

Table 701: Hand-collected animal bone/total fragment counts

	PERIOD														
TAXON	201	202	203	301	401	402	501	502	601	602	603	604	700	TOTAL	
bird, unidentified					2			1						3	
chicken	1			15	25		2	4		4	2		4	57	
chicken-sized		1												1	
goose				2	2									4	
mallard/domestic duck				3	5			1					3	12	
duck, unidentified					1									1	
crane					3									3	
curlew								1						1	
woodcock											1			1	
raven				1	8			3						12	
crow family													1	1	
red kite							2							2	
mammal, unidentified				11	28	4		4			7	64	5	123	
ox	36	66	112	270	938	14	37	155	3	66	55	202	120	2074	
ox-sized	34	51	153	199	546	18	22	86	4	66	73	373	71	1696	
sheep/goat	13	12	2	28	61	1	4	14		9	6	36	16	202	
sheep	4	4	1	15	29		1	1		2	1	10	3	71	
goat		1		1	2					2				6	
sheep-sized	22	21		60	159	2	6	20		13	24	38	28	393	
pig	14	18	9	60	131		13	14		24	26	25	16	350	
horse	6	1	1	1	3	2				2			3	19	
deer, red		1		2	3			3		1	4		3	17	
deer, fallow							1							1	
deer, roe				1	1									2	
deer, unidentified					1							1		2	
dog				2	8	4		1		7			75	97	
cat				10										10	
hare, brown				1			2							3	
mammal, small				2										2	
TOTAL	130	176	278	684	1956	45	90	308	7	196	199	749	348	5166	

Table 702: Wet-sieved animal bone/total fragment counts

TAXON	PERIOD													TOTAL
	201	202	203	301	401	402	501	502	503	602	603	604	700	
fish, unidentified	1	13		9	5		1		1		6	1	6	43
ray, thornback					1									1
smelt					1								1	2
herring family	2	5		5	4	1		2		1		1	2	23
herring					1									1
eel				4	14	1					1		2	22
carp family	2	4		4	15					1	2		4	32
cod family	1	1			4					2		3	1	12
cod										1			2	3
mullet, grey					3									3
mackerel		1			3									4
plaice/flounder		8		31	19	2					1			61
frog/toad		2			19			5		1	12		44	83
bird, unidentified		1		4	12					3	7	3	5	35
chicken	4	4		5	40		2			1	3	6	1	66
chicken-sized	4	14	1	6	43			1		3		3	4	79
goose					2					1				3
goose-sized				1	2								1	4
mallard/domestic duck					2									2
duck, unidentified										1	1		1	3
partridge, grey		1												1
lapwing					2									2
woodcock					8								1	9
passerine, small		1												1
passerine, large					1									1
thrush, large	1				2								1	4
thrush, small					1									1
raven					1									1
mammal, unidentified	33	7	65	101	175		51			30	166	183	118	929
ox	7	8	93	20	136	2	2	1	2	12	6	38	17	344
ox-sized	81	48	547	99	535	6		16	22	47	35	70	56	1562
sheep/goat	7	23	3	13	38		1			8	6	9	15	123
sheep		1		1	2	37			33				1	75
goat													1	1
sheep-sized	52	197	6	256	545	94	9	49	80	106	53	43	140	1630
pig	6	28	7	14	58	1	1	2		9	7	17	12	162
deer, unidentified					2							1		3
dog					7					1		2		10
cat													1	1
brown hare					3					1				4
small mammal					2					1	2	4		9
rat, unidentified				1									2	3

Table 702: Wet-sieved animal bone/total fragment counts (contd.)

	PERIOD													
TAXON	201	202	203	301	401	402	501	502	503	602	603	604	700	TOTAL
rodent, small				1	12						2	2		17
house mouse					2									2
mouse, unidentified		8		1	6	1		5		1			1	23
mouse/vole				2	1						1	2	2	8
vole, field											1			1
TOTAL	201	375	722	578	1729	143	69	81	138	231	312	388	442	5409

Table 703: Hand-collected cattle, sheep/goat and pig/ percentage representation

Combined periods	Cattle	Sheep/Goat	Pig	Nos.
1	61.1	19.7	19.2	167
2	79.3	8.3	12.4	1438
3	80.2	8.5	11.3	414
4	75.0	12.9	12.1	487
5	69.7	11.2	19.1	178

Combined periods follow those used in the text i.e. **1.** Pre-Boudiccan (Periods 201, 202); **2.** Post-Boudiccan to Hadrianic fire (Periods 203, 301, 401) **3.** Post-Hadrianic fire to mid 2nd century AD (Periods 402-503); **4.** Late Roman building sequence (Periods 602–604) and **5.** Very late Roman activity (Period 700). Numbers are the combined total fragment count of all four species within each major period assemblage.

Table 704: Cattle, skeletal representation, hand-collected

PERIOD	201	202	203	301	401	402	501	502	601	602	603	604	700
BONE													
horncore		2	2	7	35	2	4	39		3	3	1	1
skull+horncore				1	1			1		1			
skull	10	7	1	16	101		3	20		3	2	12	1
nasal				1									
maxilla				4	26			1				2	
premaxilla						1							2
mandible	13	9	8	31	147	3	7	30		7	9	9	19
tooth	2	1	2	1	29	2	1	1		1	1	7	4
hyoid				1	4								1
atlas			2	5	15		2		1	2		1	
axis				3	10			2	1			1	
vertebra, cervical			3	3	10		1	2		2		7	
vertebra, thoracic	1		2	3	26	1	1	7		5	3	5	1
vertebra, lumbar				3	8					1	2	3	2
vertebra			2										
sacrum			2	1	2						1		1
scapula		21	9	22	47		6	4		9	7	16	19
humerus	2	1	21	22	51	1	3	3		2	3	24	7
radius		2	16	18	35		1	4		3	3	25	5
radius/ulna			2	4	4			1				1	
ulna		1	3	2	17			2			2	10	
metacarpal	1	7	6	20	69	1	1	9		4	2	10	20
carpal												2	

PERIOD	201	202	203	301	401	402	501	502	601	602	603	604	700
BONE													
innominate	2	7	1	14	55	1		4	1	6	6	5	12
femur			9	11	55		1	4		3	3	12	4
tibia	1	1	8	21	62	1	2	4		2	1	15	1
astragalus					2							1	
calcaneum			1	2	7			1		1			1
tarsal			1		1								
metatarsal	4	5	8	36	87	1	2	11		8	7	13	12
metatarsal 5													1
metapodial								2				1	
phalange 1		1	3	10	17		1	3		2		11	2
phalange 2				1	2							5	
phalange 3		1		7	10		1			1		3	4
TOTAL	36	66	112	270	935	14	37	155	3	66	55	202	120

Table 705: Cattle, skeletal representation, wet-sieved

PERIOD	201	202	203	301	401	501	602	604
BONE								
skull	1	0	0	1	49	0	9	4
horncore	0	0	0	0	0	0	1	0
mandible	0	0	3	1	17	0	7	0
tooth	0	0	2	4	10	0	5	3
atlas	2	1	0	0	0	0	0	0
axis	0	0	0	0	2	0	1	0
scapula	0	1	0	0	1	0	2	1
humerus	0	0	42	1	1	0	1	0
radius	0	0	8	2	2	0	3	0
radius /ulna	0	0	4	0	1	0	0	0
ulna	0	0	5	0	2	0	1	1
carpal	0	2	0	0	4	0	0	0
metacarpal	0	1	1	0	4	0	0	2
innominate	1	0	0	0	5	1	2	2
sacrum	0	1	0	0	2	0	0	0
femur	0	0	11	2	4	1	1	4
tibia	0	1	14	1	2	0	1	1
calcaneum	0	0	1	0	2	0	1	0
astragalus	0	0	1	0	3	0	1	0
tarsal	0	0	3	0	3	0	1	0
metatarsal	0	0	0	2	5	0	4	0
metapodial	0	0	0	0	1	0	1	0
phalange 1	0	1	1	1	4	0	2	1
phalange 2	0	0	0	1	7	1	3	0
phalange 3	0	0	0	0	5	0	3	0
TOTAL	4	8	96	16	136	3	50	19

Table 706: Cattle, skeletal representation from Period 401, by landuse, hand-collected

LANDUSE	B35	B36	OA3 5	OA3 7	OA40	OA45	OA47	R 1	R 3	TOTAL
BONE										
skull	3	2		12		56	1	1		75
horncore	1		1	1		12		2	2	19
mandible	8			16	3	78	2		2	109
maxilla	2			2		19	1			24
tooth	2			5		17	2			26
atlas				3		8				11
axis				1		6	1			8
scapula			1	4		25		2	1	33
humerus				7	2	32			1	42
radius				15		17				32
radius/ ulna						1			1	2
ulna				1	1	6	1		2	11
m/carpal			1	13	2	33	2		2	53
innominate			0	28		16			1	45
femur				16	4	24				44
tibia				12		32		1	2	47
astragalus						1				1
calcaneum				1		3				4
m/tarsal	1			12	1	59	2	1	1	77
phalange 1				8		5	1			14
phalange 2				1		1				2
phalange 3				4		2	1			7
TOTAL	17	2	3	162	13	433	14	7	15	686

Table 707: Cattle, epiphysial representation by period, hand-collected

PERIOD	201	202	203	301	401	402	501	502	602	604
BONE										
scapula proximal	0	0	5	4	5	0	0	0	1	0
scapula distal	0	2	0	0	12	0	2	1	5	4
humerus proximal	0	0	0	6	0	0	0	0	1	0
humerus distal	1	0	2	1	11	0	2	0	3	4
radius proximal	0	1	7	4	10	0	1	0	17	2
ulna proximal	0	0	0	0	1	0	0	1	1	1
radius/ulna proximal	0	0	0	2	1	0	0	0	4	2
radius distal	0	1	0	3	7	0	2	0	9	8
metacarpal proximal	0	6	3	4	30	1	5	1	12	10
metacarpal distal	1	2	3	5	27	1	0	0	4	1
innominate	1	3	0	3	12	1	1	0	4	1
femur proximal	0	0	1	2	6	0	1	0	1	1
femur distal	0	0	0	3	3	0	1	0	1	1
tibia proximal	0	1	0	4	7	0	0	0	1	0
tibia dist	0	0	0	2	8	1	1	0	0	1
calcaneum proximal	0	0	1	1	2	0	9	0	10	8
metatarsal proximal	1	2	3	12	45	0	5	0	21	4
metatarsal distal	3	4	6	7	33	1	0	0	2	0
phalange 1 proximal	0	1	3	4	14	0	2	1	15	2
TOTAL	7	23	34	67	234	5	32	4	110	50

Table 708: Sheep/goat, hand-collected, skeletal representation, by period

PERIOD	201	202	203	301	401	402	501	502	602	603	604	700
BONE												
horncore	2			1	4						1	
skull				6	3	1		2			1	
nasal				1								
maxilla				1	3			1			2	
tooth					2		1				9	4
mandible	3	2		10	14			2	2		10	4
atlas				1						1		
vertebra, lumbar											2	
scapula				4	7		2				3	
humerus		3		2	6				1		1	1
radius	4	2		3	5						3	1
ulna	1		1		1							
metacarpal		1	1	4	8		1		2		8	4
innominate	2	1			3				3	1		
femur	1				4			1		1		
tibia	3	4	1	4	16		1	3	2		1	3
calcaneum					1							
metatarsal	1	2		6	12			6	1	3	5	2
phalange 3										1		
TOTAL	17	16	3	43	90	1	5	15	11	7	46	19

Table 709: Sheep/goat, skeletal representation by period, wet-sieved

PERIOD	201	202	203	301	401	402	501	502	602	604
BONE										
skull			1	1	3	3		1	1	3
horncore						1				1
maxilla						2				
mandible		2	1		3	1			2	1
tooth	3	2	1	4	7	1		2	5	6
atlas		1							1	
scapula	1			3	2	1			1	2
humerus					2	1		2	1	1
radius						2		1		1
ulna					2	1			1	1
innominate		1		2	4	1		2	1	1
sacrum	1					1				
patella						1		1		
femur				1	3	1	1	2		
tibia					4			2		1
calcaneum					2			1	1	
astragalus					1					
tarsal						1		1	1	
carpal					1	1		4		
metacarpal					1	2		1	1	1
metapodial	1			1	1					
metatarsal					1			1		
phalange 1	1	1		1	2	3				3
phalange 1						1		1	2	
phalange 3					2	1		1		
TOTAL	7	7	3	14	39	26	1	23	18	22

Table 710: Pig, hand-collected, skeletal representation, by period

PERIOD	201	202	203	301	401	501	502	602	603	604	700
BONE											
skull	2	1		3	14	3	1			2	1
maxilla				3	6		1		1		1
mandible	6	1	4	16	21		1	7	7	8	4
tooth			2	1	4					1	2
vertebra, cervical	1				2						
vertebra, lumbar				1							
vertebra, thoracic							1			1	
scapula		6	1	3	9	2	1	1	4		2
humerus	2	1		2	11		1	2	1		4
radius		1	1	2	4	2		1	2		
ulna			1	4	8	1		1	2	1	1
metacarpal 3		1			3			2		3	
metacarpal 4		1			3	1			1		
metacarpal 5		1			1				1		
innominate	1			8	17		2	2	2		
femur				3	7		4		1	3	
tibia		1			9	3	1	5	2		1
fibula	1			6	4		1			1	
astragalus								1			
calcaneum				2					1		
metatarsal 2								1			
metatarsal 3		1		2	2				1	2	
metatarsal 4		1		2	3			1			
metapodial	1			1	3					2	
phalange 1		2				1				1	
phalange 3				1							
TOTAL	14	18	9	60	131	13	14	24	26	25	16

Table 711: Pig, skeletal representation by period, wet-sieved

PERIOD	201	202	203	301	401	402	501	604
BONE								
skull		5		2	7			2
maxilla		1			3			1
mandible		1			3		1	3
tooth	2	3	3	5	13		1	14
atlas				1				
axis					1			
scapula		1		1	1			1
humerus		1			2			
radius		2			1			2
ulna		2						
carpal					1			
metacarpal 2		1						
metacarpal 3		1			1			1
metacarpal 4		1						2
innominate				1	2			
sacrum								1
femur					3			1
patella					1			1
tibia		2		1	3			1
fibula	1			1	1			2
calcaneum			1		4			1
astragalus					1			
tarsal					1			
metatarsal 5					1			
metatarsal								1
metapodial	1	1			7			
pha1ange 1		1	1		5			2
phalange 2	1	1	2		1			1
phalange 3		2				1		1
phalange.	1	2			2			
TOTAL	6	28	7	12	58	7	2	39

Table 712: Pig skeletal representation, selected epiphyses, hand-collected

PERIOD	201	202	203	301	401	501	604
BONE							
scapula distal		4	1	2	5	2	1
humerus proximal	1				1		1
humerus distal	1	1		1	7	1	2
radius proximal		1			3	1	3
ulna proximal			1	1	4		3
radius distal			1		2		2
metacarpal 2/5 proximal				1			1
metacarpal c2/5 distal				1	1		1
metacarpal 3/4 proximal				2	6	1	6
metacarpal 3/4 distal				2	6	1	6
innominate				3	7	1	1
femur proximal				1	2		1
femur distal					1	2	1
tibia proximal					3	2	2
tibia distal					4	1	4
calcaneum proximal							1
metatarsal 2/5 proximal							1
metatarsal 3/4 proximal				2	5		4
metatarsal 2/5 distal							1
metatarsal 3/4 dist				3	5		3
metapodial proximal	1				3		2
metapodial distal	1			1	3		2
phalange 1 proximal				2		1	1
TOTAL	4	6	3	22	68	13	50

Table 713: Ox, mandibular tooth eruption and wear

a) by period

PERIOD	201	202	203	301	401		402	501	502	604	700
	N	N	N	N	N	%	N	N	N	N	N
Age group											
1										1	
2					1	2.6					
3				7	3	7.9		1		2	
4		1			2	5.3				3	3
5	2	1	1	1	21(1)	55.3		2	1	5	2
6	1			1	12(1)	28.9	2	3		2	2
Mandible count	3	2	1	9	40(2)		2	6	1	13	7

b) by combined periods

	Pre-Boudiccan	Post Boudiccan-Hadrianic fire		Post Hadrianic fire -m3rd c	Late Roman	Latest Roman
PERIODS	201-202	203-301		302-503	601-604	700
	N	N	%	N	N	N
Age group						
1	0	0	0	0	1	0
2	0	1	2.1	0	0	0
3	0	9	19.2	2	2	0
4	1	2	4.3	1	4	3
5	3	23(1)	48.9	3	5	2
6	1	12(1)	25.5	6	2	2
Mandible count	5	47(2)		12	14	7

Age Groups are:- **0.** dpm4 unworn, **1.** M1 unworn, **2.** M2 unworn, **3.** M3 unworn, **4.** M3 worn (wear stage 6-11), **5.** M3 worn (wear stage 12-13) and **6.** M3worn (greater or equal to wear stage 14. Number (N) of hand collected and (sieved) mandibles. % of hand collected mandibles.

Wear stages after Grant (1982).

Combined periods are Pre-Boudican (Periods 201 and 202); Post Boudican to Hadrianic fire (P203-301; Post-Hadrianic fire to mid 3rd century AD (P302-503); Late Roman (P601-604); and Latest Roman (P700).

Table 714: Cattle, hand-collected, epiphysial fusion, by period

PERIOD	201	201	202	202	203	203	301	301	401	401	402	402	501	501	502	601	601	602	602	603	603	700	700
BONE	F	U	F	U	F	U	F	U	F	U	F	U	F	U	F	F	U	F	U	F	U	F	U
metacarpal (proximal)	9	0	46	1	3	0	8	0	11	0													
metatarsal (proximal)	6	0	72	0	9	0	11	0	14	0	1		2					10				8	
FOETAL/NEONATE/INF	15	0	118	1	12	0	19	0	24	0	1		9			3		10		1		7	
scapula (distal)	7	0	31	1	3	0	7	0	14	0	2	0	10	0	0	3	0	20	0	1	0	15	0
humerus (distal)	3	0	16	0	2	0	4	0	3	0													
radius (proximal)	8	0	23	0	2	0	15	1	5	0	1		2		1			6				4	
innominate (anterior)	4	0	20	0	1	0	3	0	3	0			2			1		3				4	
phalange1 (proximal)	4	0	27	0	4	0	13	0	4	0	1		1			1		16	1			2	
phalange2 (proximal)			3	0			5	0	2							1		3				1	
EARLY	26	0	120	1	12	0	47	1	14	0	1		2		1			14				2	
tibia (distal)			12	2			1	0	0	0								5					
metacarpal (distal)	6	0	45	3	7		10	1	11	1			1					3				4	
metatarsal (distal)	11	2	45	6	6	1	18	1	18		3	0	8	0	2	3	0	50	1	0	0	17	0
metapodial (distal)			0	0	2	0																	
INTERMEDIATE	17	2	102	11	15	1	29	2	13	2	1	1						1					
humerus (proximal)			5	1			0	1	5		1		5		1			11	1			9	1
ulna (proximal)			1	0	1	0	1	1	2		2		4	1		1	2	20	1			4	
radius (distal)	1	0	8	7			3	1	8	2	4	1						2					
femur (proximal)	1	0	8	3	1	0	1	3	0	1			9	1	1	1	2	34	2	0	0	13	1
femur (distal)			5	1	1	0	1		1														
tibia (proximal)	1	0	9	6	1	0		1		1									1				
calcaneum (proximal)	1	0	3	1					2	0	1				1			1					1
LATE	4	0	39	19	4	0	6	7	4	4							1	3	1				2
VERTEBRAE	3	3	67	75	19	10	17	16	2	3			1					1	3				1

Table 715: Ox, epiphysial fusion, hand-collected, grouped

a) by period

PERIOD	201	202	203	301	301	401	401	402	501	502	602	602	603	604	700
FUSION	F/U	F/U	F/U	F/U	%F	F/U	%F	F/U	F/U	F/U	F/U	%F	F/U	F/U	F/U
FN	0	0	1	0		1		0	0	0	1		0	0	0
I	0	0	0	0		2		0	1	0	7		0	0	0
FN/I	1/0	8/0	6/0	17/0	100.0	85/2	97.7	1/0	10/0	1/0	19/0	100.0	0	1/0	15/0
Early	2/0	8/0	17/0	24/0	100.0	82/1	98.8	2/0	8/0	2/0	50/1	98.0	1/0	0	17/0
Intermediate	3/1	6/0	8/1	15/3	83.3	69/7	90.8	3/0	8/1	2/0	34/2	94.4	0	0	13/1
Late	0	2/0	2/0	16/5	76.2	19/11	63.3	0	3/1	1/0	6/6	50.0	0	0	2/5
Vertebrae	0	0	5/1	11/12	47.8	44/40	52.4	10/0	13/10	0	5/15	25.0	1/0	2/3	3/4

b) by combined periods

PERIOD	Pre-Boudiccan		Post Boudiccan-Hadrianic fire		Post Hadrianic fire -m3rd c		Late Roman		Latest Roman	
BONE	F/U	%F	F/U	%F	F/U	%F	F/U	%F	F/U	%F
FN	0		2		1		1		0	
I	0		2		1		7		0	
FN/I	9/0	100.0	97/1	98.9	23/0	100.0	20/0	100.0	15/0	100.0
Early	10/0	100.0	109/1	99.0	26/0	100.0	51/1	98.0	17/0	100.0
Intermediate	9/1	90.0	84/11	88.4	20/1	95.2	35/2	94.6	13/1	92.8
Late	2/0	100.0	33/16	67.3	8/1	88.9	6/6	50.0	2/5	28.5
Vertebrae	0	0	47/46	50.5	36/17	67.9	33/18	64.7	3/4	42.8

FN and I indicate the number of foetal/neonate and infant fragments respectively. FN/I is the ratio of fused to unfused proximal metapodials. The other epiphyses used are as follows:- Early - scapula P, humerus D, radius P, pelvis acetabulum, phalanges P; Intermediate - tibia D, metacarpus and metatarsus D; Late - humerus P, ulna P, radius D, femur P and D, tibia P and calcaneus P; Vertebrae, here include cattle and cattle-size. P (proximal) and D (distal). Combined periods are Pre-Boudiccan (Periods 201 and 202); Post Boudiccan to Hadrianic fire (P203-301; Post-Hadrianic fire to mid 3rd century AD (P302-503); Late Roman (P601-604); and Latest Roman (P700).

Table 716: Ox, epiphysial fusion, wet-sieved

PERIOD	201	202	203	301	301	401	401	501	602	602	700
BONE	F	F	F	F	U	F	U	F	F	U	F
FN/I											
metacarpal proximal		1	1			1					
metatarsal proximal				1					1		
<i>Early</i>											
humerus distal			19	1							
radius proximal			4			1					
innominate	1							1	1		
phalange 1 proximal		1	1	1		3			1		1
phalange 2 proximal				1		6	1	1	3		
phalange 3 proximal						5			2		
<i>Intermediate</i>											
tibia distal		1	4						1		
metacarpal distal						1	1				1
metapodial distal									1		
metatarsal distal				1		3			2		
<i>Late</i>											
humerus proximal			5				1				
ulna proximal							1				
radius distal			3			1			1	1	
femur proximal			1			2					1
femur dist			2			1		1			
tibia proximal			2		1	2					
calcaneum proximal									1		

Table 717: Ox, epiphysial fusion, wet-sieved, grouped

PERIOD	201	202	203	301	401	203-401		501	604	700
FUSION	F/U	F/U	F/U	F/U	F/U	F/U	% F	F/U	F/U	F/U
FN/I		1/0	1/0	1/0	1/0	3/0	100.0		1/0	
Early	1/0	1/0	24/0	3/0	15/1	42/1	97.7	2/0	7/0	1/0
Intermediate		1/0	4/0	1/0	4/1	9/1	90.0		4/0	1/0
Late			13/0	0/1	6/2	19/3	86.3	1/0	2/1	1/0

Table 718: Ox, distribution of very young fragments

PERIOD	203	301	40 1	401	60 2	60 2
LANDUSE	FN	FN	FN	I	FN	I
OA43		(1)				
OA45			1	2		
OA75			1	1		
R1					1	
R2	1					7

Number of hand collected (sieved)

FN foetal/neonate

I infant

*Table 719: Sheep/goat mandibular tooth eruption and wear
(combined sheep/goat, sheep and goat]*

a) by period

PERIOD	201	202	203	301	401	402	501	602	604	700
Age group										
1		(1)		1	5(2)					
2		(1)		4(1)	2			1		
3		1		1	1					1
4	1		(4)	2	4			1	1	1(1)
5	1	1		2	1	(1)	2	6		
No. mandibles	2	2(2)	(4)	10(1)	13(2)	(1)	2	8	1	2(1)

b) combined periods

	Pre-Boudiccan	Post-Boudiccan-Hadrianic fire	Post-Hadrianic fire mid-3rd c	Late Roman	Latest Roman
PERIOD	201-202	203-301	302-503	601-604	700
Age group					
1	(1)	5(2)	1	0	0
2	(1)	5(1)	1	1	0
3	1	2	0	0	1
4	1	4(4)	2	2	1(1)
5	2	2	3(1)	6	0
No. mands.	4(2)	18	7(1)	9	2(1)

Age groups are:- **1.** M1 unworn, **2.** M2 unworn, **3.** M3 unworn, **4.** M3 worn (wear stage 6-11), **5.** M3 worn (wear stage 12-13) and **6.** M3 worn (greater or equal to wear stage 14).

Wear stages after Grant (1982).

Number (N) of hand collected and (sieved) mandibles.

Combined periods are Pre-Boudiccan (Periods 201 and 202); Post Boudiccan to Hadrianic fire (P203-301; Post-Hadrianic fire to mid 3rd century AD (P302-503); Late Roman (P601-604); and Latest Roman (P700).

Table 720: Sheep/goat epiphysial fusion, hand-collected, total fragment counts

PERIOD	201	201	202	202	203	203	301	401	401	501	501	602	602	604	604	700	700
BONE	F	U	F	U	F	U	F	F	U	F	U	F	U	F	U	F	U
<i>FN/I</i>																	
metacarpal proximal			1		1		2	5		1		6		1		3	
metatarsal proximal			3				1	7	1	1		8		1		3	
	0	0	4	0	1	0	3	12	1	2	0	14	0	2	0	6	0
<i>Early</i>																	
scapula proximal										1		2					
humerus distal			1	1			1	2	1								
radius proximal	1			1	1			1	1			2					1
innominate									2					1			
phalange 1 proximal																	
phalange 2 proximal																	
phalange 3 proximal																	
	1	0	1	2	1	0	1	3	4	1	0	4	0	1	0	0	1
<i>Intermediate</i>																	
tibia distal		1	1	1				7	2			2		1			2
metacarpal distal				1		1	1	3	2	1		1	3			3	
metatarsal distal			1	1			1	4	3			3		1		1	2
	0	1	2	3	0	1	2	14	7	1	0	6	3	2	0	4	4
<i>Late</i>																	
humerus proximal				1				1	1						1		
ulna proximal						1			1								
radius distal				1		1			4			1	1				1
femur proximal												1					
femur distal									1								
tibia proximal			1	1					1		1						1
calcaneum proximal																	
	0	0	1	3	0	2	0	1	8	0	1	2	1	0	1	0	2

Table 721: Sheep/goat, epiphysial fusion, wet-sieved

PERIOD	301	401
BONE	F	F
metacarpal proximal		1
metatarsal proximal		
scapula distal		
scapula proximal		
humerus distal		
radius proximal		
innominate		2
phalange 1 proximal	1	1
phalange 2 proximal		
phalange 3 proximal		1
tibia distal		1
metacarpal distal		
metapodial distal		
metatarsal distal		
humerus proximal		
ulna proximal		
radius distal		
femur distal	1	2
femur proximal		
tibia proximal		
calcaneum proximal		

Table 722: Sheep/goat, epiphysial fusion, hand-collected, grouped

a) by period

PERIOD	201	202	203	301	401		402	501	502	602	604	700
BONE	F/U	F/U	F/U	F/U	F/U	%	F/U	F/U	F/U	F/U	F/U	F/U
FN	0	0	0	0	0		0	1	0	0	0	0
I	0	1	0	1	10		0	2	0	0	0	2
FN/I	0	4/0	1/0	3/0	10/1	90.9	2/0	2/0	0	13/0	2/0	6/0
Early	2/0	1/2	0	1/0	3/3	50.0	0	0	1/0	4/0	1/0	0/1
Intermediate	0/1	2/3	0/1	2/1	14/7	66.7	1/0	1/0	0	5/4	2/0	4/4
Late	0/1	1/3	0/1	0/1	1/8	11.1	0	0	0	1/2	0/1	0/2

b) by combined periods

	Pre-Boudiccan		Post-Boudiccan-Hadrianic fire		Post-Hadrianic fire mid- 3rd		Late Roman		Latest Roman	
BONE	F/U	%F	F/U	%F	F/U		F/U	%F	F/U	%F
FN	0		0		1		0		0	
I	1		9		4		0		2	
FN/I	4/0	100.0	12/1	92.3	6/0	100.0	15/0	100.0	6/0	100.0
Early	3/2	60.0	3/3	50.0	2/0	100.0	5/0	100.0	0/1	0.0
Int	2/4	33.3	16/8	66.6	2/1	66.6	7/4	63.3	4/4	50.0
Late	1/4	20.0	1/8	11.1	0/2	0.0	1/3	25.0	0/2	0.0

FN and I equal number of foetal/neonate and infant fragments respectively. FN/I is the ratio of fused to unfused proximal metapodials. The other epiphyses used are as follows:- Early - scapula P, humerus D, radius P, pelvis acetabulum, phalanges P; Intermediate - tibia D, metacarpus and metatarsus D; Late - humerus P, ulna P, radius D, femur P and D, tibia P and calcaneus P.

Periods are Pre-Boudiccan (Periods 201 and 202); Post-Boudiccan to Hadrianic fire (P203-301); Post-Hadrianic fire to mid-3rd century AD (P302-502); Late Roman (P503-604); and Latest Roman (P700).

Table 723: Sheep/goat, epiphysial fusion, wet-sieved, grouped

PERIOD	201	202	301	302	401	401	402	501	502	604	700
FUSION	F/U	F/U	F/U	F/U	F/U	%F	F/U	F/U	F/U	F/U	F/U
FN	0	17	3	0	3		0	0	0	0	0
I	0	0	1	6	7		0	0	0	0	0
FN/I	0	0	0	1/0	1/0	100.0	2/0	0	2/0	1/0	0
Early	0	1/0	1/0	4/3	5/3	62.5	10/0	0	1/3	2/1	2/2
Intermediate	0/1	0	0	1/4	1/4	20.0	2/0	0	0/3	0/1	0
Late	0	0	1/0	2/4	3/4	42.8	5/1	0/1	0/4	0/1	1/0

Table 724: Sheep/goat, recovery of very young fragments

PERIOD	202	202	301	401	401	501	700
LANDUSE	FN	I	FN	FN	I	I	I
B64RMA							1
B64RME							1
OA11		1					
OA6	(17)						
OA32					1(1)		
OA40					1		
OA43			(1)				
OA45				(2)	5(6)		
OA47					2		
OA75				I	2		
OA77						2	

Number of hand collected (wet-sieved)

Table 725: Pig, mandibular tooth eruption and wear/sex determination.

a) tooth eruption and wear

PERIOD	201	202	203	301	401	604
	N	N	N	N	N	N
Age group						
0					1	
1				1	2	
2	2	(1)		2	1	3
3	1		1	2	3(1)	4
4	1	1		2	3	3(1)
5				1	4	2
6	1					1
Mandibles	5	1(1)	1	8	14(1)	13(1)

b) sex determination

PERIOD	201	202	203	301	401	501	604
	M/F	M/F	M/F	M/F	M/F	M/F	M/F
Age group							
2							1/1
3				2/0	1/0		
4		0/1					
5					1/1		1/0
All canines							
2+ (mand)	1/0	0/1	3(1)/0	2/0	4/1(1)	1/0	5/2
2+ (maxilla)					(1)/(1)	1/0	(2)/0

M/F number of male/female worn adult canines, with Age Group 2+ equalling sex information from all canines, including mandible and maxilla fragments without molar teeth.

c) age and sex by combined periods

	Pre-Boudiccan		Post-Boudiccan-Hadrianic fire		Post-Hadrianic fire -m3rd c		Late Roman		Latest Roman	
PERIOD	201-202		203-401		402-502		503-604		700	
	N	M/F	N	MF	N	MF	N	MF	N	MF
Age group										
0			1							
1			3							
2	2(1)		3				3	1/1		
3	1		6(1)	3/0			2		2	
4	2	0/1	4		1		3(1)			
5			4	0/1	1	1/0	1		1	1/0
6	1								1	
No. of mandibles	6(1)		21(1)		2		9(1)		4	
2+		1/1		8(1)/ 1(1)		2/0		2/1		3/1

Age groups are:- **0.** dpm4 unworn; **1.** M1 unworn, **2.** M2 unworn, **3.** M3 unworn, **4.** M3 worn (wear stage 6-7), **5.** M3 worn (wear stage 8-9) and **6.** M3 worn (greater or equal to wear stage 10).

Wear stages after Grant (1982).

Number (N) of hand collected and (sieved) mandibles. % of hand collected mandibles.

Combined periods are Pre-Boudiccan (Periods 201 and 202); Post Boudiccan to Hadrianic fire (P203-301; Post-Hadrianic fire to mid 3rd century AD (P302-503); Late Roman (P601-604); and Latest Roman (P700).

M/F number of male and female mandibles with adult worn canines, with 2+ being these mandibles plus all within this age group which could not be more accurately aged due to an absence of molar teeth.

Table 726: Pig, epiphysial fusion, hand-collected

PERIOD	201	201	202	202	203	203	301	301	401	401	501	501	602	602	603	604	604	700	700
BONE	F	U	F	U	F	U	F	U	F	U	F	U	F	U	U	F	U	F	U
FN/I																			
metacarpal proximal	3								6		1		4			1		2	
metatarsal proximal							2		5				5						
metapodial proximal	1								3				2						
	4	0	0	0	0	0	2	0	14	0	1	0	11	0	0	1	0	2	0
<i>Early</i>																			
scapula proximal			4		1		1	1	5			2						1	
humerus dist		1	1				1		5	2	1					1		1	
radius proximal			1						2	1	1		2					1	
innominate							3		6	1	1		1						
phalange 1 proximal							1	1			1		1						
phalange 3 proximal							1				4	2	4	0	0	1	0	3	0
	0	1	6	0	1	0	7	2	18	4									
<i>Intermediate</i>												1				1	1	2	
tibia distal									2	2		1		4		1			2
metacarpal distal								3	1	6			1	3					
metatarsal distal								3		5			1	1					
metapodial distal		1						1	2	1	0	2	2	8	0	2	1	2	2
	0	1	0	0	0	0	0	7	5	14									

<i>PERIOD</i>	201	201	202	202	203	203	301	301	401	401	501	501	602	602	603	604	604	700	700
<i>BONE</i>	F	U	F	U	F	U	F	U	F	U	F	U	F	U	U	F	U	F	U
<i>Late</i>																			1
humerus proximal	1									1				1				1	1
ulna proximal						1		1		4				1				1	
radius distal						1				2				1	1				
femur proximal								1			1	1		1	1				
femur distal										1		2				1		1	
tibia proximal										3	1	3	0	4	2	1	0	3	2
	1	0	0	0	0	2	0	1	0	11									

Table 727: Pig, epiphysial fusion data, hand-collected, grouped

a) by period

Period	201	202	203	301	401	401	402	50 1	604
Age/fusion	F/U	F/U	F/U	F/U	F/U	% F	F/U	F/U	F/U
FN	0	0	0	1	0		0	0	0
I	0	0	0	0	0		0	1	0
FN/I	1/0	5/0	0	0	14/0	100.0	0	1/0	14/0
Early	0/1	7/1	1/0	5/1	18/4	81.8	1/0	4/2	7/0
Intermediate	0/1	0/5	0	0/2	5/14	26.3	0	0/2	6/11
Late	1/0	0	0/2	0/2	0/12	0.0	0/1	1/3	4/5

b) by combined periods

	Pre-Boudiccan		Post-Boudiccan-Hadrianic fire		Post-Hadrianic fire -m3rd c		Late Roman		Latest Roman	
BONE	F/U	%F	F/U	%F	F/U		F/U	%F	F/U	%F
FN	0		1		0		0		0	
I	0		0		1		0		0	
FN/I	6/0	100.0	7/0	100.0	8/0	100.0	12/0	100.0	2/0	100.0
Early	7/2	77.7	21/5	80.7	7/2	77.8	4/0	100.0	3/0	100.0
Int	0/6	0.0	4/8	33.3	1/10	9.0	4/9	30.7	2/2	50.0
Late	1/0	0.0	0/14	0.0	1/6	14.3	1/2	33.3	3/2	60.0

FN and I indicate the number of foetal/neonate and infant fragments respectively. FN/I is the ratio of fused to unfused proximal metapodials. The other epiphyses used are as follows:- Early - scapula P, humerus D, radius P, pelvis acetabulum, phalanges P; Intermediate - tibia D, metacarpus and metatarsus D; Late - humerus P, ulna P, radius D, femur P and D, tibia P and calcaneus P.

Periods are Pre-Boudiccan (Periods 201 and 202); Post-Boudiccan to Hadrianic fire (P203-401); Post-Hadrianic fire to mid-3rd century AD (P402-503); Late Roman (P601-604); and Latest Roman (P700).

Table 728: Pig, epiphysial fusion, wet-sieved

PERIOD	301	301	401	401
BONE	fused	unfused	fused	unfused
metacarpal proximal			1	
metatarsal proximal				
metapodial proximal			6	
scapula proximal		1		
scapula distal				
radius proximal				1
innominate			2	
phalange 1 proximal			3	2
phalange 2 proximal			1	
phalange 3 proximal				
tibia distal		1		1
metacarpal distal				1
metatarsal distal			1	
metapodial distal				3
humerus proximal				
ulna proximal				
radius distal				1
femur proximal				2

femur distal				2
tibia proximal				1
calcaneum proximal				4
humerus distal				

Table 729: Pig, epiphysial fusion, wet-sieved, grouped

PERIOD	201	202	203	301	401	203-401		402	501-502	602-604	700
AGE/FUSION	F/U	F/U	F/U	F/U	F/U	F/U	% F	F/U	F/U	F/U	F/U
FN				2	2	4				1	1
I				2	1	3					
FN/I	1/0	1/0	0	0	7/0	7/0	100.0	0	0	3/0	1/0
Early	0	5/1	3/0	0/1	6/3	9/4	69.2	1/0	0/1	1/1	2/2
Intermediate	0	0/5	0	0/1	1/5	1/6	14.3	0	0	1/0	0/1
Late	0	0/1	0/1	0	0/1 0	0/11	0	0	0	0	0/1

Table 730: Pig, distribution of very young fragments

PERIOD	301	301	401	401	501	60	70
LANDUSE	FN	I	FN	I	I	FN	FN
R2						(1)	
OA32	(1)						
OA43	(1)	(1)					
OA44		(1)					
OA45			(2)	(1)			
OA76					1		
OA77							(1)
S21	1						

Number of hand collected (wet-sieved)

Table 731: Deer/total retrieval

CONTEXT	GROUP	LANDUSE	PERIOD	SPECIES	BONE	NOS
12757	246	B12	202	deer, red	antler	1
8501	374	OA33	301	deer, red	antler	1
18225	458	OA41	301	deer, roe	antler	1
15034	351	B19RMC	401	deer, red	antler	1
3782	417	OA32	401	deer, red	radius	1
3594	433	OA32	401	deer, red	antler	1
3576	437	OA37	401	<i>unid.</i>	antler	1
12529	524	R3	401	deer, red	antler	1
18066	836	OA75	401	<i>unid.</i>	metapodial	1
18079	836	OA75	401	deer, roe	metacarpal	1
18020	839	OA76	401	deer, fallow	metacarpal	1
18001	852	OA77	502	deer, red	antler	2
3824	784	B63	502	deer, red	antler	1
17610	656	OA58	604	<i>unid.</i>	antler	1
17536	657	OA58	604	<i>unid.</i>	antler	1
12037	918	R1	603	deer, red	antler	1
3342	834	OA74	602	deer, red	antler	1
3500	819	B64RME	700	deer, red	antler	3
7332	771	OA70	700	deer, red	antler	1
18085	857	OA77	700	deer, red	antler	2

unid. indicates red or fallow-sized deer

Key to abbreviations:-

ANT	antler
MTC	metacarpal
MTP	metapodial
N	fragment count
RAD	radius

Table 732: Ox, stature

Withers heights (in millimetres) calculated from metatarsal greatest length

PERIOD	BONE	RANGE	MEAN	NO S
early Roman	metatarsa I	1021.5- 1222.9	1112.4	8
late Roman	metatarsa I	1132.1- 1166.8	1146.8	6

After von den Driesch and Boessneck (1974)

Table 733: Ox metacarpal, greatest breadth of the distal end (Bd)

by combined period

a) distribution

	DISTAL BREADTH RANGE (mm)							
PERIOD	44-47.9	48-51.9	52-55.9	56-59.9	60-63.9	64-67.9	68-71.9	72-75.9
early Roman	1	24	14	2	5	2	0	0
late Roman	0	4	6	6	1	0	2	1

b) summary statistics

PERIOD	RANGE (mm)	MEAN	NOS
early Roman	45.7 - 67.4	52.6	48
late Roman	49.8 - 75.9	57.5	20

Measurement of distal breadth (Bd) (after von den Driesch 1976).

early Roman includes Periods 201-16; late Roman includes Periods 18-700.

Table 734: Sheep/goat (including sheep and goat), stature

Withers heights (in millimetres) calculated from metatarsal greatest length

	CONTEXT	PERIOD	TAXON	BONE	GREATEST LENGTH (MM)	WITHERS HEIGHT (MM)	MEAN/PERIOD	NOS
early Roman	9239	202	goat	metatarsal	115.0	614.1	614.1	1
early Roman	9252	301	sheep	metacarpa I	110.3	539.4		
early Roman	3782	301	sheep	metatarsal	125.3	568.9		
early Roman	18314	301	sheep	metatarsal	144.7	656.9	588.4	3
early Roman	12830	401	sheep	metacarpa I	122.5	599.0		
early Roman	18089	401	sheep	metacarpa I	127.0	621.0		
early Roman	18089	401	sheep	metatarsal	128.4	582.9		
early Roman	18089	401	sheep	metatarsal	153.0	694.6		
early Roman	3751	401	sheep	metacarpa I	128	625.9		
early Roman	3751	401	sheep	radius	162.5	653.3	629.4	6
early Roman	8783	402	sheep	humerus	131.1	561.1		
early Roman	8783	402	sheep	metacarpa I	117.2	573.1		
early Roman	8783	402	sheep	radius	142.6	573.3		
early Roman	3495	402	sheep	metatarsal	125.8	571.1	569.7	4
early Roman	18033	501	sheep	metacarpa I	123.8	605.4	605.4	1

	CONTEXT	PERIOD	TAXON	BONE	GREATEST LENGTH (MM)	WITHERS HEIGHT (MM)	MEAN/PERIOD	NOS
late Roman	17536	602	sheep	metacarpa I	118.5	579.5		
late Roman	12572	602	sheep	metatarsal	129.3	587.0	583.3	2
late Roman	3097	502	sheep/goat	metatarsal	134.5	610.6	610.6	1
late Roman	11587	700	sheep	metacarpa I	123.0	601.5		
late Roman	11678	700	sheep/goat	metacarpa I	131.0	640.6		
late Roman	18085	700	sheep	metatarsal	134.5	610.6	617.6	3
early Roman	all	202-502	sheep + goat			539.4 - 694.6	602.7	15
late Roman	all	601-700	sheep + sheep/goat			579.5 - 640.6	605.0	6