faunal spectrum (macromammals, lagomorphs and birds were studied) in the entire Palaeolithic sequence of Cendres, but a comprehensive taphonomic analysis was missing. As concerns the Solutrean levels, the faunal assemblage was mainly composed of leporids (about 80%) followed by red deer and Iberian ibex, alongside with

few remains of equids, bovids and carnivores (lynx mostly).

More recently, two taphonomic studies were carried out on samples of faunal records from level XIII, one of which was focused on leporids (Gordon, 2017) and the other on equids (Monterrosa *et al.,* 2021). Overall, both works documented several types of anthropogenic modifications (such as lithic marks, fresh fractures, and fire damage) and related themes to intensive activities of processing and consumption of small and big game.

SUPPLEMENTARY TEXT 2: METHODOLOGY

The sample used for this work was retrieved from two square meters (B20 and C20) of sector B, corresponding to layers 8 to 12. This stratigraphic selection was made following Bel (2020) ´s criteria in order to avoid the post-depositional alterations that affected the Solutrean sequence (see Supplementary Text 1).

During the excavation, the exact provenance of the archaeological finds was determined by plotting their position with a total station theodolite. Also, the sediment was processed by means of a floating machine with two sizes of cloth mesh (1 and 0.25 mm) which allowed to collect even the tiniest specimens. The present study includes the analysis of all large and small prey mammals, except for lagomorphs.

Anatomical and taxonomic identification were carried out by consulting the skeletal reference collections from Universitat de València and *Gabinete de Fauna Cuaternaria Innocenci Sarrión* (Museu de Prehistòria de València) together with classical atlases (such as Silver, 1969; Schmid, 1972). In addition, specific studies on equids were employed to differentiate between wild horses and feral ass (Davis, 1980; Eisenmann, 1986; Aceredillo, 2008; Hanot & Bochaton, 2018).

Unidentified skeletal remains were classified according to animal weight/size, and those that were anatomically undeterminable were grouped by type of bone. As regards weight/size classification, we considered on one hand the cortical thickness and robustness of bone fragments, and on the other hand the taxonomic composition of the analysed faunal assemblage and the age of the animals (Bunn *et al*., 1988; Blasco, 2011). Therefore, the following categories were created for the present study: very small (<20kg: *Vulpe* sp., *Lynx* sp. infantile and juvenile; *Felis silvestris;* Leporidae); small (20-100 kg: *Panthera pardus* juvenile and adult; *Lynx* sp. adult; *Equus hydruntinus* infantile*; Sus scrofa*; *Cervus elaphus* infantile*; Capra pyrenaica* juvenile and adult); middle (100-300 kg: *Equus ferus* infantile and juvenile; *Equus hydruntinus* juvenile and adult; *Cervus elaphus* juvenile and adult; *Bos primigenius*/*Bison* sp. infantile); large (300-1000 kg: *Equus ferus* adult; *Bos primigenius*/*Bison* sp. juvenile and adult). Likewise, anatomically unidentified bones were grouped into long bones (diaphysis of limbs, including metapodial and phalanges), flat bones (from axial and cranial skeleton, including scapula and coxal), and articular bones (carpals, tarsals, and epiphyses) (Cáceres, 2002).

Age at death was inferred from epiphyseal fusion and dental eruption and wear (Barone, 1976; Silver, 1969; Hillson, 2005). In addition, specific works on *Cervus elaphus* (Mariezkurrena, 1983; Azorit *et al*., 2002), *Capra pyrenaica* (Pérez Ripoll, 1988; Serrano *et al.,* 2004; Llorente & Quiralte, 2016) and equids (Levine, 1982; Fernández & Legendre, 2003) were consulted. The estimated individuals were grouped as follow: infantile (deciduous teeth with wear/most of the epiphyses is unfused); juvenile (deciduous teeth with different wear stage and some permanent teeth/adult-sized bones, but still not all fused); adult (permanent teeth with different wear stage/ all epiphyses completely fused). As regards the seasonality, we considered the data on gestation and birth of wild populations (Palomo *et al*., 2007), as well as the dental growth and wear pattern in Iberian goat (Pérez Ripoll, 1988).

Quantification of the macrofaunal assemblage was performed by calculating the Number of Identified Specimens (NISP), the Minimum Number of Individuals (MNI) and the Minimum Number of Elements (MNE) (Lyman, 2008). Skeletal survival rate was calculated by applying the Survivorship Index (Isu) following Brain (1981) and then standardised. This was then converted into %MAU (Binford, 1978) and correlated by means of Spearman's rank correlation coefficient (Rs) with mine-

ral bone density of the main taxa (Lyman, 1994).

Taphonomic analysis were performed using a Nikon SMZ-10A binocular microscope (10 to 50 magnifications) to identify the origin of bone modifications. Percentages of complete and fragmented elements were calculated. Long bones fractures were classified as green-bone or dry based on the morphology of breakage surfaces (fracture angles, fracture outlines and fracture edges) after Villa & Mahieu (1991). Also, the classification of fractures was implemented through the system of morphotypes created by Real *et al*. (2022), a method that can be applied to all types of bone and allows to describe both the origin of fracture and the anatomical part of the bone that is conserved.

Anthropogenic activities were documented through lithic marks, intentional bone breakage for marrow extraction and fire damage (e.g., Binford, 1978, 1981; Potts & Shipman, 1981; Pérez Ripoll, 1992; Vettese *et al*., 2020). For each modification, multiple traits were recorded, such as length, direction, intensity, quantity, and location. In the case of burnt remains, we adapted the criteria defined by Stiner *et al*. (1995) and created three intensity levels based on the coloration and the distribution of the fire damage (i.e., stains, partial or uniform): L1 (low intensity: from brown to black); L2 (medium intensity: from black to grey); L3 (high intensity: from light grey to white). Interpretation of anthropogenic modifications as different butchery activities (such as skinning, evisceration, dismembering, disarticulation, filleting, and tendon extraction) were made consulting experimental works on current ungulates (e.g., Binford, 1981; Pérez Ripoll, 1992; Costamagno & David, 2009; Jin & Mills, 2011; Soulier & Costamagno, 2017).

Finally, non-anthropogenic modifications were related to post-depositional processes, whereas carnivore damage was discarded following the existing literature (e.g., Fisher, 1995; Théry-Parisot *et al*., 2004; Fernández-Jalvo & Andrews, 2016).

	Cervus elaphus					*Capra pyrenaica*					*Equus sp.*				
	NISP	**%NISP**	**MNE**	**%Isu**	**%MAU**	**NISP**	**%NISP**	**MNE**	**%Isu**	**%MAU**	**NISP**	**%NISP**	**MNE**	**%Isu**	**%MAU**
Antler	1	0,6	1	12,5	20,0	1	0,8	1	33,3	25,0	-	-	-	-	-
Cranium	1	0,6	1	25,0	40,0	1	0,8	1	33,3	50,0	1	1,1	1	33,3	44,4
Maxilla	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	1	1,1	1	33,3	44,4
Mandible	6	3,7	3	37,5	60,0	6	5,1	2	33,3	50,0	4	4,5	4	66,7	88,9
Upper teeth	1	0,6	1	1,8	3,3	2	1,7	2	5,6	8,3	2	2,2	2	3,0	4,0
Lower teeth	2	1,2	2	2,5	4,4	13	11,0	13	21,7	36,1	3	3,4	3	4,5	6,1
Indet. Teeth	7	4,3	4	2,9	5,3	4	3,4	4	4,2	6,7	6	6,7	6	4,5	6,1
Hyoid	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0		0,0
Cervical vertebra	1	0,6	1	3,6	5,7	0	0,0	0	0,0	0,0	2	2,2	2	9,5	12,7
Thoracic vertebra	2	1,2	2	3,8	6,2	1	0,8	1	2,6	3,8	0	0,0	0	0,0	0,0
Lumbar vertebra	2	1,2	2	8,3	13,3	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Sacral vertebra	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Caudal vertebra	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Rib	0	0,0	0	0,0	0,0	1	0,8	1	1,3	1,9	4	4,5	4	3,7	4,9
Sternum	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Scapula	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	1	1,1	1	16,7	22,2
Humerus	7	4,3	3	37,5	60,0	4	3,4	2	33,3	50,0	7	7,9	2	33,3	44,4
Radio	6	3,7	2	25,0	40,0	11	9,3	4	66,7	100,0	2	2,2	2	33,3	44,4
Ulna	9	5,5	2	25,0	40,0	6	5,1	4	66,7	100,0	4	4,5	3	50,0	66,7
Radio/Ulna	0	0,0	0		0,0	2	1,7	2	33,3	50,0	0	0,0	0	0,0	0,0
Metacarpus	4	2,5	1	12,5	20,0	5	4,2	2	33,3	50,0	1	1,1	1	5,6	7,4
Carpal	1	0,6	1	1,8	3,3	1	0,8	1	2,4	4,2	2	2,2	2	5,6	7,4
Coxal	3	1,8	1	25,0	40,0	3	2,5	1	33,3	50,0	1	1,1	1	33,3	44,4
Femur	8	4,9	2	25,0	40,0	10	8,5	3	50,0	75,0	2	2,2	2	33,3	44,4
Tibia	15	9,2	3	37,5	60,0	11	9,3	4	66,7	100,0	1	1,1	1	16,7	22,2
Fibula	8	4,9	2	25,0	40,0	0	0,0	0	0,0	0,0	0	0,0	0		0,0
Metatarsus	16	9,8	2	25,0	40,0	6	5,1	2	33,3	50,0	5	5,9	4	22,2	29,0
Malleolus	0	0,0	0	0,0	0,0	2	1,7	2	33,3	50,0	-	-	-	-	-
Patella	0	0,0	0	0,0	0,0	1	0,8	1	16,7	25,0	1	1,1	1	16,7	22,2
Astragalus	1	0,6	1	12,5	20,0	0	0,0	0	0,0	0,0	1	1,1	1	16,7	22,2
Calcaneus	1	0,6	1	12,5	20,0	0	0,0	0	0,0	0,0	1	1,1	1	16,7	22,2
Tarsal	6	3,7	6	18,8	40,0	3	2,5	3	12,5	25,0	10	11,2	10	41,7	55,6
Indet. Metapodial	6	3,7	3	18,8	30,0	3	2,5	1	8,3	12,5	2	2,2	2	5,6	7,2
Phalanx I	15	9,2	15	46,9	75,0	7	5,9	7	29,2	43,8	9	10,1	9	75,0	100,0
Phalanx II	22	13,5	20	62,5	100,0	5	4,2	5	20,8	31,3	3	3,4	3	25,0	33,3
Phalanx III	7	4,3	7	21,9	35,0	1	0,8	1	4,2	6,3	2	2,2	2	16,7	22,2
Sesamoid	9	5,5	9	9,4	15,0	8	6,8	8	11,1	16,7	11	12,4	11	30,6	40,7
Total	163		100			118		77			89		82		

SUPPLEMENTARY TABLE 3A

Main taxa XIII.

	Cervus elaphus					Capra pyrenaica					*Equus* sp./*E. hydruntinus*				
	NISP	%NISP	MNE	%Isu	%MAU	NISP	%NISP	MNE	%Isu	%MAU	NISP	%NISP	MNE	%Isu	%MAU
Antler	1	1,0	1	16,7	25,0	0	0,0	0	0,0	0,0	-	-	-	-	-
Cranium	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	1	5,9	1	100,0	100,0
Maxilla	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Mandible	5	5,0	3	50,0	75,0	1	3,7	1	25,0	50,0	0	0,0	0	0,0	0,0
Upper teeth	2	2,0	2	4,8	7,1	3	11,1	3	12,5	25,0	1	5,9	1	4,5	4,5
Lower teeth	2	2,0	2	3,7	5,6	1	3,7	1	2,8	5,6	2	11,8	2	9,1	9,1
Indet. Teeth	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Hyoid	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Cervical vertebra	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Thoracic vertebra	0	0,0	0	0,0	0,0	2	7,4	2	7,7	15,4	3	17,6	3	16,7	16,7
Lumbar vertebra	1	1,0	1	5,6	8,3	0	0,0	0	0,0	0,0	1	5,9	1	16,7	16,7
Sacral vertebra	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Caudal vertebra	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Rib	0	0,0	0	0,0	0,0	2	7,4	2	3,8	7,7	1	5,9	1	2,8	2,8
Sternum	0	0,0	0	0,0	0,0	1	3,7	1	50,0	100,0	0	0,0	0	0,0	0,0
Scapula	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Humerus	3	3,0	2	33,3	50,0	2	7,4	1	25,0	50,0	0	0,0	0	0,0	0,0
Radio	5	5,0	2	33,3	50,0	2	7,4	1	25,0	50,0	0	0,0	0	0,0	0,0
Ulna	4	4,0	4	66,7	100,0	1	3,7	1	25,0	50,0	0	0,0	0	0,0	0,0
Radio/Ulna	1	1,0	1	16,7	25,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Metacarpus	3	3,0	2	33,3	50,0	1	3,7	1	25,0	50,0	0	0,0	0	0,0	0,0
Carpal	2	2,0	2	5,6	8,3	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Coxal	0	0,0	0	0,0	0,0	2	7,4	1	50,0	100,0	0	0,0	0	0,0	0,0
Femur	5	5,0	3	50,0	75,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Tibia	8	8,0	3	50,0	75,0	2	7,4	1	25,0	50,0	2	11,8	1	50,0	50,0
Fibula	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Metatarsus	8	8,0	3	50,0	75,0	0	0,0	0	0,0	0,0	2	50,0	2	33,3	33,3
Malleolus	1	1,0	1	16,7	25,0	0	0,0	0	0,0	0,0	-	-	-	-	-
Patella	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Astragalus	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Calcaneus	2	2,0	2	33,3	50,0	0	0,0	0	0,0	0,0	0	0,0	0	0,0	0,0
Tarsal	2	2,0	2	11,1	16,7	0	0,0	0	0,0	0,0	2	11,8	2	25,0	25,0
Indet. Metapodial	12	12,0	4	33,3	50,0	0	0,0	0	0,0	0,0	1	5,9	1	8,3	8,3
Phalanx I	13	13,0	10	41,7	62,5	3	11,1	3	18,8	37,5	0	0,0	0	0,0	0,0
Phalanx II	10	10,0	10	41,7	62,5	2	7,4	2	12,5	25,0	0	0,0	0	0,0	0,0
Phalanx III	8	8,0	8	33,3	50,0	2	7,4	2	12,5	25,0	0	0,0	0	0,0	0,0
Sesamoid	2	2,0	2	2,8	4,2	0	0,0	0	0,0	0,0	1	5,9	1	8,3	8,3
Total	100		70			27		23			17		16		

SUPPLEMENTARY TABLE 3B
Main taxa XIV.

	Lynx sp.				cf. *Bos*	*Sus*	Artiodactyla	*Felis*	*Panthera*	Phocidae	*Vulpes*
	NISP	%NISP	MNE	%Isu							
Cranium	1	2,7	1	50,0			3				
Maxilla	0	0,0	0	0,0							
Mandible	1	2,7	1	25,0	1						
Upper teeth	2	5,4	2	6,3						1	
Lower teeth	2	5,4	2	7,1							1
Indet. Teeth	0	0,0	0	0,0			15				
Hyoid	0	0,0	0	0,0							
Cervical vertebra	1	2,7	1	7,1							
Thoracic vertebra	0	0,0	0	0,0							
Lumbar vertebra	0	0,0	0	0,0		1					
Sacral vertebra	0	0,0	0	0,0							
Caudal vertebra	0	0,0	0	0,0			1				
Rib	0	0,0	0	0,0							
Sternum	0	0,0	0	0,0							
Scapula	0	0,0	0	0,0	1						
Humerus	2	5,4	2	50,0			1	1	1		
Radio	2	5,4	2	50,0			1				1
Ulna	0	0,0	0	0,0			1	1			
Metacarpus	3	8,1	3	15,0			1				
Carpal	2	5,4	2	7,1			1				
Coxal	1	2,7	1	50,0			1				
Femur	2	5,4	1	25,0			2	1			
Tibia	2	5,4	1	25,0			1	1			1
Fibula	2	5,4	2	50,0				1			
Metatarsus	2	5,4	2	10,0							
Malleolus	0	0,0	0	0,0							
Patella	0	0,0	0	0,0							
Astragalus	2	5,4	2	50,0							
Calcaneus	0	0,0	0	0,0	1			1			
Tarsal	2	5,4	2	10,0							
Indet. Metapodial	0	0,0	0	0,0							
Phalanx I	4	10,8	4	10,0			1	2	1	2	
Phalanx II	3	8,1	3	7,5			1	1			
Phalanx III	1	2,7	1	2,5							
Sesamoid	0	0,0	0	0,0							
Total	37		34		3	1	34	9	2		3

SUPPLEMENTARY TABLE 4A

Minor taxa XIII.

	Artiodactyla	*Lynx*	*Vulpes*	Carnivora
Cranium				
Maxilla				
Mandible	1			
Upper teeth				
Lower teeth				
Indet. Teeth	2			
Hyoid				
Cervical vertebra				
Thoracic vertebra				
Lumbar vertebra				
Sacral vertebra				
Caudal vertebra				1
Indet. vertebra	1			
Rib	1			
Sternum				
Scapula	1			
Humerus	1	1		
Radio	1			
Ulna	1			
Metacarpus				
Carpal				
Coxal				
Femur				
Tibia	3		1	
Fibula				
Metatarsus		1		
Malleolus				
Patella				
Astragalus				
Calcaneus				
Tarsal				
Indet. Metapodial				
Phalanx I	1	1		
Phalanx II	2	1		
Phalanx III				
Sesamoid	2			
Total	17	4	1	1

SUPPLEMENTARY TABLE 4B

Minor taxa XIV.

XIII	Breakage pattern					Modern fracture	Complete element	NISP
	Fresh	Dry	Mixed	Indet.	Total			
Cervus elaphus	71	6	2	59	138	7	18	163
Capra pyrenaica	34	8	3	41	86	10	22	118
Equus sp.	10	8	0	49	67	5	17	89
Other ungulates	6	1	0	27	34	3	1	38
Lynx sp.	5	3	0	14	22	7	8	37
Other carnivores	3	4	0	9	16	6	4	26
Small size	12	5	2	70	89	17	0	106
Middle size	244	171	11	658	1084	113	1	1198
Large size	10	9	0	13	32	7	0	39
Total level XIII	**395**	**215**	**18**	**940**	**1568**	**175**	**71**	**1814**
%	21,8	11,9	1,0	51,8	86,4	9,6	3,9	100,0

XIV	Breakage pattern					Modern fracture	Complete element	NISP
	Fresh	Dry	Mixed	Indet.	Total			
Cervus elaphus	43	0	0	48	91	2	6	100
Capra pyrenaica	8	1	0	15	24	3	1	27
Equus sp.	2	0	0	13	15	1	1	17
Artiodactyla	2	0	0	10	12	1	1	17
Carnivores	0	1	0	3	4	1	2	6
Small size	3	0	0	16	19	0	0	19
Middle size	134	161	0	897	1192	93	6	1311
Large size	3	0	0	14	17	1	0	18
Total level XIV	**195**	**163**	**0**	**1016**	**1374**	**102**	**17**	**1515**
%	12,9	10,8	0,0	67,1	90,7	6,7	1,1	100,0

SUPPLEMENTARY TABLE 5

Breakage pattern.

	Cervus elaphus			*Capra pyrenaica*			*Equus* sp.			Other ungulates		*Lynx* sp.		Other carnivores	
	Fragmented	Fresh frac.	%Fresh frac.	Fragmented	Fresh frac.	%Fresh frac.	Fragmented	Fresh frac.	%Fresh frac.	Fragmented	Fresh frac.	Fragmented	Fresh frac.	Fragmented	Fresh frac.
Antler	-	-	-	1	0	0,0	-	-	-	-	-	-	-	-	-
Cranium	2	0	0,0	1	0	0,0	2	0	0,0	3	0	1	0	-	-
Maxilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mandible	6	1	16,7	6	0	0,0	4	0	0,0	1	0	-	-	1	0
Upper teeth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lower teeth	-	-	-	-	-	-	1	0	0,0	-	-	-	-	-	-
Indet. Teeth	9	0	0,0	1	0	0,0	5	0	0,0	13	0	1	0	1	0
Hyoid	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-
Cervical vertebra	1	0	0,0	-	-	-	2	1	50,0	-	-	1	0	-	-
Thoracic vertebra	1	0	0,0	1	0	0,0	-	-	-	-	-	-	-	-	-
Lumbar vertebra	2	1	50,0	-	-	-	-	-	-	1	0	-	-	-	-
Sacral vertebra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caudal vertebra	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
Rib	-	-	-	1	0	0,0	4	1	25,0	-	-	-	-	3	0
Sternum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scapula	-	-	-	-	-	-	1	1	100,0	1	1	-	-	-	-
Humerus	7	7	100,0	4	3	75,0	6	1	16,7	1	0	2	1	1	0
Radio	6	3	50,0	11	6	54,5	2	2	100,0	1	1	1	0	1	0
Ulna	8	4	50,0	4	2	50,0	4	0	0,0	1	0	-	-	-	-
Radio/Ulna	-	-	-	2	0	0,0	-	-	-	-	-	-	-	-	-
Metacarpus	4	1	25,0	5	3	60,0	1	0	0,0	1	0	3	2	-	-
Carpal	-	-	-	-	-	-	1	0	0,0	1	0	-	-	-	-
Coxal	3	0	0,0	3	1	33,3	1	0	0,0	-	-	1	0	-	-
Femur	8	3	37,5	10	6	60,0	2	1	50,0	2	2	2	1	1	0
Tibia	15	9	60,0	11	5	45,5	1	1	100,0	1	1	1	0	3	2
Fibula	-	-	-	-	-	-	-	-	-	-	-	1	0	-	-
Metatarsus	15	13	86,7	6	4	66,7	4	1	25,0	-	-	2	1	-	-
Malleolus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patella	-	-	-	-	-	-	1	0	0,0	-	-	-	-	-	-
Astragalus	1	0	0,0	1	0	0,0	1	0	0,0	-	-	2	0	-	-
Calcaneus	1	0	0,0	1	0	0,0	1	0	0,0	1	1	-	-	-	-
Tarsal	3	0	0,0	3	0	0,0	3	0	0,0	-	-	1	0	-	-
Indet. Metapodial	6	3	50,0	3	2	66,7	2	0	0,0	-	-	-	-	1	0
Phalanx 1	15	12	80,0	5	1	20,0	9	1	11,1	4	0	3	0	3	0
Phalanx 2	20	12	60,0	4	1	25,0	3	0	0,0	1	0	-	-	-	-
Phalanx 3	5	2	40,0	1	0	0,0	2	0	0,0	-	-	-	-	-	-
Sesamoid	-	-	-	1	0	0,0	4	0	0,0	-	-	-	-	-	-
Total	138	71	51,4	86	34	39,5	67	10	14,9	34	6	22	5	16,0	2,0

SUPPLEMENTARY TABLE 6A

% Fresh fracture XIII.

	Cervus elaphus			*Capra pyrenaica*			*Equus* sp.		Artiodactyla	
	Fragmented	Fresh frac.	%Fresh frac.	Fragmented	Fresh frac.	%Fresh frac.	Fragmented	Fresh frac.	Fragmented	Fresh frac.
Antler	1	0,0	0,0	-	-	-				
Cranium	-	-	-	-	-	-	1	0		
Maxilla	-	-	-	-	-	-				
Mandible	5	1	20,0	1	0	0,0			1	0
Upper teeth	-		-	3	0	0,0				
Lower teeth	2	0,0	0,0	1	0	0,0	1	0		
Indet. Teeth	-	-	-	-	-	-			2	0
Hyoid	-	-	-	-	-	-				
Cervical vertebra	-	-	-	-	-	-				
Thoracic vertebra	-	-	-	-	-	-	3	0	1	0
Lumbar vertebra	1	0	0,0	-	-	-	1	0		
Sacral vertebra	-	-	-	-	-	-				
Caudal vertebra	-	-	-	-	-	-				
Rib	-	-	-	2	0	0,0	1	0	1	0
Sternum	-	-	-	1	0	-				
Scapula	-	-	-	-	-	-			1	1
Humerus	3	2	66,7	2	1	50,0			1	0
Radio	5	3	60,0	2	1	50,0				
Ulna	4	2	50,0	1	1	100,0			1	0
Radio/Ulna	1	1	100,0	-	-	-				
Metacarpus	3	3	100,0	1	1	100,0				
Carpal	-	-	-	-	-	-				
Coxal	-	-	-	2	0	0,0				
Femur	5	3	60,0	-	-	-				
Tibia	8	7	87,5	2	1	50,0	2	1	2	1
Fibula	-	-	-	-	-	-				
Metatarsus	8	5	62,5	-	-	-	2	0		
Malleolus	-	-	-	-	-	-				
Patella	-	-	-	-	-	-				
Astragalus	-	-	-	-	-	-				
Calcaneus	2	0	0,0	-	-	-				
Tarsal	2	0	0,0	-	-	-	2	0		
Indet. Metapodial	11	3	27,3	-	-	-	1	1		
Phalanx 1	13	8	61,5	3	2	66,7			1	0
Phalanx 2	9	5	55,6	1	1	100,0			2	0
Phalanx 3	8	0	0,0	1	0	0,0				
Sesamoid	-	-	-	-	-	-	1	0	1	0
Total	91	43	47,3	23	8	34,8	15	2	14	2

SUPPLEMENTARY TABLE 6B

% Fresh fracture XIV.

	Skinning	Evisceration	Dismembering	Disarticulation	Filletting	Tendon extraction	Marrow extraction
	Short incisions and deep striations with circular or longitudinal orientation	Deep striations, short and large incisions	Short and quite deep incisions	Short incisions and deep striations with transevrse/oblique orientation, frequently on the extremities of bone shafts	Short incisions and scrapes in oblique-transverse direction; large cutmarks are rare and tend to be longitudinal	Short incisions transversely/obliquely oriented on the extremities of autopodial bones	Impact notches on long-bone shafts
	15	3	2	18	23	5	12
Cervus	9	-	-	6	13	1	7
	Mandible diastema (buccal)			Radio prox. (posterior/medial)	Humerus mid. (x2) (posterior)	Palanx I dist. (posterior/medial)	Humerus mid. (posterior)
	Metcarpus prox. (posterior)			Femur dist. (posterior/medial) & prox. (anterior)	Radio prox. (posterior/ medial)		Radio prox. (lateral)
	Metatarsus prox., mid. & dist. (x4) (posterior; medial)			Tibia dist. (posterior)	Metacarpus prox. & dist.(x3) (posterior)		Ulna mid.
	Phalanx II prox. (x3)			Tarsal (lateral)	Ilium (ventral)		Femur prox. (posterior/medial)
					Tibia prox. & dist. (x4) (anterior; posterior; medial)		Metatarsus dist. & mid. (x2) (posterior medial)
					Metatarsus (x2) (posterior; medial)		Phalanx II
Capra	3	2	1	6	8	2	4
	Mandible diastema and corpus (labial)	Thoracic vertebra (spinousus process)	Rib prox. & mid. (dorsal)	Humerus dist. (posterior)	Humerus mid. & dist. (x3) (posterior; medial)	Metacarpus prox. (posterior)	Radio prox. & dist (posterior)
	Metatarsus prox. (posterior/lateral)	Ischium (medial)		Radio prox. (anterior) & dist. (medial)	Radio mid. (lateral)	Metatarsus prox. & dist. (medial/lateral)	Femur prox. (medial)
	Phalanx I mid. & dist.			Ulna prox. (lateral)	Femur prox. & mid. (x2) (posterior)		Indet. metapodial mid. (lateral/medial)
				Femur lesser trochanter (posterior)	Tibia prox. (posterior/lateral) & mid. (anterior) (x2)		
				Tarsal (posterior)			
Equus	1	1	-	3	2	2	1
	Mandible diastema (plantar)	Maxilla (medial)		Humerus dist. (posterior/medial)	Rib prox. (peeling)	Metatarsus II/IV mid. (posterior)	Mandible corpus (buccal)
		Rib (ventral?)*		Ulna mid. (posterior)	Femur mid. (posterior)	Phalanx I dist. (posterior/lateral)	
				Tarsal (posterior)			
cf. *Bos*	-	-	1	1	-	-	-
			Scapular body & dist.	Clacaneus body			
Lynx	2	-	-	2	-	-	-
	Parietal bone (dorsal)			Fibula prox., mid. & dist. (x2) (posterior)			
	Astragalus neck						

SUPPLEMENTARY TABLE 7

Butchery marks XIII.

Prox.= proximal shaft; mid.=middle-shaft; dist.=distal-shaft. *This cutmark is uncertain: if ventral side= evisceration/ if dorsal side=filletting.

	Skinning	Evisceration	Disarticulation	Filletting	Tendon extraction	Marrow extraction
	Short incisions with transversal orientation	Short scrapings and deep incision with transversal orientation	Short incisions of moderate intensity near the epiphyses and on carpals/tarsals	Short incisions and scrapes in oblique-transverse direction; large cutmarks are rare and tend to be longitudinal	Short incisions transversely/ obliquely oriented on the extremities of autopodial bones	Impact notches on long-bone shafts
	3	**2**	**7**	**17**	**6**	**5**
Cervus	**2**	**1**	**5**	**11**	**6**	**4**
	Upper canine (labial)	Mandibular ramus (lingual)	Mandibular ramus (buccal)	Humerus prox. (anterior/ medial)	Tibia dist. (posterior)	Radio dist. (anterior)
	Indet. metapodial prox. (anterior)		Oleocraneon (posterior)	Radio/Ulna prox. (lateral)	Metatarsus prox. (anterior)	Metacarpus prox & mid. (x2) (anterior/lateral)
			Trapezoid (posterior)	Ulna prox. (x2) (medial)	Indet. metapodial prox. & dist. (x3) (anterior; posterior)	Metatarsus dist. (lateral/ medial)
			Tibia dist. (medial)	Metacarpus prox. (posterior)	Phalanx I dist. (posterior)	
			Central tarsal	Femur mid. (posterior)		
				Tibia prox. (x 1) (posterior), mid. (x 2) (medial) & dist. (x2) (anterior/medial)		
Capra	**0**	**1**	**1**	**3**	**-**	**1**
		Rib mid. (ventral)	Tibial tuberosity (craneal)	Humerus dist. (plantar)		Phalanx II (lateral)
				Acetabulum (lateral)		
				Tibia mid. (posterior/medial)		
Equus	**1**	**-**	**-**	**2**	**-**	**-**
	Premolar 3 (labial)			Thoracic vertebra (transverse process)		
				Tibia dist. (anterior)		
Lynx	**-**	**-**	**1**	**-**	**-**	**-**
			Humerus dist. condyle (lateral)			
Vulpes	**-**	**-**		**1?**	**-**	**-**
				Tibia prox. (lateral)		

SUPPLEMENTARY TABLE 8

Butchery marks XIV.

Prox.= proximal shaft; mid.=middle-shaft; dist.=distal-shaft. *This cutmark is uncertain: if ventral side= evisceration/ if dorsal side=filletting.