DMP IX:
Summary Report on the Fourth Season of Excavations of the Burials and Identity team

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Abstract
The fourth season of the Burials and Identity component of the Desert Migrations Project in 2010 focused on completion of excavation work at two main cemeteries (TAG001 and TAG012) and smaller-scale sampling work at a number of nearby cemeteries. The investigation of a number of burials in a semi-nucleated escarpment cemetery TAG063 produced interesting new information on Proto-Urban Garamantian funerary rites, dating to the latter centuries BC.

The excavations at TAG001 were extended to two areas of the cemetery characterised by different burial types to the stepped tombs that were excavated in 2009. A second type of fairly monumental burial was identified, but these had been heavily robbed and it was not possible to demonstrate conclusively that these pre-dated the stepped tombs. Most of the other burials excavated were simple shaft burials and were relatively sparsely furnished with imported goods, in comparison with the larger tombs, though quite a lot of organic material was identified (matting, wood, gourds, textiles and leather). At TAG012, a series of additional mud-brick tombs was emptied. All had been robbed, but pockets of the original fill and associated finds survived intact, yielding some interesting assemblages. The majority of these tombs appear to be Late Garamantian, though some contained artefacts from much earlier times.

Introduction
By David Mattingly

The Desert Migrations Project (or DMP) held its fourth season of fieldwork in January 2010, involving almost 40 specialists in archaeology, palaeoanthropology and geography from the UK, Libya, Italy, Spain, Greece, the Netherlands, Germany, Canada and Tunisia. Three separate areas of work were undertaken: Geomorphology and Geochronology; Human Prehistory in the Sahara; Burials and Identity in the Wāḍī al-Ajāl (for previous work see Mattingly et al. 2007; 2008; 2009). This report on excavation, and the following one on survey results (DMP X), concern solely the work of the Burials and Identity team in the Tāqallit area.

The excavations this season continued work at two monumental Garamantian cemeteries, TAG001 and TAG012, by the Tāqallit headland (Mattingly 2007, 64–74). Both these cemeteries are Classic (CGAR) to Late Garamantian (LGAR) in date (broadly first to sixth centuries AD) and include numerous monumental burial structures. In addition, a range of different types of burials, many of less evidently high status, were investigated at a series of sites on the escarpment to the east and north-east of TAG001 (Fig. 1). These included a number of burials believed to date to the Early (EGAR) and Proto-Urban (PUGAR) Garamantian periods (for explanation of period designations and typological conventions, see Mattingly 2003, 187–234, 348–49; 2007, 5–8). A key issue explored was the variability in grave goods and burial ritual between these early monuments and the Classic/Late Garamantian burials. We were also interested to compare and contrast the funerary practices of CGAR and LGAR date in a range of different burial types, to see whether there were suggestions of significant social variation. The smaller sampling excavations of the lesser cemeteries are described first below, followed by the excavations at TAG001, then by TAG012.

Excavations at TAG021, TAG050, TAG054, TAG063
By Corisande Fenwick, Nick Ray, Farès Moussa, Victoria Leitch and David Mattingly

A number of suspected burials was investigated in a series of cemeteries on the escarpment around TAG001. TAG021 was a small Classic Garamantian
cemetery of corbelled cairns arranged into small tight clusters, north of TAG 054. A relatively well-preserved tomb was selected for excavation in the hope of obtaining datable material for this cemetery. TAG050 is located directly to the north of TAG001, on an elongated ridge running west from the escarpment. There are numerous shaft burials at this site, most of which (if not all) appear to have been robbed. The cemetery dates to the Classic Garamantian phase. Excavation focused on two possible shaft burials. TAG054 was a dispersed cemetery of mound cairns on the lower slopes of the escarpment, located uphill and north-east of TAG001. These are suspected to be Early Garamantian in date and one example was excavated. A few isolated shafts were noted and one of these was also excavated (though it did not in fact appear to have ever contained a burial). TAG063 is located high up the escarpment side and consists of a series of drum tombs and cairns on the south side of a gully. Excavation of three tombs at this site was carried out in the hope that these tombs would provide data on Proto-Urban period burial practices (Tombs 8, 20 and 21). Details of the most interesting burials at TAG021 and TAG063 are given here.

**TAG021.T1** was a corbelled cairn (type 1b), relatively well-preserved, consisting of a dome-like superstructure (1430) of patinated sandstone constructed of six carefully overlapping courses of stone with a corbelled central grave space. Its dimensions were 2.22 x 2.25 m, and it stood 0.95 m above ground surface. It had been robbed from the western side (1431), though the robber hole was relatively small. A series of upright sandstone slabs lined the interior of the tomb forming a sub-rectangular burial cist (1439) of 1.18 x 0.83 x 0.68 m. Excavation commenced by removing the bulk of the superstructure (1430) down to the level of the burial chamber. The first layer removed from inside the tomb was (1432), a layer of fine windblown yellow sand, which contained a few fragments of bone – this appears to have accumulated after the robbing of the tomb. Below was a layer of loose sand (1433) containing the disturbed remains of an adult male skeleton (SK1438). The fill at this level also contained twenty-two ostrich shell beads (SF811) and 3 glass beads (SF812). Below was a dark grayish-brown layer of compact sand and decomposed human matter (1454), which excavation revealed to be a second undisturbed burial of an adult female underlying the upper burial. It is unusual to find two adult...
individuals in the same tomb, and given that corbelled cairns were closed at the time of construction, it seems likely that these individuals were buried at the same time. The body (SK1455) was flexed, lying on its left side, aligned with head to north-east and facing to the south-east. A ring (SF814) was found immediately to the north of the distal end of the right ulna. This ring was presumably on one of the left fingers, which had fallen inwards. A space of 0.15m was left to the west, and a circular impression of some sort of organic material (SF815) was found here. Some fragments of coarse matting were recovered and sampled from around the ribs. It seems likely that this would have extended under the body. In addition to the circular impression at the foot of the grave, a wooden bowl (SF813) was placed above the left shoulder and to the north of the cranium.

**Dating**

None of the pottery recorded was actually found inside the tombs. Around T1 were several fragments of Roman Tunisian and Tripolitania amphorae (one of early first to mid second century AD date). A coarse-ware bowl of AF CW 119 form is also early – first to second century AD. The pottery therefore suggests that this was an early Classic Garamantian cemetery of average to low status.

**TAG063.T8** was a roughly circular drum tomb (type 3b), one of a series of tombs aligned up the west side of a gully on the escarpment. The tomb was built of dark patinated stones, and a proto-stele (type 1b) was found in situ against the south-west corner of the tomb, facing west. Unlike most of the other tombs in the TAG063 cemetery, there was no visible robber disturbance and it was excavated in the hope that it contained an intact burial. The tomb measured 3.60 x 2.40 m, and at its maximum height stood 0.74 m above the original ground surface. Inside was a sub-rectangular stone cist (0.80 x 0.52 x 0.56 m), covered by a large capstone. Removal of the capstone exposed the fill of the grave cist, a deposit of clean loose light yellowish brown windblown sand, over a layer of loose mid-pinkish red gravelly sand and decomposed human matter surrounding a crouched burial of an adult female. The body (SK1406) was flexed, lying on its left side, aligned with the head to south-west (in line with the stele on that side of the tomb) facing downwards and to the north-west. The preservation of the bone was good, and there was no evidence of post-mortem disturbance. Both arms were flexed with the hands close to each other with fingers extended and the palms of the hands towards the face. The right hand clasped a lump of red ochre (SF800), probably consolidated.

![Figure 2. TAG063.T8, female burial with ochre lump tied to hand and held close to right shoulder.](image-url)
with wax and tied onto the hand with string (Fig. 2).
There were traces of some sort of textile wrapping visible by the left hand. Some fragments of coarse matting were also recovered from around the cranium. A single red carnelian bead (SF801) was found below the left scapula, at the back of the cranium.

TAG063.T20 was a type 3b drum tomb (2.85 x 2.49 x c. 1.20 m) that contained an intact crouch burial of an articulated female skeleton (1416) positioned on its back, chest facing upwards. The skull, lain to east, was upright and facing west. Within the fill above the skeleton, several date stones were recovered. Material culture within the tomb was limited, and principally comprised two large stone beads (SF804: sub-spheroid crypto-silicate; SF805: barrel granular blue/grey/white). There may have been two containers made from organic material on either side of the skull. These were only evident as dark circular patches in the fill deposit. Traces of textile were preserved from a shroud wrapping the body, and vegetation fibres (and impressions) from matting (1426; SF807) upon which the body had been laid. The weaving technique/technology used for the shroud suggests a relatively early date for this tomb, which is also reflected by the size and material of the beads that were recovered. At the east edge of the tomb was a small conjoined drum cairn that at first sight also appeared to have been robbed. On excavation, a burial of an infant was discovered. Although partially disturbed and poorly preserved, the skeleton (SK1420) was pushed up against the side of the eastern wall in a shallow deposit of fine yellow sand (1419). The position of SK1420 was difficult to determine: part of the cranium laid to the south, overlying fragments of an arm; the ribs and vertebrae were to the north.

A third tomb T21 was also excavated with similar results. The excavations of these three tombs revealed almost no pottery but outside both T20 and T21 fragments of large Punic North African coarse-ware bowls were collected. The example by T20 was an AF CW 108 bowl of first century BC to first century AD date, that by T21 an AF CW 104 bowl that could be second to first century BC (for the AF pottery type series, see Mattingly 2007). This evidence suggests that this cemetery was (as suspected) of the Proto-Urban Garamantian phase (latter centuries BC) and that at this time pottery was rarely placed inside burials, while the practice of placing offering vessels outside tombs had begun and the Garamantes were employing some imported bowls for this purpose (see further similar evidence in survey of other Proto-Urban cemeteries reported in DMP X).

Excavations at TAG001
By Mireya Gonzalez Rodriguez, Steve Baker, David Parker, Anita Radini, Martin Sterry, Victoria Leitch and David Mattingly

Excavations in TAG001 were initiated in 2009 with the establishment of three key areas (A1, A2 and A3). This is morphologically a type 3 escarpment cemetery combining different tomb-types. Work in 2010 resumed with the excavation of four tombs started in 2009 in A3. Aerial photographs of the Wādī al-Ājāl in 1958 show the cemetery of TAG001 with two distinct areas of monumental stepped tombs with a section in the middle of large shaft burials, some of which were ringed by rubble suggesting the existence of tomb superstructure (probably type 4b), though not on the scale of the type 5 stepped tombs. A4 was set up in this central section to investigate the nature and date of these structures. Daniels also noted a zone of smaller shaft burials to the west and two further areas (A5 and A6) were selected to sample this part of the cemetery, again in the hope of clarifying the status and date of these burials. In total, the chambers of 15 substantial tombs and 12 shaft burials were excavated this season. A representative selection of these burials are reported on in detail below.

Area 3
This had been the main area of excavation during the 2009 season, and it was reopened in 2010 to finish the excavation and recording of four tombs (T245–248) and to excavate additional tombs (T256, T263/ T277, T264–265).

T245 (L: 1.85 m; W: 1.90 m; D: 0.80 m) still contained c. 0.40 m of robber fill (1118), which contained several disarticulated human bones in various states of preservation. A small metal pin (SF752) and one single ostrich egg-shell bead (SF765) were also recovered. The stone lining of the tomb (1224) was still in situ on the southern and western part of the tomb, but was missing in the eastern and northern areas, damaged by earlier robbing (1225). At c. 0.60 m in depth a more compacted layer (1220) with disturbed skeletal remains was encountered. The upper part of the skeleton was missing, due to a systematic robbing of the area where the head was likely to be. The body was in crouched position, lying on the right side on an east-west alignment, with head to west and facing south. A decorated handmade incense burner (SF758) was found close to the left scapula. The impression of a woven flat basket (SF762) with a depression on its south side was uncovered in the area between the knees, lying above the arms, hence suggesting they
were deposited in the tomb after the body (Fig. 3). A few very poorly preserved dates stones (SF763) were collected separately. The impression of a woven fabric, possibly a shroud, was exposed from the area between the femur and the tibia with a few fragments of textile (SF766). The impression of the fabric, which indicates the presence of a fold behind the knees, suggests that the garment was wrapped around the body whilst the body was lying flat, and only later bent into a crouched position. The fibres and impression of an oval mat (SF761) were uncovered below the skeleton.

**T256** was a disturbed stepped tomb on the north-west side of the periphery of the set grid of A3. The tomb has been robbed and the stone lining (1256) has been damaged. The sandy robber fill (1245) contained disarticulated human bone, a segmented silver gilt glass bead (SF764) and date stones. Fragments of a textile shroud (SF791) and fragile remains of matting (SF789) were uncovered in the base of the tomb, along with the impression of a possible basket which contained date stones (SF790). Four silver coated glass beads (SF788) were found loose in the tomb fill.

**Area 4**

This area was laid out between the extant zones of stepped tombs in an area that appears from earlier surveys and aerial photographs to have contained some substantial built tombs and some large shaft burials near Area 3. This area was recorded by Daniels as being ringed by the stepped tombs and could thus represent the earliest core of monumental burials at the site. Unfortunately the burials here had been heavily robbed and surface traces erased.

*Figure 3. TAG001. T245 (a) general view of burial showing impression of baskets in front of skeleton and incense burner behind where head would have been; (b) detail of the incense burner.*
by bulldozing. Seven burials were examined (T250, T252, T255, T259, T266, T269, T272).

**T259** was a burial below the base of a square tomb superstructure (1267) uncovered on the western extension of Area 4. This appears to have been an earlier monumental tomb of distinctive type in the central area of the cemetery – perhaps a simple square tomb (type 4b). Three sides of the original base were found in situ, whilst the eastern side was highly damaged by robber cut (1350) and the recent bulldozing of the cemetery. The base consisted of two layers of large rectangular and squared stones (c. 2.80 x 2.80m and c. 0.50 m in width) arranged horizontally on the upper side. Three larger and flat stones were found at the corners that remained undisturbed. The robber fill (1289) was composed mainly of sand and gravel. The impressions of several stones, possibly part of the stone lining for the chamber of the tomb, were noticed at the side of the grave. No finds were recovered from the robber fill apart from a small amount of very poorly preserved human bones. The tomb fill (1290) preserved the impression of a number of features defining a low rectangular platform in the base of the tomb – for instance, there were two parallel negative impressions for possible wooden lining elements. The raised platform seemed to have been delineated by a lining of smaller stones inside a large stone lining (1292) surviving at the southern edge of the tomb. It is not possible to say if this lining was part of the original stone lining which fell inwards. At the eastern corner of the tomb, adjacent to the stone lining the impression of a possible wooden bowl was also uncovered.

**T272** was a large cairn tomb (2.25 x 2.10 m and 0.70 m deep) on the north east side of Area 4. The tomb was marked by a large ring of stones. The robber fill (1335) contained a number of beads (SF900, 117 ostrich egg-shell; SP904, two short tubular glass beads; SP905, two turquoise short tubular glass beads; SP906, three banded agate tubular spacers; SP907, a carnelian facetted truncated bicone and SF908, a carnelian lozenge bilaterally flattened bead). Disturbed human remains were recovered from the robber fill along with a clump of hair.

**Area 5**

This 5 x 10 m area was located to the west of Area 3 and comprised part of an extensive zone of shaft burials on the south-western fringes of TAG001 (the eastern part of Daniels area C, see Mattingly 2007, 65). These tombs lay just beyond the western extension of the southern range of stepped tombs and were suspected to have an earlier date as well as a different typology from those monumental burials. It was undisturbed by modern machine truncation. Seven shaft burials were excavated (T253-T254, 257, T258, T260-T262). With an average depth of c. 0.50 m, the shafts were generally much shallower than examples previously excavated by the DMP at Zinkekra or Watwāt and were also more poorly furnished.

**T257** was a sub-circular shaft burial (1231) measuring 1.00 x 0.86 m, with a maximum depth of 0.51 m. It had been disturbed by robbing from the north-east. The loose robber deposit (1212) contained disarticulated human bone. Well-preserved articulated human skeletal remains (SK1230) were found in the compacted tomb fill (1267) and recorded in situ. The skeleton lay on the right side in a crouched position on an east west alignment, with the skull to east and facing north-east. Evidence of matting (SF757) was found directly below the skeleton. The impressions and fragmented remains of up to four organic containers that had been placed together in then tomb to the south of the skeleton were recorded. These included a gourd bowl (SF756), a fragmented date palm wood container with evidence of use (SF755) and two further containers of an unknown material (SF759, SF753), of which only impressions in the tomb fill survived.

**T253** was a sub-circular shaft burial (1236) measuring 1.24 x 1.30 m, with a maximum depth of 0.50 m. There is evidence of upright slabs (1240) surviving from a stone lining. The tomb had been robbed from the north (1234) where the robber cut appears to extend towards Tomb 261. The deposit from the robbing episode (1235) contained disarticulated human bones and pottery including fragmentary sherds of a Garamantian decorated tripod incense burner. Tomb fill (1235) contained articulated skeletal remains (SK1239) which were recorded in situ. The remains lay in a crouched position on the right side with the head to west and facing south and in an east to west alignment. The left side of the body had been heavily disturbed. Matting (SF760) with evidence of a criss-crossed weaving pattern was recorded beneath the area where the body lay.

**T261** was a sub-circular shaft burial which had been robbed from the east. It measured 1.33 x 1.37 m, with a maximum depth of 0.54 m. The tomb was cut directly into the natural geology. The loose fine sand fill (1271) of the robber cut contained disarticulated human bone, sherds of Garamantian pottery and a fragment of thread or cord (SF778). The tomb fill was excavated but no articulated human skeletal remains were observed. Directly above the
natural base of the tomb cut (1294) were the in situ remains of preserved organic material, including matting (SF783) covering an area of 0.45 x 0.72 m. Fragmentary and fragile remains in varying states of preservation and impressions of textiles (SF782) were recorded in five locations above the matting. Beads (SF784, SF793, SF794, SF795) of different types were observed clustered together within the tomb fill at the same level as the organic remains, together with some surviving thread (SF796) made from vegetable fibre. These were not in situ. The fill also contained a piece of coloured cordage (SF903) as well sporadic and poorly preserved leather fragments (SF785). The impressions and partial preservation of two oval bowl-shaped containers (SF780, SF781) were recorded to the south of the matting. Both had a width of approximately 170 mm and the upper one (SF780) a length of 200 mm. SF780 was made from gourd and SF781 from an unidentified material. Garamantian pottery was also present in the tomb fill. No other finds were found.

**T262** was another sub-circular shaft burial (1277) with a stone lining of upright sedimentary slabs (1276) positioned up against the tomb cut. It measured 1 x 0.94 m, with a maximum of 0.45 m in depth. The tomb had been disturbed by robbing and the cut (1274) for this followed the stone lining. The robber fill (1273) consisting of loose sand contained assorted disarticulated human bone remains and no other finds. The more compacted reddish yellow sand tomb fill (1275) contained well preserved articulated human skeletal remains (SK1301) which were recorded in situ. The body was incomplete, in a crouched position on the right side, with the skull facing downwards. The skeleton was disturbed but appeared to lie on a northwest-southeast alignment. Both the arms and the legs were flexed with the hands under the head and the feet in situ. Two handmade pottery vessels (SF776, SF777) were excavated and recorded in the fill of the tomb (Fig. 4). SF776 was decorated and located by the knees to the southwest edge of the tomb cut (1277). SF777 was on top of the right and below the left foot. No other finds were observed in this tomb.

**Area 6**

This 5 m by 5 m area was located c. 30 m west of Area 5 to provide a comparative sample towards the west end of the area of shaft burials on the southwest fringe of TAG001. Areas 5 and 6 both sample what from the surface appeared to be a uniform zone of shaft burials, undisturbed by recent machine truncation. Four burials were excavated (T267–T268, T270–T271).

**T270** was a sub-circular shaft burial (1326) cut directly into the natural. Dimensions were 1.24 x 1.30 m, with a maximum depth of 0.54 m. Disarticulated human bones were recovered from the loose fine sand robber deposit (1323). The tomb fill (1325) contained well preserved but disturbed human skeletal remains of two legs (SK1327). Both legs were flexed and lay in an east-west alignment with the feet in situ. Below the remains were preserved organic materials. These included surviving fragments of textiles (SF902) and the remains of a possible leather shroud (SF799). Between the skeleton’s knee and the edge of the tomb cut the impression of a wooden, oval bowl-shaped container (200 x 120 mm) was recorded with surviving wooded fragments (SF798). No other finds were observed from this tomb.

**Dating**

This Garamantian monumental cemetery produced mainly Classic Garamantian pottery. Some African (probably Tunisian) amphorae were found outside the tombs in fragments. Area 3, which contained a mixture of stepped tombs and large shaft burials (the latter may be earlier), produced proportionally more finds in the
tombs, with a second to fourth century Roman Tunisian flagon (T244 SF596) and a two-handled Roman Tunisian flagon with grooved decoration on the upper part (T264 SF787). Last year this area produced a number of incense burners (T234 and T240). In Area 4 (an area of large shafts and early tombs), T266 contained a Roman Tunisian flagon, as did Area 6 shaft burial T266, probably second to fourth century AD.

In general, there was very little pottery from the 2010 excavations which is at first sight surprising for burials from this period. This may be explained by the fact that many of the tombs excavated had been either thoroughly robbed or were lower status burials, as seems to have been the case in Areas 5 and 6 particularly. The latter possibility is supported by the fact that we found more handmade offerings in the tombs, such as the small globular pots (see Fig. 4) in A5 (SF776 and SF777) which, with their narrow round openings and very rounded bases may have been made specifically for funerary use, suggesting strong indigenous traditions. Traces of a large number of organic vessels were also recorded this year – including wooden bowls, baskets and gourds.

There was also a fine handmade incense burner with incised and painted decoration in A3 (SF758), probably Late Garamantian at the earliest (as for example TAG012 T2 SF511 and T3 SF420). A fragment of the earlier tripod style incense burner from Area 5 seems to offer some confirmation that the shaft burials there are of earlier date than the stepped monumental tombs of Area 3. Finewares appear to have been rare on the site but there was a sherd of an ARS D shallow dish in A4 (T269 context 1321), which dates to the fifth century and may not be connected to these burials.
Excavations at TAG012

By Matthew Hobson, Nadia Khalaf and David Mattingly, with Hafed Abduli, Hamza Aburgheba, Muftah Ahmed, Misbah Ali Ahmed Esmaia, Toby Savage, Katia Schörle and Victoria Leitch

At TAG12 the excavation area begun in 2009 was extended to the east and to the south in order to create a 20m by 20m square. During the 2010 season six tombs were excavated: Tombs 5 and 6, which had been identified in 2009, and Tombs 13–16, which were newly uncovered. A further four new tombs were identified (17–20), but each lay only partially within the excavation area and therefore remained unexcavated. An aerial kite photograph was taken of the site in the middle of the season in which all of these tombs are visible (Fig. 5).

The TAG12 cemetery consists of densely packed square, rectangular and circular mudbrick tombs. Two of the tombs (2 and 20) may have been pyramid tombs judging from the amount of collapsed mudbrick revealed around their platforms. It is possible the other tombs within the excavation area consisted only of rectangular mudbrick platforms – often (or always) adorned with offering tables and stelae, of which only a few survive intact. The cemetery has suffered from systematic robbing and none of the upper level tombs excavated by this project have remained untouched by this activity. One of the key objectives of the 2010 season was to excavate below the level of the upper tombs to determine whether or not there were earlier tombs below which remained unrobbed (this was the case with Charles Daniels’s excavation at the similar mounded mudbrick cemetery at Sāniat bin Huwaydī – see Mattingly 2010, chapter 5). The north-eastern corner of the excavation was chosen for this purpose.
The three main tombs excavated in 2010 are described below, followed by a short provisional summary of our results and conclusions.

**T5** Tomb 5 had a square mudbrick platform measuring 3.8 x 3.8 m and 0.8 m deep. Two low mudbrick walls extended from its eastern corners measuring 1.4 m in length, forming a courtyard area on the eastern side of the tomb. No trace of either stelae or an offering table was left, and it is likely that these were disturbed by the large robber cut (711) into the eastern side of the platform. The chamber was rectangular, measuring 1.95 x 1.65 m in plan and 1.21 m in depth, cut through hard whitish natural visible at its base. No human remains were recovered from either the fill of the robber cut or the intact fill of the chamber. However, at the western end, a more or less intact amphoroid flagon (SF700) and a fragmented incense burner were found (Fig. 6).

**T6** This tomb had a 0.88 m deep, almost square mudbrick platform measuring 3.1 x 2.85 m in plan. In similar fashion to Tomb 5, two walls formed a courtyard on the tomb’s eastern side. Here again, robbers had entered from this side of the tomb, probably removing the offering table and stelae. Although partially robbed and containing no trace of human remains, Tomb 6 had an impressive collection of finds, concentrated around the edges and in the corner of the chamber. An amphoroid flagon was located at the eastern end, whilst in the north-west corner a broken upturned African Red Slip Ware (ARS) Form 67, dated to the mid-fifth to sixth century AD (Hayes 1972), and two other flagons were located (Fig. 7b). Interestingly, in the centre of the tomb a broken ARS Form 6 of second-century date was found. Fragments of two incense burners were also recovered along the northern edge of the tomb. The tomb further contained an array of metallic artefacts, which is generally uncommon for tombs in the area. These included a small copper alloy bell (see Fig. 10b) and a selection of rivet plates. A collection of beads was located within the bottom fill (707); these were recovered not in situ from the south-west corner of the tomb. Finds were also found during sieving and were recorded under context number (710). Particularly worthy of note from the sieved finds was a small fragment of gold sheet with impressed design (SF702), presumably part of a larger item that will have been a prime target of the tomb robbers (Fig. 10a). The lower deposit (707), where most of the finds were located, was of a sandy composition with clay intrusions. It was mid to light yellowy orange with a dense compaction which could be re-deposited natural. The densely compacted areas of fill appeared to be undisturbed by the robber and the density of finds within this material suggests that this was originally a very richly furnished tomb. It is also apparent that at the time of first closure, the tomb was infilled with densely packed sandy natural. The absence of skeletal elements suggests that until recently the water table beneath the cemetery has been very high and that bone has not survived well (as was the case at Sāniat bin Huwaydī – see Mattingly 2010, chapter 5).

**T13** This was a circular mudbrick tomb with a 1.1 m external diameter, possibly the tomb of an infant or a child (Fig. 8). This tomb was stratigraphically earlier than all of the other tombs at TAG012 as it was sealed by a windblown silt deposit upon which the upper tombs were built. The shaft (715) had a diameter of 0.78 m and was 0.55 m deep. No obvious robber cut was identified, but the finds, consisting of various beads and a bangle, with no trace of bone, appeared somewhat jumbled. The fill (716) was a mid orange-brown sandy silt. Finds recovered...
from sieving were recorded under context number (717). It is possible that this was an unrobbed child burial with a small number of beads and a bangle accompanying a body that has entirely decomposed in wet conditions due to a high water table until the recent past.

Two tombs had preserved funerary furniture:

T16 The tomb was located towards the south-western extent of the excavation. It had a 1 m thick square mudbrick platform measuring 3.6 x 3.4 m in plan, with a courtyard on its eastern side measuring 3.4 x 2.8 m. A type 5 four-point stele was still in situ in the centre of the eastern side of the platform (Fig. 9a). A robber event (719) had cut through the top of the platform and descended to the base of the chamber.

T17 Only Tomb 17’s northern half lay within the excavation area and as a consequence was not excavated. This tomb did, however, possess a complete set of funerary furniture comprising a type 5 four-point stele with an offering table on its eastern side (Fig. 9b).

Dating
Previous investigations revealed this to be a monumental Garamantian cemetery with a mixture of mid and late Roman pottery suggesting a Classic to Late Garamantian date. What was curious about the tomb assemblages in 2009 was the chronological mix of material within the same tomb: T3 produced a mid Roman Tripolitanian amphora of the second to third century AD alongside a stamped TRS dish, not earlier than the mid fifth century. This theme continued in 2010 with T6 containing a Hayes 3 ARS fragment of the early first to second century AD, a Hayes 6C of early first to end second AD but also a Hayes 67 with a decorated base of palm fronds and circles of mid/late fifth to sixth century AD and a very small fragment of a possible Hayes 68 of the late fourth to early fifth century AD. Finally, two well-made Roman Tunisian flagons (SF864, 865) have parallels in the second and third century centuries AD, one of which was pierced in the side post-firing perhaps for ritualistic purposes. T12 produced two intact amphorae: SF518 is a squat amphora with a cream slip and a combed, wavy decoration around the neck; the dark red quartzy fabric is typical of central Tunisia and the form would suggest a late Roman date; SF519 is a Tripolitanian amphora similar to AF AM 26 of the second to third century AD. Alongside the amphorae was a Roman Tunisian flagon similar to AF CW 243 with a rouletted decoration on the outside and a fine red fabric and slip, perhaps third to fourth century AD. T16 revealed a Tripolitanian amphora with a pinch-decorated collar, similar to AF AM 38, suggested as late Roman (third to fifth century AD) and fragments of Roman Tunisian coarsewares. T5 produced a single badly
made amphoroid flagon with two handles and a poorly articulated rim; the fabric looks to be Tripolitanian. This is difficult to date but the poor quality could point to the Late Garamantian period. In summary, the TAG012 tombs generally appear to be Late Garamantian, certainly stretching to at least the mid/late fifth century AD. The volume of imported pottery (and some glass) suggests high status burials. The earlier finds included in burials could be explained as heirlooms, though this seems doubtful given the timespan covered, or perhaps more likely these artefacts were reused from earlier tombs in this or another nearby cemetery. The persistent presence of Classic Garamantian material in the tombs and surface collection at the site is a strong indicator that the cemetery has burials of that date too, though not clearly attested in the small sample of the mound excavated by us. The stratigraphically early drum tomb is an indicator that the cemetery had an earlier phase, though this phase was not intensively represented in the excavated area.

Osteological Report
By Efthymia Nikita and Marta Lahr

During the Desert Migrations Project 2010 the skeletal material of 44 individuals was recovered and examined. Given the fact that numerous tombs had been looted by tomb robbers, it was considered important to examine the state of preservation of each skeleton independently. Overall, 13 skeletons had signs of discoloration and 42 were extensively fragmented. Nevertheless, the average weathering level, following Buikstra and Ubelaker’s (1994) standards, was 1.15, while in 14 cases cartilage was preserved on some of the joint surfaces.

With the use of standard osteological methods, the sex and age of the individuals was determined. In total, 17 male and 23 female individuals were identified. The sex of the remaining 4 skeletons could not be determined since they were sub-adults, and any sex estimation based on osteological criteria would have been unreliable. The age groups in which the individuals were divided, along with the number of individuals in each of these, are given in Table 1.

The main pathology affecting the examined individuals was arthritis and was identified on 13 skeletons. It was principally expressed on the long bone epiphyses, the clavicles, the patellae, and the hand and foot bones. In addition, vertebral osteophytosis was seen on 15 skeletons, being more pronounced on the lumbar and cervical vertebrae. Antemortem tooth loss was widely distributed, given that it was seen in 18 dentitions, affecting mainly the posterior mandibular and maxillary teeth of both elderly and younger people. Other dental diseases observed included caries, abscesses and periodontal disease. Fractures and exostoses were scored on six individuals and one case of possible trephination was also recorded. Two individuals demonstrated spina bifida. Finally, one cranium had cribra orbitalia and one porotic hyperostosis, both possible signs of anemia.

Several measurements were obtained from the postcranial elements, where these were well preserved, in order to assess the growth rates and the musculoskeletal activity of the Garamantes. For the latter, moulds were additionally taken from the long bone diaphyses and the clavicles. For the potential examination of the biological affinities of the Garamantes to other African groups, all sufficiently preserved crania were digitised according to a protocol formulated by Dr M. Lahr, while non-metric traits were scored for the same elements.

Archaeobotanical Information
By Anita Radini, with Katia Schörle

The material found in DMP 2010 came from the tombs in the cemeteries of Taqallit. The material from the tombs consisted mainly of date stones (Phoenix dactylifera L., fruit stones). The most important of these remains came from two tombs in which the date stones were found within the impression of basins or flat dishes, and one tomb (TAG001.T258) in which the dates were found in a single batch and in great quantity.

TAG001
Area 3
T245 5 date stones SF763 were collected from fill (1221) above the impression of an in situ woven flat dish/basket.
T256 2 date stones SF790 were found in a similar context within the impression of a woven basket located at the southern edge of Tomb 256; 2 more date stones were collected in fill (1245) from the same tomb.

Area 5
T258 60 date stones SF767 in tomb fill (1252) were found as a single batch in the area of the skeleton’s elbow. These were the best preserved date stones found so far in the cemetery of TAG001, but were nonetheless in a poor state of preservation.

TAG063
T20 4 date stones were found loose in fill (1413) in a very poor state of preservation.

Despite the relative scarcity of botanical material produced in the 2010 season, it provided important and new information on the burial practices of the Garamantes. Several date stones were recovered in loose tomb fills during previous years of excavations at the TAG006, Zinkekrā and Wātwaṭ cemeteries. This year, however, the finds of date stones in situ, within baskets/dishes, indicates that the dates were deliberately placed in the tombs as part of the ritual offerings. It also suggests that dates found previously within tomb fills are equally to be considered ritualistic offerings. The poor state of preservation of the date stones that were found also indicates that as a whole the dates probably did not preserve well in the tomb environment but may have been present in greater numbers in these and other burials. These finds highlight not only some of the funerary and ritualistic practices of the Garamantes, but also the role of dates in everyday life, in terms of agricultural production and consumption.

Small Finds
By Franca Cole

Metal artefacts
While metal finds have been relatively uncommon in previous seasons, the small number of copper alloy and iron finds recovered from TAG012 continue to demonstrate that metal items were placed with the burials and may have provided a focus for later looting. A single fragment of gold foil TAG012.T6 (SF702) with repoussé decoration, may give a clue as to the wealth of artefacts originally associated with the burials (Fig. 10a). Iron finds included personal items such as jewellery, with finds including an iron ring (SF814) found at TAG021, and iron bangles (SF993 and SF976) at TAG012.T13. Other iron finds from TAG012 included nails (SF707, SF713–714, SF727, and SF752) and rivet plates (SF705, SF709–710), indicating the presence of now-decayed wood or leather items in the tombs. Rivet plates of a similar design, but made from copper alloy were also found at TAG 012.T6 and T15 (SF708, SF722–723 and SF743).

The most unusual metal find of the season was a miniature bell made from copper alloy, TAG12.T6 (SF703). Conical in shape, with a hanging loop at the apex, the bell had an iron clapper fixed with a wire through a hole at the top, and would have been functional as well as decorative. The body of the bell consists of groups of rings interspersed with fretwork triangles, and was probably cast in a mould made on a filigree-wire original (see Fig. 10b).

Beads
As in previous years, beads were the most common item of material culture found in the burials. The majority of burials excavated this season produced ostrich eggshell beads, and blue glass beads were also common. More unusual finds included segmented silver-gilt glass beads (Fig. 10c) from TAG001. T261 and T256 (SF764, SF784 and SF788), and large stone beads (SF804–805) from TAG063.T20. These larger beads are thought to be indicative of chronologically-earlier burials. The silver-gilt glass beads were made by sandwiching two strips of silver foil between two layers of glass, which were then melted together. The beads from TAG001 burials T256 and T261 were near-identical, suggesting that they had come from a single production batch. This type of bead has not been recovered from either survey or excavation previously.

Gourds
In contrast to previous years, gourd fragments from the tombs were undecorated and tended to be parts of large vessels. Fragments recovered this season included TAG001.T261 (SF780), and T257 (SF257), these probably representing parts of simple bowls or containers for food offerings placed in the tombs, as demonstrated by the date stones found in the T257 example.

Textile
While small shreds of textile and occasional woven fibres from TAG001 and TAG012 continued to demonstrate that the majority of people buried at Taqqalit were wrapped in shrouds, textile finds were poorly preserved and little was recovered this year. The only significant textile find of this season was a 45cm fragment of a large shroud from TAG065.T20 (SF806). The structure of the textile was similar to examples found
at Watwât in previous years, and included fragments of a bound edging, constructed from two coarse threads, bound together in a figure of eight, then tightly overbound with a coarse, non-spun thread to create a thick, near-rigid edge. This was not an integral selvedge and was attached to the main textile by sewing, using a loose running stitch. The thread used to make this join had decayed, leaving only the perforations to show its original construction. A single parallel for this edging was recovered from excavations in UAT008 in 2007. Other finds from burial TAG063.T20 indicate a relatively early date, and it is possible that this type of edging may be a chronologically-diagnostic feature for the Proto-Urban Garamantian phase. The main body of the textile was plain, and woven as a single weft-faced piece: Warp 7/cm, tight z-spun; Weft 14/cm, no visible spin, with no indications of the cloth having been dyed or coloured.

**Matting**

Traces of vegetal fibre matting were found in a number of tombs this season, both above and below bodies. Fibres were poorly preserved and weave details were largely preserved as impressions of the weave made in the dried silt of the tomb matrix. Two types of mats were employed, each made from the same fibre. The first type was made by sewing a fine Z-spun thread through individual matting fibres (as at TAG063.T20, SF807). The second was made from bundles of the same matting fibres, bound with paired cords made from plaited fibres of the same material (TAG001.T245, SF761).

**Minerals/Pigments**

Two of the most unusual finds of the season were compressed clumps of mineral pigment: a fist-sized piece of ochre from TAG063.T8 (SF800), and a smaller piece of worked, fine-grained gypsum from TAG050.T3 (SF818). The gypsum piece (SF818) had one naturally-rounded side and two worked facets, retaining striations indicating the piece had been used, or ground along a surface prior to being placed in the burial. The piece of ochre (SF800) had been coated or mixed with a binder to form a compact surface crust, protecting the finely-divided powder of which the core was composed. Whatever this binder was – possibly a fat or a wax – the surface of the ochre became sufficiently compact to retain the impression of a coarse, three-

![Figure 10. Finds from TAG001 and TAG012. (a) Fragment of gold from TAG012.T6; (b) Copper alloy bell from TAG012.T6; (c) Silver gilt beads from TAG001.T621.](image)
plied cord that had been knotted across its upper surface. The string-impressions did not continue into the underside of the ochre, which instead retained three shallow, parallel grooves – finger-impressions from the hand in which the ochre was found. The position of these grooves, seen in combination with the position of the string-marks, indicate the ochre to have been tied onto the hand in which it was found. While ochre finds in burials were reported by both Ayoub and Daniels (Mattingly 2010, Chapter 5), the detail and preservation of this piece adds a new perspective to our knowledge of Garamantian funerary practices.

Main Conclusions
By David Mattingly, Mireya Gonzalez Rodriguez, Matthew Hobson and Victoria Leitch

The 2010 work of the Burials and Identity team has seen the completion of the planned phase of excavation at the Taqallit cemeteries and has established a detailed landscape context for their interpretation (see below DMP X). Excavation in 2010 was focussed at TAG001, TAG012, TAG021, TAG050 and TAG063, which have been briefly summarised above. Table 2 shows the distribution of pottery by site, including sherd counts by ware and periods of activity. For TAG001, TAG012 and TAG050 the figures also include the counts from the 2009 investigations.

It has proved difficult to identify burials of Early Garamantian date at Taqallit, possibly because this area was not densely settled before the Proto-Urban period. Burials of Proto-Urban Garamantian date are notable for the relative paucity of pottery finds associated, with such material as has been recorded seemingly placed as offering vessels outside the tombs. Aside from a small number of beads, these burials mainly contained organic materials – matting, leather shrouds or bags, textiles and some offerings of dates. The contrast with the Classic and Late Garamantian periods (as represented at TAG001 and TAG012) is very striking, as is the relative consistency of types of imports included in burial assemblages between Classic and Late periods.

The wealth of the communities in the ad-Dīsa, Taqallit and al-Hatīya areas is demonstrated by the scale of consumption of Mediterranean goods on settlements and in cemeteries, by the finds of beadwork (especially the necklaces from TAG001 utilising semi-precious carnelian and amazonite beads) and, perhaps most tellingly, by the fragment of gold from a robbed tomb at TAG012. This provides us with a tantalizing glimpse of what motivated the generations of tomb robbers who have dug into such a large percentage of the funerary monuments in the district, even if such rich goods were in reality limited to the largest and most prestigious tombs.

Acknowledgements

The work in the 2010 season involved 29 foreign nationals and 10 Libyans, participating on three sub-projects of the DMP. The bulk of the team was in the field from 2 to 27 January 2010. We are most grateful to our colleagues in the Department of Antiquities in Tripoli, Sahba and Jarma for all their inputs that facilitated the work of the project and enabled us to achieve the results reported above. Special thanks are due to Dr Salah Aghab, President of the Department, who has given his total support to the programme as well as offering material assistance through his staff and facilities. The Controller of Fazzan, Mohammed Mashai, has been involved with the work in the field and gave support when required. Libyan personnel in the field were: Muftah Ahmed (Leicester, excavation); Hamza Abourgheba (Misuqrat, excavation); Mishbah Ali (Tarhuna, excavation); Saad Salah Abdul Aziz (DoA Jarra, excavation); Jamal Mohamed Ahmed (DoA Jarra, excavation); Gaffur Mahdi (Jarra, excavation); Saad Ahmed Mohamed (DoA Jarra, excavation); Abdul Rahman Kedima (DoA Jarra, excavation); Abdul Rahman (DoA Jarra, excavation); Aburawi Abdusaleem (Jarra, excavation). As in past years we benefited from the excellent cooking of Suleiman Mohammed and Mohammed Koraman. As the responsible person for foreign missions, Saad Salah Abdul Aziz deserves special mention for his careful attention to the diverse and sometimes complicated needs of a large group, which he always sorted out with his characteristic efficiency and good humour. Mustapha Turjman from the Tripoli office provided indispensable service in the processing of the visa applications.

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**Table 2: The pottery from Taqallit (sherd numbers).**

<table>
<thead>
<tr>
<th>SITE</th>
<th>PERIOD</th>
<th>AMPHORA</th>
<th>COARSEWARE</th>
<th>FINEWARE</th>
<th>HANDMADE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAG001</td>
<td>PUGAR, CGAR, LGAR</td>
<td>83</td>
<td>123</td>
<td>12</td>
<td>190</td>
<td>415</td>
</tr>
<tr>
<td>TAG012</td>
<td>CGAR, LGAR</td>
<td>12</td>
<td>29</td>
<td>18</td>
<td>63</td>
<td>122</td>
</tr>
<tr>
<td>TAG021</td>
<td>CGAR</td>
<td>15</td>
<td>6</td>
<td></td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>TAG050</td>
<td>PUGAR, CGAR</td>
<td>52</td>
<td>28</td>
<td>1</td>
<td>108</td>
<td>189</td>
</tr>
<tr>
<td>TAG063</td>
<td>PUGAR, CGAR</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>
Non-Libyan personnel were as follows: Hafed Abduli (Université de Sousse, excavation); Dr Simon Armitage (Royal Holloway, scientific dating expert); Stephen Baker (ULAS, excavation); Franca Cole (Cambridge, Finds, conservation); Federica Crivellaro (Cambridge, survey, genetics); Dr Nick Drake (Kings College, London, palaeoclimate); Corisande Fenwick (Stanford, excavation); José Maillo Fernández (Madrid, lithics, survey); Professor Robert Foley (Cambridge, human evolution); Jan Francke (Kings College London, GPR); Mireya Gonzalez Rodriguez (Leicester, excavation); Cornelius Halladay-Garrett (Cambridge, lithics, survey); Matthew Hobson (Leicester, excavation); Nadia Khalaf (Oxford Archaeology, osteology); Victoria Leitch (Oxford, pottery); Professor David Mattingly (Leicester, Director, excavation and Taqallit area survey); Farès Moussa (Edinburgh, excavation, and Taqallit cemetery survey); Efthyenia Nikita (Cambridge, osteology); David Parker (ULAS, excavation); Adam Purdon (Cambridge, lithics, survey); Anita Radini (ULAS, excavation, archaeobotany); Dr Nick Ray (Leicester, excavation); Toby Savage (Leicester, kite photography and finds photography); Katia Schörle (Oxford, excavation); Martin Sterry (Leicester, GIS and Total Station survey); Dr Djuke Veldhuis (Cambridge, survey, lithics, foggara descent); Alexis Wilshaw (Cambridge, survey, excavation, lithics); Professor Andrew Wilson (Oxford, foggara survey and descent survey).

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