Quaternary International 396 (2016) 1–4

Contents lists available at ScienceDirect

Quaternary International

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

Guest Editorial

Late Pleistocene eastern Levant: Landscape strategies in open spaces

Keywords:
Early/Middle Epipaleolithic
Levant
Lithics
Fauna
Settlement
Paleoenvironment

Research on the Levantine Epipaleolithic has a long and distinguished history, with this period recognized archaeologically by the excavations of D.A.E. Garrod and F. Turville-Petre in the 1920s and 1930s (Garrod, 1932, 1957; Turville-Petre, 1932; Garrod and Bate, 1937). From those decades of the early 20th century until about the mid-1970s, much of the focus on Epipaleolithic archaeology was in the western Levant, that is, west of the Jordan Rift Valley, although there were exceptions, such as J. Waechter in the Azraq Basin region in the mid-1930s (Waechter et al., 1938) and D. Kirkbride in Petra in the 1950s (Kirkbride, 1958). Western Levantine research on the Epipaleolithic was critical in establishing the definitions for many of the lithic industries, their chronological placement, their settlement types, and generating ideas about the relevance of these late Pleistocene hunter-gatherer-forager groups for exploring the key economic transition into food production-based subsistence. Since the mid-1970s, surveys and excavations of sites of the western Levant have continued to contribute critical information and perspectives, for example, the exceptional organic preservation at Ohalo II occupied during the Last Glacial Maximum (Nadel and Hershkovitz, 1991; Nadel, 2002; Snir et al., 2015), changes in Epipaleolithic faunal use patterns (Bar-Oz, 2004), and the ritual feasting and burial of a Late Natufian shaman at Hilazon Tachtit (Grosman et al., 2008; Munro and Grosman, 2010).

The context of the western Levant during the Late Pleistocene, however, is a record mainly of Mediterranean forest and coastal habitats, which often are considered an optimal setting for hunter-gatherer-foragers due to a greater concentration of resources (the western Levant also includes the Negev and Sinai which were more sparsely vegetated; e.g., Goring-Morris, 1987; Goring-Morris and Belfer-Cohen, 1998). In contrast, areas of Mediterranean forest were much more limited in the eastern Levant, where wide-open landscapes of steppe and desert were common. These were ameliorated in part by Pleistocene wetlands, such as those in the Azraq Basin, the Jafr Basin, the Wadi al-Hasa region, and the area around Jurf ad-Darawish to the south of the Hasa (Huckriede and Wiesemann, 1968; Nelson, 1973; Schuldenrein and Clark, 1994; Moumani et al., 2003; Davies, 2005; Winer, 2010; Jones and Richter, 2011; Mischke et al., 2015). Moreover, research focused on the Epipaleolithic period in the eastern Levant became increasingly common in the decades after the mid-1970s, with one result being a greater appreciation of the flexibility and diversity of Epipaleolithic economic and behavioral strategies (e.g., Garrard et al., 1977; Clark et al., 1988; Henry, 1995; MacDonald et al., 2004; Maher et al., 2011; Richter et al., 2011; Garrard and Byrd, 2013). The focus of the papers in this special issue is on the eastern Levant, and in particular, the Early and Middle Epipaleolithic periods, as this area and these periods highlight the critical role of hunter-gatherer-forager strategies in wide-open spaces in understanding behavioral dynamics in the millennia preceding food production.

The majority of the papers in this special issue were first presented at a symposium at the Society for American Archaeology meetings in Austin, TX, in 2014. That venue was an opportunity to feature current research on the Early and Middle Epipaleolithic in the eastern Levant and to explore analyses that furthered our understanding of the adaptations of hunter-gatherer-forager groups in a landscape that differed in substantial ways from those of the western Levant. Given the interest in the behavioral strategies that characterized the millennia prior to domestication economies and which were framed within periods of significant world-wide climate changes (e.g., the Last Glacial Maximum and the amelioration that followed), a decision to publish these papers in *Quaternary International*, as well as additional invited contributions, was taken. Fig. 1 shows the areas and topics of the special issue papers.

As previously noted, the eastern Levant during the late Pleistocene was characterized by a number of paludal contexts. Although some of these were described as Pleistocene lakes (e.g., for the Hasa region: Schuldenrein and Clark, 1994, 2001; for the Jafr region: Huckriede and Wiesemann, 1968), more recent analyses now suggest that these were not lakes but instead contexts such as in-stream wetlands (Hasa region: Winer, 2010) or shallow ponds, swamps, and streams (Jafr region: Mischke et al., 2015). The potential of wetlands as attractive habitats for hunter-gatherer-foragers has long been recognized, but the types and abundance of plant resources vary widely depending on the nature of the wetland (Janetski and Madsen, 1990; Nicholas, 1998; Keddy, 2000). This is the topic explored in the paper by Ramsey and Rosen (2016), who examine the phytolith record from sites in the Petra, Hasa, and Azraq regions of Jordan and compare/contrast these data to a baseline developed from phytolith analyses at Ohalo II in the western

http://dx.doi.org/10.1016/j.quaint.2016.02.040
1040-6182/

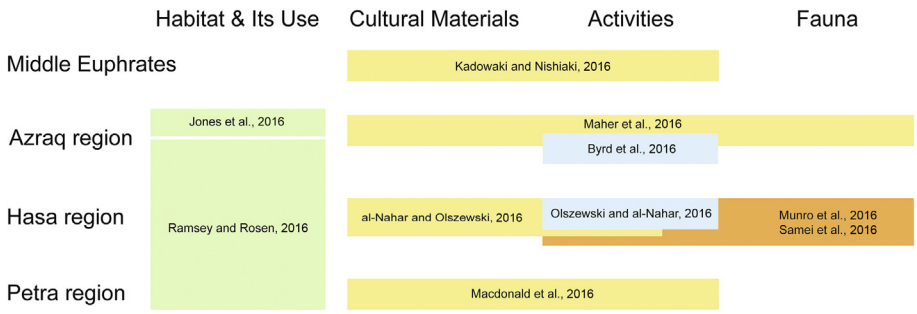

Fig. 1. Areas and topics of the special issue papers.

Levant. Their analyses provide information critical to building aspects of settlement models, predicated in part on the richness and predictability of particular wetlands contexts compared to others.

As one of the wetlands areas of the eastern Levant, the Wadi al-Hasa region can be considered a case study for assessing the conjunction of hunter-gatherer-forager strategies and settlements with an in-stream wetlands context. The next four papers in this special issue highlight aspects of this research. Several archaeological surveys of the Hasa region were crucial to establishing the presence of Epipaleolithic groups in the Hasa region (MacDonald, 1988; Clark et al., 1992, 1994; MacDonald et al., 2004), and a series of excavation projects between 1984 and 2012 yielded considerable baseline information about the Early and Middle Epipaleolithic there (Clark et al., 1988; Olszewski et al., 1998, 2001; Coinman et al., 1999; al-Nahar et al., 2009; Olszewski and al-Nahar, 2011, 2014). Earlier discussions of Pleistocene settlement patterning that may have typified the Hasa region (Clark, 1992; Olszewski and Coinman, 1998; Schuldenrein and Clark, 2003) can now be rethought based on the type of wetlands present and on reflections about how data are incorporated into developing ideas about mobility and settlement systems. In the paper by Olszewski and al-Nahar (2016), the Hasa region Early Epipaleolithic sites are examined as persistent places in the landscape, a concept that indicates favorable locales but does not necessarily imply aspects of mobility or duration of site occupation during site visits. Instead, the Hasa sites may be an example of infrequently visited places, perhaps due to the more limited set of plant resources characteristic of in-stream wetlands.

The pattern of light use of the Hasa region is supported by the analyses in the Munro et al. (2016) paper. They discuss the faunal assemblages from the four Early Epipaleolithic sites (KPS-75, Yutil al-Hasa, Tor Sageer, and Tor at-Tareeq) and the implications of these for discerning the hunting strategies of these prehistoric hunter-gatherer-foragers. In particular, they examine attributes of larger game animals, such as gazelle, as well as smaller game, such as tortoises, to suggest the mobility patterns likely typical for the groups using the Hasa region.

Faunal patterning in Munro et al. (2016) is complemented by the paper by al-Nahar and Olszewski (2016) on analyses of the lithic assemblages from the same four sites (KPS-75, Yutil al-Hasa, Tor Sageer, and Tor at-Tareeq) in the area of the Wadi al-Hasa drainage system. The sites present a number of distinctions, among them context (open-air vs. rockshelter), temporal period (Nebekian, Qalkhan, and post-Qalkhan), and density/typology of lithic assemblages. In particular, the impact of time-averaging (e.g., Wandsnider, 1992; Stern, 1994; Bailey, 2007; Lucas, 2012) on traditional indices (such as blank-to-core or tool-to-core) has significant implications for site occupation interpretations regarding mobility.

An in-depth examination of taphonomic processes on Early Epipaleolithic fauna at the site of Tor at-Tareeq in the Wadi al-Hasa region is presented by Samei et al. (2016), who discuss two sets of occupations during this temporal period. While the site and level specific history of post-depositional bone preservation was unique to each occupation at Tor at-Tareeq, the taphonomic processes did not ultimately affect larger-scale behavioral interpretations for the groups who created these time-averaged deposits. Samei et al.'s (2016) conclusions about faunal use at this site serve to augment the interpretations of Munro et al. (2016).

The issue of mobility also is taken up by Byrd et al. (2016), who in their paper discuss hunter-gatherer-forager strategies using a least-cost GIS-based approach built on attributes such as topography, monsoonal patterns, and vegetation communities for 25 Last Glacial Maximum sites from the western and eastern Levant. Travel routes and foraging extents based on these data were used to model one- and two-day travel areas, with a special emphasis on the sites from the Azraq Basin region. Data from the Azraq region, like the Hasa area, is particularly well-known due to extensive research on sites from the Upper Paleolithic to Neolithic (Garrard et al., 1986, 1987; 1988; Byrd, 1988; Garrard and Byrd, 1992), with the Upper Paleolithic and Epipaleolithic archaeology being the subject of a recent monograph by Garrard and Byrd (2013). The Byrd et al. (2016) GIS study, in particular, seeks to provide baseline information to examine the presence of aggregation sites (Kharaneh IV and Jilat 6) in the Azraq region and to interpret why differing adaptive pathways were taken by various Levantine hunter-gatherer-forager groups.

Early excavations by Muheisen (1985, 1988a, 1988b) at Kharaneh IV established the importance of this large site in the Azraq region. His excavations consisted of small trench tests which yielded preliminary information on the chronological sequence and typology of the lithic industries, the presence of structural features (post-molds in the Middle Epipaleolithic) and two burials in the Early Epipaleolithic levels (Rolston, 1982). Since then, renewed excavations at Kharaneh IV, beginning in the late 2000s, have refocused attention on this open-air aggregation site, which is the subject of the paper by Maher et al. (2016). They explore the unusual circumstances of the Early and Middle Epipaleolithic occupations there which signal relatively intensive locale use, some permanence of occupation as indicated by several hut structures, and abundant evidence for symbolic interactions between people. In some respects, the social networks at Kharaneh IV, which were mediated through symbolism, echo those seen also in the wide-open spaces of the Upper Paleolithic European landscape (which is partially contemporary with the Early and Middle Epipaleolithic of the Levant, e.g., Hoffecker, 2005).

Kharaneh IV in the Azraq area is also the focus of the paper by Jones et al. (2016), who describe and interpret the geomorphological data from the site and the surrounding region. These data are used to reconstruct the local paleoenvironmental setting for Kharaneh IV, which is interpreted as an important wetlands setting. That Kharaneh IV is a significantly large site, containing dense