

INSECT AND MOLLUSC REMAINS FROM LATTON LANDS (LALA 01-04)

By Mark Robinson

Introduction

Between 2001 and 2004, excavations were undertaken on the First Gravel Terrace of the Upper Thames to the east of the River Churn at Latton Lands (LALA 01-04) in advance of gravel extraction. Archaeological features were discovered which ranged from Late Neolithic to Roman in date. They included remains from settlements of middle Bronze Age, Iron Age and early Roman date. Extensive on-site flotation was undertaken to recover charred plant remains and bulk samples were taken from potentially waterlogged deposits for preserved macroscopic plant and invertebrate remains. Following assessment, one waterlogged sample was found to have the potential to provide useful palaeoenvironmental information from full analysis. Many of the flots contained mollusc shells and three were deemed worthy of detailed analysis.

Methods

A 1kg sub-sample of Sample 227 from Context 3919 was washed over onto a 0.25mm sieve and the contents sorted in water under a binocular microscope for macroscopic plant remains, insects and mollusc shells. A further 2kg sub-sample was similarly washed over onto a 0.25mm sieve, subjected to paraffin flotation to extract insect remains and sorted in water under a binocular microscope for insect fragments. The dried flots for Sample 150 Context 973, Sample 167 Context 1011 and Sample 220 Context 3695 were divided in a riffle box to give the equivalent for a 1 litre sample. These sub-samples were sorted under a binocular microscope for mollusc shells.

The insect remains and mollusc shells were identified and the minimum number of individuals of each taxon in each sample is given in Tables 1-3. Nomenclature for Coleoptera follows Kloet and Hincks (1977) and for Molluscs follows Kerney (1999). The results for Coleoptera are displayed in Fig. 1 using species groups as described in Robinson (1991, 278-91).

Interpretation

Bronze Age / Iron Age Waterhole, Sample 227 Context 3919

The most numerous insects from the waterhole were small water beetles, particularly *Ochthebius* cf. *minimus*. Other aquatic invertebrates included larvae of chironomid midges and a single example of the snail *Lymnaea truncatula*, suggesting that the waterhole held stagnant water. Unsurprisingly, there were also insects of mud and wet organic debris such as *Lesteva longoelytrata* and *Platystethus cornutus* gp. The other insects and snails had all entered the deposit from surrounding terrestrial habitats.

Wood and tree-dependent beetles comprised 5% of the terrestrial Coleoptera (Fig. 1, Species Group 4). Such a value suggests a largely open landscape but with a significant presence of trees or shrubs. One of the beetles, *Pyrochroa serraticornis*, tends to be associated with dead wood of woodland trees such as oak. However, the others also feed on scrub and hedgerow shrubs including *Crataegus* sp. (hawthorn) and *Prunus spinosa* (sloe). They included *Rhynchites* cf. *germanicus* and *Magdalis* sp. The molluscs from the sample included some species of shaded habitats, such as *Oxychilus cellarius*, but they are as likely to have been living in tall herbaceous vegetation around the waterhole as in woodland.

Insects and molluscs of open habitats were well-represented. The most numerous snails were from the genus *Vallonia*, with both *V. costata* and *V. excentrica* represented. The phytophagous insects included taxa associated with grassland plants. The leaf beetle *Hydrothassa* sp. feeds on *Ranunculus* spp. (buttercups) and the weevil *Tychius* sp. on *Trifolium* spp. (clovers) while the cicadellid bug *Aphrodes bicinctus* feeds on various species of grass. The chafer and elaterid beetles of Species Group 11, with larvae which feed on the roots of grassland plants, such as *Phyllopertha horticola*, comprised 4.6% of the terrestrial Coleoptera while the clover and vetch-feeding weevils of Species Group 3, which tend to be favoured by tall grassland vegetation including hay meadows, comprised 2.3% of the terrestrial Coleoptera (Fig. 1) The grassland was experiencing grazing by domestic animals. Scarabaeoid dung beetles which feed on the droppings of larger herbivores (Species Group 2) comprised 8.0% of the terrestrial Coleoptera. As well as species which still occur in the region, such as *Aphodius rufipes* and *Onthophagus ovatus*, there was a single example of *Aphodius varians*, which is now extinct in Britain (Allen 1967, 222-3). It was the form with dark elytra. These results suggest that pastureland was a major component of the environment around the waterhole. However, grazing does not seem to have been particularly intensive, a much higher percentage of scarabaeoid dung beetles would have been expected if there had been a high concentration of domestic animals on this part of the site.

Disturbed ground vegetation was also present, ranging from annual or biennial Cruciferae such as *Capsella bursa-pastoris* (shepherd's purse) and *Brassica* spp. (wild turnip etc), the hosts of the flea beetles *Phyllotreta atra* and *P. nemorum*, through to *Urtica dioica* (stinging nettle), the food plant of the beetle *Brachypterus urticae* and the bug *Heterogaster urticae*. Most of the ground beetles, such as *Nebria brevicollis* and *Pterostichus melanarius* and some of the rove beetles, such as *Xantholinus linearis* or *longiventris* and *Staphylinus olens*, occur in a range of terrestrial habitats, including woodland, grassland and disturbed grassland. The ground beetles which tend to be favoured by arable conditions were absent. It is therefore thought likely that the weedy vegetation represented disturbed and neglected ground around the waterhole and settlement but did not necessarily include cultivated land.

The insects only gave slight evidence of timber structures and the settlement. There were single examples of *Anobium punctatum* (woodworm beetle) (Species Group 10) and of *Ptinus fur* (Species Group 9a) which tends to live inside buildings, sometimes being associated with food waste. Beetles of foul organic material (Species Group 7) were, at 12.6% of the terrestrial Coleoptera, very well represented. It is possible that some of these beetles, such as *Megasternum obscurum* and *Anotylus sculpturatus* gp., were living in settlement-related midden material but they can also be plentiful in areas remote from human activity.

Possible Middle Iron Age Ditch, Sample 220 Context 3695

The molluscs from this ditch comprised both shade-loving and open-country species. Water snails were absent. Most numerous were shade-loving species, such as *Carychium* sp., *Aegopinella nitidula* and *Oxychilus cellarius*. However, the occurrence of a few examples of *Vallonia* sp., including *V. excentrica*, showed that conditions were not entirely shaded. The most likely interpretation is that there was coarse herbaceous vegetation in the ditch or a hedgerow alongside it but that the surrounding area was open.

Early Roman Pit, Sample 167 Context 1011 and Early Roman Ditch, Sample 150 Context 973

Both of these features seem to have held stagnant water. Shells of *Anisus leucostoma* were very abundant in Sample 167 and were present in Sample 150. *Lymnaea truncatula* was also present in both samples. The most abundant terrestrial snail in both samples was *Trichia hispida* gp. It occurs in a very wide range of habitats. However, both samples contained species of *Vallonia* which require open conditions, while the occurrence of *Vallonia excentrica* and *Helicella itala* in Sample 150 would suggest a well-drained habitat. It is thought likely that the early Roman site was open and the ground surface relatively dry but that the water table was close to the surface, so stagnant water was sometimes present in the bottoms of deeper archaeological features.

Discussion

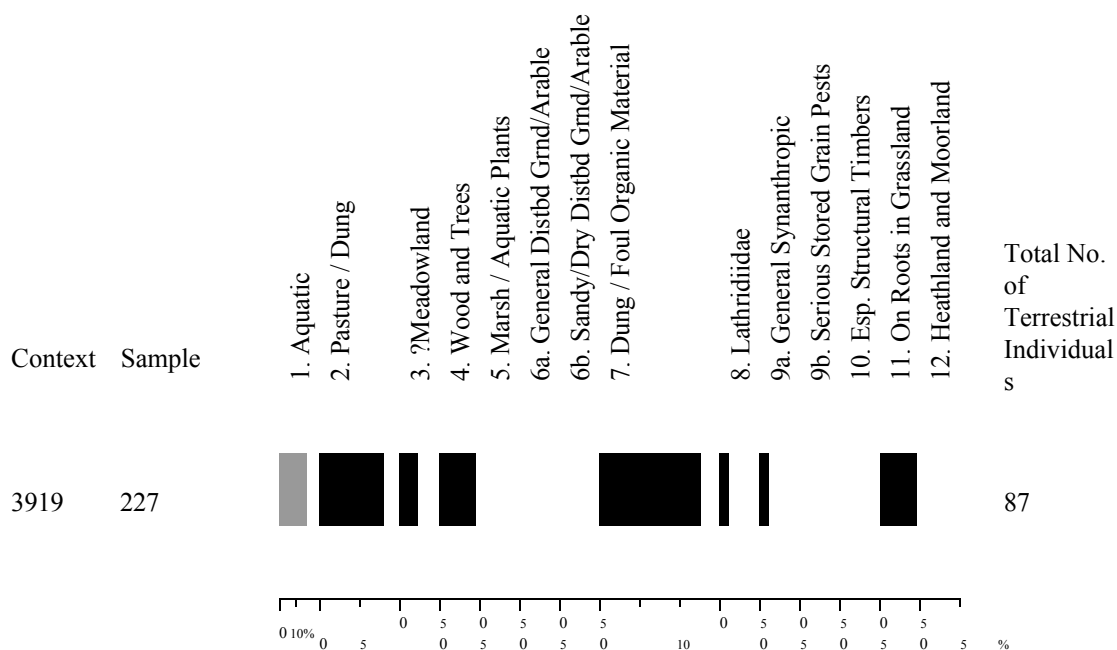
The results from the Bronze Age / Iron Age waterhole suggested a landscape which was largely open, with lightly grazed grassland but with some presence of woodland and scrub. This would be consistent with the evidence from Shorncote Quarry, Somerford Keynes (Robinson 2002), which suggested that there was some survival of woodland on the First Gravel Terrace in the middle Bronze Age above Lechlade whereas the main Thames Valley downstream had been cleared earlier. The insect results suggested that there were limited settlement structures associated with the waterhole.

The results from the possible middle Iron Age ditch showed conditions were relatively well drained and that coarse vegetation probably grew in the vicinity of the ditch. In contrast, the molluscs from the early Roman pit and the early Roman ditch indicated they had stagnant water at the bottom. A rising water table has been recorded for the Upper Thames Valley during this period (Robinson 1992). However, the snails also showed that conditions on the ground surface were well-drained and open.

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Percentage of Terrestrial Coleoptera



Species groups expressed as a percentage of the total terrestrial Coleoptera (ie aquatics excluded). Not all the terrestrial Coleoptera have been classified into groups.

Fig. 1: Species Groups of Coleoptera from Latton Lands Bronze Age / Iron Age Waterhole (LALA 01-04)

Table 1: Coleoptera from Latton Lands (LALA 01-04)

	BA/IA Waterhole Min. No. Indiv	
Context	3919	Species Group
Sample	227	
<i>Carabus granulatus</i> L.	1	
<i>Nebria brevicollis</i> (F.)	1	
<i>Dyschirius globosus</i> (Hbst.)	1	
<i>Trechus obtusus</i> Er. or <i>quadristriatus</i> (Schr.)	3	
<i>Asaphidion flavipes</i> (L.)	1	
<i>Bembidion guttula</i> (F.)	1	
<i>Pterostichus melanarius</i> (Ill.)	1	
<i>Calathus fuscipes</i> (Gz.)	1	
<i>Amara</i> sp.	1	
<i>Harpalus</i> S. <i>Ophonus</i> sp.	1	
<i>H. affinis</i> (Schr.)	1	
<i>Badister bipustulatus</i> (F.)	1	
<i>Agabus bipustulatus</i> (L.)	1	1
<i>Helophorus aquaticus</i> (L.) or <i>grandis</i> Ill.	1	1
<i>Helophorus</i> sp. (<i>brevipalpis</i> size)	2	1
<i>Cercyon analis</i> (Pk.)	1	7
<i>C. haemorrhoidalis</i> (F.)	1	7
<i>C. pygmaeus</i> (Ill.)	1	7
<i>Megasternum obscurum</i> (Marsh.)	4	7
<i>Hydrobius fuscipes</i> (L.)	1	1
<i>Onthophilus striatus</i> (Forst.)	1	
<i>Atholus duodecimstriatus</i> (Schr.)	1	
<i>Ochthebius</i> cf. <i>bicolor</i> Germ.	1	1
<i>O. cf. minimus</i> (F.)	8	1
<i>Limnebius papposus</i> Muls.	1	1
<i>Ptenidium</i> sp.	2	
<i>Choleva</i> or <i>Catops</i> sp.	1	
<i>Metopsia retusa</i> (Step.)	1	
<i>Lesteva longoelytrata</i> (Gz.)	2	
<i>Omalium</i> sp.	1	
<i>Platystethus cornutus</i> gp.	2	
<i>Anotylus nitidulus</i> (Grav.)	1	
<i>A. rugosus</i> (F.)	1	7
<i>A. sculpturatus</i> gp.	3	7
<i>Stenus</i> spp.	3	
<i>Lathrobium</i> spp. (not <i>longulum</i>)	1	
<i>Xantholinus linearis</i> (Ol.) or <i>longiventris</i> Heer	1	

	BA/IA Waterhole	
	Min. No. Indiv	
	Context	Species Group
	Sample	
<i>Philonthus</i> spp.	2	
<i>Staphylinus olens</i> Müll.	1	
<i>Tachinus</i> sp.	1	
Aleocharinae gen. et sp. indet.	3	
<i>Aphodius fimetarius</i> L.	1	2
<i>A.</i> cf. <i>rufipes</i> (L.)	1	2
<i>A.</i> cf. <i>sphacelatus</i> (Pz.)	1	2
<i>A.</i> cf. <i>varians</i> Duft.	1	2
<i>Onthophagus ovatus</i> (L.)	1	2
<i>Onthophagus</i> sp. (not <i>ovatus</i>)	2	2
<i>Phyllopertha horticola</i> (L.)	1	11
<i>Agrypnus murinus</i> (L.)	1	11
<i>Agriotes</i> sp.	2	11
<i>Cantharis</i> sp.	1	
<i>Grynobius planus</i> (F.)	1	4
<i>Anobium punctatum</i> (Deg.)	1	10
<i>Ptinus fur</i> (L.)	1	9a
<i>Malachius</i> sp.	1	
<i>Brachypterus urticae</i> (F.)	1	
Cryptophagidae gen. et sp. indet. (not Atomariinae)	1	
<i>Scymnus</i> sp.	1	
<i>Enicmus transversus</i> (Ol.)	1	8
<i>Pyrochroa serraticornis</i> (L.)	1	4
<i>Chrysolina polita</i> (L.)	1	
<i>Hydrothassa</i> sp.	1	
<i>Phyllotreta atra</i> (F.)	1	
<i>P. vittula</i> Redt.	1	
<i>Longitarsus</i> spp.	1	
<i>Chaetocnema concinna</i> (Marsh.)	1	
<i>Psylliodes</i> sp.	1	
<i>Rhynchites</i> cf. <i>germanicus</i> Hbst.	1	4
<i>Apion</i> spp.	1	3
<i>Barypeithes araneiformis</i> (Schr.)	1	
<i>Barynotus obscurus</i> (F.)	1	
<i>Sitona</i> cf. <i>lineatus</i> (L.)	1	3
<i>Magdalis</i> sp.	1	4
Ceuthorhynchinae gen. et sp. indet.	2	
<i>Tychius</i> sp.	2	

	BA/IA Waterhole Min. No. Indiv	
Context	3919	Species Group
Sample	227	
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Total	102	
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Table 2: **Other Insects from Latton Lands (LALA 01-04)**

	BA/IA Waterhole Min. No. Indiv
Context Sample	3919 227
<i>Forficula auricularia</i> L.	1
<i>Legnotus picipes</i> (Fal.)	2
<i>Thyreocoris scarabaeoides</i> (L.)	1
<i>Heterogaster urticae</i> (F.)	1
Anthocorinae gen. et sp. indet.	1
<i>Megophthalmus scanicus</i> (Fal.) or <i>scabripennis</i> Ed.	1
<i>Aphrodes bicinctus</i> (Schr.)	1
<i>Aphrodes</i> sp.	1
Aphidoidea gen. et sp. indet.	6
<i>Stenamma</i> sp.	1
Hymenoptera gen. et sp. indet. (not Formicidae)	3
Chironomid larval head capsule	+
Bibionidae gen. et sp. indet.	1
Dipteran adults (not Bibionidae)	9
Dipteran puparia	2

+ present

Table 3: Molluscs from Latton Lands (LALA 01-04)

	Minimum Number of Individuals				
		BA/IA	?MIA	ER	ER
	Context	Waterhole	ditch	pit	ditch
	Sample	3919	3695	1011	973
		227	220	167	150
<i>Carychium</i> sp.		4	9	-	2
<i>Lymnaea truncatula</i> (Müll.)		1	-	1	3
<i>Anisus leucostoma</i> (Mil.)		-	-	30	2
<i>Cochlicopa</i> sp.		2	2	1	1
<i>Pupilla muscorum</i> (L.)		1	-	-	-
<i>Vallonia costata</i> (Müll.)		9	2	3	1
<i>V. pulchella</i> (Müll.)		-	-	3	-
<i>V. excentrica</i> Sterki		1	1	-	1
<i>Vallonia</i> sp.		33	4	4	2
<i>Punctum pygmaeum</i> (Drap.)		2	1	-	-
<i>Vitrina pellucida</i> (Müll.)		2	1	-	-
<i>Vitrea</i> sp.		1	1	-	-
<i>Nesovitrea hammonis</i> (Ström)		2	-	-	-
<i>Aegopinella nitidula</i> (Drap.)		2	2	-	-
<i>Oxychilus cellarius</i> (Müll.)		4	3	1	-
<i>Helicella itala</i> (L.)		-	-	-	1
<i>Trichia plebeia</i> (Drap.) or <i>hispida</i> (L.)		3	4	28	20
<i>Cepaea nemoralis</i> (L.)		-	1	1	-
<i>Helix aspersa</i> Müll.		-	-	1	-
	Totals	67	31	73	33