Quaternary International xxx (2018) 1–10

Contents lists available at ScienceDirect

Quaternary International

journal homepage: www.elsevier.com/locate/quaint

New archaeozoological results from Asa Koma (Djibouti): Contributing to the understanding of faunal exploitation during the 3rd millennium BC in the Horn of Africa

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ARTICLE INFO

Article history:
Received 24 October 2017
Received in revised form
26 December 2017
Accepted 18 January 2018
Available online xxx

Keywords:
Horn of Africa
Holocene
Domestication
Fishing
Seasonality
Storage

ABSTRACT

Asa Koma is a site in Djibouti, located about 30 km from the modern-day shoreline of Lake Abbe. One group of radiocarbon dates places the occupation in the middle of the 3rd millennium BC while a second pushes the occupation to the beginning of the 2nd millennium BC. We discuss this point in this paper. It is a key site for understanding the first food-production societies in the Horn of Africa because it is one of the earliest sites in the region that has yielded domestic cattle remains. Nevertheless, domesticates seem to have played only a secondary role in Asa Koma's economy. Fish represent by far the most important food resource, and fishing was most likely the main reason why people chose to live at Asa Koma. The site has been the subject of many studies. This paper presents new data that complement these previous studies, namely, a geomorphological assessment of the site and the region, results from a new test-excavation, and results from the study of an additional sample of fish remains. We estimate the mass provided by the different taxa in order to evaluate what proportion of the diet derived from fishing, hunting and stock breeding, respectively. We also summarize and reconsider the hypothesis formulated in a previous study about the season of catch and the processing of the catch for storage. We argue that Lake Abbe was very close to the site at the time of the occupation, and we suspect that fishing (and hence occupation of the site) took place during the annual floods of this lake. We discuss possible indications for fish storage strategies, while acknowledging that the practice of storage continues to be difficult to elucidate from the archaeological evidence.

1. Introduction

In the Horn of Africa, human settlement and the spread of herding are strongly constrained by geographical and climatic features, such as the presence of steep relief and the alternation of arid and humid phases. While it is clear that the variable speed of adoption of a pastoral lifeway is correlated with the mosaic of ecosystems that characterizes the region (Lesur-Gebremariam, 2009), the actual mechanisms of the local neolithization process are not yet fully understood. Several sites have, nevertheless, provided data allowing us to propose an initial synthesis regarding the neolithization of the Horn of Africa (Gutherz, 2013; Lesur et al., 2014), one of the most notable being the Asa Koma site.

This type site has been the subject of many studies (*eg.* Gutherz et al., 1996; Cauliez et al., 2008; Newton et al., 2008), and a recently published monograph is devoted to it (Gutherz, 2017). Recent work has provided some additional data that improve our understanding of this site. It is these results that are presented here.

Geological and geomorphological assessments of the region clarify the environmental context of Asa Koma and thereby help us to better understand human settlement choices and subsistence strategies in relation to the major environmental constraints at play, namely, the regression and transgression phases of Lake Abbe.

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https://doi.org/10.1016/j.quaint.2018.01.016
1040-6182/

Test-excavations have allowed for a quantitative and qualitative analysis of the distribution of archaeological material throughout the site's stratigraphic sequence and thereby provide new information regarding the duration of site occupation. Furthermore, additional dates clarify Asa Koma's ceramic chronology, which provides an important regional reference point for chrono-cultural attributions. Lastly, an analysis of a new sample of faunal remains complements the previous archaeozoological studies (Guérin and Faure, 1996; Van Neer and Lesur, 2004; Lesur, 2007; Lesur et al., 2017a, b) and allows us to reevaluate the importance of fishing in relation to the hunting and herding components of the prehistoric economy.

2. Context

2.1. Geographic location

Asa Koma sits in Djibouti, on the Gobaad plain, roughly 30 km from modern-day Lake Abbe, which is fed by the river Awash (Fig. 1). The site is located at the summit of a small volcano, rising to 371 m above sea level and about 20 m above the Dagadle wadi below. This volcanic relief, consisting of three adjoining hills, all characterized by rounded tops and significant slopes, is an easily visible, naturally elevated point in the landscape.

2.2. Previous excavations

Previous excavations at the site, conducted between 1984 and 1996 (Gutherz et al., 1996), together with a micromorphological study (Sordoillet, 2017), have allowed for the stratigraphic sequence to be defined. The upper unit consists of brown gravelly deposits that are very disturbed. The middle unit appears to be characterized by a series of crossed and superimposed muddy and ashy lenses. This succession of lenticular deposits suggests a repeated seasonal occupation of the site. The majority of the archaeological material is contained in this horizon (see 2.3). Lastly, the lower unit, which sits directly above the volcanic soil, is composed of sediment rich in volcanic ejecta. The detrital origin of these deposits has been confirmed by the micromorphological analysis. There is little archaeological material in this lower unit, and its presence is the result of movement of objects from the occupation levels above it (Sordoillet, 2017). More detailed descriptions of the stratigraphic sequence, as well as cross sections, are given in Gutherz et al. (1996), Newton et al. (2008), Sordoillet (2017).

At Asa Koma there appear to have been two functionally distinct types of fireplaces: one type consisting of a concave structure with stones and rich in charcoal fragments, and another type consisting of a flat structure rich in ash, fish bones and fish scales (Gutherz et al., 1996).

The lithic industry is essentially characterized by an association of microliths and splintered pieces (Diaz, 2016). The lithic assemblage also includes grinding implements (Gutherz et al., 1996). Bone points and punches are also a part of the toolkit (Gutherz et al., 1996).

The ceramic assemblage is very rich. Ceramic shards have

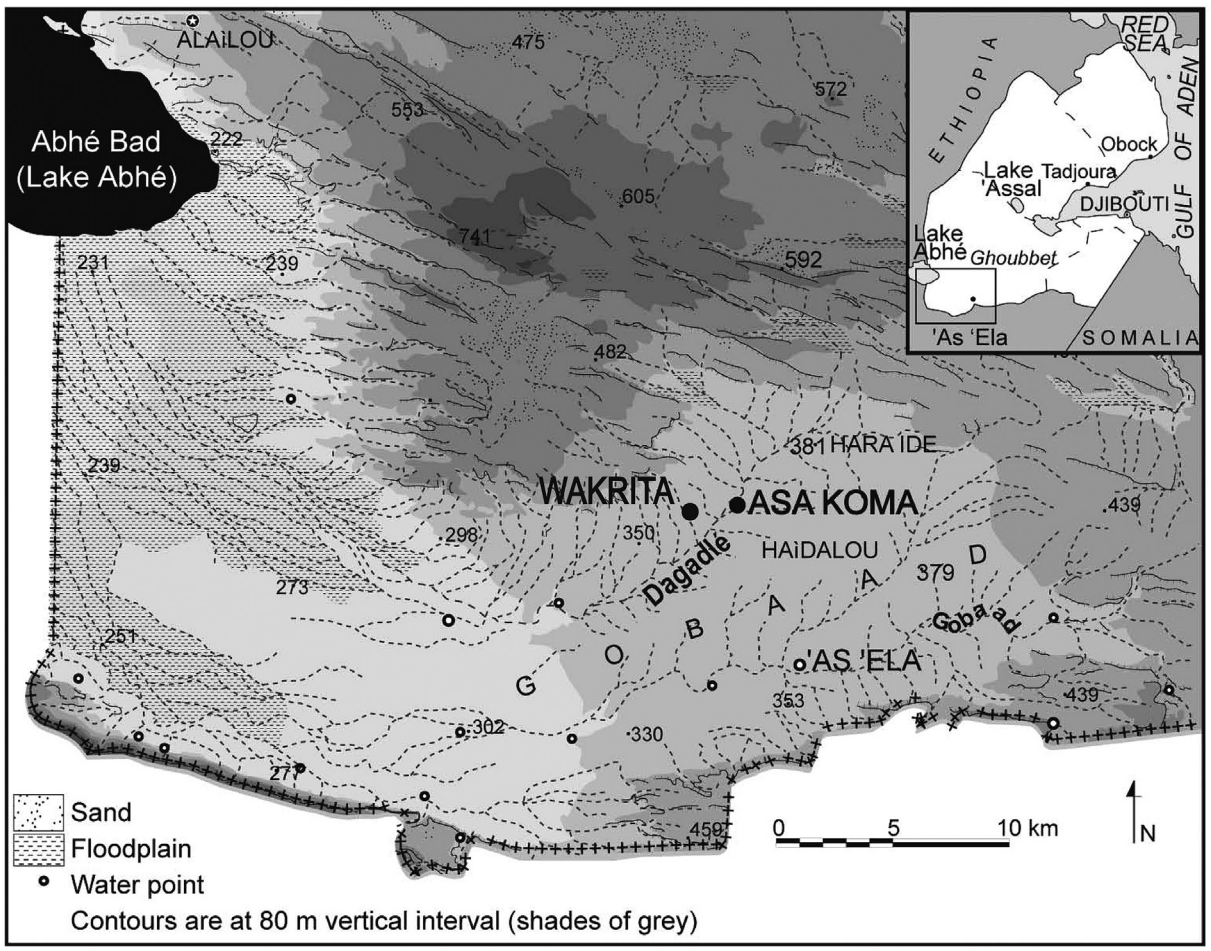

Fig. 1. Location of the archaeological sites of Asa Koma and Wakrita in the Horn of Africa and in Djibouti (after J.-M. Pene, in Newton et al., 2008).

Please cite this article in press as: Coudert, L., et al., New archaeozoological results from Asa Koma (Djibouti): Contributing to the understanding of faunal exploitation during the 3rd millennium BC in the Horn of Africa, Quaternary International (2018), https://doi.org/10.1016/j.quaint.2018.01.016