

Two excavation campaigns of the University of Groningen at Monte Del Bufalo, *Crustumarium*. Preliminary results and future plans.

In the summers of 2006 and 2007, a team of the Groningen Institute of Archaeology (GIA) headed by Peter Attema and Bert Nijboer, excavated various tombs of the Monte Del Bufalo cemetery. The excavations were carried out as part of a collaboration project between the GIA and the Soprintendenza Speciale per i Beni Archeologici di Roma (SSBAR) in the person of Francesco di Gennaro. The authors would like to thank Francesco, Barbara Belelli-Marchesini, Barbara Barbaro and Pietro Barbina for their willingness to share their fine excavation skills with the Dutch team and for their daily advice. We also like to thank Stefania Di Giannantonio of the Anthropological Service of the SSBAR who determined gender and age of the human skeletal remains. Conservation and restoration of artefacts took place in the Laboratory of Conservation and Material studies (LCM) of the GIA by Gert van Oortmerssen (www.lcm.rug.nl). The temporary export permit to Groningen was made possible by the much, appreciated permission of the Soprintendenza.

Results

Of the excavated tombs so far, we will discuss in the first section of this paper, two well preserved, early 7th century BC tombs, one of which proved untouched by looters. We will also report on a chamber tomb that was found intact and that is dated around 600 BC. These tombs are located in the North-East/central part of the Monte Del Bufalo cemetery in the sector that is being excavated by the Soprintendenza SBAR. In the second section we will discuss some aspects of the conservation and restoration of the objects found in the tombs. In the third and final section we will outline current initiatives for prolonging and extending the collaboration project.

Tomb 223

Tomb 223 is a SSE-NNW oriented, rectangular *fossa* tomb with head *loculus* of which the *fossa* was preserved to a depth of ca. 1m. On the floor of the *fossa* the well-preserved skeleton of a woman was found, almost 160 cm long and aged between 45 and 50. She was buried in supine position in a wooden coffin, probably a hollowed-out tree trunk, and her hands were folded in her lap. On both sides of her breast there were two bronze fibulae at the height of her shoulders. At the NNW side of the *fossa*, the head *loculus* with the ceramic grave inventory was located. The floor of the *loculus* was 20 cm higher than the floor of the *fossa*. The *loculus* was separated from the *fossa* by means of a vertically placed, closing slab of local tufa. The inventory of the *loculus* consisted of an olla of *impasto rosso*, four drinking cups, five bowls, two amphorae, a mug and a bowl on a high foot. Figure 1 illustrates a selection of the restored table wares from Tomb 223. The pottery was largely intact, though sometimes compressed due to the weight of the soil above it. Figure 2 presents two *anfore con anse ritorte* both of *impasto bruno scuro* as well as two *tazze con anse cuspidate*. One of the bowls, not yet restored, is a handmade, highly decorated *tazza con ansa bifora* that is not functional for drinking and that appears to be specific for female tombs at Crustumarium (Belelli Marchesini 2006, 223). This *tazza* from MDB Tomb 223 resembles the *tazza cratera* of tomb 34 of the Sasso Bianco cemetery at

Crustumerium (Belelli Marchesini 2006, p. 224-225 cat no. II.196). It was fired at a low temperature making it extremely friable. The bowl is likely to have been made especially for the burial ritual. The pottery assemblage found in the *loculus* of the tomb, is clearly associated with eating and drinking, referring to the banqueting rituals of members of the community living at Crustumerium. A number of the pottery forms have parallels in tombs 5 and 7 of the Monte Del Bufalo cemetery (di Gennaro 1988, 117-122) and tomb 34 of the Sasso Bianco cemetery at Crustumerium (Belelli Marchesini 2006). The tomb can be assigned to the Latial period IV, phase A, the early 7th century BC.

Fig. 1 Selection of the restored table wares from MDB Tomb 223

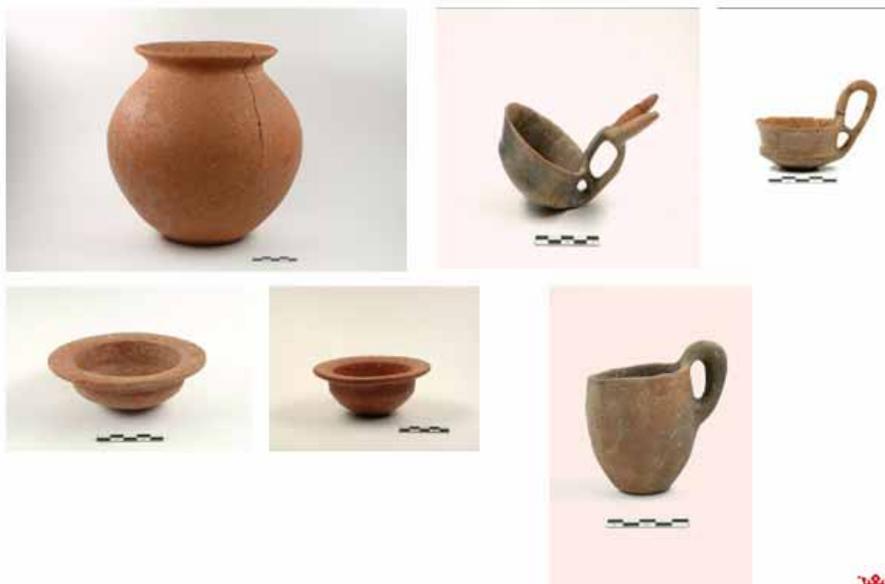


Fig. 2 Two *anfere con anse ritorte* both of *impasto bruno scuro* as well as two *tazze con due anse cuspidate* from MDB Tomb 223.



Tomb 232

Figure 3 gives the overview of MDB Tomb 232, just before the skeleton was removed with the block-lift method.

Tomb 232 is a *fossa* tomb with a head *loculus* oriented to the north. The tomb is assigned to Latial period IV, phase A. The depth of this shallow tomb is at the most 30 to 35 centimetres and it was preserved miraculously because the furrows of ploughing were clearly visible on the surface of the tuff bedrock and just above the skeleton in the fill of the *fossa*. Thus the headdress/diadem was found 5 cm below the surface. Most of the tomb must have disappeared as a consequence of past erosion and ploughing. Thus the stratigraphy of the *loculus* was disturbed, at least for the first 20 to 30 cm.

From the start of the excavation, the mixture of decomposed organic material and dark-brown clay of the 'coffin area' in the trench, surfaced in the south. Elsewhere it was covered with a thin stratum of coarse sand and weathered tuff. After removing this thin layer the rectangular feature of the 'coffin' appeared with east, west and south of it a yellowish fill, mainly of tuff fragments.

The 'coffin area' in the centre of the trench measured 2 x 0.50-0.60 m. In it were the remains of the skeleton of a lady, 40 to 50 years old, together with her personal ornaments. In the vicinity of the bronze objects the bones of the skeleton were well preserved, while at other places they had completely disappeared. The teeth of the woman had a green patina on account of the corrosion of the copper-alloy artefacts.

The skull of the deceased had slid to the right, on the chest. It was crowned with a headdress or diadem, an artefact, so far without parallel. The headdress/diadem is heavily corroded and traces of textiles in the corrosion products indicate that it was associated with textiles. We therefore have labelled this tomb, *tomba della dama velata*. There are other details associated with the headdress that indicate that the lady

wore a veil, a sort of *infula* or *cuffia*. These details are momentarily studied at the Laboratory of Conservation and Material Studies (LCM) of the University of Groningen.

The upper arms were each adorned with two *fibulae* a *navicella*. On her chest at least six objects were found, most of them of bronze. Two more *fibulae* with a long pin were more or less symmetrically placed just below the skull near the *scapulae*. They must have kept a shroud or garment in place on the shoulders. At the left side of the chest, an instrument was found that is sometimes labelled in Italian ‘*forcella per tessere*’, a tool that is occasionally found in central Italy in wealthy female tombs assigned to the late 8th or early 7th century BC (cfr. Cavallotti Batchvarova 1965, 123-138, Veio QF Tomb HH 11-12; Fabbricotti & Healy 1972, 249-250, Veio QF Tomb YZ delta; Montelius 1895-1910, pl. 318, Narce Tomb 32). Further investigation in the LCM of the University of Groningen will shed more light on this implement.

Some centimetres to the North of the implement, a row of small, bronze ‘pearls’ or globules, each 1 to 2 mm in diameter, was lying just below the skull. In addition, two bone/ivory fibula-bows inlaid with amber knobs, were found in the centre and at the left side of the chest area. Around her waist, the lady wore a belt with bronze clasp-hooks.

On account of the intricate nature of the associated artefacts such as the bone/ivory fibula-bows inlaid with amber and the tiny bronze globules, the skeleton was lifted in two parts using the block-lift method (for which we like to thank the conservator Pietro Bassanelli). Two parts of the skeleton were lifted; a large block with the head, arms and chest and a small block of the waist with the clasp. These block lifts were transported to Groningen and are momentarily excavated and investigated at the LCM.

In Groningen, CT-scans and X-ray photographs were taken thanks to the assistance of the Academic Hospital (UMCG), to reveal details regarding the artefacts in the block-lifts as the three hooks of the clasp illustrated in Figure 4.

On the CT-scans and X-ray photographs of the block-lift of the upper part of the body, countless tiny copper-alloy globules behind the skull of the deceased were revealed as well as the intricate and advanced construction of the copper-alloy headdress/diadem.

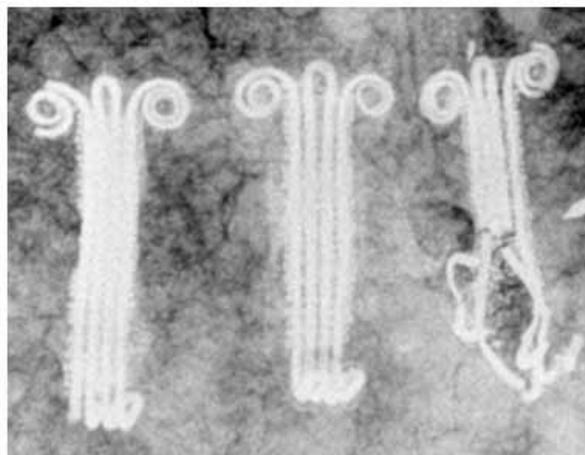
The shards found in the *loculus* of Tomb 232 were mainly of small drinking cups and the lower part of a white-on-red *holmos* – apparently the first *holmos* of Crustumium so far. Its lower part could be restored, to a height of 30 cm. Other shards belonged to *tazzine-atingitoio* (at least five are preserved in fragments). In the past, *tombaroli* have been digging in the *loculus*. They were not interested in the *holmos* since they buried a large fragment of it in a hole they dug in the NW part of the *fossa*, leaving a cigarette package of the Italian brand MS beneath it.

The red slip of the *holmos* was largely abraded, which caused the partial preservation of the white-on-red decoration. A UV-photograph was taken in the LCM to improve the visibility of the white decoration on the *holmos*. At the moment we interpret this decoration as the rear part of an animal, possibly a horse, bordered at top and bottom by two horizontal stripes.

Fig. 3 Overview of MDB Tomb 232, just before the skeleton was lifted.



Fig. 4 MDB Tomb 232, X-ray photograph of the clasp hooks inside the block-lift of the hip part of the skeleton.



Tomb 222 (approximately 600 BC)

Tomb 222 is a fine example of a subterranean chamber tomb with *dromos* that could be accessed by a flight of steps. The stair is so steep that it gives the impression

of a shaft *dromos*. The upper side of the entrance to the chamber was found at a depth of 1,60 m below the surface of the bedrock. The entrance was closed with four vertically placed, tuff blocks and some smaller tuff fragments. The chamber, somewhat irregularly shaped, measured 440 x 470 x 140 cm, giving its maximum dimensions. It had three laterally placed *loculi*, one to the left and two to the right of the entrance to the chamber. Around the *loculi* and on the transition to the ceiling, clear chiselling marks were recorded.

Upon entering the chamber, floor and *loculi* were covered with a thick deposit of fine clay layers alternating with large sheets of *tufa* that had come down from the walls and ceiling. During the first campaign in 2006, the *dromos* was excavated and part of the entrance. The fill of the *dromos* did not contain finds of any significance. During this campaign, also a small test trench was dug into the chamber. In this trench, two jars of impasto were recovered, both dating to the late 7th - early 6th century BC. During the 2007 campaign, the chamber was fully excavated. It appeared that five individuals had been buried in the chamber in a relatively short period of time judging from the associated finds. The first burial that we excavated was of a young woman of 20 years that had been buried in supine position on a wooden bier placed on the floor in front of the *loculus* at the rear of the chamber. At her feet a small child of about 6 years had been buried from which we recovered some of the milk teeth. It is remarkable that only the lower part of the female skeleton was preserved. The upper part may either have slowly disintegrated in the past or was removed already in antiquity as no traces whatsoever were found of skull and breast. In the *loculus* at the back of the chamber another young female was excavated, aged 16 to 18. She lay in supine position on the floor of the *loculus* that had been closed with large tiles of red clay. The *tegulae* had slid slightly downwards towards the floor of the chamber.

On the floor of the *loculus* to the right of the entrance, the skeleton of a third female was excavated, 20 to 30 years old. Also this grave had been closed with horizontally placed tiles.

On the floor of the *loculus* to the left of the entrance, the well-preserved skeleton of a man was excavated, aged 30 to 40 years. This man had a quite exceptional length of 175 cm. The *tegulae* in front of the *loculus* indicate that it also was closed originally.

On account of the associated artefacts in tomb 222, the tiles must date around 600 BC and confirm that houses at Crustumium at that time were also roofed with *tegulae*.

Figure 5 presents some of the associated artefacts in the chamber such as etrusco-corinthian ceramics as well as a coarse ware olla. The *aryballos*, *pyxis* and *alabastra* were found near the female skeletons. For example, the *pyxis* was found next to the skull of the young woman buried in the *loculus* at the rear of the chamber. A comparable *pyxis* is, for example, recorded in Tomb VIII at Poggio Buco, a tomb that is assigned by Bartoloni to the first half of the 6th century BC though it did contain also artefacts dated to the late 7th century BC (Bartoloni 1972, 135). Similar etrusco-corinthian ceramics as in MDB Tomb 222 are dated to the late 7th century BC but also occur in contexts assigned to the early 6th century BC (cf. Marchetti 2006, 369-371; Colonna, 2002, 187, 235, Tav. XLVII).

The majority of the finds were found on the floor of the chamber. Quite a few of the finds miss fragments as is the case with the coarse-ware olla. The artefacts might not have been complete when the burial chamber was last used. Some of the artefacts could have been relocated during a subsequent funeral or they might even

have slid from a *loculus*. Most artefacts were found on the right hand side of the entrance to the chamber and it will require further research to allocate finds to a specific burial. Eventually, it might not be possible to assign all artefacts to an individual funeral.

In the clay fill of the coarse ware olla, we found the oldest shard recovered from the chamber, a rim fragment of an *impasto tazza* decorated with geometric incisions. It is probably an accidental intrusion in the tomb on account of reopening in Antiquity for a subsequent burial. One shard of comparable age was also found in the fill of the *dromos*.

Figure 6 presents the two *olle* of *impasto rosso* from the tomb as well as a *bucchero oinochoe*. The *bucchero* pouring jug resembles *oinochoe* type 7 in the classification of Rasmussen (Rasmussen 1979, 84-86). This type of *oinochoe* is found in Etruscan tombs dated around 600-575 BC. A closer look at the *oinochoe* will be possible once the drawing and description of this vessel is available.

At the end of the campaign, the *dromos* and chamber were recorded using a 3D scanner. The resulting data files are still in the course of being processed and no results are available yet.

Fig.5 Some of the associated artefacts in the MDB chamber tomb 222 such as etrusco-corinthian ceramics as well as a coarse ware olla.



Fig. 6 Two *olle* of *impasto rosso* as well as a *bucchero oinochoe* from MDB Tomb 222.



Conservation and restoration

Conservation work executed at the Laboratory for Conservation and Material studies, LCM, of the Groningen Institute of Archaeology, is shown in the figures of this paper. In addition we would like to elaborate on some of the conservation work done in 2006-2007 in which we restored 3 tombs dated around 800 BC that were excavated in the MDB necropolis of Crustumerium by the Soprintendenza in 2006.

Restoration procedures, ethics and use of consolidants/adhesives in the LCM are explained on its website www.lcm.rug.nl but are best characterized as “restrained”, meaning that only a limited number of techniques and materials are used that form no risk for the artefact nor for the conservator. The consolidants and adhesives used are of high-quality, being reversible and stable as long as possible. We have restored these tombs to museum level so that they can be exhibited. This is best illustrated by the gap filling of recent fractures, cracks and gaps in the artefacts. These gap fills were painted in order to make them almost unnoticeable. The gap fills are visible within about 50 cm distance (“handheld”) but not visible from a distance of about 2 meters. Old gaps have been filled and repainted only when this was necessary to make a reconstruction safe enough for handling, study and presentation.

The restoration of the copper-alloy, hammered bowl with raised handle, can serve as an example of the restoration of artefacts at the LCM (figure 7). The bowl itself is archaeologically interesting but that will not be discussed here. Figure 7 shows the bowl before and after restoration. Most of the time spent on its conservation was devoted to the mechanical removal of the fill that consisted of an extremely hard, clay-rich soil while the copper-alloy bowl itself was friable. Impregnation of the bowl with various solutions of Paraloid B-72 in acetone/ethanol was necessary to strengthen the thin and fragile copper sheet. Paraloid B72 is a highly suitable consolidant and adhesive for restoration since it is stable and reversible (Horie 1987, 46, 106-109).

Figure 7 also gives a detail photograph of the gap fill of part of the rim with acid-free Japanese paper, impregnated with Paraloid B72. The Japanese paper was painted in the colours of the corroded copper sheet. The gap-fill and painting was necessary for presentation purposes on account of the museum level of restoration but also for the coherence and vigour of the bowl.

Fig. 7 MDB Tomb 156, copper-alloy, hammered bowl with raised handle, before and after restoration. Detail photograph of gap fill with acid-free Japanese paper, impregnated with Paraloid B72.



Future work

As far as fieldwork is concerned, the Groningen Institute of Archaeology intends to pursue excavations in the Monte Del Bufalo cemetery including the restoration and conservation of its artefacts. Tombs and tomb inventories will in the next years be prepared for publication and submitted to the Soprintendenza as an integral part of the Monte Del Bufalo publication foreseen by the Crustumarium project. The excavation and study of the burials of Monte Del Bufalo cemetery will be supported by a PhD project starting at the Groningen Institute of Archaeology as of September 2008.

In the final days of the campaign of 2007, the Groningen Institute of Archaeology asked Claudio Moffa and his collaborators to carry out geo-physical prospections in order to trace the course of the 'fossato' excavated by the Soprintendenza earlier that campaign. The preliminary results of those prospections are presented in the paper by Barbara Barbaro and Pietro Barbina (this collection of papers). Commissioning such geo-physical prospections as carried out on the 'fossato', demonstrates the GIA's interest in settlement research at Crustumarium. In the coming year, such interest will find expression in the elaboration of data from past excavations, starting with a study of the rows of parallel walls that in earlier years were excavated on the inner side of the fossato (Amoroso 2002, 314; di Gennaro 1999, 24-25). One Groningen's research-master student will be working during an internship at the Soprintendenza, on these settlement data in the autumn of 2008.

Eventually the studies of past excavations may lead to new interventions by the Groningen Institute of Archaeology in specific features within the settlement.

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