

*Martyn Allen*

## **Introduction**

During the excavations at Brightwell-cum-Sotwell, a total of 348 hand-collected animal bone specimens were recovered alongside c. 108g from environmental samples. The majority derived from middle Iron Age and post-medieval features, while a small number were recovered from a Roman/Anglo-Saxon ditch. Several bones were recovered from undated and natural features, though these were omitted from the analysis. The following report focusses on the middle Iron Age remains, although the small sample size limits interpretation. Remains recovered from the Roman/Saxon and post-medieval features are not discussed any further in this report, though the data are presented here for archival purposes.

## **Methods**

The assemblage was recorded at Oxford Archaeology South using the in-house skeletal reference collection. Each fragment was analysed and identified to taxon where possible. Long-bone shafts, ribs and vertebrae were recorded as large- or medium-sized mammal. Fragments that could be refitted or were obviously from the same element but had broken post-deposition were counted as single specimens. Specimens were recorded according to element zone, which allows for minimum numbers of animals and elements to be calculated (Serjeantson 1996). Animal bones recovered from sieved samples were weighed and counted, and the presence of identified taxa were recorded.

Ageing data was collected from the analysis of tooth wear patterns following Grant (1982) and, using these, estimated ages were drawn from comparisons with modern livestock following the work of Jones and Sadler (2012) for cattle, Jones (2006) for sheep, and Hambleton (1999) for pigs. Epiphyseal fusion of post-cranial elements was also recorded, and age estimates were calculated using the timings presented by Getty (1975). Measurements were taken using the standards of von den Driesch (1976) and withers heights were calculated using the criteria set out by von den Driesch and Boessneck (1974). Butchery marks were recorded following Maltby's (2010) criteria. Evidence of burning was recorded according to colour (e.g. black, grey or white, i.e. calcined). Gnawing marks were recorded where present. Signs of pathology were recorded in detail.

## **The middle Iron Age assemblage**

### *Hand-collected remains*

Middle Iron Age features produced 175 animal bone specimens (Table 1). These were predominantly of cattle and sheep/goats, which were represented by 22 and 23 specimens respectively. No remains of goat were positively identified (though see the post-medieval remains), and most are assumed here to derive from sheep. Many of the 64 large and medium mammal size long bone, rib and vertebrae fragments also probably derive from cattle and sheep. Pig, horse, and dog were each represented by a handful of specimens. Just under one-third of the middle Iron Age assemblage consisted of unidentifiable fragments, showing that some degree of post-depositional breakage had impacted upon the remains, though the assemblage was generally well preserved.

A total of 121 specimens were recovered from pits, which compared to 48 from ditch fills and six from postholes (Table 2). Ditch fills tended to produce small numbers of animal bones and there did not appear to be any discrete deposits. Pit 2157 was perhaps the most notable as it contained a complete (though fragmented) cattle skull, along with foot bones and scapula fragments. The horncores of this animal were particularly short, measuring 114mm along the outer curve, which corresponds with the 'short horn' type proposed by Sykes and Symmons (2007).

Cattle were represented by a range of elements, including skull, mandible, scapula, radius, tibia metapodial, phalanx specimens. These were mostly from adult animals, though an unfused distal radius was recovered from pit fill 2159 and an unfused distal tibia was recovered from ditch fill 2018. These derived from animals aged c. 42 months old and c. 24 months old respectively. A cattle mandible from ditch fill 2272 and a lower 3rd molar from posthole fill 2130 were examined for dental wear, both of which were estimated to have been from animals aged around 6–8 years old. Butchery marks were not common. The mandible from ditch fill 2272 exhibited knife cuts on the lateral ramus near the condyle, indicating that the jaw had been fairly delicately removed from the skull, possibly to extract the tongue. A metacarpal from ditch fill 2293 had been axially split through the shaft, presumably to access the bone marrow or to later use the bone for tool manufacture. A large mammal rib fragment also exhibited cut marks along the shaft to cut the intercostal muscle.

Sheep/goats were represented by skull, mandible, scapula, humerus, pelvis, tibia and metapodial specimens. These included adult, juvenile and neonatal remains. A neonatal humerus was recovered from ditch fill 2108. Unfused pelvis and distal tibia specimens were recovered from ditch fill 2297. It is uncertain if these were from the same animal, but if so it would not have been older than five months when it died. One sheep/goat mandible from pit fill 2208 was estimated to have been between one and two years old at death. None of the sheep/goat remains were found with butchery marks.

Pigs were represented by eight specimens, six from pits and two from postholes. These included tooth and mandible specimens as well as fragments of scapula, radius and tibia. The proximal radius (pit fill 132) and distal tibia (pit fill 2213) were unfused, and therefore derived from animals aged c. 15 months and c. 24 months when slaughtered. This fairly young culling age is supported by the analysis of two mandibles. One, from posthole fill 2184, came from an animal aged between one and two years old, while the other, from pit fill 2236, was less than one year old when it died. None of the pig remains exhibited butchery marks.

A total of four horse specimens comprised two incisors, metatarsal and metacarpal fragments, all of which was recovered from two fills of ditch 2088. All these remains were from a skeletally mature animal.

A single, adult dog femur was recovered from ditch fill 2293. This bone was largely complete but for modern breakage. Despite this damage, an estimated measurement was taken of the full length of the bone. This gave a withers' (shoulder) height calculation of 0.55m, which is about the height (in modern terms) of a large Border Collie or a small German Shepherd.

### *Sieved remains*

Environmental samples from nine contexts produced animal bones (Table 2). Seven of these were from middle Iron Age features (the other two were post-medieval). The most productive of these was pit 2157 which contained a large number of vole and frog bones, plus several bones of common shrew (identified from its mandible). This pit also contained a red deer upper molar, representing the only specimen from a large wild mammal in the middle Iron Age assemblage. The vole and frog bones included a range of sizes, suggesting that adults and juveniles were present. Frogs and voles are both predated by shrews and it seems likely that the microfaunal remains in this feature had accumulated as a result of shrew activity.

Frog bones were also recovered from 2137, while vole bones were recovered from pit 131 and pit 2166. Two eel bones were recovered from the fills of a middle Iron Age ditch (2291) and a post-medieval ditch (63). Fish bones are very rarely found on middle Iron Age sites (Dobney and Ervynck 2007). However, the eel bone in ditch 2291 was recovered from an upper fill close to a post-medieval ditch and it may be intrusive.

## References

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## Tables

Taxa	Middle Iron	Roman/Anglo-	Post-medieval	Total
Cattle	22	1	22	45
Sheep/Goat	23	1	24	48
Goat			5	5
Pig	8		5	13
Horse	4		8	12
Dog	1		2	3
Cat			1	1
Large mammal	36	2	19	57
Medium mammal	28	9	34	71
Unidentified	53		40	93
Total	175	13	160	348

Table 1: Number of specimens by period

Taxa	Ditch	Pit	Posthole	Total
Cattle	7	14	1	22
Sheep/Goat	10	13		23
Pig		6	2	8
Horse	4			4
Dog	1			1
Large mammal	9	27		36
Medium mammal	12	14	2	28
Unidentified	5	47	1	53
Total	48	121	6	175

Table 2: Number of middle Iron Age specimens by feature type

Context	Feature	Phase	Sample	Weight (g)	NISP	Fish	Rodent	Amphibian	Other
132	pit 131	MIA	4	1	5		y		sheep/goat
2158	pit 2157	MIA	2000	25	6		y		cattle
2159	pit 2157	MIA	2001	16	40		y	y	sheep/goat, red deer
2182	pit 2157	MIA	2002	1	89		y	y	mammal
2167	pit 2166	MIA	2008	21	21		y		sheep/goat
2208	pit 2137	MIA	2005	16	17			y	sheep/goat
2293	ditch 2291	MIA	2011	11	15	y			mammal
64	ditch 63	post-med.	8	1	1				mammal
65	ditch 63	post-med.	7	15	7	y	y	y	sheep/goat

Table 3: Summary of zooarchaeological remains from environmental samples (y = present)