ON THE MARGINS: EARLY NATUFIAN IN THE WADI AL-HASA REGION, JORDAN

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Abstract

Our understanding of the Early Natufian period primarily is based on data from the western Levant, particularly from Mediterranean woodlands and coastal contexts. Sites here have produced a wealth of information critical to building an understanding of Early Natufian complex hunter-gatherer adaptations including their subsistence strategies. The accelerating pace of archaeological research in the eastern Levant, however, which was mainly characterized by a steppe context, has begun to yield evidence of Early Natufian groups whose subsistence (and other) strategies likely differed in important ways from the Mediterranean woodlands adaptations. These steppic Early Natufians seem to have shared more in common with their successors in the Late Natufian, and arguably have more direct relevance to the origins of agriculture, than do the sedentary “villagers” of the Early Natufian in the Mediterranean woodlands.

Key words: Early Natufian; origins of agriculture; subsistence systems; eastern Levant.

INTRODUCTION

The Early Natufian period (14,500 to 13,000 cal BP) has received considerable research attention, largely because of its unusual archaeological signature compared to the preceding Early and Middle Epipaleolithic and the possibility that developments during the Early Natufian sparked the origins of food production economies some 3000 or so years later. Historically, this archaeological record has been best known from Mediterranean forest and coastal contexts in the western Levant where intensive research has been undertaken since the 1920s (e.g., Bar-Yosef, 1991, 1998; Belfer-Cohen, 1991; Delage, 2001; Garrod, 1932, 1957; Garrod and Bate, 1937; Munro, 2004; Noy et al., 1973; Perrot, 1966; Valla, 1984, 1991). The interpretations of Early Natufian lifeways that resulted include sedentism, social complexity, social territories, intensive exploitation of cereal grasses, and population density (e.g., Bar-Yosef, 1998; Bar-Yosef and Belfer-Cohen, 1989; Hayden, 2004; Henry, 1989; Stiner and Munro, 2002; Wright, 1978), although not everyone has agreed with all aspects of this characterization (e.g., Belfer-Cohen, 1995; Byrd and Monahan, 1995; Edwards, 1989; Olszewski, 1991, 1993; Stutz, 2004). Moreover, the Early Natufian is sometimes described as found in a “core area” or a “homeland” (e.g., Bar-Yosef, 1998; Bar-Yosef and Belfer-Cohen, 1992), which implies that all Early Natufian groups are similarly situated with respect to settlement and social organization strategies.

It has become increasingly clear, however, that this description of the Early Natufian and its subsistence and settlement strategies warrants revision. Inklings of this can be seen in the classic Mediterranean woodlands/coastal Early Natufian data, where, for example, the alleged “homeland” of the Early Natufian actually contains a very limited number of “village” sites – ‘Ayn Mallaha and Hayonim Cave, although some features at el Wad, Keba, and Hayonim Terrace also may indicate longer term basecamps. Thus, the depiction of the Early Natufian in the Mediterranean floristic province as characterized by settled communities would seem to be somewhat premature, yet this is
the common stereotype (e.g., Bar-Yosef, 1998). It is the accumulating information from the eastern Levant since the 1980s, however, that most clearly demonstrates the need to reassess the subsistence and settlement strategies of the Early Natufian technocomplex (e.g., Byrd, 1989a; Byrd and Colledge, 1991; Edwards, 1991; Garrard, 1991; Henry, 1995; Janetski and Chazan, 2004; Neeley and Peterson, 2007; Schyle and Uerpmann, 1988; Olszewski, 1997; Olszewski et al., 1994). As a number of these sites are located in the Irano-Turanian grass-forb steppe (both now and prehistorically, e.g., Cordova, 2007: 70, 163), they are not part of the “homeland,” and they provide opportunities to examine behavioral strategies of groups living in the “margins” outside the Mediterranean woodlands (e.g., Shewan, 2004). Some of the other eastern Levantine sites were situated in Mediterranean forest contexts present in the Western Highlands of the eastern Levant; they have the potential to provide additional insights into Early Natufian woodlands adaptations. This paper, however, examines Irano-Turanian steppe Early Natufian sites from the Wadi al-Hasa region in the Western Highlands, using these data as well as information from other eastern Levantine steppic sites to compare and contrast eastern and western Levantine Early Natufian adaptations.

**GEOLOGY, PALEOENVIRONMENT, AND PALEOHABITAT IN THE HASA REGION**

The Wadi al-Hasa region is characterized by numerous faults originating from tectonic activity associated with the Jordan Rift Valley (Wadi Arabah/Dead Sea); the drainage itself resulted from downcutting beginning some 50 million years ago after the uplift of the Transjordanian Plateau (Donahue and Beynon, 1988: 27–29). In its eastern portion, the Wadi al-Hasa is relatively gently sloped, but as it trends west and northwest it becomes quite deeply incised, eventually draining into the Wadi Arabah south of the present Dead Sea. During the late Pleistocene, a lake fed by rainfall and springs formed in the eastern portion of the drainage – in the area of the modern Desert Highway and the town of Mahattat al-Hasa. Pleistocene Lake Hasa has been described as 1740 km² at its maximum extent; it came into existence about 70,000 years ago (Schuldenrein and Clark, 1994), although Macumber (2008: 29) suggests that it is more reasonable to believe that Pleistocene Lake Hasa was present only from about 29,000 to 18,000 cal BP, due to issues of continued tectonic activity, silting, and overtopping of the barrier that contained the lake. Both Schuldenrein and Clark (1994, 2001, 2003) and Macumber (2008), however, agree that the Hasa region was characterized by marshes and ponds during the latter part of the Epipaleolithic (i.e., after 18,000 cal BP and probably lasting until about 13,000 cal BP). These observations, in fact, are supported by the Early Natufian occupation at the site of Tabaqa, which is buried in paludal sediments near the confluence of the Wadis al-Hasa and Ahmar (Olszewski et al., 1998), and which yielded reed (Phragmites) phytoliths (as also did Yutil al-Hasa Area D).

During the period of the Early Natufian occupation in the Wadi al-Hasa, paleoenvironmental conditions were those of the climatic amelioration just prior to the Younger Dryas cold/dry episode. The amelioration overall witnessed an expansion of floristic provinces such as the Mediterranean woodlands, the open parkland, and the steppe, and was generally warmer and wetter than earlier and later in the Epipaleolithic (Cordova, 2007: 162–164; Moore et al., 2000: 77–79). Although the Wadi al-Hasa region was considerably wetter during the late Pleistocene even during relatively cool and arid climatic phases – due to its springs and lacustrine/paludal setting – the drainage system was not typified by Mediterranean woodlands (i.e., by a dense cover of oak such as Quercus calliprinos). The height of the climatic optimum, in fact, witnessed a continued Irano-Turanian steppic context in the Wadi al-Hasa, although the Kerak Plateau to the north may have contained Mediterranean woodlands (Cordova, 2007: 163). This characterization is supported by preliminary pollen analysis from the Early Natufian sites in the Wadi al-Hasa. The Irano-Turanian grass-forb steppe was dominated – prior to degradation resulting from overgrazing – by various wild small- and large-seed grasses (including Stipa), and cereals such as barley (Hordeum), sages (especially Artemisia herba-alba), members of the goosefoot family (particularly Haloxylon articulatum and...
Salsola villosa) and other grasses, scrub, herbs, and shrubs (such as Anabasis haussknechtii, Poa sinea, Noaea mucronata, Astragalus spinosus, Urginea maritima, and Asphodelus aestivus); taller shrubs and trees included tamarisk (Tamarix spp.), almond (Amygdalus communis), and terebinth (Pistacia atlantica) (Cordova, 2007: 98–104). The array of potential plant foods available suggests that Early Natufian groups in the Wadi al-Hasa had plant food subsistence strategies that differed from contemporary groups in the Mediterranean woodlands in the western Levant.

The springs, marshes, and ponds present in the Wadi al-Hasa system also would have been an attractive source of water and vegetation for a number of animals (Coinman and Olszewski, 2007; Olszewski and Coinman, 2002). Fauna from Early Natufian sites here includes gazelle (Gazella spp.) and aurochs (Bos primigenius), species representing open terrains and wetter conditions.

EARLY NATUFIAN SITES IN THE WADI AL-HASA

Surveys in the Hasa drainage system recorded more than 1600 sites, of which 78 are Upper Paleolithic or Epipaleolithic (MacDonald, 1988; Clark et al., 1992, 1994). Within these, there are 19 Upper/Epipaleolithic and 11 Epipaleolithic sites (Olszewski and Coinman, 1998). Only three sites, however, pertain to the Early Natufian period. These are WHS 1021 (MacDonald et al., 1983), Tabaqa (Byrd and Rollefsen, 1984; Byrd and Colledge, 1991; MacDonald et al., 1983; Olszewski et al., 1998), and Yutil al-Hasa Area D (Coinman et al., 1999; Olszewski, 1997; Olszewski et al., 1994) (Fig. 1).

WHS 1021 is a small chipping station several hundred meters away from Tabaqa (MacDonald et al., 1983). It is situated on alluvium in the Wadi al-Hasa and is separated from Tabaqa by a small hill. Although diagnostic Natufian lithics were not recovered from WHS 1021 (observation of the survey collection by the author), the lithics are an unusually patinated grey chert identical to the raw material of the artifacts found at Tabaqa. It is not unreasonable, then, that WHS 1021 is described as linked to the Early Natufian occupation at Tabaqa (MacDonald et al., 1983). Efforts by the author in 1997 to relocate WHS 1021 were unsuccessful; given its proximity to the Wadi al-Hasa (about 60 m distant), the site may have disappeared in the late 1980s/early 1990s either as the result of a severe flood that swept through the wadi then or because of encroaching agricultural activities.

Tabaqa (WHS 895) is an open-air site situated immediately adjacent to a major tributary – the Wadi Ahmar – near its confluence with the Wadi al-Hasa (Fig. 2). The site is buried in fluviol and marsh sediments representing the basal portion of the upper marl deposit in the 30–35 m terrace (Olszewski et al., 1998: 68–69). The terrace is heavily dissected and artifacts from the Early Natufian occupation can be found eroding from these sediments over a large area (originally estimated in Bryd and Colledge (1991: 266) as 10,000 m²). Recent work at the site indicates that the areal extent is 1200 m² (Olszewski et al., 1998: 62; Olszewski and Hill, 1997); while it is not clear if the in situ site is this large, buried deposits were found 40 m apart along the N–S axis. The Early Natufian horizon is some 30–40 cm thick (Byrd and Colledge, 1991; Olszewski et al., 1998: 62–64); because of the dissected nature of the terrace, this horizon can be found at modern ground surface in some areas or as much as 2 m below modern ground surface in other areas. As noted above, phytolith analysis recovered evidence for reeds, suggesting a locally marshy context for the site.

In addition to the surface collection made in 1982 (MacDonald et al., 1983), Byrd and Colledge (1991: 266) systematically surface collected four areas (1.5 m radius each) and cut a small sounding into the side of one of the erosional gullies. In 1997, the author excavated four 1×1 m units (two at the section cut initiated by Byrd and College) and two units 40 m to the south of the section cut (Olszewski et al., 1998). Combining all field seasons, the cultural materials recovered from Tabaqa include a variety of artifacts – chipped stone, ground stone, stone beads, fauna, marine shell, and plant remains. No radiocarbon dates are available, thus Tabaqa is placed within the Early Natufian on the basis of its chipped stone assemblage. Although the Byrd and College (1991: 271) chipped stone sample is dominated by geometric microliths, the sample from
the four 1997 test units has a nearly even distribution of geometric (30%) and nongeometric micro-liths (28.5%). Regardless of which collection is examined, Helwan lunates constitute nearly all the geometrics, thus offering support for an Early Natufian age (e.g., Bar-Yosef and Valla, 1979; Garrod, 1957). The nongeometrics in the 1997 excavation assemblage are mainly inversely retouched bladelets with a flat retouch reminiscent of that used bifacially to produce Helwan retouch on bladelets and lunates. Additionally, there are modest numbers of endscrapers, and a good representation of ubiquitous types such as retouched pieces and notch/denticulates. Micro-burin technique is present, and remnant micro-burin scars are frequently visible on the Helwan lunates.

The ground stone assemblage is reported to be abundant (Byrd and Colledge, 1991: 273), al-

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Fig. 1. Location of Early Natufian sites mentioned (as well as Early Epipaleolithic Ohalo II)
though the combined 1980s surface collected and sounding ground stone artifacts appear to total only six pieces (Byrd, 1987: 285; personal observation of the collection by the author). Additionally, three ground stone fragments were recovered from the 1997 test units. Ground stone tools were made from quartzite, basalt, and sandstone. They include handstones, a pestle, a mortar, a quern, and a stone bowl (Byrd and Colledge, 1991: 272) (Fig. 3). Given the steppe context of the site, grinding implements at Tabaqa likely indicate a subsistence focus on wild grasses, a view supported by charred grass grain fragments. Byrd and Colledge (1991: 271–273) have suggested that occupation at Tabaqa was seasonal. With respect to hunting, few data are available because faunal preservation was poor, yielding only a handful of pieces which were identified as gazelle and a carnivore (Byrd and Colledge, 1991: 272).

At Yutil al-Hasa (WHS 784), which is situated in the main Wadi al-Hasa drainage about 6 km upstream from Tabaqa, the Area D occupation is upslope from a rockshelter containing Late Upper Paleolithic and Early Epipaleolithic occupations (Fig. 4; Olszewski et al., 1994). Area D also may represent deposits in a rockshelter context; it is largely overlain by enormous boulders which could represent shelter collapse. Excavation was confined to two 1x1 m units because of space limitations in this boulder concentration and estimations of site size therefore are difficult, although the Natufian occupation is likely to be areally small. Bedrock was reached in both units with the deposits, which follow the bedrock slope, ranging in depth from 50 to 115 cm. Cultural materials recovered include chipped stone, fauna, and marine shell. Additionally, permanent fixtures in the form of bedrock mortars are present in the bedrock ledge above the site (Fig. 5).

There appear to be two phases of Early Natufian occupation in Area D. The earliest is associated with a geometric microlith component dominated by Helwan lunates, although there are some examples of directly backed lunates. This phase yielded one radiocarbon date (12,270 ± 60 BP: Beta-129815) which calibrates to 14,369 ±
290 BP. Both the chipped stone assemblage and the radiocarbon date accord well with placement of this occupation in the Early Natufian. The upper phase is likely to be late in the Early Natufian, as it contains fewer Helwan and more directly backed lunates. No radiocarbon dates are available for this phase of occupation. Interestingly, both Early Natufian phases have higher frequencies of nongeometric (36.3% in the lower and 30.7% in the upper strata) compared to geometric microliths (20% in the lower and 18.9% in the upper strata). Unlike Tabaqa, endscrapers at Yutil al-Hasa Area D are few, while burins are more frequent; common retouched pieces and notch/denticulates also are present.

Although they cannot be dated, there are approximately 44 bedrock mortars, as well as various cupmarks, above the site. Some of these are
clearly recent, but others are desert varnished and could have great antiquity. It is tempting to consider these features as dating to the Early Natufian occupation at Yutil al-Hasa, however, the site also contains a Nebekian (Early Epipaleolithic) occupation to which some of these features may date. Phytolith analyses from Area D indicate the presence of grasses, sedges, and reeds, as well as leaves from woody plants. Faunal preservation was exceedingly poor, but yielded gazelle and aurochs.

CONTRASTING ADAPTATIONS

The traditional model of Early Natufian subsistence strategies is based on the wealth of data provided by excavations of sites in the Mediterranean woodlands in the western Levant. The small “village” sites in this context, as well as other large, probably long-term basecamps, are said to represent examples of sedentary communities of hunter-gatherers (Bar-Yosef, 1998; Bar-Yosef and Belfer-Cohen, 1989). The edge of the Western Highlands in the eastern Levant also has these Mediterranean woodlands “villages” (e.g., Wadi Hammeh 27: Edwards, 1991). Early Natufians in the Mediterranean woodlands created an archaeological signature that included art, personal ornamentation, investment in burials, heavy equipment such as ground stone tools left in place at sites, structures and associated features, and thick, artifactually dense archaeological deposits. Gazelle were the most common hunted mammal and rendering of gazelle carcasses for grease and fat was typical (Munro and Bar-Oz, 2005); other less frequently hunted species include fallow deer, equids, sheep/goat, aurochs, and wild boar (Bar-Yosef, 1998: 168). Intensive exploitation of small, fast-moving game, such as hares and birds, also is characteristic of the Early Natufian in the western Levant, and is interpreted as additional evidence for sedentism and higher population density (Munro, 2004).

Plant food exploitation strategies by these groups have long been seen as focused on cereal grasses, with a nod to other resources such as le-
gumes and nuts (e.g., Bar-Yosef, 1998: 167; Garrod, 1957: 216; Unger-Hamilton, 1989) – a bias undoubtedly resulting from the importance of cereals as domesticates (Byrd, 1989b: 172; Olszewski, 2004: 189). More recently, however, others have suggested that the unusual characteristics of the Early Natufian in the Mediterranean woodlands are due not to food resource abundance resulting from intensive cereal exploitation, but rather to the use of acorns in combination with cereals, other grasses, and legumes (Barlow and Heck, 2002; Olszewski, 1993, 2004; Savard et al., 2006). In other words, despite claims to the contrary (e.g., Liebermann and Bar-Yosef, 1994; McCorriston, 1994), it is the reliability and abundance of an expanded acorn resource during the climatic optimum that likely tipped the balance toward higher population density and sedentism in the Mediterranean woodlands.

Outside the Mediterranean woodlands, however, in the Irano-Turanian steppe and in the open parkland, it is not likely that the stereotypic depiction of Early Natufian subsistence and other strategies would continue to hold true. This is because the availability and abundance of specific plant food resources in these floristic provinces would not mirror those of the Mediterranean woodlands, even during the climatic optimum. Naturally, there was overlap in types of plant food resources, for example, cereals and other grasses, as well as occasional oak, almond, and pistachio trees/shrubs. Unlike the Mediterranean woodlands, however, it is quite probable that cereals and other grasses were the most abundant plant food in the open parkland and steppe (Moore et al., 2000: 77–79; Savard et al., 2006). If Early Natufian groups were invested in grass seed exploitation, as is commonly assumed, it is these open contexts (parkland and steppe), rather than the Mediterranean woodlands, that provide the most logical setting for intensive use of this resource.

Available archaeological data from the Irano-Turanian steppe in the eastern Levant suggest that Early Natufian groups here were much more mobile than their counterparts in the Mediterranean woodlands. Although there are areally large sites, such as Tabaqa in the Wadi al-Hasa and Ayn al-Saratan in the Azraq region (Garrard, 1991; Olszewski et al., 1998), most sites are much smaller. The larger sites may have been somewhat longer term basecamps situated to take advantage of seasonal food resources, such as grass seeds (Byrd and Colledge, 1991: 273), while the smaller sites (e.g., WHS 1021 and Yutil al-Hasa Area D in the Wadi al-Hasa, Wadi Judayid J2 in southern Jordan, and Bawwab al-Ghazal in the Azraq Basin: Henry 1995: 320–321; MacDonald et al. 1983; Olszewski 1997; Rollefson et al. 1999) are undoubtedly shorter term or possibly task camps. For example, lithic assemblages from the smaller sites, such as Yutil al-Hasa Area D, are slightly less varied than those of the larger sites, such as Tabaqa, which might indicate a less broad array of tasks at shorter term camps. Structural remains from Early Natufian steppic sites are non-existent, although Ayn al-Saratan yielded burials and art, and all of the steppic sites contain marine shells and some examples of ground stone tools such as handstones and mortars. The depth of cultural deposits at these steppic sites also tends to be less thick than at counterparts in the Mediterranean woodlands, further suggesting less intensive or less lengthy occupations.

As in the Mediterranean woodlands, the steppic region of the eastern Levant has produced little direct evidence for plant food exploitation. Charred grass grain fragments were recovered from Tabaqa (Byrd and Colledge, 1991: 272) and phytoliths from Yutil al-Hasa Area D include grass seed husks. Whether these represent cereals or other edible grasses is not known. Indirect evidence is available in the form of ground stone tools from Tabaqa and bedrock mortars and cupholes at Yutil al-Hasa. Additionally, handstones were recovered from Ayn al-Saratan (Garrard, 1991: 238) and handstones and mortars were found at Wadi Judayid J2 (Henry, 1995: 327). Taken together, the ground stone tools and permanent fixtures are suggestive of plant food processing, most likely grass seeds given the steppic setting. In contrast to the Mediterranean woodlands sites, none of these eastern Levantine steppic sites yielded sickle blades, which often are used as indicators for cereal processing (as well as for cutting of reeds/rushes) (e.g., Unger-Hamilton, 1989). The lack of this tool type may indicate that steppic grasses were harvested using other means, just as they must have been at earlier Epipaleolithic sites such as Ohalo II (Nadel, 2003, 2004).
The varied topographic settings of the steppic Early Natufian sites are reflected in part by which mammalian fauna constitute the primary focus at a site. Although faunal preservation was poor at Tabaqa and Yutil al-Hasa Area D, the main hunted mammal appears to have been gazelle, with evidence also for aurochs (Byrd and Colledge, 1991: 272; Olszewski et al., 1994: 135). At Ayn al-Saratan, situated near the springs and playa of the Azraq Basin, aurochs and equids are equally common, followed by gazelle; hare and birds are a very small component (Garrard et al., 1988: 46). Wadi Judayid J2, near the Ras en-Naqb escarpment, is characterized primarily by wild goat/sheep, followed by gazelle, equids, and aurochs; one hare mandible also was recovered (Henry et al., 1985: 53). It is striking that the small mammal/bird component, despite excellent recovery techniques in most cases, is extremely limited in representation, especially compared to the Mediterranean woodlands Early Natufian (Munro, 2004: S11). The absence of spur-thighed tortoise carapaces (or fragments thereof) is particularly notable, as these elements tend to preserve if present. If the near absence of a small mammal/bird component continues to characterize future steppic Early Natufian excavated sites, it suggests that smaller mammals (both slow- and fast-moving) are not a significant resource in the steppe, and thus that hunter-gatherers here were not particularly dense or sedentary. Although speculative, one might hypothesize that the open terrain settings of the steppe and parklands supported a greater large mammal biomass (particularly gazelle and equids) than in the Mediterranean woodlands; such a situation might favor less intensive use of small game.

CONCLUDING REMARKS

The Early Natufian is an intriguing time period, one that has yielded evidence of hunter-gatherer adaptations that appear to have taken advantage of plant food resource abundance and conditions prompted in part by the climatic optimum near the end of the Pleistocene. Previous interpretations of the Early Natufian were based primarily on data from the western Levant, but the increasing pace of archaeological research in the eastern Levant since the 1970s has greatly expanded the known diversity and variation in settlement and subsistence options employed by these hunter-gatherer groups. Not the least of these is the recognition that the Early Natufian in the steppe is at least as old as in the Mediterranean woodlands (Henry, 1995: 331). This has implications for the accuracy of the use of the term “core” or “homeland” to describe the Early Natufian as emerging in this region (e.g., Bar-Yosef, 1998; Bar-Yosef and Belfer-Cohen, 1992), particularly because these terms are based on the premise of sites associated with a Mediterranean woodlands context. But, in fact, many of the eastern Levantine sites theoretically in the “homeland” are situated in the steppe.

While there are a number of shared elements between the Mediterranean woodlands and steppe Early Natufian, such as Helwan lunates, use of marine shell for personal ornamentation, other art, and modest numbers of ground stone tools, the two floristic provinces contained significantly different plant food resources. The widespread abundance and available of acorns in the woodlands was not replicated in the steppe. On the other hand, while cereals and other edible grass seeds would have been obtainable in the woodlands, their abundance was likely to have been greater in the open contexts of the steppe and parkland. There thus were two primary, seasonally differentiated plant foods (acorns and cereals/other grasses) available to Early Natufians in the woodlands and this combination may help explain why sedentary, small “village” sites are found here but not in the steppe. On the other hand, while it is highly likely that Early Natufians in the steppe made considerable use of cereals and other grasses as part of an opportunistic strategy such as that envisioned by Savard et al. (2006), this focused exploitation would have resulted at most in seasonal basecamps – these do not replicate the material correlates of the woodlands “villages.”

Steppic Early Natufians therefore were more mobile in their settlement and subsistence adaptations. Indications of this pattern can be seen not only in the physical attributes of their sites—generally smaller in size, less dense occupational debris, no structures, etc. – but also in other material correlates. For example, where stone raw material studies have been undertaken, the type of flint
mainly chosen by Early Natufians in the steppe is a translucent, chalcedonous material (despite the local abundance of other high quality flint, as at Tabaqa and at Yutil al-Hasa D: Olszewski and al-Nahar, 2006; Olszewski and Schurmans, 2007). Even with extensive surveys by the author in the Wadi al-Hasa to locate sources of this translucent material, none were found; the closest source appears to be in the Wadi Bayir some 80 km to the southeast of the Hasa region (Rolston and Rollefson, 1982), suggesting relatively long distance movement to acquire this resource. More mobility also is indicated by the seemingly infrequent use of small game (hares, birds, tortoise), a pattern that departs radically from that of the woodlands (Munro, 2004).

In many respects, the adaptations of the Early Natufian in the steppe are not fundamentally different from those of the Late Natufian in the same region (even with the cool/arid conditions of the Younger Dryas that characterize much of the Late Natufian). This raises two interesting points. First, the combination of unusual features used so often as the description of the Early Natufian would appear to be mainly characteristic of the woodlands adaptations and of the early part of the Natufian; this means that the woodlands Early Natufian is more of an exception than the rule for Natufian hunter-gatherer adaptations. And, second, in attempting to explicate factors in the origins of agriculture, it is the context of the highly mobile Late Natufian that immediately precedes this critical economic transition. In fact, it may be that steppe adapted, mobile Natufian adaptations will provide greater insights into the economic transition than adaptations geared toward the resources of the Mediterranean woodlands.

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Notes


2. This physiographic designation is from Macumber (2008), who builds upon the work of Bender (1974).

3. This reference erroneously labels this site as WHS 1020 and erroneously positions it south of Tabaqa; its position is north of Tabaqa (field notes in possession of the author).

4. Somewhat paradoxically, it is the transitional Early/Late and Late Natufian (associated with the colder/arid Younger Dryas) in the steppic areas that have evidence for structures, e.g., Khallat ‘Anaza in the Black Desert (Betts 1998, 11–25) and TBAS-102 in the Jurf ad-Darawish region south of the Wadi al-Hasa (Neeley in press), although these are not “villages”.