

Suburban life in Roman *Durnovaria*

Additional specialist report



Environmental
Eggshell

By Jane Sidell

Eggshell

Jane Sidell

Methods

Three samples containing eggshell were recovered from the site of the former county hospital, Dorchester and submitted for identification (further details in Table E1 below). Although isolated as small fragments following flotation, the fragments required additional cleaning prior to microscopy. To this end, the samples were placed in a water-filled beaker within a water filled ultrasonic tank. This process gently lifts dirt adhering to the individual pieces of shell without damaging them. The shells were then air-dried. Each sample was scanned using a low-power Leica stereo microscope at magnifications of between 10 and 40 times. This was done in order to pick out superficial differences and ascribe types, based on gross morphology such as thickness and relative size of mammillae. Pore counts on the external surface were made where possible. Shell thickness was measured using an eyepiece graticule and calibrating using graph paper on the microscope stage.

Sub-samples were then selected for scanning electron microscopy (SEM). These were mounted on Cambridge type aluminium stubs using conductive carbon cement and gold-coated using an Edwards sputter coater. Image analysis was undertaken using a Hitachi SEM at an accelerating voltage of 10-20kv and using magnification of between 25 and 1200 times. Description was made of the internal appearance and counts were made of the number of mammillae/mm². Photographs were taken at magnifications of 300 and 800 times in most cases. Fuller details of this methodology may be found in Sidell (1993).

Results

Summary details are presented in Table E1, below. Superficial microscopy suggested 2 main types were present. One of these, type A was dominant, with only one fragment of shell (type B) looking distinct. Type A was internally white and crystalline, externally matt white with no signs of marking (Plate E1). Some abrasion was present, but was negligible. Type B was also matt white externally, internally white and crystalline, but significantly thicker and with larger mammillae (Plates E2a-b).

There was no evidence for hatching of type A shown under superficial light microscopy (see Simons 1971). The one fragment of type B did appear to be from a hatched egg. Samples were taken from all samples and from types A and B for scanning electron microscopy. This confirmed the presence of the two types only, and the identification of both hatched and unhatched material. Examination of metrical data and internal surface sculpturing of the mammillae led to the identification of type A as chicken and type B as goose, probably domestic. As type B appeared to be hatched, identification is more difficult, but shell thickness and the internal sculpturing point strongly towards domestic goose. Context 4148 contained a few fragments that appeared to be burnt, and may indicate that they are associated with the last use of the oven, or are simply coincidentally burned. They also appear to be chicken.

Table E1: Summary of eggshell

Sample Number	Context Number	Context Type	Dating Evidence	Eggshell Type	Identification
3056	2189	Disuse of Building 4	Late 2 nd -mid 3 rd century	A and B	Chicken and Goose (probably domestic)
3095	4179	Fill of negative feature within Building 12	Late 3 rd – late 4 th century	A	Chicken
3097	4148	Disuse within oven (Structure 7)	Late 2 nd -mid 3 rd century	A (several fragments burnt)	Chicken

Discussion

The sample assemblage is a relatively small one and potentially covers several centuries of occupation within the town. Therefore, very little can be said regarding diet and economy. However, it is worth noting that chicken eggs were apparently consumed within the town as a modest element of the diet, as shown by the presence of fragments of unhatched shell fragments in obvious rubbish and disuse contexts. Chicken is predominant with only one fragment of goose shell having been found. Whilst the samples size precludes over interpretation, the dominance of chicken over goose in Roman context is one which has been noticed elsewhere, for instance in the Roman city of *Londinium* (Sidell, forthcoming). The hatched goose shell points towards local breeding – geese can be kept relatively easily, even in urban settings and it seems likely that birds were kept within or close to the town, and that they were used for other products, notably meat and feathers. Goose eggs may also have been consumed, but this would be relatively wasteful given the meat that can be gained from the species. However, no unhatched goose shell was found from this excavation.

Bibliography

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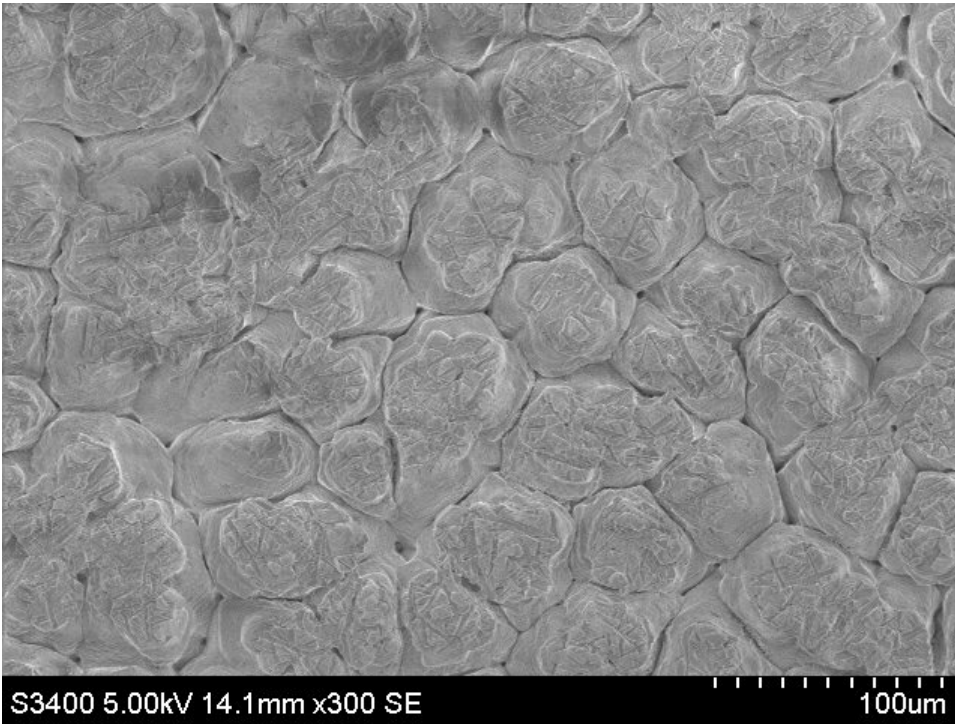
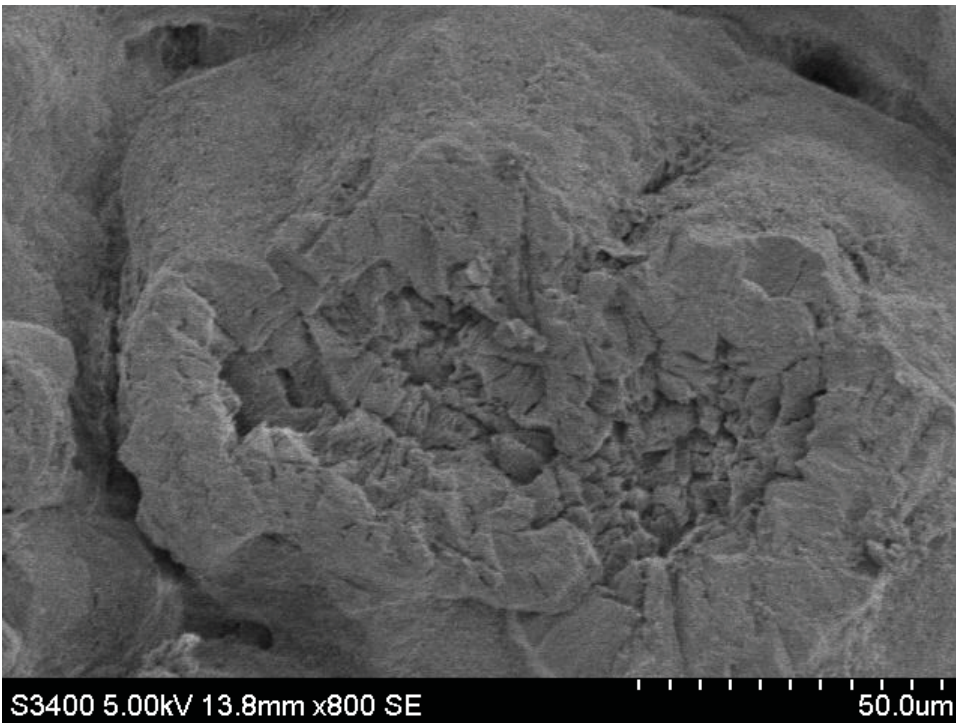
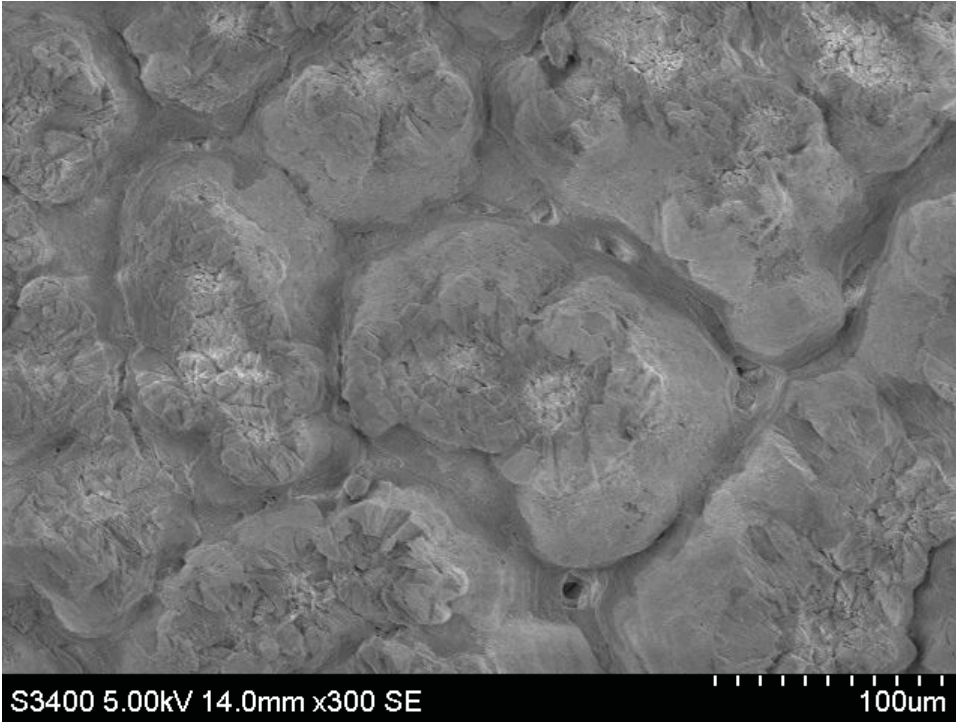


Plate E1 – Dorchester eggshell type A, context 4179, chicken



Plates E2 a and b – Dorchester eggshell type B, context 2189, goose (probably domestic)

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