

The feathers

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Introduction

Feather fragments recovered from 15 contexts at the site (1975–6 and 1977 seasons) form the subject of this report, commissioned in 1997. Not all of the feathers stated to have been found during the excavation were found at the time of writing. Of the feathers submitted for analysis, some were still embedded in the original soil. On examination in 1997 it was found that some of their original features had been lost and as a result it was possible in some cases only to identify the order or the family group present.

Methods

The feather remains from the site were recovered by a conservator and were examined under an Instant Light Binocular Microscope using a magnification of between 40 and 450. Comparative reference material was used for identification where possible as well as reference keys (Chandler 1916; Day 1965).

Feathers are formed by a shaft, a vane, rachis, barbs and barbules. Under the microscope a complex mesh of a vane feather can reveal how each barb of the vane is in effect a miniature feather. Identification was based on the analysis of the rachis, barb and barbule structures of the feathers where these had survived.

Results

Table 35 summarises the results of the analysis of the feather remains from the site. Most of the feather remains appear to have been deposited whole and most were remains of pennae (outer flight and contour feathers) which give shape to the birds and provide insulation. Most were broken fragments due mainly to taphonomic conditions and post-excavation decay.

Context 2246 contained a fragment of shaft from a primary flight feather. This was unidentifiable. Context 2385 contained a primary flight feather, of which 20% survived. This has been assigned to the family Galliformes, which includes domestic fowl.

Context 2462C contained remains of a covert (contour feather), 60% of which survived. This has been assigned to the order Passeriformes, family Corvidae (crows, ravens).

Context 2611 contained a fragment of possible primary flight feather or tail feather, 20% of which survived. Examination of the structure of the basal portion of the barb determined that this probably

belonged to a species of the order Anseriformes, family Anatidae (ducks, geese and swans).

Context 7235 contained fragments of a covert feather (small contour), 20% of which survived. The analysis of the structure of a basal portion of the barb and the structure of barbules determined that these belong to the mallard (*Anas platyrhynchos*).

Context 7310 contained a fragment of covert feather (small contour) of which only 5% survived. Analysis of the structure of the barbules determined that this belongs to a species of the order Anseriformes, possibly of the Anatidae family (ducks, geese and swans).

Context 7323 contained fragments of covert feather (small contour), only 10% of which survived, and a fragment of primary flight feather, 20% of which survived. Examination of barbule structure of the covert feather fragments determined that these belong to a species from the order Anseriformes, family Anatidae (ducks, geese and swans). Examination of the basal structure of the flight feather's barb and barbules determined that this belongs to the order Anseriformes, family Anatidae, possibly greylag goose (cf *Anser anser*).

Context 7342 contained fragments of covert feather (small contour), 10% of which survived, and a fragment of primary flight feather, 20% of which survived. Barbule structure of the covert feather fragments determined that these belong to a species of the family Galliformes. Examination of the basal structure of the flight feather's barbs determined that this possibly belongs to the greylag goose (cf *Anser anser*). On first inspection of this specimen, the conservator advised that the feather may have represented an arrow flight (A Clydesdale pers comm). However on further cleaning and examination, it was decided that these were in fact unworked feathers. On closer inspection, it became clear that the shaft of this feather had become mineralised and it appears to have split following its natural pattern; this had given the appearance of having a wooden shaft and hence led to the early opinion that this was an arrow flight. This proved not to be the case. It is, however, noteworthy to add that greylag goose wing feathers have traditionally been used as arrow flights (Pope 1974, 66).

Context 7343 contained fragments of a primary flight feather, 20% of which survived. Very few barbules survived but these determined the feather belongs to a species of the order Anseriformes, Anatidae family (ducks, geese and swans).

Context 2562 contained a flight feather (secondary or tertiary). Although 90% of the feather survived, it

Table 35 Results of analysis of the feather remains.

context	main feature	feature	phase	description	identification
2385	M10		IId-IIg	primary (flight feather) 20% survived	Order Galliformes cf <i>Gallus gallus</i>
2611	M1.2	Pit 2468	<IIg(IIh)	primary (flight feather) or tail feather 20% survived	Order Anseriformes Family Anatidae
2462C	M1.3		Ili	covert feather (small contour) 60% survived	Order Passeriformes Family Corvidae
2246	M1.4a(a)		IIla-IIlc	shaft fragment from primary (flight feather)	unidentified
9443	P8.1b/B19 (Phase 2b)	South Room, Occ (1a)	IIlc	covert feather (small contour) x 3 fragments 10% survived	Order Anseriformes Family Anatidae
9439	B19 (Phase 2b)	North Room, Floor (2b)	IIlc	semi-plume 90% survived.	Order Anseriformes
9439	B19 (Phase 2b)	North Room, Floor (2b)	IIlc	fragment covert feather (small contour) 10% survived	Family Anatidae
9444	B19 (Phase 2b)	North Room, Occ (2b)	IIlc	covert feather(s) – several fragments	Order Passeriformes Family Corvidae
9413	B19 (Phase 2b)	North Room, Occ (3)	IIlc	covert feather (small contour) 40% survived	Order Anseriformes Family Anatidae <i>Anas platyrhynchos</i>
9404	M15		IIId	covert feather (small contour) 40% survived	Order Anseriformes Family Anatidae
2562	B2	Floor/ Foundation (1)	IVa,IVaa	secondary/tertiary feather (flight feather) 90% survived	Order Anseriformes Family Anatidae cf <i>Cygnus Cygnus</i>
7342	MC126	Pit 7402	IVaa,IVb	primary (flight feather) 20% survived.	Order Anseriformes
7342	MC126	Pit 7402	IVaa,IVb	covert feather fragments (small contour) 10% survived	Order Galliformes
7310	B18 (Phase 1/2)		IVaa,IVb	covert feather (small contour) 5% survived	Order Anseriformes Family Anatidae
7323	B18 (Phase 2a)	External (1), Pit 7314	IVb	covert feather fragments x 2 (small contour) 10% survived.	Order Anseriformes
7323	B18 (Phase 2a)	External (1), Pit 7314	IVb	primary (flight feather) 20% survived	Family Anatidae cf <i>Anser anser</i>
7343	B18 (Phase 2a)	External (1), Pit 7314	IVb	primary flight feather x 6 fragments 20% survived	Order Anseriformes Family Anatidae

Table 35 (*continued*)

context	main feature	feature	phase	description	identification
7235	B18 (Phase 2b)	North Room & Hall - Floor 2	IVb	covert feather (small contour) x 2 fragments 20% survived	mallard <i>Anas platyrhynchos</i>

was quite mineralised and very few features could be distinguished under the microscope. Examination of a few surviving barbules determined that this feather may belong to a species of the order Anseriformes, family Anatidae, possibly to whooper swan (cf *Cygnus cygnus*) and probably to a cygnet.

Context 9404 contained a fragment of a covert feather (small contour), of which 40% survived. Examination of the basal structure of the barbs determined that this belongs to a species of the order Anseriformes, family Anatidae.

Context 9413 contained fragments of covert feather (small contour), of which 40% survived. Examination of the barbules determined that these probably belong to the mallard or wild duck (cf *Anas platyrhynchos*).

Context 9439 contained the remains of a semi-plume, 90% of which survived, and a fragment of covert feather (small contour), 10% of which survived. Examination of the barbule structures of the semi-plume determined that this belongs to a species from the order Anseriformes, family Anatidae. Examination of the covert feather fragment's basal structure of the barb determined that this possibly belongs to the mallard or wild duck (cf *Anas platyrhynchos*).

Context 9443 contained fragments of covert feather fragments (small contour), 10% of which survived. Examination of the barbule structure determined that these belong to a species from the order Anseriformes, family Anatidae.

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Discussion

The families and species identified among the feather remains from the site were also present in the bird bone assemblage (see The bird bone). Therefore it is possible that there is some relationship between the bones and the feather remains.

The recovery of Galliformes feathers may represent the presence of domestic fowl, *Gallus gallus*, which in the bird bone assemblage was present with variable size ranges. This has been explained in terms of possible egg production and the possible breeding of birds for the purpose of cock fighting (see The bird bone).

Feather remains from the Anseriformes, family Anatidae, were also recovered, of which mallard or wild duck (*Anas platyrhynchos*), greylag goose (*Anser anser*) and whooper swan (*Cygnus cygnus*) were the species tentatively identified. As these species were all present in the bone assemblage, there may be a relationship.

The presence of feather remains of Passeriformes, family Corvidae, (crows and ravens), may be explained in terms of the scavenging nature of these species. Raven bones were relatively numerous in the bird bone assemblage.

The feather remains from the site appear to have derived from either natural loss or as a result of waste from processing of bird carcasses. Although there seems to be no indication of other uses for these feather remains, this may be due mainly to the poor conditions of their preservation. It would be difficult to observe deliberate cut marks under such conditions.