

**The Origins and Spread of the Neolithic in North Africa Preliminary report on the campaign of excavation and dating in the prehistoric sites of Redeyef –Moularès –Gafsa) - Bir Oum Ali (Kébili) and Dghoums (Tozeur) (April 18-May 3, 2019)**

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*Introduction*

The aim of this project was to undertake new excavations in south-central Tunisia and evaluate existing archive records to assess the chronological spread of Neolithic economies, and evolution of Capsian cultural traditions in this region. A collaboration between King's College London (KCL) and the Institut National du Patrimoine, Tunis (INP), was therefore established to initiate a new programme or survey and excavation in the regions of Gafsa and Bir Oum ali in west-central Tunisia (Figure 1)



*Figure 1. Tunisian and British team 2019*

The Capsian is one of the most studied Epipalaeolithic cultural units in Northwest Africa and was first identified in 1909 by de Morgan and colleagues (de Morgan 1909), and in the 1930's Vaufrey carried out a series of investigations into the Capsian escargotieres in the Tebessa–Gafsa region (Vaufrey, 1933, 1936–37, 1955). Based on these excavations he subdivided the Capsian into two complexes, the Typical Capsian (ca 9,000–7000 cal BP) and Upper Capsian (ca 9000–7500 cal BP) and also identified an evolved Neolithic phase, referred to as the Neolithic of the Capsian tradition (NCT), which was characterized by Capsian influences in its lithic technology, including arrowheads and pottery (Vaufrey 1933). Our understanding of the NCT in this region however has failed to progress in any meaningful way since due to the lack of radiocarbon dating or stratigraphic control. Currently only a handful of NCT dates are available and only one in the west-Central part of Tunisia from the site of Jaatcha (L-135), although this has been disputed (Flight 1973), and in fact no pottery was found at this site. We therefore endeavoured to re-visit the sites where the NCT was first identified and to survey the surrounding region to establish a new chronology for the Epipalaeolithic and Neolithic of the Gafsa and Bir Oum Ali region (Figure 2).

Several specific objectives were set out in the first mission in 2019:

1. To sample and recover dateable material from the sites of
  - Redeyef Table (excavated by doctor Gobert at the beginning of the 20th Century)
  - Redeyef Table Sud, Shelter 1 and Shelter 2 (excavated by R.Vaufrey in the 1930s)
  - Shelter 402 and Sen el Moured at Moulares (excavated by Roubet at the beginning of the 20<sup>th</sup> Century)
  - Bir Oum Ali Rammadiya R1 and R3
  - Dghoums.
2. Develop a precise stratigraphy and chronology for the aforementioned sites.
3. Characterize the different archaeological levels and associated cultural materials.
4. Attempt to safeguard what remains of these sites, which are threatened daily by the phosphate extraction works in the Gafsa mining area.

Between April 18th and May 3rd 2019 we therefore undertook three weeks of survey and excavation. Near Gafsa we relocated the site of Redeyef Table and excavated the remaining deposit. This yielded several samples for radiocarbon dating and three sherds of pottery. In the same area we also test excavated Shelter 402 and Sen el Mored, which had been excavated, but unpublished by Gobert and Vaufrey in the 1950's. At Bir Oum Ali we extended the excavation area opened in 2018 and opened a new test trench on the Iberomaurusian deposits at R3. In addition, we undertook a survey of the surrounding area and identified a nearby spring deposit, and possible MSA deposit. Test trenches were put in these two locations to test the chronological relationship between the spring activity and site occupation, and to develop a deeper time sequence of the site.

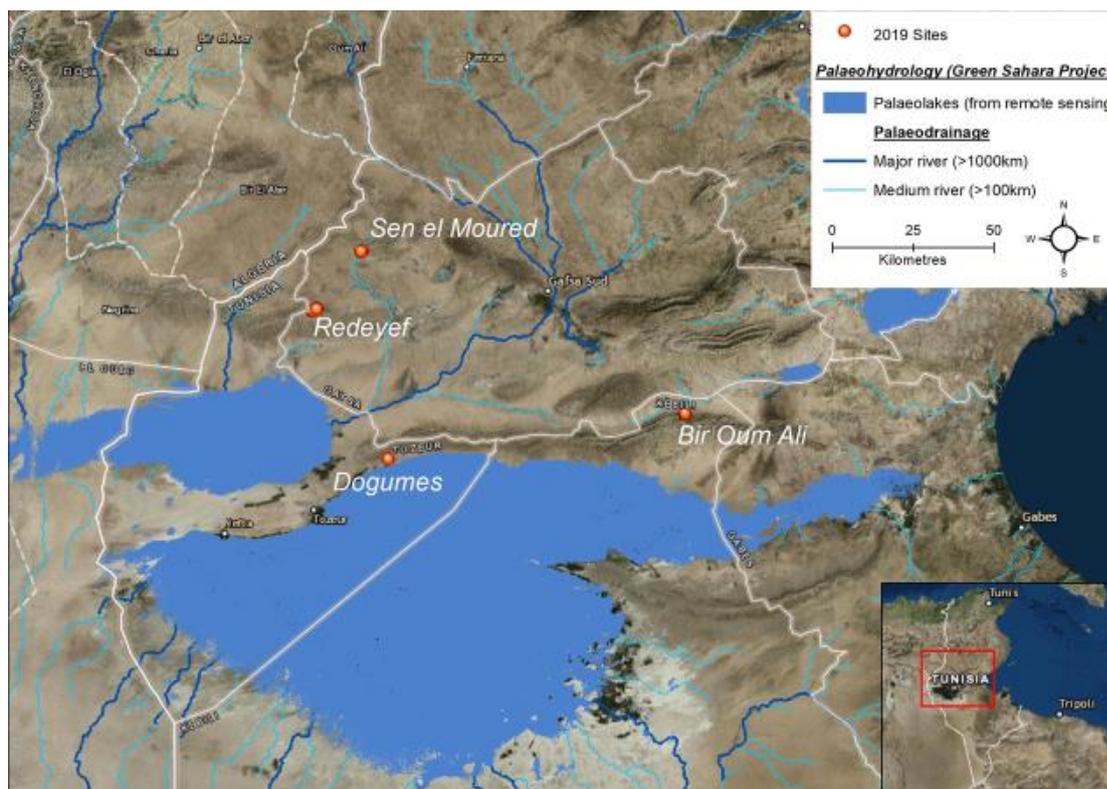


Figure 2. Map of survey area 2019 season with superimposed palaeohydrological reconstructions from the Green Sahara project

### Redeyef Table

Investigations at the site of Redeyef table were problematic due to large parts of the rockshelter having collapsed in recent times, and continuous re-working of the immediate landscape by the

phosphate mining activity. Landmarks such as the two galleries mentioned by Gobert (1912) were, however, located (Figure 3). Although some remnant deposit was uncovered (SRG1), the site has been so disturbed by previous excavations and dumping of phosphate waste, that there was very little in-situ stratigraphy remaining. Nonetheless, we were able to extract several pieces of dislocated human remains and a single piece of charcoal from the SRG1 survey, under roof collapse (Figure 4). Samples were also recovered from the levels which had previously been assigned to the typical Capsian on the slopes and the shelter.

The Redeyef Table Sud sites (shelter 1 and shelter 2) were much easier to access and retained several areas of in-situ deposit (Figure 5 and 6). Two test trenches were dug in the corridor and back of shelter 1, revealing over 50cm of in-situ deposit with Neolithic levels and a very rich cultural assemblage (Figure 6). In shelter 2 we excavated a single test trench, which produced a very rich in-situ assemblage, including several pieces of, potentially Neolithic, pottery as well as well-preserved lithic, and malacofaunal material and animal bone belonging to the typical Capsian (Figure 5). However, this site had been buried by phosphate waste and much of the archaeological deposit had been removed by the passage of phosphate trucks.



Figure 3. Redeyef Table



Figure 4. Redeyef Table Trench SRG1



Figure 5. Redeyef Table Sud - Shelter 2-S1



Figure 6. Redeyef Table Sud – Shelter 1-couloir

### *Moulares*

The archaeological deposits at Shelter 402, near Moulares (Figure 7), were largely buried under phosphate waste, which took some considerable effort to remove. Nonetheless, we were able to

excavate the remaining stratigraphy to bedrock and recovered numerous lithics as well as charcoal and other organic elements for dating. Evidence of stratigraphic reworking is also clear. The site of Sen el Moured, meanwhile, which was located approximately 150m up the slope from shelter 402, did not yield any charcoal, but did produce a large assemblage of lithics and fragments of ostrich eggshell.



Figure 7. Shelter 402 - cleaning

### Bir Oum Ali

At Bir Oum Ali, two rammadiya have been identified and previously test excavated (by Madame Riahi in the 1970s and more recently by the INP in 2018). Deposits at R1 have been dated to the Typical and Upper Capsian, whilst R3 was associated with the Iberomaurusian, representing the most inland expression of this technocomplex. These sites are well preserved relative to those located in the phosphate mining area around Gafsa and R1 especially retains several metres of in-situ deposit. We



therefore opened two trenches on each of the rammadiyas. On the Iberomaurusian rammadiya (R3), we extended the 2018 excavations to the north and west (each 1m x 1m). At the main Capsian rammadiya (R1) we extended the trenches opened in 2018 and opened a new trench alongside the test pit dug by Madame Riahi in the 1970s (Figure 8). R1 yielded several ceramic sherds (Figure 9), although these were all small, stylistically distinct and very dispersed in the sequence. Ornamental elements (Nassa, Columbelle and Lymnea shells) were also recovered as well as wild animal bone, and an exceptional lithic industry, with a high frequency of bladelets (Figure 10). At R3 numerous ornamental elements were recovered, including worked Dentalium and Cyprea shells, engraved ostrich eggshell and a lithic industry with typical Iberomaurusian components including a high percentage of bladelets. Numerous charcoal samples and ostrich eggshell were also recovered for dating from both sites.

Figure 8. Site locations at Bir Oum Ali region

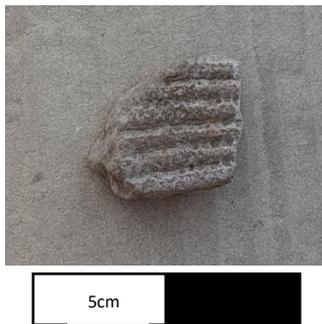


Figure 9. Pottery sherd from R1, Bir Oum Ali



Figure 10. Bir Oum Ali R1 - S1, S2, S3

### North East facing section B.O.A.S - 1

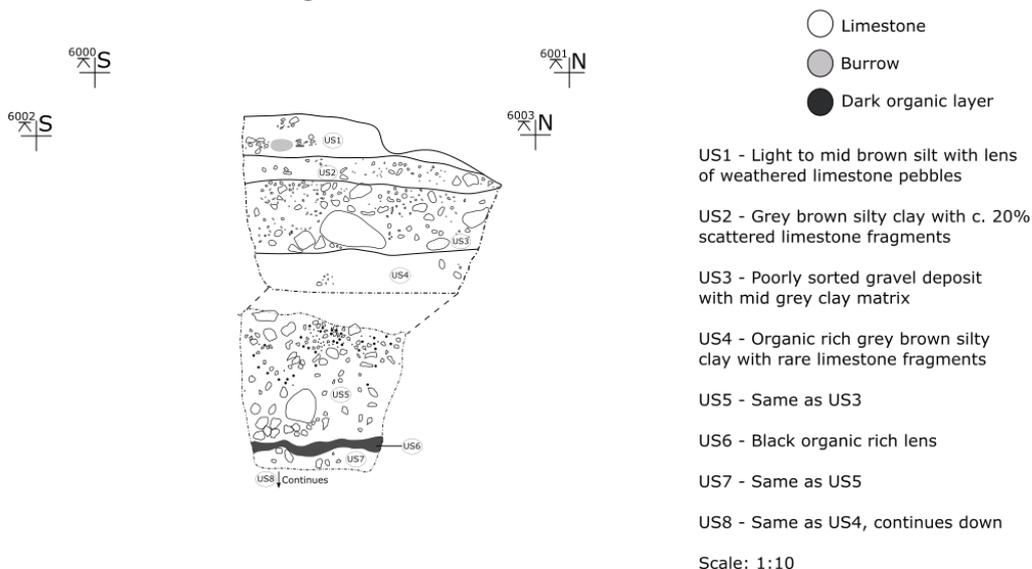


Figure 11. North-east facing section BOAS - 1

In addition to the two known rammadiya, we conducted a survey around the site to investigate the wider environmental and archaeological landscape. On the north-east flank of R1, we observed a spring deposit, with stratified humic layers (Figure 11). A small test pit was excavated to recover dateable material, and to test the relationship of the spring activity with the occupation at R1. On the south-west facing flank of the seasonal palaeochannel, we also observed several large lithics, which appeared MSA in form (BOAMSA). We therefore cut a section through the deposits, containing the highest abundance of materials (Figure 12). On the south side of this cut, a small deposit of ostrich eggshell was found, which will be submitted for dating. However, considering the possibility that this material in fact pre-dates the radiocarbon cut-off of 50 kyr, we also plan to re-visit this site to undertake OSL dating of the sediments.

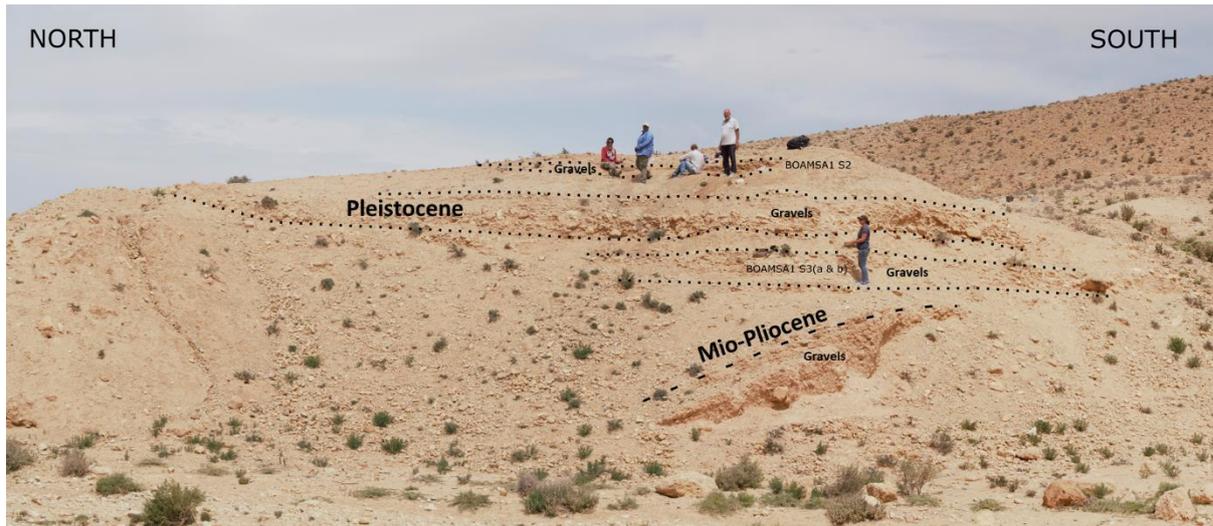


Figure 12. South-west facing section of BOAMSA

### Dghoums

We had originally planned to undertake excavations at the supposedly Neolithic site of Dghoums. However, on visiting the site it became evident that the entire archaeological deposit had been fully deflated, and the ceramic types appear more representative of the proto-historic period. Nonetheless we collected a large surface assemblage for the INP archives.

### Conclusion

Despite being in the field for only three weeks, we were able to undertake a large number of test excavations and recovered a rich assemblage of dateable material from a range of different cultural units. Table 1 shows the number of organic samples which we are currently preparing for submission to the next ORADS round and record of pottery sherds from the 2019 field season.

Table 1. Record of organic samples for dating (Charcoal and OES - number of fragments; Bulk samples - number of bags; Pottery – number of sherds)

	Charcoal	Ostrich eggshell	Bulk sample	Pottery
Abri 402	20			
RTS2	38	3		3
BOA R1	13	4		5
BOA R3	>50	>500		
BOAS	13	2	2	
BOAMSA		5		
RTS1	17	3		

These samples will make a significant contribution to filling the chronological record of central Tunisia and will provide important new information about the timing and evolution of the Capsian Tradition in its supposed core area. Furthermore, this field season identified a new MSA deposit, revealing a previously unknown Palaeolithic presence in this region. Whilst radiocarbon dating will be attempted on the ostrich eggshell remains from this site, it will be important to collect additional OSL samples in future fieldwork to secure the chronology of these deposits.

Much to our surprise, we recovered very few pottery remains during the 2019 season. In total we only found 8 sherds, 5 of which came from Bir Oum Ali R1. It is also noteworthy that all sherds were very

small (c. 5cm or less), and each appeared to be stylistically and/or technologically distinct, suggesting they did not belong to a regional pottery tradition. Instead the paucity of ceramics suggests these pieces may have been imported rather sporadically and were only a negligible component of the material assemblage. Furthermore, the stratigraphic context of these finds were curious. Until now Bir Oum Ali has been dated (Riahi 1989) to the Upper Capsian (5600±150 bp, GIF4057) and Typical Capsian (8260±180, GIF4058), although the current date for the Upper Capsian is more recent than NCT dates from northern Tunisia and Algeria and is similar to the NCT date from Sebka Melah site 11 (5920±120, Unknown labcode). Refining the chronology of the Bir Oum Ali R1 rammadiya will therefore shed important light on the role of pottery in the evolution of the Capsian culture in this region.

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