
Article:
Hemer, K. and Willmott, H. orcid.org/0000-0002-7945-7796 (2023) Anglo-Saxon ivory: exploring exotic artefacts from Scremby's early medieval cemetery. Current Archaeology, 399. ISSN 0011-3212

In CA347 we reported on the discovery of a previously unknown Anglo-Saxon cemetery at Scremby, Lincolnshire. In total 49 inhumations, dating to c. AD 480-540, were excavated, with many containing an unusually rich array of grave goods. Since the dig finished in 2019, study of the graves and their assemblages has continued back in the laboratory, revealing many fascinating insights into the lives of those buried in the Lincolnshire chalk a millennium and a half ago. Katie Hemer and Hugh Willmott take up the story and provide an insight into their work on one of the most exotic of Anglo-Saxon materials: ivory.

When we think about grave goods of the Anglo-Saxon period, it is usually the metalwork that grabs the most attention. This is hardly surprising given the evident mastery of the craft possessed by the Anglo-Saxons. Whether it is the breathtaking skill shown in the goldwork from the Staffordshire Hoard, or more everyday objects of copper alloy such as brooches, it is clear that metalwork formed a key component of people's lives and identities. However, other materials were also highly prized and had to be traded over hundreds of miles before reaching England.

Ivory was first identified in early cemeteries by 19th-century antiquarians and, when found, is always in the form of plain rings in female burials. It is generally accepted that these formed a ridged frame from which a cloth bag could be hung. They are usually found at the skeleton's hip, indicating they were connected to a belt. Typically, only 1-5% of female burials in a cemetery are buried with an ivory bag ring. However, at Scremby, seven were found, representing over 20% of the female graves excavated. It is not known why the rings might have been so highly prized. They are simple and undecorated, made from plain transverse cuts through a large tusk. So rather than their elaborate form, it seems their precious material made them valuable to their owners.

Where the ivory originated from has been subject to some debate. In the last century, there was much speculation that ancient mammoths could have been the source of the tusks. Well-preserved mammoth ivory is frequently encountered in sub-Arctic regions and, even today, is a source supplying the illegal market. It was thought that established trade routes that provided the Anglo-Saxons with Baltic amber and other goods such as furs might also have carried ivory. However, more recently, radiocarbon dating of ivory rings from several sites, including Scremby, has indicated that they were contemporary with the burials in which they were found, so from animals alive long after the mammoth had become extinct. Given the size of the tusks required to make a bag ring, that leaves only one other candidate, the elephant.

Katie and Hugh were interested in where this ivory might have originated and what this tells us about wider trade networks in the early Anglo-Saxon period. Two species were in the frame, the African and Asian elephant. However, it is virtually impossible to tell their tusks apart visually, especially when worked into objects. It is known that the Romans used ivory from both Asian and African sources, with Egypt acting as a

distribution point for the whole empire. However, some scholars suggested that with the collapse of the Western Empire, trade routes carrying African ivory to the north had ceased to operate. The Asian origin was seemingly corroborated by Isidore of Seville, who wrote in the 7th century that the Romans had exhausted the African herds. However, the picture is more complex. Archaeological excavations at Askum in modern-day Eritrea, East Africa, revealed that workshops processing ivory for the European market from at least the 3rd century were still in operation in the 7th, around a century after the Scremby rings were buried. So where did the ivory excavated in England originate? Using advanced scientific methods, we aimed to find out.

Peptide mass fingerprinting for species identification, more commonly known as ZooMS, analyses the sequence of peptides in collagen to identify the species of animal. ZooMS was undertaken on a sample of ivory from Scremby and revealed that the ivory came from an African elephant and *not* other proboscideans.

We also wanted to see if we could identify *where* in Africa the elephants might have lived. To do this, we used strontium isotope analysis which indicates the type and age of the bedrock underlying the area where the animals sourced their food and water at the time of tusk formation. The results gave a clear indication that the elephants' originated from an area of young, volcanic rocks such as those in the East African Rift Valley which runs through Kenya and Ethiopia.

The evidence therefore suggests that the Scremby bag rings were made from elephant ivory sourced in Africa, potentially in Ethiopia or Kenya, at some point during the 5th and 6th centuries AD. This points to the possibility that ivory in early Anglo-Saxon England made its way via a complex network of trade and communication originating with the Kingdom of Aksum. Proposed plans to expand our sample and methods of analysis will hopefully provide further insight into the trade mechanisms and connections between the West and the East.

The full results of this work have just been published as an open access report in *Journal of Archaeological Science: Reports* URL TO COME SHORTLY