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## **Reports from the Centre for Human Palaeoecology, University of York**

Report **2005/05**

**Assessment Report: Animal remains from Mill Mount, Tadcaster Road,  
York (Site code: YMM 04)**

by

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THE UNIVERSITY *of York*

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### **Summary**

*A small assemblage of animal bones and marine shells was recovered from Mill Mount, Tadcaster Road, York, during excavations in 2004. An assessment of these remains was undertaken. The preservation of the animal remains was consistently fair throughout the assemblage. Two phases contained reasonable quantities of bone. Phase 1 (Roman) material consisted of a mixture of remains from the major domestic mammals together with a few more unusual species. Phase 3 (Medieval) material was smaller in quantity, but again consisted of mostly domestic mammal bones.*

*Given the small size of the assemblage its potential for further work is limited. It is recommended that an archive be made of the Phase 1 material, and, if tighter dating can be obtained, also the Phase 3 material.*

KEYWORDS: VERTEBRATE REMAINS, MARINE SHELLS, ROMAN, MEDIEVAL, YORK, ASSESSMENT

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# **Assessment Report: Animal remains from Mill Mount, Tadcaster Road, York (Site code: YMM 04).**

## **Introduction**

Several small archaeological interventions were carried out at Mill Mount, Tadcaster Road, York (NGR: SE 5945 5102) by Field Archaeology Specialists during 2004. A total of four boxes (each of approximately 24 litres) of hand-collected bone were recovered from deposits of Roman to modern date. This material was examined for its bioarchaeological potential and the results are given in this report.

Most of the material derives from contexts of Roman date, from the 2<sup>nd</sup> to 3<sup>rd</sup> centuries AD. Much of the 2<sup>nd</sup> century (Phase 1A) activity on the site consisted of cremation burials and the ploughsoil into which they were cut. The later 2<sup>nd</sup> to 3<sup>rd</sup> century activity (Phase 1B) consisted of a number of inhumation burials aligned along a boundary ditch. The 3<sup>rd</sup> century (Phase 1C) activity on the site inclined more towards domestic activity and included some indications of relatively high status occupation.

Later activity on the site was limited but consisted of one possible early medieval feature (Phase 2: 9<sup>th</sup> – 10<sup>th</sup> centuries AD), a substantial medieval ditch (Phase 3: 12<sup>th</sup> – 16<sup>th</sup> centuries AD), and post-medieval levelling and accumulation of soils (Phase 4: 16<sup>th</sup> – 18<sup>th</sup> centuries AD). Unstratified and modern (post 18<sup>th</sup> century) material was not included in the analysis presented in this report.

## **Methods**

All material recovered from dated contexts (except modern) was assessed for this report. Data was recorded electronically into a series of tables in purpose-built database using *Paradox* software. For each context with more than ten fragments, subjective records were made of the state of preservation, colour of fragments and appearance of broken surfaces ('angularity'). In addition, semi-quantitative records were made of fragment size, and of burning, butchery, fresh breakage and dog gnawing.

Where possible, fragments were identified to species or species group, using the reference collection in the Department of Archaeology, University of York. Fragments not identified to species were grouped into categories: large mammal (assumed to be cattle, equid or large cervid), medium-sized mammal 1 (assumed to be caprine, pig or small cervid), medium-sized mammal 2 (from an animal of dog/cat/hare size) and unidentified.

Records were made for each species, by context, of the total number of fragments, the number of mandibles and isolated lower teeth (of use in providing ageing or sexing information), the number of unfused or juvenile fragments (of use in providing age at death information) and the number of measurable fragments. In addition to fragment counts, total weights were recorded for all identifiable species and unidentified categories.

## Results

Vertebrate material was recovered from a total of 89 contexts, of which 12 were of modern date or were unstratified. This left a total of 77 bone bearing contexts that were recorded for this assessment. Table 1 shows the number of fragments by species for each phase. Table 2 shows the total number of fragments and weights, number of measurable bones, number of mandibles and isolated teeth and numbers of unfused/juvenile bones for the Phase 1 and Phase 3 material.

A total of 1864 fragments (weighing 24.9 kg) were recorded for this assessment of which 394 (12.2 kg) were identified to species. Most fragments (1158) were attributed to Phase 1, only 7 fragments were recovered from Phase 2 contexts and the rest were split between Phases 3 and 4 (see Table 1).

It was noted that the preservation of material from Mill Mount was very uniform across the whole assemblage and through all phases represented. For the contexts for which detailed preservation records were made (those containing more than 10 fragments), almost all the material was regarded as having fair preservation. A few contexts were recorded as variable, containing some poorly preserved fragments in addition to those with fair preservation. The colour of the material was similarly uniform, with most contexts containing bones that were fawn in colour. A few contexts were recorded as light brown and a few containing a mixture of both colours. The least consistent measure of preservation was angularity (appearance of surfaces broken prior to or during burial). About half the contexts contained fragments with consistently spiky (almost unworn) edges, whilst the remaining half contained a mixture of spiky and slightly battered fragments. The degree of wear on the fragments was not great in any of these cases.

The degree of fragmentation of the bones was about average for a non-waterlogged assemblage. Over half the fragments in most of the contexts were between 5 and 20 cm in greatest dimension and less than a third of contexts had more than half the fragments less than 5 cm. However, fragments greater than 20 cm were scarce suggesting that most bones were fragmented to some degree. It was noted that most of the <5 cm fragments were small pieces of larger bones, rather than bones from small animals. Given the reasonable overall preservation of the assemblage, this suggests that recovery bias may be an issue on this site.

Some form of bone modification was noted in most contexts, with all contexts containing fragments with at least some evidence of fresh breakage (edges broken during or post-excavation), and in a few contexts a considerable proportion of the fragments were affected. The proportion of fragments showing evidence of butchery was also high with over 20% of fragments affected in many contexts. Dog gnawing was noted on a few fragments (0-10%) in about two-thirds of contexts. Evidence of burning was scarce throughout the assemblage, with only a few affected fragments present in a limited number of contexts.

### *Phase 1 animal remains*

The majority of vertebrate remains were recovered from Phase 1 and the details are given in Table 2. Of the total of 1158 fragments recorded, only 246 were identified to species or species group. The most frequently occurring species (in terms of numbers of fragments) were cattle (97 fragments), sheep/goat (53 fragments) and pig (17 fragments). No attempt was made for this assessment to identify the sheep/goat group further, however, at a later stage it would be possible to do this for some of the elements present. Similarly, most equid fragments were not identified to species, except loose teeth, which all showed horse characteristics. It is interesting to note that there were actually more equid and horse fragments combined than pig, indicating both a high proportion of equid bones and a low proportion of pig bones for an assemblage of this date. Most of the equid fragments were from distal limb elements and in particular phalanges. The relatively large number of cat bones is artificially inflated as all bones were from a single context and almost certainly represent a single

individual. A few dog bones were also recovered from the site, all from medium-sized (collie/labrador size) individuals.

A reasonable number of fragments (48) were potentially measurable (Table 2). There were proportionately more measurable sheep/goat fragments than cattle, an indication that the degree of fragmentation and particularly evidence of butchery was higher on the cattle bones. A few mandibles and isolated teeth that could give age at death information were recovered, almost all from the major domestic mammals. Only a very small number (10) of bones were from sub-adult or juvenile individuals.

Amongst the bird remains, most fragments were from chicken bones. One of the more unusual species present on the site was the single raven bone. It is quite common to find raven bones from medieval urban deposits but much less common in Roman contexts. This bone was also of interest as showed evidence for cat gnawing, perhaps indicating a cat-scavenged carcass. Single bones identified as possibly goose and gull were also recovered.

Other animal remains present on the site were oyster and limpet shells. The single limpet shell was relatively well preserved with the edges intact. Apart from one valve, most of the oyster shell was much more poorly preserved with most fragments consisting of flakes rather than whole valves. A few examples were noted with barnacle encrustations on the valves.

### *Phase 2 animal remains*

Only 7 bone fragments were recovered from contexts belonging to this phase and all were unidentified. A mixture of large and medium-sized mammal and unidentified fragments were recorded.

### *Phase 3 animal remains*

A total of 421 fragments were recorded from Phase 3, of which 96 were identified to species or species group. Most of these (55 fragments) were from cattle, and the second most abundant species was sheep/goat (24 fragments). Other mammalian species present included pig (6 fragments), ?fallow deer and equid (Table 3). The presence of possible fallow deer fragments is of note, as these would normally be associated with high status, rural sites. However, the elements present (phalanges) could indicate bones contained within a skin brought onto site.

The proportion of measurable bones varied considerably with species with only 2 cattle fragments being measurable, but 14 sheep/goat bones. This was quite a different pattern to that seen in the Phase 1 material. The proportion of unfused and juvenile bones was also different to Phase 1 with a high proportion of the pig bones falling into this category. It is interesting to note that there were no mandibles or isolated teeth that could give age at death information from this phase.

### *Phase 4 animal remains*

A total of 278 fragments were recovered from Phase 4 contexts, of which 52 were identifiable to species or species group. As in the preceding phase most bones were from the major domesticates, with a few from other species (Table 1). The deer fragments were sections of antler, both with sawn surfaces, indicative of antler working waste. There were too few fragments from this phase to analyse the breakdown of 'useful' bones in table form, so a summary is given here. There were 10 measurable bones (6 sheep/goat, 2 dog and 2 chicken), 4 unfused bones (2 cattle, 2 pig), 5 mandibles (3 cattle, 2 sheep/goat) and a single sheep/goat isolated tooth.

## **Discussion**

Deposits from Mill Mount yielded a relatively small assemblage of bone and a small quantity of marine shells. The largest and potentially most interesting quantity of material was recovered from the Roman levels of Phase 1, which are reasonably tightly dated. A smaller amount of bone was recovered from medieval (Phase 3) layers, but the broad dating of this material means that, unless the dating can be refined, it is of lesser interpretative value.

The uniformity of the preservation throughout the assemblage and the angularity of the broken surfaces suggest that most of the fragments have not been moved around much and hence damaged from the original site of deposition. The small proportion of fragments showing evidence of dog gnawing is also an indication that material was buried fairly rapidly following deposition and not disturbed too much at a later date. In Phases 2 and 4 where there is little evidence of occupation or other activity at the site, the small quantities of material recovered could be residual from earlier phases but there is not definitive evidence of this.

Most of the discussion given here will focus on the Phase 1 material as this is considered to have the most potential for further study. The species present are those that would be expected from a Roman assemblage, with the possible exception of the raven bone discussed in the results section above. The most prevalent remains are those of food species, as is usual on most archaeological sites. Initial observations of the butchery patterns suggest that they follow the standard Roman practice seen in many assemblages (e.g. Maltby 1989; Dobney *et al.* 1996; Johnstone and Albarella 2002).

A reasonable quantity of measurable bones were noted from this period, and whilst there would not be sufficient for meaningful analysis of this assemblage alone, the tight dating of these deposits would mean that a useful archive could be made for inclusion in future synthetic studies of animal bones from Roman York. Similarly, there would not be sufficient numbers of mandibles and isolated teeth giving age at death information for a meaningful analysis to be undertaken on this material, but the information should be recorded in archive form.

The paucity of unfused and juvenile bones from this assemblage is intriguing. Whilst this is unlikely to be due to taphonomic factors, as the overall bone preservation was good enough to expect them to have survived, the paucity of sub-adult bones may be partly due to recovery bias. However, because of the relatively small size of the assemblage it is not possible to rule out the option that there is a real lack of young animals represented on the site and therefore could indicate that this was a consumer rather than producer site.

In Phase 3 more unfused and juvenile bones were recorded although the overall numbers were small. Many of those recorded were young pig bones, and this is an echo of the pattern seen in many medieval urban assemblages. However, there were no mandibles and isolated teeth recovered from this phase. As this is unlikely to be caused by taphonomic factors (teeth being more robust than bones), it could be a factor of the small assemblage size or could be indicative of a consumer site, where primary butchery took place elsewhere. The presence of young pigs does not rule this out as pigs were often kept in back yards, whereas meat from other animals was brought in.

## **Recommendations**

It is recommended that a limited quantity of further work be carried out on the assemblage from Mill Mount. This would entail the construction an archive of more detailed information about the material from Phase 1 including measurements and age at death data. If the dating of the Phase 3 deposits can be refined a similar archive should also be made of bones from that phase. There would be no advantage in further analysis of the data once an archive has been made, as the assemblage is too small.

## References

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Table 1. Numbers of vertebrate fragments recorded by phase from Mill Mount, York.

Species		Phase 1	Phase 2	Phase 3	Phase 4	Total
Dog	<i>Canis familiaris</i>	4			2	6
Cat	<i>Felis sylvestris</i>	15				15
Equid	<i>Equus</i> sp.	15		1		16
Horse	<i>Equus caballus</i>	3			1	4
Pig	<i>Sus scrofa</i>	17		6	6	29
Deer	Cervid				2	2
?Fallow deer	c.f. <i>Dama dama</i>			2		2
Cattle	<i>Bos taurus</i>	97		55	23	175
Sheep/goat	Caprine	53		24	12	89
?Goose	<i>Anser</i> sp.	1				1
?Gull	<i>Larus</i> sp.	1				1
Chicken	<i>Gallus gallus</i>	4		2	2	8
Raven	<i>Corvus corax</i>	1				1
Bird		4				4
Limpet	<i>Patella vulgata</i>	1				1
Oyster	<i>Ostrea edulis</i>	30		6	4	40
<b>Subtotal</b>		<b>246</b>		<b>96</b>	<b>52</b>	<b>394</b>
Large mammal		550	3	241	96	890
Medium-sized mammal1		233	2	78	47	360
Medium-sized mammal 2		1			4	5
Unidentified		128	2	6	79	215
<b>Subtotal</b>		<b>912</b>	<b>7</b>	<b>325</b>	<b>226</b>	<b>1470</b>
<b>Total</b>		<b>1158</b>	<b>7</b>	<b>421</b>	<b>278</b>	<b>1864</b>



Table 2. Total numbers of fragments and weights, together with numbers of measurable (No. meas), numbers of mandibles (No. mands) and isolated teeth (No. teeth) and numbers of unfused/juvenile bones (No. uf/juv) from Phase 1 from Mill Mount, York.

Species		No. meas	No. mands	No. teeth	No. uf/juv	Total no. fragments	Weight (g)
Dog	<i>Canis familiaris</i>	2	1	-	-	4	72.4
Cat	<i>Felis sylvestris</i>	-	-	-	-	15	14.5
Equid	<i>Equus sp.</i>	7	-	-	-	15	1034.9
Horse	<i>Equus caballus</i>	2	-	1	-	3	201.3
Pig	<i>Sus scrofa</i>	3	2	3	2	17	101.4
Cattle	<i>Bos taurus</i>	18	3	6	3	97	4316.6
Sheep/goat	Caprine	13	9	9	4	53	545.8
?Goose	<i>Anser sp.</i>	-	-	-	-	1	2.6
?Gull	<i>Larus sp.</i>	-	-	-	-	1	1.3
Chicken	<i>Gallus gallus</i>	2	-	-	1	4	6.6
Raven	<i>Corvus corax</i>	1	-	-	-	1	3.4
Bird		-	-	-	-	4	5.9
Limpet	<i>Patella vulgata</i>	-	-	-	-	1	1.7
Oyster	<i>Ostrea edulis</i>	-	-	-	-	30	161.0
<b>Subtotal</b>		<b>48</b>	<b>15</b>	<b>19</b>	<b>10</b>	<b>246</b>	<b>6469.4</b>
Large mammal		-	-	-	-	550	5526.0
Medium-sized mammal 1		-	-	-	-	233	626.9
Medium-sized mammal 2		-	-	-	-	1	4.5
Unidentified		-	-	-	-	128	129.4
<b>Subtotal</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>912</b>	<b>6286.8</b>
<b>Total</b>		<b>48</b>	<b>15</b>	<b>19</b>	<b>10</b>	<b>1158</b>	<b>12756.2</b>

Table 3. Total numbers of fragments and weights, together with numbers of measurable (No. meas) and numbers of unfused/juvenile bones (No. uf/juv) from Phase 1 from Mill Mount, York.

Species		No. meas	No. uf/juv	Total no. fragments	Weight (g)
Equid	<i>Equus sp.</i>	1	-	1	51.0
Pig	<i>Sus scrofa</i>	-	5	6	121.2
?Fallow deer	c.f. <i>Dama dama</i>	-	-	2	4.8
Cattle	<i>Bos taurus</i>	2	2	55	1947.9
Sheep/goat	Caprine	14	-	24	252.7
Chicken	<i>Gallus gallus</i>	2	-	2	3.7
Oyster	<i>Ostrea edulis</i>	-	-	6	15.8
<b>Subtotal</b>		<b>19</b>	<b>7</b>	<b>96</b>	<b>2397.1</b>
Large mammal		-	-	241	3894.3
Medium-sized mammal 1		-	-	78	234.2
Unidentified		-	-	6	11.3
<b>Subtotal</b>		<b>0</b>	<b>0</b>	<b>325</b>	<b>4139.8</b>
<b>Total</b>		<b>19</b>	<b>7</b>	<b>421</b>	<b>6536.9</b>