DEPARTMENT OF THE ENVIRONMENT
WESSEX FAUNAL REMAINS PROJECT
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REPORT ON ANIMAL BONES FROM M25 SITES

For Surrey Archaeological Society Motorway Rescue Group

1. Thorpe Lea Nurseries
2. Petter's Sports Field
3. Vicarage Road Allotments
4. Glanty Roundabout

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INTRODUCTION

The bones came from four sites excavated by the Surrey Archaeological Society Motorway Rescue Group. There were 117 small bags of fragments in two boxes. Many of the fragments were extremely small.

A full list of identifications is available for reference and we have extracted only the information we consider relevant for this report.

Archaeological information provided by Bernard Johnson is included in brackets in the text.

Because the collection was so fragmentary we were surprised by the amount of information which it yielded. This demonstrates the importance of keeping all the bones from an excavation however unpromising they look. Sieving was not carried out and there is no doubt that much of the bone was too soft to survive excavation.

1. THORPE LEA NURSERIES , Clockhouse Lane, Thorpe, Surrey.

AREA B Grid Reference TQ 01647003

(This was an Iron Age occupation site consisting of a round hut and storage pit, enclosed by a palisade. Bones from B1 were from a ditch 1m wide and 80 cm deep. They were of possible Iron Age date. B2 was an extension of B1.)

The fragments in the 10 bags from Area B were mostly small and not diagnostic. There was one small fragment of a horse bone, two fragments which might have been from cattle, a pig milk tooth, and a piece of tooth from either a sheep or goat.

AREA C Grid Reference TQ 01656982 (c^1-c^5)

(There is some evidence for early Iron Age occupation here, but

the main occupation seems to have been around the third and fourth centuries B.C. This consisted of long houses of sleeper beam construction with several water catchment pits nearby.)

Bone from the bottom of the Iron Age pits was not significant as it could not be assigned to species.

That from the hearth represented by C1 (6), (33), and (51) consisted of a number of cattle bones from at least two individuals - possibly one represented by the bones in (6) and the other by those in (33). The cattle mandibles in (6) have the third permanent premolar in wear and the fourth just erupting. The third molar is just beginning to erupt. It is difficult to assign an absolute age in years. Little is known of the speed of development of these animals. Modern breeds also vary in the speed of development. This stage of tooth eruption in modern breeds is on average reached at about 24-28 months (Habermehl,1961).

This could tie up with the cattle radius found in C1 (6) with distal end unfused. In figures given by Silver, 1963, this suggests an absolute age of 18 months to 3½ years. On the other hand we have no proof that tooth eruption data and epiphyseal fusion data bear the same relationship that they do in modern material. We shall confine ourselves to calling this animal one at the 'juvenilis' stage. That in (33) was adult. (See key at end for an explanation of these terms.)

Possible cattle fragments of tibia, pelvis and scapula were also found from the Iron Age hearth, with fragments of a pig humerus and maxilla, and two fragments which could have come from sheep or goat.

A few teeth - cattle, and sheep or goat-came from the area of hearth II of Iron Age date (C1 (52)) and an upper molar fragment of cattle from the sleeper beam trench (C1 (53).

The size of the cattle represented in these Iron Age levels is comparable with that of Iron Age cattle from Kent which have a wither height calculated at about a metre (Fock, 1966, corrected figures)

The early Roman levels (late 1st - early 2nd century A.D.) of C^2 and C^4, as well as those of C^1 , provided only fragmentary evidence of the above species but the R/B pit at C^1 (34) yielded the remains of two small adult sheep which had a wither height (Teichert, in press) of about 50cm and very thin legs by modern standards. The height was estimated from the humerus. Proximal humerus was fused. Most parts of the body of sheep were represented and we could find no signs of butchery so it is most likely that these animals were thrown down whole and not used for food.

The polished bone in C^1 [9] IX was the metatarsus of a sheep.

2. PETTER'S SPORTS FIELD, Glanty, Egham Site I

Grid Reference TQ 01687154

(The Late Bronze /Early Iron Age site may be a farming settlement, the circular shallow feature being the central occupation area. The Roman double ditch system cuts across the corner of the site, but may link up with the allotments - Vicarage Road - site)

Most of the bone came from the LBA/EIA shallow circular feature in lots T 3, (1)(2)(3) and (6) and T 8 , (1) (6) and (9). Numerous very fragmentary bones from at least 3 cattle, comparable in size with those from the site above, were mixed with the remains of two young pigs, two possible fragments of horse, and two of sheep or goat. One minute fragment could have been from dog canine tooth. In T3 (1) a dog tibia was found.

One of the cattle had the proximal radius fused (Silver gives an

at least 1 year for this) and the large number of molar fragments shows that at least one of the cattle may have been adult. The younger pig had the first permanent molar just in wear (aged a few months according to Habermehl) and the older one represented had a canine tush. If this goes with the other teeth found then it was a male animal about 2 years old (Habermehl- M_3 erupting). The dog tibia is comparable in build and size with the more complete one in the next site but was from a younger animal.

Although some of these bones could have come from food remains there is a preponderance of teeth and ankle bones. This is a very small sample but it could suggest that carcase trimmings and not food remains are represented here.

A bone found in T7 (2) is probably the pair of one found in T3 6 (5.7.74). It is a distinctive scapho-cuboid bone of cattle that pairs with one found in a cattle ankle in the circular feature. Another cattle bone found in the R.B. ditch (T6 (2)) is from a slightly larger animal than those seen so far. This although suggestive can not be taken as significant in such a small sample. There was nothing identifiable in the fill layer F1 L5.

3. VICARAGE ROAD ALLOTMENTS, Pooley Green, Egham, Surrey.
Grid Reference TQ 01587123

(This site is thought to be Roman - 60-150 A.D. with 3rd/4th century reoccupation)

The fill layers of a large pit in Area A (8), (8)/(14), (31), (32), (33), contained the mandible of a horse about 12 years old (Duerst,1930). There was also some cattle bone - these animals were somewhat larger than the Iron Age ones but the sample is very small. Again,

mostly teeth and cannon bone fragments were present. Two minute pieces could have been from sheep or goat.

Some teeth of cattle - an adult animal - were found in Ditch fill in area D.

In Area E - extension, remains of cattle again showed a slightly larger animal than the Iron Age ones and there was also a left mandible of red deer, Cervus elaphus, which was at least 27-30 months old by the fact that it had M_3 in wear (Habermehl). There was a small piece of scapula which could have belonged to the same species.

The R/B Pit H gave a few remains of at least one adult cow with a short horn core and the maxilla of a red deer at least 1 year old (M2 present and in wear). There was one third molar of pig. Its size places it within the range at a point which suggests it was domestic but does not rule out the possibility of wild pig. We do not know enough of the size ranges of British domestic and wild pigs. There were also mandibular fragments of at least two adult sheep or goats.

Fill layers in the main R.B. boundary ditch T3 contained fragmentary remains of two cattle. Again these were somewhat larger than the Iron Age ones but with such small pieces it is not possible to estimate wither heights - they may be little different.

Further cattle remains came from the fill in Pit X. A tibia in this looks like a pair of one in T3 F1 L2 (21.10.73), bag V4. The curvature of these is distinctive.

Post-Mediaeval pond fill layers produced a dog sacrum and tibia. The latter was somewhat comparable to that from Petter's Sports Field but because of the different dates and the lack of other

evidence we can not say that this provides a link between the two sites. The tibia of this dog is very thin and has a slight curvature, being most like the bones of dingo and pariah dog in the British Museum (Natural History) collections but smaller than available material. The dog may have been a scavenging one which was poorly nourished. The proximal epiphysis of the tibia was at stage 3 giving an approximate age in the second year. There were also a few bones from larger cattle than those found in Iron Age and Romano British levels.

4. GLANTY ROUNDABOUT , Egham

Grid Reference TQ 01957188

(Suspected hearth with Iron Age pottery)

The few bones from this represented one individual of cattle, present as a chewed mandibular condyle, 2 rib fragments, ulna and pubis. This may demonstrate the remains of food. Pig was represented only by a single third phalanx, but there were four definite identifications of sheep - similar in size to those at Thorpe Lea. Again , bones were from all over the body and could represent the remains of food. A few burnt fragments all came from a sheep radius. According to Silver's figures the sheep would be aged between 10 months (distal humerus fused) and 20 months (distal metatarsus unfused). There was a maxillary fragment and milk tooth of a puppy and nasal bone of a horse.

CONCLUSIONS

The excavator commented on the poor condition of the bone, particularly that from the Vicarage Road site, and links this with the acidic soil.

In such soil, what has remaindd may be only a small proportion

of what was originally there. Some parts of the skeleton may have survived better than others - this could provide an alternative explanation for head and foot remains in Petter's Sports Field T3 and T8.

For the food animals there is not enough evidence here either to prepare specific ratios or to make contrasts between different periods but we hope that this outline may be useful for comparisons with other material excavated in the future. Most domestic remains here are those of cattle or sheep . No goat bones were definitely identified.

The deer teeth are interesting but do not prove that red deer had been eaten. These remains were checked very carefully as we understand the ease with which these teeth have been confused with cattle milk teeth in the past.

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REFERENCES

DUERST J.U. 1930 . Vergleichenden Untersuchungsmethoden am Skelett bei Säugern . In E. ABDERHALDEN (ed) Handbuch der Biologischen Arbeitsmethoden Abt. VII , Methoden der vergleichenden morphologischen Forschung Teil I. (Urban & Schwarzenberg, Berlin and Wien)pp 126-493.

FOCK J. 1966 . Metrische Untersuchungen an Metapodien einiger europäischer Rinderrassen. Inaugural dissertation from Institut für Palaeoanatomie, Domestikationsforschung u. Geschichte der Tiermedizin der Universität München.

HABERMEHL K.H. 1961. Die Alterbestimmung bei Haustieren, Pelztieren und beim jagdbaren Wild. (Paul Parey, Berlin - Hamburg)

SILVER I.A. 1963. The ageing of domestic animals. In BROTHWELL D. and HIGGS E.S. (eds), Science in Archaeology. (Thames and Hudson, London), pp250-268.

TEICHERT M. (In press) . Osteometric studies on the calculation of the withers height of sheep. To be published in Archaeozoological Studies, A.CLASON (ed) in 1975 (North-Holland Publishing Company, Amsterdam.).

KEY TO AGEING CRITERIA (DUERST 1930)

Fetus

Neonatus

Pullus - birth to beginning of eruption of permanent tooth eruption.

Juvenilis - during eruption of permanent dentition

Adultus - has all teeth but not well-worn

Maturus - stronger wear of teeth , fusion of sutures

Senilis - loosening and loss of teeth, ossification of tendons, roughening of bones.

MEASUREMENTS

AREA	DATE	BONE	L/R	TOTAL LENGTH	PROXIMAL WIDTH	DISTAL WIDTH	OTHER
CATTLE							
PSF T3 (1)	LBA/EIA	M_3	L	34.5(surface)			
PSF T3 '6'	LBA/EIA	M_3	R	35.3 "			
VRA D (1)-(12)	R/B	M_3	L	36.7 "			
VRA E-ext (21)	R/B	scapula	R			77	Min neck 56.5
PSF T7 (2)	R/B	humerus	R			± 86	
TLN C^1 (6)	I.A.	radius	L		79		
TLN C^1 I (33)	IA	radius	L			± 58.4	
PSF T7 (2)	R/B	metacarpus	L		41.2	62	
PSF T6 2	R/B	metacarpus	R		52.6		
VRA E-ext (1)	R/B	metacarpus	L			63.6	
PSF T3 (1)	LBA/EIA	astragalus	R	54.5(lateral)			
PSF T3 (1)	LBA/EIA	metatarsus	R		41.2		
SHEEP.							
G.R.1 'clearing'	IA	scapula	R			27.5	
TLN C^1 (34)	R/B	scapula	L			27.7	
G.R. 'clearing'	IA	humerus	R			25	
TLN C^1 (34) (4)	R/B	humerus	R			27.1	
TLN C^1 (34) (4)	R/B	humerus	L	115		26.8	
TLN C^1 (34) (4)	R/B	radius	R		28.1		

sheep cont'd					
GR 'clearing'	I.A.	astragalus	L	26(lateral)	
TLN C¹9 IX	?	metatarsus	R		min shaft 9.5
PIG					
VRA H 1	R/B	M_3	L	36.3 x 16.2 surface	

All measurements are taken according to Duerst, 1930, and in millimetres.