

**Barikot, Swat (1984-1992).  
Taxonomic Study of the Copper Alloy Objects**

**Luca Colliva**

**Abstract**

*The excavation of the urban site of Barikot (Swat, Pakistan), with its forty years of systematic archaeological activity and stratigraphic sequence from the Chalcolithic to the 20th century AD, provides a very fruitful harvest of stratigraphic data that currently has few comparisons in the subcontinent.*

*The cross-analysis of the artefacts and the stratigraphic data, although needing constant updating, provides crucial information on the material culture in the area and on its diachronic evolution. This article presents the taxonomic study of copper alloy objects found in Trenches BKG 1, 3 and 4-5 of the Barikot site cross-compared with the most updated chronological sequence proposed for the site and based on the recent archaeological excavations.*

**Keywords:** Swat, Barikot, Copper alloy, Taxonomy, Metallurgy

**0. Introduction**

This article aims to present a taxonomic study of the copper alloy artefacts found in the urban site of Barikot (Bir-koṭ-ghwaṇḍai, Swat valley, Pakistan) in trenches BKG 1, BKG 3 and BKG 4-5, excavated under the direction of Pierfrancesco Callieri from 1984 to 1992.<sup>1</sup>

The excavation of the Barikot site, which is still ongoing today, under the direction of L.M. Olivieri, has produced an imposing stratigraphic sequence that goes from the Chalcolithic to the 20th century AD and has few comparisons in the subcontinent. Due to these

---

<sup>1</sup> This article is a revised, translated and updated version of the chapters 3 and 6 of Colliva 2012. The artefacts from the other trenches of the site will be the subject of a subsequent study. The author would like to thank all the members of the ISMEO Italian Archaeological Mission in Pakistan (or MAIP) and, in particular, the previous and current Directors, P. Callieri and L.M. Olivieri, for their constant help and support.

characteristics, the cross-study of the artefacts found in Barikot and the updated stratigraphic sequence of the site provides new crucial information on the material culture in the area and on its diachronic evolution. The excavation of the trenches BKG 1, BKG 3 BKG 4-5 has brought to light 211 objects in copper alloy.<sup>2</sup> The study of these objects was carried out by dividing the findings into eight categories in turn subdivided, when possible, into homogeneous groups and subgroups based on taxonomic characteristics; furthermore, within the groups, when needed, some significant variants have been identified.

The eight categories are “Rings and Earrings” (see § 1 and Tab. 2); “Bracelets and Necklaces” (see § 2 and Tab. 3); “Hairpins” (see § 3 and Tab. 4); “Cosmetic Tools” (see § 4 and Tab. 5); “Miscellaneous Tools” (see § 5 and Tab. 6); “Decorative Plaques and Foils” (see § 6 and Tab. 7); “Metal Vessels” (see § 7 and Tab. 8); “Miscellaneous and Unidentified objects” (see § 8 and Tab. 9). In the last category, we included all the objects for which it was not possible to identify a coherent category or not identifiable due to the scarcity or poor state of preservation. Finally, we recorded in a separate table, all the objects recognised as indicators of the presence of a metallurgical activity, even those already included in the previous categories: processing slags, prills, crucible and all the objects found folded and ready to be merged and re-wrought (see § 9 and Tab. 10).

For the selected categories, when useful, an alphanumeric code has been created in which capital letters and Roman numerals indicate respectively the group and the possible subgroup the object belongs to and

---

<sup>2</sup> The catalogue includes all the objects in copper alloy or somehow connected to this class excavated in Trenches BKG 1, BKG 3 and BKG 4-5 and registered between 1984 and 1992. Some of these objects, particularly significant and better preserved, have been inventoried, handed over to the Department of Archaeology & Museums, Government of Pakistan, and are now kept at the Swat Museum of Saidu Sharif. The inventoried objects are identified by a progressive number (not related to the class of material) preceded by the initials BKG. A complete list of the inventoried objects is compiled at the end of each excavation campaign and handed over to the officials of the Department of Archaeology & Museums. The non-inventoried objects include all the materials that have been not taken over by department officials and are identified by a field number. These objects are temporarily in custody at the Mission headquarters in Saidu Sharif for study. The field number of the non-inventoried objects has been assigned in random order during the study of the material and it is not linked to the trench or to the stratigraphic unit of finding. The numbers marked as “bis” derive from misprints during the numbering: when a field number has been repeated twice, it was decided not to change the number, to avoid misunderstanding with previous documents but to add the suffix “bis” to one of the two field numbers.

the lowercase letters the possible variants.

All the objects have been linked, based on their context, to a cultural macrophases of the sites. The macrophases and the chronological sequences of the trenches are summarised in Tab. 1.<sup>3</sup> The chronological sequence presented here, still to be considered preliminary and continuously updated based on the new excavations carried out by the Mission, shows all the macrophases identified at Barikot, including those poorly or not represented in the trenches discussed in this article.

## **1. Rings and Earrings**

The objects belonging to this group have been divided into three main groups based on the body section:

- ◇ **Group A:** Body with circular or elliptical section.
- ◇ **Group B:** Body with quadrangular section (Fig. 1).
- ◇ **Group C:** Body with arc, planoconvex or rectangular-convex section (Figs 2-3).

The doubling of the first letter of the code indicates that the object has an open circumference.

Each group has been divided into two subgroups based on body width variation:

- I. Body with constant width.
- II. Body with variable width.

Furthermore, the following variants have also been identified:

- a. Presence of a simple bezel.
- b. Presence of a bezel decorated with engravings or applied decoration.
- c. Presence of a stone set.
- d. Presence of engraved or applied decoration.

---

<sup>3</sup> For a more accurate description of the trenches, of their chronological sequences and the site cultural macrophases, see Colliva 2011; 2012; Olivieri and Colliva 2019 and related bibliography. Subphases, marked with lower case letters after the number, have been specified only for the trench BKG 4-5.

**Group C** is the most represented (9 out of 13); at the same time, it should be noted that there is, in this group, a wide variety in terms of shape and type of decorations (see Tab. 2). It is challenging, due to the limited number of objects and numerous differences, to highlight particular links between the identified groups and the cultural macrophases of the stratigraphic sequence; however, we can note that all the rings with a stone set (Variant “c”), BKG 839 (Fig. 2), No. 3 and No. 133, have been found in stratigraphic units belonging to the Macrophase 4 (see Tab. 2), dated to the 1st-2nd century AD (see Tab. 1).

A special mention deserves the ring No. 2 (Fig. 3), which presents, despite the poor state of preservation, an unexpected decoration engraved on the bezel. The analysis of some radiographs<sup>4</sup> allowed the identification of a figurative decoration on the bezel of the ring: this decoration, totally invisible with unaided eyes, appears, albeit unclear, in the radiographs (Fig. 4). A subsequent increase in the contrast of the image made it possible to make this figure more visible and put forward a reconstructive hypothesis (Fig. 5). The proposed reconstruction of the decoration is hypothetical but suggests identifying the ring No. 2 as seal-rings with engraving decorated bezel (Variant “b”). This group is abundantly documented in Taxila (Marshall 1951: II, 647: Type e; III, Pl. 198); from which it also comes a possible iconographic comparison, although not perfectly coinciding (Marshall 1951: II, 645: No. 16; III, Pl. 197: No. 16; Fig. 4). The ring found in Taxila, in gold and not in copper alloy, was part of a hoard dated to the 1st century AD, but also containing older materials (1st century BC) (Marshall 1951: I, 158-159; II, 643). Unfortunately, the ring from Barikot was found on the surface and had no archaeological context.

---

<sup>4</sup> During the 1999 archaeological campaign, some copper alloy objects were subjected to radiographic analysis to examine the state of preservation and the mineralization processes in progress (see also Fiori *et al.* 2002: 157). The analysed objects were: No. 2: ring; No. 4: antimony rod; No. 5: antimony rod; No. 6: antimony rod; No. 9: bracelet (?); No. 10: bracelet (?); No. 39: antimony rod; No. 109: bracelet; No. 110: prill; No. 111: bracelet; No. 112: antimony rod; No. 115: stem (?) for antimony; No. 168: stem (?). X-rays were taken in Saidu Sharif Swat X-Ray Laboratory with the help of technician Amjad Ali Khan. The machine was a 1965 Toshiba TF-6TL-6 (Colliva 2012: 159-164). Four different radiographs were taken: the first three radiographs had as subject the samples No. 2, No. 9, No. 10, No. 109, No. 110, No. 111 and No. 115; in the fourth one, a group of antimony rods or stems were analysed: No. 4, No. 5, No. 6, No. 39, No. 112 and No. 168. Radiographs were performed by varying the power and intensity of the emission: 55 kV, 300 mA; 70 kV, 300 mA; 90 kV, 300 mA; 95 kV, 250 mA; the 10 seconds exposure time, instead, remained constant.

## **2. Bracelets and Necklaces**

The taxonomic subdivision for bracelets and necklaces mainly resumes that proposed for the previous category, with some necessary add-on:

- ◇ **Group A:** Body with circular or elliptical section (Fig. 7).
- ◇ **Group B:** Body with quadrangular section.
- ◇ **Group C:** Body with arc, planoconvex or rectangular-convex section (Figs 8, 10).
- ◇ **Group D:** Object composed of beads (Fig. 9).

The doubling of the capital letter indicates, also in this case, an open circumference of the body.

The two subgroups assigned based on body width are kept:

- I. Body with constant width.
- II. Body with variable width.

As for the variants we decided to keep the same subdivision for the previous category to which we added a fifth variant (Variant “e”) related to the presence of decorations on the ends of an open circumference body:<sup>5</sup>

- a. Presence of a simple bezel.
- b. Presence of a bezel decorated with engravings or applied decoration.
- c. Presence of a set stones.
- d. Presence of engraved or applied decoration on the body.
- e. Open circumference and decorated ends.

As for “Rings and Earrings”, in this case also, the typological variety is very high and no significant connections between identified groups and macrophases of the Barikot chronological sequence have been identified.

---

<sup>5</sup> For completeness and to minimize errors and misunderstandings, we include in the taxonomic subdivision for the “Bracelets and Necklaces” category all the variants used for the “Rings and Earrings” category (see § 1) even if they are not attested, at least up to now, in this category.

The **Group C**, “Bracelets with arc, planoconvex or rectangular-convex section body” is the largest (10 out of 18) of this category.

**Group B**, “Bracelets with a quadrangular section body”, is represented by a single specimen, BKG 1707; moreover, its attribution to Group B is doubtful and we cannot exclude that it could be a bracelet with a rectangular-convex section body.<sup>6</sup> This object is of particular interest because it is the only one bracelet so far found in these trenches showing traces of gilding.

**Group D** includes two objects: No. 96 and No. 97 (Fig. 9), both composed of disk or pseudo-rosette beads. The similarity between the beads of the two objects and the fact that they were found in the same *locus* (BKG 422) leads us to believe that these beads all belong to the same object. The excavation data, however, records that these beads were found in two different stratigraphic units (respectively SU 80 and SU 91) belonging to two distinct, although succeeding, macrophases (for No. 96 Period VII of BKG 4 belonging to Macrophase 5, subphase 5a, and for No. 97 Period VI of BKG 4, belonging to Macrophase 4, subphase 4b, see Tab. 3). Still, we cannot rule out a simple mistake during the excavation or the preliminary cataloguing of these objects. In this case, the Variant “d” assigned to objects No. 96 and No. 97 indicates the pseudo-rosette processing visible in some beads.<sup>7</sup>

### 3. Hairpins

The objects belonging to this category were divided into eight groups based on the shape of the head:

- ◇ **Group A:** Conical head (Fig. 11).
- ◇ **Group B:** Head consisting of a globular element.
- ◇ **Group C:** Head consisting of a disk (Fig. 12).

---

<sup>6</sup> The object is currently kept in the warehouses of the Swat Museum; the author could not personally examine the object and was obliged to rely only on the brief description included in the preliminary reports prepared at the end of each excavation campaign.

<sup>7</sup> A group of three beads belonging to the object No. 97 was taken to Italy for metallographic analysis and the results demonstrated that these beads are made of a copper and zinc alloy (Colliva 2012: 63, 102-127).

- ◇ **Group BC:** Head consisting of a globular element surmounted by a disk (Fig. 13).
- ◇ **Group D:** Composite head ending with a quadripartite element, perhaps phytomorphic (Fig. 14).<sup>8</sup>
- ◇ **Group E:** Head with animal figure decoration (Fig. 15).
- ◇ **Group F:** Head with phytomorphic decoration.
- ◇ **Group G:** Hairpin with two pointed ends.

No subgroups or variant have been identified for this category.

The objects belonging to **Group A** are three and have been found in different cultural macrophases: No. 114 in Macrophase 3b and BKG 1407 in Macrophase 5b (Fig. 11); the third one, No. 139, has been found in an uncertain context that has not been included in any cultural macrophase (see Tab. 4). Possible comparisons for this group have been found at Muzot (Nasim Khan 1999-2000: 112, 118: Pl. VIII) and, albeit in iron, at Saidu Sharif (Callieri 1989: 218-220: S2021).

**Group B** is well attested both at Taxila (Ghosh 1948: Pl. XVIII: No. 6; Marshall 1951: Pl. 173), Saidu Sharif (Callieri 1989: 186-188: S2001, 218-220: S1949, S2014) and also at Muzot (Nasim Khan 1999-2000: 112, 118: Pl. VIII.). However, at Barikot it is not clearly attested, at least as far as the trenches considered in this article are concerned.<sup>9</sup>

**Group C** is represented by two objects: No. 18 and No. 181 (Fig. 12), respectively belonging to Macrophase 5, dated to the 3rd century AD and Macrophase 4b, dated to the 2nd century AD. A possible comparison, also chronologically consistent at least with the second one, has been found at Saidu Sharif (Callieri 1989: 182, 184-185: S1953).

**Group BC**, instead, is represented by seven objects: No. 165, belonging to Macrophase 3a (Fig. 13); BKG 1096, BKG 1453 BKG1595 and BKG 1610, pertaining to Macrophase 5; No. 74, belonging to Macrophase 8 (?) and No. 31, relating to Macrophase 9. The number of objects belonging to

---

<sup>8</sup> M. Nascari, in a preliminary study he carried out on these objects, describes the quadripartite element as a “lotus flower”. In other publications, this group was also called “cube and bead” (Marshall 1951: 586) or “pin with castellated head” (Stronach 1978: 213 No 13).

<sup>9</sup> The attribution to Group B of No. 18, reported in Colliva 2012: 46-47, is an error.

this group is too low for any statistical analysis to have any probative value. It is, however, interesting to notice that more than half of the objects of this group come from stratigraphic units belonging to Macrophase 5, dated to the 3rd century AD (see Tab. 4). A possible comparison for this group, albeit not entirely consistent, comes from Taxila, but A. Ghosh dates it to the second half of the 1st century AD-early 2nd century AD (Ghosh 1948: 78, Pl. XVIII: No. 6).

**Group D** shows many variations of shape; the quadripartite element that distinguishes the head is always supported by globular or cubic elements and rounded bands or collars, but the number and order of these elements vary in each case. Comparisons for this group have been found at Saidu Sharif (Callieri 1989: 186-188: S2200), Taxila (Marshall 1951: II, 586: No. 237; III, Pl. 173: No. 237; Pl. 182: p 3), and also at Pasargadae (Iran) (Stronach 1978: 213, No. 13). Five elements belong to this group. Four have been found in stratigraphic units belonging to the Macrophase 4, dated between the 1st-2nd century AD: BKG 1213, BKG 1471 (Fig. 14), No. 142 and No. 189, and this dating is at least partially compatible with the possible comparison from Taxila that J.H. Marshall dated to the Śaka-Parthian period (Marshall 1951: II, 586: No. 237). Object BKG 1433, instead, has been found in stratigraphic units belonging to the Macrophase 5b, dated to the second half of the 3rd century AD.

The last groups are represented by a single object each.

**Group E** is represented by object No. BKG 1513 (Fig. 15), with a rooster (?) -shaped head, found in a stratigraphic unit of the Macrophase 4b, dated to the 2nd century AD. Comparisons with similar hairpins can be found at Shaikhan Dheri (Dani 1965-66: Pl. XLIX: No. 17), and at Ai Khanum (Guillaume and Rougeulle 1987: Pl. 3: No. 14), but also at Qasr-e Abu Nasr (Whitcomb 1985: 169, 174-175: Fig. 65 n-o).<sup>10</sup>

**Group F** includes only object BKG 1594, also found in stratigraphic unit belonging to the Macrophase 4b, dated to the 2nd century AD.

Object No. BKG 1288 deserves a separate discussion; the object has been identified, albeit with many doubts, like a hairpin with two pointed ends,

---

<sup>10</sup> See Whitcomb 1985: 169 and related bibliography also for some other possible comparisons in Iran and western Asia.



**Group G.** Stressing the uncertainty, M. Nascari, in his preliminary studies,<sup>11</sup> does not exclude a different identification as a clamp. Still, the comparison brought (Marshall 1951: III, Pl. 167: No. 134) does not seem very convincing.

#### **4. Cosmetic Tools**

The objects of this category have been divided, according to the function of the preserved ends, into five groups:

- ◇ **Group A:** Antimony rod (Figs 16-18).
- ◇ **Group B:** Ear-cleaner (Fig. 19).
- ◇ **Group C:** Dispenser for cosmetics (Fig. 20).
- ◇ **Group D:** Toothpicks or pointed tip tool (Fig. 21).
- ◇ **Group E:** Mirror (Fig. 22).

Whenever possible, the attribution of both ends of the object has been indicated. On several occasions the two ends belong to different groups or subgroups, and the object can have different functions.

Possible variants are always indicated after the identification of the ends. Three variants have been distinguished for this category, based on the section of the body of the object and the presence of decorations:

- a. Body with a circular section.
- b. Body with a quadrangular section.
- c. Body with decorations.

**Group A** has two subgroups depending on the shape of the rod end: conical, Subgroup AI, or rounded, Subgroups AII. Unfortunately, it is not always possible to make a clear distinction between these subgroups, often due to the poor state of preservation of the objects. In some cases, the identification is limited to Group A.

An interpretative problem also exists for objects with an extremity possibly belonging to Group C: it is often difficult to distinguish the cosmetic dispenser of Group C from objects belonging other groups or even categories, in particular ear-cleaner or spoons. As regards the distinction between objects belonging to Group B and Group C, the

---

<sup>11</sup> Unpublished preliminary cataloguing for internal use of the Mission.

diameter, the composition of the object and the existence of decorations were taken into account to decide whether or not an object belongs to one of the two groups; the attribution of some objects remains, however, doubtful. Regarding the distinction between dispensers and the proper spoons (included in the category “Miscellaneous and Unidentified Objects”, see § 8 and Tab. 9), we decided to include in the last group all the objects that have only one functional end.

In Group C, two subgroups have been distinguished based on the size of the dispenser: Subgroups CI if the diameter is greater than 1.5 cm and Subgroups CII if the dispenser has a diameter equal to or less than 1.5 cm, CII Group.

Group D also has some identification problems: it is not always possible to understand when a pointed end has a purely decorative function or when it has been intentionally designed with functional purposes (i.e. toothpicks). For this reason, it was decided to divide Group D into two subgroups depending on whether the pointed end is more likely to be used as a tool (Group DI) or has a supposed purely aesthetic function (Group DII). To divide the objects into these two subgroups, the diameter of the end, the function of the other end and the presence of decorations on the body have been the mainly used parameters.

The antimony rods of **Group A** are widely attested from the Mediterranean to the Subcontinent,<sup>12</sup> and in this context, only the most significant comparisons for the area under study are reported (Ghosh 1948: 78, Pl. XVIII; Marshall 1951: II, 585-586; III, Pl. 173; Dani 1965-66: 133, Pl. XLIX: No. 20). The discovery of both subgroups AI and AII in the same macrophases and the existence of at least five objects that have an end belonging to a subgroup and one to the other, BKG 788, BKG 890 (Fig. 18), BKG 1163, BKG 1611 and No. 113, lead us to believe that the different shape of the extremity has a functional and not a stylistic origin. Some possible comparisons to support this hypothesis come from Taxila (Marshall 1951: III, Pl. 173: Nos 219-220)<sup>13</sup> and Damkot (Rahman 1968-69: Pl. 91b: No. 4).

J.H. Marshall proposed for the objects with both ends belonging to Group A a dating starting from the Śaka-Parthian period (Marshall 1951: II,

---

<sup>12</sup> J.H. Marshall (1951: 585) suggests that antimony rods were introduced to Taxila, and probably all over the region, by the Greeks between the 4th or 3rd century BC.

<sup>13</sup> Even if J.H. Marshall proposes for them an interpretation as “Antimony rod and toothpick combined” (Marshall 1951: II, 585-586), see below and fn. 14.

585);<sup>14</sup> and if we exclude a single case, object No. 187 belonging to the Macrophase 1, data provided by the Barikot excavation seem to support this hypothesis. Unlike the excavations of Taxila (Marshall 1951: II, 585-586), none of the objects brought to light shows an antimony rod (Group A) together with other tools (Group B or D). This fact leads to questioning Marshall's proposed interpretation of at least some objects he identifies as "Antimony rod and ear-cleaner combined" or "Antimony rod and toothpick combined" (Marshall 1951: II, 585-586; III, Pl. 173).<sup>15</sup>

The objects belonging to **Group E** have been included in this category according to their use even if they differ substantially from the other objects presented here. Their inclusion in the category "Miscellaneous and Unidentified Objects" had been seriously considered.

## **5. Miscellaneous Tools**

The number of objects belonging to this category and the problematic or doubtful interpretation of many of them make inadvisable a division into groups since nothing could be said about the recurrence of hypothetical groups in the macrophases of the chronological sequence.

Deserves special mention the lion's paw-shaped weight BKG 1359, found in SU 233 of Trench BKG 4, belonging to the Macrophase 5b, dated to the second half of the 3rd century AD. The fine workmanship certainly makes it one of the most beautiful copper alloy objects found so far in Barikot (Fig. 24).

The two blades found (BKG 830, Fig. 23, and No. 16) seem to belong, given the curved profile, to small sickles, but the fragments preserved are too small to be certain; some possible comparisons, mostly in iron, at Taxila (Marshall 1951: II, 554, 560-561: Nos 122-128, 203-207; III, Pls 166, 169: Nos 122-128, 203-207) and at Qasr-e Abu Nasr (Whitcomb 1985: 160-164: Fig. 60 a-e, 168-171: Fig. 63 ff-uu and related bibliography).

Of the two objects identified as nails, No.134 and No. 175, only the body is preserved but not the head and their identification is doubtful.

## **6. Decorative Plaques and Foils**

In this category we included all the objects identified as foils, often with unidentified shape and uncertain function, or decorative plaques, these

---

<sup>14</sup> Marshall does not make any distinction between the two subgroups proposed here.

<sup>15</sup> See above on the issue of the correct interpretation of Group D.

latter usually characterised by the presence of fixing holes. Objects belonging to this category are attested in almost all the macrophases, and their number is significant. Still, the uncertainty regarding the interpretation of the foils, and in some cases also of the plaques, suggested not to divide the objects into groups that would necessarily be extremely unreliable.

## **7. Metal Vessels**

All the metal vessels found at Barikot can be divided into two main groups:

- ◇ **Group A:** Bowls (Fig. 27).
- ◇ **Group B:** Ampoules or containers for cosmetics (Fig. 28).

Several bowls belonging to **Group A** have a truncated-conical profile (Fig. 27), a flat bottom and a slightly swollen edge. Still, in many cases, the preserved fragments are too small to allow an accurate description of the object.

It is possible to notice that the objects belonging to Group A have been found only in Macro phases 4 and 5, and vessels belonging to Group B only in Macro phases 3 and 4. However, the limited number of findings and the abundance of unidentified foils (see Tab. 6), which could be fragments of vessels, advise against speculation in this regard.

## **8. Miscellaneous and Unidentified Objects**

In this category have been inserted all the objects that were not included in the previous ones. For these objects, also given the small number of similar findings, it was considered unnecessary to create taxonomic groups.

Among the objects included in this category, also given some useful chronological comparisons, two bells: BKG 844 (Fig. 29) and BKG 857 (Fig. 34) are particularly significant. BKG 844, belonging to Macro phase 4, dated to the 1st-2nd century AD, shows a reliable comparison with a bell found in Taxila (Marshall 1951: II: 598; III: Pl. 176, No. 347) and similarly dated around the 1st century AD (Marshall 1951: I: 168-169); another possible comparison comes from Qasr-e Abu Nasr (Whitcomb 1985: 169, 174-175, 176: Fig. 65 ff).

The other bell found in Barikot, BKG 857, belonging to Macro phase 8, dated to the 7th-10th century AD, shows a possible

comparison with two objects found again in Taxila and dated to the 5th century AD (Marshall 1951: II, 599: No 352; III, Pl. 176: No. 352). Other possible comparisons, even if geographically much more distant, can be done with some bells found at Qasr-e Abu Nasr (Whitcomb 1985: 169, 174-175, 176: Fig. 65 aa-cc and related bibliography).

All the objects that could not be identified due to the fragmentary or imperfect state of preservation have been also included in this category. In some cases, a possible interpretation and some comparisons have been suggested for them (see Tab. 9).

## **9. Prills, Processing Slags and Indicators of Metallurgical Activity**

In this category are included prills<sup>16</sup> and processing slag found during the excavations (see Tab. 10) together with all the objects that can be considered, for context, function or nature, indicators of the presence on the site of a more or less developed metallurgical activity. Slags, prills, crucible fragments and all the metal objects found bent and ready to be melted have been recognised as possible indicators of metallurgical activity. In the case of materials bent to be melted, the objects have been included in Tab. 10 even if already included in the table relating to the category to which the object belonged before the preparatory actions for the recycling of the metal (i.e. bending). In this case, the inventory or field number of the object is underlined in Tab. 10.

It should be noted that no indicator has been found in stratigraphic units belonging to macrophases prior to Macrophase 3, in particular sub-phases 3a3 and 3b, dated from the end of the 2nd century BC to the 1st century AD. Moreover, only since Macrophase 4, dated to 1st-2nd century AD, we have direct indicators of metallurgical activity (in Macrophase 3 we have only objects possibly bent to be melted and reworked). The extent of the excavations, which is too limited compared to the actual extent of the site, forces us to consider these data to be extremely limited. If we can say that probably in the first century AD there were metallurgical activities at Barikot, it is not possible to exclude that even in previous periods this activity was already active on the site.

To prove the presence of a metallurgical activity at Barikot we also remember the finding in the trench BKG 4-5 of two *loci* (BKG 512 and BKG 428) used for ironworking. The metallurgical activity in these rooms

---

<sup>16</sup> Prills, or drippings, are drops of molten metal that fall to the ground during the manufacturing processes.

is dated to Macrophase 4b for BKG 512 and to Macrophase 5a for BKG 428 (Callieri *et al.* 1982: 19-24; Colliva 2011: 162-164; 2012: 23-24, 61-62).

## **10. Some notes on the studied materials**

Data obtained from crossing the taxonomic study of the identified categories with the chronological sequence of the site (Tabs 2-10) provided several confirmations for the macrophases proposed dating. This comparison also allowed to detect some chronological discrepancies (i.e. objects Nos 96-97 in § 3) which have to be clarified also comparing this information with data obtained by the studies of the other classes of materials and in particular the pottery.<sup>17</sup>

Besides, some concentrations of specific groups in certain Macrophases have been highlighted. In particular, as regards hairpins, it was noted that the BC Group (head composed of a globular element surmounted by a disk) is present in the Macrophase 5, dated to the 3rd century AD (see Tab. 4) and that the Group D (composite head ending with a quadripartite element) appears almost exclusively in the layers belonging to the Macrophase 4, dated to the 1st-2nd century AD (see Table 4). Once again, however, we must highlight how the small number of objects taken into consideration and the number and extent of the trenches analysed in this article, especially in relation to the extent of the site, make these data statistically unreliable. What is outlined here can only be the first step in a study that must necessarily be considerably expanded.

Despite these necessary premises, some of the data collected so far seem to suggest interesting trends. In addition to what has already been said about hairpins, the study of taxonomic data has confirmed the hypothesis that sees in the different shapes of the antimony-rods (Subgroups AI and AII,) a functional variation. The presence of both taxonomic subgroups in several macrophases and the existence of objects in which the two ends belong to both subgroups seem to exclude the

---

<sup>17</sup> A similar problem, which goes beyond the topic of this article, but well testifies how necessary is a cross-comparison between the study of the materials and the stratigraphic data, is also evident with the findings of Kushano-Sasanid coins in layers of the Period VII of trench BKG 4-5, belonging to the Macrophase 5a, dated to the first half of the 3rd century AD (Callieri *et al.* 1982: 35; Colliva 2011: 163-164; 2012: 24; Olivieri and Colliva 2019 and related bibliography). I agree with L.M. Olivieri that the chronology of these latest phases may be slightly modified in future.

different shape of the ends is attributable to stylistic reasons (see § 4 and Tab. 5).

Concerning the presence of metallurgical activities in Barikot, at the present state of the studies, it can only be affirmed that the finding of a conspicuous number of objects ready to be melted and reused, the presence of objects recognised as indicators of a metallurgical activity, especially in Macrophases 3, 4 and 5 (see Tab. 10),<sup>18</sup> and the existence in two of these periods, Macrophases 4 and 5, of two rooms, probably dedicated to ironworking, BKG 512 and BKG 428 (see § 9), seems to attest metallurgical activities at least from the 1st century AD. The dimensions of these activities and their development over time, however, still elude us. The extension of the site and the presence of large areas of the town not yet investigated make our data extremely partial.

## References

Rahman, A. (1968-69) Excavation at Damkot. *Ancient Pakistan* 4: 103-250.

Callieri, P. (1989) *Saidu Sharif I (Swat, Pakistan). The Buddhist Sacred Area, the Monastery*. Roma.

Callieri, P., P. Brocato, A. Filigenzi, L.M. Olivieri and M. Nascari (1992) *Bīr-koṭ-ghwaṇḍai 1990-1992. A Preliminary Report on the Excavations of the Italian Archaeological Mission, IsMEO. AION*, 52, 4. Suppl. 73. Napoli.

Colliva L. (2011) The Excavation of the Archaeological Site of Barikot (Bīr-kot-ghwandai) and its Chronological Sequence, *Journal of Asian Civilizations* 34, 1: 157-191.

Colliva L. (2012) *I manufatti metallici del sito di Barikot (Swat, Pakistan) Studi tecnico-diagnostici e tassonomici*. Bīr-koṭ-ghwaṇḍai Interim Reports III. Bologna.

---

<sup>18</sup> To this data, we can also add the presence of a possible ingot ready to be processed, if you accept this identification for the object No. 162 (see Tab. 10).

Dani, A.H. (1965-66) Shaikhan Dheri Excavation, *Ancient Pakistan* II: 134-213.

Fiori, C., S. Lorusso and R. Pentrella (2002) *Restauro, manutenzione, conservazione dei beni culturali: materiali, prodotti, tecniche*. Bologna.

Ghosh, A. (1948) Taxila (Sirkap), 1944-45. *Ancient India* 4: 66-79.

Guillaume, O., A. Rougeulle (1987) *Fouilles d'Aï Khanoum VII. Les Petits Objets*. Parigi.

Marshall, J.H. (1951) *Taxila*, I-III. Cambridge.

Nasim Khan, M. (1999-2000) Archaeological Discoveries in Darel Valley. Muzot: an Iron Age Grave Culture Site, *Ancient Pakistan* XIII: 109-119.

Olivieri L.M. and L. Colliva (2019) IsMEO/IsIAO – DOAM Excavations at Bīr-koṭ-ghwaṇḍai 1984-1992. A reassessment of the chronological sequence on the basis of the latest fieldwork at the site, *Pakistan Archaeology* 32 [2017]: 22-50.

Rydh, H. (1959) *Rang Mahal. The Swedish Archaeological Expedition to India 1952-1954*. Lund.

Stronach, D. (1978) *Pasargadae: a Report on the Excavations Conducted by the British Institute of Persian Studies from 1961 to 1963*. Oxford.

Whitcomb, D.S. (1985). *Before the Roses and the Nightingales. Excavations at Qasr-i Abu Nasr, Old Shiraz*. New York.



Table 1 - The Barikot chronological sequences with the identified cultural macrophases.

BKG Cultural MacroPhase	BKG 1	BKG 3	BKG 3 (outside the urban wall)	BKG 4-5	BKG 4-5 (outside the urban wall)	Absolute and relative chronology	
9b						16th-early 20th century AD Yusufzai	
						Per. X	Ph. 5
9a						11th-12th century AD Ghaznavid	
8	Per. IX?	Ph. 4?	Per. VI?			7th-10th century AD Shahi	
7						5th-7th century AD	
6	Per. VIII?	Ph. 3	Per. V	Per. X			4th century AD Kushano-Sasanian
5 b		Ph. 2b	Per. IVB	Per. IX	Ph. 8		Second half of the 3rd century AD Kushano-Sasanian
5 a	Per. VII			Per. VII			
4 b	Per. VI	Ph. 2a	Per. IVA	Per. VI	Ph. 6		2nd century AD Kushan
4 a	Per. V			Per. V	Ph. 5		1st-2nd century AD Early Kushan
3 b	Per. IV	Ph. 1a	Per. III	Per. IV	Ph. 4		1st century BCE – 1st century AD Saka/Parthian
3 a4	Per. III			Per. IIB	Per. III		Ph. 3
3 a3	Per. II	Per. IIA					
3 a2							
3 a1							Mid. 3rd-early 2nd century BC
2 b					Ph. 2b		Mid. 4th-mid. 3rd century BC Mauryan
2 a							6th-mid. 4th century BC
1 c							Iron Age Period VIII of the Ghalegai sequence (?)
1 b			Per. I	Per. II (?)	Ph. 1b (found only in BKG 12)		Iron Age Period VII of the Ghalegai sequence (1000-800 BC)
1 a					Ph. 1a (found only in BKG 12)		Late Bronze-Iron Age Periods V-VI of the Ghalegai sequence (end of the 2nd/beginning of the 1st millennium BC)
0			Per. 0	Per. I (?)	Ph. 0 (found only in BKG 12)		Chalcolithic Period IV of the Ghalegai sequence (1700-1400 BC)

*Barikot. Taxonomic Study of the Copper Alloy Objects*

Table 2 - Rings and earrings and their distribution in the macrophases of the BKG Cultural Sequence (below, on both pages, and on the following two pages [partial]).

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Taxonomy	Trench	Locus	SU
3a	45	Ring with quadrangular section body and open	Copper alloy	BBI	BKG 4	429	736
3b	174	Ring with planoconvex section body of variable width.	Silver; copper alloy	CII.a	BKG 5	519	2773
4	BKG 839	Ring with planoconvex section body, elliptical bezel, and decorated body.	Copper alloy	CII.cd	BKG 1	109	152
4	3	Ring with planoconvex section body and raised edges rhomboid bezel.	Copper alloy	CI.c	BKG 1	108 - 112	131
4a	133	Ring with planoconvex section body and three bezels, (1 rhomboidal, 2 circular).	Copper alloy	CI.c	BKG 4	413	742
4	70 bis	Ring with circular section body and an almond bezel.	Copper alloy	AI.b	BKG 3	308 W	304
5a	BKG 1632	Ring with rectangular section body and overlapping ends.	Copper alloy	BI	BKG 5	501	2501
5a	46	Ring with planoconvex section body, oval bezel, and ovules on the body.	Copper alloy	CII.bd	BKG 4	426	444
5b	102	Ring with planoconvex section body and pseudo-spiral decoration; open body.	Copper alloy	CCLd	BKG 4	421	30
5	120	Ring with planoconvex section body.	Copper alloy	CI	BKG 3	303	50
9	1	Band ring with planoconvex section body and pseudo-trapezoidal bezel.	Copper alloy	CII.ad	BKG 1	1	4

Phase or period	Ring or earring diam. <sup>19</sup>	Body width or diam.	Thickness	Weight	Additional measures	Notes and comparisons
III	1.88	Width: 0.69	0.24	2.5		Incomplete; one fragment.
IV	1.8	0.2	0.07	0.5	Body max. width: 0.34	Incomplete; one fragment.
V	1.95	0.78	Min. body th: 0.16; max. body th: 0.27		Bezel major axis: 0.75; bezel minor axis: 0.65.	Incomplete; one fragment. Marshall 1951: III, Pl 197, No. 9, 11; Pl. 198: No. 37; Dani 1965-66: Pl. XLIX: No. 16; Rahman 1968-69: 165, Pl.92a: 1(?).
V	1.9		0.15	0.5	Bezel major axis: 0.8; bezel minor axis: 0.5.	Incomplete; four fragments.
V		0.1	0.05	0.5	Main bezel width: 0.3; side bezels diam: 0.1	Complete; two fragments.
IVA	1.1	0.16		< 0.5	Bezel length: 1.54; bezel width: 0.86	Incomplete; one fragment.
VII	1.9		0.13			Complete. See Fig. 1.
VII		0.34	0.16	< 0.5	Bezel length: 0.72; fragment length: 1.75	Incomplete; one fragment.
VIII	2.10	0.56	0.40	4.5		Complete (?); one fragment.
2b	1.3	0.4	0.2	< 0.5		Incomplete; one fragment.
X	1.52		0.1	1.0	Max. height: 0.79; min. height 0.43	Incomplete; one fragment.

<sup>19</sup>All measurements, unless otherwise indicated, are expressed in centimetres; the weight, if not otherwise indicated, is in grams rounding to the nearest half a gram.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Taxonomy	Trench	Locus	SU
9	25	Metal wire hook with circular section body and a pointed end. The other end is flattened, and a second wire is wrapped three times around the hook creating a small decorative spiral.	Silver alloy	A.d	BKG 1	101	3
-	2	Ring with planoconvex section body and rectangular projecting bezel.	Copper alloy	CI.b	BKG 1	1b (109)	177 (1)

*Table 2 - Rings and Earrings [do] (above, on both pages).*

Table 3 - Bracelets and necklaces and their distribution in the macrophases of the BKG Cultural Sequence (below, on both pages, and on the following two pages).

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Taxonomy	Trench	Locus	SU
1	109	Bracelet with planoconvex section body (flat side perpendicular to the wrist).	Copper alloy	CI	BKG 4	413	1540
3a	BKG 1548	Bracelet with circular section body and bud (?) ends.	Copper alloy	AAI.e	BKG 4	E. W.	781
3	BKG 1295	Bracelet with a planoconvex section body. Ovule decoration on the body.	Copper alloy	C.d	BKG 3	310	221
3b	BKG 1707	Slightly curved bracelet (?); traces of gilding.	Copper alloy; gold	B (?)	BKG 5	519	2773
3b	111	Bracelet with planoconvex section body and spiral decoration.	Copper alloy	CI.d	BKG 4	E. N.	483
4	BKG 1197	Bracelet (?) with planoconvex section body.	Copper alloy	CI	BKG 3	308	284
4	9	Bracelet (?) with circular section body. The preserved end is enlarged (bud decoration?).	Copper alloy	AAI.e (?)	BKG 1	109	138

Phase or period	Ring or earring diam.	Body width or diam.	Thickness	Weight	Additional measures	Notes and comparisons
X	c. 1.0		0.05	0.5	Length: 2.17	Incomplete; one fragment. The silver alloy suggests a decorative function, perhaps an earring (?).
-	2.19		0.44	6.0	Bezel length: 1.98; bezel width: 1.49.	Complete. X-Ray. Marshall 1951: II, 647-648 (type e); III, Pl. 198. See Fig. 2.

Period or Phase	Bracelet Diameter	Width	Body thickness or diameter	Weight	Additional measures	Notes and comparisons
II		0.81	0.82	18.5	Preserved length: 5.8	Incomplete; two reassembled fragments. See Fig. 8.
III			0.3		Bud length: 1.5; max. bud diam: 0.5; fr. preserved length: 3.8	Incomplete; one fragment. See Fig. 7.
IIIB		0.6	0.2		Preserved length: 4.1	Incomplete; one fragment. Marshall 1951: III, Pl. 171: No. 12.
IV			0.43		Preserved length: 4.15	Incomplete; one fragment.
IV		0.51	0.36	1.5	Preserved length: 3.15	Incomplete; one fragment.
IVA	c. 7.7		0.2		Preserved length: c. 23	Complete.
V			Between 0.90 and 0.40	4.0		Incomplete; one fragment. Poor state of preservation.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Taxonomy	Trench	Locus	SU
4b	97	Bracelet or necklace beads (3 clusters and 2 single beads) with circular or irregular rosette shape.	Copper alloy; zinc	D.d	BKG 4	422	91
5	10	Bracelet (?) with a circular section body.	Copper alloy	AI (?)	BKG 1	104	113
5b	50	Bracelet with elliptical section bracelet; no visible decoration.	Copper alloy	AI	BKG 4	Ext. W.	843
5a	93	Bracelet with planoconvex section body and ovule decoration.	Copper alloy	CII.d	BKG 4	427	527
5a	96	Bracelet or necklace beads (5 clusters) with circular or irregular rosette shape.	Copper alloy; zinc	D.d	BKG 4	422	80
9	12	Band (bracelet?) with a planoconvex section body; the body has a variable width.	Copper alloy	CII	BKG 1	101	9
9	13	Band (bracelet?) with a planoconvex section body; traces of decoration (?) on the convex surface.	Copper alloy	CI.d	BKG 1	101	9
9	17	Band (bracelet?) with a planoconvex section body.	Copper alloy	CI	BKG 1	101	4
9	32	Bracelet with a planoconvex section body; bands decoration on the body.	Copper alloy	CI.d	BKG 1	101	3
-	61	Bracelet with elliptical section body. The body is flattened and has a diamond decoration.	Copper alloy	AI.d	BKG 4	427	N section
-	164	Bracelet with a planoconvex section body. The body has a twisted decoration.	Copper alloy	CI.d	BKG 4	Sporadic	-

Period or Phase	Bracelet Diameter	Width	Body thickness or diameter	Weight	Additional measures	Notes and comparisons
VI			Between 0.15 and 0.27		Beads diam: 0.4-0.5;	Incomplete (13 beads). Equal to No. 96. The hole for the setting is not always at the centre of the bead. See Fig. 9.
VII			Diam: 0.78	4.0	Preserved length: 2.88	Incomplete; one fragment.
VIII		0.41	0.35	1.0	Preserved length: 1.89	Incomplete; one fragment.
VII		Max: 0.45; min: 0.30	Max: 0.23; min: 0.16	0.5		Incomplete; one fragment. Marshall 1951: III, Pl. 171: No. 12.
VII			Max: 0.27; min: 0.15		Beads diam. between 0.4 and 0.5;	Incomplete (32 beads). Equal to No. 97. The hole for the setting is not always at the centre of the bead.
X		Max: 0.41; min: 0.36.	0.13	0.5	Preserved length: 1.98	Incomplete; one fragment. See also No. 17.
X		0.54	0.16	1.0	Fragments length: 1.46, 1.36 and 0.75	Incomplete; three fragments.
X		0.45	0.19	0.5	Preserved length: 2.70	Incomplete; one fragment. Maybe part of No. 12.
X		0.45	0.30	1.5	Fragments length: 2.43, 1.18	Incomplete; two fragments.
-		0.61	0.24	7.0	Decoration thickness: 0.41; preserved length: 4.34	Incomplete; one fragment.
-	5.0 (reconstructed)	0.55	0.27	3.0	Fragments length: 5.17	Incomplete; one fragment. See Fig. 10.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

Table 4 - Hairpins and their distribution in the macrophases of the BKG Cultural Sequence (below, on both pages, and on the following four pages [partial]).

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Taxonomy	Trench	Locus	SU
3b	114	Hairpin with circular section stem and a pseudo-conical head.	Copper alloy	A	BKG 5	519	2773
3a	165	Hairpin with circular section stem; head composed by a disk on a globular element.	Copper alloy	BC	BKG 4	451	1336
3b	168	Hair (?) pin with a circular section stem.	Copper alloy	-	BKG 5	519	2773
4	BKG 1213	Hairpin with circular section stem; head composed by a lotus element on two polygonal ones and two	Copper alloy	D	BKG 3	308	195
4 (?)	BKG 1288	Hairpin (?) with a possible "U" shape and a circular section stem.	Copper alloy	G (?)	BKG 3	304	435
4b	BKG 1471	Hairpin with circular section stem; head composed by a lotus element on a globular one and a low collar.	Copper alloy	D	BKG 4	422	91
4b	BKG 1513	Hairpin with circular section stem; head composed by a zoomorphic figure representing a bird (perhaps a rooster).	Copper alloy	E	BKG 4	419	763
4b	BKG 1594	Hairpin with circular section stem; phytomorphic head (hemispherical corolla and cylindrical pistil) on a collar.	Copper alloy	F	BKG 4	433	1273
4b	142	Hairpin with a circular-section stem; head composed by a lotus element (?) on a globular one.	Copper alloy	D (?)	BKG 5	503	2603
4b	173	Hairpin (?) with a circular section stem.	Copper alloy	-	BKG 4	433	1273



Phase or period	Stem diameter	Head size	Weight	Additional measures	Notes and comparisons
IV	0.14	Diam: 0.34	1.5	Length: 7.35	Complete; two reassembled fragments. Callieri 1989: 218-220; S2021; Nasim Khan 1999-2000: 112, 118; Pl. VIII.
III	0.3	Globe diam: 0.6; disk diam: 0.8	1.5	Preserved length: 5.1	Incomplete; one fragment. See Fig. 13.
IV	0.25		3.5	Length: 7.1	Complete (?).
IVA	0.3			Length: 8.7	Complete. See also BKG 1433 and BKG 1471 Marshall 1951: III, Pl. 173: No. 237; Pl. 182: No. 224; Stronach 1978: 213: No. 13; Callieri 1989: 187; S2200.
1b	Max diameter: 0.9			Preserved length: 12.3	Incomplete; four reassembled fragments. Guillaume and Rougeulle 1987: Pl. 16: No. 2; uncertain Marshall 1951: III, Pl. 167: No. 134.
VI	0.35	Height: 1.28; max. diam: 0.59		Length: 6.3	Complete. See also BKG 1213 and BKG 1433 Marshall 1951: III, Pl. 173: No. 237; Pl. 182: No. 224; Stronach 1978: 213: No. 13; Callieri 1989: 187; S2200. See Fig. 14.
VI	Max. diam: 0.5			Length: 12.1	Complete. Dani 1965-66: Pl. XLIX: No. 17; Whitcomb 1985: 169, 174-175: Fig. 65 n-o; Guillaume and Rougeulle 1987: Pl. 3: No. 14. See Fig. 15.
VI	0.22	Height 0.88; collar diam: 0.38.		Length: 7.13	Complete.
VI	0.35 (?)	Height: 0.9		Preserved length: 4.1	Incomplete; two reassembled fragments. Poor state of preservation.
VI	0.2		0.5	Preserved length: 3.88	Incomplete; one fragment.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Taxonomy</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>4b</b>	181	Hairpin with circular section stem and a planoconvex section disk head. Iron traces (decorative band?) on the stem.	Copper alloy; iron	C	BKG 4	422	1334
<b>4b</b>	189	Hairpin in with a circular section stem; head composed by a lotus element on two parallelepiped ones. The stem has an enlargement.	Copper alloy	D	BKG 5	514	2687
<b>5</b>	BKG 1096	Hairpin in with circular section stem and a disk head on a globular element and a band.	Copper alloy	BC	BKG 3	306	21
<b>5b</b>	BKG 1407	Hairpin with circular section stem and a conical head.	Copper alloy	A	BKG 4	422	48
<b>5b</b>	BKG 1433	Hairpin with a circular section stem; head composed by a lotus element (?) on two globular one.	Copper alloy	D	BKG 4	427	169
<b>5a</b>	BKG 1453	Hairpin with circular section body; head composed by an irregular disk on a globular element.	Copper alloy	BC	BKG 4	427	505
<b>5b</b>	BKG 1595	Hairpin with circular section stem; head composed by two flattened and overlapping globular elements of increasing dimensions. Surmounted by a disk with traces of incisions on the edge.	Copper alloy	BC	BKG 4	NW	30
<b>5b</b>	BKG 1610	Hairpin with circular section body; head composed by an irregular disk on a globular element. Radial incisions on the disk.	Copper alloy	BC	BKG 4	NW	30
<b>5</b>	18	Hairpin with circular section stem and disk head.	Copper alloy	C	BKG 1	116	263

Phase or period	Stem diameter	Head size	Weight	Additional measures	Notes and comparisons
VI	0.3	Diam: 1.1	2.5		Incomplete; two reassembled fragments. Callieri 1989: 182, 184-185; S 1953. See Fig. 12.
VI	Max. 0.32; min.: 0.16	Height: 0.66; max width: 0.09	2.0	Pres. lgth: 4.15; stem enlarg. at 1.2 from the head.	Incomplete; one fragment.
2b				Length: 8.2	Complete. Ghosh 1948: 78, Pl. XVIII: No. 6.
VIII	0.33	Height: 0.96; max. diam: 1.31		Preserved length: 4.93	Incomplete; one fragment. Callieri 1989: 218-220; S2021; Nasim Khan 1999-2000: 112, 118; Pl. VIII. See Fig. 11.
VIII	0.35	Height: 0.98; max. diam: 0.62		Length: 13.95	Complete. See also BKG 1213 and BKG 1471. Marshall 1951: III, Pl. 173: No. 237; Pl. 182: No. 224; Stronach 1978: 213: No. 13; Callieri 1989: 187: S2200.
VII	0.31	Height: 1.02; max. diam: 1.15		Preserved length: 8.33	Incomplete (almost complete); one fragment. Ghosh 1948: 78, Pl. XVIII: No. 6.
VIII	0.22	Height: 0.96; globular elements diam: 0.32, 0.56; disk diam: 0.94		Preserved length: 8.72	Complete. Ghosh 1948: 78, Pl. XVIII: No. 6.
VIII	0.27	Length: 0.84; disk diam: 1.07		Length: 8.15	Complete. Ghosh 1948: 78, Pl. XVIII: No. 6.
VII	0.26	Head diam: 1.49	0.5	Preserved length: 0.41	Incomplete; one fragment. Callieri 1989: 182, 184-185; S 1953.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Taxonomy</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>5a</b>	155	Hairpin with a circular section stem and a disk head with planoconvex section.	Copper alloy	C	BKG 4-5	445-503	2528
<b>8 (?)</b>	74	Hairpin with a circular section stem and a disk head on two cones joined at the tip; disk decorated with an irregular radial pattern of lines.	Copper alloy	BC	BKG 3		1
<b>9</b>	14	Hairpin (?) with circular section stem.	Copper alloy	-	BKG 1	101	9
<b>9</b>	31	Hairpin with circular section stem and a disk head on a globular element and a rounded band; disk decorated with radial lines.	Copper alloy	BC	BKG 1	101	3
-	139	Hairpin with a circular section stem, conical head; a rounded band up on the stem.	Copper alloy	A	BKG 5	515	2677
-	199	Hairpin (?) with a circular section stem with variable diameter.	Copper alloy	-	Sporadic	-	-

*Tables 4 - Hairpins [do] (above, on both pages, and previous four pages).*

Table 5 – Cosmetic tools [do] (below, on both pages, and on the following six pages).

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Taxonomy</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>1</b>	187	Antimony rod with circular section body. Both ends are rounded.	Copper alloy	AII-AII.a	BKG 4	413	1544
<b>3</b>	BKG 1291	Antimony rod with circular section body. Both ends seem rounded.	Copper alloy	AII?-AII.a	BKG 3	308	493
<b>3b</b>	BKG 1514	Antimony rod with circular section body. Both ends are rounded.	Copper alloy	AII-AII.a	BKG 4	412	768
<b>3a</b>	BKG 1611	Antimony rod with circular section body. One end is rounded, the other seems conical.	Copper alloy	AI?-AII.a	BKG 4	453	1451

Phase or period	Stem diameter	Head size	Weight	Additional measures	Notes and comparisons
VII		Disk diam: 1.05	0.5	Preserved length: 0.35	Incomplete; one fragment.
VI	0.23	Diam: 0.88	3.0	Preserved length: 4.48	Incomplete; one fragment. Ghosh 1948: 78, Pl. XVIII: No. 6.
X	0.27		< 0.5	Preserved length: 1.30	Incomplete; one fragment. Perhaps part of the stem of No. 31.
X	0.27	Disk diam: 0.97	2.5	Preserved length: 2.18, 1.13	Incomplete; two fragments Ghosh 1948: 78, Pl. XVIII: No. 6. See also No. 14.
-	0.4	Max. diam: 0.7	8.5	Length: 13.2	Complete. Marshall 1951: III, Pl. 173: t; Callieri 1989: 186-187; Nasim Khan 1999-2000: 118: Pl. VIII.
-	Max. diam: 0.32	-	4.0	Preserved length: 8.58	Incomplete; one fragment.

Phase or period	Length	Body thickness or diameter	Weight	Additional measures	Notes and comparisons
II	Preserved length: 9.7	0.4	5.5	Ends max diam: 0.55.	Incomplete; three fragments (two reassembled). Marshall 1951: Pl. 173: No. 212.
IIB	13.65	0.2			Complete. See also BKG 1163. Marshall 1951: III, Pl. 173, Nos 212-213.
IV	11.80	0.20		Ends max. diam: 0.5	Complete. Marshall 1951: III, Pl. 173: No. 212; Dani 1965-66: Pl. XLIX: No. 20.
III	14.9	0.28		Ends max diam: 0.46, 0.48	Complete.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Taxonomy	Trench	Locus	SU
3a	BKG 1662	Toothpick () with circular section stem and two rounded tips. In the centre the body has a rectangular section twisted to form a decorative spiral.	Copper alloy	DI?-DI?.ac	BKG 5	501	1568
3a	39	Antimony rod with circular section body. Both ends are rounded.	Copper alloy	AII-AII.a	BKG 4	412	780
3a	113	Antimony rod with circular section body. One end is rounded, the other seems conical.	Copper alloy	AI?-AII.a	BKG 4	412	780
3	122	Toothpick with a circular section body.	Copper alloy	DI.a	BKG 3	311	662
4	BKG 1212	Antimony rod with circular section body. Both ends are rounded.	Copper alloy	AII-AII.a	BKG 3	308	293
4b	BKG 1492	Antimony rod with circular section body. Both ends are rounded.	Copper alloy	AII-AII.a	BKG 4	423	630
4b	BKG 1593	Antimony rod with circular section body. Both ends are conical.	Copper alloy	AI-AI.a	BKG 4	422	1317
4	5	Antimony rod with circular section body and a conical (?) end.	Copper alloy	AI?.a	BKG 1	109	138
4a	41	Toothpick (?) with circular section body and one pointed end (partially missing). The head is decorated with two cubic elements; the upper one has a possible bud shape.	Copper alloy	DI.a	BKG 4	433	1026
4b	59	Antimony rod with a circular section stem and a conical end.	Copper alloy/ Lead (?)	AI.a	BKG 5	423	93
4b	66	Antimony rod with circular section body and a rounded end (?).	Copper alloy	AII? a	BKG 4	423	622
4a	103	Antimony rod with circular section body and a rounded end.	Copper alloy	AII.a	BKG 4	422	1331

Phase or period	Length	Body thickness or diameter	Weight	Additional measures	Notes and comparisons
III	11.15	Max. stem thickness: 0.36			Complete. See Fig. 21.
III	9.40	0.34		Ends max. diam: 0.68, 0.46	Complete. Rydh 1959: Pl 83, No. 9.
III	9.39	0.29	5.5	Ends max. diam: 0.55, 0.45	Complete.
1a	Pres. lgth: 3.3, 1.8, 1.0, 0.7, 0.5	0.3	1.5		Incomplete; five reassembled fragments.
IVA	10.6	0.3			Complete. Marshall 1951: III, Pl. 173: No. 212; Dani 1965-66: Pl. XLIX: No. 20. See Fig. 17.
VI	10.45	0.27		Ends max. diam: 0.37, 0.37	Complete.
VI	11.13	0.24		Ends max. diam: 0.39, 0.43	Complete.
V	Preserved length: 3.47	0.27	1.5	End max. diam: 0.35	Incomplete; one fragment.
V	Preserved length: 4.20	0.16	0.5	Head height: 0.78	Incomplete; one fragment. The identification of the object as a toothpick and not as a pin is due to the length and the stem diameter.
VI	Preserved length: 2.60	0.22	1.0	End max. diam: 0.35	Incomplete; one fragment. Ghosh 1948: Pl. XVIII: No. 4.
VI	Preserved length: 4.52	0.26	2.0	End max. diam: 0.43	Incomplete; one fragment. Ghosh 1948: Pl. XVIII: No. 5; Marshall 1951: III, Pl. 173: No. 214(?).
V	Preserved length: 5.53	0.29	3.0	End max. diam: 0.43	Incomplete; one fragment. Ghosh 1948: Pl. XVIII: No. 5.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Taxonomy</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>4a</b>	106	Antimony rod with circular section body. Both ends are conical.	Copper alloy	AI-AI.a	BKG 4	413	742
<b>4a</b>	112	Antimony rod with circular section body. One end is rounded.	Copper alloy	AII-A.a	BKG 5	520	2762
<b>4</b>	159	Antimony rod with circular section body. Both ends are rounded.	Copper alloy	AII-AII.a	BKG 3	304	646
<b>4b</b>	177	Circular section body of a possible cosmetic tool (antimony rod?).	Copper alloy	?a	BKG 4	413	742
<b>5</b>	BKG 890	Antimony rod with circular section body. One end is rounded while the other is conical.	Copper alloy	AI-AII.a	BKG 1	118	383
<b>5</b>	BKG 1155	Double dispenser with circular section body. The main dispenser has a lanceolate shape around a hemispherical bowl; the smaller one has a circular shape. A twist decorates the body.	Copper alloy	CI-CII.ac	BKG 3	303	50
<b>5</b>	BKG 1163	Antimony rod with circular section body. One end is conical while the other seems rounded.	Copper alloy	AI-AII?.a	BKG 3	308	77
<b>5</b>	BKG 1181	Double dispenser with rectangular section body. The two dispensers, slightly concave, are both circular in shape but differ for the diameter.	Copper alloy	CII-CII.b	BKG 3	312	187
<b>5b</b>	BKG 1439	Antimony rod with circular section body. Both ends are rounded.	Copper alloy	AII-AII.a	BKG 4	427	169
<b>5a</b>	BKG 1452	Antimony rod with circular section body. Both ends seem conical.	Copper alloy	AI?-AI?.a	BKG 4	427	505
<b>5a</b>	BKG 1457	Antimony rod with circular section body. Both ends seem conical.	Copper alloy	AI?-AI?.a	BKG 4	427	517
<b>5a</b>	BKG 1658	Elliptical Mirror with rectangular section handle; The front is flat; the rear is concave.	Copper alloy	E.b	BKG 5	504	2616



Phase or period	Length	Body thickness or diameter	Weight	Additional measures	Notes and comparisons
V	8.29	0.29	5.5	Ends max. diam: 0.38, 0.34	Complete. Ghosh 1948: Pl. XVIII: No. 4.
V	Preserved length: 8.61	0.30	4.5	Ends max. diam: 0.43 (2nd end 0.40)	Incomplete (the second end is partially missing); one fragment. Ghosh 1948: Pl. XVIII: No. 5.
1b	11.0	0.35	6.5		Complete. Ghosh 1948: Pl. XVIII: No. 5.
V	Preserved length: 3.83	0.25	2.0		Incomplete; one fragment.
VII	9.3	0.22		Ends max. diam: 0.39, 0.41.	Complete. See Fig. 18.
2b	9.5	Diam: 0.2		Main dispenser max. width: 1.9; smaller dispenser max. diam: c. 0.7	Complete. Marshall 1951: III, Pl. 176: No. 316. The smaller dispenser could also be identified as ear-cleaner, but its size and the instrument as a whole suggest its identification as a cosmetic dispenser. See Fig. 20.
IVB	12.7	0.3			Complete. Marshall 1951: III, Pl 173: No. 220; Pl. XVIII: No. 8; Rahman 1968-69: Pl. 91b: No. 4.
2b	16.1	Thickness: 0.8		Dispensers diam: 7.6, 2.7	Incomplete; several reassembled fragments. Marshall 1951: III, Pl 176: No. 316.
VIII	12.52	0.32		Ends max. diam: 0.67, 0.55	Complete.
VII	11.37	0.33		Ends max. diam: 0.50, 0.44	Complete.
VII	9.25	0.28		Ends max. diam: 0.36, 0.44	Complete.
VII		Handle width: 2.2; thickness: 0.5		Mirror max. width: 12.75	Incomplete; two reassembled fragments. Marshall 1951: III, Pl. 182: No. 208. See Fig. 22.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Taxonomy</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
5	4	Antimony rod with circular section body and a rounded end.	Copper alloy	AII.a	BKG 1	104	87 f
5a	49	Antimony rod with circular section body and a rounded end.	Copper alloy	AII.a	BKG 4	413	461
5b	51	Tool (antimony rod?) with circular section body.	Copper alloy	?a	BKG 4	422	48
5a	88	Tool (antimony rod?) with circular section body.	Copper alloy	?a	BKG 4	303	40
6?	6	Antimony rod with circular section body and a conical end.	Copper alloy	AI.a	BKG 1	104	59
9	7	Antimony rod.	Copper alloy	A	BKG 1	102	75
9	8	Antimony rod.	Copper alloy	A	BKG 1	102	75
9	26	Oval dispenser with circular section body. Near the dispenser the body is flattened and twisted to create a decorative twisting. The other end is pointed.	Copper alloy	CII.a	BKG 1	101	1
-	BKG 1400	Antimony rod with circular section body. Both ends seem rounded.	Copper alloy	AII-AII?.a	BKG 4	401	314
-	125	Toothpicks with circular section body; the body slightly enlarges at about 1.5 cm from one end.	Copper alloy	DI-DI.a	Spor.		-
-	137	Ear-cleaner with conical body. A circular section neck ending with a small elliptical slightly concave "spoon" protrudes from the body.	Copper alloy	B.a	BKG 5	Spor.	-

Phase or period	Length	Body thickness or diameter	Weight	Additional measures	Notes and comparisons
VII	Preserved length: 5.40	0.21	1.5	End max. diam: 0.32	Incomplete; one fragment.
VII	Preserved length: 5.08	0.23	2.5	End max. diam: 0.37	Incomplete; one fragment.
VIII	Preserved length: 3.91, 2.02	c. 0.31	2.0		Incomplete; two fragments.
VII					Incomplete; one fragment.
VIII	Preserved length: 3.72	0.30	2.5	End max. diam: 0.41	Incomplete; one fragment. See Fig. 16.
X					Recorded during the excavation, but now missing.
X					Recorded during the excavation, but now missing.
X	7.2	0.18.	1.0	Dispenser thickness: 0.19; dispenser max. width: 0.64	Complete. The object could also be interpreted as an ear-cleaner, but the decoration of the body suggests a different interpretation. The pointed end could also be interpreted as a toothpick, but the instrument as a whole suggests a different interpretation.
-	Preserved length: 7.6	0.31		End max. diam: 0.5	Incomplete; one fragment.
-	6.2	0.2			Complete.
-	8.05	Max. 0.38	3.0	Spoon width: 0.3; neck diameter: 0.2; neck length: 2.1	Complete. Marshall 1951, III, Pl. 173: Nos 222-225. The end of the conical body could be identified as a toothpick, but the instrument as a whole, the diameter and shape of the body suggest a different interpretation. See Fig. 19.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

Table 6 – Miscellaneous tools and their distribution in the macrophases of the BKG Cultural Sequence (below, on both pages).

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>1</b>	BKG 1625	Large needle with a circular section body and flattened eye; the hole is elliptical. The object has no decorations except for two lines engraved about 3 cm from the tip.	Copper alloy	BKG 4	457	1583
<b>4</b>	BKG 830	Curved blade with triangular section. Perhaps a small sickle.	Copper alloy	BKG 1	108	131
<b>4</b>	11	Truncated pyramid-tool. Traces of primary striking at the base suggest the object was a tool (wedge?). Some secondary striking traces hint that later, perhaps following a break, the fragment was also used as a small anvil.	Copper alloy; lead	BKG 1	108	131
<b>4a</b>	134	Nail (?) with a circular section body.	Copper alloy	BKG 4	413	742
<b>4b</b>	183	Weight or spindle (?) with a bi-conical body (cones joined at the base).	Copper alloy	BKG 4	413	738
<b>5b</b>	BKG 1359	Weight in the shape of a lion's paw. The upper surface is flattened and has an irregular circular section and rounded rim; the lower one is also flattened but shows some irregularities.	Lead and copper alloy	BKG 4	403	233
<b>5</b>	16	Curved blade with triangular section. Perhaps a small sickle.	Copper alloy	BKG 1	104	71
-	169	Weight or spindle (?) with a bi-conical body (cones joined at the base).	Copper alloy	BKG 5	516	2768
-	175	Nail (?) with a circular section body.	Copper alloy	BKG 5	521	2736

Phase or period	Length	Body thickness or diameter	Weight	Additional measures	Notes and comparisons
I	9.85	Max. diam. of the stem: 0.29		Thickness of the eye: 0.15.	Complete. Marshall 1951, III, Pl. 173: Nos 370-372.
V	Preserved length: 3.93			Width: 1.01	Incomplete; one fragment. See No. 16 Whitcomb 1985: 160-164: Fig. 60 a-e, 168-171: Fig. 63 ff-uu. See Fig. 23.
V	Preserved length: 1.8	0.9		Max. width: 0.9	Incomplete; one fragment.
V	Preserved length: 2.9, 2.6	0.2	< 0.5		Incomplete; two fragments. The object could be identified as a pin, but the dimensions and the lack of decorations support its interpretation as a nail.
VI	4.0	Max. diam: 0.45	2.15		Complete. See No. 169.
VIII	Height: 4.5	Max. diam: 2.3			The object, probably a weight, appears to be made by bronze with a high lead content or, as suggested by some chippings, by a lead core covered by bronze. The object can maintain an upright position only if resting on the flattened end. See Fig. 24.
VII	Preserved length: 4.07	Max. thickness: 0.19	3.0	Width: 0.89	Incomplete; one fragment. See BKG 830. Whitcomb 1985: 160-164: Fig. 60 a-e, 168-171: Fig. 63 ff-uu.
-	4.25	Max. diam: 0.25	0.73		Complete. See No. 183.
-	Preserved length: 5.7				Incomplete; two reassembled fragments. The object could be identified as a pin, but the dimensions and the lack of decorations support its interpretation as a nail.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

Table 7 - Decorative plaques and foils and their distribution in the macrophases of the BKG Cultural Sequence (below, on both pages, and on the following six pages [partial]).

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>1</b>	184	Round decorative plaque (?).	Copper alloy	BKG 4	413	1546
<b>1</b>	188	Round or semi-circular decorative plaque (?).	Copper alloy	BKG 4	413	1544
<b>3b</b>	BKG 1705	Decorative plaque or pendant with fixing holes.	Copper alloy	BKG 5	519	2773
<b>3</b>	91 bis	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 3	314	404
<b>3</b>	123	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 3	308	285
<b>3b</b>	156	Decorative plaque of unidentified shape. Traces of fixing holes are visible.	Copper alloy	BKG 5	523	2735
<b>3a</b>	179	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 4	453	1451
<b>3b</b>	186	Round or semi-circular (?) foil. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	449	1408
<b>3</b>	200	Foil of unidentified shape and uncertain function. The foil has a curvilinear profile.	Copper alloy	BKG 3	314	551
<b>3b</b>	211	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4-5	4W	2728
<b>3a</b>	212	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4-5	4W	2734
<b>4</b>	15	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 1	110	184
<b>4</b>	22	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 1	108	131
<b>4a</b>	44	Trapezoidal shape foil; traces of beating on the edges.	Copper alloy	BKG 4	419	804

Period or Phase	Length	Width	Thickness	Weight	Additional measures	Notes and comparisons
II	4.3 (main frag.)	2.15 (main frag.)	0.15 (main frag.)	5.5 (all frags.)	Diam: 10.0 (reconstructed)	Incomplete; four fragments.
II	1.28	0.8		< 0.5	Diam: 3 (reconstructed)	Incomplete; one fragment.
IV	2.58	1.14	0.33		Holes max. diam: 0.15	Complete (?).
1a	3.95	2.10	0.09	2.0		Incomplete; one fragment.
III						Recorded during the excavation, but now missing.
IV	2.8, 2.6	3.2, 1.7		4.5		Incomplete; two fragments.
III	3.8 (main frag.)		0.1	4.0 (all frags.)		Incomplete; several very small fragments.
IV	4.3	1.66	0.2	2.5	Diam: 10 (reconstructed)	Incomplete; one fragment.
1a	3.32 (main frag.)	2.77 (main frag.)	0.12	3.0		Incomplete; two fragments (the second fragment has very small dimensions).
IV	2.2 (main frag.)	1.2 (main frag.)				Incomplete; five fragments (four fragments have very small dimensions).
III	3.3 (main frag.)	1.4 (main frag.)				Incomplete; nine fragments (eight fragments have very small dimensions).
V	3.14	1.41	0.35	1.5		Incomplete; two reassembled fragments.
V			0.12	0.5		Incomplete; four small fragments.
V	6.83	1.74	0.35			Incomplete; one fragment.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>4a</b>	138	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 5	514	2697
<b>4a</b>	172	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	422	1376
<b>4a</b>	178	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 4	413	742
<b>4a</b>	191	Rectangular foil of uncertain function.	Copper alloy	BKG 4	413	1333
<b>4a</b>	42	Repoussé decorative plaque representing a sea creature (dolphin?). The plaque shows traces of gilding.	Lead alloy; gold (?)	BKG 4	432	686
<b>4b</b>	60	Rectangular decorative plaque. The plaque has unaligned holes for fixing (2 preserved).	Copper alloy	BKG 4	423	622
<b>4</b>	75	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 3	308	260
<b>4</b>	95	Rectangular decorative plaque. Two fixing holes are about 0.31 cm from the edges.	Copper alloy	BKG 3	308	249
<b>4</b>	121	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 3	313	206
<b>4b</b>	143	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 5	503	2603
<b>4b</b>	150	Rectangular foil with uncertain function.	Copper alloy	BKG 5	501	2618
<b>4b</b>	151	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 5	502	2618
<b>4b</b>	153	Rectangular (?) foil with uncertain function.	Copper alloy	BKG 5	520	2741
<b>4b</b>	163	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	428	1253



Period or Phase	Length	Width	Thickness	Weight	Additional measures	Notes and comparisons
V	2.7	2.7	0.2	3.5		Incomplete; one fragment.
V	2.3 (main frag.)		0.1 (main frag.)	3.0		Incomplete; two fragments.
V	0.95	0.75	0.1	< 0.5		Incomplete; one fragment.
V	1.36	0.95	0.1	< 0.5		Incomplete; one fragment.
V	4.47	3.72	0.08	4.5		Incomplete; one fragment. Marshall 1951: III, Pl. 180: Nos 153-160. See Fig. 25.
VI	9.43	1.43	0.14			Incomplete; two reassembled fragments.
IVA	3.62	3.50	0.48	4.0		Incomplete; one fragment.
IVA	3.94	2.35	0.20			Incomplete; one fragment.
IVA				1.0		Incomplete; ten very small fragments.
VI	1.1, 0.9, 0.8	0.9, 0.7, 0.7	0.2, 0.3, 0.3	2.5 (total)		Incomplete; four fragments (one very small).
VI	3.4	1.4	0.1	3.0		Incomplete; one fragment.
VI	1.5	1.02	0.15	1.0		Incomplete; one fragment.
VI	1.72, 1.68	1.17, 1.20	0.61, 0.56	2.5		Incomplete; two fragments.
VI				2.5		Incomplete; six very small fragments.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>4b</b>	185	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 5	519	2680
<b>4b</b>	190	Slightly curved foil of unidentified shape and uncertain function.	Copper alloy	BKG 5	519	2724
<b>4a-5a</b>	182	Rectangular foil with uncertain function.	Copper alloy	BKG 5	504	2595-2644 section
<b>5</b>	83	Slightly curved foil of unidentified shape and uncertain function.	Copper alloy	BKG 3	302	104
<b>5b</b>	141	Slightly curved foil of unidentified shape and uncertain function. The foil shows hammering traces.	Copper alloy	BKG 4	448	1364
<b>5a</b>	152	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 5	519	2582
<b>5a</b>	154	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 5	504	2622
<b>5a</b>	193	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	413	738
<b>5a</b>	196	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 5	504	2562
<b>5a</b>	197	Slightly curved foil of unidentified shape and uncertain function; maybe vessel wall or plaque.	Copper alloy	BKG 4	456	1492
<b>9</b>	23	Semi-circular foil with irregular surfaces and uncertain function.	Copper alloy	BKG 1	101-102	4
<b>9</b>	24	Semi-circular (?) foil with a slightly convex surface and uncertain function.	Copper alloy	BKG 1	101	9
<b>9</b>	28	Circular plaque with a central circular hole. The surface, that the hole recess identifies as the back face, shows hammering traces.	Copper alloy	BKG 1	101	1
-	BKG 1356	Rosette-shaped decorative plaque with seven petals and a central hole; possibly a decorative plaque for door or jamb. Object made by forging; the hole shows signs of a broad-headed nail.	Copper alloy	BKG 4	403	277

Period or Phase	Length	Width	Thickness	Weight	Additional measures	Notes and comparisons
VI	1.3	0.75	0.06	< 0.5		Incomplete; one fragment.
VI	1.2	0.85	0.08	< 0.5		Incomplete; one fragment.
VI-VII	5.4	1.08	0.1	5.0		Incomplete; two reassembled fragments.
2b	4.26	1.45	0.12	2.5		Incomplete; one fragment.
VIII	5.8	3.5	0.1	7.0		Incomplete; two reassembled fragments.
VII	1.8, 1.31, 1.90, 1.51	1.35, 0.81, 1.30, 0.72	0.32, 0.31, 0.38, 0.29	3.5		Incomplete; four fragments.
VII	2.50, 2.41, 1.21, 0.96	2.05, 2.80, 1.11, 0.85	0.12, 0.41, 0.37, 0.21	3.5		Incomplete; four fragments.
VII				2.5		Incomplete; several very small fragments.
VII	0.95	0.75	0.07	< 0.5		Incomplete; one fragment.
VII				0.5		Incomplete; three very small fragments.
X	1.67	1.29	0.09	0.5		Incomplete; one fragment.
X	1.00	1.00	0.13	0.5		Incomplete; one fragment.
X			0.13	1.5	Diam: 2.18	Incomplete; one fragment.
			0.14		Plaque max. diam: 4.9; diam. of the hole: 0.8	Almost complete; three reassembled fragments. Marshall 1951: II, 603-604; III, Pl. 178: i, k. See Fig. 26

*Barikot. Taxonomic Study of the Copper Alloy Objects*

BKG Cultural Macro-phase	Inv. or Field No.	Object	Material	Trench	Locus	SU
-	70	Gold foil (for gilding?).	Gold	BKG 4	Sporadic	
-	108	Rectangular plaque. There are two fixing holes located along the major axis near the smaller sides.	Copper alloy	BKG 5	Sporadic	
-	126	Slightly curved pseudo-circular shaped foil; traces of incision on the concave face.	Copper alloy	Sporadic		
-	131	Foil of unidentified shape and uncertain function. The foil shows hammering traces.	Copper alloy	Sporadic		
-	157	Foil of unidentified shape and uncertain function.	Copper alloy	BKG 5	503	2623
-	198	Gold foil of unidentified shape, perhaps for gilding. The object has been bent, perhaps to be melted and reworked.	Gold	BKG 4	434	1535

*Table 7 - Decorative plaques and foils [do] (above, both pages, and previous six pages).*

Table 8 - Metal vessels [do] (below, on both pages, and half of the next two).

BKG Cultural Macrophase	Inv. N° or sequential N°	Object	Material	Taxonomy	Trench	Locus	SU
3	104	Circular section tube with everted rim; probably a cosmetic vial or a small water pipe.	Copper alloy	B(?)	BKG 4	449	1483
4a	105	Cosmetic vial with everted rim. The wall has an external octagonal section; the internal one is circular. Perhaps the lower part of the vial had a circular section on both surfaces, as suggest the progressive rounding of the external surface and the diameter reduction.	Copper alloy	B	BKG 4	413	742
4b	119	Bowl with thickened rim and slightly recessed straight lip.	Copper alloy	A	BKG 4	427	547

Period or Phase	Length	Width	Thickness	Weight	Additional measures	Notes and comparisons
				< 0.5		Incomplete; several very small fragments.
	4.96	1.88	0.06	4.0		Complete.
					Max. preserved diam: 1.6	Incomplete; one fragment.
	1.1, 0.9	0.8, 0.8	0.4, 0.3	1.5		Incomplete; two fragments.
	7.08	4.45	0.12	8.5		Incomplete; three reassembled fragments.
	0.52	0.21	0.09	< 0.5		Incomplete; one fragment.

Period or Phase	Height	Diameter	Thickness	Weight	Additional measures	Notes and comparisons
III	Max preserved height: 1.73	Rim diam: 1.80; body diam: 1.53	0.17	2.5		Incomplete; one fragment.
V	Max preserved height: 3.19	Rim diam: 1.85	Wall thickness: 0.11; rim thickness: 0.37	6.0		Incomplete; one fragment. See Fig. 28.
VI	Max. preserved height: 3.3	Bowl diam: 6.8 (reconstructed)	Max thickness: 0.3			Incomplete; one fragment.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Taxonomy</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>4b</b>	166	Bowl with thickened rim.	Copper alloy	A	BKG 4	433	1261
<b>5a</b>	BKG 1462	Truncated cone bowl with thickened rim and flat base. Traces of a possible decoration on the base.	Copper alloy	A	BKG 4	422	79
<b>5</b>	118	Bowl (?)	Copper alloy	A(?)	BKG 3	312	132
<b>5b</b>	171	Bowl (?) with thickened rim. The bowl is decorated with a line engraved at 0.2 cm from the rim.	Copper alloy	A(?)	BKG 4	421	51

Table 9 - Miscellaneous and unidentified objects [do] (below, on both pages, and on the following eight [partial]).

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>3b</b>	107	Metal bar with circular section body.	Copper alloy	BKG 5	519	2802
<b>3b</b>	140	Object of unidentified shape and function.	Copper alloy	BKG 5	519	2773
<b>3b</b>	147	Unidentified object with conical body and with a "C"-shaped bent tip. Probably a tool.	Copper alloy	BKG 5	519	2802
<b>3b</b>	194	Object with a circular section body (stem?).	Copper alloy	BKG 4	450	1406
<b>3a</b>	195	Object of unidentified shape and function.	Copper alloy	BKG 4	449	1483
<b>4</b>	BKG 844	Cone-shaped bell (?) with a flattened and pierced triangular-shaped tip, an inner iron knocker and a slightly thickened rim.	Copper alloy; iron	BKG 1	109	171

Period or Phase	Height	Diameter	Thickness	Weight	Additional measures	Notes and comparisons
VI	Max. preserved height: 2.89	Bowl diam: 10.5 (reconstructed)		9.5		Incomplete; four fragments (three reassembled).
VII	Max. preserved height: 2.92	Rim diam: 7.60; base diam: 6.80	Max. body th: 0.15; base th: 0.10			Incomplete; one fragment. Possible decoration unidentifiable due to the poor state of preservation. See Fig. 27
2b	Max. preserved height: 2.3	-	0.3	2.0	Max length of the fr: 1.2	Incomplete; one fragment. Poor state of preservation.
VIII	Max. preserved height: 3.1	Bowl diam: 10 (reconstructed)	0.14	6.5	Max length of the fr: 2.8	Incomplete; one fragment.

Period or Phase	Length	Width	Thickness or Diameter	Weight	Additional measures	Notes and comparisons
IV	15.64		Diam. 0.54			Complete; one fragment.
IV	Pres. lgth: 0.9	0.7	0.3	< 0.5		Incomplete; one fragment.
IV	Pres. lgth: 4.9		Max diam: c. 0.2	1.5		Incomplete; one fragment. Poor state of preservation. It is impossible to establish whether the fold is functional, or it is a later deformation.
IV	Pres. lgth: 2.54		Diam: c. 0.59	1.0		Incomplete; one fragment. Poor state of preservation.
III	Pres. lgth: 1.3	0.7	Thickness: 0.27	< 0.5		Incomplete; one fragment.

V	Height: 3.53		Max. wall thickness: 0.52		Base diam: 1.96	Complete. Marshall 1951: III, Pl. 176: No. 347; Whitcomb 1985: 169, 174-175, 176: Fig. 65 ff. See Fig. 29.
---	--------------	--	---------------------------	--	-----------------	--

*Barikot. Taxonomic Study of the Copper Alloy Objects*

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Trench	Locus	SU
4b	BKG 1549	Support consisting of a circular foil with central hole and raised edge. From two opposing pierced wings on the edge, a circular section metal wire runs with a rectangular profile. In the centre, after a short neck, the wire forms a ring probably used to hang the object.	Copper alloy	BKG 4	427	554
4b	48	Unidentified object with a pseudo-drop shape (handle?).	Copper alloy; iron (?)	BKG 4	412	724
4b	69	Pendant (?). A gold sphere probably modelled on a core (wood or bitumen?) now disappeared. A copper alloy wire starts from the sphere and forms an eyelet.	Gold; copper alloy	BKG 4	423	633
4	94	Three unidentified irregular shape fragments.	Copper alloy	BKG 3	310	179
4a	101	Circular section metallic wire. One end shows traces of torsions; the other is cut transversely.	Copper alloy	BKG 4	442	1221
4a	192	Small hinge. There is a fragment of schist pintle inside one of the two holes.	Copper alloy; schist	BKG 5	522	2760
4b	167	Object of unidentified shape and function (stem?).	Copper alloy	BKG 4	433	1261
4b	176	Open ring with circular section body.	Copper alloy	BKG 4	433	1234
4	180	Metal band with planoconvex section body and variable width (ring?).	Copper alloy	BKG 4	441	1204
4	206	Metal band bent to form a ring. The width of the object, the lack of decorations and the closure, obtained by the simple overlapping of the two ends, suggest excluding a decorative function.	Copper alloy	BKG 3	304	435
4b	213	Small stud with traces of engraved decoration along the edges; on the back two eyelets for fixing.	Copper alloy	BKG 4-5	520	2747



Period or Phase	Length	Width	Thickness or Diameter	Weight	Additional measures	Notes and comparisons
VI		Edge height: 0.7; wing height: 1.9	Wire diam: 0.2		Base diam: 5.6; central hole diam: 1.1;	Complete. See Fig. 30.
VI	2.32	1.33	0.64	5.0		Incomplete; one fragment. Traces of iron oxide.
VI	1.01		Wire thickness: 0.16	< 0.5	Sphere diam: 1.08	Incomplete; one fragment.
IV A	1.03; 1.05; 0.77	0.92; 0.71; 0.38	0.46; 0.64; 0.24	1.0 (total)		Incomplete; three fragments; perhaps belonging to different objects. Poor state of preservation.
V	9.50		Diam: 1.84	2.5		Complete (?). Impossible to determine whether deformations and cuts are functional or it is a later deformation.
V	0.96	0.89	Max. 0.5	0.5		Incomplete; one fragment.
VI	1.51		Diam: c. 0.82	1.5		Incomplete; one fragment. Poor state of preservation.
VI			Body diam: 0.13	< 0.5	Ring diam: 1.38 (reconstructed)	Complete.
V-VI		Max. width: 1.05; min. width: 0.72		2.0	Diam: 1.8 (reconstructed)	Incomplete; one fragment. Poor state of preservation.
2a		Band width: 1.32	Band thickness: 0.04	2.0	Ring diam: 2.0 (reconstructed)	Complete.
VI			Max. th: 0.8		Stud diam: 1.2;	Almost complete (part of an eyelet is missing).

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
5	BKG 1126	Buckle with movable tip. Body decorated with a rampant embossed ram.	Copper alloy	BKG 3	303	50
5b	BKG 1361	Spoon with ovoid bowl and circular section handle; in correspondence with the attachment of the bowl the handle section becomes rectangular. The presence of a weld at about 2.0 cm. from the bowl suggests the circular section handle was made separately or, more probably, applied later, perhaps as a repair.	Copper alloy	BKG 4	403	233
5a	BKG 1375	Shield boss (?) with flat ring base and hemispherical central element. On the top of the hemispherical element and inside it traces of welding probably pertinent to the nail, now disappeared, used to fix the boss.	Copper alloy	BKG 4	413	279
5b	BKG 1408	U-shaped hook with quadrangular section body. The body has an irregular thickness and is tapered towards the pointed end.	Copper alloy	BKG 4	422	30
5a	40	Variable width metal band.	Copper alloy	BKG 4	427	517
5a	56	Hook with circular section body.	Copper alloy	BKG 4	423	78
5b	57	Object (handle?) with a rectangular-convex shape and a planoconvex section. The convex end is folded down.	Copper alloy	BKG 4	431	1
5b	58 bis	Band with trapezoidal section body and unidentified function.	Copper alloy	BKG 4	423	89
5	82	Circular plate (coin?), folded at the edges in order to contain an iron core; perhaps an amulet?	Iron; copper alloy	BKG 3	304	323
5a	100	Object of unidentified shape and function (stem?).	Copper alloy	BKG 4	432	1437

Period or Phase	Length	Width	Thickness or Diameter	Weight	Additional measures	Notes and comparisons
2b	7.7	4.07	1.2			Incomplete; one fragment. Marshall 1951: III, Pl. 172: No. 29. See Fig. 31.
VIII	8.13	Rectangular section handle width: 0.62;	Circular section handle diam: 0.4; rectangular section thickness: 0,35		Bowl length: 4.37; bowl width: 3.60	Incomplete; one fragment. Marshall 1951: II, 595; III, Pl. 175: Nos 312-313. See Fig 32.
VII	Height: 1.35		Base thickness: 0.23		Base diam: 3.65; hemispherical element diam: 2.28	Complete. Guillaume and Rougeulle 1987: Pl. 9: Nos 12-16. See Fig. 33.
VIII	8.83		Max. thickness: 0.33			Complete.
VII	6.60	Max. 0.48	0.07	2.0		Complete. Possibly used in metallurgical activities.
VII	1.61	1.17	Body diam: 0.20	0.5		Complete.
VIII	1.8	6.5	0.6			Incomplete; one fragment.
VII	2.67	0.48	0.16	< 0.5		Incomplete; one fragment.
2b			Max. thickness: 0.84		Object diam: 2.05	Complete (?). Poor state of preservation.
VII	2.87		Max. diam: 0.59	1.0		Incomplete; one fragment. Poor state of preservation.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

BKG Cultural Macrophase	Inv. or Field No.	Object	Material	Trench	Locus	SU
5b	170	Metal wire ring with circular section body; the body has a variable diameter. The ring is open, the two ends are superimposed and slightly flattened.	Copper alloy	BKG 4	Extension NW	30
6	78	Circular shaped stud with circular section stem.	Copper alloy	BKG 3	303	40
6	92	Chain composed by five "S" shaped elements. The elements consist of a folded rectangular section band.	Copper alloy	BKG 3	302	44
8	BKG 857	Globular bell with a free spherical clapper inside. An opening cut with slightly everted and thickened protruding rims crosses two-thirds of the body. The ends of the cut are decorated with globular elements; the body is decorated with a notched cornice. At the top of the bell there is a ring to hang the object.	Copper alloy	BKG 1	101	27
9	21	Pair of lead pseudo-spheres with an irregular surface and a flat base. The two spheres, probably two musket bullets, have different size.	Lead	BKG 1	101	3
9	27	Chain (?) ring with circular section body and slightly oval shape. The circumference is open probably to allow the insertion of the subsequent ring.	Copper alloy	BKG 1	101	1
9	73	Circular section wire bent up to "U" shape, probably a hook. The wire is thickened at the bending point.	Copper alloy	BKG 3	308	141
	72	Drop-shaped pendant (?) consisting of an iron body enclosed in a bronze frame. No trace of decorations.	Iron, copper alloy	BKG 3		1-2
-	BKG 1678	Circular spoon with a long handle. The handle has a rectangular section near the spoon and a circular section from the middle to the end; the latter is slightly rounded, and it is preceded by a small collar.	Copper alloy	BKG 5	515	2677

Period or Phase	Length	Width	Thickness or Diameter	Weight	Additional measures	Notes and comparisons
VIII			Body max. diam: 0.19	1.0	Ring max diam: 1.9	Complete.
3			Head thickness: 0.12	< 0.5	Head diam: 0.80; stem diam: 0.31	Incomplete; one fragment.
3	6.17	0.70	Thickness: 0.2	3.5	Average length of an element: 1.5/1.6	Incomplete (five elements).
IX	5.95		4.1			Complete. Marshall 1951: III, Pl. 176: No. 352. See Fig. 34.
X			Max. diam: 1.74, 1.61	22.0, 18.0	Height from the base: 1.40, 1.28	Complete.
X			0.20		External diam: 1.40	Complete.
VII	2.41	1.78	Max. thickness: 0.31	1.5		Complete.
5	2.12	2.03	Max. thickness: 1.0			Incomplete; one fragment.
-	17.8		Handle max. diam: 0.5 handle max. width: 0.8		Spoon diam: 3.5; spoon thickness: 0.1;	Complete. See Fig. 35.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macro-phase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
-	BKG 1679	Gold leaf spherical bead (?).	Gold	BKG 5	516	2689
-	58	Circular section metallic tube (Bracelet?). The object is flattened and bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	430	961
-	85	Circular section wire with a variable diameter; the wire is folded to form a hook.	Copper alloy	Sporadic	-	-
-	85 bis	Hook linked to a foil.	Copper alloy	Sporadic	-	-

*Table 9 – Miscellaneous and Unidentified objects [do] (on both pages and previous eight pages).*

Table 10 - Indicators of metallurgical activities presence and their distribution in the macrophases of the BKG Cultural Sequence (below, on both pages, and on the following four [partial]).

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b>3b</b>	<u>186</u>	Round or semi-circular (?) foil. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	449	1408
<b>3b</b>	<u>211</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4-5	4W	2728
<b>3a</b>	<u>212</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4-5	4W	2734
<b>4</b>	<u>75</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 3	308	260
<b>4a</b>	99	Furnace floor with metal traces. Outside traces of straw are visible; the innermost side is vitrified and shows metallic traces.	Clay; copper alloy	BKG 4	455	1398

Period or Phase	Length	Width	Thickness or Diameter	Weight	Additional measures	Notes and comparisons
-		Bead diam: 0.36			Hole diam: 0.05	Incomplete; one fragment.
-	2.23			< 0.5	Diam. 0.39	Incomplete; one fragment.
-	1.27		Max: 0.39; min: 0.22.	< 0.5		Incomplete; one fragment.
-	0.52	Foil width: 0.49	Hook body diam: 0.31	< 0.5		Incomplete; one fragment.

[The underlined objects have been described in previous tables, but are reported also in Tab. 10 as they are considered indicators of the presence of metallurgical activity]

Period or Phase	Length	Width	Thickness or Diameter	Weight	Additional measures	Notes and comparisons
IV	4.3	1.66	0.2	2.5	Diam: 10 (reconstructed)	Incomplete; one fragment.
IV	2.2 (main frag.)	1.2 (main frag.)				Incomplete; five fragments (four fragments have very small dimensions).
III	3.3 (main frag.)	1.4 (main frag.)				Incomplete; nine fragments (eight fragments have very small dimensions).
IVA	3.62	3.50	0.48	4.0		Incomplete; one fragment.
V	3.91	2.68	1.71	9.5		Incomplete; one fragment.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macrophase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
<b><u>4</u></b>	<u>121</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 3	313	206
<b><u>4</u></b>	<u>160</u>	Crucible wall with traces of metal.	Clay, copper alloy	BKG 3	310	179
<b><u>4b</u></b>	<u>163</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	428	1253
<b><u>4a</u></b>	<u>172</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	422	1376
<b>4a</b>	203	Processing slag.	Copper alloy	BKG 4	442	1333
<b>4b-5a?</b>	110	Prill.	Copper alloy	BKG 4	413	738
<b><u>5a</u></b>	<u>40</u>	Variable width metal band.	Copper alloy	BKG 4	427	517
<b>5a</b>	52	Prill.	Copper alloy	BKG 4	422	611
<b><u>5a</u></b>	<u>152</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 5	519	2582
<b>5a</b>	162	Irregularly shaped metal casting; maybe used as an ingot.	Copper alloy	BKG 5	504	2602
<b><u>5a</u></b>	<u>193</u>	Foil of unidentified shape and uncertain function. The object has been bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	413	738
<b>6</b>	117	Prill (?).	Copper alloy	BKG 3	305	39
<b>9</b>	20	Prill.	Copper alloy	BKG 1	102	60
-	38	Processing slag.	Copper alloy	BKG 4	430	961



Period or Phase	Length	Width	Thickness or Diameter	Weight	Additional measures	Notes and comparisons
IVA				1.0		Incomplete; ten very small fragments.
IVA				12.5		Incomplete; numerous (> 10) very small fragments (< 1.0).
VI				2.5		Incomplete; six very small fragments.
V	2.3 (main frag.)		0.1 (main frag.)	3.0		Incomplete; two fragments.
V	2.2 (main fr.)			8.0 (total)		Incomplete; six fragments.
VI	4.19	1.21	0.84	15.5		Complete.
VII	6.60	Max. 0.48	0.07	2.0		Complete. Possibly used in metallurgical activities.
VII	1.82	0.78	0.57	2.5		Complete.
VII	1.8, 1.31, 1.90, 1.51	1.35, 0.81, 1.30, 0.72	0.32, 0.31, 0.38, 0.29	3.5		Incomplete; four fragments.
VII	8.38	7.19	1.39	297.5		Complete.
VII				2.5		Incomplete; several very small fragments.
3	1.9	1.1	0.8			Complete.
X	1.90	1.68	1.17	7.0		Complete.
-	2.3	0.7	0.4			Complete.

*Barikot. Taxonomic Study of the Copper Alloy Objects*

<b>BKG Cultural Macro- phase</b>	<b>Inv. or Field No.</b>	<b>Object</b>	<b>Material</b>	<b>Trench</b>	<b>Locus</b>	<b>SU</b>
-	<u>58</u>	Circular section metallic tube (Bracelet?). The object is flattened and bent, perhaps to be melted and reworked.	Copper alloy	BKG 4	430	961
-	124	Processing slag	Copper alloy	Sporadic		
-	127	Crucible bottom with traces of copper.		Sporadic		
-	128	Processing slag.	Clay; iron; copper	Sporadic		
-	<u>198</u>	Gold foil of unidentified shape, perhaps for gilding. The object has been bent, perhaps to be melted and reworked.	Gold	BKG 4	434	1535

<b>Period or Phase</b>	<b>Length</b>	<b>Width</b>	<b>Thickness or Diameter</b>	<b>Weight</b>	<b>Additional measures</b>	<b>Notes and comparisons</b>
-	2.23			< 0.5	Diam. 0.39	Incomplete; one fragment.
-	3.4	2.1	1.3			Complete.
-	4.7	3.5	1.5	14.71		Incomplete; one fragment.
-	5.5	4.9	1.6	27.74		Complete.
-	0.52	0.21	0.09	< 0.5		Incomplete; one fragment.



Fig. 1 - Ring with rectangular section body and overlapping ends, BKG 1632, Taxonomy BI, Trench BKG 5, SU 2501, Macrophase 5a (photo MAIP).



Fig. 2 - Ring with planoconvex section body, elliptical bezel and decorated body, BKG 839, Taxonomy CII.cd, Trench BKG 1, SU 152, Macrophase 4 (photo MAIP).



Fig 3 - Ring with planoconvex section body, No. 2, Taxonomy CI.b, Trench BKG 1, SU 177, no Macrophase (photo MAIP-LC).

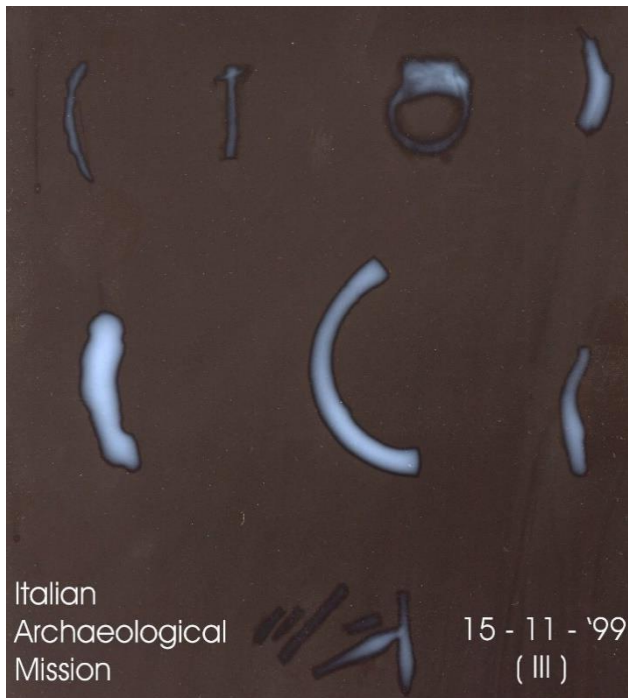


Fig 4 - X-Ray of the objects Nos 2, 9, 10, 109, 110, 111 and 115; 90 kV, 300 mA, 10 seconds of exposure (photo MAIP).

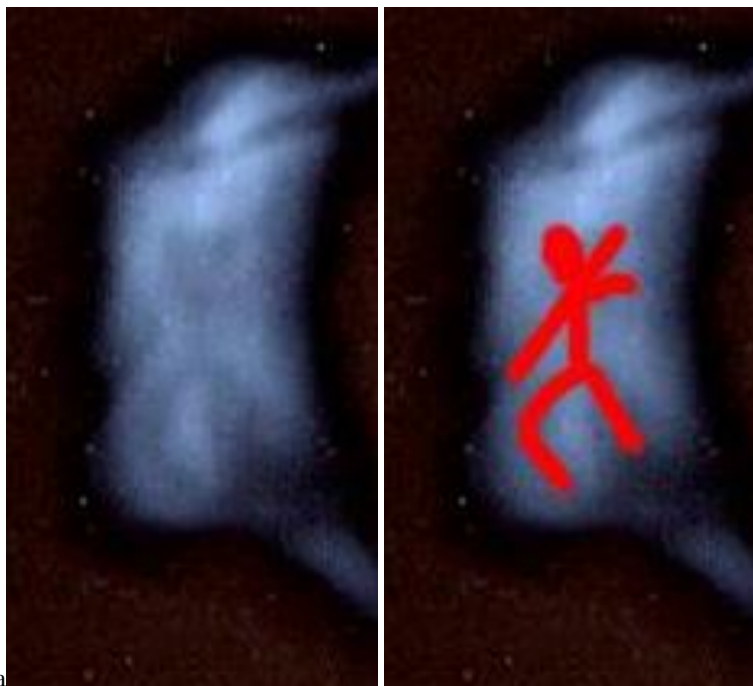


Fig. 5 - X-Ray of the Ring No. 2 with increased contrasts (a) and with a reconstructive hypotheses of the engraved figure (b) (photo MAIP; processing LC).

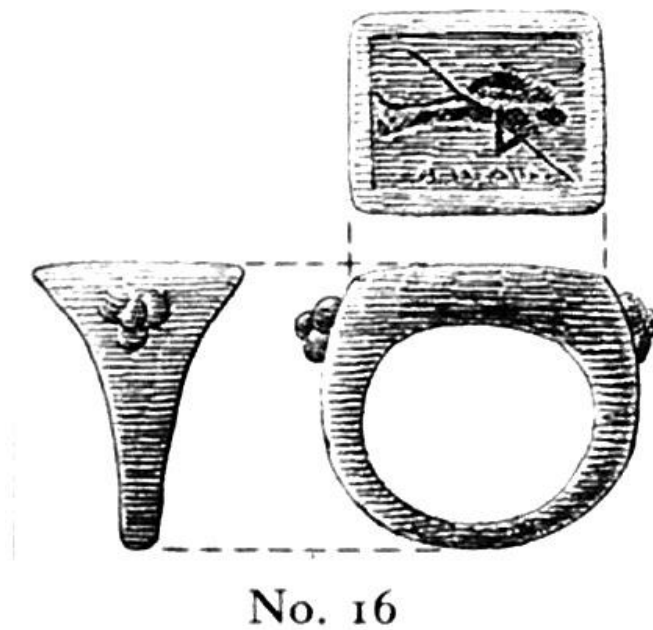


Fig. 6 - Gold ring from Sirkap (Marshall 1951, III, 197, No.16).

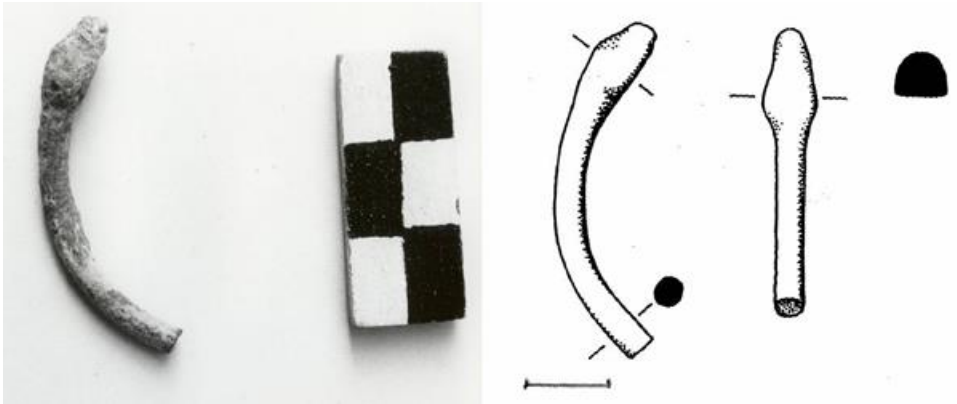


Fig. 7 - Bracelet with circular section body and bud (?) ends, BKG 1548, Taxonomy AAI.e, Trench BKG 4, SU 781, Macrophase 3a (photo MAIP, drawing MAIP-F. Martore).

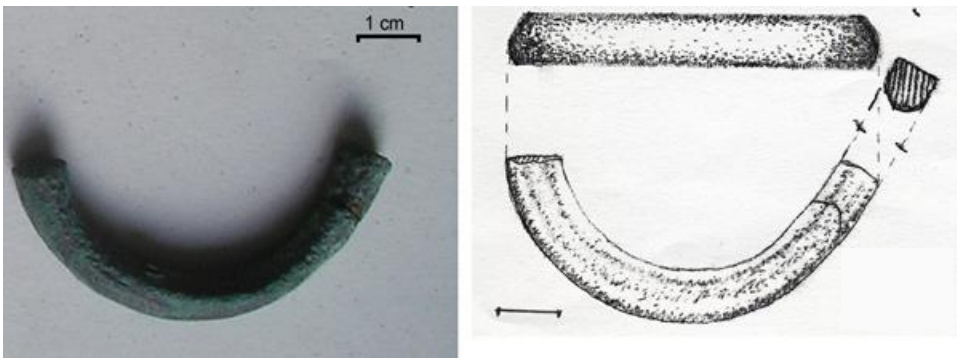


Fig. 8 - Bracelet with planoconvex section body, No. 109, Taxonomy CI, Trench BKG 4, SU 1540, Macrophase 1 (photo MAIP, drawing MAIP-F. Martore).



Fig. 9 - Beads for bracelet or necklace with circular or irregular rosette shape, No. 97, Taxonomy D.d, Trench BKG 4, SU 91, Macrophase 4b (photo MAIP-LC).

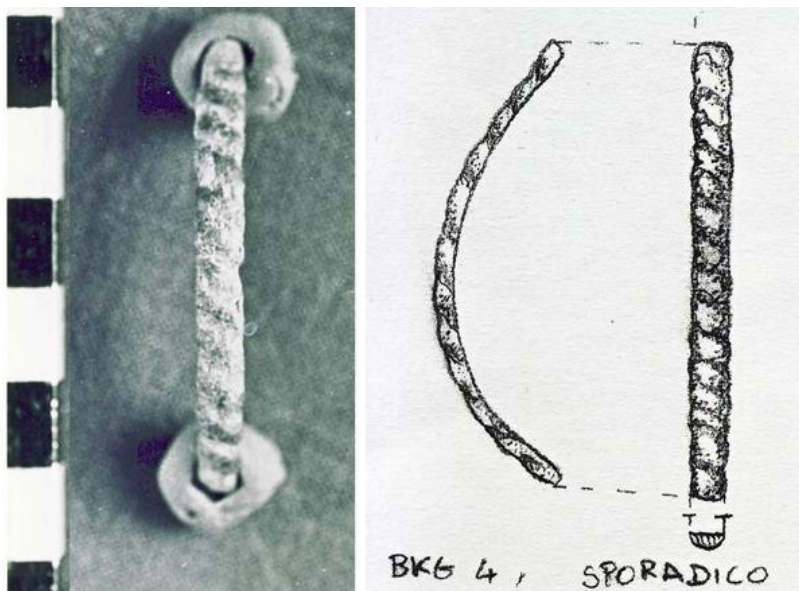


Fig. 10 - Bracelet with a planoconvex section body, No. 164, Taxonomy CI.d, Trench BKG 4, Sporadic, no Macrophase (photo MAIP, drawing MAIP-F. Martore).

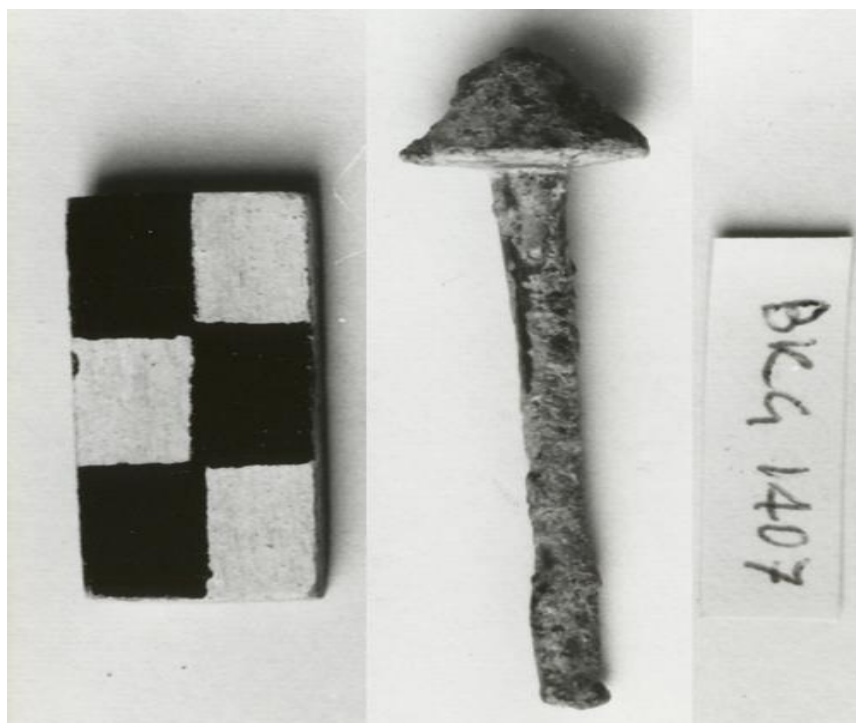


Fig. 11 - Hairpin with circular section stem and a conical head, BKG 1407, Taxonomy A, Trench BKG 4, SU 48, Macrophase 5b (photo MAIP).





Fig. 12 - Hairpin with circular section stem and planoconvex section disk head, No. 181, Taxonomy C, Trench BKG 4, SU 1334, Macrophase 4b (photo MAIP, drawing MAIP-F. Martore).

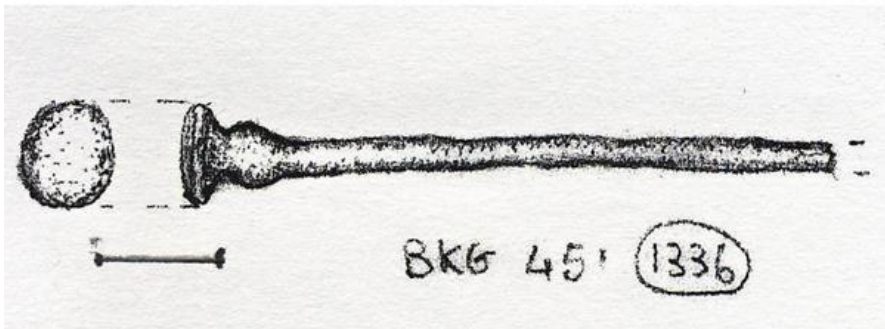
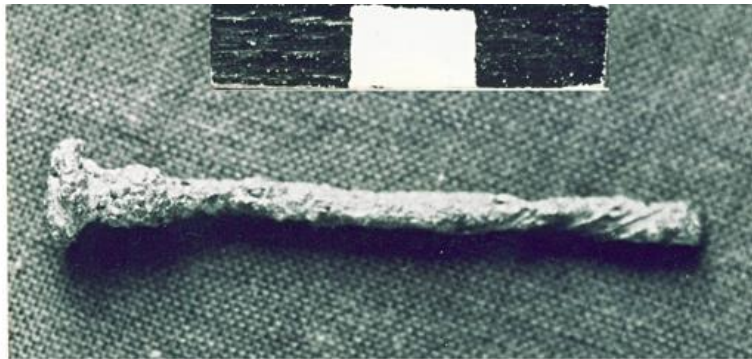


Fig. 13 - Hairpin with circular section stem; head composed by a disk on a globular element, No. 165, Taxonomy BC, Trench BKG 4, SU 1336, Macrophase 3a (photo MAIP, drawing MAIP-F. Martore).

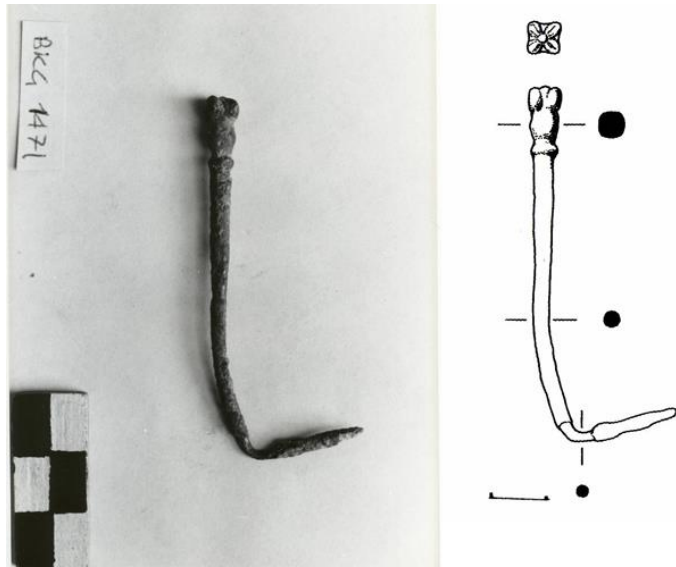


Fig. 14 - Hairpin with circular section stem and head composed by a lotus element on a globular one and a low collar, BKG 1471, Taxonomy D, Trench BKG 4, SU 91, Macrophase 4b (photo MAIP, drawing MAIP-F. Martore).

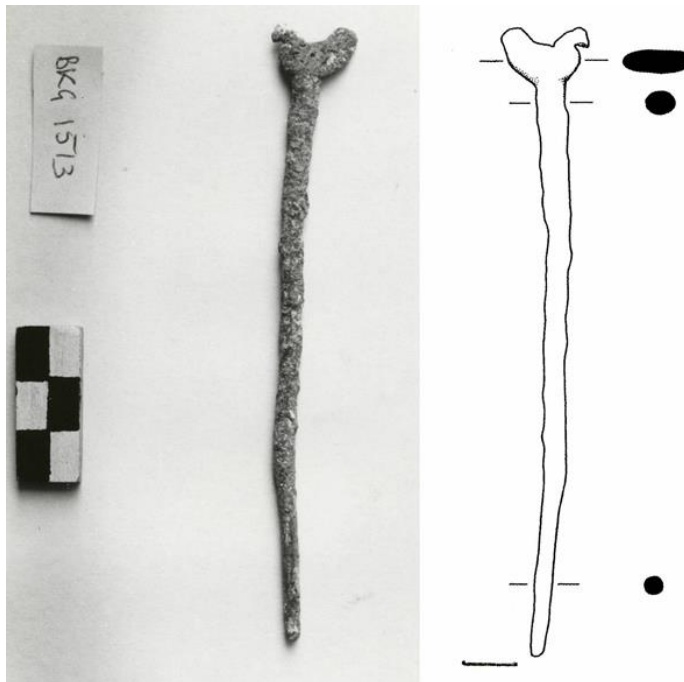


Fig. 15 - Hairpin with circular section stem; head composed by a zoomorphic figure representing a bird (rooster?), BKG 1513, Taxonomy E, Trench BKG 4, SU 763, Macrophase 4b (photo MAIP, drawing MAIP-F. Martore).

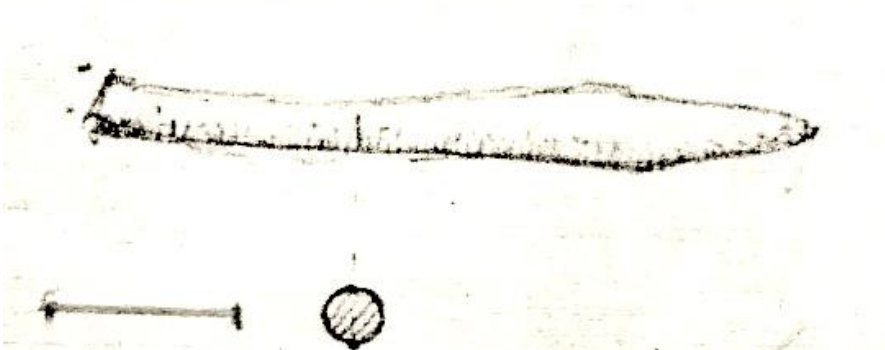


Fig. 16 - Antimony rod with circular section body and a conical end, No. 6, Taxonomy AI.a, Trench BKG 1, SU 59, Macrophase 6 (?) (photo MAIP, drawing MAIP-F. Martore).

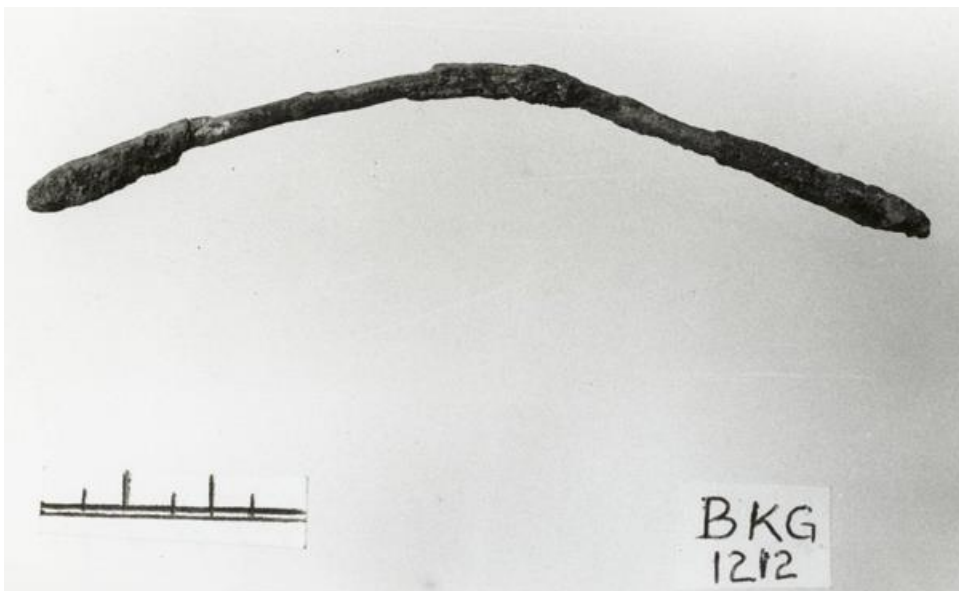


Fig. 17 - Antimony rod with circular section body. Both ends are rounded, BKG 1212, Taxonomy AII-AII.a, Trench BKG 3, SU 293, Macrophase 4 (photo MAIP).

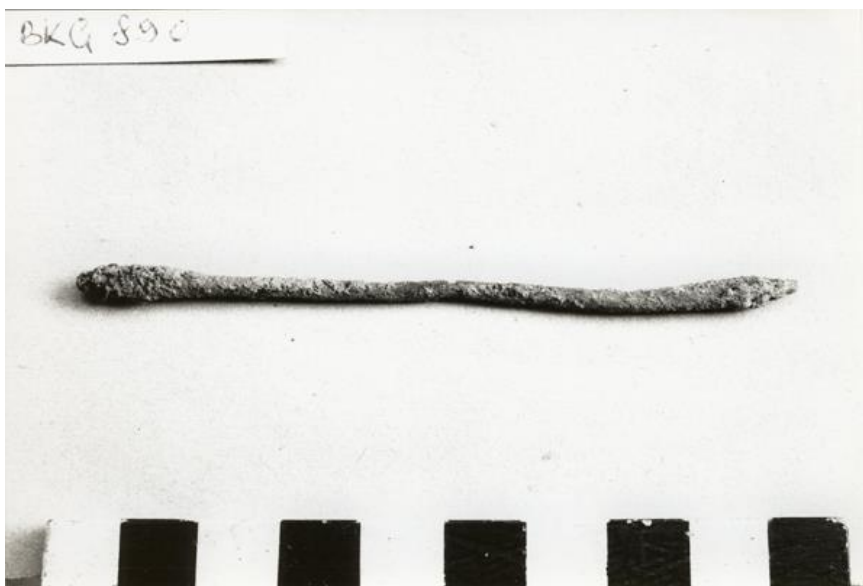


Fig. 18 - Antimony rod with circular section body, one end is rounded while the other is conical, BKG 890, Taxonomy AI-AII.a, Tr. BKG 1, SU 383, Macrophase 5 (photo MAIP).



Fig. 19 - Ear-cleaner with conical body, No. 137, Taxonomy B.a, Trench BKG 5, Sporadic, no Macrophase (photo MAIP, drawing MAIP-F. Martore).

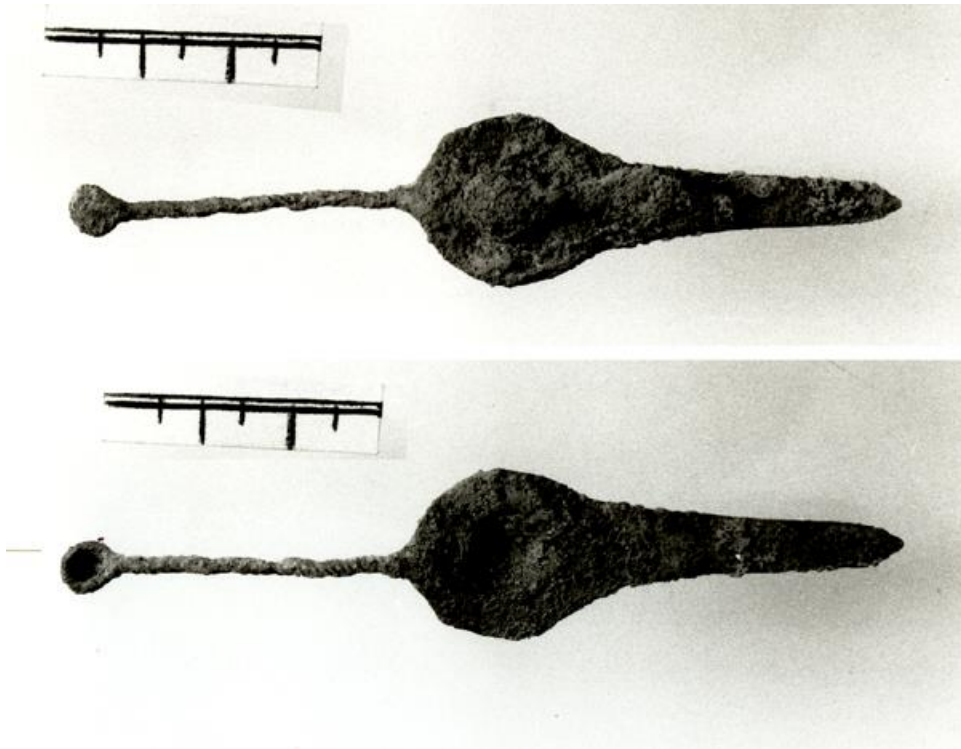


Fig. 20 - Double dispenser with circular section body. The main dispenser has a lanceolate shape, the smaller one has a circular shape; a twist decorates the body, BKG 1155, Taxonomy CI-CII.ac, Trench BKG 3, SU 50, Macrophase 5 (photo MAIP).



Fig. 21 - Toothpick (?) with circular section stem; in the centre the body has a rectangular section and it is twisted to form a decorative spiral BKG 1662, Taxonomy DI?-DI?.ac, Trench BKG 5, SU 1568, Macrophase 3a (photo MAIP).



Fig. 22 - Elliptical Mirror with rectangular section handle; the front is flat, the rear is concave, BKG 1658, Taxonomy E.b, Trench BKG 5, SU 2616, Macrophase 5a (photo MAIP).



Fig. 23 - Curved blade with triangular section; perhaps a small sickle, BKG 830, Trench BKG 1, SU 131, Macrophase 4 (photo MAIP).



Fig. 24 - Weight in the shape of a lion's paw; the upper surface is flattened and has an irregular circular section and rounded rim; the lower one is also flattened, but shows some irregularities, BKG 1359, Trench BKG 4, SU 233, Macrophase 5b (photo MAIP, drawing MAIP-F. Martore).



Fig. 25: Repoussé decorative plaque representing a sea creature (dolphin?). The plaque shows traces of gilding, No. 42, Trench BKG 4, SU 686, Macrophase 4a (photo MAIP, drawing MAIP-F. Martore).



Fig. 26: Rosette-shaped decorative plaque with seven petals and a central hole; possibly a decorative plaque for door or jamb, BKG 1356, Trench 4, SU 277, no Macrophase (photo MAIP).



Fig. 27 - Truncated cone bowl with thickened rim and flat base, BKG 1462, Taxonomy A, Trench BKG 4, SU 79, Macrophase 5a (photo MAIP).



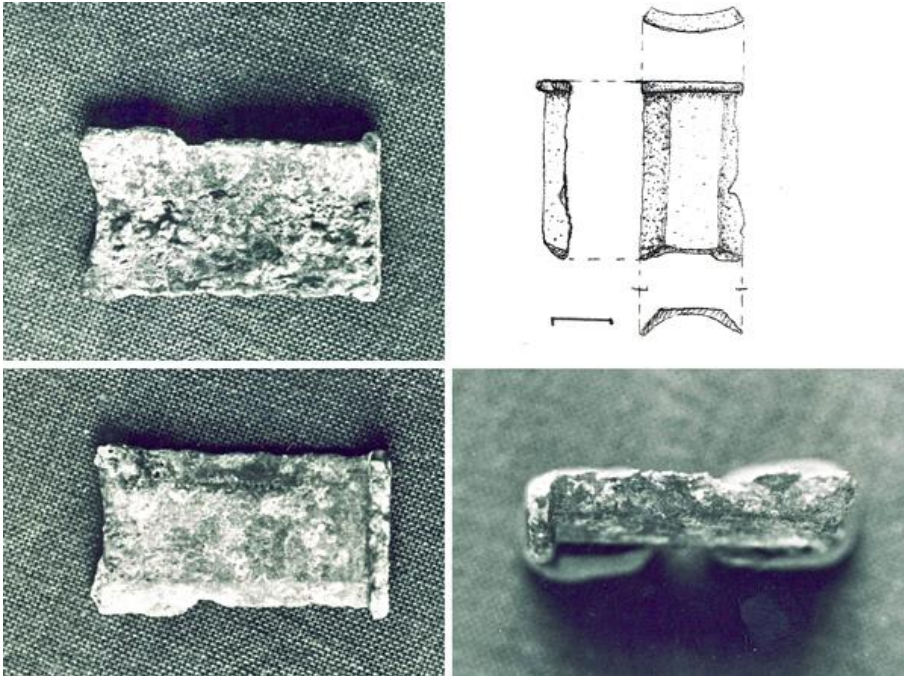


Fig 28 - Cosmetic vial with everted rim; the wall has an external octagonal section, No. 105, Taxonomy B, Trench BKG 4, SU 742, Macrophase 4a (photo MAIP, drawing MAIP-F. Martore).



Fig. 29 - Cone-shaped bell (?) with a flattened and pierced triangular-shaped tip, an inner iron knocker and a slightly thickened rim, BKG 844, Trench BKG 1, SU 171, Macrophase 4 (photo MAIP).

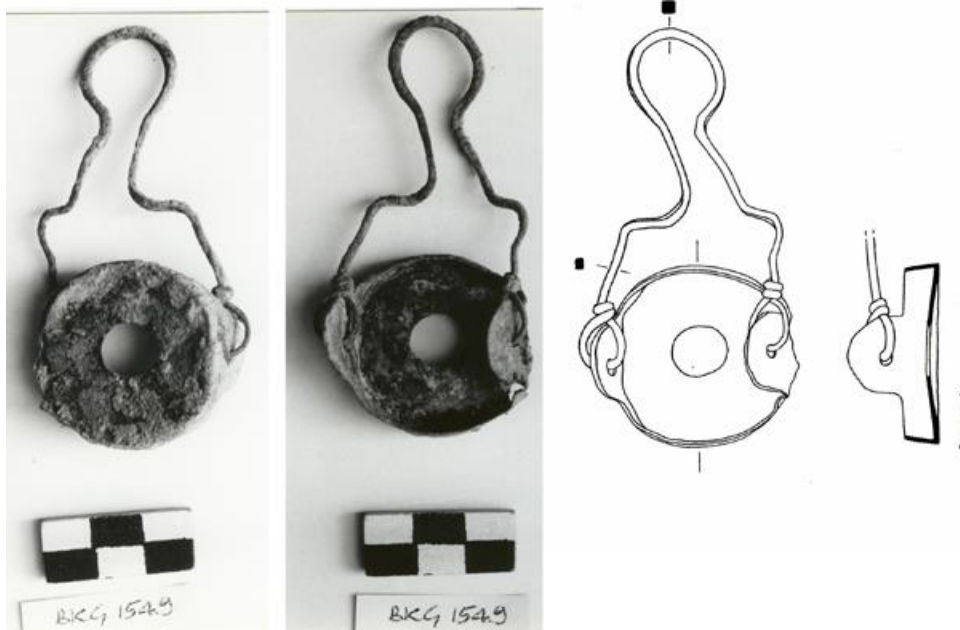


Fig. 30 - Support consisting of a circular foil with central hole and raised edge, BKG 1549, Trench BKG 4, SU 554, Macrophase 4b (photo MAIP, drawing MAIP-F. Martore).



Fig. 31 - Buckle with movable tip. Body decorated with a rampant embossed ram, BKG 1126, Trench BKG 3, SU 50, Macrophase 5 (photo MAIP).



Fig. 32 - Spoon with ovoid bowl and circular section handle, BKG 1361, Trench BKG 4, SU 233, Macrophase 5b (photo MAIP).



Fig. 33 - Shield boss (?) with flat ring base and hemispherical central element, BKG 1375, Trench BKG 4, SU 279, Macrophase 5a (photo MAIP).



Fig. 34 - Globular bell with a free spherical clapper inside; an opening cut with slightly everted and thickened protruding rims crosses two-thirds of the body, BKG 857, Trench BKG 1, SU 27, Macrophase 8 (photo MAIP).

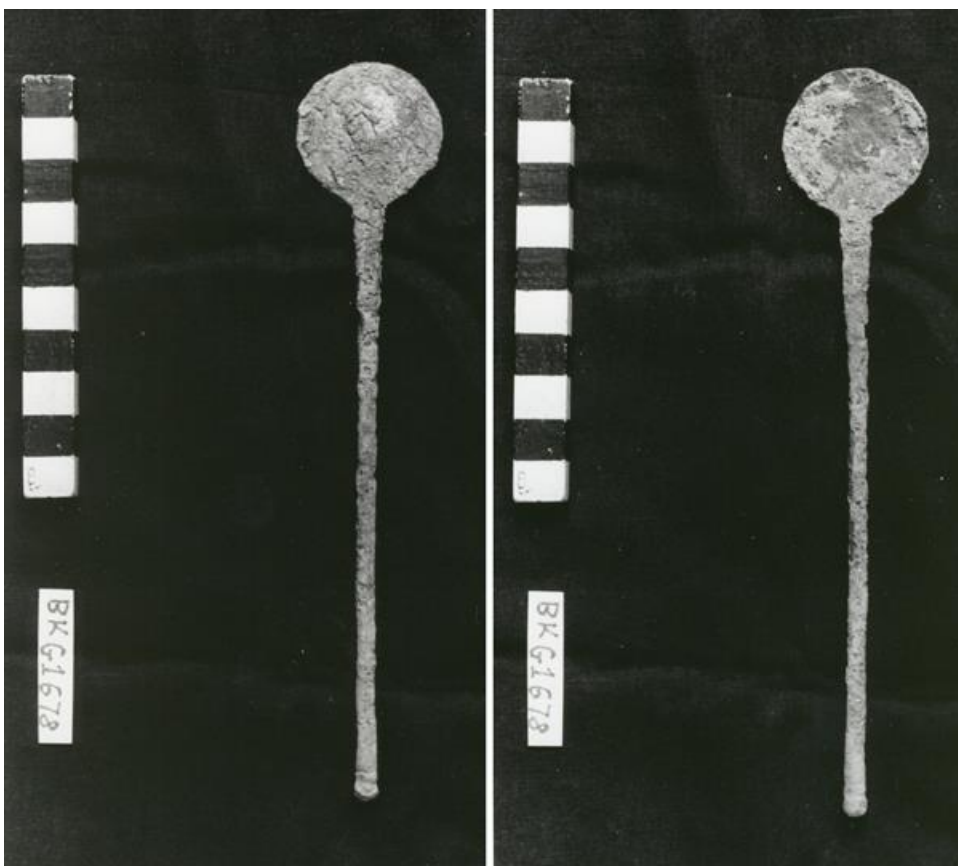


Fig. 35: Circular spoon with a long handle (rectangular and circular section), BKG 1678, Trench BKG 5, SU 2677, no Macrophase (photo MAIP).