

## Draft discussion of horse bones from Punic ditch

### SM Stallibrass

The table of 'compatibility' shows that there are several individuals represented. There are at least four individuals represented by mandibles in context 728. The other finds have been placed in the same columns if they are not incompatible on anatomical grounds. The estimated number of individuals is not altered by taking the provenance of the finds into consideration. The vast majority of the horse bones derive from contexts 728 and 733, with other informative bones coming from 209 and 174. Context 728 overlay 733 in the central section of the ditch and the two deposits may well contain bones from the same individuals. Contexts 174 and 209, however, were excavated in the western section and may contain bones from a second group of individuals. The 728 mandibles indicate that the four individuals were a female of *c* 5 years, a male of *c* 5 years, a male of *c* 4.5 years and a female of >3.5 years. On anatomical grounds, a fifth individual is represented which was aged at about 3 - 3.5 years when it died, and the second female from 728 must also be at about the same age since the fusion lines of the *dthkati* are still visible. A small right scapula from context 358 is visually a poor match for the smallest left scapula from 728 and *might* indicate the presence of a sixth individual.

The estimated withers heights of the horses range from 1.228 metres, through 1.358, 1.371 and 1.397 metres to 1.421 metres. A range of 50mm in estimates for a single individual has been accepted since the larger range (41 mm) concerns bones that can be rearticulated and which clearly derive from a single individual (ie the tibiae and metatarsals from the lower hind legs deposited in context 733). These withers heights, of 12 - 14 hands are the equivalent of large ponies, and approach the size of a modern horse (which has to be 14 hands or more). They are all too large to have been donkeys, and the dental evidence indicates that none of them were mules.

The left femora from two large individuals both show pathological alterations to the greater trochanter, indicating that the thigh muscles have been over-strained. This could happen if an animal was persuaded to carry or pull a heavy load, or to pull a load stuck in muddy or rocky ground.

### The form of disposal of the horse remains.

The horses do not appear to have been 'buried' (ie in graves) in the ditch, but to have been slung in with other rubbish. Their bones were not recorded as having been excavated in articular units although the group of bones from context 733 clearly derive from a pair of lower hind limbs that might have been articulated when deposited. None of the bones show any signs of having been butchered or defleshed. Four horses would have provided a very large quantity of meat and it is possible that the skeletons were defleshed neatly, leaving no cut-marks on the bones. Although the Romans tended to disdain the consumption of horse flesh, there is no reason why the meat could not have been used to feed dogs, or sold to local inhabitants who may not have had a similar taboo. Also, of course, the soldiers themselves were probably not Roman in origin, and so may or may not have been prepared to eat/waste horseflesh.

Apart from the lower limbs in context 733, there is the possibility that *mo& cl a stgt* individual was amongst the horse remains in context 728. Many of the bones of this putative individual were chewed by dogs and it is possible that the whole carcass was lying in the ditch, being ripped open through the thorax (hence the chewed ribs) and gradually diminished via scavenging.

Other individuals, however appear to be represented by bits and pieces of their skeletons and may have been deposited after exposure or temporary burial elsewhere. Without doing experimental research it is difficult to tell whether the frequency of exploded horse bones is due to their having been exposed to weathering prior to burial/coverage, or whether the likelihood of exploding is increased by burial as whole bones, still retaining the marrow.

The rest of the bones from the Punic ditch (ie all non-horse bones) give the appearance of being ordinary food refuse. How the horse bones became mixed up with them is unknown, unless primary deposits from several locations were all tidied up and thrown into the ditch at roughly the same time.

### Causes of death of the horses

The tight cluster of young ages from **Me homes** (c 3.5 - 5 years) is surprising. They would not have provided much, if any return for breeding, purchase, feeding or training by this age. They are unlikely to reflect natural deaths unless some epidemic swept through the horse population at the fort. If they had been casualties in an 'incident' they might be believed to have been disposed of as whole individuals. Although this was possibly the case, the evidence suggests that at least some of the individuals were not whole carcasses when deposited in the Punic ditch.

If the animals had been wanted as pack animals, it would be likely that they would have been kept alive for as long as they could be of use and it is unlikely that all ?five individuals would have been slaughtered at 3.5 - 5 years of age. In contrast, this is approximately the age at which 'cavalry' horses would be trained. If a horse proved unsatisfactory or injured itself, it would probably be culled. A horse that is suitable for training for military uses would be unlikely to be acceptable as a pack animal, for which a different temperament if not a different physique is required.

The author's preferred explanation, therefore (at this moment in time!) is that this group of young horses were rejected from military training. They might well have been culled as a group if horses were acquired and trained 'in bulk' as might be expected for a large cavalry unit.

### The assemblage as a whole.

Almost all of the bones from the Punic ditch are excellently preserved, indicating that they were buried rapidly in organic, waterlogged conditions. There are very, very few bones that appear to have been rolled or weathered prior to final burial. The presence of many 'exploded' bones, particularly of horse, may indicate exposure to sub-aerial weathering (quite possibly whilst *in situ* whilst their deposit formed the current top layer of the ditch). The relatively high incidence (1 0%) of horse bones chewed by canids (almost certainly dogs) also indicates that many bones were exposed, even if only for a short while.

The animal bone assemblage from the Punic ditch does not support the ceramic evidence for a high degree of residuality of material incorporated into the ditch fills. The bulk of the animal bone assemblage represents **ked mml** and may be contemporary with the reorganisation and rebuilding of the fort. The manpower used in this undertaking would have needed fuelling with food, and 'kitchen' staff may have taken advantage of the ditch infilling as a useful disposal area for current kitchen and table waste, alongside other people using it as a dump for material cleared out of disused/demolished buildings. It is possible that the animal bones were cleared out of some primary deposit(s) for reburial in the Punic ditch but, if this was the case, then their original locus of burial must have been in an extremely similar, organically rich and waterlogged deposit. The incidence of bones chewed by canids (1 3%) is the same regardless of whether or not the horse bones are included in the calculation. This frequency implies that dogs had access to animal bone waste, even if only for a short time before the bones were buried. It is quite possible that people working in the fort kitchens discarded material onto a nearby midden **mtth mms pubd&Wo** (eg weekly or even daily) cleared up and removed for dumping away from the food processing area. The horse bones do not fit in with the domestic food waste and must have come from elsewhere. If they were redeposited into the Punic ditch, then it seems likely that they were originally buried or deposited together and moved as a 'collection'.

There are certain traits noted amongst the food debris that are similar to those noted at the fort and civilian settlement at Carlisle. In particular, there is a deposit of cattle metatarsals in context 728 that have been processed in a regular and idiosyncratic manner, leading to fragments charred and broken in a

characteristic pattern. Without any well documented assemblages from Iron Age sites in the region, it is difficult to know whether this **pmdte was hamt** from the **indigenous eo le me**