

Ancient Monuments Laboratory  
Report 68/92

CREMATED HUMAN BONE FROM THE  
A47 NORWICH SOUTHERN BY-PASS  
EXCAVATIONS (1989-90):  
THE BIXLEY & HARFORD FARM SITES

S A Mays

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Summary

Eight Bronze Age cremations and one of early Romano-British date were excavated from the ploughed-out remains of five round barrows.

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Introduction to the sites

Two crop-mark sites, Bixley (Grid Ref. TG 241 055) and Harford Farm (Grid Ref. TG 224 043) were excavated by Norfolk Archaeological Unit in 1989-90 in advance of destruction by the A47 Norwich Southern by-pass. The two sites lie within 2km of one another and the bone reported on in the present work derives from within ring ditches which represent the remains of ploughed-out round barrows. The three ring-ditches excavated at Bixley yielded a total of 6 Bronze Age cremation burials. Five ring-ditches were excavated at Harford Farm. Within one (feature number 1321) were found 2 Bronze Age cremations; two inhumations were also made here but owing to adverse soil conditions no bone from them survived - only soil silhouettes betrayed the positions of the corpses. A cremation of early Romano-British date was found within a further ring-ditch. A total of three inhumation burials were located within two of the other ring-ditches but again no bone survived. Both sites suffered heavy damage due to soil erosion and ploughing.

Recovery methods

The larger pieces of cremated bone were hand recovered on site. The remainder was recovered by wet-sieving; the bone from residue retained by 5mm mesh was hand-sorted, the residues from the smaller mesh sizes were not sorted. The weighings, and estimations of fragment sizes and counts refer only to the 5mm fraction; the unsorted smaller fractions were merely scanned for diagnostic fragments.

The human remains

(a) Bixley

Context: site 6099, cremation pit 289. Cremation in pit in area enclosed by the inner ring-ditch of ring-ditch complex 6.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Skull	16.5	14	25
Post-cranial & unidentified	239.4	12	790
Total	255.9		815

Colours: neutral white.

Identified elements include fragments of: skull vault, mandibular molar, maxillae, L mandibular condyle, navicular bone, cervical vertebra.

Sex: unknown.

Age: adult.

Context: site 6099, cremation pit 300. Cremation, accompanied by a small copper alloy pin, in pit in area enclosed by inner ditch of ring-ditch complex 6.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Skull	11.4	18	19
Post-cranial & unidentified	208.6	9	850
Total	220.0		869

Colours: neutral white.

Identified elements include fragments of: skull vault, mandible (including alveoli), mandibular molar, L zygomatic, intermediate & distal hand phalanges, ilium.

Age: adult.

Sex: ??female, on the basis of the general size and robusticity of the bones.

Context: site 9585, cremation pit 12. Cremation in pit cut into barrow mound material in area enclosed by ring-ditch 7. Heavily disturbed by animal action.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Skull	9.6	20	6
Post-cranial & unidentified	479.6	14	800
Total	489.2		806

Colours: neutral white, grey.

Identified elements include fragments of: skull vault, L temporal bone, tibia, femoral condyles, femoral shaft, metacarpal, L talus, ulna, humerus, proximal or intermediate hand phalanx.

Sex: unknown.

Age: adult.

Context: site 9585, cremation pit 32. Cremation in pit cut into mound material in central part of area enclosed by ring ditch 7. The cremated bone was confined to thin basal deposits in the pit. The burial was accompanied by a small collared urn which did not itself contain any bone.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Skull	86.4	22	110
Post-cranial & unidentified	677.4	18	2100
Total	763.8		2210

Colours: neutral white.

Identified elements include fragments of: skull vault, R mastoid process (small), palatine parts of maxillae, mandibular canine, unidentified single-rooted tooth, maxillary & mandibular molars, anterior parts of maxillae with alveoli, L side of frontal bone (including L superciliary arch), L & R sphenoids, L & R petrous temporal bones, R zygomatic, L mandibular fossa, R occipital condyle, L & R mandibular condyles, L coronoid process of mandible, mandibular alveoli, L navicular bone, L & R scapulae, thoracic & lumbar vertebrae, L trapezium, clavicular, 1st sacral segment, femoral heads, shaft and condyles, ilia, acetabula, axis vertebra, L & R ribs, patella, tibia, humeral head, L & R ulnae, fibula, 4 proximal or intermediate hand phalanges, 1 distal hand phalanx, L scaphoid, L radius, 3rd-7th cervical vertebrae.

Sex: female (cranial morphology (Workshop of European Anthropologists 1980), general robusticity and size of bones).

Age: young adult (i.e. about 18-35 years) - cranial suture closure (Perizonius 1984).

Context: site 9585, cremation pit 47. Cremation in pit cut into barrow mound material within south-western part of area bounded by ring-ditch 7. There was scorching of the sides of the pit and of adjacent areas of the mound, suggesting that the cremation pyre lay nearby.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Skull	15.3	15	21
Post-cranial & unidentified	103.2	10	700
Total	108.5		721

Colours: neutral white.

Identified elements include fragments of: L temporal bone, skull vault, thoracic & lumbar vertebrae, proximal or intermediate hand phalanx.

Sex: unknown.

Age: adolescent (about 14-18) - epiphysial fusion (Workshop of European Anthropologists 1980).

Context: site 9585, cremation pit 1132. Cremation in a large, upright collared urn placed in a pit in the area enclosed by ring-ditch 1003. Traces of scorching around the upper edges of the pit suggests that cremation took place nearby.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Skull	99.4	20	85
Post-cranial & unidentified	561.6	14	1650
Total	661.0		1735

Colours: neutral white, grey.

Identified elements include fragments of: anterior part of mandible, L sphenoid, skull vault, L mandibular ramus, R zygomatic, petrous part of temporal bone, L mastoid process (moderately well developed), atlas vertebra, thoracic vertebrae, iliac face of R sacro-iliac joint, ribs, lumbar vertebra, R ischium, ilium, ulna, L calcaneus, R navicular bone, femoral condyle, proximal foot phalanx.

Sex: unknown.

Age: young adult (about 18-35 years) - cranial suture closure (Perizonius 1984).

Notes: 172.9g or about one quarter of the total bone came from the urn itself, while the remainder came mainly from the upper fill of the pit. There was no evidence for selection of specific anatomical parts of the skeleton for insertion in the urn. Given the likelihood that the pyre stood very near the pit it seems possible that the upper fill of the pit represented material swept in from the pyre itself.

(b) Harford Farm

Context: site 9794, cremation pit 1004. Cremation in a plain bucket urn of probable middle Bronze Age date inserted into a pit within ring ditch 1321. The upper parts of the pit and the urn have been removed by ploughing.

Material: what little cremated bone remained from this burial consisted of small fragments which had not been separated from the other material (soil, charcoal etc) from the urn and pit fills.

Colours: neutral white.

Sex: unknown.

Age: infant.

Context: site 9794, cremation 1905. An cremation placed within the back-fill of inhumation grave 1906 (which contained an unaccompanied adult-sized inhumation within a plank coffin) situated in the area enclosed by ring-ditch 1321. The cremation (?possibly placed in a bag) was deposited in the grave during its back-filling as there was no evidence for a secondary cut. It was accompanied by a small (c 3mm long) copper-alloy pin or rivet.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Skull	82.7	18	150
Post-cranial & unidentified	852.5	20	2500
Total	935.2		2650

Colours: neutral white.

Identified elements include fragments of: skull vault, maxillary molars, mandibular and maxillary premolars, anterior teeth, R mastoid process, L mandibular fossa, frontal bone, maxillary and mandibular alveoli, L mandibular coronoid process, L & R mandibular rami, R talus, thoracic & lumbar vertebrae, humerus, tibia, ribs, ilium, L & R lunates, radius, L scaphoid, R acetabulum, atlas vertebra, 4 distal hand phalanges, 7 proximal/intermediate hand phalanges, 1 intermediate foot phalanx, 3rd-7th cervical vertebrae.

Sex: ??male (cranial morphology - Workshop of European Anthropology 1980; general size & robusticity of the skeleton).

Age: middle adult (about 35-50 years) - cranial suture closure (Perizonius 1984).

Context: site 9794, ?cremation pit 2005. A small amount of cremated bone was found lying immediately above a layer of twiggy wood, apparently burnt in-situ, in an ovate pit. This feature was heavily truncated by plough damage and lay within a Bronze Age barrow ring-ditch. The cremation was accompanied by a copper-alloy brooch, the form of which dated the burial to the early Romano-British period.

Material:

	Weight (g)	Mean fragment size (mm)	Approximate fragment count
Total	16.0	7	150

Colours: grey, white.

Identified elements include fragments of: long-bone shafts.

Age: unknown.

Sex: unknown.

### Discussion

A total of 8 Bronze Age cremations were recovered from 4 partially or completely ploughed-out round barrows; of these 6 were adults (1 female, 1 possible female, 1 possible male and 3 of uncertain sex), 1 was an adolescent and 1 was an infant. One cremation of early Romano-British date was also recovered; the sex and age of this burial are uncertain. The plough damage at the sites was such that further burials may have been present, and the soil conditions meant that no bone survived from the 5 inhumation burials located at the sites.

Cremation of an adult corpse yields about 2-3kg of bone (Wahl 1982). Using this as a guide it is clear that all 9 cremations from Bixley and Harford Farm are substantially incomplete, the weights of bone ranging from 220.0g to 935.2g for adult burials. The infant and adolescent cremations, too, must be very incomplete, the former consists of only a very small amount of remains and the latter of 108.5g of bone. One factor contributing to the general lack of bone is damage to the cremations by ploughing or animal activity, but even those for which there is no evidence of post-depositional disturbance are substantially incomplete. Although some destruction of bone in all probability occurred during its long sojourn in the soil, and the weighings slightly underestimate the total bone recovered since they refer only to those fragments larger than 5mm long, the very incomplete nature of the burials indicates that significant losses occurred in antiquity due to incomplete collection of remains from the pyre for burial. There was no evidence for selective retrieval of particular skeletal elements for burial.

The cremated bone is predominantly neutral white in colour. Shipman et al. (1984) demonstrate that bone colour may be used as a very approximate guide to firing temperature; the appearance of the remains suggests thorough, even firing with temperatures in excess of about 940°C.

### References

- Perizonius, W.R.K. (1984). Closing and Non-Closing Sutures in 256 Crania of Known Age and Sex From Amsterdam (AD 1883-1909). Journal of Human Evolution 13: 201-216.
- Shipman, P., Forster, G. & Schoeninger, M. (1984). Burnt Bones and Teeth: An Experimental Study of Colour, Morphology, Crystal Structure, and Shrinkage. Journal of Archaeological Science 11: 307-325.
- Wahl, J. (1982). Leichenbranduntersuchungen. Ein Überblick über die Bearbeitungs- und Aussagemöglichkeiten von Brandgräbern. Prähistorische Zeitschrift 57: 1-125.
- Workshop of European Anthropologists (1980). Recommendations for Age and Sex Diagnosis of Skeletons. Journal of Human Evolution 9: 517-549.