YCCCART 2011/Y11A (Supplement)

Record of animal bone found during an excavation in the unconsecrated area of the graveyard, St Andrew's church, Congresbury.

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General Editor: Vince Russett

Dog vertebrae

Methodology

Following the initial report of the excavation carried out in June, 2011, (YCCCART 2011/Y11A) the bones (including teeth), in their original bags (collections), were re-examined in February and May 2016. The findings were recorded and the specimens photographed. This record compares these findings with the context record (Appendix C) of the original report. Some inconsistencies between the original report and the bagged, labelled collections were observed. Bones were further examined in the spring of 2018, when some modifications were made. In addition, vertebral fragments were re-examined and photographed.

Since this was likely to be a domestic context, the majority of the fragments are considered to be from food animals, and are recorded appropriately.

In context 101, bone was not recorded in the original report; however, two collections labelled '101' and '101 (copper/ glass/iron)' were found to contain bone material.

One collection, containing 13 bones, was marked 'unknown'. This matched the number of bones recorded in context 102 (Appendix C) and is, therefore, considered to correspond to that context.

Only one collection was labelled '103' in the context record (Appendix C). However, in Appendix C, the collection labelled '103 contiguous with 102' was included in context 103. Three other collections, labelled '102/3', '102 contiguous with 103', and '103 (above stone content)' were identified, and also included in context 103 in this report.

Three collections were included in context 104. Two were labelled 'context 104', comprising 8 and 38 bones, respectively; the third collection was labelled '104 (stone content)'.

For context 105, two collections were labelled '105' and comprised 10 and 18 bones, respectively. A separate collection was labelled pig mandible.

One collection, marked 'unstratified' corresponded with Appendix C.

In preparing this record, the raw data notes for each collection were cross checked with the images prepared in 2016; descriptions were modified for collections labelled 'Context 103 (60 bones)'; '103 (90 bones)'; 'context 104 (stone content) (46 bones)'; 'context 105 (18 bones)' and context '105 (pig mandible) (13 bones)'. The raw data (notes) and electronic images are stored in the Group's archive.

A textbook of veterinary anatomy, and some comparisons with bovine, ovine and porcine skeletons were used. For the majority of the specimens, it was not always possible to identify the bone of origin, or species. Occasionally, definite bone fragments could be identified, but not the species. It was noted that 'flat' bones and 'shafts. could be recognised. 'Flat' bones may be derived from the skull, ribs or mandible; 'shafts' could be parts or fragments of long bones or rib?. Loose teeth were identified as pig or ruminant; ruminant teeth varied in size, and some could be identified as bovine – smaller ones could have been calf or sheep, recorded as 'ovine?'. For the ruminants, the cheek teeth were not separately designated as premolar or molar.

Results

General description of bone fragments

The bones were greyish / golden brown / dark, dull brown in colour.

Context 101: (Bones 6). [Tables 1 and 2; Figures 1 and 2]

Table 1. Context 101 (collection labelled 101). Number of bones, identification and species

No.	Description	Species
4	Shaft	?
Total 4		

Figure 1. Context101. Bones [showing one side and the reverse].

Table 2. Context 101 (collection labelled 101[glass, copper, iron]. Number of bones, identification and species

No.	Description	Species
2	Shaft	?
Total 2		

Figure 2. Context 101. Bones [showing one side and the reverse].

Context 102: (Bones 13). [Table 3; Figure 3]

Table 3. Context 102. Number of bones, identification and species*

No.	Description	Species
1	Flat bone	?
2	Shaft	?
1 2	Vertebra: body arch	Porcine/ovine? Porcine/ovine?
6	Irregular fragments, not otherwise identified	?
1	Tooth - Cheek	Bovine
Total 13	2 irregular fragments missing [19-4-18] (Fig 3, arrows)	

*, *collection labelled unknown*

Figure 3. Context 102. Bones [showing one side and the reverse].

Context 103: (Bones 182). [Tables 4 - 8; Figures 4 -8]

Table 4. Context 103; (102 contiguous 103). Number of bones, identification and species

No.	Description	Species
1	Flat bone	?
2	Irregular fragments, not otherwise identified	?
1	Tooth: Cheek	Ovine/bovine?
Total 4		

Cor

Figure 4. Context 103, (102 contiguous 103). Bones [showing one side and the reverse].

Table 5. Context 103; (102/103). Number of bones, identification and species

No.	Description	Species
1	Shaft	?
5	Irregular fragments, not otherwise identified	?
Total 6		

Figure 5. Context 103, (102/103). Bones [showing one side and the reverse].

Table 6. Context 103; (contiguous 102). Number of bones, identification and species

No.	Description	Species
5	Shaft	?
12	Irregular fragments, not otherwise identified	?
3 2	Teeth: Cheek (damaged/worn) Enamel fragments	Ovine/bovine? Ovine/bovine?
Total 22		

Figure 6. Context 103, (contiguous 102). Bones. [showing one side, and the reverse].

Table 7. Context 103; (above stone content). Number of bones, identification and species

No.	Description	Species
6	Flat bones	?
6	Shaft	?
2	Rib	Porcine/ovine?
1	Condyle, long bone	Porcine?
1	Metatarsus/metacarpus	Porcine?
31	Irregular fragments, not otherwise identified	?
2 4 5 1 1	Teeth: Cheek Cheek fragments Canine Premolar/molar	Bovine? Ovine? Bovine/ovine? Porcine Porcine
Total 60	Photographed as Groups 1 and 2	

Figure 7A. Context 103, (above stone content). Bones, Group1 [showing one side and the reverse].

Figure 7B. Context 103, (above stone content). Bones, Group 2 [showing one side and the reverse].

Table 8. Context 103. Number of bones, identification and species

No.	Description	Species
4	Flat bones	?
14	Shaft	?
1	Humerus	Porcine?
1	Condyle, distal tibia?	Bovine?
1	Metatarsus/metacarpus	Bovine?
1	Tarsus/carpus	Bovine?
1	Scapula, glenoid process	?
51	Irregular fragments, not otherwise identified	?
7 1 5 3	Teeth: canine Cheek Cheek (damaged) Cheek, fragments	Porcine Bovine Ovine? ?
Total 90	Photographed as Groups 1 and 2	

Figure 8A. Context 103. Bones, Group 1 [showing one side and the reverse].

Figure 8B. Context 103. Bones, Group 2 [showing one side and reverse].

Context 104: (Bones 92). [Tables 9 - 11; Figures 9 -11]

Table 9. Context 104 (stone context). Number of bones, identification and species

No.	Description	Species
1	Flat bones	?
15	Shaft	?
1	Mandible	Porcine?
2	Metatarsus/metacarpus	?
23	Irregular fragments, not otherwise identified	?
1 1 1 1	Teeth: incisor Incisor Cheek Fragment	Porcine Ovine? Ovine? Bovine/ovine?
Total 46		

Figure 9. Context 104, (stone content). Bones, [showing one side and the reverse].

Table 10. Context 104 (38 bones). Number of bones, identification and species

No.	Description	Species
2	Flat bones	?
2	Shaft	Bovine
1	Rib (head)	Ovine?

1	Metatarsus/metacarpus	Ovine?
1	Tarsus/carpus	Porcine?
1	Vertebra (arch, fragment)	Porcine/ ovine?
2	Mandible (fragments)	Porcine?
17	Irregular fragments, not otherwise identified	?
3 1 1 4 2	Teeth; incisor Premolar Incisor Cheek fragments	Porcine Porcine Ovine Ovine? ?

Figure 10. Context 104, (38). Bones, [showing one side and the reverse].

Table 11. Context 104 (8 bones). Number of bones, identification and species

No.	Description	Species
2	Flat bones	?
1	Shaft	?
1	Condyle, distal femur (fragment)	Porcine?
1 1 1	Vertebra, damaged. On the right side? of the anterior aspect of the body is an extraneous 'bony arc' (osteophytes). Vertebra, body. On the right side? of the distal aspect of the body is an extraneous 'bony arc' (osteophytes) corresponding to that described above. Arch, fragment	Canine?
1	Irregular fragments, not otherwise identified	?
Total 8		

Figure 11. Context 104, (8). Bones, [showing one side and the reverse].

Context 105: (Bones 41). [Tables 12 - 14; Figures 12 -14]

Table 12. Context 105 (10 bones). Number of bones, identification and species

No.	Description	Species
2	Flat bones	?
2	Shaft	?
1	Vertebra: cervical	Ovine?
2 2 1	Teeth: Cheek Cheek Fragment	Bovine Ovine? Bovine?
Total 10		

Figure 12. Context 105, (10). Bones, [showing one side and the reverse].

Table 13. Context 105 (18 bones). Number of bones, identification and species

No.	Description	Species
3	Flat bones	?
8	shaft	?
6	Irregular fragments, not otherwise identified	?
1	Tooth: premolar	Porcine
Total 18		

1A

Figure 13. Context 105, (18). Bones, [showing one side and the reverse].

Table 14. Context 105 (mandible). Number of bones, identification and species

No.	Description	Species
2	Fragments + molar teeth	Porcine
1	Fragment + premolar teeth	
1	symphysis	
5	Irregular fragments, not otherwise identified	
2	Teeth: incisors	
2	canine	
Total 13		

Figure 14. Context 105, (mandible). Bones, [showing one side and the reverse]

Table 15. Context, unstratified. Number of bones, identification and species

No.	Description	Species
1	Flat bone	?
3	Shaft	?
1	Metatarsal/metacarpal	Porcine?
1	Phalanx 2	Porcine?

1	Irregular fragment, not otherwise identified	?
Total 7		

Figure 15. Context, unstratified, (7). Bones, [showing one side and the reverse].

A note on Vertebrae

Dog vertebrae

A damaged vertebra, and a vertebral body were found in context 104 (8) along with a fragment of a vertebral arch (Fig 11 and 16). By comparison with a dog skeleton (large dog, greyhound), the whole vertebra and vertebral body were considered to be canine, lumbar vertebrae (Fig 17). The fragment of vertebral arch could not be positively identified as dog. In addition, the two vertebrae were adjacent in the vertebral column, with the vertebral body being anterior to the whole vertebra. Furthermore, on the posterior, right side of the fragment of the body, was an exophytic, bony prominence which matched, exactly, a similar feature on the right anterior aspect of the body of the whole vertebra (Fig 18). These features can be appreciated when the two vertebrae are aligned (Fig 16A). This represents a pathological change of inflammation and osteophyte production, known as spondylosis, a not uncommon condition seen in older animals.

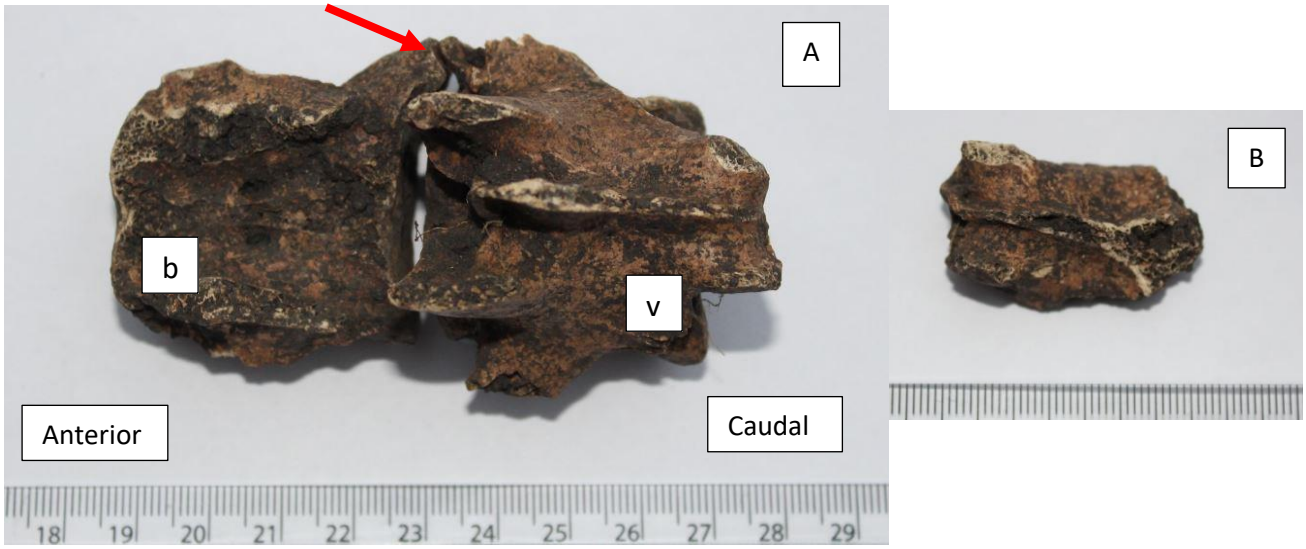

Figure 16. Context 104 (8 bones). A, Aligned, dorsal aspect of dog vertebral body (b) and vertebra (v). Osteophyte formation (red arrow). B, fragment of vertebral arch.

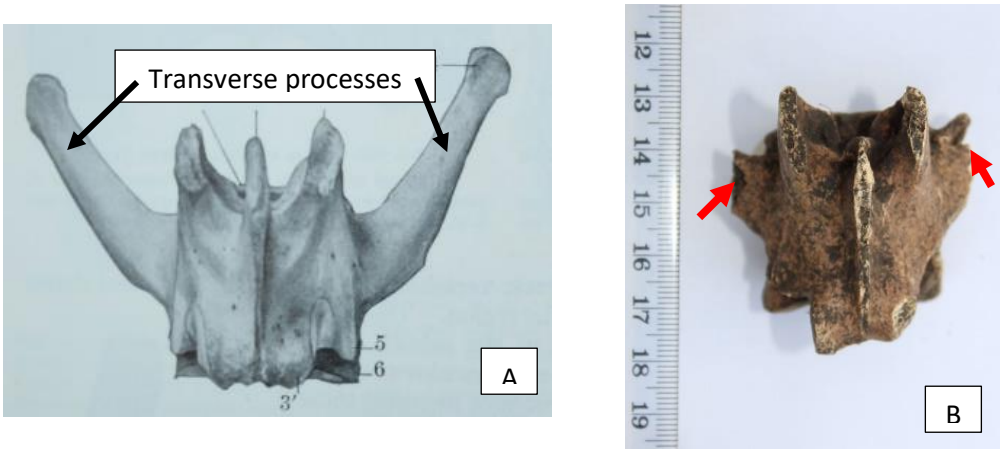

Figure 17. Comparison of a drawing of a dog lumbar vertebra, (A), and the vertebra, (B), shown in figure 16. The red arrows point to the 'fractured' transverse processes.

Figure 18. Context 104 (8 bones). Dog vertebral body and vertebra.(Compare figure 16). The left image, represents the caudal aspect of the body and the right image is the anterior aspect of the vertebra. Arrows, osteophyte formation.

Other vertebrae and fragments

A cervical vertebra, possibly sheep (figs 12 and 19), was found in context 105 (10). The body of a vertebra possibly porcine or ovine (figs 3 and 20), was identified in context 102. Three further fragments, to that in context 104 (8 bones), of vertebral arches were found in context 102 (2 fragments) (figs 21), and (1 fragment).

Figure 19. Cervical vertebra, (ovine?), dorsal aspect. Context 105 (10). Anterior is at the top.

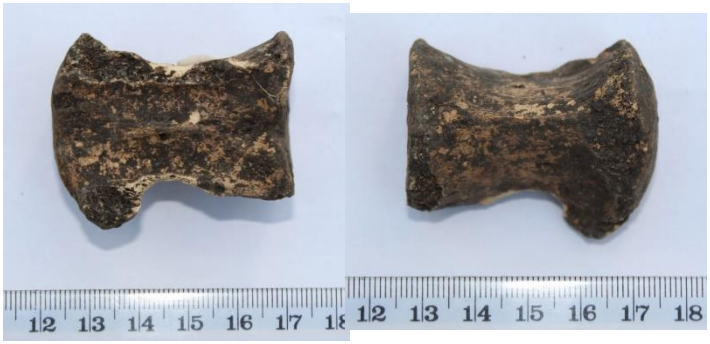

Figure 20. Vertebral body, (porcine /ovine?), Context 102. Left, dorsal aspect; right, ventral aspect

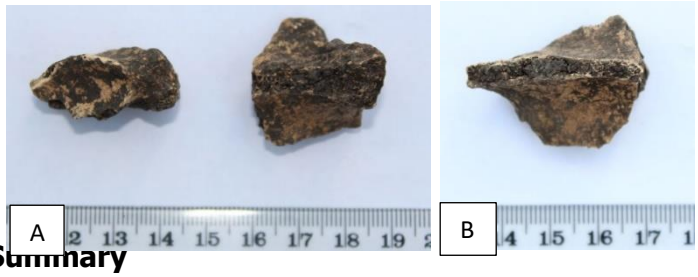

Figure 21. Vertebral arch fragments, (ovine /porcine?), dorsal aspect; A, Context 102; B, context 104 (38).

Summary

A summary of the locations and number of bones and bone fragments (including separate teeth), is shown in Table 16.

Table 16. Summary of location and numbers of bones and bone fragments (including separate teeth), compared with Appendix C of the main report of the excavation.

Location: Report; Appendix C	Location/context; (bagged specimens, with designations)	Bone	Teeth	Total	Total App. C* (Bone + tooth)
Context 101	101 101 (Glass/Cu/Iron)	4 2	- -	4} 2} 6	-
Context 102	Unknown**	12	1	13	13
Context 103	102 (contiguous 103) 102/3 103 (Contiguous 102) 103 (above stone content) 103	3 6 17 47 74	1 - 5 13 16	4} 6} 22} 182 60} 90}	175
Context 104	104 (stone context) 104 104	42 27 8	4 11 -	46} 38} 92 8}	45
Context 105	105 105 Pig mandible	5 17 9	5 1 4	10} 18} 28 13	16 (plus a mandible)
Unstratified	Unstratified	7	-	7	7

Totals		280	61	341	269

*, Appendix C, main report;

**, The collection matches the number of bones and a tooth, recorded for 'context 102' in Appendix C of the main report (YCCCART).

Table 17. Summary of bone (including separate teeth) types and number.

Type	Number	Species
Irregular fragments, NOI	155	Bovine / porcine/ ovine?
Limb bones, including phalanges)	14	Bovine / porcine/ ovine?
'Flat' bone (fragments of rib?)	23	Bovine / porcine/ ovine?
Shaft fragments (limb/rib?)	65	Bovine / porcine/ ovine?
Rib (including head)	3	Porcine / ovine?
Vertebrae:		
Whole vertebrae	1 }	Ovine?
	1 }	Canine?
Dorsal arch/fragments	3 } 8	Porcine?/ ovine?
	1 }	Canine?
body fragment	1 }	Porcine /ovine?
	1 }	Canine?
Mandible fragments, including teeth (NOR)	12	Porcine
Teeth (separate from the mandible)		
- Ruminant, Cheek (molar/premolar)	26 }	Bovine; ovine?
- Premolar/Molar fragments	14 }	Bovine/ovine?
- Ruminant incisor	2 } 61	Ovine?
- Incisor	6 }	Porcine
- Canine	10 }	Porcine
- Cheek teeth	3 }	Porcine
Total	341	

NOI, not otherwise identified; NOR, not otherwise recorded;

Conclusions

341 bone fragments (including teeth) were identified.

They comprised a large variety of fragments along with occasional, complete, small bones of the lower limbs (phalanges), presumed to be derived from cattle sheep and pigs. Unusually, a vertebra and vertebral body from context 104 (8 bones) were canine, and a fragment of vertebral arch, from the same context, may have been canine. Whether these are contemporary with the remaining bones is unknown. In addition, there was evidence of minor disease on the dog vertebra and vertebral body, usually associated with an older animal. The dorsal arches of three other vertebrae, from context 102 and context 104 (38 bones), were identified, possibly porcine or ovine, from which the body was absent. Similar findings were noted in a record of animal bones from an excavation at Iwood (YCCCART Report, 2015/Y10). It is difficult to see how this separation of the arches might have occurred (eg butchery or damage after death?). Mandible fragments of pigs only, were identified. There was no evidence of cattle or sheep mandibles, despite finding ruminant teeth.

References

Sisson, S. (1966). The Anatomy of the Domestic Animals, revised by Grossman, JD., 4th Edn. W B Saunders Company, Philadelphia and London.

Scientific background

The author of this record is a retired veterinary surgeon with no specialist knowledge of osteology. Therefore, frequently a '?' is used in the tables to express uncertainty. Thus, this represents an informed estimate of the findings. A qualified osteologist / veterinary anatomist would be required to review the bones for a definitive report.

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25/4/19 (Revised, 25/9/19)