



SIDON AND TELL EL-DAB'A: TWO CITIES - ONE STORY A HIGHLIGHT ON METAL ARTEFACTS FROM THE MIDDLE BRONZE AGE GRAVES

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SIDON

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Many artefacts expressing wealth and status and consisting mainly of weapons and personal ornaments have been found in the Sidon Middle Bronze Age graves. Although some of this material has already been published elsewhere, the aim of this article is to assemble all metal artefacts found to date in order to illustrate the range of objects involved and their position in the graves thus highlighting the different combinations of weapons together with jewellery deposited as funerary offerings. A comparison with the Tell el-Dab'a material was undertaken in an attempt to show the close similarities between the material uncovered in the graves of the two sites.

The beginning of the Middle Bronze Age at Sidon is marked by a thick layer of fine sand ranging from 90 cm to 1.40 m deep. This sand was brought from the nearby seashore and deposited in great quantity on the site before a new phase of building commenced. The Sidonians cleaned the sand¹ of any dark inclusions beforehand to produce a pure sand layer. This phenomenal enterprise, which must have taken weeks of hard labour, occurred at the end of the third and the beginning of the second millennium BC when the site experienced a major change of function. A variety of grave types is evidenced over time and the physical aspect of the burials in Sidon's phase 1 is that of constructed grave in stone or mud brick with the deceased all individually placed. Most of these belonged to "warrior burials" with weapons deposited in the graves but one child burial with weapon and jewellery and one female burial were

TELL EL-DAB'A

KARIN KOPETZKY

Metal artefacts were found in Tell el-Dab'a mainly inside tombs but also in settlement layers dating from the second half of the MB IIA onwards¹. In this article only those artefacts which have parallels at Sidon were taken into consideration. Tell el-Dab'a's MB layers containing burials start in the late 12th dynasty². The earliest tombs were organized in parallel rows and found in a garden-like area south of a large building later identified as a "Mittelsaalhaus" dating to Phase H. They belong to early Canaanites who settled on the site undoubtedly with the acquiescence of the ruling authorities. Although these settlers quickly adapted and assimilated the customs and styles of the predominant Egyptians nevertheless they retained their own burial customs which display their Canaanite origins. Amongst these mud brick structured tombs were several "warrior-burials". This type of burial is well-known in early MBA Syria, Lebanon and Palestine, with its most southern out-crop appearing in Tell el-Dab'a in the north-eastern Nile delta of Egypt³. The chronological antecedents of this burial type are usually found either in small cemeteries surrounding a temple precinct or in-between the houses of the settlement⁴. Unfortunately as a number of these tombs were heavily looted the metals under discussion were not always found *in situ*.

It is generally thought that weapons as burial goods are associated with a certain social group thus indicating a specific social status. However one has to be careful not to overgeneralize the origins of these people

SIDON

also found. These male burials are symbols of the "heroic" warrior, a phenomenon occurring at the beginning of the second millennium throughout Western Asia⁵. Weapons, of which 19 have been found in Sidon so far, do not represent in this case the military equipment of armies but rather that of an elite. A certain distinction can also be seen in the weapon deposition in the graves which clearly decreases from Sidon's level 4 (MB IIA/IIB) onwards. In MB IIB only one dagger and one spearhead were found. A case in point, the knife, of which 5 in total were found and which was not used as a weapon, is present from the end of the Middle Bronze Age IIA in both male and female burials thus reflecting on the ceremonies that took place at the time of burial. Luxury items again appear in some of the constructed graves from level 5 and 6 (MB IIB) but what has changed is that grave goods no longer carry the same symbolic aspect of the earlier burials even though they still reflect a high social status.

The terminology of 'phases' and 'levels' has been used in this article with the consciousness that the stratigraphy of Middle Bronze Age Sidon is still under study and the excavation still ongoing. The three phases (1 being the earliest phase on top of the Early Bronze Age and 3 dating to the end of MB I/IIA) correspond to three different stages of the MB IIA occurring in the chronological evolution of burials and objects found in the sand level, bearing in mind that it would otherwise be impossible to delineate the time span involved because of the unstable nature of sand. Level 4 refers to the first occupation above the sand (MB IIA/B) and levels 5 and 6 to the MB IIB. Levels 7 represent the later MB IIB/C stretching in level 8 to LB I.

TELL EL-DAB'A

as a one ethnic group, since these types of burials are to be found all over the Levant. Nevertheless, the tombs of Tell el-Dab'a and Sidon share with each other more than the usual markers found in Levantine MB sites.

Aside from the various weapons found in the Tell el-Dab'a tombs, other objects such as jewellery or metal vessels were also discovered. Most of these are considered beyond the reach of the average occupier and therefore valuable and costly, which would thus restrict their ownership to only a small elite. Unfortunately, due to the above-mentioned looting hardly any gold and silver objects were found. The paucity of rare metal objects in the tombs can also be accounted for by other considerations. Silver is very susceptible to climatic changes. In addition, due to the irrigation of the fields in the area where the ground water-level changes frequently and only a greyish-purple discolouration hints at the existence once of metal, their rarity in Tell el-Dab'a is not surprising. In Egyptian tombs of the Middle Kingdom silver objects were much rarer than gold objects⁵. Whereas along the northern Levantine coast (i.e. Sidon, Byblos) more silver and combined gold and silver objects were retrieved from tombs thus attesting a closer proximity to the main mining areas of this metal.

In the tombs of Tell el-Dab'a, weapons are restricted to male burials only. Some weapons appear in sets such as the combination of axe and dagger. The latter was either stuck in a belt or carried around in a scabbard fixed to leather bands around the chest or hips⁶. Spears were found in pairs in most cases⁷. G. Philip connected the deposition of the combination of axe and dagger with the idea of an individual "heroic" warrior and thus qualified the combination as being particularly indicative of male high status burials⁸.

SIDON

Weapons

Axe-heads

Total 5

Type of burial: constructed.

Four fenestrated axes, the so-called “duck-bill” axes³, and one notched-chisel axe-head were found in Sidon⁴. All belong to phase 1 and were found in adult male constructed burials except for burial 78 which belongs to an adolescent. Out of five axes, four were found with spears and only one with a dagger. All were found near the head or the shoulder of the human remains. One axe (S/1820, p. 12), placed under the head finds its closest parallels at Baghuz⁵. Two duckbill axes were particularly interesting as they had no practical use thus carrying a significance far beyond their use as weapons and indicating that they were either made for ceremonial purposes or for placement in the burials as a sign of rank⁶. The socket of axe S/1820, (p. 12) was sealed with a knob on either side. This meant that because it was not possible to insert a wooden shaft in the socket, the axe was never designed to be used. The other is a miniature bronze fenestrated axe-head (S/4149, p. 14) too small to be of any practical use. Miniature fenestrated axes have been reported in Baghouz, Mari, Ras Shamra as well as one example from Kültepe⁷ and all closely resemble their full-sized counterparts. Three axe-heads show a straight profile (S/1820 is slightly sinuous,) which tapers gently towards the cutting edge with a thickness equally distributed. Axe-head S/3134 (p. 13) also has a much more sinuous profile with a point of maximum thickness further along the blade and showing a clear bulge just before tapering steeply towards the cutting edge. A comparative study of the duckbill axe-heads undertaken by R. Schiestl⁸ revealed differences in the ratio of length to width. Two typological groups which include both a broad and a narrower type are present in Sidon’s repertoire represented by the broad axe S/1820 found in burial 12 and by the narrow blade axe S/3003 (p. 13) found in burial 23.

TELL EL-DAB'A

Weapons

Axe-heads

Type of burial: constructed mud brick tomb, single burial.

Three different types of axes have been found at Tell el-Dab’a, whereby two (duck-bill and socketed axe with rectangular section) are dated to the MB IIA and one belongs to the MB IIB period (socketed axe with hexagonal section).

Fenestrated axe

Only one example of a fenestrated axe was found in a burial at Tell el-Dab’a in the second half of the MB IIA period. It seems as if the development of this type⁹ is chronologically rather late in comparison to other Levantine sites.

This rectangular axe has one rounded end with two oval parallel openings on the opposite site, thus giving the impression of a duckbill which gave this type of axe its name. The rounded edge is decorated with 4 incised parallel lines. In the middle of the blade between the oval openings and its rounded edge, running along its length, is a raised ridge. Inside the opening, where the blade was once fixed to the wooden shaft, traces of a bronze sheet are preserved at the upper part of the weapon. Still preserved is a nail, which is corroded to the upper opening of the blade, once preventing the blade from sliding off the shaft.

11

SIDON



Burial 12

S/1820/238 with a knob on either side

Material: bronze

Length: 10.5 cm

Length of blade: 8 cm

Length of socket (with knobs): 8.5 cm

Internal breadth of socket: 1.6 cm

Maximum breadth of blade: 5.2 cm

Maximum thickness of blade: 1.5 cm

Shape of fenestrations: ovoid

Profile of blade: tapering

Phase 1

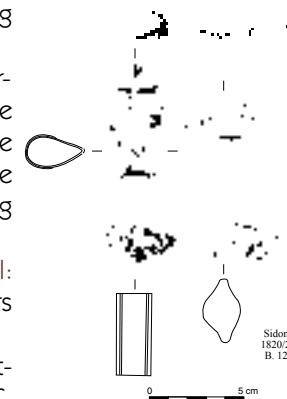


Position: under the skull with the blade facing west.

Associated with: spearhead on the floor in the wall of the grave to the left of the body near the legs, its blade facing north (see p. 20).

Sex of the individual: male, about 20 years old.

Publications: C. Doumet-Serhal, 2004, p. 98; C. Doumet-Serhal, 2004 a, p. 156-158; A. Ogden & H. Schutowski, 2004, p. 162.



TELL EL-DAB'A



F/I - o/19 tomb 8
(after: R. Schiestl, 2009, fig. 169)

F/I - o/19 tomb 8 – Ph. H

TD 6139

Material: bronze

Length: 10.8 cm

Length of blade: 6.0 cm

Length of socket: 4.7 cm

Internal breadth of socket: 2.7 x 1.25 cm

Maximum breadth of blade: 3.8 cm

Maximum thickness of blade: 1.6 cm

Shape of fenestration: ovoid

Profile of blade: sinuous



Position: Disturbed burial. The axe was lying partly on animal bones and on a ceramic bowl, near the southern long wall of the chamber, close to the former position of the head of the deceased.

Associated with: One belt north of the duck-bill axe – not *in situ*, two spearheads in-between the northern wall of the chamber and the entrance block.

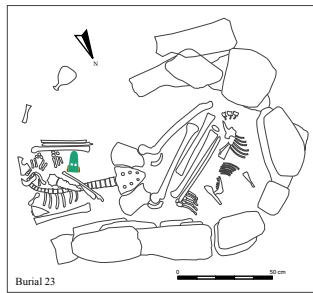
Sex of the individual: No traces of human bones preserved

Publications: R. Schiestl, 2009, fig. 190.1; *idem*, 2002, fig. 3.1; M. Bietak, 1989, p. 115, fig. 8; *idem*, 1991a, fig. 5.1; *idem*, 1991b, fig. 6, pl. 5; *idem*, 1993/1994, fig. 5; *idem*, 1996, pl. 2B; I. Hein and M. Bietak, 1994, p. 103, G. Philip, 2006, p. 32 f.



12

SIDON



Burial 23

S/3003/553

Material: bronze

Length: 11.5 cm

Length of blade: 8 cm

Length of socket: 5.1 cm

Internal breadth of socket: 1.2 cm

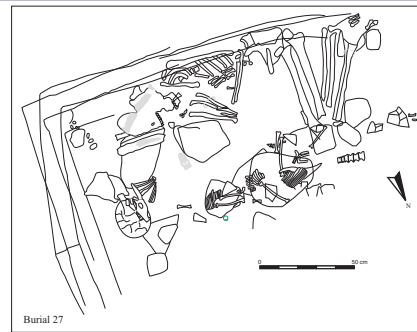
Maximum breadth of blade: 4.6 cm

Maximum thickness of blade: 2.2 cm

Shape of fenestrations: circular truncated.

Profile of blade: tapering, light rib around the fenestration.

Phase1



Burial 27

S/3134/1018

Material: bronze

Length: 10.4 cm

Length of blade: 8.2 cm

Length of socket: 4.2 cm

Internal breadth of socket: 1.5 cm

Maximum breadth of blade: 4 cm

Maximum thickness of blade: 2.5 cm

Shape of fenestrations: ovoid, with four incisions at the end of the blade.

Profile of blade: sinuous

Phase1

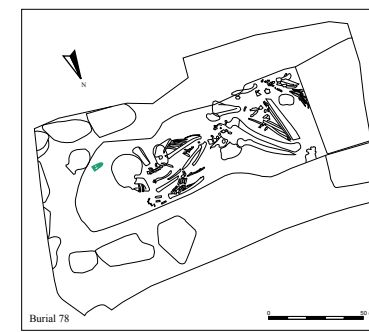


Position: north of the body on a stone with 17 silver studs and placed near the shoulder of the deceased. The studs were aligned in a circle on top of the axe as if they were fixed to an element that has since disappeared (see p. 45).

Associated with: a dagger, a headband, bracelets, studs, a belt and an earring (see p. 17, 31, 34, 42, 43, 45).

Sex of the individual: male, 40 years old.

SIDON



Burial 78

S/4149/1940, miniature notched-chisel axe-head with a narrow blade.

Material: bronze

Length: 6.7 cm

Length of blade: 4 cm

Length of socket: 3.1 cm

Internal length of socket: 1.7 cm

Maximum breadth of blade: 3.2 cm

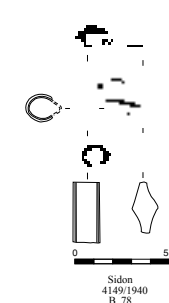
Maximum thickness of blade: 1.5 cm

Shape of fenestrations: ovoid with no traces of flanges around the margins.

Profile of blade: convex with a medial line.

The socket is ovoid with vestiges of wood within.

Phase1



Position: behind the skull in the south-east corner of the grave.

Associated with: spearhead in front of the face of the individual also in the south-east corner of the grave (see p. 23).

Sex of the individual: undetermined gender between 12-17 years old.

TELL EL-DAB'A

Socketed axe, narrow-bladed type 1¹⁰
This type is also known as notched-chisel axe. While the ones with a square cross-section are typical of the MB IIA in Tell el-Dab'a, the ones with a hexagonal cross-section appear in the MB IIB. The axes were placed in front of the upper body with the axe-head either resting above the head of the deceased, the blade facing backwards¹¹ or at rib height with the blade facing away from the body¹².

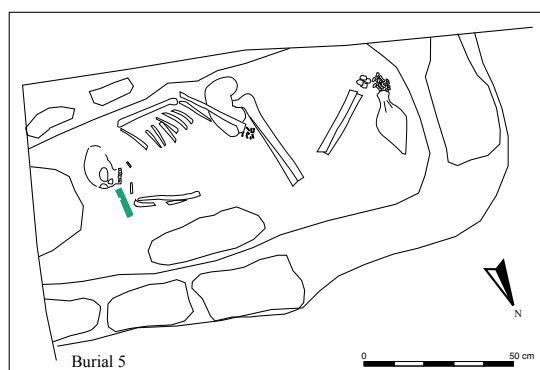
This small rectangular axe has a square cross-section. One side is hammered flat to create a picking edge whilst the opposite site is formed in an ovoid loop to fix the axe to a shaft. In this example two nails are preserved which once prevented the axe from sliding off the shaft. They are corroded to the upper end of the axe. At the base of the weapon, close to the socket, a semicircular cut-out is visible with an additional bulge surrounding it. There the string with which the blade was fixed to the wooden shaft would lock it in place. The task of the bulge was to prevent the string from rubbing through (see p. 15).



Publications: C. Doumet-Serhal, 2003, p. 179; C. Doumet-Serhal, 2007, p. 34-35, 39. A. Ogden, 2004, p. 30; A. Ogden, 2004 a p. 59.



SIDON



The notched-chisel axe-head

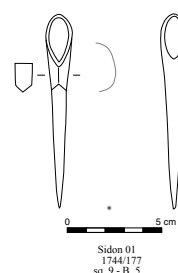
Burial 5

S/1744/177

Phase 1

Material: bronze
Length: 10.6 cm
Length of blade: 7.9 cm
Breadth of blade: 2.1 cm
Maximum thickness of blade: 0.2 to 1 cm
Section of blade: trapezoidal
Internal length of socket: 2.5 cm
Internal breadth of socket: 1 cm
Maximum height of socket: 3 cm
Minimum height of socket: 2.4 cm
Height of cutting edge: 2.5 cm
The notch must have played a role in securing the shaft.
The socket is ovoid with remains of wood within.

Position: next to the skull, just above the shoulder, the blade facing away from the body.



Associated with: spearhead found near the axe (see p. 21).
Sex of the individual: male, between 35-40 years old.
Publications: C. Doumet-Serhal, 2004, p. 99; C. Doumet-Serhal, 2004 a, p. 160-163.



TELL EL-DAB'A



The notched-chisel axe-head

F/I - d/23 tomb 1 - Ph. F

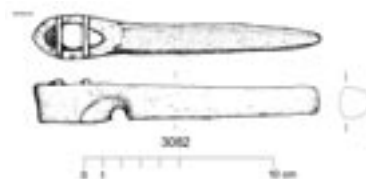
Type of tomb: Possible pit tomb, single burial.
TD 3082

Material: bronze
Length: 15.8 cm
Length of blade: 10 cm
Breadth of blade: 1.6 cm
Maximum thickness of blade: 1.8 cm
Section of blade: trapezoidal
Internal length of socket: 3.1 cm
Internal breadth of socket: 1.5 cm
Maximum height of socket: 2.0 cm
Height of cutting edge: 1.3 cm

Position: along the western edge of the pit, close to the belt, on some long bones, close to the pelvis.

Associated with: a belt, a dagger, a knife and two spearheads along the western edge of the burial pit.
Sex of the individual: male between 30-40 years old.
Publications: M. Bietak, 1984, fig. 12; G. Philip, 1989, fig. 1.404, *idem*, 2006, fig. 5.2.

Further parallels: TD 811 - M. Bietak, 1991c, fig. 26.2 - Ph. F; TD 7325 - R. Schiestl, 2009, fig. 337.14 - Ph. G/4; TD 7329 - R. Schiestl, 2009, fig. 362.1 - Ph. G/4.



15

Daggers

Total 7

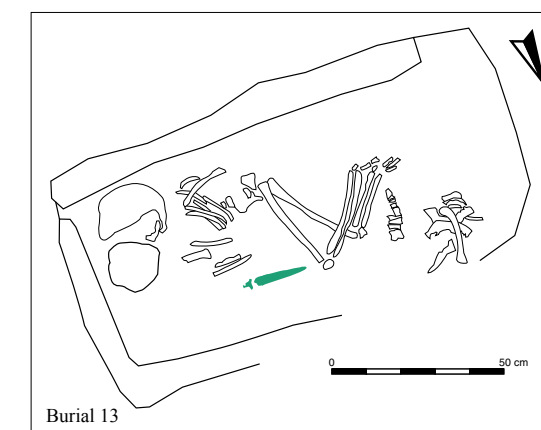
Type of burial: Constructed.

Only one dagger was found combined with another weapon, namely the axe-head, in burial 27 (S/3134, p. 13). All others were found individually. Daggers were associated with male adults except for one example found with an adolescent (burial 13). Burial 42, a warrior burial belonging to Sidon's phase 3 and dating to the end of MB I/IIA, was reused in Sidon's level 6 (MB IIB) causing major disturbance. Skeletons found in this burial belonged to adult males and one adult female. The two daggers and a socketed javelin found inside the grave and on its constructed wall were not found *in situ* and were discovered together with 5 bronze disks belonging to a belt and a torque. Burial 107 in which a dagger was found consisted of a pile of disarticulated remains which most likely represent a single individual who was first buried with a noticeable amount of care at the west end of the grave where the remains of three further individuals, classified as burials 103, 104, 105 were subsequently placed on top and inside the same grave. It was therefore only possible to establish the position of three of the eight daggers because of the disturbance in the grave's interments. Two daggers from phase 1 and belonging to a 5-year old and to a male adult were found respectively one near the knees and one near the head. The dagger from level 4 belonging to an adult male was found west of the ankle joints, probably sliding down from the left hip.

All belonged to the simple long flat narrow-blade dagger¹⁰ type with a simple flat lentoid or lozenge-shaped cross-section, and a trapezoidal or straight rectangular butt. In two cases (S/4056 and S/2605, p.19) the blades had a tang. The handle was secured to the tang by means of two to three rivets aligned or laid out in a triangular pattern. These daggers resemble the tell el-Dab'a str. D/3-E/1¹¹ type 18 daggers. Since

SIDON

the publication of dagger S/1825¹² (see below) another piece of crescentic bronze covered with a sheet of silver was found suggesting that this dagger probably had a pommel attached to the blade via some kind of collar or bracket¹³.



Burial 13

S/1825/266

Phase 1

Material: bronze and silver
Length : 12.8 cm
Maximum breadth of blade : 2 cm
Maximum thickness of blade: 6 cm
Shape of blade: straight tapering
Point: sharp
Handle probably covered by a silver sheet
Length: 2.4 cm
Width: 2.7 cm



Position: lying east of the knees with the blade also facing east.
Associated with: silver anklet and gold leaf (see p. 42, 45).
Sex of the individual: undetermined gender approximately 5 years old.
Publications: C. Doumet-Serhal, 2004, p. 166; C. Doumet-Serhal, 2004 b, p. 46.



16

SIDON



Burial 27



Burial 27:
S/3112/1018

Phase 1

Material: bronze
Surviving length: 11. 6 cm
Maximum breadth of blade: 3. 5 cm
Maximum thickness of blade: 0. 4 cm
Shape of blade: straight tapering
Point: sharp

Position: on top of a stone near the skull.
Associated with: an axe-head, a belt, a headband, studs and bracelets, (see p. 13, 31, 34, 42, 43, 45).
Sex of the individual: male "warrior", at least 30 years old.
Publications: C. Doumet-Serhal, 2004, p. 166; C. Doumet-Serhal, 2004 c, p. 27.



TELL EL-DAB'A

Dagger

Broad-bladed daggers with undecorated blades are very rare in Tell el-Dab'a appearing only at the end of the MB IIA.

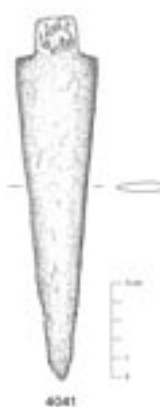
17



F/I -i/21 tomb 34 – Ph. G/1-3

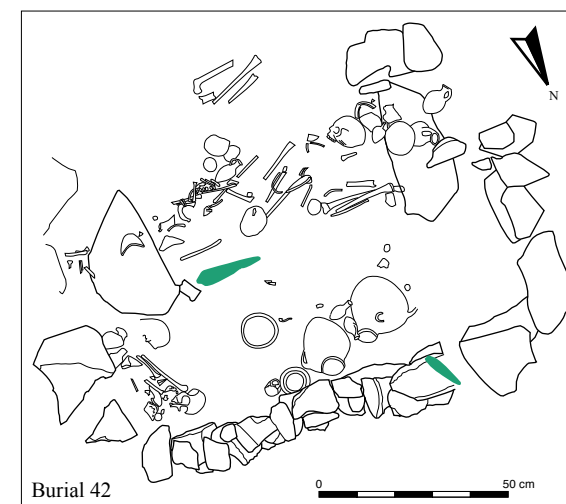
Type of tomb: constructed mud brick tomb, single burial, TD 4041

Material: bronze
Length: 19. 1 cm
Maximum breadth of blade: 4. 2 cm
Maximum thickness of blade: 1. 1 cm
Shape of blade: tapering
Point: sharp



This dagger has a triangular plain blade with a rectangular tang and a lens-shaped cross-section. Three rivets, set in a triangular shape, once fixed the wooden hilt to the blade. Traces of this wood were still preserved on the tang.
Position: Robbed tomb, only part of the lower extremity was *in situ*. The dagger lies in the vicinity where the pelvis of the deceased was once positioned.
Sex of the individual: male between 50-60 years old
Publications: K. Kopetzky, 1993, fig. 4; G. Philip, 2006, fig. 18.

SIDON



Burial 42

Burial 42
S/3541/2068

Phase 3

Material: bronze
Length : 11. 7 cm
Maximum breadth of blade : 2. 6 cm
Maximum thickness of blade: 0. 3 cm
Shape of blade: straight tapering
Point: rounded

Position: found on the wall of the burial implying a degree of disturbance.

Associated with: a spearhead, a belt, a dagger and a torque (see p. 24, 32, 41).

Sex of the individual: 4 individuals, one middle-aged female, one old large adult male, one young adult of undetermined gender and one sub adult around 5 to 6 years old, also of undetermined gender.

Publications: C. Doumet-Serhal, 2007-2008, p. 196-197.



Burial 42
S/3637/2079

Phase 3

Material: bronze
Length : 18. 4 cm
Maximum breadth of blade: 4. 4 cm
Maximum thickness of blade: 0. 3 cm
Shape of blade: tapering
Point: rounded
Rivets: 0. 5 cm.

Position: displaced in the grave.

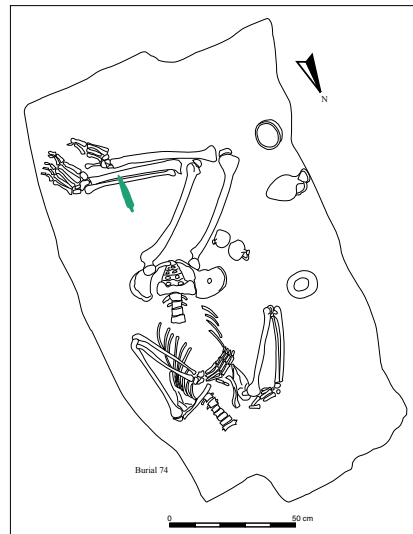
Associated with: a spearhead, a belt, a dagger and a torque (see p. 24, 32, 41).

Sex of the individual: 4 individuals, one middle-aged female, one large old adult male, one young adult of undetermined gender and one sub adult around 5 to 6 years old, also of undetermined gender.

Publications: C. Doumet-Serhal, 2007-2008, p. 196-197.

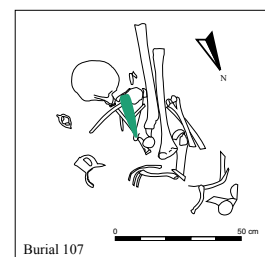


SIDON



Burial 74
S/4056/1924

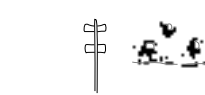
Material: bronze
Overall length: 16.3 cm
Maximum breadth of blade: 3.1 cm
Maximum thickness of blade: 0.3 cm
Shape of blade: slim tapering blade, sharp edges with square shoulders and a rounded tang with two aligned rivets on one side. Remains of wood.
Point: sharp.
Position: west of the ankle joints, probably sliding down from the left hip.
Sex of the individual: probably male 35-45 years.



Burial 107
S/5341/6056

Material: bronze
Overall length: 18 cm
Maximum breadth of blade: 4.3 cm
Maximum thickness of blade: 0.3 cm
Shape of blade: a long flat straight and tapering narrow blade
Point: rounded
Broken butt

Level 5



Three rivets (0.5 x 0.5 cm) of the dagger are laid out in a triangular pattern. Fragments of wood are visible just underneath the rivets. The blade's shoulders are rounded.

Position: in and amongst the disarticulated remains in the western end of the stone-lined grave.

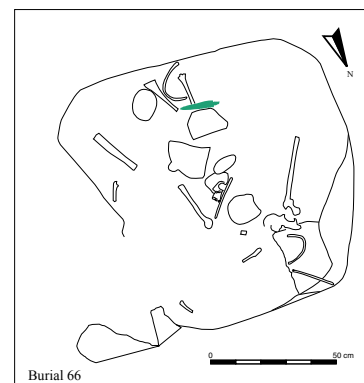
Sex of the individual: probably male and of indeterminate age

ate age



Burial 66

Level 6



S/2605/1846

Material: bronze
Overall length: 15.8 cm
Maximum breadth of blade: 2.9 cm
Maximum thickness of blade: 0.5 cm
Shape of blade: slim tapering blade with square shoulders and a broken tang with two aligned rivets (0.5 cm). smooth edges.
Point: sharp

Position: in the pit that had been cut beneath two articulated individuals.

Associated with: a silver ring with scarab (see p. 39).

Sex of the individual: male of indeterminate age



19

SIDON

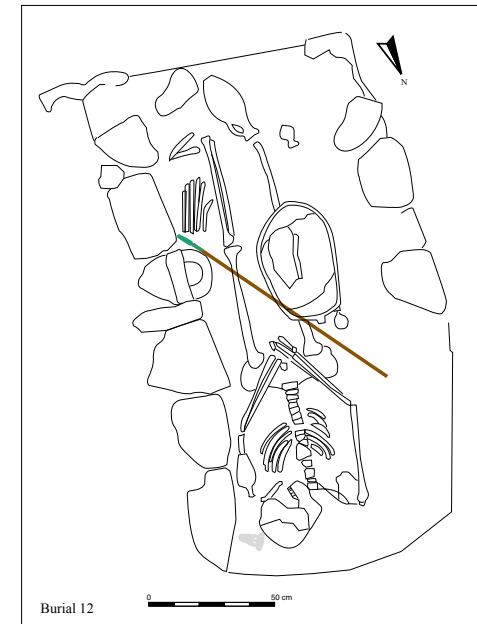
Spearheads

Total 7

Type of burial: constructed with one jar burial.

Spearheads are usually separated into groups mainly based upon size¹⁴. Out of the 7 spearheads discovered, two had a blade less than 10 cm long. These two belonged to warrior burials 12 and 5. Their broken sockets makes it difficult to ascertain their original size but they are these longest spearheads found on site and both belong to Sidon's phase 1. Aside from these two spearheads from burials 5 and 12 all the others belong to a group characterized by blades of less than 6 cm in length and width of around 1.5-1.7 cm. This group is also found in tell el-Dab'a in levels E, F and G¹⁵. Spearhead S/4117 from burial 78 and S/2989 from burial 70 A have a well-preserved twine attaching the shaft to the blade. This twine was used to secure the end of the socket to the joint between the edges of the socket and the shaft¹⁶. It starts from the base and is wrapped around the socket. Comparable spearheads with twine were found in Gesher¹⁷. Socketed spearheads are a characteristic weapon of the Middle Bronze Age IIA and are generally associated with warrior burial customs.

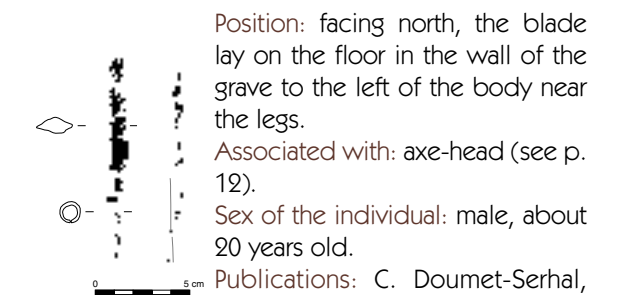
The spearheads in the warrior burials were found near the head (burial 5) and in the wall of the grave near the legs (burial 12). In burial 78, the spearhead was placed in front of the face although in burials 42 and 70A the position was not ascertained because of the degree of disturbance in the grave. A further spearhead was found in burial 69. However, it was difficult to establish during the excavation of this burial whether it and the pottery vessels encountered belonged to this burial or the one below, namely burial 74. Jar burial 14, with the remains of a 13-year-old adolescent contained an arrowhead at its base. This was the only bronze artefact to have been found in a jar¹⁸.



Burial 12
S/1821/238

Phase 1

Material: bronze
Surviving length: 12 cm
Length of blade: 6.8 cm
Breadth of blade: minimum: 1.7 cm
maximum: 2 cm
Thickness of blade: minimum: 0.7 cm
maximum: 1 cm
Surviving length of socket: 5.1 cm
Inner diameter of socket: 1.1 cm
Point: rounded
Midrib: rounded
The socket bears an encircling pattern of two ribs.

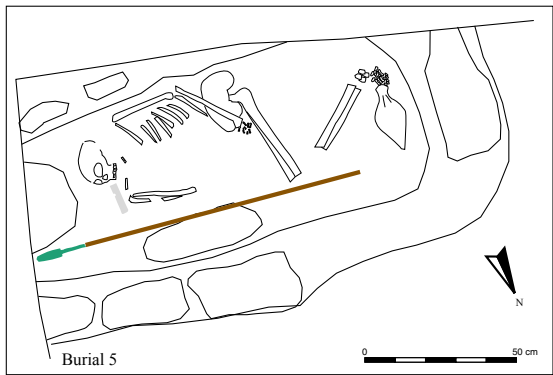


Publications: C. Doumet-Serhal, 2004, p. 95; C. Doumet-Serhal, 2004 a, p. 166-167.



20

SIDON



Burial 5 Phase 1
S/1747/177

Material: bronze
Surviving length: 17.5 cm
Length of blade: 9.5 cm
Breadth of blade: minimum: 3 cm
Thickness of blade: minimum: 0.7 cm
maximum: 1 cm
Surviving length of socket: 8.6 cm
Inner diameter of socket: 1 cm
Point: rounded
Midrib: rounded
The socket is split with traces of twine.

Position: near the axe-head placed in front of the skull.
Associated with: axe-head (see p. 15).
Sex of the individual: male, between 30 and 40 years old.
Publications: C. Doumet-Serhal, 2004, p. 95; C. Doumet-Serhal, 2004 a, p. 166-167.



TELL EL-DAB'A

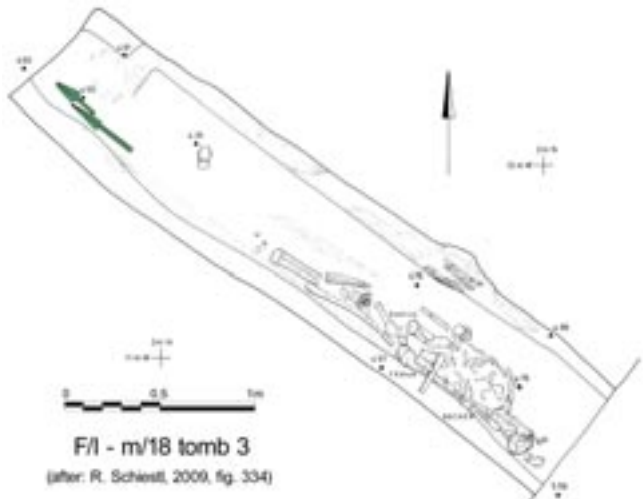
Spearheads

Until the transitional MB IIA/B period most spearheads found in Tell el-Dab'a appear as pairs. In the first half of the MB IIB only single examples were found. Unfortunately none of the latter tombs were found intact.

21

The flat blades of both spearheads were stuck through the rounded midrib from above. While the midrib from TD 7017 is hollow until its tip, the one from TD 7018 is massive. The sockets had an open joint line, which was covered with a separate silver band, one which became loose in the case of TD 7017¹³. Inside of the socket of TD 7017 a piece of the wooden shaft was still preserved. The flat angle of the tip of the blades as well as the fact that both were made of silver and one had a hollow midrib makes it unlikely that they were designed for actual use. It seems that these two weapons were made either for show or specifically for the burial. Good parallels are found in the spearheads from burial 5 at Sidon.

TELL EL-DAB'A



22

F/I - m/18 tomb 3 - Ph. G/4
Type of tomb: constructed mud brick tomb, single burial in sarcophagus

TD 7017 (MC, JdE 98528)
Material: bronze or silver
Surviving length: 13.1 cm
Length of blade: 6.4 cm
Breadth of blade: minimum: 1.7 cm
maximum: 3.5 cm
Thickness of blade: minimum: 0.2 cm
maximum: 1.8 cm
Surviving length of socket: 6.6 cm
Inner diameter of socket: 1.3 cm
Point: rounded
Midrib: rounded

TD 7018 (MC, JdE 98529)
Material: bronze or silver
Surviving length: 18.5 cm
Length of blade: 6.7 cm
Breadth of blade: minimum: 2.1 cm
maximum: 3.4 cm
Thickness of blade: minimum: 0.2 cm
maximum: 1.0 cm
Surviving length of socket: 11.8 cm
Inner diameter of socket: 1.0 cm
Point: rounded
Midrib: rounded

Position: inside the sarcophagus, near its western end, close to the feet of the deceased, parallel to the southern wall.
Associated with: one socketed axe, two daggers, one knife.
Sex of the individual: male between 20-36 years old.
Publications: R. Schiestl, 2009, fig. 337. 9 & 10; M. Bietak, 1991b, pl. 24; *idem* 1996, fig. 22; I. Hein and M. Bietak, 1994, p. 96; pl. 11; G. Philip, 2006,

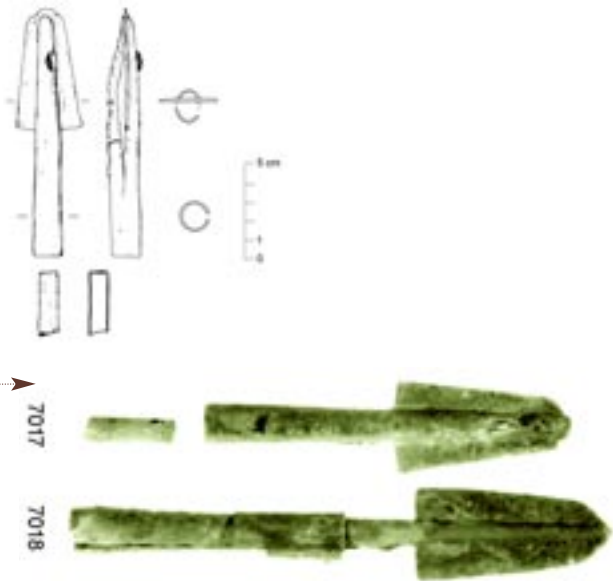
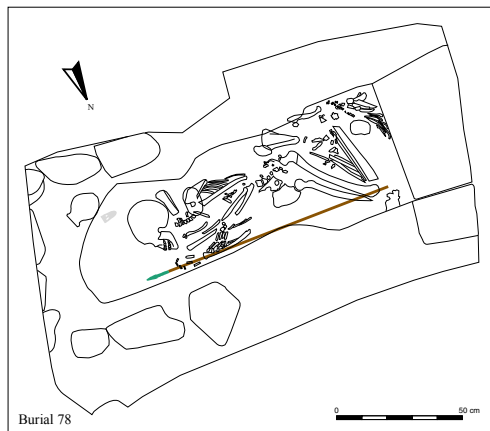


fig. 26.1 & 2.

SIDON

Spearheads with blades less than 6 cm long



Burial 78

S/4117/1940

Material: bronze

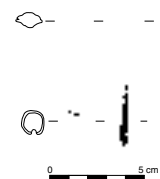
Length: 9.8 cm

Length of blade: 4.6 cm

Maximum breadth: 1.5 cm

Maximum diameter of socket: 1.2 cm

Convex blade with short square shoulders (more pronounced on one side); rounded midrib. The edges and the point of the blade are heavily worn. The socket is split, slightly swollen before the end which shows traces of twine binding held together with a resin.



Position: in front of the face.

Associated with: axe-head (see p. 14).

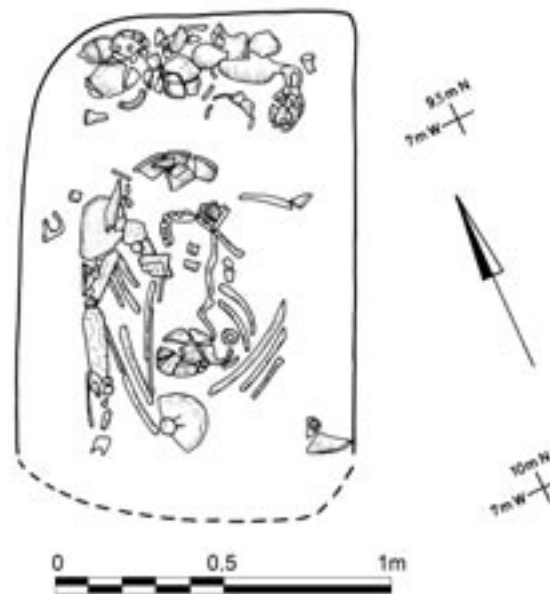
Sex of the individual: undetermined gender and aged between 12-17 years old.

Burial 42

S/3544/2071



TELL EL-DAB'A



F/I – d/23 tomb 1 – Ph. F

Type of tomb: Possible pit tomb, single burial
TD 3084

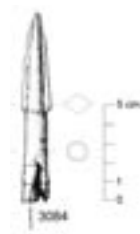
Material: bronze

Length: 10.1 cm

Length of blade: 5.4 cm

Maximum breadth: 1.3 cm

Maximum diameter of socket: 1.1 cm



The slender blade is heavily worn. Its rounded midrib ends in a distinctive point. Again, only traces are preserved where once the socket was fixed with an additional sheet. Inside the socket splinters of the wooden shaft were visible. The blade is as long as the socket.

Position: disturbed.

Associated with: a belt, a dagger, a knife and two spearheads along the western edge of the burial pit.

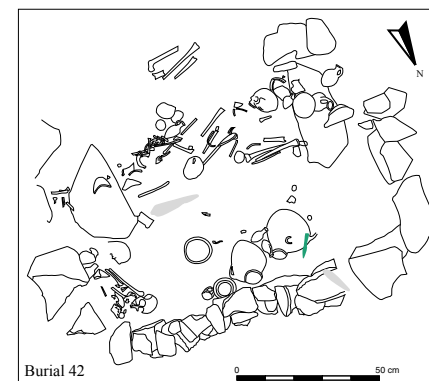
Sex of the individual: male between 30-40 years old.

Publications: M. Bietak, 1984, fig. 12; G. Philip, 2006, fig. 24. 3.



23

SIDON



Material: bronze

Surviving length: 8.6 cm

Length of blade: 4.3 cm

Breadth of blade: minimum: 0.3 cm
maximum: 1.5 cm

Thickness of blade: minimum: 0.3 cm

Length of socket: 3.5 cm

Max. diameter of socket: 1.5 cm

Inner diameter of socket: 1.1 cm

Point: sharp

Well-defined midrib. Very thin sharp blade. Socket completely closed at top as cast, but very thin walled. The end of the socket was secured by a twine binding or a metal collar.

Position: western end of the grave, inside the disturbed burial.
Associated with: daggers, a belt and a torque (see p. 18, 32, 41).

Sex of the individual: 4 individuals, one middle-aged female, one large old adult male, one young adult of undetermined gender and one sub adult around 5 to 6 years old, also of undetermined gender.

Publications: C. Doumet-Serhal, 2007-2008, p. 196-197.

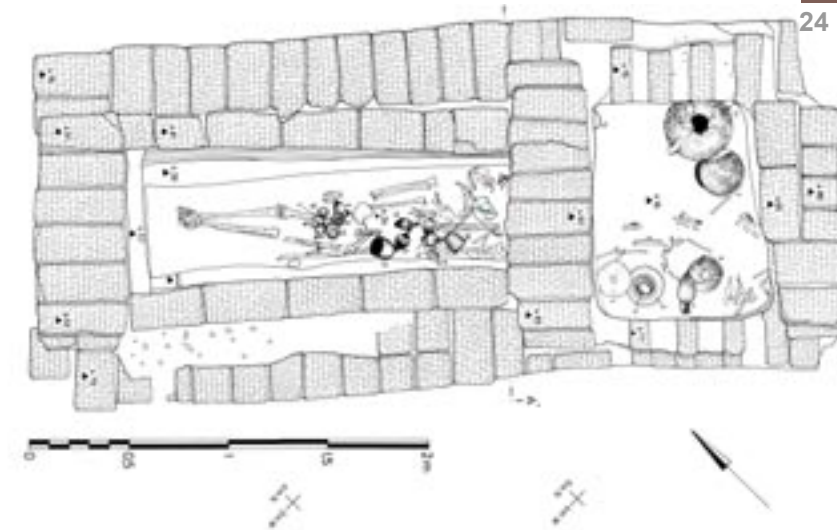
Burial 70 A

S/2989/1917



Level 4

TELL EL-DAB'A



A/II – I/14 tomb 7 – Ph. E/3

Type of tomb: constructed mud brick tomb, multiple burials
TD 1690

Material: bronze

Surviving length: 10.6 cm

Length of blade: 5.4 cm

Breadth of blade: 1.5 cm

Thickness of blade: 0.6 cm

Length of socket: 5.2 cm

Max. diameter of socket: 1.2 cm

Inner diameter of socket: 1.0 cm

Point: sharp

This spearhead is equipped with a slender blade and a pointed rounded midrib. No traces of a joint line were visible. The socket is nearly the same length as the blade.



Position: below the skull of burial 2.

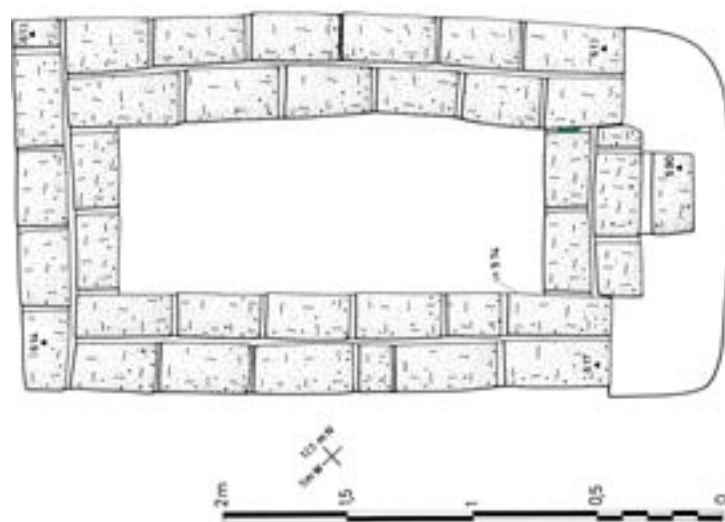
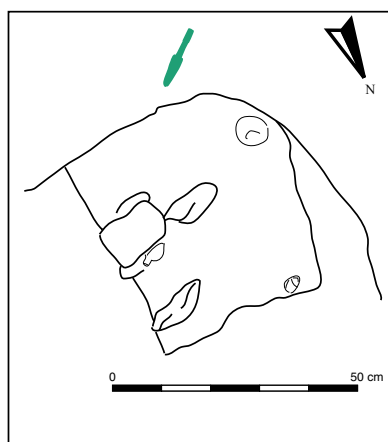
Associated with: a knife was found in a separate offering chamber.

Sex of the individual: between 30-40 years old, sex undetermined.

Publications: I. Forstner-Müller, 2008, fig. 115.1; G. Philip, 2006, fig. 24.1.



24



25

Material: bronze
Length: 12.8 cm
Length of blade: 6.8 cm
Maximum breadth: 2.4 cm
Maximum diam. of socket: 1.4 cm

Convex blade with square shoulders and a long rounded midrib. The socket tapers slightly with the thread well apparent and covered with a resin

which kept it well preserved. The twine (19 wrappings) that should have attached the shaft to the blade is existent. It starts from the base of the socket and is wrapped around 2.6 cm of the socket which bears traces of wood. Comparable spearheads with twine were found in Gesher

¹⁹. Socketed spearheads are a characteristic weapon of the Middle Bronze Age IIA and are generally associated with warrior burial customs²⁰.

Position: near the surface of the fill. This burial was not fully excavated as it continued into the baulk.

Sex of the individual: sub adult of undeterminate age.

Burial 14
S/1855/1853.

Level 4



F/I – n/17 tomb 5 – Ph.

Type of tomb: constructed mud brick tomb
TD 7328

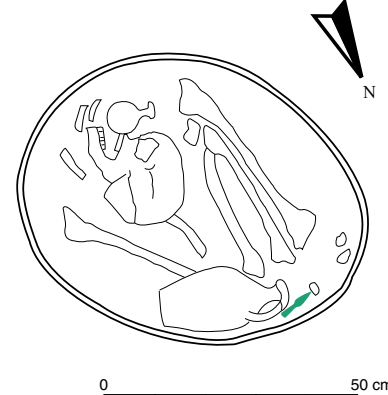
Material: bronze
Length: 10.2 cm
Length of blade: 5.1 cm
Maximum breadth: 1.8 cm
Maximum diam. of socket: 1.1 cm

A rounded midrib, which is massive at its upper part and hollow at the socket part where it splits. On the wings of the blade traces of forging are still visible. At the base of the socket fragments of a string can be seen with which the spearhead was fixed to the shaft.

Position: squeezed between the eastern chamber wall and the entrance block, with the tip pointing outwards.

Sex of the individual: no bones preserved.

Publications: G. Philip, 2006, fig. 28.3.



26

Material: bronze
Length: 7.5 cm.
Length of blade: 4.1 cm.
Breadth of blade: minimum: 0.2 cm.
maximum: 0.8 cm.

Thickness of blade: minimum: 0.2 cm.
maximum: 0.8 cm.

Length of socket: 3 cm.

Diameter of socket: 1 cm.

Point: sharp.

Position: towards the base of a jar burial.

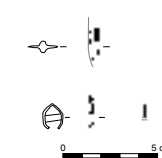
Sex of the individual: undetermined child approximately 13 years old.

Publications: C. Doumet-Serhal, 2004, p. 168; C. Doumet-Serhal, 2004 a, p. 168-169.

Burial 69

S/ 2916/1916

Level 5



F/I – m/17 tomb 2 – Ph. G/4

Type of tomb: constructed mud brick tomb with double chambers

TD 7326

Material: bronze

Length: 8.8 cm

Length of blade: 3.9 cm

Breadth of blade: 1.7 cm

Thickness of blade: 0.3 cm

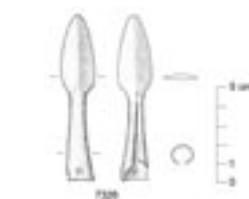
Length of socket: 4.9 cm

Diameter of socket: 1.5 cm

Point: sharp

Hole for nail: 0.28 cm

Cast from one piece, this small spearhead shows a clear joint line and a hole at the bottom of the socket where once a nail fixed it to the wooden shaft. The middle of the blade is slightly pronounced thus leaving a rhomboid cross-section.



Position: Close to the southern wall of the chamber, with the tip of the blade in the floor, indicating that the spear rested against the wall in an upright position.

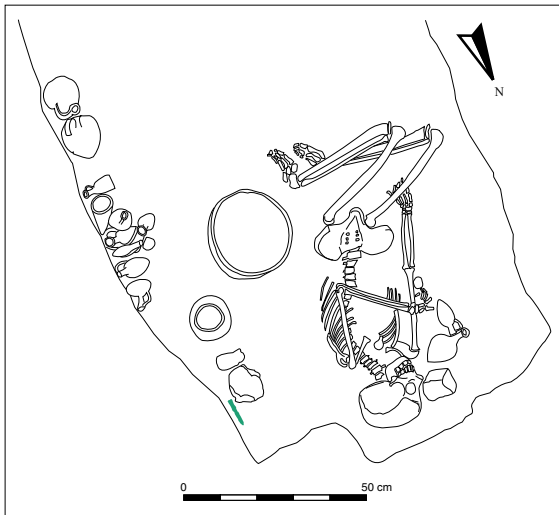
Associated with: tomb completely robbed.

Sex of the individual: no bones preserved.

Publications: R. Schiestl, 2009, fig. 283.1; G. Philip, 2006, fig. 28.1.



SIDON



Material: bronze

Length: 7.9 cm

Length of blade: 5.2 cm

Maximum breadth: 1.1 cm

Maximum diameter of socket: 1.1 cm

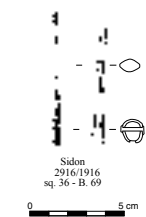
Slender blade with V-shaped midrib, the edges and the point of the blade are heavily worn. It has short square shoulders and is heavily corroded. The socket retains evidence of a hole presumably for a transverse peg. Wood was preserved in the socket.

Position: near the legs.

Sex of the individual: sub adult of undetermined gender between 9-10 years old.

Knives

Total 5



SIDON

Single-edged knives with curved blades

Type of burial: constructed

27

Curved blade knives found individually and not associated with any other metal artefact were found from phase 3 (end of MB I/IIA) or level 4 (MB II/A-B). These knives are essentially designed for cutting²¹ and could be an integral part of the feasting activities that probably took place around the grave-side at the time of burial²².

Curved blade knives with thin blades showing mostly a marked incline upwards towards the tip were found in burials 70 b and 75 and both on top or underneath a jumbled collection of disarticulated bones of both sub adult and adult remains²³. Knife S/4574 (p. 30) was found in burial 100 lying near the east wall of the grave in close proximity to an animal bone deposit and adjacent to an articulated female adult skeleton. Remains of the wooden handle still exist around the three rivets arranged in a triangular pattern which secured it to the trapezoidal butt. Knife S/2715 (p. 30) was also found on a deposit of sheep remains in the burial of a female individual.

The blade of one of the earliest knives (S/4210, p. 29) is broadest towards the butt whereas on other knives the width is evenly distributed on the blade with a slight widening towards the tip. The blades are sharpest on the curved side. These knives resemble Tell Dab'a's type 1 knives beginning with stratum G/4 (1770-1740) but concentrated in strata E/1 (1620-1560) and D/3²⁴.

Knife S/1734 (p. 31) with its distinctive curved cutting edge and handle shaped like an animal's hoof²⁵ was also deposited on animal bones. The presence of cut marks on some of the animal bones suggests that butchering had taken place before they were deposited²⁶. Considering how finely worked the metal of the blade was, its role might have been more ceremonial than functional.

Burial 75

Phase 3/level 4

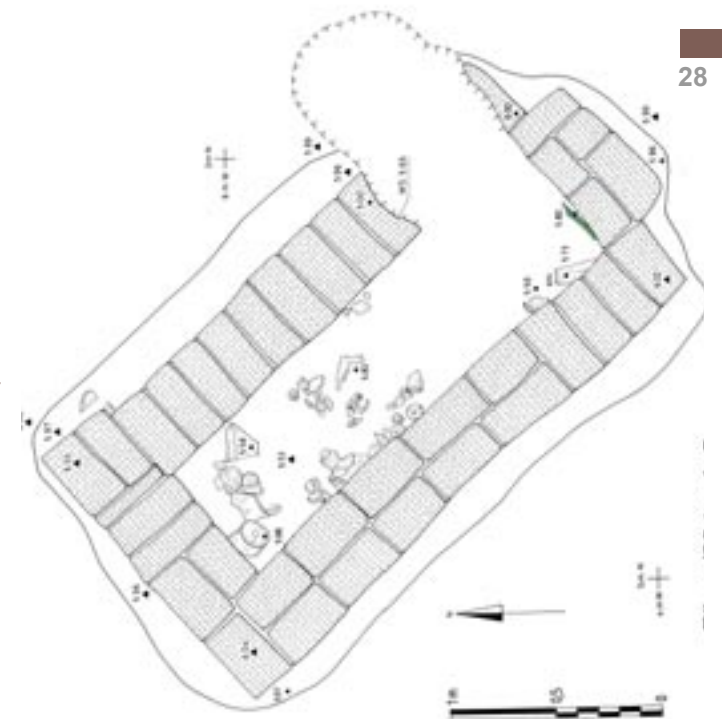
TELL EL-DAB'A

Knife

Single-edged knives with curved blades

The fact that knives were also found in female burials makes them tools of daily use rather than weapons. A lot of them were found in association with animal bones and therefore were probably used for the slaughtering of animals, which were then together with the knives, deposited in or outside the tombs. The oldest knife of this kind, although with its tip decorated as a spiral, was found in a burial of phase G/4¹⁴. Their appearance increases slowly during the early MB IIB with 60% of all knives found at Tell el-Dab'a belonging to the Hyksos phases.

The wooden handles were either fixed with three rivets set in a triangle of with two rivets set in one line in the middle of the tang.



28

F/I – p/20 tomb 5 – Ph. E/3

Type of tomb: constructed mud brick tomb
TD 7142

Material: bronze

Length: 20.6 cm

Maximum breadth of blade: 2.6 cm

Maximum thickness of blade: 0.1 cm

This curved knife has three rivets arranged in the shape of a triangle. The tip is inclined with the cutting edge on the curved side.

Position: parallel to the entrance block in the south-east part of the chamber.

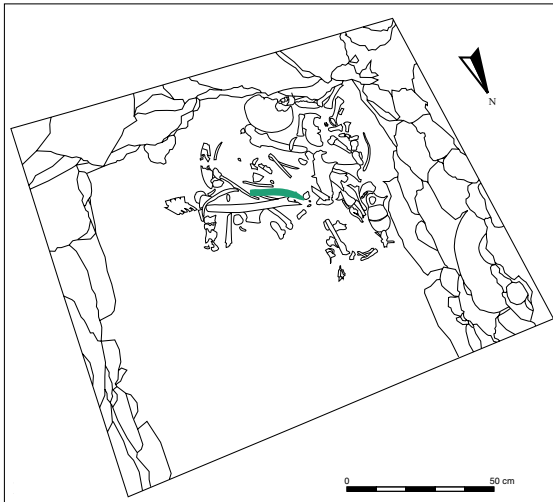
Associated with: animal bones.

Sex of the individual: no bones preserved.

Publications: G. Philip, 2006, fig. 34. 3.



SIDON



S/4140/1924

Material: bronze

Length: 19.4 cm

Maximum breadth of blade: 2.6 cm

Maximum thickness of blade: 0.3 cm

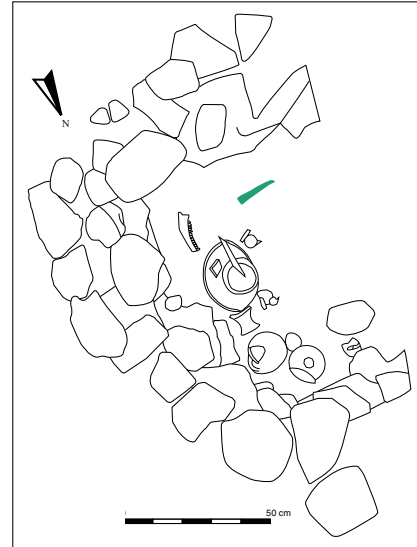
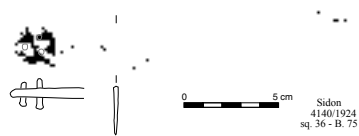
Curved knife with a rectangular butt and three rivets arranged in a triangular pattern. The point of the maximum breadth of blade is located just beyond the middle which then becomes markedly inclined. Traces of wood remain on the blade and might have been part of the wooden scabbard.

Position: base of a deposit of commingled animal and human osseous elements.

Sex of the individual: not ascertained.

Burial 70 b

Level 4



S/4210/1954

Material: bronze

Length: 14 cm

Maximum breadth of blade: 2.5 cm

Maximum thickness of blade: 0.2 cm

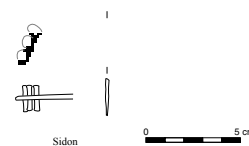
Curved knife with a rectangular butt and three rivets arranged on a diagonal line. Remains of wood. The point of maximum breadth is near the butt of the knife. The tip is inclined.

Position: on a pelvis lying under a skull in a jumbled area of disarticulated bones containing both sub adult and adult remains.

Sex of the individual: probably male but not yet ascertained.

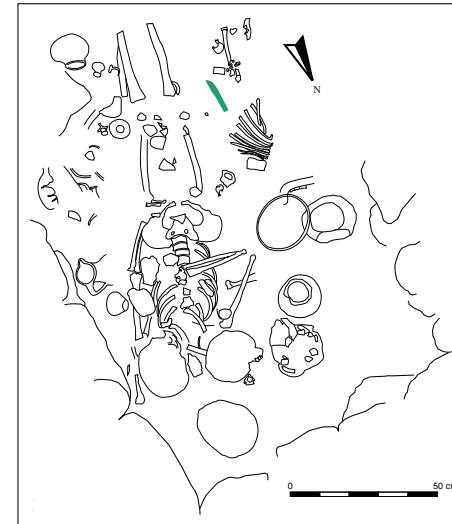
Burial 67

Level 5



29

SIDON



S/2715/1908

Material: bronze

Length: 12.9 cm

Maximum breadth of blade: 2 cm

Maximum thickness of blade: 0.1 cm

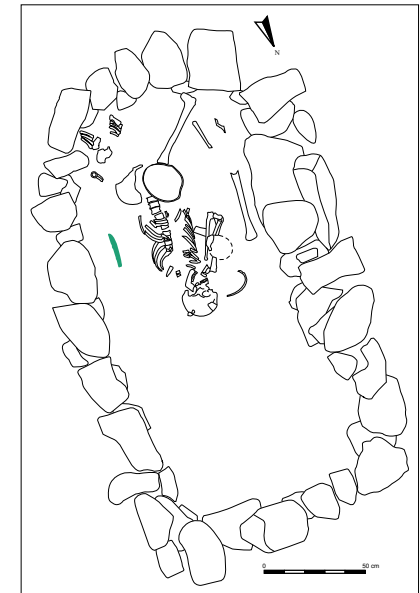
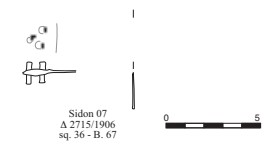
Curved knife with a rectangular butt. Three rivets surrounded by lumps of wood are laid out in a triangular pattern. The tip is slightly inclined.

Position: found with a deposit of animal remains (sheep).

Sex of the individual: female mature adult of advanced age (45+ years).

Burial 100

Level 5



S/4574/6037

Material: bronze

Length: 17.7 cm

Maximum breadth of blade: 2.2 cm

Maximum thickness of blade: 0.4 cm

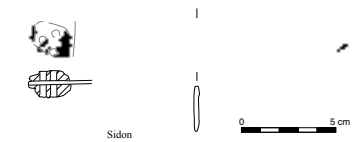
Curved knife with a rectangular butt. Three rivets surrounded by lumps of wood are laid out in a triangular pattern. The tip is slightly inclined.

Position: against the east wall of the grave close to a deposit of animal remains.

Sex of the individual: female of indeterminate age.

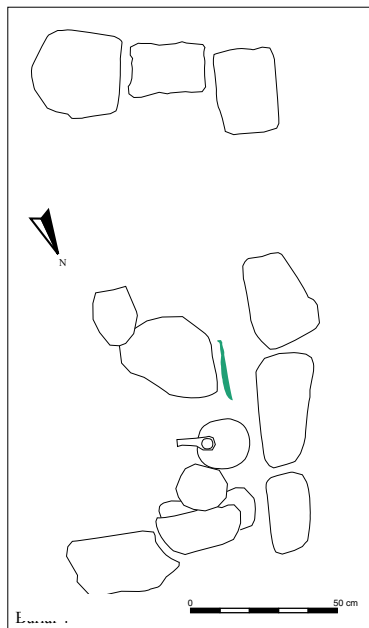
Burial 4

Level 5



30

SIDON



S/1734/178

Material: bronze

Length: 22 cm

Blade length: 16.8 cm

Width of blade: 2 cm

Length of handle: 6.2 cm

Thickness of handle: 1.1 cm

Handle shaped like an animal hoof.

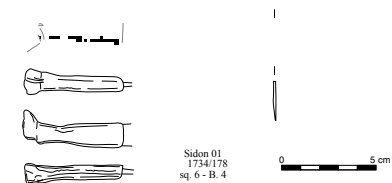
Position: on an animal bone deposit.

Sex of the individual: burial containing twelve teeth of a child of approximately 15 months as well as the ribs, legs, feet and left hand of a gracile adult. Adult teeth were also found.

Publications: C. Doumet-Serhal, 2004, p. 139; C. Doumet-Serhal, 2004 a, p. 170-174; A. Ogden & H. Schutkowski, 2004, p. 160.

Belts

Total 2



SIDON

Type of burial: Constructed

31

Burial 27

S/5745/1018

Phase 1

Material: silver

Position: silver was found around the remains of an elbow joint which had three studs laying below it. More silver studs and pins lay behind the left side of the fifth lumbar vertebra and others directly against the back of the same vertebra on the left. The bulk of silver lay mainly directly under the elbow in the region of the 3rd lumbar vertebra and beneath the end of the left humerus, suggesting the presence of a silver belt.

Associated with: an axe-head, a dagger, a head-band, studs, bracelets and an earring (see p. 13, 17, 42, 43, 45).

Publications: C. Doumet-Serhal, 2004 c, p. 21-29, A. Ogden, 2004, p. 30.

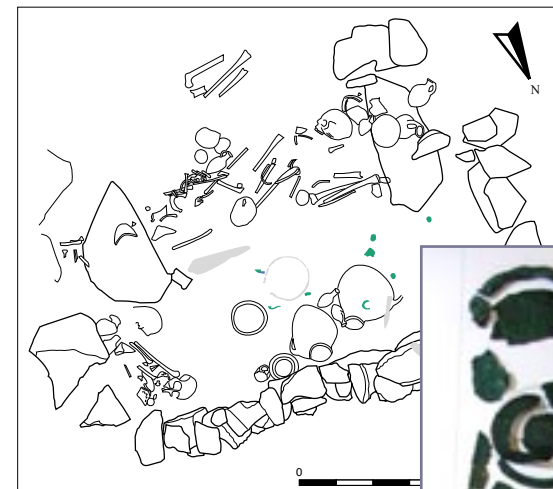
Burial 42

S/ S/3562-3581

Phase 3



SIDON



Material: bronze

Reconstructed length: 69 cm

Maximum width: 11.5 cm

Thickness: 0.1 to 0.2 cm

Position: scattered in the grave.

Sex of the individual: 4 individuals, one middle-aged female, one large old adult male, one young adult of undetermined gender and one sub adult around 5 to 6 years old, also of undetermined gender.

Associated with: daggers, a spear-head, a belt and a torque (see p. 18, 24, 41).

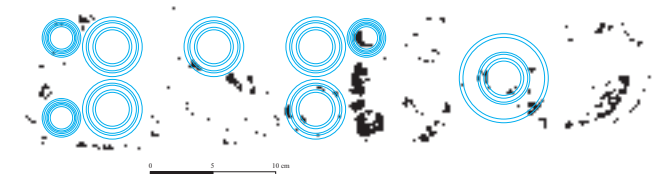
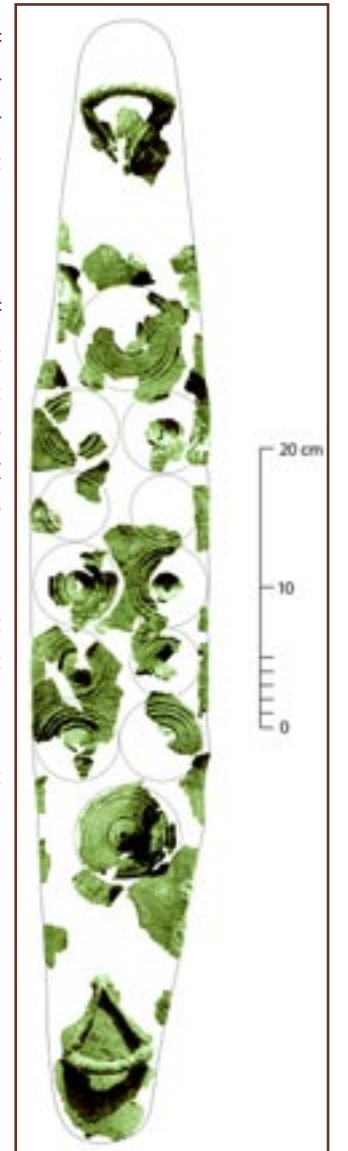
Publications: C. Doumet-Serhal, 2007-2008, p. 196-197.

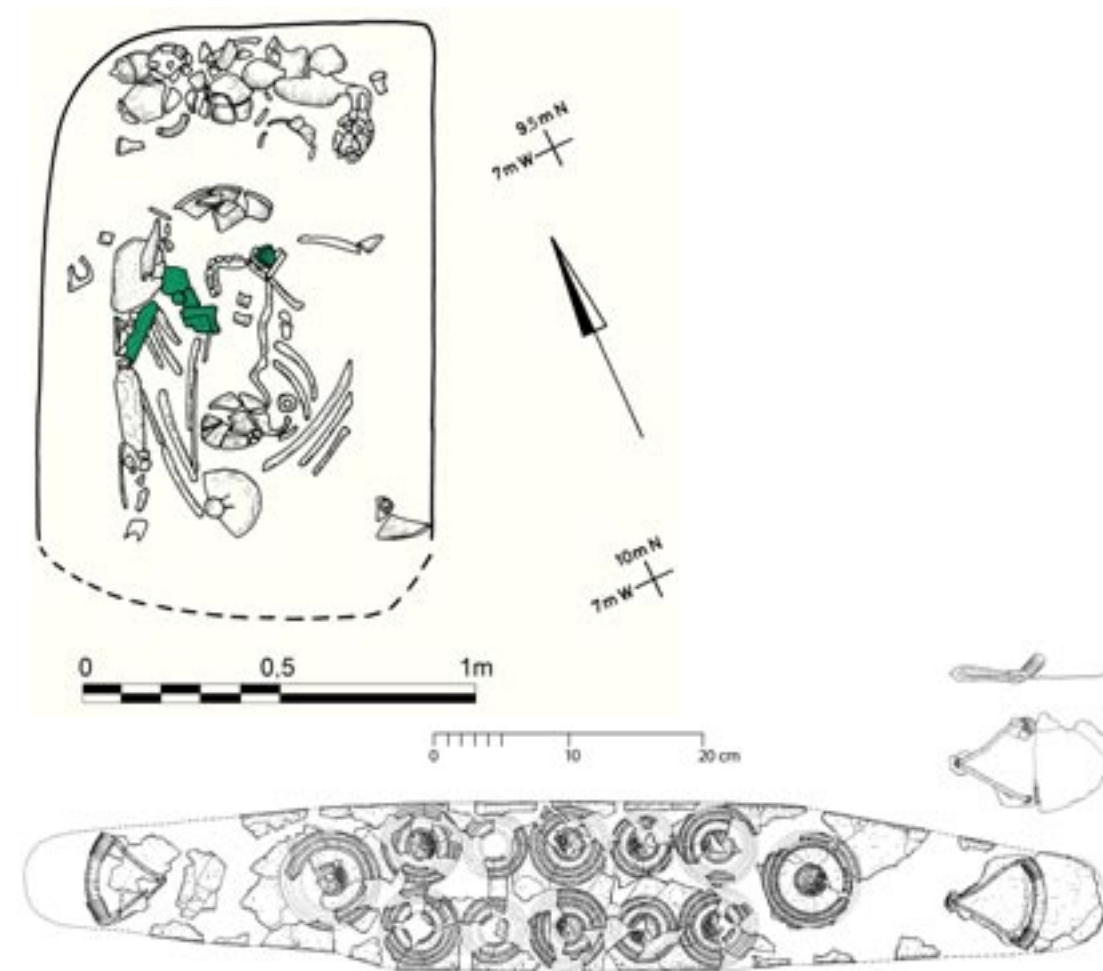
Belts were also found in Byblos, Tell el-Dab' a, Jericho and Tell Farah North ²⁷. The reverse side of the disks are all covered with a layer of slightly powdery white material which might have been plaster or a putty used to hold the disks in place on a corpse ²⁸. Fastening was effected via two arched metal 'hooks' attached to a spring and which were initially attached at each end of the belt. It is not known how the hooks were secured to the belt ²⁹ as it was found scattered in the grave. A pair of wire loops was used to provide a clasp for joining the two open ends of the belt. Holes on the edges of the bronze sheet were 0.1 cm wide.

TELL EL-DAB'A

Belt

All the belts found inside the tombs of Tell el-Dab'a date to the second half of the MB IIA period. Each belt was individually decorated with two different kinds of springs. Tiny holes either along the entire edges of nearly all the belts or close to their fastener show that they once were fixed to a flexible organic underlay, which has vanished in the damp climate of the site. Although the oldest example (see TD 6140) had no holes, it still might have been glued to such an underlay. Remains of such a possible glue were found on the reverse of the Sidon belt ¹⁵. All of the *in situ* examples were closed at the front and had a dagger stuck behind it.



**F/I – d/23 tomb 1 – Ph. H**

Type of tomb: constructed mud-brick tomb
TD 3080

Material: bronze

Reconstructed length: 80 cm

Maximum width: 12.8 cm

Thickness: 0.1 cm

The belt, made of a piece of copper sheet, has a nearly rectangular shape with rounded ends. It is broader in the middle and tapers towards its ends. A decoration of concentric circles was hammered from the reverse in the *repoussé*-technique. It shows in its middle part 3 pairs of medium-sized concentric circles alternating with 2 pairs of smaller-sized concentric circles, while one large-sized set of concentric circles frames this decoration at each end. Fixed in the centre of each of these concentric circles is a small bronze cone. The edges of the belt were bent inward (0.1 cm), hammered and thus strengthened them. Along the edges tiny perforations are visible, which might have been used to fix the belt to an organic material. On both ends a metal arc was fixed, consisting of a thicker middle segment, which had on both ends a piece of wire. Both wire pieces were stuck through a central hole. On the reverse of the belt each wire piece led back to a separate hole near the end of the bronze segment.

At the front of the belt, the wire end was then twisted around the segment at each of its ends. A piece of organic string was most likely used to fasten the belt.

Position: dislocated, in the central and western part of the chamber

Associated with: an axe, a dagger, a knife and two spearheads along the western edge of the burial pit
Sex of the individual: male between 30-40 years old
Publications: M. Bietak, 1984, fig. 12; G. Philip, 2006, fig. 38.1.

Further parallels: TD 2911B – I. Forstner-Müller, 2008, fig. 88.3 – Ph. F. TD 4128 – I. Forstner-Müller, 2008, fig. 72.1 – Ph. G/1-3. TD 6140 – M. Bietak, 1996, fig. 11; R. Schiestl, 2009, fig. 190.4 – Ph. H. TD 8910 – I. Forstner-Müller, 2008, fig. 103a.1 – Ph. F.

33

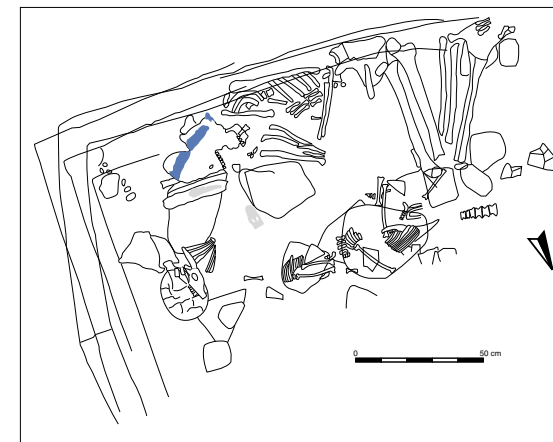
Jewellery**Silver headband**

1

Total

Type of burial: Constructed

Fragments of the headband were found adhering to the forehead of the skull in burial 27. The total length of the headband is not known as portions of it were not removed from around the skull due to the friability of the silver.

**S/ 5744/1018**

Material: silver

Preserved length: 9.5 cm

Width: 3.3 cm

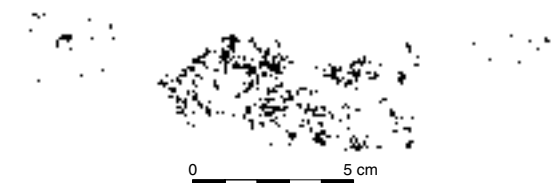
Thickness: 0.1 cm

Position: around the head of the deceased.
Perforated to fix the band around the head.

Associated with: an axe-head, a dagger, a belt, studs, bracelets and an earring (see p. 13, 17, 31, 42, 43, 45).

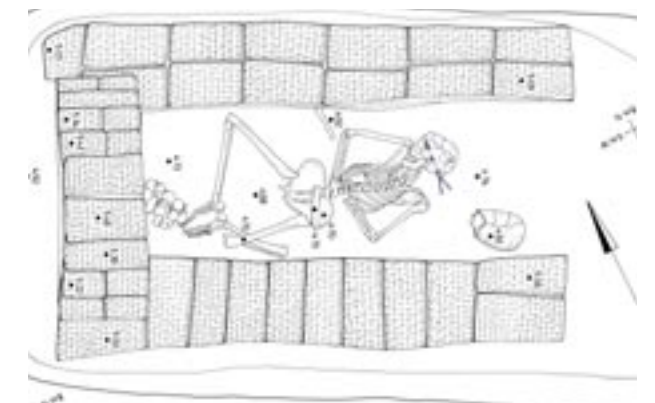
Sex of the individual: male between 20-25 years old

Publication: C. Doumet-Serhal, 2004, p. 222-24; C. Doumet-Serhal, 2007, p. 33, pl. 4, p. 46.

**Jewellery****Silver headband**

34

In Egyptian iconography Asiatics were depicted with long hair and a small band tied around the head and knotted at the back¹⁶. In Tell el-Dab'a headbands were found in male and female burials alike from the later MB IIA until the first half of the Hyksos period. Most of the headbands were made of gold. Only in two cases were silver fragments found. These simple undecorated bands had rounded ends which were in most cases perforated to fix the band around the head with the help of a string. Only two burials had bands long enough to knot at the back.

**A/II – p/13 tomb 15 – Ph. E/2**

Type of tomb: constructed mud brick tomb

Material: silver

Length: about 6.0 cm

Width: 2.0 cm

Thickness: 0.1 cm

Position: around the head of the deceased

Sex of the individual: male between 20-25 years old

Publications: I. Forstner-Müller, 2008, fig. 161.



SIDON

Toggle-pins

Total 3

Type of burial: Constructed

Toggle pins appear only in MB IIB graves from level 5 onwards. The earliest *in situ* pin from Tell el-Dab'a comes from stratum F³⁰ while in Palestine the percentages of pins increase as the period progresses. Toggle pins with conical or domed head and ribbed neck, which appeared all over the Near East³¹, were used as a clothing pin and functioned as a fastener on the shoulder or in the middle of the chest.

One of the pins from burial 67, S/2710 (p. 36) with its segmented globular head, ovoid perforation, and circular cross-section has a ribbed decoration restricted to the area above the perforation. These pins which were popular in the Nile Delta as well as Syria and Kültepe³², were incorporated into the social system of values and meant a great deal to the communities where they were adopted. They most probably originated in Syria. Pin S/3835, (p. 37) with its flat head and decorated with six groups of ribbed lines on top of the perforation and a single ribbed line underneath was found in Sidon's level 8 and is the longest pin found to date on site.

TELL EL-DAB'A

Toggle-pins

Toggle pins were found in Tell el-Dab'a with burials of both sexes. In general they were placed at the left shoulder of the deceased. The variation of the different shapes is rather small. Most of the pins belong either to the type with cylindrical heads or with plain shafts¹⁷.

Only in one burial of a female dating to the transitional MB IIA/B period a pin with a segmented globular head was found. This piece has a perfect parallel in date and appearance at a burial in Sidon. Pins of this type made of gold, were housed in the Beirut Natinal Museum and were thought to come from the famous royal tombs of Byblos¹⁸. If Chéhab's interpretation of the origin of the treasure is correct, the dating of these golden pins would fit very well with the dating of the Sidon and Tell el-Dab'a examples¹⁹.

35

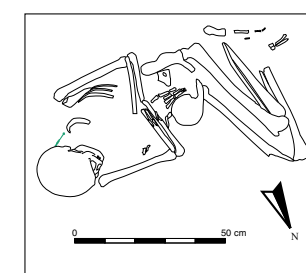
SIDON



Burial 67 Level 5
S/2710/1888

Material: bronze
Overall length: 12 cm
Diameter of mushroom head: 1.05 cm
Thickness: 0.4 cm

Position: near the left arm of the deceased.
Sex of the individual: single adult female approximately 45 years old found together with a number of male individuals.



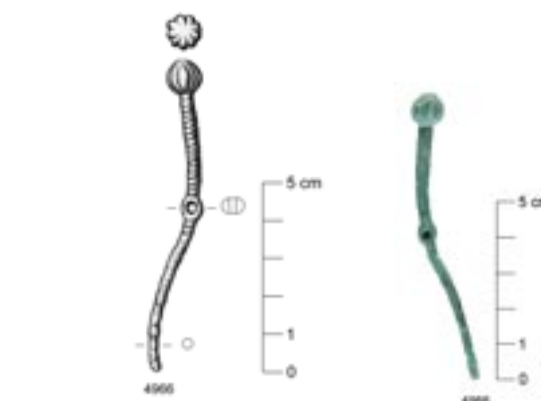
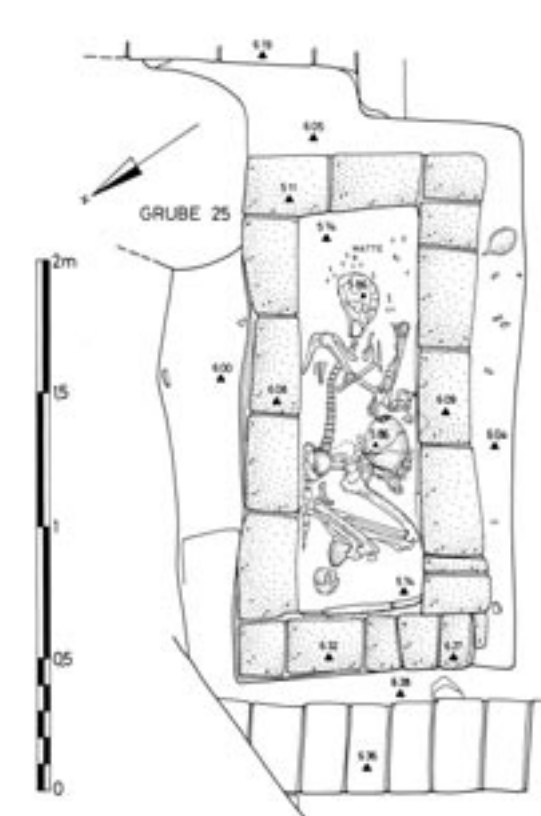
Burial 109 Level 5
S/5363/6056

Material: bronze
Overall length: 9.8 cm
Diameter of mushroom head: 1.0 cm
Thickness: 0.3 cm

Position: on the left shoulder of the deceased.
Sex of the individual: not yet ascertained.



TELL EL-DAB'A



F/I - k/21 tomb 24 - Ph. F

Type of tomb: constructed mud brick tomb
TD 4966

Material: bronze
Length: 8.3 cm
Diameter of mushroom head: 1.0 cm
Thickness of pin: 0.3 cm

The pin has a globular segmented head and horizontal grooves to the middle of the pin, where the eye is located.

Position: on the left shoulder of the deceased.
Sex of the individual: female between 50-60 years old.

Publications: K. Kopetzky, 2003, fig. 53; G. Philip, 2006, fig. 46. 4.

36

SIDON



Toggle-pin with cylindrical head

Burial 7/bone layer
S/3835/1376

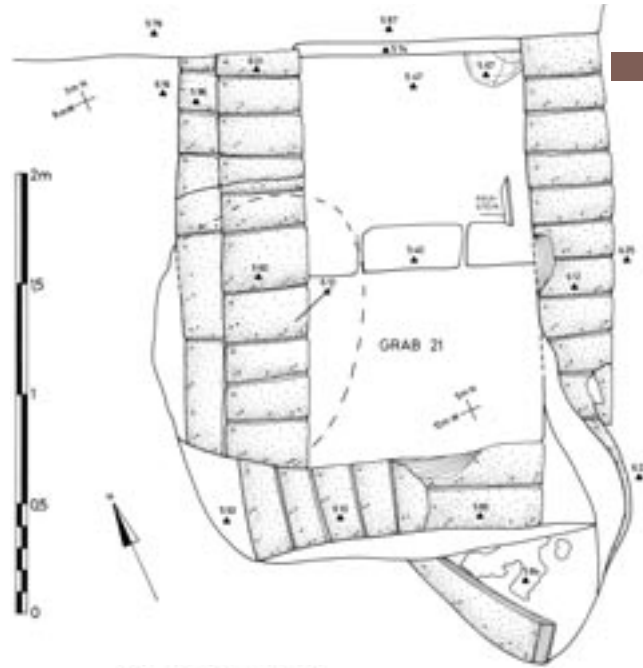
Level 8

Material: bronze
Overall length: 16.2 cm
Diameter of cylindrical head: 0.6 cm
Thickness: 0.3 to 0.4 cm

Position: not *in situ*.
Sex of the individual: mixture of adults and children of undetermined age.
Publications: C. Doumet-Serhal, A. Ogden & H. Schutkowski, 2004, p. 160.



TELL EL-DAB'A



Toggle-pin with cylindrical head

F/I – I/20 tomb 21 – Ph. G/1-3-F



Type of tomb: constructed mud brick tomb.
TD 4786
Material: bronze
Length: 11.4 cm
Diameter of pin: 0.5 cm
This plain pin has a flattened head, a pointed base and slightly an eye above the middle.

Position: found in a robbers pit cutting into the tomb.
Sex of the individual: no bones preserved.
Publications: K. Kopetzky, 1993, fig. 49.1; G. Philip, 2006, fig. 46.7.



SIDON

Finger rings

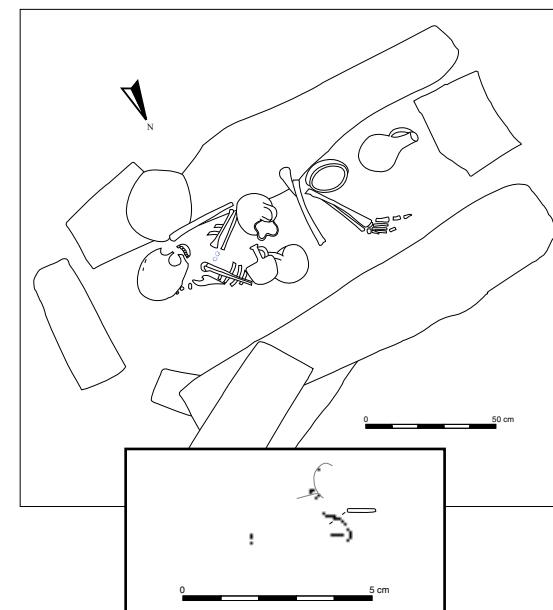
Total 4

Type of burial: constructed

Two silver and one gold ring were found in Sidon. The silver and gold rings were respectively found on the second and third fingers of the left hand of an eight year-old child and on the finger of a female individual thus indicating the wealth associated with the Sidon graves. Another example of a finger ring is the one designed to mount scarabs. Scarab S/2614 (p. 39) was mounted at each end on a silver ring. In burial 12 the ring was made of a perishable material and the scarabs were found on the finger bones in the pelvic area ³³.

The silver rings

Two types of silver ring were found in Sidon. The first was constructed using the sides of the steatite scarab, for example from burial 66 (S/2614, p. 39), which were encased in a gold sheet and the silver wire stuck through the scarab with entwined ends. The second type is represented by the two rings from burial 55 (S/3830 below) which were shaped from two bent silver sheets.



TELL EL-DAB'A

Finger ring

Finger rings are not very common in the burials of Tell el-Dab'a unless used to mount scarabs. Only in a few cases were simple rings were found. It is known from Middle Kingdom burials that a ring was usually worn on the third finger of the left hand ²⁰.



A/II – p/14 tomb 13 – Ph. E/3

Type of tomb: constructed mud brick tomb
TD 8913E

Material: bronze
Diameter: 1.9 cm
Thickness: 0.2 cm
Position: on the left hand of the deceased.
Sex of the individual: Infant between 6-12 years old.
Publications: I. Forstner-Müller, 2008, fig. 136. 2.

Silver

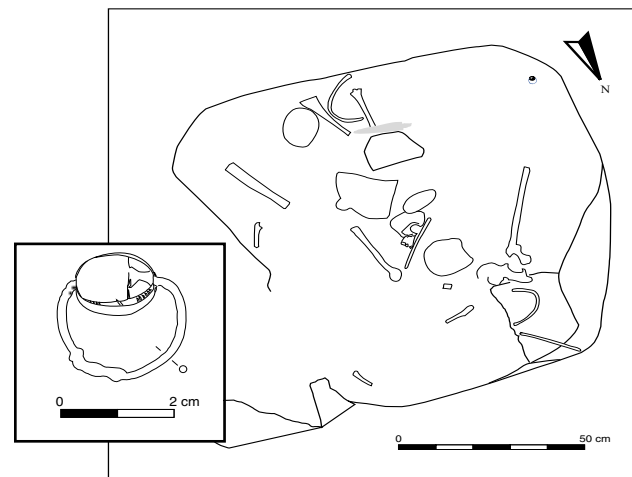
Burial 55

Phase 3

Two rings S/3830
Material: silver
Height: 0.7 cm
Diameter: 1.6 cm
Thickness: 0.1 cm
Position: on the proximal phalanges of the second and third fingers of the left hand.
Sex of the individual: child, 8 years old, of undetermined gender.
Publications: C. Doumet-Serhal, 2007, p. 31-40.



SIDON



Burial 66
S/2614/1878

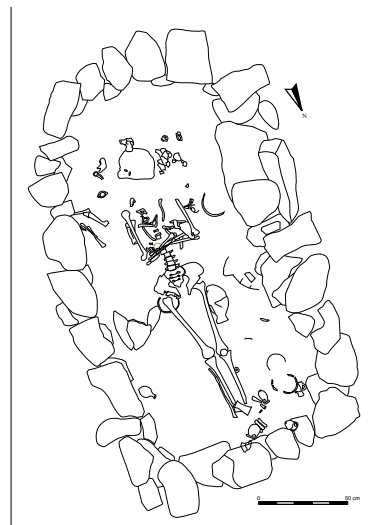
Level 6

Material: silver
Length: 1. 38 cm
Width: 1. 15 cm
Height: 0. 95 cm
Diameter of silver ring: 1. 9 cm

Silver ring with entwined ends stuck through a



scarab encased in a golden sheet.
Position: Towards the western end of the grave.
Associated with: a dagger (p. 19).
Sex of the individual: female, indeterminate age
Publications: H. Loffet, 2008, p. 21.

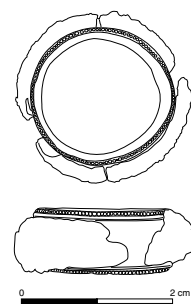


Burial 102
S/4653/6037

Level 5

Material: gold with iron inlay (see p. 53).
Diameter: 2. 2 cm
Thickness: 0. 4 cm with the iron.
The gold ring itself is 0. 1 cm thick.

Position: on the left hand's second or third finger.



Associated with: a pendant and a gold leaf (see p. 40, 46, 53, 60).
Sex of the individual: female, indeterminate age.

The gold ring

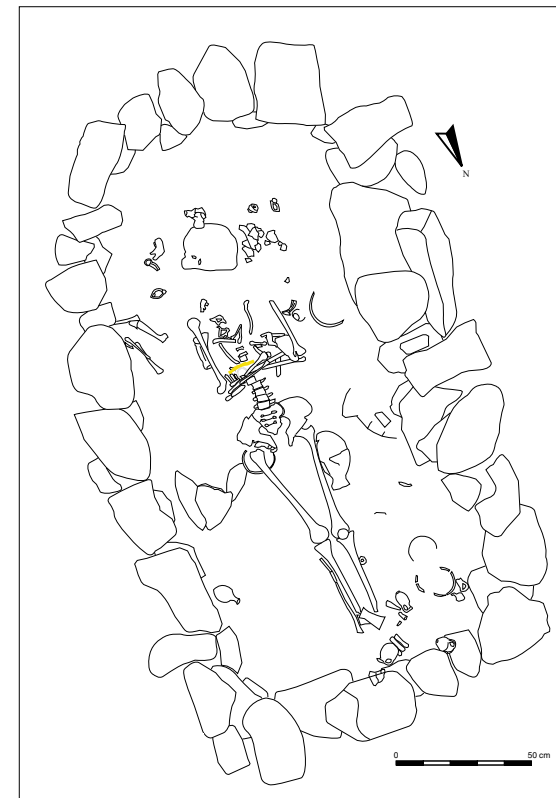
The gold ring (see p. 53) was found together with a pendant in burial 102 (see p. 40 & 60). This grave contained a large number of miniature pottery vessels some of which were of Egyptian influence.

39

SIDON

Pendant

Total 1



Burial 102
S/4622/6037

Level 5

This object was covered with a sheet of gold decorated with a vertical motif of chevrons. The loop at the top is broken. (see p. 60).

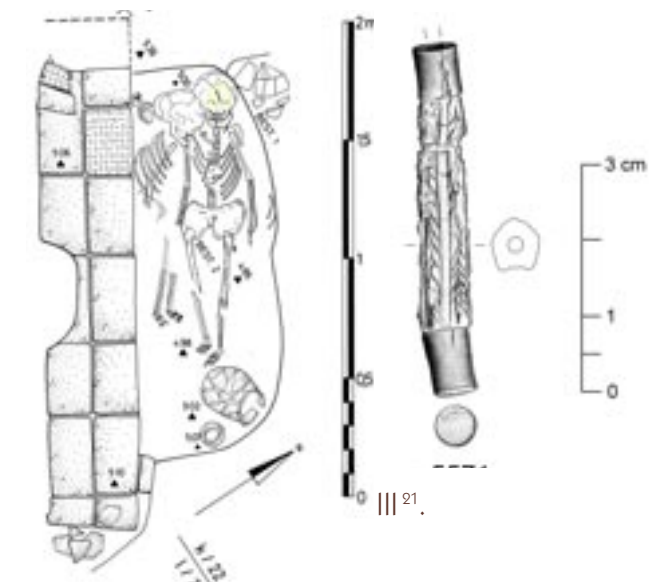
Material: bronze with gold end caps
Length: 4. 7 cm
Maximum thickness: 0. 6 cm
Position: beneath the proximal shaft of the right humerus.
Associated with: a ring and a gold leaf (see p. 39, 46, 53, 60).
Sex of the individual: female, indeterminate age.



TELL EL-DAB'A

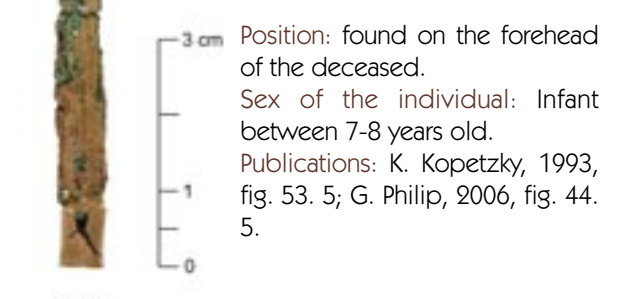
Pendant

Two examples of tubular pendants are known from Tell el-Dab'a, one from a transitional MB IIA/B and one from an early MB IIB burial. Both were found in the upper region of the body, either on the forehead or the chest of the deceased, which were in both cases too young for any determination of sex. Similar pieces are known from the tombs in the gallery of the princesses in Dahshur dating from the late 12th dynasty to the reigns of Senwosret III and Amenemhet



F/I – k/22 tomb 69 – Ph. F
Type of tomb: pit burial
TD 5571

Material: bronze with gold foil
Length: 5. 1 cm
Maximum thickness: 0. 6 cm
The core of this pendant consists of a bronze nail on which a bronze tube is mounted. The latter is covered with a thin gold foil which is decorated with a vertical chevron pattern. On both ends caps of gold foil cover the tube. The loop on the upper end of the pendant is broken where it would have been fixed to a chain.



Position: found on the forehead of the deceased.
Sex of the individual: Infant between 7-8 years old.
Publications: K. Kopetzky, 1993, fig. 53. 5; G. Philip, 2006, fig. 44. 5.

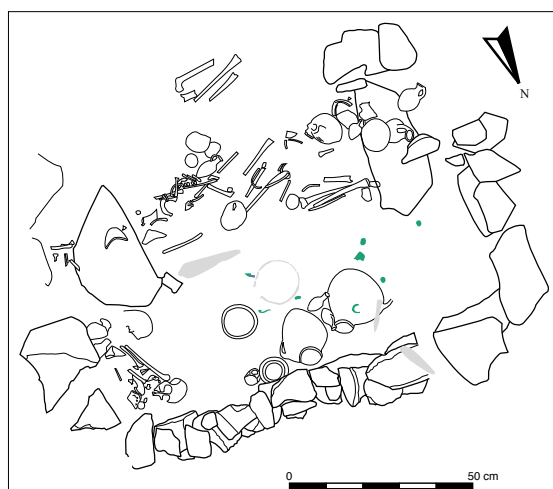
40

SIDON

Torque necklace

Total 1

The torque necklace is made of a subcircular metal rod the ends of which were hammered flat and then curled around to form two loops. It was designed to be worn around the neck.



Burial 42
S/3580/3577

Phase 3

Material: bronze
Diameter : 11 x 12 cm
Diameter of wire : 0.3 cm



Position: scattered in the grave.
Sex of the individual: 4 individuals, one middle-aged female, one large old adult male, one young adult of undetermined gender and one sub adult around 5 to 6 years old, also of undetermined gender.

Associated with: a spearhead, daggers and a belt (see p. 18, 24, 32).

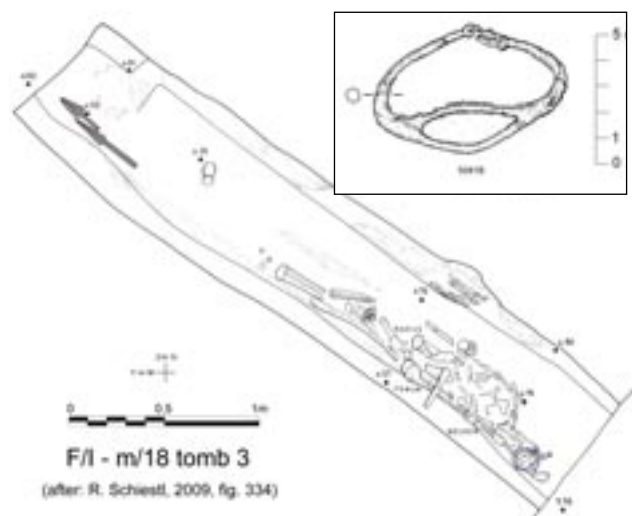
Publications: C. Doumet-Serhal & D. Griffiths, 2007-2008, p. 201.



TELL EL-DAB'A

Bracelet

Only a few bracelets of different styles and material were found on the hands of the deceased. In all cases the deceased were male. I. Forstner-Müller suggested therefore that bracelets were associated with "warrior burials", since all of them were found in tombs containing weapons²². In two cases plain broad silver bands were found around the right wrist of the skeletons²³. While one dates to the MB IIA the other belongs to the first half of the MB IIB period. One gold foil bracelet comes from a disturbed multiple burial of the later MB IIB/C phase²⁴. A golden bracelet with an amethyst was found in the same MB IIA burial as the example below²⁵.



F/I - m/18 tomb 3 - Ph. G/4

Type of tomb: constructed mudbrick tomb
TD 5091B

Material: bronze or silver
Maximum diameter: 7.5 cm
Diameter of wire: 0.5 cm

On the opposite site of the lock the wire of this bracelet splits into two strings, creating an oval lens, where once a semi-precious stone might have been inserted. The lock is heavily corroded. It seems as if part of the ends were bent into a loop and then twisted around the string of the bracelet.

Position: inside a sarcophagus, disturbed
Sex of the individual: male between 20-36 years old.
Associated with: socket axe and dagger.
Publications: R. Schiestl, 2009, fig. 336. 5, pl. XVIIb, M. Bietak, 1991b, pl. 24. a; *idem*, 1996, fig. 22. 4.

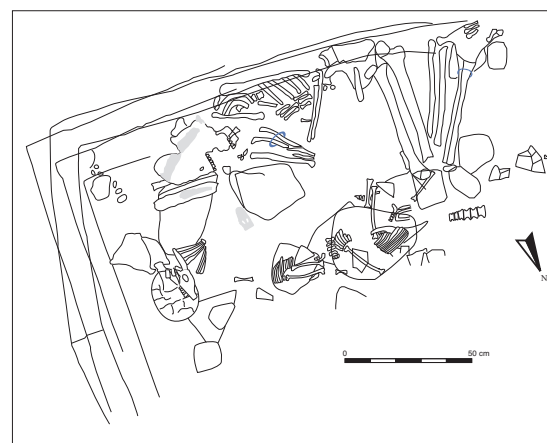


SIDON

Bracelets

Total 1

Only one silver bracelet with overlapping ends and a hammered flat top creating an oval lens was found in burial 27.



Burial 27

S/ 3181/1018
Material: silver

Diameter: 6.3 x 3.9 cm
Diameter of wire: 0.5 cm

Position: around the right wrist.

Associated with: an axe-head, a dagger, a headband, a belt, studs and an earring, (see p. 13, 17, 31, 34, 43, 45).

Sex of the individual: male "warrior", at least 30 years old.

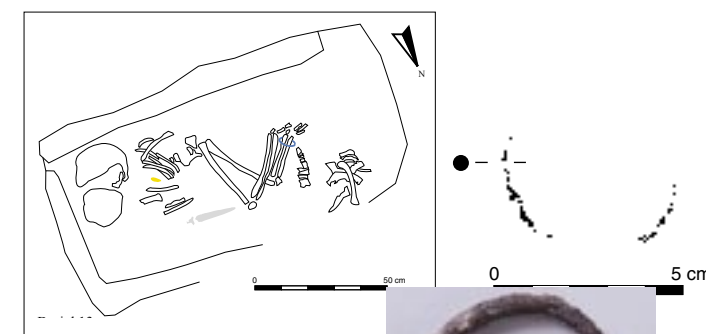
Publications: C. Doumet-Serhal, 2004 c, p. 27.



Ankle bracelets

Total 2

Ankle bracelets were found in two burials. These were simply short curled silver rods. Only the thick rod used in burial 27 consisting of a silver foil on a lead wire surrounded by some sort of filler was decorated with 4 vertical incisions. Definitive identification of the core material of this ankle bracelet must await further research.



Burial 13
Phase 1

S/1823/266
Material: silver
Diameter: 4.5 cm
Diameter of wire: 0.4 cm

Position: around left ankle.

Associated with: a dagger and a gold leaf (see p. 16, 45).

Sex of the individual: undetermined gender around 5 years old.

Publications: C. Doumet-Serhal, 2004, p. 94.



Phase 1

Burial 27

S/3189/1018
Material: silver

Diameter: 8.1 cm x 7.4 cm
Diameter of wire: 1.2 cm

Position: around left ankle.

Associated with: see bracelet in burial 27.

Sex of the individual: male "warrior", at least 30 years old.

Publications: C. Doumet-Serhal, 2004 c, p. 27.

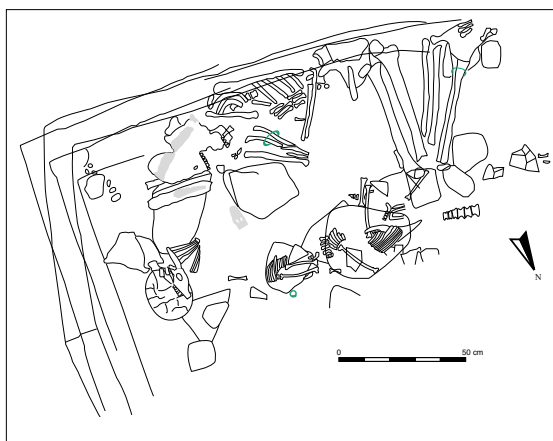


SIDON

Earrings

Total 2

Earrings occur in pairs in the jar burial of a child and are found in the vicinity of the head (burial 114). At tell el-Dab'a earrings occur only with female or child burials from stratum F³⁴. In warrior burial 27, in the northern section of the grave, a bronze earring was found together with remains from the slaughter of at least six caprids, ovines and bovids³⁵.



Burial 27

S/3278/3134

Phase 1

Material: bronze

Diameter: 1 cm

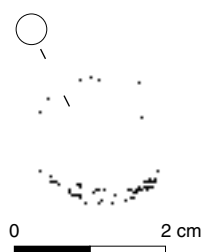
Thickness: 0.4 cm

Position: in the northern section of the grave together with remains from the slaughter of at least six caprids, ovines and bovids.

Associated with: an axe-head, a dagger, a belt, a headband, studs and bracelets, see p. 13, 17, 31, 34, 42, 45).

Sex of the individual: male warrior at least 30 years old.

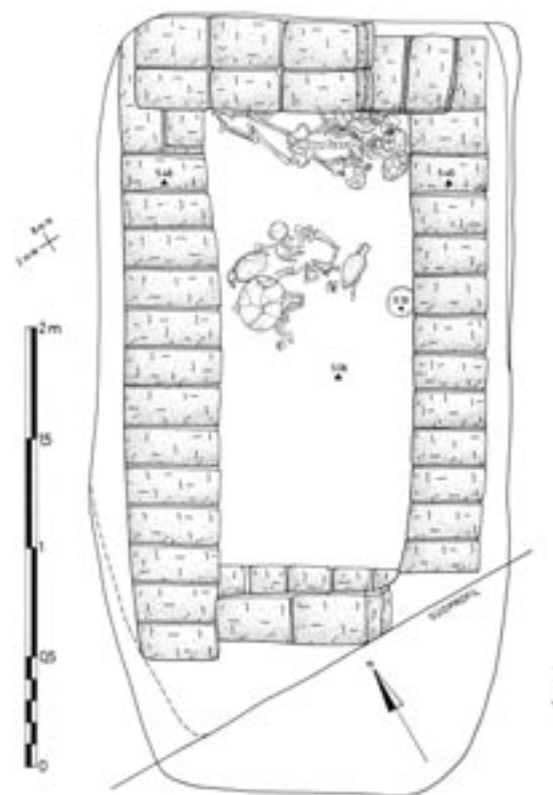
Publications: C. Doumet-Serhal, 2007, p. 34 and note 12, it was originally thought that S/3278 was a ring; E. Vila, 2004, p. 33.



TELL EL-DAB'A

Earrings

In Tell el-Dab'a earrings appear in secure burial contexts from the transitional MB IIA/B phase onwards²⁶ and were restricted to children and female burials²⁷. Although silver was the predominant material for earrings (in 2/3 of all burials), gold and bronze occur as well. Only 25 percent of the burials had double pairs of earrings (two on each ear). Very often only one earring was found. A preferred position at the right ear of the deceased was noticed. While in some cases the possibility exists that one ring of a pair was corroded in other cases it was obvious that only one ring was placed as a burial good²⁸.



F/I - k/23 tomb 33 - Ph. F

Type of tomb: constructed mud brick tomb.

TD 4749 (2 earrings)

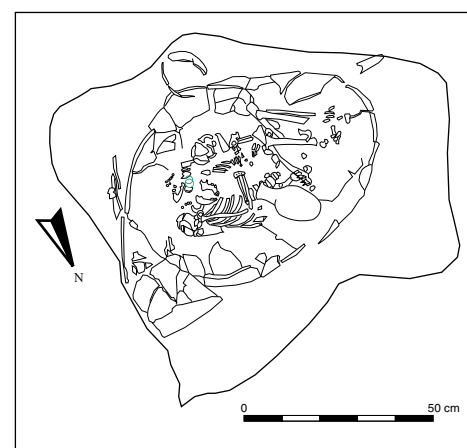
Material: silver

Maximum diameter: 2.8 cm

Diameter of wire: 0.15-0.25 cm

Position: next to the left shoulder of the deceased.

SIDON



Burial 114 (2 earrings)

S/5598/5125 and S/5599/5125

Material: bronze

Diameter: 2.3 and 2.4 cm

Thickness: 0.2 and 0.3 cm

Position: in the vicinity of the head.

Sex of the individual: infant undetermined gender.



TELL EL-DAB'A

TD 4757 (2 earrings)

Material: silver

Maximum Diameter: 2.73 cm

Diameter of wire: 0.2-0.25 cm

Position: under the right side of the face, at ear height.

Associated with: necklace and toggle-pin on the left shoulder.

Sex of the individual: Infant, between 3-4 years old.

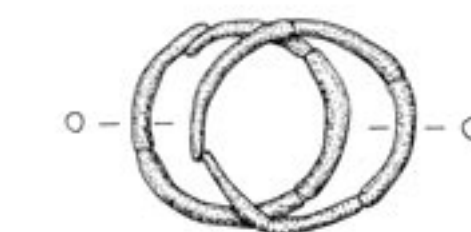
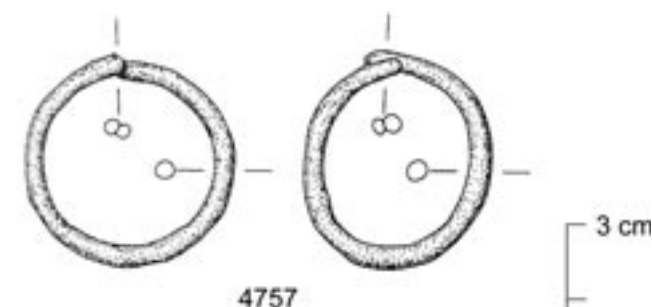
Publications: K. Kopetzky, 1993, fig. 37. 3, 4; G. Philip, 2006, fig. 51.13, 14.

Further parallels:

TD 2099 - M. Bietak, 1991c, fig. 106. 2 - Ph. E/2 (gold).

TD127 - M. Bietak, 1991c, fig. 135. 1 - Ph. E/1 (silver).

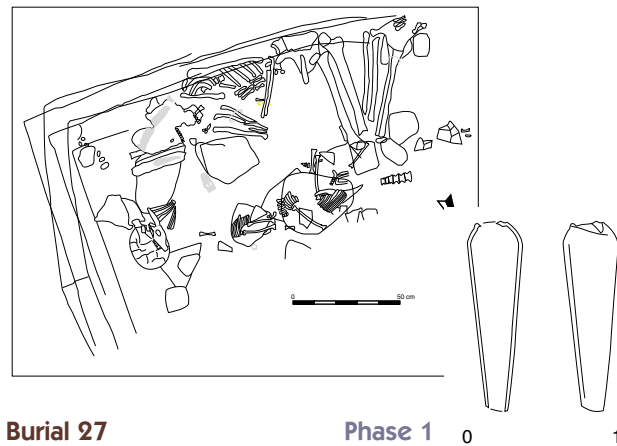
TD 7660 - I. Forstner-Müller, 2008, fig. 146.7 - Ph. E/2 (silver).



SIDON

Beads

Total 5



Burial 27

S/3188/1018

Material: gold, oval-shaped bead from bracelet and-carnelian beads.

Length: 1.3 cm

Thickness: 0.3 cm

Position: bracelet on left wrist.

Associated with: (same as p. 42).

Sex of the individual: male warrior at least 30 years old.

Publications: C. Doumet-Serhal, 2007, p. 33, pl. 3.



Nails

Burial 27

Total 17

Phase 1



S/3141/1018

Material: silver (see p. 13)

Length: 1.4 cm

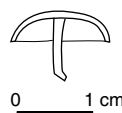
Thickness: 0.9 cm

Position: bracelet on left wrist.

Associated with: (same as p. 42).

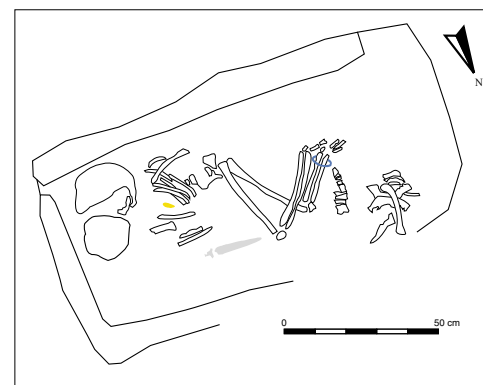
Sex of the individual: male warrior at least 30 years old.

Publications: C. Doumet-Serhal, 2007, p. 33, pl. 4.



Gold leaves

Two gold fragments probably part of a larger object were found in two burials.



Burial 13

S/1824/166

A probable bead

Material: gold

Length: 1.9 cm.

Width: 0.7 cm.

Thickness: 0.01 cm.

Position: on the ribs.

Associated with: a dagger and a bracelet (see p. 16, 42).

Sex of the individual: undetermined gender, approximately 5 years old.

Publications: C. Doumet-Serhal, 2004, p. 94-95.



45

SIDON

Burial 102

Level 5

S/4614/6037

Curled gold leaf

Material: gold

Length: 2.1 cm.

Width: 0.3 x 0.4 cm.

Thickness: 1 cm.

Position: not found *in situ* but in the flotation.

Associated with: a ring and a pendant (see p. 39, 40, 53, 60).

Sex of the individual: female.



Conclusion

The uniqueness of “the warrior burials” phenomenon has already been underlined³⁶. In Sidon, a greater yield of wealth was concentrated in the early phases of the site’s occupation namely the MB IIA and included the warrior group of adult males from phase 1 as well as children.

Axes

None of the axes from Sidon were found in graves containing multiple internments but only with single undisturbed inhumations with all the material from these graves found *in situ* thus making the Sidon data an important additional contribution³⁷ to the pool of knowledge about “warrior burial” graves³⁸. All axes were found in Sidon’s phase 1, the earliest phase of MB IIA. Only one axe belonging to the narrow-bladed chisel axe type commonly found on the Levantine coast³⁹ was found in Sidon’s phase 1 suggesting that this type was contemporary with the fenestrated axe.

Daggers

Daggers were found from phase 1 to level 6 in the MB IIB whereby they are found in multiple constructed graves. These daggers

TELL EL-DAB'A

46

Conclusion

In Tell el-Dab’a the tradition of the “warrior burials” begins with the immigration of the first Canaanite settlers to the site at the end of the 12th dynasty and last until the first half of the Hyksos period²⁹, which is longer than the rest of the MBA cultural sphere³⁰. Although the MB IIA examples are all single burials, some of the MB IIB burials were found inside chambers containing several deceased. Moulds found at the site witness the local production of these weapons at least from the transitional MB IIA/B period onwards³¹.

The Tell el-Dab’a **axes** of the MB IIA mirror the picture of the Sidon examples. Only one duckbill axe was found at the site, while all other axes belong to the notched-chisel type. The latter is rare at Sidon.

Although the variety of the different types of **daggers** is larger in Tell el-Dab’a than in Sidon, the point in time when they vanish from the burials seems to be more or less contemporary. In Tell el-Dab’a they disappear during the first half of the Hyksos period³².

Another parallel between the two sites is

belonging to Tell el-Dab'a type 17 without any major stylistic changes were restricted to southern Palestine and the Delta alone ⁴⁰.

Spearheads

The chronological distribution of spearheads is similar to the axe and daggers as they appear as early as Sidon's phase 1 ⁴¹ until level 5 (MB IIB). Larger spearheads are confined to phase 1 but are absent in the later strata, a pattern which resembles that of the southern Levant rather than Syria. Small spearheads however are found right up until level 5 ⁴².

Knives

Knives are found at Sidon from phase 3/level 4 onwards (end of MB IIA-beginning of MB IIA/B) in male and female burials. These knives resemble Tell el-Dab'a's type 1 knives beginning with stratum G/4 (1770-1740) but concentrated in strata E/1 (1620-1560) and D/3 ⁴³. Knives, which were not considered to be weapons but essentially designed for cutting ⁴⁴ food or other necessities were found in the constructed graves of females (burial 67 and 102). The knife from burial 4 in MB IIB and placed on an animal bone deposit is unique as it distinguishes itself by being shaped like an animal's hoof. Considering the delicate finesse of the blade, it is very possible that this knife would have had a ceremonial role.

Belts

Metal belts in silver and bronze were found in warrior burial 27 belonging to phase 1 as well as in burial 42 which was disturbed in the MB IIB. Given the good assemblage of weapons found in this burial it appears that these belts are part of the "warrior" assemblage. It is worth noting that in the Sidon graves, belts are associated with daggers which were probably suspended from belts⁴⁵.

the end of the appearance of **spearheads** with the beginning of the MB IIB phase. While in Tell el-Dab'a during the second half of the MB IIA most of the spearheads appear in pairs inside the burials and only later as singles, in Sidon no pairs were detected.

The appearance of **bracelets** on the right wrist of deceased males associated with weapons seems to be another common feature between the two sites.

From the end of the MB IIA (Ph. G/1-3) and particularly from the transitional MB IIA/B (Ph. F) onwards female burials become richer in terms of their burial goods. More jewellery is found inside their tombs with several burial goods very likely coming from looted Middle Kingdom tombs in the Memphite area ³³. Nevertheless the changes in the status of women which C. Doumet-Serhal sees during the beginning of MB IIB at Sidon starts already a generation earlier in Tell el-Dab'a.

Personal belongings

Silver and bronze jewellery is concentrated in the early phases of the site in warrior burials. Female burials in MB IIB (level 5 and 6) produced less metal artefacts and the main categories associated with female burials are rings and pendants. This particular type of artefact indicates a change in the status of women in Sidon and reflects their right to have valuable materials in their graves. Toggle-pins are only found in the MB IIB (level 5 and 6).

After phase 3 very few weapons were found in the Sidon's graves. A dagger and a spearhead were found in multiple constructed graves in level 5 whereas in level 6 only one dagger was found in multiple burial 66. Another important conclusion that can be deduced from the grave goods found with these high ranking individuals is that some show close affinities to Syrian influence whilst others are more Palestinian in affect. This can be seen from the weapon combination, namely the axe and spear ⁴⁶ over axe and dagger ⁴⁷, from the position of the axe from burial 12 as well as from the use of the miniature axe, which is mainly found in Syria. Similar to some of the other graves in phase 1, yet again we find another Syrian component, the torque necklace with curved ending at either side worn around the neck. This torque style appears particularly in Ras Shamra in warrior burials described by Schaeffer as those of "*les porteurs de torques*". Luxury items again appear in some of the constructed graves from level 5 and 6 but what has changed is that grave goods no longer carry the same symbolic aspect of the earlier burials even though they still reflect a high social status.

NOTES SIDON

- 1 M. Ownby & D. Griffiths, 2009, p. 60-65.
- 2 G. Philip, 1995, p. 140-141; Y. Garfinkel, 2001, p. 156.
- 3 G. Gernez, 2007, p. 125, on the duckbill axe being specific to Levantine culture.
- 4 R. Schiestl, 2009, p. 103.
- 5 R. du Mesnil du Buisson, 1948, p. 63, 69.
- 6 C. Doumet-Serhal, 2004, p. 158.
- 7 G. Philip, 1989, p. 55; R. Schiestl, 2009, p. 103.
- 8 R. Schiestl, 2009, p. 101-106.
- 9 G. Philip, 2006, p. 35.
- 10 G. Philip, 1989, p. 102; For an example from Tell Arqa in MB I, G. Gernez, 2008, pl. 2, p. 227.
- 11 G. Philip, 2006, p. 51-52.
- 12 C. Doumet-Serhal 2004, p. 94-95.
- 13 G. Philip, 1989, p. 115-116 but without the styled blade; G. Philip, 1995, p. 143.
- 14 G. Philip, 2006, p. 59.
- 15 G. Philip, 2006, p. 67-68.
- 16 G. Philip, 1989, p. 88; Garfinkel and S. Cohen, 2007, p. 106.
- 17 S. Cohen, 2005, p. 132-133.
- 18 C. Doumet-Serhal, 2004, p. 168; C. Doumet-Serhal, 2004 a, p. 168-169.
- 19 S. Cohen, 2005, p. 132-133.
- 20 *Ibid.*, p. 140.

- 21 G. Philip, 1989, p. 141-142.
- 22 C. Doumet-Serhal, 2009, p. 240-242.
- 23 E. D. Oren, 1971, p. 115 on the two distinctive versions of spearheads in accordance with the ratio of length of socket and blade.
- 24 G. Philip, 2006, p. 79, 149.
- 25 C. Doumet-Serhal, 2004, p. 172-174.
- 26 E. Vila, 2004, p. 167-180.
- 27 C. Doumet-Serhal & D. Griffiths, 2007-2008, p. 197-201.
- 28 *Ibid.*, p. 200.
- 29 G. Philip, 2006, p. 84.
- 30 G. Philip, 2006, p. 157.
- 31 E. Henschel-Simon, 1938, p. 169-174; G. Gernez, 2008, for Tell Arqa and Syrian comparisons.
- 32 G. Philip, 206, p. 158, 160, 161.
- 33 C. Doumet-Serhal, 2004, p. 90.
- 34 G. Philip, 2006, p. 114, 163, one earring comes from stratum G/1-3.
- 35 E. Vila, 2004, p. 31-33.
- 36 G. Philip, 1995, p. 145.
- 37 Although many axes were found In Tell el-Dab'a only a few could be dated closely. Most come from tombs which were either disturbed or reused, G. Philip, 2006, p. 138.
- 38 Y. Garfinkel, 2001, p. 143, 155.
- 39 G. Philip, 2006, p. 138.
- 40 G. Philip, 2006, p. 143.

41 The chronological distribution of spearheads at Tell el-Dab'a is quite different from that of axes and daggers. This echoes what is documented in the Levant where small spearheads are largely restricted to graves dating to the first half of the MBA. Larger spearheads are assigned to the transitional MB II A-B but are absent in the later strata, a pattern which resembles that of the southern Levant rather than Syria where examples occur in later MB A contexts at both Ras Shamra and Tell Mardikh, G. Philip, 1989, 99, 169; G. Philip, 2006, p. 147.

42 G. Philip, 2006, p. 148. Arrowheads played a small role in grave assemblages before the Late Bronze Age, G. Philip, 1989, p. 145.

43 G. Philip, 2006, p. 79, 149.

44 G. Philip 1989: 141-142; G. Philip, 2006, p. 150-151.

45 G. Philip, 2006, p. 154.

46 R. Schiestl, 2002, p. 331.

47 C. Doumet-Serhal, 2004, p. 175.

ABBREVIATIONS

AHL *Archaeology and History in the Lebanon.*
BAAL *Bulletin d'Archéologie et d'Architecture libanaises.*
IEJ *Israel Exploration Journal.*

NOTES TELL EL-DAB'A

- 1 G. Philip, 2006.
- 2 R. Schiestl, 2009; M. Bietak, 1984.
- 3 In Tell el-Dab'a tombs which contain weapons exist well into the MB IIB. See for this: M. Bietak, 1991c, I. Forstner-Müller, 2008.
- 4 K. Kopetzky, 1993.
- 5 While the Egyptians mined gold in Nubia and the Eastern Desert and controlled therefore most of the gold trade in the Eastern Mediterranean at that time, they had to import silver from abroad (i. e. Anatolia).
- 6 G. Philip, 2006, p. 218.
- 7 G. Philip, 2006, p. 226, tab. 26.
- 8 G. Phillip, 2006, p. 225.
- 9 R. Schiestl, 2009, p. 101- 105.
- 10 G. Philip, 2006, p. 139f.
- 11 M. Bietak, 1991 c, fig. 25.
- 12 R. Schiestl, 2009, fig. 334.
- 13 G. Philip, 2006, p.67.
- 14 R. Schiest, 2009, p. 381, fig. 337/13.
- 15 See C. Doumet-Serhal in this article, p. 32.
- 16 For the Old Kingdom see: L. Borchardt, 1913, pl. 11 and 13. For the Middle Kingdom: P. E. Newberry, 1893, pl. 30, in this instance the women are wearing this headband.
- 17 G. Philip, 2006, p.95-102.
- 18 M. Chéhab, 1937, p. 13, pl. V, 25 and 26.

19 For the revised dating of the royal tombs I-III see: K. Kopetzky, 2004; *idem.*, 2010, p. 167 f.

20 G. Philip, 2006, p. 165.

21 J. de Morgan, 1895, pl. XVII, 17; pl. XVIII – premier trésor; pl. XIX, 56; pl. XXIV, 55- second trésor.

22 I. Forstner-Müller, 2008, p. 57.

23 R. Schiestl, 2009, fig. 210; I. Forstner-Müller, 2008, p. 235.

24 I. Forstner-Müller, 2008, fig. 245 a.12.

25 R. Schiestl, 2009, fig. 336. 4.

26 The oldest is a jar burial which cuts into a late MB IIA pit and dates either to the end of Phase G/1-3 or more likely to Phase F. For the burial see: K. Kopetzky, 1993, p. 49 f.

27 K. Kopetzky, 1993, p. 34.

28 This is clear in the case of the gold examples as this material could not have dissolved in the ground water of Tell el-Dab'a.

29 M. Bietak, 1991 c,, fig. 140.2; I. Forstner-Müller, 2008, fig. 203 a.3.

30 M. Bietak and E. Strouhal, 1974, were able to prove that king Seqenenre Tao II, the predecessor of Kamose, last king of the 17th dynasty, was killed with a notched-chisel axe.

31 G. Philip, 2006, p. fig. 64, also fig. 77.

32 I. Forstner-Müller, 2008, fig. 203 a.4.

33 See I. Forstner-Müller, 2008, figs. 91.2, 97 a.7 and 8.

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51

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52