

Palaeoecology Research Services

Technical report: Selected vertebrate and insect remains from excavations at Lydd Quarry, Romney Marsh, Kent (site code: LQ5/6)

by

Deborah Jaques and Harry Kenward

PRS 2003/24

*Palaeoecology Research Services
Unit 8, Dabble Duck Industrial Estate
Shildon, County Durham DL4 2RA*

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Summary

A small quantity of fish, bird, small mammal and amphibian bones were recovered by hand-collection and by sieving from nine of the deposits excavated from area 'Lydd 5/6' at Lydd Quarry, Romney Marsh, Kent. The vertebrate material discussed in this report was recovered from ditch, pit and cut fills, primarily of medieval (12th-13th and 13th-14th century) and early post-medieval (15th to 16th century) date. Additionally, one of the samples, from the waterlogged fill (Context 370) of cut 366, produced an assemblage of insect remains.

The insect remains recovered clearly represented a 'pitfall trap' assemblage. Ground beetles, broadly typical of areas disturbed by human activity were present. No evidence was recovered for accumulations of decaying matter and, in the light of this, and the restricted fauna identified, the cut may represent a well, kept clean in use and only used for dumping once abandoned.

On the basis of the recovered assemblage, bird and fish remains were scarce within the deposits at Lydd. Most of the bird remains represented domestic individuals, although the few wild geese and duck bones attest to some exploitation of the local wetlands. The remains of cod, whiting, other Gadidae, flatfish, eel and stickleback were identified, but the assemblages were too small for detailed interpretation. The recovered vertebrate remains provided little evidence for the utilisation of the extensive natural resources, but this may be a consequence of the recovery techniques employed or just that suitable deposits for the recovery of fish and bird remains were not encountered.

KEYWORDS: LYDD QUARRY; ROMNEY MARSH; KENT; MEDIEVAL; EARLY POST-MEDIEVAL; INSECTS; FISH; BIRD; SMALL MAMMAL; AMPHIBIAN

Contact address for authors:

Palaeoecology Research Services
Unit 8
Dabble Duck Industrial Estate
Shildon
County Durham DL4 2RA

Prepared for:

Archaeology South-East
1 West Street
Ditchling
Hassocks
West Sussex BN6 8TS

25 March 2003

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Introduction

Excavations of different areas at Lydd Quarry, Romney Marsh, Kent, undertaken prior to gravel extraction, have revealed an extensive medieval landscape composed of settlement/activity sites and associated ditched field systems. A small quantity of fish, bird, small mammal and amphibian bones were recovered, by hand-collection and by sieving from nine of the deposits excavated from area 'Lydd 5/6'. The vertebrate material discussed in this report was recovered from ditch, pit and cut fills, primarily of medieval (12th-13th and 13th-14th century) and early post-medieval (15th to 16th century) date.

Additionally, one of the samples, from the waterlogged fill (Context 370) of cut 366, produced an assemblage of insect remains. Pottery gave a spot date of 1425-1500 for this fill, but leatherwork suggested a later date, 18th century. All the invertebrate and vertebrate remains were submitted for identification and comment.

Methods

Insect remains

The insect remains were picked from the washover and residue of a bulk sample. Five litres of sediment had been processed, using 1 mm mesh. Fossils were submitted loose and dry, and were often distorted as a result; they were transferred to industrial methylated spirits for identification.

Vertebrate remains

The fish, bird, small mammal and amphibian remains had been recovered by hand-collection (Contexts 10, 66, 138, 159 and 287) and by sieving (Contexts 292, 304 and 370).

Material from Context 123 represented both methods of recovery. Bone from the samples was retrieved from the 1mm residue mesh.

Remains from all nine deposits were examined and records were made concerning the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Other information, such as butchery marks, gnawing, fresh breakage and burning, was noted where present. Fragments were identified to species or species group using the modern comparative reference collection of PRS.

Results

Insect remains

Bulk-sieving is not a satisfactory way of recovering insect remains, the standard method being sieving to 300 microns and paraffin flotation (Kenward *et al.* 1980). Initial inspection showed that the insect assemblage from Cut 366 was strongly skewed towards larger forms, so that interpretation was inevitably limited. In view of this, the doubts about dating and possible residuality, and project constraints, no attempt was made to make difficult, time-consuming identifications, and semi-quantitative recording was used (see Kenward 1992). The taxa noted are listed in Table 1.

These remains are clearly a 'pitfall trap' assemblage, even allowing for the effects of non-standard processing. The presence of a range of larger ground beetles (*Carabus* to *Amara* in Table 1) is very typical of such groups, although the rarity of larger Staphylinidae is a little unusual. Almost all smaller species have been lost (they must have been present initially), either during sieving or because they are very difficult to see while

sorting dry residues. The only very small species recovered was the *Corticaria*.

Vertebrate remains

Detailed records by context can be found in the Appendix.

Bird remains

Bird remains, amounting to 24 fragments, were identified from six of the nine deposits represented. Additionally, two other deposits (Contexts 171/173 and 282) produced single fragments. These were not seen by DJ, but were identified by the vertebrate specialist at ASE.

As can be seen from Table 2, most of the bird bones were identified as chicken. Both adult and juvenile birds were present amongst the remains, including the part skeleton of a chick from Context 123.

Geese and ducks were also recorded within the assemblage, but identification to particular species was not always possible. Different species of geese cannot be distinguished on the basis of morphological characteristics, but the size of the bones can narrow the identification down to large or small geese. The overlap in size between the grey geese (i.e. pink-footed, white-fronted, grey-lag) makes further identification problematic; bones from domestic geese, however, tend to be larger than all the wild species. At Lydd, the larger bones, identified as *Anser* sp., are likely to represent domestic individuals, whilst the smaller goose bones are comparable in size to those of barnacle geese (*Branta leucopsis* (Bechstein)), and are probably wild birds that have been trapped or hunted.

Similar difficulties occur when trying to distinguish between the various species of duck. Those recorded from this assemblage were mostly consistent in size with mallards (*Anas platyrhynchos* L.) and may represent wild birds. A single bone was identified as a

teal (*Anas crecca* (L.)), whilst an ulna recovered from Context 123 showed the morphological characteristics of a small wader.

Most skeletal elements were wing (radius, ulna and carpometacarpus) or lower limb (tarsometatarsus) bones. These may represent elements removed prior to cooking.

Fish remains

In total, 93 fish bone fragments were recovered from four of the deposits (Contexts 123, 159, 304 and 370), most, not surprisingly, from the sample residues. Over half of the remains (mostly from Context 370) were small unidentifiable spine and fin ray fragments. Those fragments, which could be identified, included both estuarine and marine species.

Context 159 (12th-13th century), the earliest of the deposits, produced several large vertebrae, which although damaged by fresh breakage, were identified as possible cod (cf. *Gadus morhua* L.) remains. Comparison of the vertebrae with modern fish of known size suggested that these bones represented an individual that was over a metre in length. Several other gadid fragments, including two whiting (*Merlangius merlangus* (L.)) vertebrae, were recorded from the slightly later 13th-14th century deposit, Context 304. Most of the flatfish (Pleuronectidae) remains were also recovered from this deposit; none, however, were characteristic skeletal elements which could further identification beyond family level. Eel (*Anguilla anguilla* (L.)) bones were recorded from Contexts 123, 304 and 370, with the last deposit also producing several stickleback (Gasterosteidae) skull and scute fragments.

Gadidae and eel were represented almost exclusively by vertebrae, whereas, skeletal representation for flatfish suggested that all parts of these fish were present. The stickleback fragments recovered were mainly the most robust, elements i.e. cranium fragments and scutes (bone plates).

Small mammal and amphibian remains

A fragment of a small mammal tibia was recovered from Context 304. Amphibian bones were present in a number of samples (Contexts 123, 138 and 292), including a part skeleton from Context 370.

Discussion

Invertebrate remains

Reconstruction of the surroundings can only be tentative in view of the recovery method used. The ground beetles are broadly typical of areas disturbed by human activity, including occupation sites where disturbance is not excessive. The single water beetle (*Helophorus aquaticus* (L.) or *H. grandis* Illiger) is very migratory and abundant in 'background fauna' (*sensu* Kenward 1975), and the cut was probably not suitable for the development of an aquatic fauna. Some plants appear to have been present in the surroundings (assuming - and on the basis of work at many other sites (Kenward and Hall 1997) this is an assumption to be made cautiously - that there is no evidence for the importation of materials such as hay which may have contained plant feeders). *Sitona* species are common on vetches, clovers and their allies, and the two *Hypera* are associated with the same group of plants. *Mecinus pyraister* (Herbst) is a plantain (*Plantago* spp.) feeder. There is almost no evidence for accumulations of decaying matter of the type typical of occupation sites, either *in situ* or nearby. The species present which are associated with rotting matter might have been attracted to dead insects in the cut, or be 'background fauna' derived from elsewhere. The *Aphodius* and *Onthophagus* dung beetles may have been similarly attracted or entered accidentally, but perhaps hint at dung nearby (although the numbers are not large enough to indicate the presence of abundant livestock). There is no 'house fauna' community (*sensu* Kenward and Hall 1995; Carrott and Kenward

2001) typical of house or stable floors, even allowing for the loss of small species. The single *Anobium punctatum* (Degeer) (woodworm beetle) may have come from fairly old structural timber of any kind and from some distance away.

Analysis of insect remains from any remaining unprocessed sediment from this deposit would probably be rewarding, providing dating can be confirmed. One possibility which arises in view of the apparently restricted fauna is that this was primarily a well, kept clean in use, and only used for dumping at its last, short-lived, abandonment stage.

The insects provide a weak piece of evidence for a late date, in that *Pterostichus madidus* Fabricius) is numerous. There are very few fossil records of this large and distinctive black ground beetle, which is now extremely common in large areas of Britain and usually (though not exclusively) found around areas strongly modified by humans. No records were made by Hall and Kenward (1990) or Kenward and Hall (1995), for example, although hundreds of archaeological samples were analysed for insect remains. The reason for the paucity of records is unclear, but it appears to have undergone a significant change in abundance: its distinctive fossils cannot often have been overlooked. It may only recently have adapted to a synanthropic way of life, although it certainly occurs in natural habitats, where it may be common (e.g. Judas *et al.* 2002). Conceivably it originated outside its present known range, but there is no evidence for this. Certainly, if it was as abundant in the past as it is now, it would be expected to be a frequent component of archaeological assemblages.

Vertebrate remains

On the basis of bones recovered from the samples, and the small number of hand-collected fragments submitted for examination, both bird and fish remains were scarce within the deposits and only appear to

have formed a minor component of the diet of the inhabitants at Lydd in the medieval and early post-medieval period.

The avian bones identified were mainly from domestic birds, with juvenile chicken remains suggesting that hens were kept and bred within the vicinity. The presence of wild geese and ducks provide limited evidence of wild fowling and hint at the utilisation of the vast expanses of wetland and marsh nearby.

Although few fish fragments were recovered, some comments can be made regarding the identified remains. Large fish, such as that represented by the cod remains from Context 159, were generally caught in deep water using hooks attached to long lines (Enghoff 2000), and typically were processed for storage. The latter involved gutting and often decapitation, prior to salting, drying or smoking. This resulted in the disposal of certain elements, including the head and, occasionally, some or all of the precaudal vertebrae. The cod precaudal vertebrae recovered from Context 159, could, therefore, represent fresh fish or waste from the processing of fish. The very limited number of fragments, however, renders this interpretation somewhat tentative. The other gadid represented, the whiting, is an inshore fish and, together with the flat fish, was probably caught locally. Some flatfish (e.g. flounders, *Platichthys flesus* L.) can also be found in estuarine and fresh waters. These and eels were probably caught using nets or traps. Stickleback are today considered inedible and were probably caught inadvertently whilst netting or trapping eels. However, a 19th century English translation of a late medieval Flemish book on wildfowling and fishing (Boekske 1872) suggests that sticklebacks were eaten in the past and that one of the best times to eat them was just before they spawned. Whether this was also common practice in this country in the medieval period is difficult to determine.

The small assemblages may be a consequence of the recovery techniques or a reflection of

different disposal methods for varying types of waste. Both fish and bird remains are generally recovered from deposits associated with their storage, preparation or consumption, e.g. kitchen areas, drains, cesspits etc. The lack of fish and bird bones may be because these types of deposits were not encountered or sampled at Lydd 5/6.

Despite the paucity of evidence from the vertebrate remains for the exploitation of the local wetlands, lead fishing weights were recovered from another area of the site (Lydd 2), and the remains of a possible fish trap was found close by (Barber**), which does suggest that some fishing was undertaken in the vicinity.

Acknowledgements

The authors are grateful to Luke Barber of Archaeology South-East for providing the material and the archaeological information.

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Table 1. Insect remains from Cut 366, Lydd Quarry. 'Several' and 'many' are used in the semi-quantitative sense defined by Kenward (1992).

DIPTERA

Diptera sp. (puparium)

COLEOPTERA

Carabus ?*granulatus* Linnaeus

Dyschirius sp.

Clivina fossor (Linnaeus)

Trechus obtusus Erichson or *quadristriatus* (Schrank)

Pterostichus ?*cupreus* (Linnaeus)

Pterostichus madidus (Fabricius) (several)

Pterostichus melanarius (Illiger) (many)

Calathus fuscipes (Goeze)

Calathus sp. (>1)

Agonum marginatum (Linnaeus)

Amara spp. (>1)

Helophorus grandis Illiger or *aquaticus* (Linnaeus)

Histeridae sp?p. (>1)

Xantholinus linearis (Olivier) or *longiventris* Heer

Philonthus sp.

Tachinus signatus Gravenhorst

Aphodius ?*prodromus* (Brahm) (>1)

Aphodius sp. (>1)

Onthophagus sp.

Anobium punctatum (Degeer)

Cantharis sp.

Elateridea sp.

Corticaria sp.

Apion sp.

Otiorhynchus sp.

Sitona spp. (several)

Hypera nigrirostris (Fabricius)

Hypera punctata (Fabricius)

Mecinus ?*pyraster* (Herbst)

HYMENOPTERA

Formicidae sp.

Table 2. Selected vertebrate remains recovered, by hand-collection and by sieving from Lydd Quarry, Romney Marsh, Kent.

Species		12-13thC	13-14thC	15-16thC	17-18thC	Total
Murine/microtine	mouse/vole	-	1	-	-	1
Caprovid	sheep/goat	-	-	1	-	1
<i>Anser</i> sp.	goose	-	-	1	1	2
cf. <i>Branta leucopsis</i> (Bechstein)	?barnacle goose	-	2	-	-	2
<i>Anas</i> sp.	duck	-	-	-	2	2
<i>Anas crecca</i> L.	teal	-	-	1	-	1
<i>Gallus</i> f. domestic	chicken	-	-	12	-	12
Charadriiformes	waders	-	-	1	-	1
Passerine	small sparrow-sized bird	-	-	1	-	1
Unidentified bird		-	-	3	-	3
<i>Anguilla anguilla</i> (L.)	eel	-	4	6	-	10
Gadidae	cod family	1	1	-	-	2
<i>Merlangius merlangus</i> (L.)	whiting	-	2	-	-	2
cf <i>Gadus morhua</i> L.	?cod	5	-	-	-	5
Gasterosteidae	stickleback	-	-	6	-	6
Pleuronectidae	flat fish	-	14	1	-	15
Unidentified fish		-	46	7	-	53
Amphibian	frog/toad	-	-	7	1	8
Unidentified		-	6	15	-	21
Total		6	76	62	4	148

Appendix

Records of selected vertebrate remains in context number order.

Key: No. frags = total number of fragments. Information supplied by the excavator can be found in the square brackets. Several additional domestic fowl records have been added and are indicated by *. These remains were identified by the vertebrate specialist at Archaeology South East.

Context 10 [<i>fill of ditch 9; 1425-1525 AD</i>] - recovered by hand-collection			
Species	Element	No. frags	Notes
bird	carpometacarpus	1	Shaft fragment only. This fragment probably represents a goose (grey-lag or domestic), although the absence of distinctive morphological characteristics prevents confident identification
* <i>Gallus</i> f. domestic - chicken	tarsometatarsus	1	Left side - spurred
Total		2	

Context 66 [<i>fill of ditch 65; 1250-1325 AD</i>] - recovered by hand-collection			
Species	Element	No. frags	Notes
cf. <i>Branta leucopsis</i> (Bechstein) - ?barnacle goose	radius	1	Left proximal articulation and shaft.
	ulna	1	Left proximal articulation and shaft.
Total		2	

General comments on Context 66: rather poor preservation; surface of bone eroded. It is not possible to distinguish between the different geese using morphological characteristics, however, on the basis of the small size of these bones, they are likely to represent a barnacle goose and almost certainly the same individual.

Context 123 [fill of sump in ditch 7; 1424-1525 AD] - recovered by hand-collection			
Species	Element	No. frags	Notes
* <i>Gallus f. domestic</i> - chicken	humerus	1	Right side
	tibiotarsus	1	Right side
<i>Anas crecca</i> L. - teal	carpometacarpus	1	Right side
Total		3	
Recovered from Sample 1 [20 litres]			
Species	Element	No. frags	Notes
<i>Gallus f. domestic</i> - chicken	radius	1	These bones represent a single juvenile individual.
	ulna	1	
	coracoid	1	
	tarsometatarsus	1	
	phalanx	2	
	fibula	1	
	sternum	1	
Charadriiformes - waders	ulna	1	From a very small wader, similar to snipe but smaller.
<i>Anguilla anguilla</i> (L.) - eel	cleithrum	1	
	dentary	2	Two fragments which probably represent the same bone
	vertebra	1	
	indeterminate	1	
Pleuronectidae - flatfish	caudal vertebra	1	
Unidentified fish	spine fragments	7	
Amphibian	shaft fragment	1	
Unidentified		12	
Total		38	

General comments on Context 123: Remains recovered from the sample were reasonably well-preserved; most fragments were less than 25 mm in any dimension.

Context 138 [fill of ditch 137; 1680-1720 AD] - recovered by hand-collection			
Species	Element	No. frags	Notes
<i>Anas</i> sp. - duck	radius	1	Right side, adult
	femur	1	Right side, adult
<i>Anser</i> sp. - goose	carpometacarpus	1	Shaft of large goose – probably domestic
Total		3	
Recovered from Sample 4 [23 litres]			
Species	Element	No. frags	Notes
Amphibian - frog/toad	pelvis	1	
Total		1	

General comments on Context 138: Remaining fragments recovered from Sample 4 were not bone, but fragments of twig/root.

Context 159 [fill of cut 158; 1125-1200 AD] - recovered by hand-collection			
Species	Element	No. frags	Notes
cf. <i>Gadus morhua</i> L. - ?cod	pre-caudal	5	Represents a fish of over 1 metre in length
Gadidae	fragment	1	
Total		6	

General comments on Context 159: Well preserved, although some fresh breakage.

Context 171/173			
Species	Element	No. frags	Notes
* <i>Gallus</i> f. domestic - chicken	femur	1	Left side
Total		1	

Context 282			
Species	Element	No. frags	Notes
* <i>Gallus</i> f. domestic - chicken	femur	1	Right side
Total		1	

Context 287 [fill of well/cess pit 286; 1425-1525 AD] - recovered by hand-collection			
Species	Element	No. frags	Notes
<i>Anser</i> sp. - goose	tibiotarsus	1	Shaft fragment only. This fragment probably represents a goose (grey-lag or domestic), although most of the diagnostic characteristics are absent.
Total		1	

Context 292 [fill of well/cess pit 286; 1425-1525 AD] - recovered from Sample 5 [20 litres]			
Species	Element	No. frags	Notes
<i>Gallus</i> f. domestic - chicken	tibiotarsus	1	Juvenile individual
Passerine	carpometacarpus	1	Represents a small sparrow sized bird
Amphibian - frog/toad	shaft	1	Indeterminate shaft fragment
Unidentified bird	rib	2	
Unidentified		3	
Total		8	

Context 304 [fill of pit 363 – 1250-1325 AD] - recovered from Sample 2 [28 litres]			
Species	Element	No. frags	Notes
<i>Merlangius merlangus</i> (L.) - whiting	precaudal vertebra	1	
	caudal vertebra	1	
<i>Anguilla anguilla</i> (L.) - eel	vertebra	4	
Pleuronectidae - flatfish	precaudal vertebra	2	
	caudal vertebra	2	
	maxilla	1	
	supracleithrum	1	
	pterygiophore	2	
	tail fragment	1	
	fin rays, ribs and spines	5	
cf. Gadidae - cod family	vertebra	1	
Murine/microtine – mouse/vole	tibia (fragment)	1	
unidentified fish		46	
unidentified		6	
Total		50	

General comments on Context 304: Bones reasonably well-preserved; several fragments burnt. One vertebra was crushed; damage consistent with having been eaten.

Context 370 [fill of cut 366 – 1425-1500 AD from pottery, but leatherwork suggests 18 th century date] - recovered from Sample 3 [5 litres]			
Species	Element	No. frags	Notes
Caprovid - sheep/goat	zygomatic arch fragment	1	
Amphibian - frog/toad	scapula	1	Part skeleton of frog or toad.
	humerus	1	
	pelvis	1	
	radio-ulna	1	
	skull (fragment)	1	
<i>Anguilla anguilla</i> (L.) - eel	vertebra	1	
Gasterosteidae	skull	3	fragments
	scute	2	
	opercular	1	
Total		13	