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Insights from Central Syrian Desert on the migration routes of Homo erectus from Africa to Eurasia during the Paleolithic

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Abstract

Our knowledge regarding the migration of the Homo erectus towards Eurasia and the routes he took through the Middle East during the Paleolithic is limited. The latest surveys and excavations at sites in the central Syrian Desert have revealed important data on these routes. Archaeological labor documented numerous archaeological sites located between the Mount Bishri and the Middle Euphrates Valley, sites that witnessed lithic cultures during the Paleolithic. The remains of Homo erectus are documented in various sites in the region including the El-Kowm area, the Nadaouiyeh and Bir al-Hummal sites.

This paper will present evidence in support of the early human existence in Syrian desert and will advance our understanding of the general prehistoric framework of human settlement in central Syria during the Paleolithic. It also aims to correlate it to the chain connected the earlier African specimens of Homo erectus with those in other parts of the Eurasia.

The investigated area has provided relevant data on the Euphrates Valley as part of this path. The distribution of four groups of sites confirmed that the banks of the Middle Euphrates, especially the area near the Gorge of Khanuqa, witnessed the early establishment of the first prehistoric communities.

Key words: Paleolithic, Bishri Mount, Euphrates, Syria, Syrian Desert, Homo erectus.

Résumé

Nos connaissances sur les routes empruntées par Homo erectus lors de sa migration vers l'Eurasie au Paléolithique sont limitées au Moyen-Orient. Les dernières investigations et fouilles sur des sites du désert syrien central et le long de la vallée de l'Euphrate ont révélé des données importantes sur ces routes. Les travaux archéologiques ont documenté de nombreux sites archéologiques entre le Mont Bishri et la vallée du Moyen-Euphrate qui ont été témoins de cultures lithiques au cours du Paléolithique. Les restes d'Homo erectus sont documentés dans la région d'El-Kowm, comprenant les sites de Nadaouiyeh et Bir al-Hummal.

Sur la base du répertoire archéologique, cet article tente de faire la lumière sur l'occupation paléolithique de la zone ciblée et de la corréler à la chaîne reliant les premières spécimens africains d'Homo erectus à ceux issus d'autres parties de l'Eurasie.

Cet article présentera des preuves à l'appui de l'existence humaine précoce dans le désert syrien et fera progresser notre compréhension du cadre préhistorique général de l'établissement humain dans le centre de la Syrie au cours du Paléolithique. Il vise également à le corréler à la chaîne reliant les premiers spécimens africains d'Homo erectus à ceux d'autres parties de l'Eurasie.

La zone étudiée a fourni des données très importantes sur la vallée de l'Euphrate dans le cadre de ce chemin. La répartition de quatre groupes de sites a confirmé que le Moyen-Euphrate, en particulier la zone proche de la Gorges de Khanuqa, a été témoin de l'établissement précoce des premières communautés préhistoriques.

Mots clés: *Paléolithique, Mont Bishri, Euphrate, Syrie, Désert syrien, Homo erectus.*

خلاصة

تعتبر معرفتنا بشأن هجرة الإنسان منتصب القامة نحو أوراسيا والمسارات التي سلكها عبر الشرق الأوسط خلال العصر الحجري القديم محدودة. كشفت أحدث المسوحات والتنقيبات الأثرية في مواقع عديدة في وسط الصحراء السورية عن بيانات مهمة عن هذه الطرق والمسارات، كما وثق العمل الأثري العديد من المواقع الأثرية الواقعة بين جبل البشري ووادي الفرات الأوسط، وهي مواقع شهدت ثقافات حجرية خلال العصر الحجري القديم، حيث تم توثيق بقايا الإنسان منتصب القامة في العديد من المواقع بما في ذلك منطقة الكوم ومواقع الندوية وبئر الهمل.

يقدم هذا البحث أدلة تدعم الوجود البشري المبكر في الصحراء السورية ويساهم في زيادة فهمنا للإطار العام لعصور ما قبل التاريخ وللاستيطان البشري في وسط سوريا خلال العصر الحجري القديم. كما يهدف إلى ربط تلك الأدلة بالسلسلة التي تجمع بين الإنسان منتصب القامة الأقدم في أفريقيا والانسان منتصب القامة في أجزاء أخرى من أوراسيا.

قدمت المنطقة المستهدفة في هذا البحث بيانات مهمة حول وادي الفرات كجزء من هذا المسار، وأكد توزع المواقع الأثرية في أربع مجموعات على أن ضفاف نهر الفرات الأوسط، وخاصة المنطقة القريبة من الخانوقة، كانت شاهدا على التأسيس المبكر لأولى مجتمعات عصور ما قبل التاريخ.

الكلمات المفتاحية: العصر الحجري القديم ، جبل بشري ، الفرات ، سوريا ، الصحراء السورية ، الانسان المنتصب هومو إيركتوس .

1. INTRODUCTION

The excavations in the El-Kowm desert area in central Syria, carried out by the Syrian-Swiss expedition, revealed more than 186 Paleolithic sites (Le Tensorrer *et al.,* 1997) in an area of 20km in diameter around El-Kowm, located between the Oasis of Palmyra and the Euphrates River, thanks to the available sources then, which made life possible in the area since ancient times (Le Tensorer, 2007a).

At the end of the Tertiary Period, dramatic changes in climate during the las Ice Age formed the Euphrates Valley, and the fluvial terraces were flooded during spring floods, marshy areas and confluences of the Euphrates tributary valleys. It was covered with grasslands, undergrowth, and shrubs, creating areas that were a habitat for mammals, aquatic birds, and steppe animals, who came in search of the water, the main source of life. For the human establishment, this area was suitable and attractive due to the availability of food. In addition, the abundance of raw material to make artifacts, thanks to the flint, the edges washed by the river and the limestone that can be used in construction and manufacture of other objects (Sanlaville & Besançon, 1981).

We know that the remains of the first human being were found in East Africa and that with the passage of time, the Homo erectus spread and occupied more territories, reaching Europe through known paths. One of the routes that ancient man took was through the Middle East, logically, given that it had a suitable climate to settle in at that time; the other route was the Strait of Gibraltar, reaching across the Iberian Peninsula.

The latest excavations have shown that the eastern coasts of Africa, the Nile Valley and the basins of the Dead Sea were part of the natural path towards the Euphrates and Tigris valleys, crossing areas that are now desert. African Acheulian sites offer a framework for the chronology of the Acheulian Technocomplex (Sharon *et al.* 2011: 387). Even with this chronological framework, and with the presence of typical Acheulian assemblage in Nadaouiyeh Ain Askar that contains a sequence with 30 Acheulean layers and remains of Homo erectus (Le Tensorer *et al.* 2018), or in southern Lebanese, the Orontes or Jordan Valley sites, for example Ubeidiya (Bar-Yosef & Goren-Inbar, 1993), comparing African sites to those in the Levant still challenges scholars.

On this line, these same investigations indicate that the Syrian desert witnessed several lithic civilizations and archaic industries dating back over 1.8 million years ago (Le Tensorer *et al.,* 2018: 169). The remains of Homo erectus in the El-Kowm area at the Nadaouiyeh and Hummal sites (Le Tensorer, 2007b) confirm the very early establishment as well as the abundance of lithic artefacts in the region. For example, at the Nadaouiyeh site more than 100.000 artefacts including more than 7000 bifaces were revealed (Le Tensorer *et al.,* 1997). Likewise, a similarity of the lithic artifacts between European and Near Eastern settlements has been documented from this remote Paleolithic era (Jagher *et al.*, 1997). For example, grave goods and ornaments found in African sites: in the case of the Blombos Caves, there are ornaments consisting of stone beads like those found in the al-Skhul Caves in the Near East, another example is the so-called Oldowan stage lithic industry discovered at the site of ‘Ain Al-Fil shows remarkable similarities with the African assemblages (Le Tensorer *et al.,* 2015: 581) as well as in Paleolithic sites in the Iberian Peninsula for example at Atapuerca (Arsuaga, 1997).

It is relevant to investigate the archaeological sites pertaining to this period, then connect the results of previous excavations in the area with the new data obtained from the latest excavations and surveys carried out in Syria, such as the site of ʿAïn Jawal (Al Qadi *et al.,* 2015: 225-238), one of the most recently excavated sites in central Syria before the interruption of archaeological research in the last decade. This paper will present evidence in support of the early human existence in the Syrian desert and will advance our understanding of the general prehistoric framework of human settlement in central Syria during the Paleolithic, which is the main question of this paper.

2. METHOD

The research’s method began by classifying the sites dated to the Paleolithic in the investigated area, so that their distribution in relation to the Mount Bishri and the Euphrates Valley can establish a settlement pattern of the Paleolithic

Fig. 1 – Distribution of the first group sites.

communities. It is important to emphasize that the collected data is based on surveys and surface collection of lithic artefacts, which can provide a general view of the studied area. The lack of faunal studies or comparative studies of the Acheulean axes limits the results of our study. The comparison with the sites where the Homo erectus' remains are confirmed through the archaeological record at sites such as the Nadaouiyeh and Bir al-Hummal (Le Tensorer: 2007b) and recently the relevant results from the excavation at the site of 'Ain Al-Fil (Le Tensorer *et al.*, 2018), results that could confirm the similarity of lithic artifacts to the targeted area (Jagher, 2011).

From a geographical point of view, it is noted that all of known the Paleolithic sites are located on the right bank of the Euphrates. The first and the second groups are located north of the rocky plateau of Mount Bishri and near the river terrace of the Euphrates, and the third group is located on Mount Bishri itself, while the last group is found on the fluvial terrace of the river.

These Paleolithic sites are:
1. Wadi Qutena (Nishiaki, 2008)
2. Jibli (*ibid.*)
3. Zor Shammar Foqani (*ibid.*)
4. Jabal Tbuq (Lonnqvist *et al.*, 2011)
5. Wadi Kharrar (Nishiaki, 2008)
6. Tell Beilouni (Nishaki, 2010).
7. Wadi Abu Shahri (Muhesen, 1998)
8. Qleb al Hemma (Al Maqdissi, 2011)
9. Nadra (Lonnqvist *et al.*, 2011)
10. Tell Tabus (ibid)

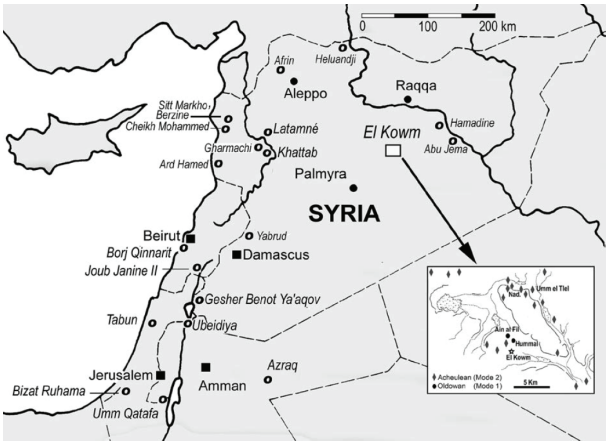

Fig. 2 – The distribution of major Lower Paleolithic sites in the Levant (after Le Tensorer *et al.*, 2018: 170).

11. Tell Khraita (*ibid.*)
12. Tell Ain Abu Jemaa (Besançon & Sanlaville, 1981, Borrel, 2010)
13. Tell Ayyash (Shaw, 2012)

The Paleolithic sites can be divided into four groups, based on their geographical distribution. These groups maintain an approximate distance of 40km from each other, except for Jabal Tbouq and Nadra, which are to the south and west of the four mentioned groups:

The first group

Includes the sites in the zone of Wadi Kharrar:

(Wadi Qutena, Jibli, Zor Shammar Foqani, Wadi Kharrar and Tell Beilouni).

This zone extends some 80km northeast of the area of El-Kowm, northeast of Palmyra. There, various Paleolithic sites were documented including El-Kowm, Jerf el Ajla, Umm El Tlel, Nadaouiyeh Aïn Askar, the Cave of Dawara and ʿAïn Jawal (Jagher, 2016: 22-58, Al Qadi *et al.*, 2015) (fig. 1 and 2).

At the sites of Zor Shammar Foqani and Wadi Kharrar, various Paleolithic artifacts were documented including Acheulean hand axes (fig. 3).

The second group

Includes the sites of Wadi Abu Shahri and the Mound of Qleb al Hemma:

(Wadi Abu Shahri and Qleb al Hemma).

They are situated 100km northeast of the zone of El-Kowm (fig. 4).

Fig. 3 – Acheulean hand axe.

Fig. 4 – Distribution of the second group sites.

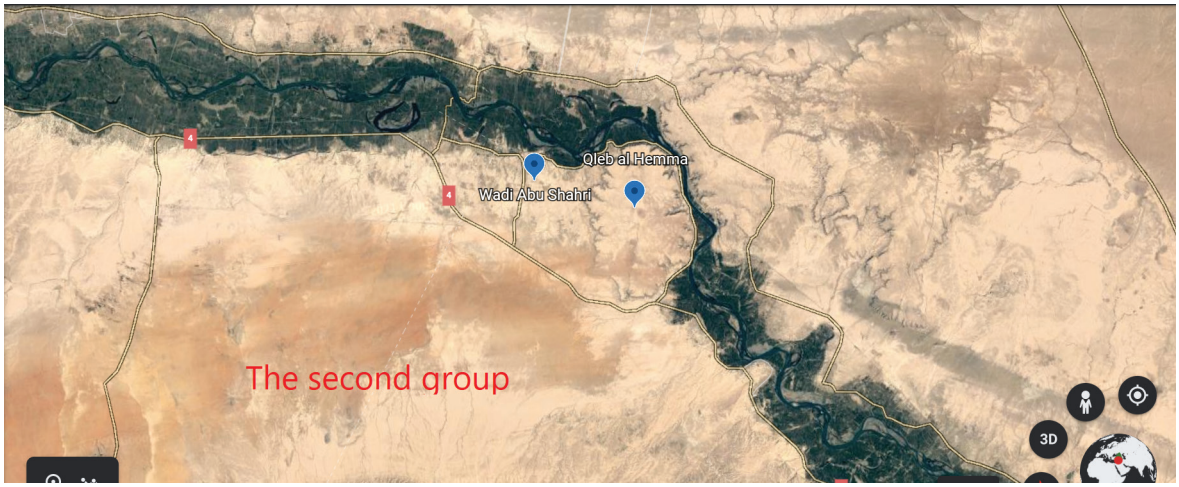

Fig. 5 – Distribution of the third group sites.

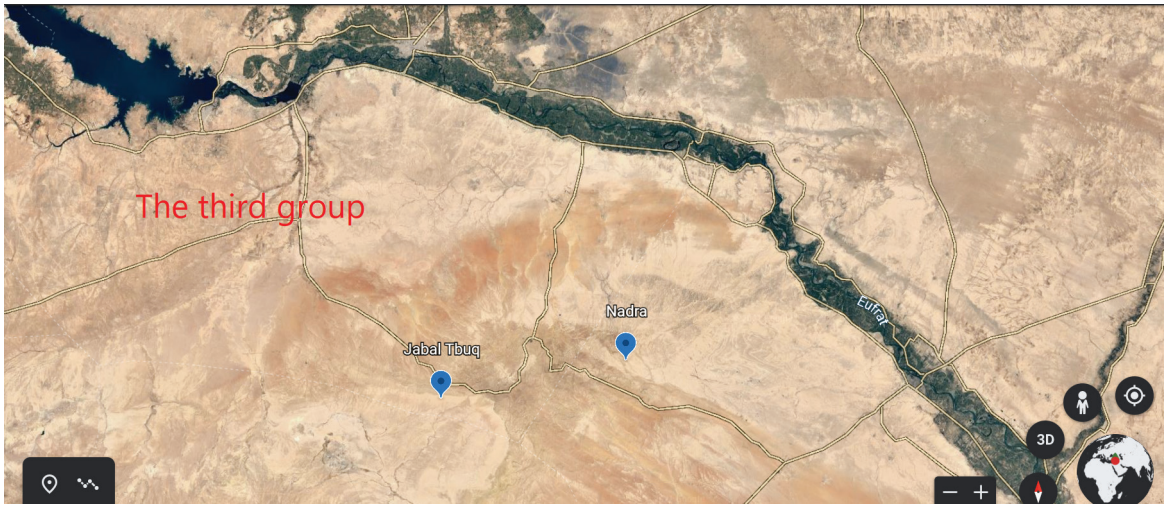

Fig. 6 – Distribution of the fourth group sites.

Fig. 7 – Location of the Paleolithic sites in relation to El-Kowm.

The third group

Consists of the following sites: (Jabal Tbuq and Nadra), situated in the Mountain of Bishri, northeast of the zone of El-Kowm (fig. 5).

The fourth group

Confirmed by the sites: (Tell Tabus, Tell Khraita, Tell Ain Abu Jemaa and Tell Ayyash). They are situated on the fluvial terrace of the Euphrates, on the right bank, some 110km east of the zone of El-Kowm (fig. 6).

3. GENERAL OBSERVATIONS AND DISCUSSION

From a geographical point of view, it is noted that all of the Paleolithic sites are located on the right bank of the Euphrates. The first and the second groups are located to the north of the rocky plateau of Mount Bishri, near the river terrace of the Euphrates. The third group is situated on Mount Bishri itself, while the last group is on the fluvial terrace of the river.

Numerous national and international expeditions in the El-Kowm revealed the intense existence of the Paleolithic sites in an area (fig. 7) which, due to the favorable conditions during the Paleolithic, became intensely inhabited since ancient times (Le Tensorer: 2007a). We also know that the *Homo erectus* took the route towards Eurasia through the Middle East as well as the Iberian Peninsula through the Strait of Gibraltar.

In this line, the archaeological research has confirmed these lithic cultures in the Syrian Desert (Arsuaga: 1997) besides the presence of the Homo erectus remains in the archaeological record, for example the left parietal of Homo erectus discovered at the Nadaouiyeh (Le Tensorer *et al.* 2018: 177). Additionally, the distribution of the studied sites in the present work supports our previous results and knowledge.

The first group of sites is located 80km north of El-Kowm in the Wadi Kharrar region. We can see that there was a diachronic change in land use or occupation, and this change is represented in the use of the territory. For example, the occupation of the Paleolithic period is more frequent in the terraces of Wadi Kharrar than in the valleys located to the east and west of it, which for the most part belong to the Bronze Age, while the occupied terraces from the Bronze Age are scarce in Wadi Kharrar.

The Wadi Kharrar area offered varied advantages, such as the possibility of obtaining water in the tributaries of the Euphrates, as well as the geomorphology of the valley and its north-south orientation that facilitated movement and access to the travel routes that people took at that time. Perhaps the tributary valleys, which are in an east-west direction, formed natural obstacles for the prehistoric wandering groups that had the valleys oriented in a north-south direction. Coming from the south, the El-Kowm area was an attractive region for Paleolithic communities (Nishaki: 2010).

The third group of sites consists of the Jabal Tbouq and Nadra sites, situated almost in the El-Kowm area, where a huge group of sites from the Paleolithic are documented.

The second group, the sites of Wadi Abu Shahri and the mound of Qleb al Hemma, as well as the last group, Tell Ain Abu Jemaa, are in the Euphrates basin, which has preserved the traces of the first artifact makers in the Paleolithic in numerous sites along the river's course (Westaway, Bridgland, Sinha & Demir: 2009).

In the Euphrates Valley, 6 Quaternary river terraces have been identified, being QF5 the oldest, and reaching QF0. The second group of sites is the area of Qleb al Hamma and Wadi Abu Shahri, where lithic artifacts of the QF3 river terrace have been found. This region of the Euphrates Valley could represent the oldest human existence outside of Africa.

The last group, Ain Abu Jemaa, belongs, according to Paul Sanlaville's classification, to the QF2 river terrace, and Wadi Abu Shahri to the QF1 terrace, whose basaltic soils are 25m above the river level, where Levallois-like artifacts were collected (Aurenche, Le Miere & Sanlaville: 2004).

In general, Levallois artifacts are rare around the Middle Euphrates Valley, except for the Balikh Valley sites, such as Tell Rhayat, Tell Chnineh east and west, located north of Raqqa (Demir, Westaway, Bridgland & Seyrek: 2007).

4. CONCLUSION

The investigated area has provided very important data on the Paleolithic settlements, the time when the immigration of Homo erectus took place from Africa to Eurasia, through specific routes protected by large rivers, such as the Euphrates, to spread north and west reaching Europe, East Asia and desert areas that had a more suitable climate than nowadays (Muhesen: 1998).

The Euphrates Valley was part of this path, as evidenced by the sites divided in this paper into four groups, according to their geographical location: the group linked to the El-Kowm area in the Syrian desert on Mount Bishri, another group of sites located to the north of the rocky plateau of Mount Bishri and very close to the river terraces of the Euphrates, the group of the Qleb al Hemma area, and finally the group of sites located on the fluvial terrace of the river.

The distribution and the intensity of these sites point to the fact that the banks of the Middle Euphrates, especially the area near the Gorge of Khanuqa, witnessed the early establishment of the first prehistoric communities, which underlines the importance of the Euphrates Valley as an early habitat for mankind.

Further research is needed to complete the fragmented image of the routes used by

Homo erectus, settlements and lithic artefacts that he generated to trace his movements and communities through time and space. The investigated area between the Euphrates Valley and the Mont Bishri, even though the mentioned sites were documented through surveys and collecting surface material, without sophisticated qualitative lithic analysis of artefacts or fauna, we consider it a promising and relevant area worthy of consideration for conducting further multidisciplinary research in the future.

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