

Some notes on a small collection of faunal remains from Zambujal

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Abstract The animal bones of cut 92 from the fourth line of the fortification at Zambujal were studied in 2003. These show a clear predominance of domesticated mammals. Thus Zambujal is more similar to other Neolithic and Chalcolithic sites in south central coastal Portugal like Belas, Lameiras and Leceia and unlike several sites in the Alentejo. This difference may reflect the size and density of these settlements.

Resumo Os ossos de animais do corte 92 da quarta linha da fortificação em Zambujal foram estudados em 2003. Estes mostram uma clara predominância de mamíferos domesticados. Deste modo, Zambujal assemelha-se mais a outros sítios neolíticos ou calcólíticos no sul da região costeira do centro de Portugal, como Belas, Lameiras ou Leceia, do que a vários sítios do Alentejo. Este resultado pode constituir o reflexo das dimensões e da densidade destes povoados.

Species present

The following taxa could be identified — cattle, caprines (sheep and goat), pig, red deer, rabbit and partridge. There are also a number of marine mollusc shells. Most of the caprine bones and teeth are difficult to identify to species level (i.e., sheep or goat), though it would appear that both sheep and goat are represented, and there may have been more sheep than goat. (Note that the

small number of species represented is almost certainly a reflection of the small size of the sample, so as more bones are studied, the list of species should increase).

Frequencies of species

The table gives the numbers of different bones and teeth of each species recorded. From this it is clear that caprines predominate, followed

by pig, cattle, rabbit and then red deer. Driesch & Boessneck (1976), who studied the faunal remains from the earlier excavations at Zambujal, found the following percentages: caprines 27%, pig 31%, cattle 26% and red deer 3%. The 2002 excavation appears to have uncovered a much higher percentage of caprines. Caprine bones and teeth are smaller than those of cattle, so perhaps this recent excavation was undertaken with greater care. Kunst tells me that during his dig bone was collected in smaller lots.

Parts of body represented

The table of counts (see below) does not provide any reason to suppose that a selection of particular parts of the carcass was made by the inhabitants of Zambujal. The relative abundance of caprine teeth is probably a reflection of the more durable nature of tooth compared to bone. Thus many of the teeth are isolated — the surrounding jaw-bone having completely eroded away.

What do the bones represent?

At least two bones, a small cattle astragalus mentioned below and a sheep calcaneum, have clear cut marks on them. These are the kinds of damage that would be inflicted during skinning and subsequent butchery of an animal carcass. A caprine intermediate phalanx is burnt. These animal remains no doubt derive from animals eaten at the settlement in antiquity. Put another way, there is little evidence at this stage for any special treatment of carcasses, bizarre butchery, ritual practices, etc.!

Age at slaughter of the animals

There are insufficient bones to draw any age-at-death inferences, though the caprine bones and teeth include remains of both juvenile and adult individuals.

Measurements

I have measured those bones that I normally measure and the abbreviations for measurements in the table follow Driesch (1976). There are of course too few for me to make any kind of meaningful biometric study. One bone however is interesting. This is an extremely small *Bos* (cattle) astragalus from Z-E-683-82, L14-13 P15-6. Its measurements, in millimetres, are: $GLI = 53,1$, $Bd = 35,9$ and $DI = 30,7$. Comparing these measurements with those of *Bos* from the earlier excavations at Zambujal indicates that this astragalus is smaller than anything else from Zambujal! I do not recall ever having seen such a small *Bos* astragalus. At first I suspected that it belonged to some kind of huge goat or aberrant red deer! However upon re-examination, I changed my mind and was supported by Jean Philippe Brugal (a vertebrate palaeontologist with whom I collaborate). He too suggests it belonged to a very small *Bos*.

Other finds/observations

The two rabbit pelves and rabbit skull from Komplex 00–100 do not look particularly well fossilized and my suspicion is that they belong to more modern rabbits that may have burrowed into the site or somehow become incorporated into the archaeological levels. This does occur from time to time for remains of small animals. There is a rather attractive bone point in Z-E-590, P 15 E. A small fragment of cervid antler (Z-E-240-201) is both burnt and worked.

In summary

With its predominance of remains of domesticated mammals, Zambujal is clearly more similar to other Neolithic and Chalcolithic sites like Belas (late Neolithic; Davis submitted), Lameiras (Neolithic and Chalcolithic; Davis in prep), and Leceia (Cardoso & Detry, 2002) and unlike several Chalcolithic sites in the Alentejo, such as São Pedro, Redondo (Davis & Mataloto,

2012) with its much higher proportion of hunted mammals. This may reflect the sizes of these settlements and their density of settlement; or even their military as opposed to civilian nature with military settlements containing a high proportion of hunted animals.

Box 1	Lisbon 24 th of July 2003		Zambujal Este, corte 92			
Complex number	Quadrant	Grades	Tooth/Bone	Genus and species Identity	Number	Notes – measurements (Driesch, 1976), tooth wear stage, etc
No. do Complexo	Quadrícula	Níveis				
Z-E-693	J-13	PI 2-3	M ₃	<i>Ovis/Capra</i>	1	wear stage approx '4' badly broken
Z-E-687	L-11	PI 2-3	P ₃	<i>Ovis/Capra</i>	1	
Z-E-683	L/C?-13-14	PI 3-6	Bivalve		1	
			SC	<i>Cervus elaphus</i>	1	F
			AS	<i>Ovis</i>	1	GLI = - Bd = 18,3 DI = -
			AS (cut marks) size = <i>Cervus elaphus</i>	? <i>Bos</i>		GLI = 53,1 Bd = 35,9 DI = 30,7 (very small <i>Bos</i> , Brugal agrees with identification)
Z-E-602	M-15	PI 4-5	TI	<i>Alectoris</i>		broken
Z-E-692	J-12	PI 2-3	fragment of " <i>Cardium</i> "			
Z-E-659	J-14	PI 5-6	shell	<i>Cardium</i>	1	
Z-E-692	J-11/12	PI 2-3	shells		2	(with fine ridges)
Z-E-694	K/L-11	PI 2-3	SC	? <i>Bos</i>	1	fusion state unknown
Z-E-662	J/K-14	PI 2-5	P2	<i>Ovis/Capra</i>	1	F
			(fragment of tooth	<i>Sus</i>)		
Z-E-686	L/K-15	PI 5-16	C	<i>Sus</i>	1	male
			M _{1/2}	<i>Sus</i>	1	wear stage 'f' l = 16,7 Wa = 10,9 Wb = 10,7
Z-E-585	K-14/15	PI 5-6	FE	<i>Oryctolagus</i>	1	F
			M _{1/2}	<i>Ovis/Capra</i>	1	2
			dP ₄	<i>Ovis</i>	1	17
Z-E-696	I-11	PI 2-3	AS	<i>Sus</i>	1	broken
Box 2	Lisbon 24 th of July 2003		Zambujal Este, corte 92			
Z-E-701	J/K-14/15		I	<i>Ovis/Capra</i>	1	
Z-E-706	J/K-14/15		M _{1/2}	<i>Ovis/Capra</i>	1	wear stage = '8'
Z-E-731	K-15		Shell		1	with fine ridges
			P2	<i>Bos</i>	1	F
Z-E-776	I-15		P2	<i>Sus</i>	1	F
Z-E-800	I/H-15		Shell	limpet	1	Pierced; hole may be natural
Z-E-734	L/K-13	PI 5-6	P2 (calcined +?Semi digested)	<i>Ovis/Capra</i>	1	F
			M _{1/2}	<i>Ovis/Capra</i>	1	wear stage = '8'
			HU	<i>Ovis</i>	1	F BT = 29,0 HTC = 14,7

A record of the faunal remains from cut 92 at Zambujal.

The method of recording bones and teeth is described in full in Davis (2002). Caprine teeth were assigned to the eruption and wear stages of Payne (1987) and cattle and pig teeth were assigned to the eruption and wear stages of Grant (1982). Measurements taken on the humerus are illustrated in figure 1 in Davis (1996). In general, other measurements taken are those recommended by Driesch (1976). Key: the state of fusion of epiphyses is as follows: 'F' = fused (adult) and 'UE' = unfused epiphysis (juvenile).

Box 3	Lisbon 24 th of July 2003	Zambujal Este, corte 92				
Z-E-371		PI 1-2	MT2 (P ₄ or) P ₃	Ovis Sus	1/2	F wear stage approximately 'f'
Z-E-238	L-14		TI	Sus	1	F Bd = 26,2
Z-E-236	L-12		HU	?Capra	1	F BT = approximately 26,5 HTC = 14,2
Z-E-241	M-12	PI 1-2	MT2	Ovis/Capra	1/2	UE
Z-E-287-126?			CA	Cervus elaphus?	1	fusion state unknown
Z-E-240-201?			fragment of antler			worked + burnt
Z-E-371	J-14	PI 1-2				
Z-E-371-15			PE	Sus	1	
Z-E-371-21			AS	Cervus elaphus?	1	very corroded
Box 4	Lisbon 24 th of July 2003	Zambujal Este, corte 92				
Z-E-588	J/K-14	PI 3-4	M _{1/2}	Ovis/Capra	1	2
Z-E-598	J-14/15	PI 4-5	M ₃	Ovis/Capra	1	wear stage = '0' (probably unerupted)
			TI	Ovis/Capra	1	F
			TI	Sus	1	F Bd = 31,5
			CA	Oryctolagus	1	F GL = 20,7
Z-E-533	K/L-14	PI 3-4	CA (cut marks)	?Ovis	1	F GL = 54,0
Z-E-597	L-14/15	PI 4-5	C	Sus	1	female
			P ₄	Sus	1	wear stage 'a'
			i	Ovis/Capra	2	
			HU	Ovis/Capra	1	F ? gnawed
Z-E-594	L-14	PI 4-5	M _{1/2}	Ovis/Capra	1	8
			dP ₄	Bos	1	wear stage = approximately 'f'
			TI	?Bos (small)	1	UE (abraded)
			P2	Sus	1	F
Z-E-535		criba	M ₃ (posterior 2/3 rd)	Ovis/Capra	1	wear stage '11 - 14'
Box 6	Lisbon 24 th of July 2003	Zambujal Este, corte 92				
Z-E-466	L-15	PI 3	M ₃ (posterior 2/3 rd)	Ovis/Capra	1	wear stage '11 - 14'
Z-E-465-35	L-14		TI	Ovis	1	F Bd = 26,1
Z-E-465-44			TI	Ovis	1	F Bd = 25,5
Z-E-476 (or 470)		PI 2-3	N15			
			M ₃	Sus	1	wear stage 'a' (probably unerupted)
						L = 31,7 Wb = 15,1 Wb = 13,9
Z-E-465						
			I	Ovis/Capra	1	
Z-E-465-4	L-14		SC	Ovis/Capra or Capreolus	1	F
Z-E-469	N-14	PI 3	M _{1/2}	Ovis/Capra		wear stage '4' or '5'

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