



Engraved ostrich eggshell from the Middle Stone Age contexts of Goda Buticha, Ethiopia



Zelalem Assefa^{a,*}, Asfawossen Asrat^b, Erella Hovers^{c,d}, Yin Lam^e, Osbjorn Pearson^f, David Pleurdeau^g

^a Department of Anthropology, Archaeobiology Program & Human Origins Program, National Museum of Natural History, Washington, D.C., United States

^b School of Earth Sciences, Addis Ababa University, Addis Ababa, Ethiopia

^c Institute of Archaeology, The Hebrew University of Jerusalem, Jerusalem, Israel

^d Institute of Human Origins, Arizona State University, Phoenix, United States

^e Department of Anthropology, University of Victoria, Canada

^f Department of Anthropology, University of New Mexico, Albuquerque, United States

^g Département de Préhistoire e UMR 7194 CNRS, Muséum national d'Histoire naturelle, France

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ABSTRACT

Excavations at the site of Goda Buticha, Ethiopia, have recovered a small sample of engraved ostrich eggshell (EOES) fragments. The earliest specimens date to ~34 ka and ~43 ka, thus representing the oldest known examples of EOES in eastern Africa, and occur in association with a Middle Stone Age (MSA) lithic assemblage. The occurrence of EOES at Goda Buticha persists into the Holocene, similar to certain MSA technological features. EOES provides an additional line of evidence through which to examine the variability in the MSA and the complex transition from the MSA to the Later Stone Age in eastern Africa.

1. Introduction

The use of ostrich eggshell (OES) as a symbolic medium in Africa dates back to the Middle Stone Age (MSA), to over 60,000 years ago in southern Africa and to over 50,000 years ago in eastern Africa. In South Africa, large MSA assemblages of engraved OES (EOES) have thus far been recovered at two sites on the Western Cape, Diepkloof and Klipdrift, with the engraved specimens exhibiting many motifs shared at the two sites (Texier et al., 2013; Henshilwood et al., 2014). Eastern Africa has produced the earliest evidence of ostrich eggshell beads, once thought to mark the beginning of the Later Stone Age (LSA) but recently confirmed in late MSA contexts at the site of Magubike, Tanzania (Miller and Willoughby, 2014). Despite the early occurrence of OES beads at several sites in eastern Africa, no contemporaneous evidence of engraved OES fragments has been reported from this region. Here we report a small sample of EOES specimens from an MSA context at the site of Goda Buticha, Ethiopia.

2. Background

At an elevation of 1382 m above sea level, Goda Buticha (Buticha cave) is located in the foothills of the escarpment of the southeastern

Ethiopian highlands facing the Rift to the north, about 25 km from the important Middle Stone Age site of Porc Epic cave (Fig. 1). Situated high on the side of a cliff within Jurassic crystalline limestone beds, the site comprises two main galleries, one opening in the direction of NNW and the other NE, with a small chamber connecting the two (Pleurdeau et al., 2014). A total area of 2 m² (out of an overall 35 m² area of visible sediments) was test-excavated in 2008 and 2011. More than 2.5 m of stratified layers were exposed. The excavations yielded a rich lithic assemblage with both MSA and LSA components, as well as faunal remains (including ostrich eggshell fragments) and human skeletal remains (Assefa et al., 2014; Pleurdeau et al., 2014).

At Goda Buticha, two major sedimentary complexes (Complex I and Complex II) were identified (Pleurdeau et al., 2014). Most of the archaeological remains were recovered from Complex II, which has been further sub-divided into two sub-units, upper (Layers IIa to IIc) and lower (Layers IId to IIe), on the basis of sedimentological features (Fig. 2). Fourteen AMS radiocarbon dates on charcoal samples from Complex II provided chronological ages ranging from 4680 ± 81 cal BP (Layer IIb) to 7771 ± 51 cal BP (Layer IIc) for the upper sub-unit and from 33,839 ± 198 cal BP (Layer IId) to at least 46,089 ± 1042 cal BP (top of Layer IIe) for the lower sub-unit (Pleurdeau et al., 2014). Recent OSL dates extend the age of the lower

* Corresponding author.

E-mail address: Assefaz@si.edu (Z. Assefa).



Fig. 1. Location of Goda Buticha and Porc Epic.

sub-unit of Complex II to 63.0 ± 7.0 ka (Tribolo et al., 2017). Neither the AMS nor OSL dates show any significant chronostratigraphic inversion, suggesting that little vertical mixing has occurred, a conclusion supported by a detailed sedimentological analysis (Pleurdeau et al., 2014; Tribolo et al., 2017). Both sets of dates from Goda Buticha show a major chronological hiatus within the Lower Complex, between ca. 25 ka and 7.5 ka, without any major changes in sediment composition or the nature of the archaeological remains (Tribolo et al., 2017). A similar hiatus, roughly corresponding with MIS2, has also been observed at other sites in Ethiopia (Lepplongeon, 2014; see discussion in Pleurdeau et al., 2014; Brandt et al., 2017).

The stratified lithic assemblages at Goda Buticha highlight the persistence of original technical features from the late Pleistocene into the mid-Holocene. Certain LSA components (e.g., backed microliths) are more common in the upper levels, as would be expected, but MSA features (e.g., unifacial and bifacial points, Levallois products) persist throughout, across the long occupational hiatus and into the Holocene (Lepplongeon et al., 2014; Lepplongeon, 2014; Pleurdeau et al., 2014; Tribolo et al., 2017). This absence of a clear technological delineation between MSA and LSA levels is consistent with observations at sites in other parts of Ethiopia (e.g., Mochena Borago; Brandt et al., 2012; Brandt et al., 2017) and across eastern Africa (Tryon and Faith, 2013; Guthertz et al., 2014).

3. The engraved ostrich eggshell from Goda Buticha

Over two hundred piece-plotted ostrich eggshell fragments were recovered from Goda Buticha, all from Complex II. Of these, 130 were recovered from the upper sub-unit and are of Holocene age. In addition, five ostrich eggshell beads were recovered from the site, all from Holocene levels (Layer IIc) (Pleurdeau et al., 2014). Ninety-seven OES specimens are from the lower stratigraphic horizons and date to at least 33 ka. Many of the OES specimens show evidence of burning.

This report focuses on the piece-plotted (hand-recovered) OES sample; much of the material recovered from sieving remains to be

documented. Texier et al. (2013, pp. 3418 - 3419) distinguish between two general categories of marks occurring on OES: “scratches of taphonomic origin” and “striations and grooves of anthropic origin.” Many of the OES specimens from Goda Buticha exhibit the shallow and superficial scores characteristic of the former; such scratching may occur on the eggshell at any point during its acquisition, use, or deposition (Texier et al., 2010: their Fig. 4). Ten OES specimens from Goda Buticha exhibited linear striations that appear longer, less random, and more distinct than taphonomic scratches, including some that are clearly indicative of anthropic origin (Fig. 3). Three of these specimens were recovered from the base of the upper sub-unit of Complex II (Layer IIc, ~7 ka; Fig. 2; Table 1). The remaining specimens are from the lower sub-unit: six specimens from Layer IId (~34 ka) and one from Layer IIe (~43 ka). Of the nine OES specimens recovered from the oldest excavated Layer (Tribolo et al., 2017), none had distinct markings.

All of the marked OES specimens from Goda Buticha are dark in color, ranging from bluish gray to a very dark gray (nearly black), and appear to have been burned (Fig. 3). Experimental studies conducted by Texier et al. (2013) have shown that this range of colors likely reflects heating to above 500 °C. The markings appear as light striations against the darker color of the burned OES surface, indicating that they were made after the specimens were burned, such that the dark hues of the burned shell surface serve to emphasize the engraving.

As noted above, some of the marked OES specimens from both the upper and lower sub-units show multiple striations with no clear organization (Fig. 3: specimens B, F, I), making it difficult to infer human intentionality. Despite these markings being more distinct than most of the taphonomic scratches observed in the OES assemblage, they may nevertheless fall into this category. The others show a variety of patterns: light striations with a concentration in one area (Fig. 3: C), light striations with some deeper lines (Fig. 3: D), sub-parallel lines (Fig. 3: J), and clear parallel and perpendicular lines (Figs. 3 & 4: E, G). The largest fragment from Layer IId (~34 ka) shows multiple intersecting lines that include a rough cross-hatch pattern (Figs. 3 & 4: H).

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