



A14 CAMBRIDGE TO HUNTINGDON, CAMBRIDGESHIRE

5 ALCONBURY MOLLUSCS



MOLA HEADLAND
INFRASTRUCTURE



with



commissioned by A14 Integrated Delivery Team (IDT)
on behalf of National Highways

March 2024

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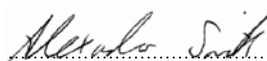
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MOLA HEADLAND
INFRASTRUCTURE



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ALCONBURY MOLLUSCS

Author: Alan Pipe

INTRODUCTION

This landscape group, situated towards the western part of the A14 Cambridge to Huntingdon Improvement Scheme north of Brampton, comprises of five targeted excavation areas: TEA2, TEA3, TEA4 (A, B & C) and TEA5.

The site contained archaeological remains dating from the Neolithic to the post-medieval period including a late Neolithic henge monument (Monument 1), Iron Age settlement (Settlement 1 and Settlement 2) and agricultural activity, Roman settlement (Settlement 3 and Settlement 4) with associated agricultural and funerary activity, and an isolated Anglo-Saxon settlement (Settlement 5). Medieval and post-medieval activity was represented by an agricultural building and the remains of ridge and furrow cultivation. The mollusc remains derived from middle-late Iron Age Settlement 2, middle Roman Settlement 3 at TEA 5, and late Roman Settlement 4 at TEA 4.

RESULTS

A total of 97 fragments of identifiable wet-sieved molluscan shell were recorded to species level; 65 from the middle-late Iron Age (Period 5.2–5.3); 23 from the middle Roman phase (Period 6.3) and nine from the late Roman phase (Period 6.4) (Table 1).

Preservation was good, often very good, and there was generally no difficulty in identification to species level.

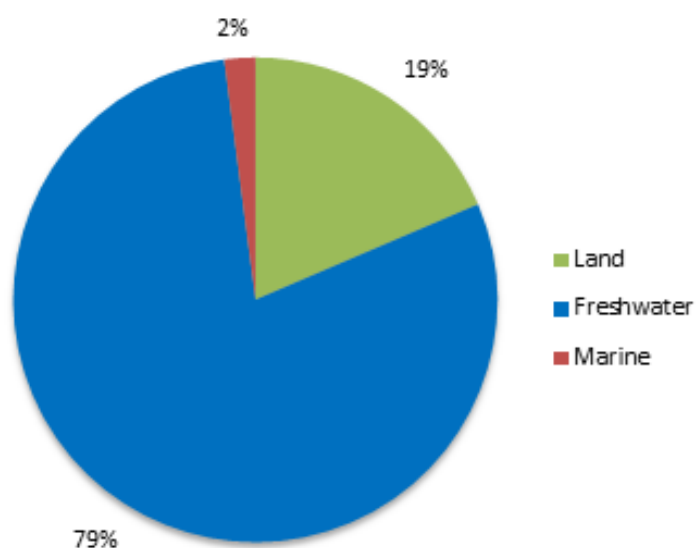
TABLE 1: TOTAL MOLLUSC SHELL COUNTS FROM ALCONBURY WET-SIEVED SAMPLES BY PERIOD

* Fragments only, no quantifiable shells

COMMON NAME	SPECIES	5.2	6	6.3	6.4	TOTAL
Common cockle	<i>Cerastoderma edule</i>			*		
Common mussel	<i>Mytilus edulis</i>			1		1
Common/flat oyster	<i>Ostrea edulis</i>		*	1		1
Hairy snail	<i>Trochulus plebeius</i>				1	1
Strawberry snail	<i>Trochulus striolatus</i>	1		2	5	8
Smooth/beautiful grass snail	<i>Vallonia pulchella</i>			5		5
White-lipped snail	<i>Cepaea hortensis</i>	2			2	4
Button/white-lipped ramshorn	<i>Anisus leucostoma</i>	61		14	1	76
Margined ramshorn	<i>Planorbis planorbis</i>	1				1
TOTAL		65	*	23	9	97

Middle Roman (Period 6.3) contexts contained a very sparse assemblage of marine molluscan shells derived entirely from three commercially important bivalve species; with single shells of common/flat European oyster *Ostrea edulis*; and common mussel *Mytilus edulis*. In addition fragments of valves (shells) of common edible cockle *Cerastoderma edule* were recovered and Period 6 produced unquantifiable flecks of common/flat oyster valve (shell). The recovery of these flecks of oyster and cockle valve fragments likely derive from deposition of post-consumption waste and indicate preparation and post-consumption waste.

FIGURE 1: TOTAL PERCENTAGE RECOVERY OF MOLLUSC SHELL FOR ALCONBURY



Common/flat European oyster *Ostrea edulis* occurs on coarse immobile substrates around all British coasts (Hayward et al 1996, 240) from low water down to depths of roughly 80 metres. It occurs as wild populations in various localities, but is cultivated on a large scale in Essex, Kent, Cornwall, Devon, and Dorset (Tebble 1966, 53).

Common mussel *Mytilus edulis* is abundant around all British coasts attached on rocky and other hard substrates from the intertidal down to shallow sub-littoral zones (Hayward et al 1996, 234), occurring in large beds on the coast and in large estuaries, such as in the Wash (Tebble 1966, 41).

Common edible cockle *Cerastoderma edule* occurs in clean or muddy sand, mud, or muddy gravel around all British coasts and in estuaries from the mid-tide level to just below low water (Tebble 1966, 105) including areas of reduced salinity down to 20 parts per thousand NaCl.

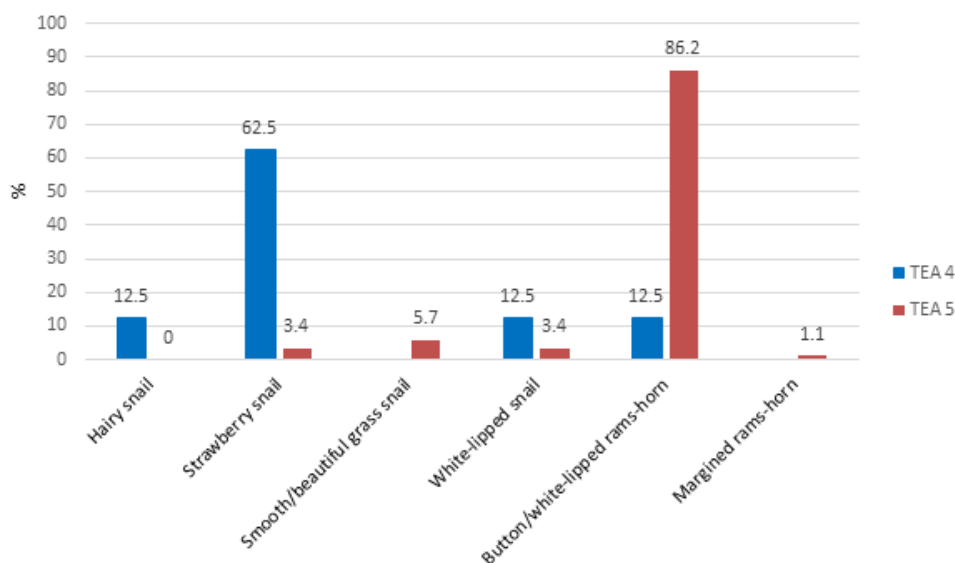
The land snail assemblage, 18 shells from four species, included hairy snail *Trochulus plebeius*, strawberry snail *Trochulus striolatus*, smooth or beautiful grass snail *Vallonia pulchella*, and white-lipped snail

Cepaea hortensis. Hairy snail occurs in Britain mainly as a central lowland species of moist herbage and ground litter in sheltered places, such as woods, fields, walls and in waste ground (Kerney 1999, 196). Strawberry snail is a common snail of waste ground, living in moist, sheltered situations, such as among tall grasses, nettles, and weeds (Kerney 1999, 195).

Grass snails in the genus *Vallonia* occur in a range of habitats, particularly grassland, predominantly in lowland Britain. The species differ in their ecological requirements, particularly in terms of moisture. Smooth grass snail *Vallonia pulchella*, although found in lowland, grassy places, prefers much wetter conditions than eccentric grass snail *Vallonia excentrica* and is typical of water meadows, and moist pastures, although it may occur in drier conditions in association with smooth grass snail.

White-lipped snail *Cepaea hortensis* is widespread and abundant throughout lowland Britain in humid, sheltered and shady places among grass and in woods, particularly among nettles and other tall weeds (Kerney 1999, 204).

FIGURE 2: LAND AND FRESHWATER MOLLUSC PERCENTAGE SPECIES SHELL COUNT FOR ALCONBURY IN TEA 4 AND 5



The freshwater snail assemblage, 77 shells from two species, numerically dominated the assemblage in terms of shell count although not in species diversity. It derived from two ram's-horn snail Planorbidae species; 76 shells of button or white-lipped ram's-horn snail *Anisus leucostoma*; with a single shell of margined ram's-horn snail *Planorbis planorbis*. Button or white-lipped ram's-horn snail occurs in a range of lowland freshwater habitats ranging from rivers to ponds, but is most typical of swampy pools and ditches, especially those liable to drying up in the summer (Kerney 1999, 60). Margined ram's-horn snail occurs in well-vegetated lowland freshwater habitats ranging from rivers and lakes to closed ponds. It is

especially characteristic of hard water in shallow pools and swampy ditches liable to dry up in the summer (ibid, 58).

Middle-Late Iron Age (Periods 5.2–5.3)

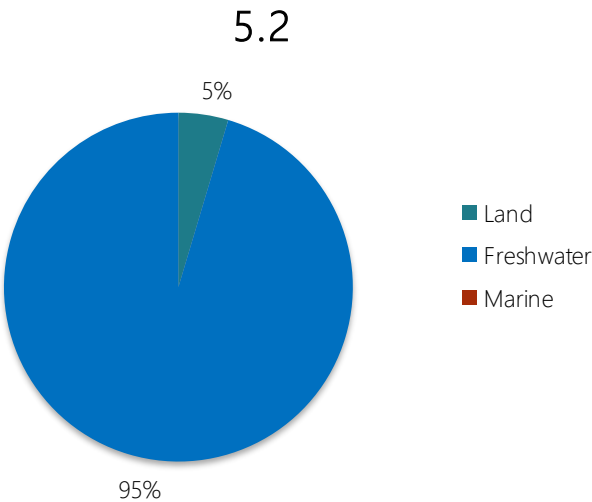
Ditches 5.48 and 5.49, Enclosure 3, Settlement 2 (TEA 5 Area 2)

A total of 65 molluscan shell fragments were recovered from Ditches 5.48 and 5.49 of Enclosure 3. A natural silting fill (52213) of Ditch 5.48 included a single white-lipped land snail *Cepaea hortensis*. Dumped layer (51855) of Ditch 5.49 included single shells of two land snail species; white-lipped snail *Cepaea hortensis*, and strawberry snail *Trochulus striolatas*; but mainly consisted of 62 shells of two freshwater snail species, both ram’s-horn snails Planorbidae; 61 shells of button or white-lipped ram’s-horn *Anisus leucostoma*, with a single shell of margined ram’s-horn *Planorbis planorbis*. No freshwater bivalves were recovered.

TABLE 2: MOLLUSC SHELL COUNTS FROM TEA 5 PERIODS 5.2–5.3

SPECIES	Settlement 2
Strawberry snail	1
White-lipped snail	2
Button/white-lipped ramshorn	61
Margined ramshorn	1
TOTAL	65

FIGURE 3: PERCENTAGE RECOVERY OF MOLLUSC SHELL FOR PERIODS 5.2–5.3, ENCLOSURE 3, SETTLEMENT 2



Summary

Sparse recovery of land snails comprised a single example of white-lipped snail from Ditch 5.48 and single shells of white-lipped snail and strawberry snail from Ditch 5.49. Both species are widespread and abundant throughout lowland southern Britain in humid, shaded, and vegetated places (Davies 2008, 162). Two freshwater snail species, both ram's-horns Planorbidae provided virtually all the shell count from Ditch 5.49, 62 shells, with 61 shells of button or white-lipped ram's-horn and a single shell of margined ram's-horn. Both these species are effectively amphibious and able to tolerate seasonal drying in temporary or seasonal water sources (Davies 2008, 21). Button or white-lipped ram's-horn is also regarded as a 'slum' species, often forming a significant component of mollusc faunas in poor quality water bodies (ibid, 164), and in small water bodies subject to stagnation and drying. Margined ram's-horn, represented here by only a single shell, is usually associated with cleaner, flowing water with abundant aquatic vegetation (O'Connor 2017, 137).

Roman and Middle Roman (Periods 6 and 6.3)

Settlement 3 TEA 5

A deposit from one of the post-holes from Roman Structure 5.242 produced only flecks of unquantifiable common/flat European oyster *Ostrea edulis* valve (shell), possibly present reflecting bioturbation effects rather than deliberate deposition.

Middle Roman Ditch 5.151, forming the western side of Enclosure 7, produced 21 fragments of land and freshwater mollusc shell. A small group of land snails comprised only seven shells, two of strawberry snail *Trochulus striolatus*, and five of smooth or beautiful grass snail *Vallonia pulchella*. Freshwater molluscs comprised 14 shells of button or white-lipped ram's-horn *Anisus leucostoma* only. There were no valves (shells) of freshwater bivalves. In addition, the group included single valves of common/flat European oyster *Ostrea edulis* and common mussel *Mytilus edulis*, with unquantifiable fragments of common cockle *Cerastoderma edule* valve.

TABLE 3: MOLLUSC SHELL COUNTS FROM TEA 5 IN PERIOD 6.3

* Fragments only, no quantifiable shells

SPECIES	Settlement 3
Common/flat European oyster	1
Common mussel	1
Common cockle	*
Strawberry snail	2
Smooth/beautiful grass snail	5
Button/white-lipped ramshorn	14
TOTAL	21

Roman and Middle Roman Summary

Ditch 5.151 includes definite evidence for consumption and waste derived from marine bivalves; common or flat European oyster *Ostrea edulis* and common mussel *Mytilus edulis*, and possibly also common cockle *Cerastoderma edule*. A small assemblage of land and freshwater molluscs derived mainly from a single freshwater snail species, button, or white-lipped, ram's-horn *Anisus leucostoma*. As already stated above, this species is effectively amphibious and able to tolerate seasonal, temporary and drying waters, including those of poor water quality (Davies 2008, 164). Recovery of land snails is sparser, including only strawberry snail *Trochulus striolatus* and smooth or beautiful grass snail *Vallonia pulchella*. Both species are widespread and abundant throughout lowland southern Britain, and favour damp, shady and grassy environments, such as moist pastures (Kerney 1999, 108).

Late Roman (Period 6.4)

A total of nine fragments came from samples dated to late Roman period at Settlement 4, TEA 4 and TEA 5 (Table 4).

TABLE 4: MOLLUSC SHELL COUNTS FROM TEA 4 AND TEA 5 IN PERIOD 6.4

SPECIES	TEA 4	TEA 5	TOTAL
Hairy snail	1		1
Strawberry snail	5		5
White-lipped snail	1	1	2
Button/white-lipped ramshorn	1		1
TOTAL	8	1	9

TEA 4 – Enclosure 1, Settlement 4

Fill (40188) of Ditch 4.3 contained three snail shells. This included single land snail shells of strawberry snail *Trochulus striolatus* and white-lipped snail *Cepaea hortensis*. Freshwater species produced a single shell of button or white-lipped ram's-horn snail *Anisus leucostoma*.

Fill (40374) of Ditch 4.4 included five shells, all land snails; a single hairy snail *Trochulus plebeius*; and four of strawberry snail *Trochulus striolatus*.

TEA 5 Burial [53963]

Fill (53962) of late Roman Burial [53963] produced a single land snail shell, white-lipped snail *Cepaea hortensis*.

Late Roman Summary

This very small late Roman mollusc assemblage allows only tentative interpretation. The inclusion of a freshwater snail species, button, or white-lipped ram's-horn indicates an, at least partially, filled ditch, possibly of poor water quality, probably subject to seasonal drying. Recovery of hairy snail, strawberry snail, and white-lipped snail is likely to suggest moist, shaded, and vegetated margins.

DISCUSSION

The largest molluscan groups came from ditches of middle-late Iron Age and middle Roman date respectively. These assemblages indicate during both periods, these ditches were subject to seasonal drying, with moist, shaded, and vegetated margins. The smaller late Roman ditch assemblage concurs with this interpretation. The freshwater snail fauna derives almost entirely from *A. leucostoma*, with a single example of margined ram's-horn snail *Planorbis planorbis* from middle-late Iron Age Ditch 5.49. Numerically, button or white-lipped ram's-horn snail accounted for 78% of the Alconbury shell count.

Predominant recovery of freshwater snail, button, or white-lipped ram'-horn snail, together with the absence of other freshwater species, strongly suggests seasonally drying water of poor quality, and it is possible that low freshwater molluscan diversity was due to organic pollution. The land snail faunas derive from species ubiquitous in moist, vegetated situations, such as waste ground, throughout lowland southern Britain.

Evidence for limited consumption of shellfish was only identified in middle Roman Ditch 5.151 of Enclosure 7, through the presence of common European oyster and common mussel. These would have been available from suitable habitats on local coasts and inshore waters.

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