Quaternary International 343 (2014) 148–158

Contents lists available at ScienceDirect

Quaternary International

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

The advent of herding in the Horn of Africa: New data from Ethiopia, Djibouti and Somaliland

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ARTICLE INFO

Article history:
Received 16 May 2013
Received in revised form
4 November 2013
Accepted 17 November 2013
Available online 12 December 2013

ABSTRACT

Although early food production is not as well-studied in the Horn of Africa as in other regions of the world, recent archaeological and archaeozoological studies have yielded new data suggesting that pastoral societies emerged at the beginning of the 2nd millennium BCE – two millennia later than in the neighbouring regions of the Sahel, NW Kenya, and Yemen. Understanding the processes through which herding began in the Horn is a complex task due to region's geographic position between multiple possible sources areas for livestock, and its immense environmental diversity caused by variations in topography and rainfall. Considering new evidence from Djibouti, Somalia, and southwest Ethiopia in tandem with prior data from multiple parts of the Horn, this article proposes that the diffusion of herding occurred via different processes in different areas. Data from northern and western parts of the Horn suggest slow migration of Sudanese groups and/or dense contacts with transfer of techniques and practices, beginning in foothills near today's Sudan border and, at least in the North, slowly spreading deep into the highlands of the Horn. In the eastern part of the Horn of Africa, herding practices and pottery technology may have come from Yemen via contacts across the Red Sea, or from Sudan via contacts through the coastal plain of Eritrea and/or the northern highlands of the Horn; because ceramics are absent or of specific local design it is likely that herding began via selective adoption of domestic animals rather than through in-migration of pastoralists. In the southwestern highlands of Ethiopia, livestock and pottery (with no foreign influence) appear much later, at the end of the 1st millennium BCE. Several environmental factors may have helped maintain southwest Ethiopia as a cultural isolate where people had only a late interest in switching their subsistence to food production and where incorporation of livestock and ceramic production took place in longstanding, highly conservative, technological and economic systems.

1. Introduction

Understanding early herding in Africa requires exploring the concept of the African Neolithic, the meaning of which has been controversial for many decades. Holocene African societies developed culturally and economically in ways that were highly distinct from southwest Asian cultures for which the term "Neolithic" was originally coined. Africa is different in having pottery before any form of farming or herding: early ceramics appeared during the 10th millennium BCE at Ounjougou at the southern fringes of the Sahara (Huysecom et al., 2009) and were widespread across the Sahara by the 8th millennium BCE (Close, 1995). Also, African food production began via herding, not farming, among mobile people in eastern Sahara. For the earliest African herders, stock-keeping was probably only one of many ways of getting food, besides gathering plants, fishing, and hunting; its main advantage must have been predictable availability of herd animals (Marshall and Hildebrand, 2002).

Herding took several millennia to diffuse across the continent and did so in many ways – via migration, technology transfer, and acculturation. Ultimately, herding economies took on many forms, combining or alternating animal husbandry with the use of different wild and domestic resources (Lesur-Gebremariam, 2010). Processes of social and economic change unfolded in distinct ways in different African regions. Among these, the Horn of Africa is especially interesting: Its topography distinguishes it from many

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http://dx.doi.org/10.1016/j.quaint.2013.11.024

other parts of the continent, and it holds numerous microenvironments that provided diverse contexts for early food production even within a small geographic area.

Although archaeological data are still few, several recent projects have generated new evidence that we will present in this paper. Sites in three regions in particular (Djibouti, Somaliland, and southwest Ethiopia) provide glimpses of economic changes in distinct environmental contexts. We also review prior research and present all ^{14}C dates available for sites relevant to early herding in the Horn. Uniting all these elements, it becomes clear that although much remains to be discovered, current data suggest diverse prehistoric processes for the introduction and diffusion of herding in different parts of the Horn.

2. Natural characteristics and paleoclimate in the Horn of Africa

The Horn of Africa consists of a 2,000,000 km^2 landmass that has been uplifted south and west of major geological rifts that separate Africa from Arabia. Bisected on a NE/SW axis by the Ethiopian Rift, the Horn is comprised of the countries of Eritrea, Djibouti, Ethiopia, Somaliland and Somalia. It is a culturally and environmentally diverse region, with a landscape characterized by large mountains and plateaus overlooking tectonic rift zones, arid lowlands, and incised river valleys (Fig. 1). It is bounded by dramatic natural barriers: Steep escarpments to the northwest, west, and south separate the highlands of Eritrea, Ethiopia, and Somalia from the rest of the African continent, and the Red Sea and Gulf of Aden separate the Horn from the Arabian Peninsula.

The Horn's position in tropical latitudes, its great altitudinal variation, and orographic effects have favored the development of numerous distinct vegetation regimes. Today, these range from Afro-Alpine steppe in the highest areas, down through Afromontane forests to Guinea-Congolian and Somali-Masai forests and woodlands in mid-altitudes, to savannas and deserts at low elevations. Consequently the region offers great biodiversity: 55% of the flora and 28% of the fauna is endemic (Thulin, 1994; Mogaka et al., 2001). All these physiographic and environmental elements have influenced the development and the mobility of past and present human cultures.

Studies of lacustrine sediments, pollen sequences and geomorphology have built a sequence of changing conditions within Rift Valley lakes, which in turn has aided reconstruction of broader paleoclimatic shifts within the Horn of Africa (Gasse, 1977, 2000; Beraki et al., 1998; Chalié and Gasse, 2002; Lamb et al., 2002; Umer et al., 2007; Gebru et al., 2009; Marshall et al., 2011). These data show a dry phase at the end of the Pleistocene, humid conditions 8200–6000 BCE (Fig. 2), and another dry phase with a maximum around 5500 BCE. At 5000 BCE, a new wet phase started with a maximum around 3800 BCE. Finally at 2500 BCE, the arid phase that continues until today began; only a short humid episode is noticeable at the change of era at around 1 BCE/1 CE.

Paleoclimatic shifts provoked recompositions of biodiversity and ecological pressures that played out in different ways according to local topography and rainfall. Rapid millennial changes in some lake basins suggest considerable climatic heterogeneity and potential systemic disruptions (Foerster et al., 2012). One therefore might expect local human societies and economies within the Horn to have developed along different trajectories in response to distinct patterns of environmental change and local resource availability.

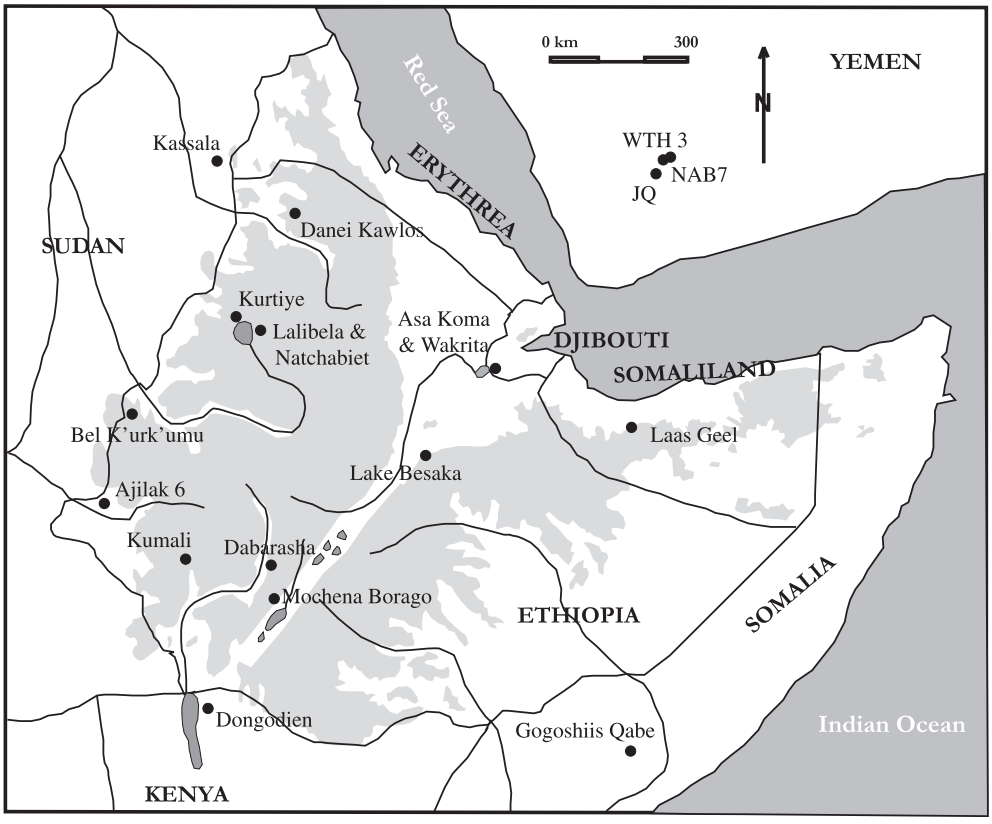

Fig. 1. Map of Horn of Africa with principal archaeological sites mentioned in text. JQ: Jabal Qutran; WTH3: Wadi ath-Thayillah 3; NAB7: An-Najd al-Abyad.