

## TOTTY POT, CHEDDAR, SOMERSET THE FAUNAL REMAINS

by

E. MURRAY

### ABSTRACT

Excavations conducted in the 1960s at Totty Pot, a cave on the Mendip Hills, Somerset, recovered both human and animal bones. A secure stratigraphic sequence within the cave was not established during the excavations and as a result the association of the animal and human bones is undetermined. A minimum of six human individuals were identified and a programme of AMS dating (Schulting *et al.* this volume) has confirmed the presence of one previously identified Mesolithic individual and dated the other five to the Middle and late Neolithic. A radiocarbon date on an aurochs bone from the site also returned a Mesolithic date. The range of fauna represented in the 1960s assemblage includes aurochs, domestic cattle, red deer, roe deer, horse, wild and domestic pig, sheep/goat, fox, cat, dog, badger, hare and rabbit along with bones of small mammals, amphibians and birds. The range of vertebrates is of a Holocene rather than Pleistocene aspect and this corresponds with the radiocarbon dates and artefactual record. The range of species represented, however, indicates that it is a mixed assemblage with a potentially long chronology.

### INTRODUCTION

The cave of Totty Pot is located in the Mendip Hills in Somerset a couple of kilometres east of Gough's Cave and the village of Cheddar. The site was discovered by Christopher Hawkes in the early 1960s and was subsequently excavated under his direction by the Wessex Caving Club. These excavations remain unpublished. The primary source of information on the site is from surviving correspondence between Hawkes and Willie Stanton, a geologist who took charge of the excavations in 1965 during a period of absence by Hawkes, and in diary entries made by Stanton. An overview and summary of the excavation is also given in an unpublished PhD thesis by Paula Gardiner (2001). Gardiner conducted further small excavations around the mouth of the swallet hole in 1998 but few archaeological remains were found (Gardiner, 2001).

In the 1960s excavations a 4 m deep and 0.75 m wide shaft was cleared along with a couple of small adjoining chambers. Both human and animal bones were recovered although the majority of the former were subsequently destroyed by the Leicestershire Constabulary. Late Mesolithic activity was represented by microliths that were recovered during the course of the excavations and possibly very late Mesolithic activity as suggested by the recovery of straight backed bladelets, or rods (Gardiner, 2001). Sherds of Early Bronze Age pottery were also recovered as well as animal bones. The excavation record is incomplete so the animal bones and artefacts cannot be associated with the human bones with any confidence. In her thesis Gardiner (2001) included a preliminary list of identified animals which comprised aurochs, wolf, red deer, badger, vole, mole, sheep and pig. From the surviving archive it would seem that this list is a combination of identifications, made on the same sub-sample, by Tony Oldham in 1963 and I.M. Evans in February 1964.

This report presents the results of the formal identification of the animal bone assemblage recovered from the Totty Pot 1960s excavations which was funded by a grant from The Prehistoric Society.

## METHODOLOGY

All of the faunal material, previously subdivided and housed between Cambridge University and Wells Museum, was brought together and examined using the comparative collections held in The Grahame Clark Laboratory for Zooarchaeology at the University of Cambridge in 2006. Only specimens with 50% or more of their diagnostic articular surfaces were 'counted' and the totals for these countable elements (NISP) are presented in Table 1. This selective quantification method follows a modified version of the methodology outlined by Albarella and Davis (1996). Tooth eruption and tooth wear stages for the domestic mammals were recorded after Grant (1982) and measurements were taken on all fused bones following, for the most part, the criteria of von den Driesch (1976). There were several bags of small mammal (rodent and insectivore), amphibian and bird bones from the site. These were given a cursory examination and the species noted are recorded on a presence/absence basis in Table 1. This gives some idea of the range of bird and small mammal species represented in the cave but cannot be considered as representative either of species or frequency. The system of numbering employed to label the bones does not indicate the provenance of the specimens from within the cave. Only the material ascribed to L19 (9%) and K19 (5%) can be related to the excavation records some of which was ascribed to a depth (e.g. 'L19 2nd ft down') or context (e.g. 'muddy scree layer').

## RESULTS

The range of species identified in the faunal assemblage from Totty Pot comprised cattle (domestic and wild), red deer, roe deer, horse, sheep/goat, pig (domestic and wild), dog, cat, fox, badger, weasel, hare, rabbit, mole, common shrew and rodents including water, bank and field vole and red squirrel (Table 1). Also identified, on a presence/absence basis but not quantified, were a number of birds including duck, corvid (crow-size) and woodcock, amphibians and fragments of oyster shell. Some or all of these small bones may derive from owl pellets or mammalian scats and/or represent the death assemblage of animals that died in the cave. The relative frequency of these species was not recorded, though visual inspection suggests amphibians (frog/toad) and voles (field/bank vole size) are the most common. As with the larger mammals, no obvious arctic species such as lemming were noted.

Common name	Species	NISP	% NISP	MNI	% MNI
cattle	<i>Bos</i> sp.	162	20	7	14
horse	<i>Equus</i> sp.	2	< 1	1	2
large ungulate	-	4	<1	-	-
red deer	<i>Cervus elaphus</i>	31	4	2	4
roe deer	<i>Capreolus capreolus</i>	27	3	2	4
red/fallow deer	<i>Cervus/Dama</i>	2	< 1	-	-

sheep/goat	<i>Ovis/Capra</i>	123	15	5	10
sheep/goat/roe deer	<i>Ovis/Capra/Capreoleous</i>	18	2	-	-
pig	<i>Sus sp.</i>	216	27	9	18
fox	<i>Vulpes vulpes</i>	78	10	4	8
dog	<i>Canis sp.</i>	3	< 1	1	2
cat	<i>Felis sp.</i>	23	3	3	6
badger	<i>Meles meles</i>	28	4	4	8
weasel	<i>Mustela nivalis</i>	1	-	-	-
fox/cat/badger	-	5	1	-	-
hare	<i>Lepus sp.</i>	25	3	4	8
rabbit	<i>Oryctolagus cuniculus</i>	46	6	6	12
hare/rabbit	-	1	< 1	-	-
field vole	<i>Microtus agrestis</i>	X	-	-	-
bank vole	<i>Clethrionomys glareolus</i>	X	-	-	-
water vole	<i>Arvicola terrestris</i>	X	-	-	-
red squirrel	<i>Sciurus vulgaris</i>	X	-	-	-
shrew	<i>Sorex sp.</i>	X	-	-	-
mole	<i>Talpa europea</i>	X	-	-	-
frog/toad	-	X	-	-	-
bird	-	X	-	-	-
	<b>Total</b>	<b>795</b>		<b>48</b>	

**Table 1.** Totty Pot animal bone: number of countable elements (NISP) and estimated minimum number of individuals (MNI) by species. Only specimens with 50% or more of their diagnostic articular surfaces were 'counted' (NISP). This quantification method follows a modified version of the methodology outlined by Albarella and Davis (1996).

Few positive butchery marks were noted on the animal bones although additional surface modifications may have been obscured by the calcite which adhered to many of the specimens. Cut marks were limited to bones of cattle, both wild and domestic, and pig and these cut bones represented just 1% of the quantified assemblage. No signs of burning were observed but gnawing marks were noted on bones of a variety of species representing 3% of the quantified assemblage.

### *Ungulates*

The cattle bone assemblage comprised both domestic and wild species. Thirty-one specimens were positively identified as aurochs representing a minimum of two and all were from mature individuals. The assemblage included the partial remains of an aurochs skull with parts of the supraoccipital and frontal bones and the bases of both horncores surviving. The skull has a possible cut mark adjacent to the left orbit. Additional butchery marks were also noted on two large mammal, probable aurochs, ribs. The recorded metrical data for the post-cranial Totty Pot aurochs bones fall within the range of comparative measurements of aurochs from Star Carr with measurements of the astragali suggesting that they are possibly from females (after Legge and Rowley-Conwy, 1988, figure 16). Aurochs were abundant in Britain at the end of the last Ice Age and though the time of their extinction is not known, dating evidence suggests that they died-out in the Early or Middle Bronze Age. The latest date for aurochs from Mendip is 3245±40 BP (1615-1435 cal BC) (Clutton-Brock 1986, Table 2). This presents a *terminus ante quem* for aurochs which could correspond with the Deverel-Rimbury pottery from Totty Pot (Gardiner, 2001). The aurochs, in other words, need not be associated with Mesolithic activity at the swallet hole.

In contrast to the aurochs material, over half of the countable domestic cattle bones were from immature animals with one or both epiphysis unfused. The size, state of fusion and preservation of some of these elements suggested that several may have derived from the same individual though there is no record of any found in articulation.

Pig was the most common species from Totty Pot and the bones displayed a wide range of sizes and ages. The majority of the bones were immature, and included some neonatal and probable foetal specimens, thereby limiting the amount of recoverable metrical data. Visual observation would suggest that bones of both adult and juvenile wild and domestic pigs are all represented along with specimens possibly from modern improved breeds. Unfortunately the lack of recordable metrical data and chronological control for the sample means that it is not possible to analyse the assemblage in any detail. Even with good chronological control, separation of wild and domestic pig bones is difficult as there is much overlap in size and indications are that Mesolithic wild boars in Britain were relatively small (Albarella, *et al.* 2009, 129). The Totty Pot assemblage included some very large definite wild boar bones, representing an estimated MNI of two. The probable wild boar bones included two astragali and a large scapula with a glenoid length (GLP) of 52.6 mm. This is considerably larger than the single record from Star Carr (43.8 mm; Legge and Rowley-Conwy, 1988, 139).

Two horse bones, both immature first phalanges with unfused proximal epiphyses, were present in the assemblage. Given their state of preservation and the presence also of sheep/goat and domestic cattle from the site, it is probable that these are of domestic horse of Bronze Age or more recent date rather than relicts of the wild horse (*Equus ferus*) which disappeared in Britain in the early post-glacial period (Clutton-Brock 1986, 114-6).

Roe and red deer bones were found at the site in roughly equal numbers with an estimated MNI of two for each. The limited metrical analysis indicates that the roe deer bones from Totty Pot were generally smaller than those recorded from Star Carr and comparable in

size with a modern roe deer population from Denmark. Studies have shown that Mesolithic roe deer remains are larger, often considerably larger than their modern counterparts (Jensen, 1991, 51). The lack of notably large specimens of roe deer from Totty Pot might therefore suggest that they are unlikely to be early post-glacial in date. The majority of postcranial red deer bones were immature and the few recorded measurements are of average-sized red deer and fall within the general range from Star Carr (Legge and Rowley-Conwy, 1988, Table 7).

### *Carnivores*

Carnivores were represented at Totty Pot by bones of fox, badger, cat, dog and weasel. The adult fox and cat bones displayed a wide range in sizes and as there is no chronological framework for the assemblage this size variation may represent change in size over time, sexual dimorphism and/or the presence of domestic, feral and wild animals. Mesolithic, Neolithic and Bronze Age human activity is at least represented at the cave as indicated by radiocarbon dates on human remains and the artefactual assemblage, but animal activity, in particular that of small carnivores, could easily extend beyond this.

It is clear in the case of the fox metapodials from Totty Pot that much of the size variation can be accounted for by sexual dimorphism with both males and females represented in the assemblage. There are, however, a number of much smaller fox bones and it is possible that these may be of Arctic fox (*Alopex lagopus*). Finds of Arctic fox bones are rare but specimens have been recorded at Aveline's Hole (Murray and Schulting 2005, 236) and Picken's Hole in Somerset and at least seven other sites in Britain (Yalden, 1999, 43). Arctic fox was present in Britain in the Late Glacial period and the latest known record for the animal is from Gough's Cave 12400±110 years BP (Corbet and Harris, 1991, 236). If the small fox metapodials from Totty Pot, along with one or two other long bones, are indeed of Arctic fox they could potentially derive from a much earlier deposit within the swallet hole. Pleistocene activity is, however, not otherwise represented by the excavated vertebrate assemblage.

The range in size in the cat bones, noted visually and in the limited recordable metrical data, may be due to a variety of factors. Wildcat bones are recorded from several late glacial and early post-glacial sites in Britain (Yalden, 1999, Table 3.1) and documentary records suggest that they continued to inhabit southern England up until the sixteenth century (Langley and Yalden, 1977, 109). Their current distribution is largely confined to the northeast (*ibid.*).

Two canines and one incisor of *Canis* sp. were also found. These are relatively small and are most likely of dog rather than wolf. The only other small carnivore noted was a mandible of a weasel (*Mustela nivalis*).

### *Lagomorphs*

Both hare and rabbit bones were recovered from Totty Pot but no attempt was made to distinguish the former (NISP 25) to species. Brown hare (*Lepus europaeus*) is larger than the modern mountain hare (*Lepus timidus*) although early post-glacial specimens of the latter may have been larger than their current counterparts (Yalden, 1999, 67). Brown hare is a more recent introduction with the earliest evidence dating to the Roman period and modern populations are found across Britain (Corbet and Harris, 1991, 155). The distribution for mountain hare in modern times is restricted to northern parts of Britain (*ibid.*).

Rabbits were introduced into England and Ireland in the medieval period with the earliest literary evidence for their presence dated to the twelfth century (Lever, 1977, 65). Rabbits are also notorious burrowers and the bones from Totty Pot (NISP 46) can be assumed to have been relatively recently introduced to the cave.

## DISCUSSION

With the exception of a small portion of the assemblage assigned to the ‘muddy scree layer’ in grid-square K19 there is no stratigraphical record for the animal bones excavated from Totty Pot. The range of species identified indicates that there are both early (i.e. aurochs) and late (i.e. rabbit) Holocene remains in the cave but it is not clear how mixed-up this material was when found. Also, animal bones found alongside the human bones were not kept separately so any direct association that there might have been has not been recorded. A number of human bones were, however, found mixed in with the animal bones when the latter were examined which would suggest that the majority of the bones, animal and human, were found in a disarticulated state and mixed-up together.

The surviving records from the excavation give some indications of the stratigraphy and composition of the excavated deposits. In the correspondence between Christopher Hawkes and Willie Stanton during Hawke’s absence in 1965 there is some discussion about the setting-up of a grid of yard-squares which was marked-out on the roof of the cave. It was set-up working from the centre of the grid outwards to allow expansion of the excavation in any direction. Stanton’s diary entries indicate that these were excavated in 1-foot spits with the ratio of stone to mud, clay, stones/boulders, air pockets and scree in each of the bucketfuls removed noted. In his description of the excavation of L19 (July 1<sup>st</sup>) Stanton wrote that “It seems clear that the upper muddy scree level contains many more small rodents etc. bones than the lower dark layer. This is apparent in the sorting” while of L20 (July 3<sup>rd</sup>) he noted “virtually all the bones came from just above the tufa floor”. In a letter from Stanton to Hawkes (dated 16<sup>th</sup> July, 1965) Stanton notes “So far 3 squares ... have been cleared down to what looks to be a Mesolithic tufa floor, like in other Cheddar caves”. Further on in the letter he suggests that they “should stop digging at the tufa floor, viewing it both as a datum line and as a protection for the important stuff underneath, to be dug later”.

The letter also includes a hand-drawn schematic section with ‘stoney mud’ queried as Early Iron Age at the top of the section overlying ‘muddy scree almost barren’ queried as Bronze Age, over ‘Neolithic? many bones, some pottery’ and at the bottom ‘Mesolithic micro-liths’ which is concurrent with the tufa floor which Stanton notes extends to the ceiling in places. These observations suggest that the majority of large bones derive from a cave earth overlying and postdating what was identified as the Mesolithic tufa floor. The frog layer, common in many cave excavations seems to be represented by the upper ‘muddy scree layer’ and amphibian, vole, bird and mole are recorded from this layer in samples from K19.

Although the basal bone layer was identified by Stanton as Neolithic in date it is unfortunate that there is no indication what bones in the surviving assemblage derive from this horizon. There are known *terminus post quem* dates for several species which date them to the Neolithic or later including horse (Early Bronze Age or later), rabbit (twelfth century or later), and domestic cattle, sheep and pig (Neolithic and later) while the relatively small size of the deer bones would suggest that they are not early post-glacial in age. The presence of these animals indicates that there is much recent activity, potentially spanning millennia, in addition to any possibly preserved Neolithic and/or Mesolithic horizons, represented in the cave.

An adult auroch from the site has provided an AMS determination of  $6540 \pm 50$  BP (OxA-9863) (Troy, *et al.* 2001). Funding sought for additional dates on the faunal collection was unfortunately not forthcoming. This is clearly important in terms of relating the species present to the human remains, at least as regards their chronology. If contemporary, this would raise the possibility that at least some of the faunal remains related to funerary feasting, as seen at Neolithic mortuary monuments.

## ACKNOWLEDGEMENTS

I would like to thank the Prehistoric Society for funding the research; Jessica Rippen-gal for facilitating my visit to the zooarchaeology lab in Cambridge University; Christopher Hawkes for permission to examine the material and for kindly arranging to transport the bones from Wells to Cambridge; Paula Gardiner for discussions about the site and material; Andy Currant of the Natural History Museum, London for assistance with some of the identifications and Rick Schulting for the opportunity to examine the bones and for discussions about the site and assemblage as well as comments on an earlier draft of this report.

## REFERENCES

- ALBARELLA, U. and DAVIS, S. 1996. Mammals and birds from Launceston Castle, Cornwall: decline in status and the rise of agriculture. *Circaea (The Journal of the Association for Environmental Archaeology)*. **12**. 1-156.
- ALBARELLA, U., DOBNEY, K. and ROWLEY-CONWY, P. 2009. Size and shape of the Eurasian wild boar (*Sus scrofa*), with a view to the reconstruction of its Holocene history. *Environmental Archaeology*. **14**. 103-136.
- AMBERS, J. and BOWMAN, S. 2003. Radiocarbon measurements from the British Museum: datelist XXVI. *Archaeometry*. **45**. 531-540.
- CLUTTON-BROCK, J. 1986. New dates for old animals: the reindeer, the aurochs, and the wild horse in prehistoric Britain. *Archaeozoologia*. **10**. 111-117.
- CORBET, G.B. and HARRIS, S. 1991. *The Handbook of British Mammals*. London. Blackwell Science.
- DRIESCH, A. VON DEN 1976. *A Guide to the Measurement of Animal Bones from Archaeological Sites*. Harvard. Peabody Museum Bulletin.
- GARDINER, P. 2001. *The Mesolithic-Neolithic Transition in South-West England*. Unpublished PhD thesis, University of Bristol.
- GRANT, A. 1982. The use of tooth wear as a guide to the age of domestic ungulates pp 91-108 in Wilson *et al.* 1982.
- JENSEN, P. 1991. Body size trends of roe deer (*Capreolus capreolus*) from Danish Mesolithic sites. *Journal of Danish Archaeology*. **10**. 51-58.
- LANGLEY, P.J. and YALDEN, D.W. 1977. The decline of the rarer carnivores in Great Britain during the nineteenth century. *Mammal Review*. **7**. 95-116.
- LEGG, A.J. and ROWLEY-CONWY, P.A. 1988. *Star Carr Revisited*. London. Birkbeck College, University of London.
- LEVER, C. 1977. *The Naturalized Animals of the British Isles*. London: Hutchinson.
- MURRAY, E. and SCHULTING, R. 2005. Faunal Remains pp 234-9 in Schulting, 2005.

- SCHULTING, R. 2005. 'Pursuing a rabbit in Burrington Combe': new research on the early Mesolithic burial cave of Aveline's Hole'. *Proceedings of the University of Bristol Spelaeological Society*. **23**. 3. 171-265.
- TROY, C.S., MCHUGH, D.E., BAILEY, J.F., MAGEE, D.A., LOFTUS, R.T., CUNNINGHAM, P., CHAMBERLAIN, A.T., SYKES, B.C. and BRADLEY, D.G. 2001. Genetic evidence for Near-Eastern origins of European cattle. *Nature*. **410**. 1088-1091.
- WILSON, B., GRIGSON, C. and PAYNE, S. (eds.) 1982. *Ageing and Sexing Animal Bones from Archaeological Sites*. (BAR British Series 109). Oxford. BAR.
- YALDEN, D.W. 1999. *The History of British Mammals*. London. T & A D Poyser.

E. Murray  
Centre for Archaeological Fieldwork,  
Queen's University,  
Belfast  
e.v.murray@qub.ac.uk