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Seasonal use of corrals and game traps (desert kites) in Armenia



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ABSTRACT

Some 180 desert kites were reported from Armenia, with puzzling aspects regarding the typological variability and distribution patterns. Although the study of kites in southwest Asia has made many recent advances, their dating and cultural context remain uncertain due to apparent limitations. A division of them includes two major categories, v-shaped hunting kites, and enclosure kites. The latter have two subgroups: those with and those lacking guiding walls. Here, we analyze the architectural characteristics and geographical settings of v-shaped and enclosure kites in order to shed new light on their past function. It appears that the rare v-shaped kites are limited to the topographical lower end of the kites' phenomenon in Armenia. On the other hand, the enclosure kites are found across the topographical range of the phenomenon, between about 900 and 1500 m above msl. Furthermore, the typical Armenian enclosure kite has a heart-like morphology, with trapping pits located upwards and 'behind' the main entrance of the enclosure. Such a layout is uncommon further south in the deserts of the Near East, but documented for game traps on the Ustyurt Plateau, and similar structures were used for hunting and herding in Scandinavia. We thus suggest that the two Armenian enclosure kite types were used for hunting wild game, most likely Red Deer (with guiding walls); and for keeping livestock (without guiding walls). We also suggest that the hunters and/or herders that constructed the kites practiced seasonal vertical movement between winter and summer grazing lands.

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1. Introduction

Large stone-built structures, generally referred to as Desert Kites in the Near East, have been observed throughout the arid regions of southwest Asia, from Yemen and Saudi Arabia in the south (Brunner, 2015; Kennedy et al., 2015), through the Harrat al-Shaam (Saudi Arabia-Jordan-Syria: Betts, 1998; Echallier and Braemer, 1995; Helms and Betts, 1987; Kempe and Al-Malabeh, 2013; Van Berg et al., 2004) and Sinai-Negev (Bar-Oz et al., 2011; Holzer et al., 2010; Meshel, 1974, 2000; Nadel et al., 2010, 2015) deserts, and places like the Ustyurt Plateau in Uzbekistan and Kazakhstan in central Asia (Amirov et al., 2015; Barge et al., 2015; Betts and Yagodin, 2000; Yagodin, 1998). These structures have been dated to various periods, the oldest possibly dated in Jordan to the Pre-Pottery Neolithic B (10,500–8200 CalBP; Betts, 2014).

Ethnographic observations from the 19th and early 20th centuries portray the use of some structures for game hunting in various regions, such as the Ustyurt Plateau (Yagodin, 1998), and the Harrat al-Shaam desert (Aharoni, 1946; Burckhardt, 1831). Many of these structures are the largest in their respective harsh environments.

Out of several thousand kites known in the arid regions of the Near East—mostly through aerial photos and Google Earth images—only two or three dozens have been excavated. In the vast majority of these no *in situ* material remains were found, and no reliable radiometric dates were obtained for their construction time and period of use. Thus, issues regarding their cultural context remain to be established. The typological variability of the kites is large (e.g., Bar-Oz and Nadel, 2013; Helms and Betts, 1987; Kennedy, 2011), and it is most likely that the various types have been utilized in different ways. A general consensus exists that v-shaped features have been used as hunting installations (Bar Oz et al., 2011; Van Berg et al., 2004). Yet, it is unclear how the larger and more complex enclosure kites were used.

To date, approximately 180 kites have been recorded in Armenia

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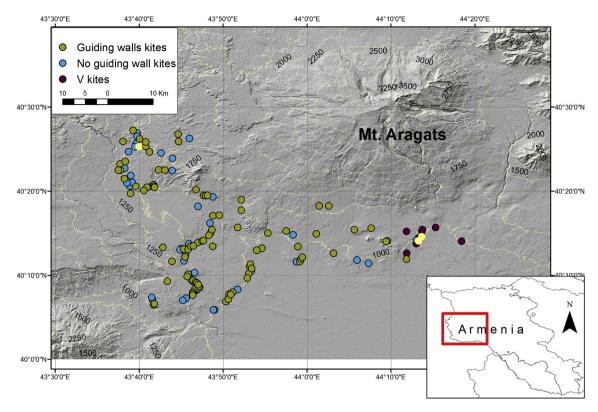
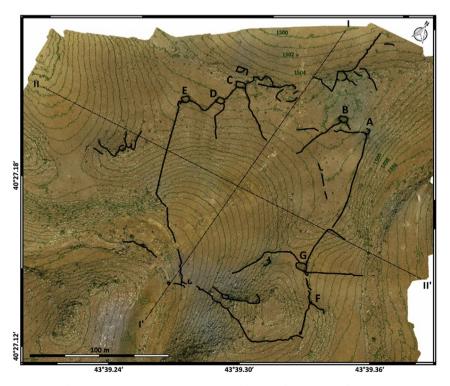


Fig. 1. Map of western Armenia with the location of 140 kites included in this study (partially based on Brochier et al., 2014). - Kites modeled and analyzed herein.

(Fig. 1) (Globalkites Interactive Map, 2017), and about a dozen were excavated, while several more were field surveyed and observed from the ground (Brochier et al., 2014; Barge et al., 2015; Nadel et al., 2015). Following our excavations, we have already provided construction details for three v-shaped kites and a v-complex

enclosure, all located in the eastern part of the Armenian kite's distribution range (Gasparyan et al., 2013; Nadel et al., 2015). We sieved in each excavated site several cubic meters of sediment (mostly from the pits; heads, pits and cells are the commonly used terms to describe the relatively small constructed features found at



 $\textbf{Fig. 2.} \ \ \textbf{Orthophoto, height contours, plan and location of two sections of kite UK1.}$

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