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Summary

183 animal bones and teeth from the Roman site of Redlands Farm, Stanwick belong to 14 species of mammal and bird. Most are dated to the late 4th - 5th centuries. The most common taxa are cattle (42%), sheep/goat (29%), pig (12%) and horse (5%). The cattle teeth are large and compared with the early medieval cattle teeth in this part of Northamptonshire indicate a size decrease between Roman and medieval times. Among several bird bones, was one of the rare white-tailed eagle.

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Animal bones from the Roman site Redlands Farm, Stanwick, Northamptonshire, 1990 excavation

Simon JM Davis

Introduction

This report describes the small collection of animal bones excavated at Redlands Farm, Stanwick, Northamptonshire. This small Roman "settlement complex", under threat from gravel extraction, was excavated by the Oxford Archaeological Unit in 1990 under the direction of Graham Keevill. The site was situated in the Nene floodplain at grid reference SU 962705, and is part of the Raunds Area Project.

The excavation revealed a mill and two rectangular barns set within a system of ditched enclosures and field boundaries (Keevill, 1990). The mill lay on a low sand island in the floodplain and was fed by two leats which drained a subsidiary palaeochannel of the Nene. Keevill suggests that the settlement was initially designed around the exploitation of water power. The mill was subsequently converted (in phase IIb) into a villa with hypocaust and painted wall plaster (much of which is exceptionally well preserved) and later (in phase IIc) a mosaic pavement was constructed.

On the basis of the pottery and some coins Keevill (pers. comm.) recognises four phases of occupation of the settlement which are tentatively dated as follows:

Phase	tentative date
IId	late 4th to 5th century AD
IIc	remainder of 3rd to mid 4th century AD
IIb	late 2nd to early 3rd century AD
IIa	early to mid 2nd century AD

The fauna (table 1)

The animal remains were recovered by hand. Most bones are fairly well preserved although many appear to have been gnawed by carnivores (see below). The Redlands Farm bones will be stored in the Northampton Museum.

Methods

For a full description of the methods used see Davis (1992). In brief, all mandibular teeth and a restricted suite of "*parts of the skeleton always recorded*" (ie a predetermined set of articular ends/epiphyses and metaphyses of girdle, limb and foot bones) were recorded and used in counts (see tables 1 and 2). In order to avoid multiple counting of very fragmented bones, at least 50% of a given part had to be present for it to be counted. Broken, and therefore single, metapodial condyles of caprines and cattle were counted as halves, as were each of the two central pig metapodials. Caprine teeth were assigned to the eruption and wear stages of Payne (1973 and 1987), pig and cattle teeth were assigned to the eruption and wear stages of Grant (1982). Measurements taken on the humerus and cattle metapodials are illustrated in Davis (1992a: figures 1 and 2) and on pig teeth follow Payne and Bull (1988). In general, other measurements taken are those recommended by von den Driesch (1976).

Results and discussion

a) Species represented (tables 1 and 2).

14 species of mammal and bird are represented in this small faunal assemblage from Redlands Farm as well as another species, fallow deer, found in an unphased context.

Sheep and goat. Caprine bones and teeth are generally difficult to determine to species. Some, such as the dP_3 and dP_4, astragalus, and metapodials are relatively easy to identify as either sheep or goat. There was no evidence for the presence of goat. A dP_3, dP_4 and a calcaneum could be identified as definite sheep. Given the scarcity of measurements it is not possible to draw any conclusions concerning the size of the Redlands Farm caprines.

Cattle. There are too few cattle bones at Redlands Farm to enable detailed study of their size (see tables 3 and 4; many others are too damaged to be measurable), however, there are sufficient lower third molar teeth to enable a comparison to be made with the cattle M_3s from neighbouring assemblages in the Raunds area such as the bronze age at Irthlingborough Barrow and the early medieval at West Cotton, as well as Roman assemblages in other parts of the country (table 5). (Teeth measurements are especially useful for making comparisons since there is very little sexual size-dimorphism in most mammalian teeth so discrepancies in the sex ratio do not have any complicating effect.) This comparison indicates (if tenuously given the small number of assemblages) that in the Raunds area the cattle appear to have decreased in size between the Roman period and early medieval times (the small difference between the Irthlingborough and Redlands Farm M_3s is not significantly different at the 5% level, but the difference between Redlands Farm and West Cotton early medieval M_3 measurements is significant at the 5% level). These size changes of cattle in the Raunds area corroborate the findings of Grigson (1982) and Armitage (1982).

Equids. Equid bones and teeth can also be difficult to determine to species (certain ass and horse bones are easily confused). The Redlands Farm equid teeth undoubtedly belonged to horse - the enamel folds on the biting surfaces of the mandibular teeth are characteristically horse-like and the lingual folds are "U" shaped and the buccal folds partially penetrate between the flexids in the molars. In the upper teeth the protocones are elongated in a posterior direction - a typical feature of caballine horses (see Eisenmann, 1981).

Pigs. The absence of any especially large specimens of *Sus* suggests that the small sample of pig bones and teeth belonged to the domestic pig rather than its large relative, the wild boar, which survived in England until the 17th century (Harting, 1880; 102). Given the scarcity of measurements it is not possible to draw any further conclusions concerning the size of the Redlands Farm pigs.

Dog. A radius of a small dog from context 1108 (phase IId; table 4) has a length of 70.1 mm and minimum shaft width of 5.6 mm which is at the bottom of the range of Romano-British dog radius measurements in Harcourt's (1974) summary of British dogs in prehistoric and early historic Britain. A radius of this size must have come from a dog which stood around 24 cms at the shoulder, using Harcour's multiplication factor for estimating shoulder height [(radius length x 3.43) + 19.51]. Harcourt suggested that small dogs of this size, otherwise known as lap dogs, were (as indeed they are today) a luxury. As far as his records indicated, lap dogs first appeared in Roman times. Perhaps this dog radius from context 1108 reflects the high status of the inhabitants of Redlands Farm.

White-tailed eagle. A complete and well-preserved foot bone of the white-tailed eagle (a tarso-metatarsus from context 1108, phase IId; figure 1) is interesting since this bird is only rarely found on archaeological sites in England and was, until its recent re-introduction into the Inner Hebrides, extinct in Britain. In the same context is a badly damaged ulna of a large bird, probably also the same species. Neither bones have any cut marks on them. Baxter (1993) describes a skull of the white-tailed eagle from Roman Leicester, and mentions that it has also been found on six other Roman sites in Britain (three rural and three urban): Droitwich, Uley, Dunstable, Sheepen, and Southwark and Billingsgate in London. According to Reid-Henry and Harrison (1988; 78) this bird prefers to be near water, salt or fresh, coastal or inland. It takes fish, as well as a large range of creatures from goose-size downwards and will feed on carrion. They also write that the white tailed eagle, together with the raven, "became part of Norse and Saxon legend through its recognition of the carrion-producing possibilities of human conflict and its attendance at local battles." According to Mulkeen and O'Connor (in press) white-tailed eagles were probably successful urban scavengers in Roman and medieval north-west Europe.

Fallow deer. A calcaneum from context 487 (Area H) is identified as fallow deer. Unfortunately material from this context derives from "cleaning - phase 0". (Hence it is not recorded here in the tables.) There is some uncertainty as to when fallow deer were first introduced into Britain. It is not commonly found in archaeological sites until after the Norman invasion and so the

Normans are often credited with its introduction. Occasionally however fallow deer bones are reported from Roman sites. Baker (in prep.) has recently identified a shed fallow deer antler from the Roman site at Scole on the Norfolk/Suffolk boundary. In general fallow deer bones are dismissed as possible later intrusions. The Romans did however take fallow deer to France Germany, Spain and Switzerland, and perhaps to Britain too (see Chapman and Chapman, 1975; 47). It is quite possible that fallow deer were kept in small numbers in Roman times. The Redlands Farm calcaneum will be subjected to radiocarbon analysis to help shed some light on the problem of this species' introduction.

Other taxa. A red deer tibia in context 23 (phase IId) and a fox bone suggest the inhabitants of Redlands Farm hunted animals too. The absence of other deer bones is worth noting but in view of the total size of the assemblage, may not be of any great significance. Cat is also represented - perhaps a pet. Several other bird bones were also found and include galliform (probably chicken, though osteological distinction between the three galliforms - chicken, pheasant and guinea fowl - is difficult to make), a corvid, pigeon (species undetermined), duck (probably mallard) and goose. Many, perhaps all, of these birds were eaten.

b) Frequencies of taxa.

Of the 183 recorded bones and teeth recorded in phases IIa - IId, 42% belonged to cattle, 29% to sheep/goat and 22% to pig. Undoubtedly hand collection has meant that many small bones and teeth, especially of the smaller taxa, were lost during excavation. Notwithstanding recovery and preservation biasses, and given the greater size of cattle, the inhabitants of Redlands Farm probably ate mainly beef and rather less lamb/mutton and some pork. King (1978) who surveyed animal bone assemblages from Roman Britain suggested that the more Romanised settlements had higher percentages of cattle bones. However, dogs were very active at Redlands Farm as evidenced by (i) the abundant gnaw marks on many bones especially cattle (6 of the recorded cattle bones showed definite signs of having been gnawed, and many long-bones had their ends and articular surfaces completely gnawed away so as to render them unrecordable); (ii) a sheep/goat second phalanx which was corroded in a manner similar to the bones which had been semi-digested by a dog and described by Payne and Munson (1985); and (iii) the high ratio of teeth to bones of sheep/goat and pig. The high caprine and pig tooth:bone ratio suggests that these animals were originally more abundant. A closer look at table 1 shows that there are twice as many sheep/goat molars as cattle molars. Teeth tend to preserve well, are less subject to the action of dogs, and are easier to see on excavation. They may therefore provide a better estimate of the ratio of sheep/goat to cattle - at Redlands Farm more like 2 to 1, though as mentioned above, given the greater size of cattle, it still seems reasonable to assume that the inhabitants of Redlands Farm ate more beef than mutton. According to Maltby (in press), unlike urban sites with their high percentages of cattle bones, Roman rural ones are rarely dominated by cattle bones to the same extent and often have more sheep/goat. If we consider the teeth as providing a truer picture of the sheep:cattle ratio at Redlands Farm, then in this respect its faunal assemblage is a typical Roman rural one. High teeth-to-

bone ratios, especially of animals in the sheep and pig size category (ie medium-sized animals whose bones can easily be gnawed beyond recognition and even swallowed by dogs) appear to characterise many rural sites where the rate of accumulation of deposit may have been lower (than in towns) and dogs were perhaps more common (Albarella and Davis, 1994).

While most of the faunal remains are from phase IId, there are too few from the other phases to enable any meaningful study of change through time. However, pooling the counts from phases IIb and IIc does not reveal any very drastic change in the frequencies of species with time. Tooth to bone ratios for cattle and sheep in phases IIa - IIc (pooled) and phase IId are not very different so that one can argue that the nature of the site in terms of the way in which debris accumulated did not change much in the course of the time represented by these phases.

A comparison between the Redlands Farm fauna with the faunas of other sites in the Raunds area (table 6) shows little evidence for any marked change in the faunal frequencies from Roman times through to the early medieval. We may speculate that despite the comings and goings of Romans and Saxons, little changed in terms of what people in the countryside (at least in the Raunds area) were eating.

c) Butchery marks.

As already mentioned, many of the cattle bones had been chopped and/or bear cut marks (8 of the recorded cattle bones had chop or cut marks and 1 sheep/goat bone had a cut mark). An equid tibia (context 1592 phase IIa/b) had been chopped with what must have been a very heavy blow. Whether horse flesh was exploited (eg fed to the dogs or consumed by the human inhabitants) remains an open question.

d) Age distribution of animals culled (table 7).

Sheep. The relatively small number of lambs is especially evident (note the low counts of deciduous teeth compared to permanent ones), which suggests, admittedly tentatively since it is quite likely that younger lamb bones and teeth did not preserve and/or were not recovered, that the prime reason for rearing sheep at Redlands Farm was for their milk and wool. Grant (1975) has suggested that in Roman Britain sheep were kept mainly for wool and only secondarily for their milk and meat.

Cattle. With so few specimens, it is difficult to interpret the cattle ageing data. Although (table 7) there appear to be relatively (compared to the sheep) more younger cattle represented. Note for example that there are equal numbers of dP_4s and P_4s. Were the cattle at Redlands Farm kept primarily for beef?

Pig. As is generally the case for pig, an animal bred mainly for its meat and fat, most of the pigs at Redlands Farm were culled young.

e) Anomalies and pathology

A cattle proximal metatarsal from context 356 (phase IId) has bony outgrowths (exostoses) on most of the articular surface where the bone normally articulates with the adjacent tarsal bone (the naviculo-cuboid) indicating that the metatarsal and naviculo-cuboid were fused. This condition, also known as spavin, is thought to characterise old work animals and animals which have suffered excessive strain to their hind quarters (Baker and Brothwell, 1980:117). Another anomaly often associated with old age and/or strain is the widening of the medial condyle of the metapodial - usually occurring on the metatarsal rather than the metacarpal and often reported in cattle. Two cattle metatarsals (table 4 marked with an asterisk) exhibit this arthropathy. No other evidence for disease or trauma was noticed on the animal remains at Redlands Farm and none of the eight cattle lower third molar teeth had missing hypoconulids.

Summary and conclusions

Most of the faunal remains from Redlands Farm were from animals eaten in antiquity. The most commonly represented animal is cattle, though the sheep/goat and pigs appear to have suffered a greater degree of post-mortem loss of bone (ie they are represented by a higher proportion of teeth) and were therefore probably more common than their bone-counts indicate. Considerable loss of bone - especially of these and other smaller animals is probably in part due to the activity of dogs and appears to be typical of rural settlements. Taking into consideration the greater weight of cattle compared to sheep, the frequencies of the species at Redlands Farm indicate that beef was the most common meat consumed, followed by lamb/mutton and some pork. The rather low proportion of juvenile as opposed to adult sheep teeth suggests that the sheep were kept primarily for their secondary products. A tarso-metatarsus of white-tailed eagle, a species extinct in Britain during most of the twentieth century, but which may have been a fairly common scavenger in Roman times, is interesting. A small dog radius, which must have belonged to a small dog implies that the inhabitants of this settlement were fairly wealthy. Overall, the frequencies of species at Redlands Farm are little different from those in an early medieval site in the Raunds area and one might speculate that the changes from Roman to medieval periods had little impact upon the diet of rural people in Northamptonshire.

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	Cattle	Sh/G	Pig	Horse	Dog	Others	Birds
i	-	-	1	-	-	-	
I	4	-	2	-	-	-	
C	-	-	2 (f)	1	-	-	
P_3	3	4	1	1	1	-	
P_4	4	6	4	1	1	-	
dP_3	2	1	-	-	-	-	
dP_4	4	1	1	-	-	-	
M_1	6	11	5	-	1	-	
$M_{1/2}$	3	16	1	1	-	-	
M_2	8	12	7	-	1	-	
M_3	8	11	5	-	-	-	
Scapula glenoid	8	3	-	-	1	-	1 duck
Coracoid	na	na	na	na	na	na	1 pigeon
Ulna	na	na	na	na	na	na	1 corvid, 1 Gall, 1 goose
Humerus dist	4	4	2	1	-	1 fox	1 corvid
Radius dist	3	5	1	1	-	-	1 Gall
Metacarpal dist	1	-	1	-	-	1 cat	1 corvid cmc
Femur dist	1	-	3	2	-	-	-
Tibia dist	6	6	1	2	-	1 red deer	1 corvid, 1 pigeon
Calcaneum	9	5	-	-	-	-	-
Astragalus	5	-	-	-	-	-	-
Metatarsal dist	4	-	-	-	1	-	1 corvid, 1 Gall, 1 w-tailed eagle
Metapodial dist	1.5	-	-	-	-	-	-
First phalanx prox	11	4	1	1	1	-	-
Third phalanx	4	-	-	-	-	-	-
Total teeth:	42	62	29	4	4	-	
Total bones:	57.5	27	9	7	3	1 fox, 1 cat, 1 red deer	5 corvid, 3 Gall, 1 w-tailed eagle, 2 pigeon, 1 duck, 1 goose

Table 1.

Numbers of animal teeth and bones found at Redlands Farm, Stanwick, all phases (IIa - IId inclusive) pooled. Key: "Sh/G" sheep or goat, only one bone and two teeth were identified as definite sheep, none was identified as goat; "Gall" refer to galliformes probably chicken; "cmc" carpo-metacarpus. "na" refer to bones such as mammalian ulnae which are not recorded.

	IIa	IIab	IIb	IIbc	IIc	IId	Totals		IIb+c	IId
	n	n	n	n	n	n	n	%	%	%
Cattle	1	6	7	1	18	44	77	42	50	42
Sheep/goat	7	1	5	4	3	33	53	29	23	31
Pig	3	1	3	3	4	8	22	12	19	8
Horse	1	1	1	-	1	6	10	5	4	6
Red deer	-	-	-	-	-	1	1	+	-	1
Dog	-	-	1	-	-	4	5	3	2	4
Fox	-	1	-	-	-	-	1	+	-	-
Cat	-	-	-	-	-	1	1	+	-	1
Galliform	-	-	-	-	-	3	3	2	-	3
Corvid	3	-	-	-	-	2	5	3	-	2
Pigeon	-	-	-	1	-	1	2	1	2	1
Duck	1	-	-	-	-	-	1	+	-	-
Goose	-	-	-	-	-	1	1	+	-	1
White-tailed eagle	-	-	-	-	-	1	1	+	-	1
N							183		52	105

Table 2.

Animal bones and teeth in each phase at Redlands Farm, Stanwick. Percentages which are less than one half are designated "+".

Box N°	Context	Area	Phase	Tax	M_1l	M_1wa	M_1wp	M_2l	M_2wa	M_2wp	M_3l	M_3wa	M_3wc
11	507	G	IIa	*Bos*							378	158	
16	1294	H	IIa/b	*Bos*							336	152	
19	1333	H	IIb	*Bos*							369	171	
15	1149	H	IIc	*Bos*							406	183	
7	38	G	IIc	*Bos*							364	151	
9	368	G	IId	*Bos*								164	
9	368	G	IId	*Bos*							355	165	
11	406	G	IIa	*Sus*				205	134	129			
10	399	G	IIb	*Sus*	167	106							
19	1524	R	IIb/c	*Sus*				215	132	149			
19	1524	R	IIb/c	*Sus*	171	103	108	221	137	141	326	163	148
16	1179	H	IIc	*Sus*		90							
15	1108	H	IId	*Sus*								156	
9	368	G	IId	*Sus*				196	118	125		144	
7	23	G	IId	*Sus*				203	129	144	357	156	158
8	356	G	IId	*Sus*	172	106	111	223	132	133			
9	368	G	IId	*Canis*	209	90							

Table 3.

Measurements in tenths of a millimetre of animal teeth (mandibular) from Redlands Farm, Stanwick. Key: *Bos* cattle, *Canis* dog, *Sus* pig.

Box N°	Context	Area	Phase	Bone	Taxon	Fus	Gl	Bd	Dd	BT	HTC	SD	BatF	A	B	1	2	3	4	5	6
19	1534	R	IIb/c	Humerus	*Bos*	F					346										
8	356	G	IId	Humerus	*Bos*	F				726	331										
10	377	G	IId	Humerus	*Bos*	F				(743)	344										
15	1139	H	IIa	Humerus	*O/C*	F				291	136										
19	1362	H	IId	Humerus	*O/C*	F					118										
10	377	G	IId	Tibia	*Bos*	F		628													
14	1102	H	IId	Tibia	*Bos*	F		686													
14	1102	H	IId	Tibia	*Bos*	F		750													
7	23	G	IId	Tibia	*Cervus elaphus*	F		498													
19	1535	R	IIa	Tibia	*O/C*	F		273													
10	383	G	IIb	Tibia	*O/C*	F		254													
13	1083	H	IId	Tibia	*O/C*	F		242													
13	1083	H	IId	Tibia	*O/C*	F		263													
9	361	G	IId	Astragalus	*Bos*		708	434	379												
10	377	G	IId	Astragalus	*Bos*		695		378												
14	1102	H	IId	Astragalus	*Bos*		619	397	343												
14	1102	H	IId	Astragalus	*Bos*		723	469	402												
16	1222	H	IIc	Calcaneum	*Bos*	F	1233														
9	368	G	IId	Calcaneum	*Bos*	F	1339														
6	22	G	IIb	Metatarsal	*Bos*	F	2163	520				(248)	477	255	247	218	299	263	219	(300)	274
15	1148	H	IIc	Metatarsal	*Bos*	F	2230	615				293	542	314	289	244	321	284	218	308	284*
14	1102	H	IId	Metatarsal	*Bos*	F	2247	616				298	558	285	288	252	346	301	236	(325)	313
14	1102	H	IId	Metatarsal	*Bos*	F	2375	602				293	574	301	277	259	342	295	238		296*
19	1535	R	IIa	Humerus	*Equus*	F				657	342										
10	377	G	IId	Radius	*Equus*	F		723	[BFd = 584]												
13	1083	H	IId	Tibia	*Equus*	F		754													
11	439	G	IIa/b	Humerus	*Vulpes vulpes*	F		192			79										
10	383	G	IIb	Metatarsal 5	*Canis familiaris*	F	450														
15	1108	H	IId	Radius	*Canis familiaris*	F	701					56									
9	356	G	IId	Tibio-tarsus	*Columba* sp			69	62												
16	1252	H	IId	Tarso-mT	*GN*		642	109				53									
15	1108	H	IId	Tarso-mT	*Haliaeetus albicilla*		1000	255				119									

Table 4.

Measurements in tenths of a millimetre of animal bones from Redlands Farm, Stanwick. Measurements follow von den Driesch (1976). Key: *Bos* cattle, *O/C* sheep or goat, *Equus* equid (probably horse), *Cervus elaphus* red deer, *Canis familiaris* dog, *Columba* sp pigeon, *Vulpes vulpes* fox, *GN* chicken or guinea fowl, *Haliaeetus albicilla* white tailed eagle. "Fus" refers to the state of fusion of the epiphysis. (Approximate measurements are in curved parentheses.) * Note the large difference between medial condyle width "A" and lateral condyle width "B" of these two metatarsals.

Site and Locality	Period	--- Length M_3 ---			--- Width M_3 ---		
		n	mean	sd	n	mean	sd
Exeter, Devon	1000-1200	22	33.4	2.06			
Launceston Castle, Cornwall	Medieval	74	32.9	1.82	97	14.3	0.83
West Cotton, Northants	Early medieval	60	35.1	1.85	52	14.9	1.36
Exeter, Devon	Roman	33	32.1	2.19			
Dodder Hill, Hereford & Worcester	Roman	8	34.7	2.60	9	15.1	0.66
Redlands Farm, Northants ph IIa-IId	Roman	6	36.8	2.35	7	16.3	1.12
Irthlingborough, Northants	Bronze age	24	38.0	1.47	23	16.6	0.95

Table 5.

Measurements of cattle third molar teeth. Redlands Farm cattle compared with cattle from several other sites. Sources are as follows: Exeter (Maltby, 1979); West Cotton (Albarella and Davis, 1994); Irthlingborough (Davis, 1989); Launceston Castle (Albarella and Davis, 1996); Dodder Hill (Davis, 1988).

	Cattle	Sh/G	Pig	Horse	Deer	N
West Cotton, Raunds, early medieval	35	24	15	8	+	2178
West Cotton, Raunds, late Saxon	32	22	20	8	-	143
Burystead & Langham Road, Saxon	40	32	15	8	+	1313
Redlands Farm, Stanwick ph IIa-IId	**42**	**29**	**12**	**5**	**+**	**183**

Table 6.

Percentages of the common large mammals at Redlands Farm, Stanwick compared to other sites in the Raunds area. Note: "Sh/G" refers to sheep or goat and "Deer" includes both roe and red deer, "N" is the total number of bone fragments used to calculate the percentages in each assemblage. Data from West Cotton are from Albarella and Davis, 1994; and Burystead and Langham Road are from Davis, 1992)

Sheep/goat

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14-24	Unassigned
dP_4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
P_4	-	-	-	-	-	-	-	-	2	2	-	1	1	-	-	-
M_1	-	-	-	-	-	-	1	-	-	9	-	1	-	-	-	-
$M_{1/2}$	-	-	1	-	-	1	4	3	1	6	-	-	-	-	-	-
M_2	-	-	-	-	-	-	1	3	-	8	-	-	-	-	-	-
M_3	2	-	1	-	-	1	-	-	1	2	1	3	-	-	-	-

Cattle

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	Unassigned
dP_4	-	-	-	-	-	-	-	1	-	-	2	1	-	-	-
P_4	-	-	-	2	-	-	1	-	-	-	-	-	-	-	1
M_1	-	-	-	-	-	2	-	-	-	1	1	2	-	-	-
$M_{1/2}$	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-
M_2	1	-	-	-	-	-	1	-	-	-	5	1	-	-	-
M_3	-	-	-	-	1	-	1	-	-	2	3	-	1	-	-

Pig

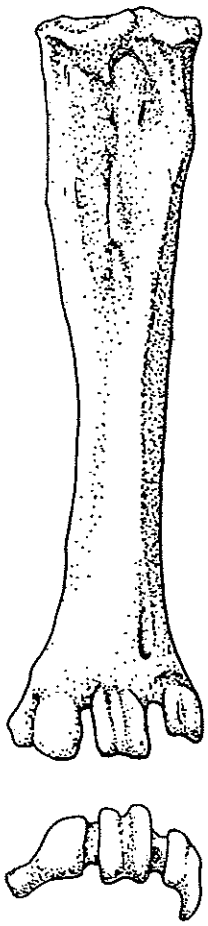
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	Unassigned
dP_4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
P_4	-	1	-	2	1	-	-	-	-	-	-	-	-	-	-
M_1	-	-	-	-	-	?	-	2	-	-	-	-	-	-	-
$M_{1/2}$	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
M_2	-	-	1	4	1	-	-	-	-	-	-	-	-	-	-
M_3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-

Table 7.

Dental wear stages of the sheep/goat (after Payne 1987), cattle (after Grant, 1982) and pigs (after Grant, 1982) at Redlands Farm, Stanwick. All phases (IIa - IId inclusive) are pooled.

Figure 1

Sketches of the white-tailed eagle, *Haliaeetus albicilla*, tarso-metatarsus from context 1108 (Area H phase IId) in anterior (above) and plantar (below) views. The scale bar is 5 cms. Drawing by Cathy Douzil.



5 cms