

# Preliminary Report on the 1992 Campaign of the Team of the Institute of Prehistory, University of Cologne

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In the high mountain region of Mustang District numerous multi-storey cave systems were dug by men into the faces of the rock massifs situated alongside the riverbeds. In Muktinath Valley remains of ancient village sites with ruined houses and former field-systems are often located in the direct neighbourhood of such cave systems. After the first surveys by the Nepalese geographer Harka Gurung and the Bonn University tibetologist Dieter Schuh, a preliminary archaeological study was carried out in a cave system in the upper Muktinath Valley in 1990. This yielded a series of radiocarbon dates and the first results concerning the former usage of these archaeological monuments (Simons 1993).

The aim of the Cologne University archaeological research programme is to carry out excavation work in selected cave systems and connected sites and thus collect data to build up a chronology of the prehistoric and medieval

settlement of the high mountain region of Nepal. Additionally, we are making an effort to find out if there are connections between the cave settlements and cave burials, one of which is known in the Thakkhola (Tiwari 1985).

In 1992 three months of fieldwork (March to end of May) were carried out by the Cologne University team together with the counterpart from HMG Department of Archaeology<sup>1</sup>.

We worked at three sites (Fig.1):<sup>2</sup>

1. In the Thakkhola near Marpha and Tukche: a salvage excavation in funerary caves;
2. in the upper Muktinath Valley near Dzar (Jharkot) and Dzung (Jhong): work in a cave system; and
3. in the lower Muktinath Valley near Kak (Kagbeni): excavations in the ruins and a cave system.

## 1. The Chokhopani cave burials

The funerary caves at the site of Chokhopani were completely buried by rock debris. The installation and removal of the water-pipe of the power-station opened and partly destroyed at least three cave burials at different levels (Fig. 2; Fig. 3). Parts of the finds - pottery, bronze, shell pendants, beads - were recovered and published in *Ancient Nepal* (Tiwari 1985).

After the pipe was removed, the open caves were subjected to heavy water erosion. Dieter Schuh found the caves endangered during his visit in October 1991 and recovered finds from the central cave. More than 100 ceramic vessels of different types and some metal ornaments were recovered (Fig. 4; Fig. 5; Fig. 9), and since then these have been stored in Marpha. The pottery shows incised and cord-roulette decoration (Fig. 6 above) and was probably locally made, as many pots are misfired. After Schuh's departure, some unauthorised persons climbed into the caves and destroyed the remaining structures.

During our 1992 salvage work we excavated the upper chamber, where we recovered the bones of several individuals, a number of potsherds and an iron nail (Fig. 11). Additionally, we rescued the endangered finds of the central and the lower cave (Fig. 6). In the lower cave the finds were protruding out of the wall and could only be recovered from there.

In the Chokhopani funeral caves the dead were buried with their ornaments - muskdeer teeth necklaces, shell pendants (Fig. 7 below), beads of bone, faience, and carnelian (Fig. 8), copper arm- and earrings (Fig. 9 below) and also with bodkins cut out of schist (Fig. 7 above). Numerous ceramic vessels were probably filled with meals

for the dead and then put into the grave chamber. The water erosion in the shaft had destroyed the features; moreover, the bones were very fragile. Nevertheless, the bone analysis yielded astonishing results: the human bone fragments recovered from the three burial caves represent the remains of at least 21 individuals. Most of them are children below the age of 7 years (eleven individuals, three of them newly born), one child about 12 years old, two juvenile individuals (14-18 years) and at least seven adults<sup>3</sup>.

As to the chronological order of the Chokhopani collective graves, the first investigators saw connections with the so-called "Copper Hoard Cultures"<sup>4</sup> (Tiwari 1985, 7; Mishra 1988, 14 footnote 7). Particularly, they interpreted the metal objects from Chokhopani (Fig. 10) as anthropomorphic figures. Such anthropomorphs are usually cast copper objects, several of which are known from "Copper hoard" sites in the Gangetic Basin. They are of different shapes, but all the complete specimen have a "head", "arms" and "legs". The Chokhopani metal objects are lacking the head; they rather look like animal hides. Moreover, they are not cast but embossed to a very thin (2-3 mm) sheet.

The objects stored in Kapilvastu Museum have not yet been analysed as to their metal content. However, the analysis of the cross-shaped object (Fig. 9 above) recovered in Chokhopani 1991 revealed an interesting result: 45% copper, 30% tin, 4-5% zinc. This analysis<sup>5</sup> identifies the metal used as tin bronze. This result is significant because the copper of the copper hoard objects is usually only alloyed with arsenic (or iron), but not with tin (Agrawal 1974; Yule 1992, 234).

The metal analysis is one of the reasons that makes us suggest that in the Chokhopani cave burials we are not dealing with the remains of the

chalcolithic period. Another hint is the occurrence of an iron nail recovered from the upper burial cave together with other grave goods (Fig. 11 below). Moreover, there are no traces of a lithic industry in Chokhopani, although suitable quartzite material would have been available in the river deposits. The pointed, thin bodkins (Fig. 7 above left) of hitherto unknown function are made of schist, a very brittle material.<sup>6</sup>

To conclude this excursion concerning the chronology of the Chokhopani findings, we have to look at the pottery. It is built-up by hand in coils, grey to brown in colour, and probably locally made, because of many misfired vessels. There are also no direct parallels.

Therefore, we have to rely fully on radiocarbon dates.<sup>7</sup> We have now received a radiocarbon date which derives from one of the grave goods, the remains of a birch bark vessel (Fig. 8 below). It gives the date of BP 2575 ± 19 (calBC 801 - 792).<sup>8</sup> This date gives the first hint of an early prehistoric settlement in this region. The finds show that there were connections with the Indian Subcontinent, as well as with Tibet and Central Asia. Further investigations are needed to gain more data on this culture.

## 2. The cave system in the upper Muktinath Valley (the site of Mebrak)

Our next site is situated about 1000 m higher and about 20 km to the north of the Chokhopani burial site in the upper Muktinath Valley (Fig. 1). The large rock massif belonging to the village of Dzong (Jhong), which is situated opposite the village site of Dzar (Jharkot), contains six multi-storey cave systems.

The aim of our work there was to disentangle the chronology of the utilization of the cave systems and their relationship towards the house ruins situated in front of them. We have just started our documentation and excavation work there and plan to continue this in the years ahead.

We were able to document the two main storeys of one large cave system. An interesting feature of this system is an 8 m-long passage which connects several cave rooms in the interior of the rock. In some chambers there are structures built of mudbricks, which were probably used to store the crop. The storing structures are mostly box-shaped (Simons 1993, Fig. 5), but they also can be dome-shaped (Fig. 12 below). Also, some of the cave rooms are furnished with hearths and their ceilings are covered with soot.

The walls of many caves are plastered with mud tempered with plant remains. Several types of barley, wheat and buckwheat have already been identified.<sup>9</sup> Especially in the lower floor, the walls of some chambers show traces of elaborate painting, thus bearing witness to the last occupation of the caves by Buddhist hermits. The finds in the caves are from everyday utensils, mainly potsherds.

A really thrilling result was obtained from one large cave chamber situated at the foot of the rock massif and recently used as shelter for goats (Fig. 12 above). Below several floor levels with crop remains we excavated the remains of a pit. Here we found pottery fragments which in texture and shape reminded us of the pottery recovered from the Chokhopani burial caves in the Thak-khola (Fig. 13). A highly precise radiocarbon date confirms the connection with the Muktinath Valley settlement caves (about 3600 m above sea-level) and the funeral caves in the Kaligandaki Valley (about 2700 m above sea-level). It

produced a date of BP 2615  $\pm$  25 (calBC 810 - 799).<sup>10</sup> This is hitherto the earliest evidence for the settlement in the high mountain region and - in particular - in the cave systems of Mustang.

### 3. Cave system and ruins in the lower Muktinath Valley (the site of Phudze-ling)

Finally, our last site shows that the settlement of this area goes far back into prehistoric times. We worked in the cave system and the ruins of an ancient settlement in the lower Muktinath Valley, one hour walk east of Kak (Kagbeni). On the river terrace about 30 m above the river Dzong the remains of 34 houses are preserved. The heavily eroded cave system towers some 70 m above the houses (Fig. 14). The work at this site gives a hint of the depth of time in which both the cave system and the ruined site were in use.

The latest settlement traces were recovered from the ruined houses (Fig. 15). In the remains of one of these several interior walls and floor levels were uncovered in an excavation trench. In one corner we dug a small trench down to the oldest foundation of the building, more than 1.50 m below the surface. A radiocarbon date obtained from a fireplace in the third floor level (about 50 cm below the surface and thus still more than 1 m above the foundation) shows that this phase of the building belongs to the 17th century (AD 245  $\pm$  35 = calAD 1642 - 1663).<sup>11</sup> The oldest date which hitherto has been obtained from one of the ruined buildings goes back to the 13th century, so that we can conclude that the village site in its present appearance had existed for at least 400 years.

However, there are also traces of a much older

settlement at this site. In a settlement layer between the house sites we were able to recover some bronze ornaments and bodkins of schist similar to the finds of Chokhopani. The pottery shows a wider range of ware, shape and pattern. The radiocarbon analysis of a charcoal sample from this feature shows that the site was already inhabited in the Iron Age period, only 300 to 400 years later than the period represented in Chokhopani and in the cave in the upper Muktinath Valley described above (BP 2222  $\pm$  24 = calBC 363 - 200).<sup>12</sup>

Moreover, we have evidence of an even earlier occupation of this site. It was obtained from the cave system behind the ruins. Dug into the easternmost peak of the rock massif, we found the remains of a passage with some preserved stone steps leading upwards (Fig. 17). From a pit below the stairs, apart from animal bones, we recovered a pottery vessel of a new style with an impressed decoration (Fig. 18 above), together with a few potsherds of Chokhopani ware. A radiocarbon date yielded by the fragments of a basket or a mat (Fig. 18 below) lying at the base of the pit proves this feature to be contemporary with the burial caves in the Thakkhola and the pit in the neighbouring site of Mebrak: BP 2565  $\pm$  55 (calBC 805 - 766).<sup>13</sup>

The passage - like a spiral staircase - leads up to the top of the rock, where we discovered the ruins of a tower built of stones (Fig. 17). The tower, with a slightly trapezoid base, seems to be a watchtower from which the valley could be controlled, almost to the confluence of the Dzong Khola and the Kaligandaki. These findings indicate a convincing possible utilization of the cave systems: the people staying in the houses and fields on the terraces alongside the river could be called to the shelter of the caves, once an enemy had been recognized from the tower.

Despite it having been heavily destroyed by erosion, so that only small portions of the cave chambers had been preserved, the work in this cave system proved to be quite successful. We were nevertheless able to document some new types of features - for example, passage and tower described above - and other finds which shed more light on the different functions of the cave systems.

Furthermore, evidence was found of a ritual use in the remains of a cave chamber, where we uncovered a large hearth. In its fire-pit we found, apart from charcoal and animal bones, several metal objects and three wooden phurbas (Fig. 16 below). Special finds were fragments of paper with Tibetan script and drawings. In the adjacent floor we excavated fragments of twelve small images made of unburnt clay depicting horses, measuring 3-5 cm (Fig. 16 above). The tibetologists D. Schuh and C. Ramble think that all these objects could be the remains of a fire ceremony carried out in this cave. As for the dating of this event, we received a radiocarbon date from the charcoal in the fire pit ( $AD\ 1008 \pm 24 = calAD\ 1012 - 1028$ ).<sup>14</sup> Thus, our finds belong to the oldest sources of Tibetan script in this region.

We cannot yet date the largest find hitherto discovered by us (measuring 1.75 m), which was excavated in the settlement site in front of the caves. It is a stone image of a bodhisattva (Padmapani), which was probably placed at the former entrance of the ancient village. It was almost totally buried by debris but still standing in situ with a paved area in front of it. Traces of paint show that the image was originally painted.

### First results of our 1992 fieldwork

This year's field campaign has yielded first answers to our questions concerning the different stages of utilization of the cave systems and their position in their environment:

- (a) They were used mainly as settlements where everyday life took place. Radiocarbon dates and a number of finds suggest that during the earliest occupation period there were connections to the funeral caves in the Thakkhola.
- (b) The caves provided shelter during attacks by enemies.
- (c) In the last stage they probably acted as the quarters of hermits who lived and worked there.

The radiocarbon dates suggest a long period of occupation from about calBC 800 to calAD 1500, presumably with alternating periods of settlement and abandonment. The adjacent ancient settlement and village sites proved to be partly contemporary and related to the cave systems; they furnished dates from about calBC 350 up to calAD 1650.

Nowadays, the cave systems in Mustang are archaeological monuments representing mere relicts of the former settlements once furnished with elaborate wooden galleries, staircases, and porches.<sup>15</sup> The galleries and buildings in front of the rock faces collapsed a long time ago and the wood has been reused or covered by debris. Because of the heavy erosion only portions of the former cave chambers and very few remains of galleries with walls and supporting wooden beams are preserved.

From future excavation work, notably in the well-preserved and partly monumental cave systems in Northern Mustang, we hope to obtain addi-

tional data for the further understanding of the cultural importance of the cave systems in the settlement processes of the high mountain region of Nepal.

### Notes

1. We would like here to extend our deepest thanks to the Director and the members of HMG Department of Archaeology for the valuable help they offered in preparing the way for our research. Also, we would like to thank all the Nepalese officials and friends in Mustang; without their kind support our excavation could not have taken place. The work in the caves would not have been possible without the collaboration of our spelaologist Daniel H. Gebauer, who also did all the mapping of the caves. We want to thank him warmly for his skilled work. Also, we would like to thank the three students of Cologne University who participated in the excavation work - Iris Reuter, Klaus-Georg Kokkotidis and Frank Goldschmidt.
2. The finds were drawn by Stephanie Laub, as well as some of the illustrations. The drawings of the map and some of the site plans were carried out by Daniel Gebauer.
3. We owe these results to Prof. Dr. Manfred Kunter and Mrs. Babette Ludowici, Gießen University.
4. There is a number of sites throughout northern India, mainly in the Gangetic Basin, where hoards of copper objects of certain types were deposited: anthropomorphic figures, celts, harpoons, antenna swords, axes (B.B. Lal 1951; M.Lal 1981; Yule 1992 with a detailed bibliography and a recent reassessment of the problem). By inference, the hoards have been connected to neighbouring non iron-using "chalcolithic" sites; the few radiocarbon dates set these sites into the second half of the second millenium (around calBC 1200-1000).
5. The energy dispersive X-ray analysis was carried out by Kurt Hangst, Museum of East Asian Art, Cologne.
6. The objects described as "arrow heads of chert" (Tiwari, 1985, plate 6 A) are, in reality, also bodkins made of schist.
7. A series of highly precise radiocarbon analyses was carried out Dr. Bernd Kromer, <sup>14</sup>C-Laboratory Heidelberg.
8. HD 15597-15059
9. The palaeo-ethnobotanical examination of the macroremains in the soil samples is being carried out by Dr. Karl-Heinz Knörzer, Neuß.
10. HD 15598-15038
11. HD 15600-15084
12. HD 15599-15087
13. HD 15601-15058
14. HD 15602-15146
15. One can get an idea of the former appearance of the inhabited cave systems by looking, for example, at the rock temples in Central China.

## References

## Agrawal 1974

D.P. Agrawal et al., Alloying in the Copper Hoards. Bull. Mus. Arch. U.P. 14, 1974, 14-18.

## B.B.Lal 1951

B.B. Lal, Further Copper Hoards from the Gangetic Basin and a Review of the Problem. Ancient India 7, 1951, 20-39.

## M.Lal 1981

Copper Hoard Culture of India: A Reassessment. Puratattva 12, 1980/81, 65-77.

## Mishra 1988

T.N. Mishra, The Historical Dynasties and Ancient Archaeological Sites in Nepal. Ancient Nepal 103, 1987/88, 6-15.

## Simons 1993

A. Simons, Trial Excavation of a Cave System in Muktinath Valley. Preliminary studies in the settlement archaeology of the high mountain region of Mustang District (West Nepal). Ancient Nepal 130-133, 1992/93, 1-19.

## Tiwari 1985

D.N. Tiwari, Cave Burials from Western Nepal, Mustang. Ancient Nepal 85, 1984/85, 1-12 and Plates 1-8.

## Yule 1992

P. Yule, The Copper Hoards of the Indian Subcontinent. Preliminaries for an interpretation. Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz 36, 1989, 193-295. Mainz 1992.

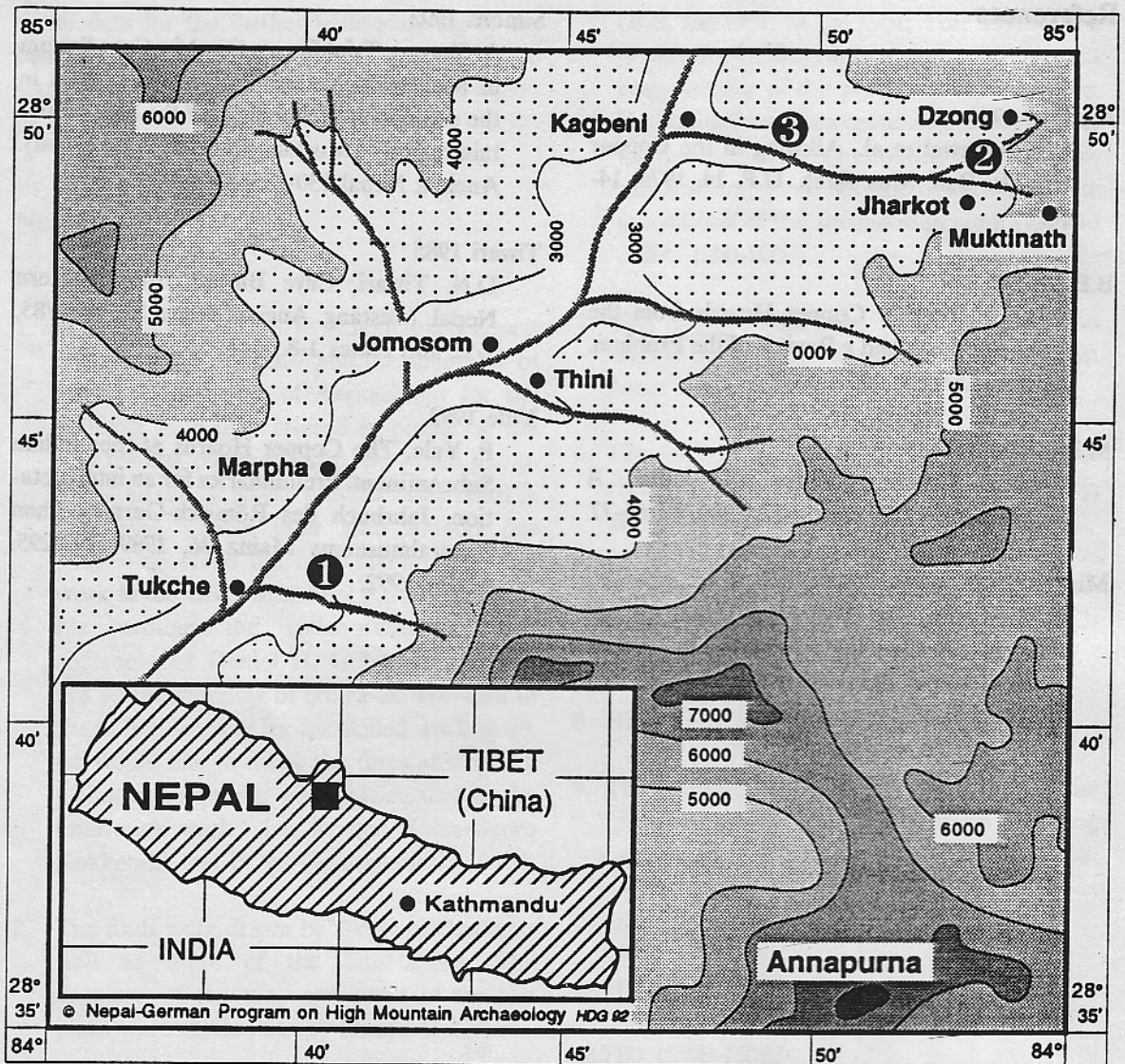


Fig. 1 Map of the southern part of Mustang District. The archaeological sites are marked:

- 1 Site of Chokhopani in the Thakkhola
- 2 Site of Mebrak in the upper Muktinath Valley
- 3 Site of Phudzeling in the lower Muktinath Valley



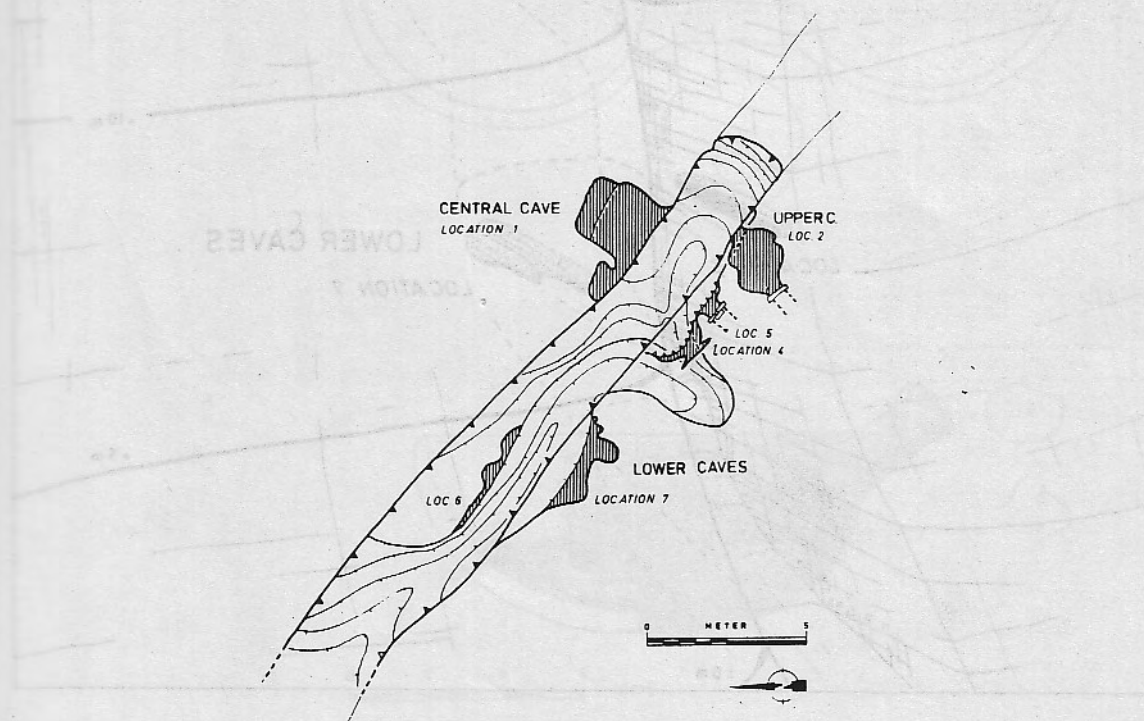
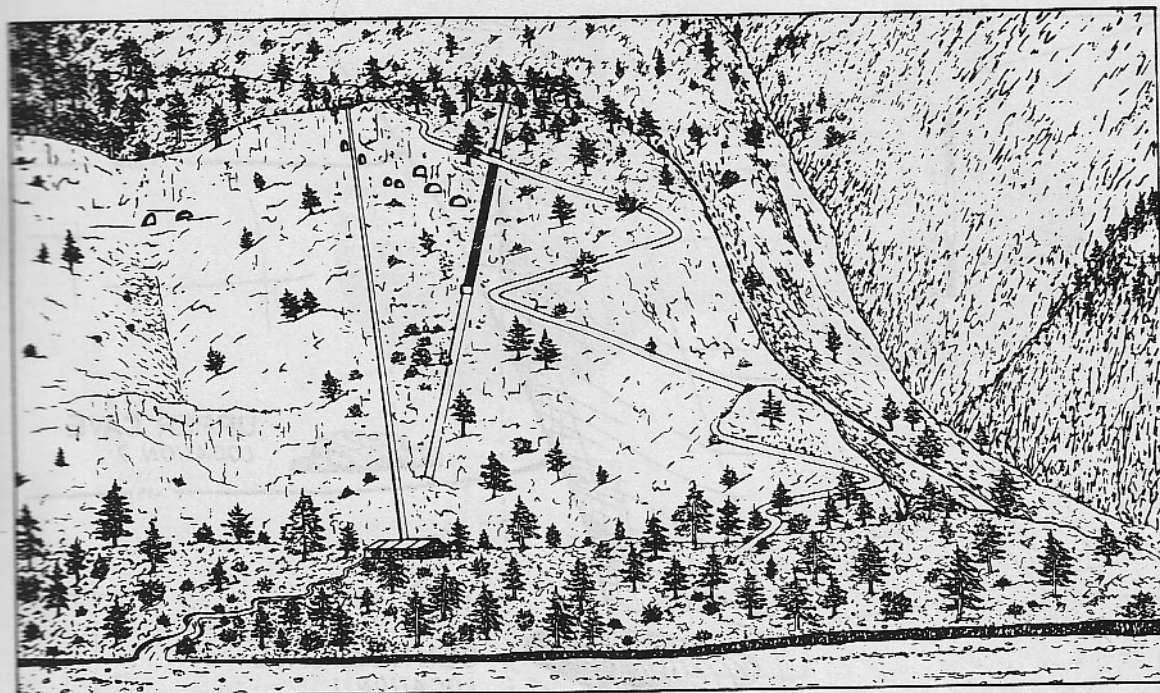


Fig. 2 above: View of Chokhopani site from the West with the two shafts for the water pipe of the power station. The southern (right) shaft opened the three burial caves.  
 below: Plan of the shaft with the three burial caves projected from above.

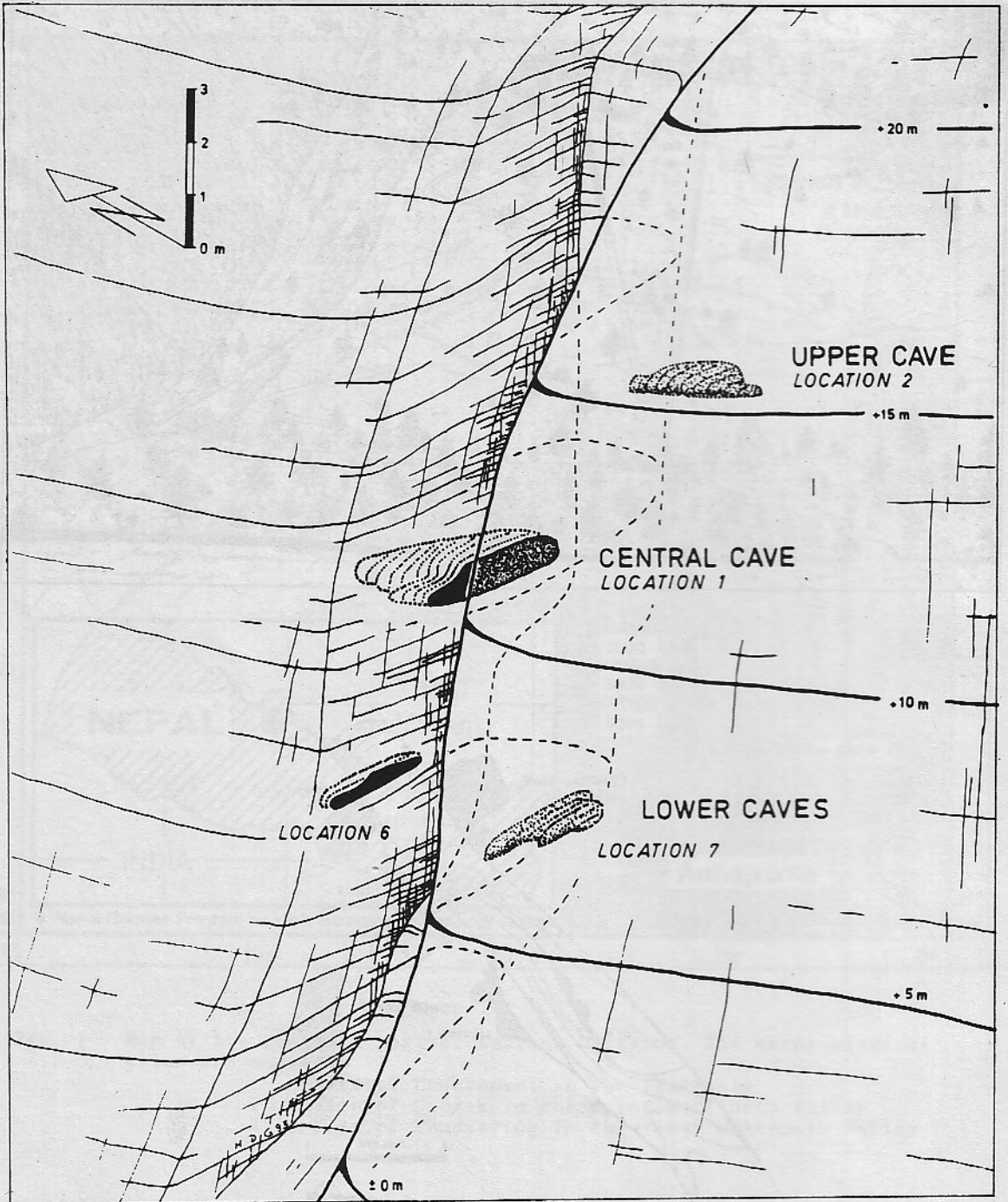


Fig. 3 Spatial view of the shaft with the three burial caves

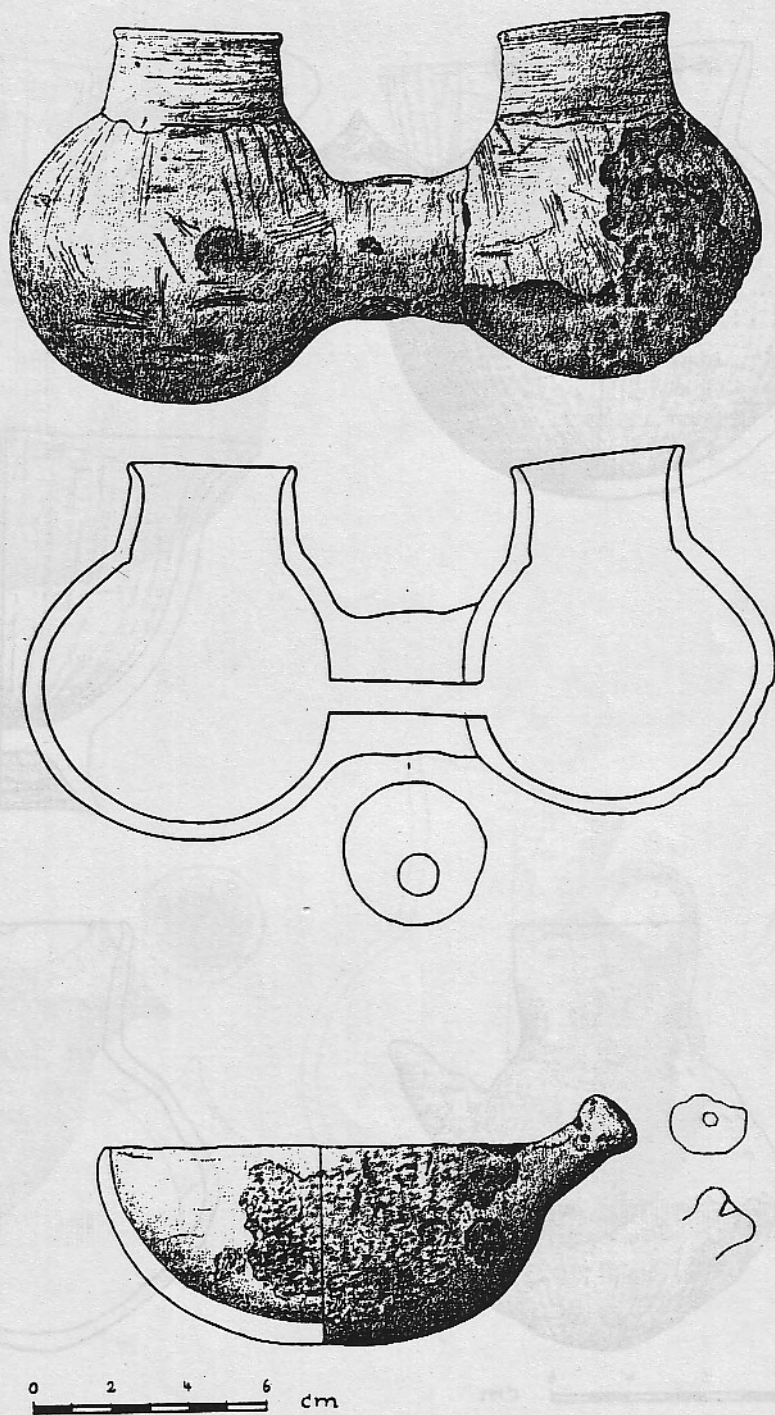


Fig. 4 Pottery recovered from the central burial cave (Location 1).  
Scale 1:2.

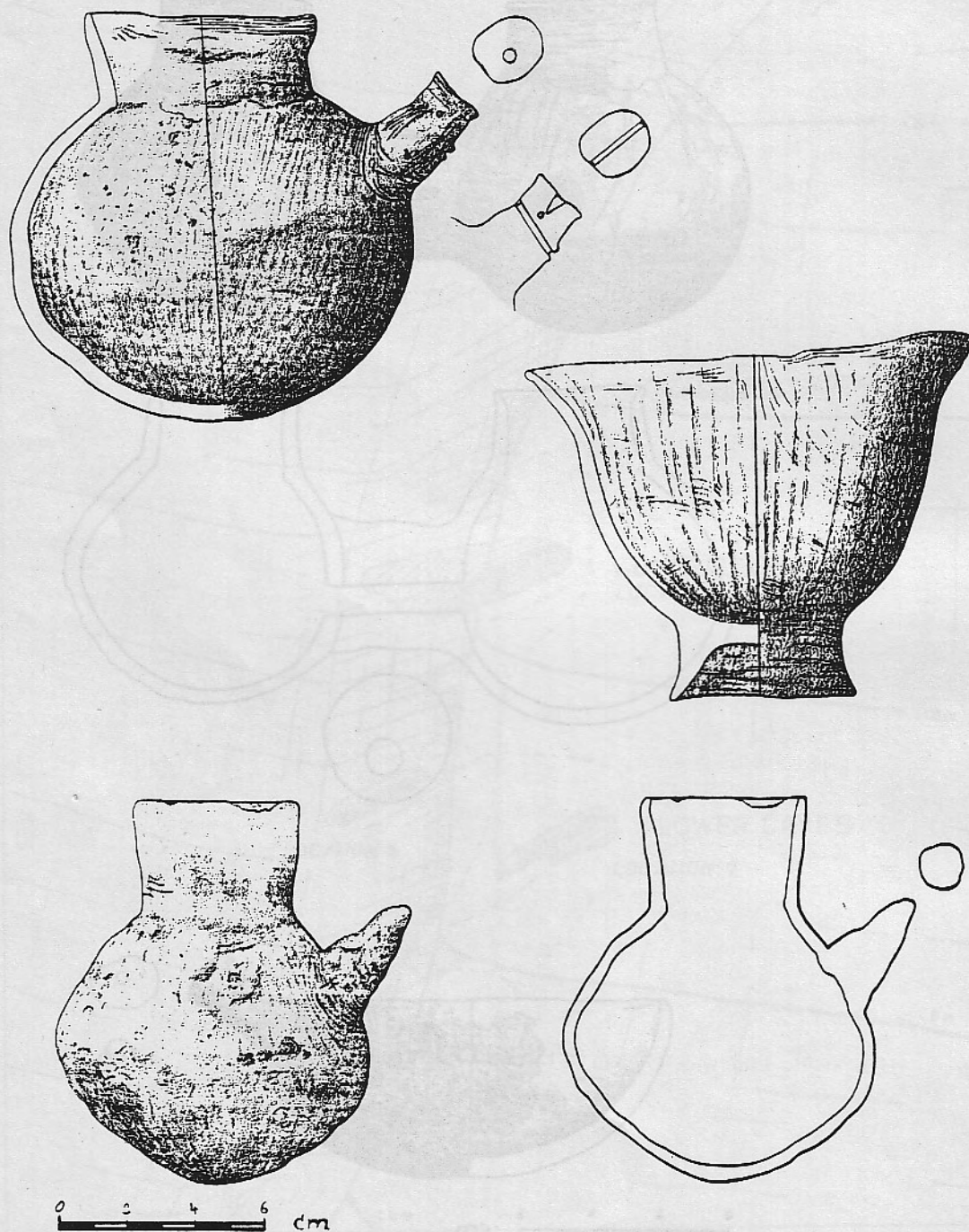


Fig. 5 Pottery recovered from the central burial cave (Location 1).  
Scale 1:2.

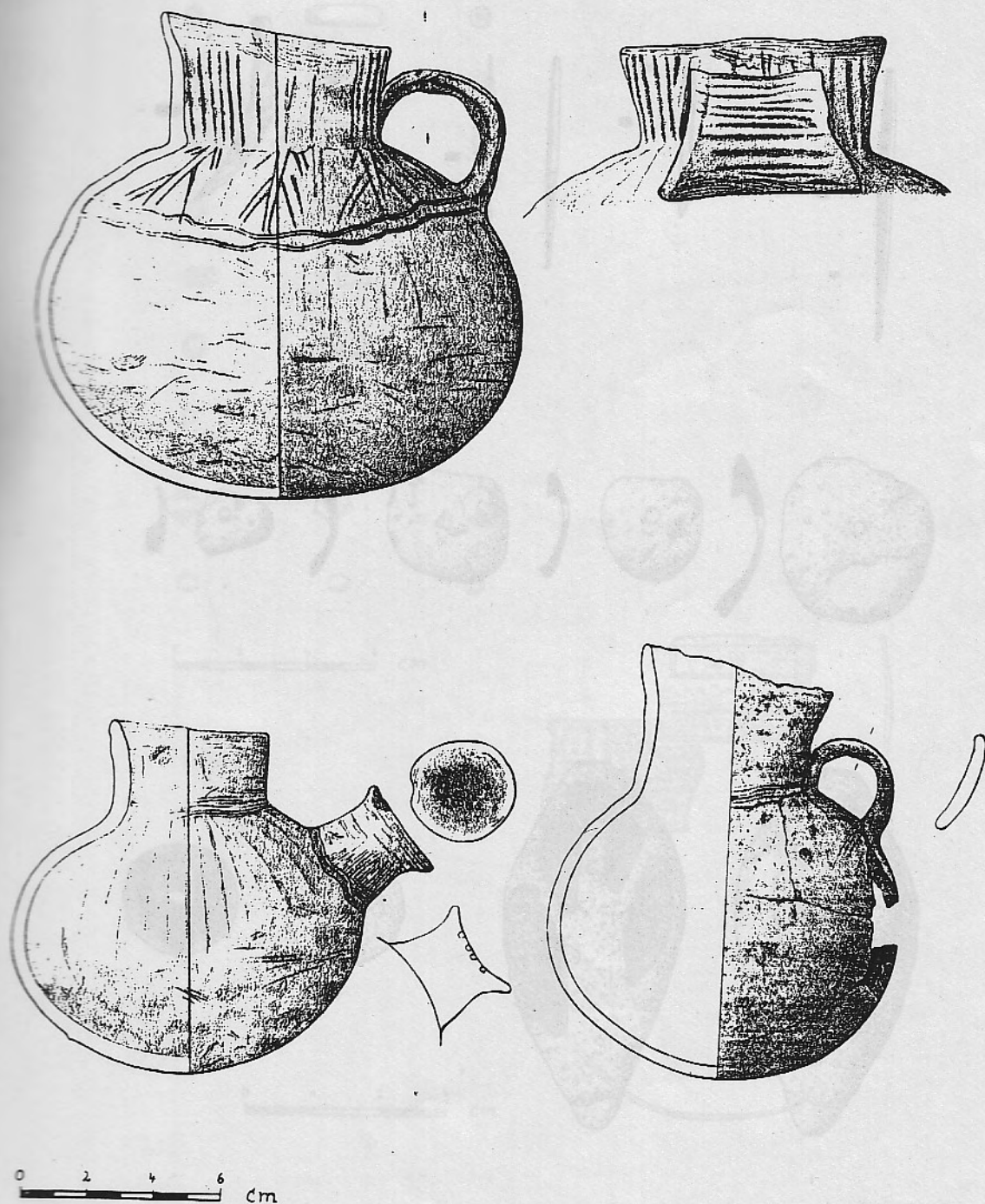


Fig. 6 Pottery recovered from the lower burial cave (Locations 6 and 7).  
Scale 1:2.

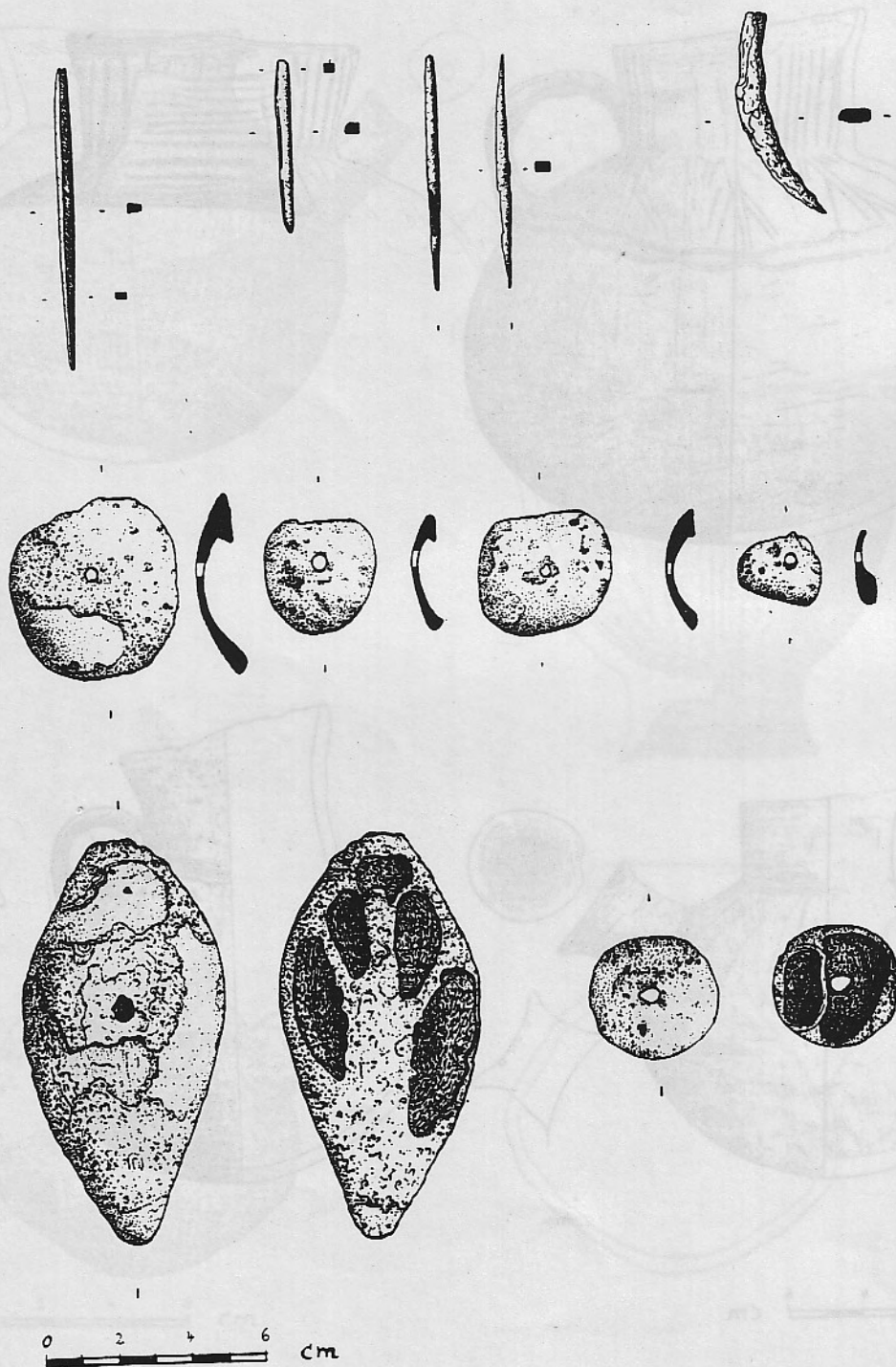


Fig. 7 Grave goods from the central burial cave (Location 1).  
above: muskdeer tooth (right) and bodkins made of schist,  
below: shell ornaments. Scale 1:2.

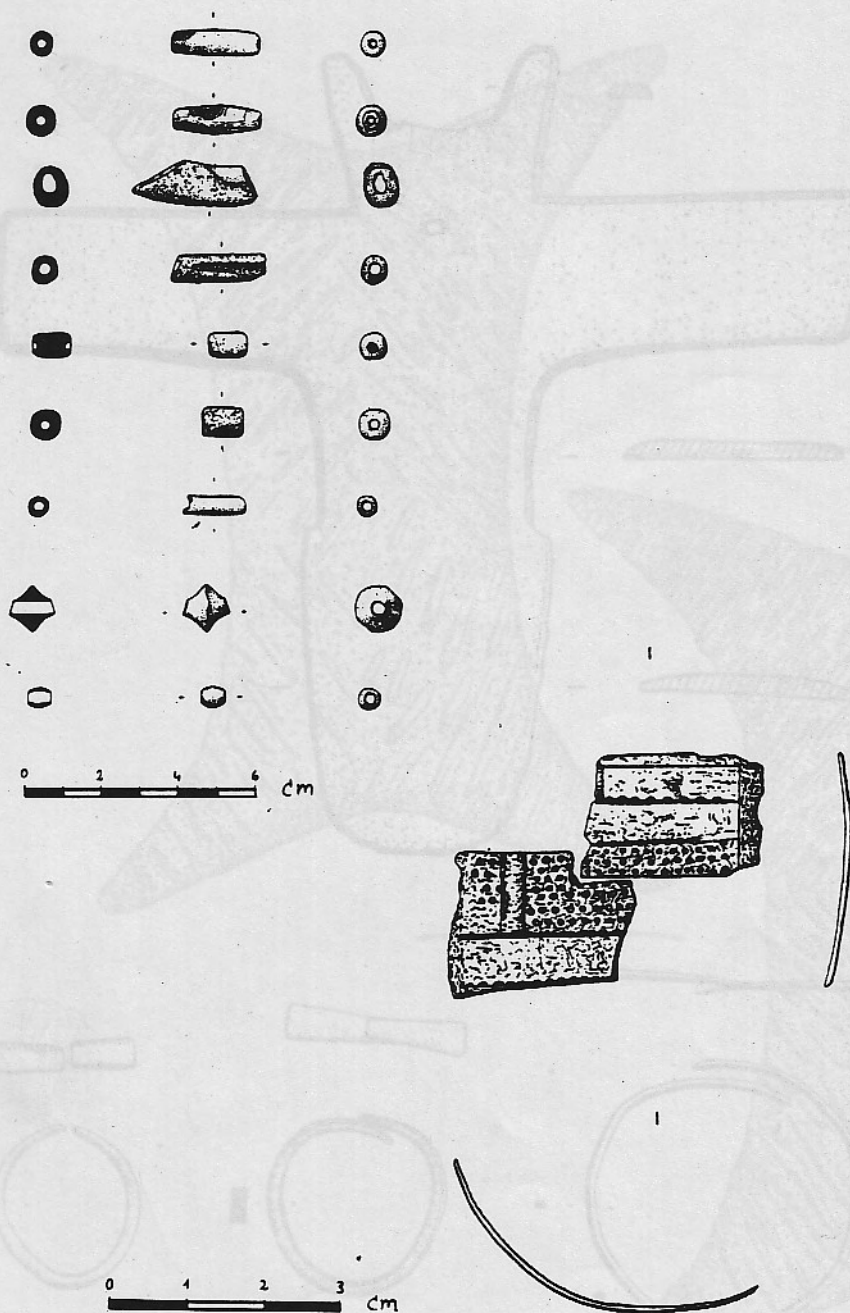


Fig. 8 Grave goods from the central burial cave. (Location 1).  
 above: beads made of carnelian, shell, and faience. Scale 1:2.  
 below: fragments of a beaker with incised decoration made of birch bark. Scale 1:1.

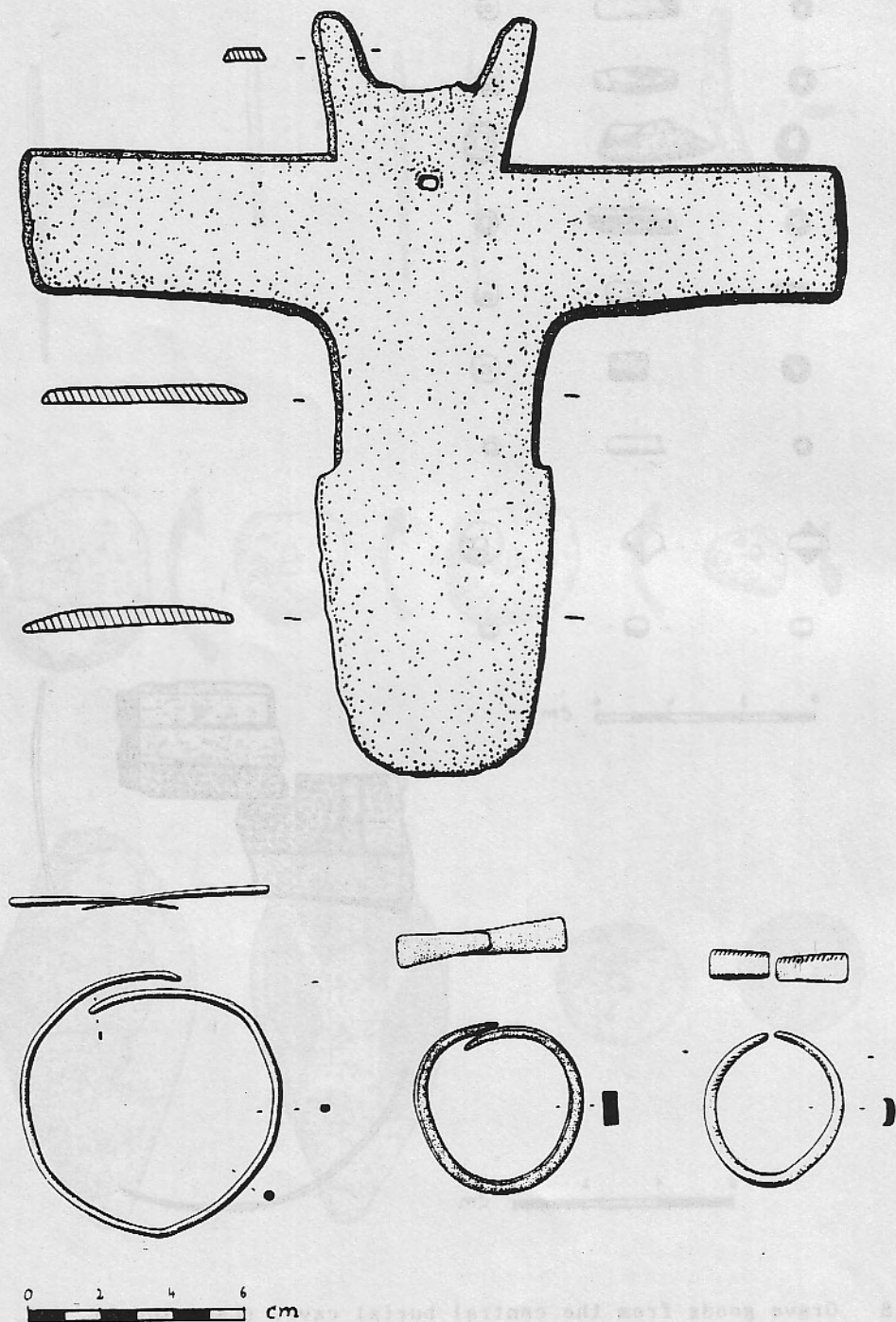


Fig. 9 Bronze object and copper bangles from the central burial cave. Scale 1:2.



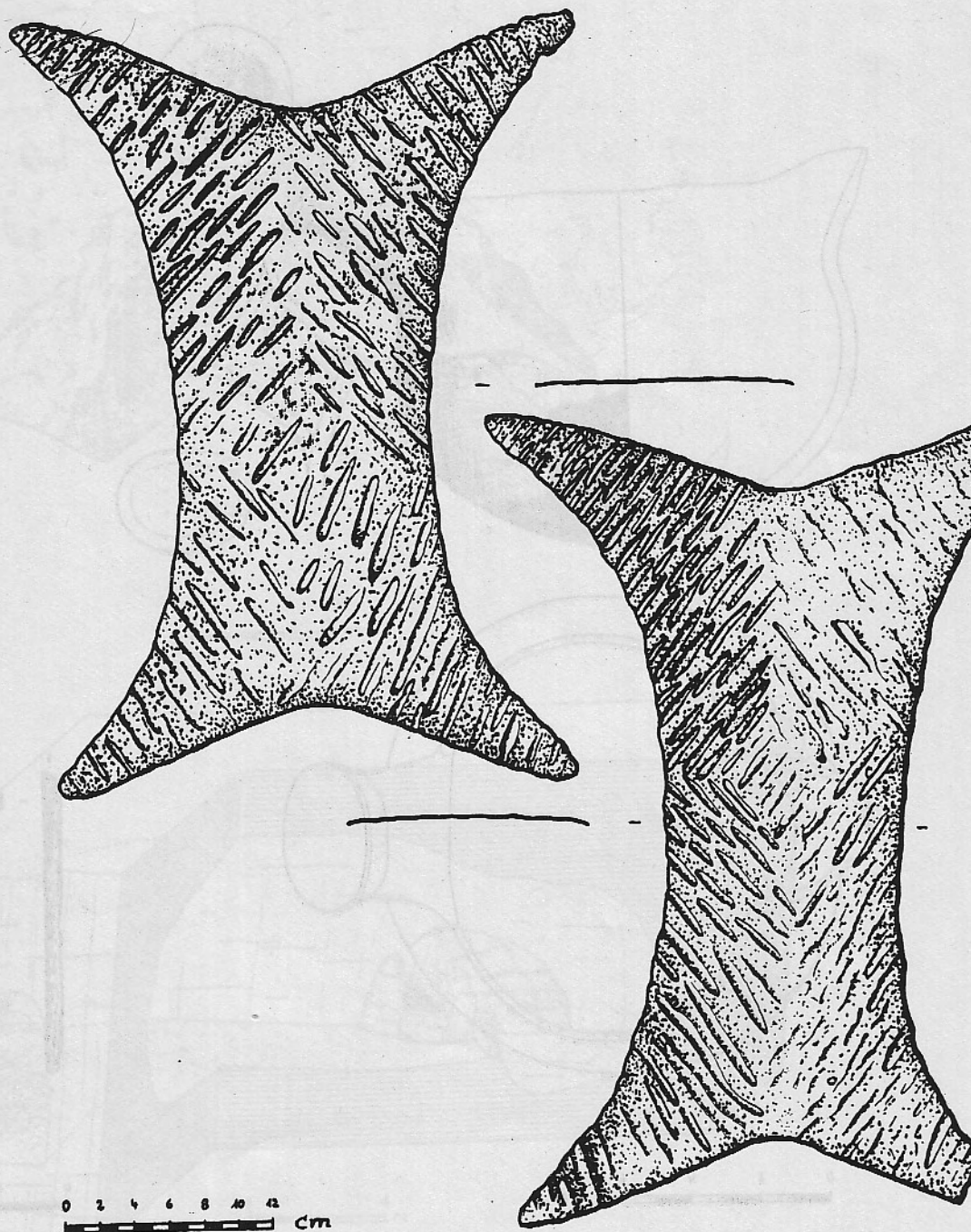


Fig. 10 Embossed bronze or copper sheets, recovered probably from the lower burial cave. Scale 1:4.

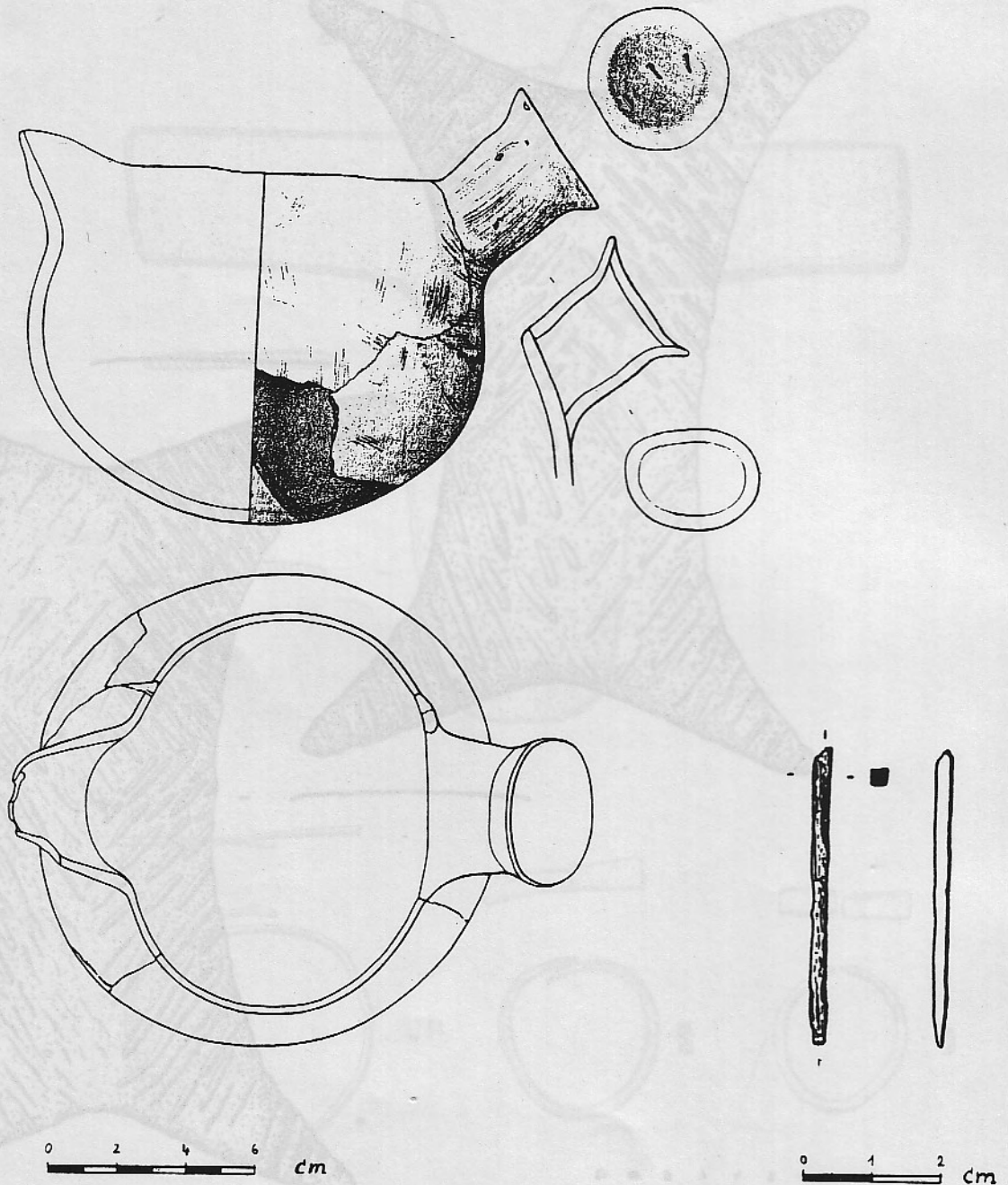


Fig. 11 Pottery (Scale 1:2) and iron nail (Scale 1:1) from the upper burial cave.

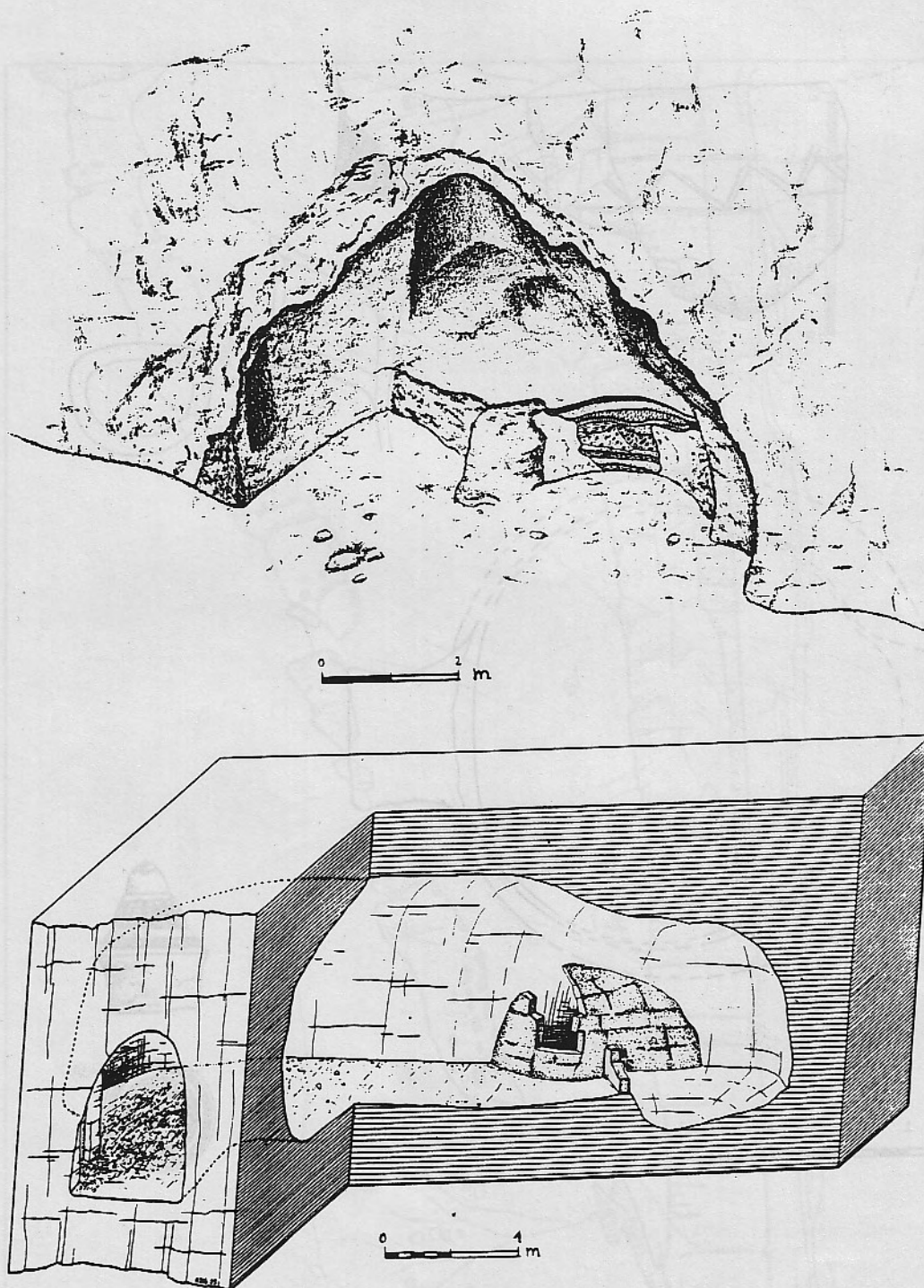


Fig. 12 Site of Mehrak in the upper Muktinath Valley (site 92.5)  
 above: View of the accessible cave (Location 2) with the  
 profile of the prehistoric storage pit and the overlay-  
 ing younger occupation levels from the South.  
 below: Section of the cave room with the dome-shaped mudbrick  
 structures (Location 33).

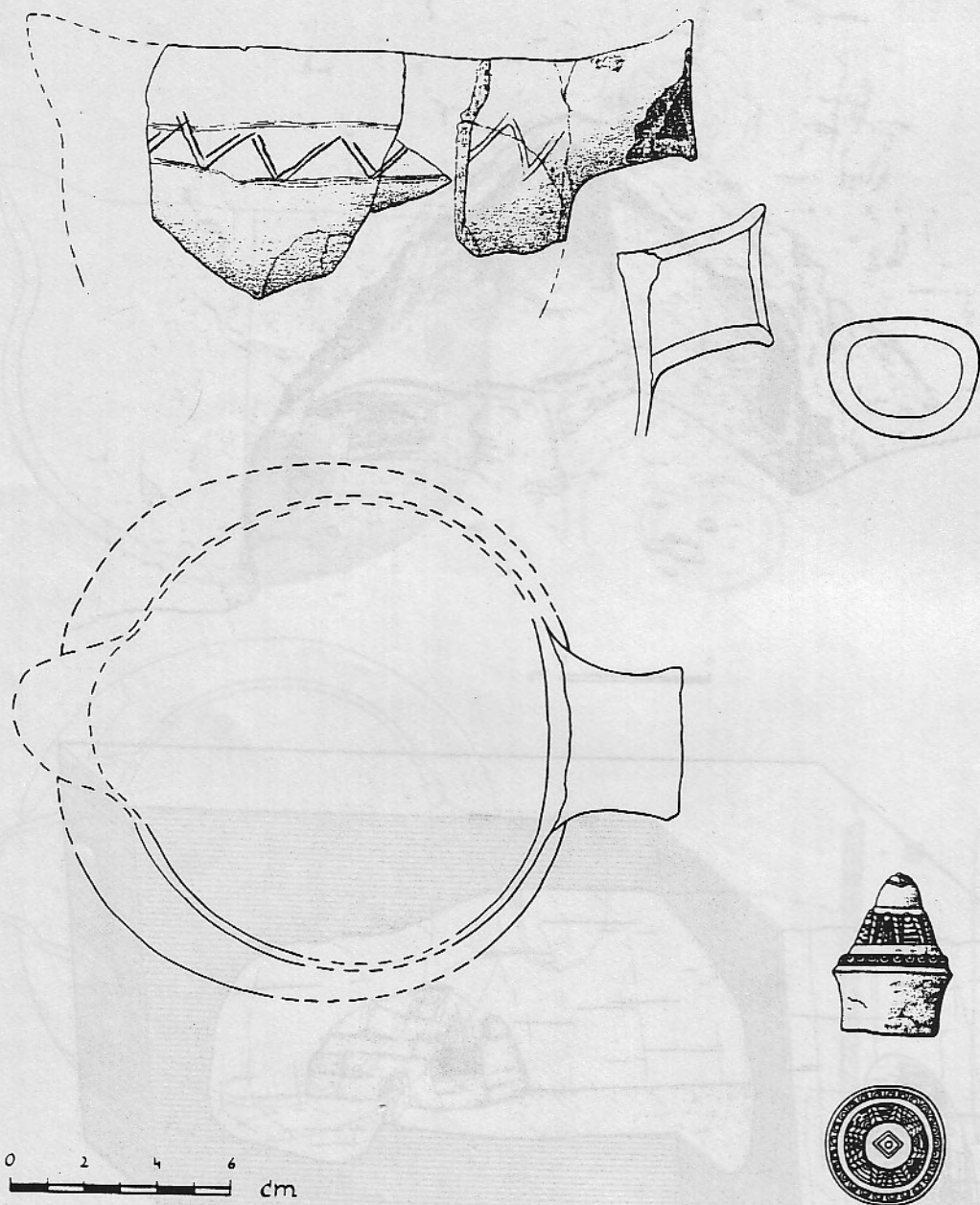


Fig. 13 Finds from the cave room Location 2, site 92.5: .  
Chokhopani type pottery from the storage pit and a stupa-shaped  
tsatsa from the settlement layers above.

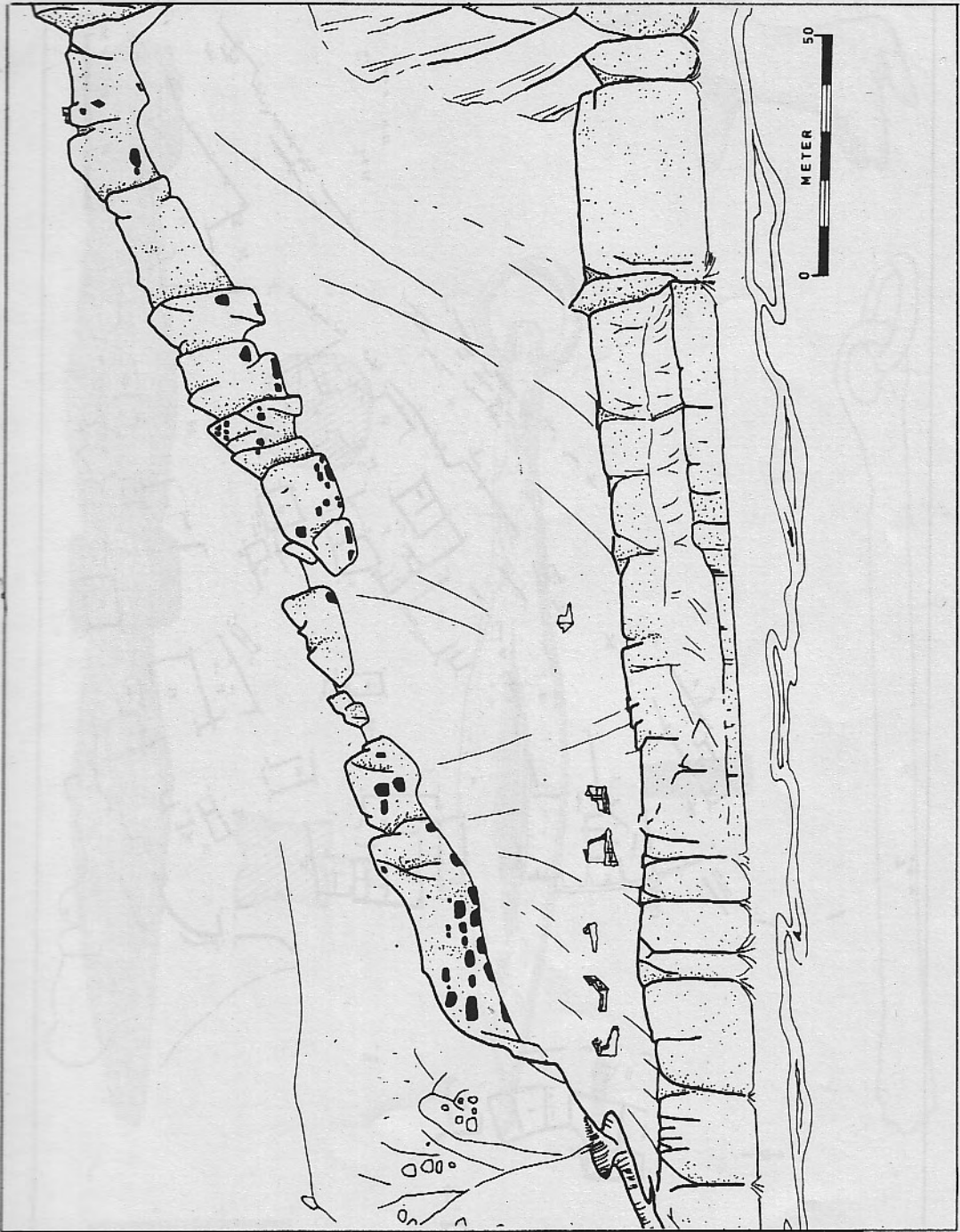


Fig. 14 View of the Site of Phudzeling in the lower Muktinath Valley from the South - cave-system (site 92.17) and ruins (site 92.16).

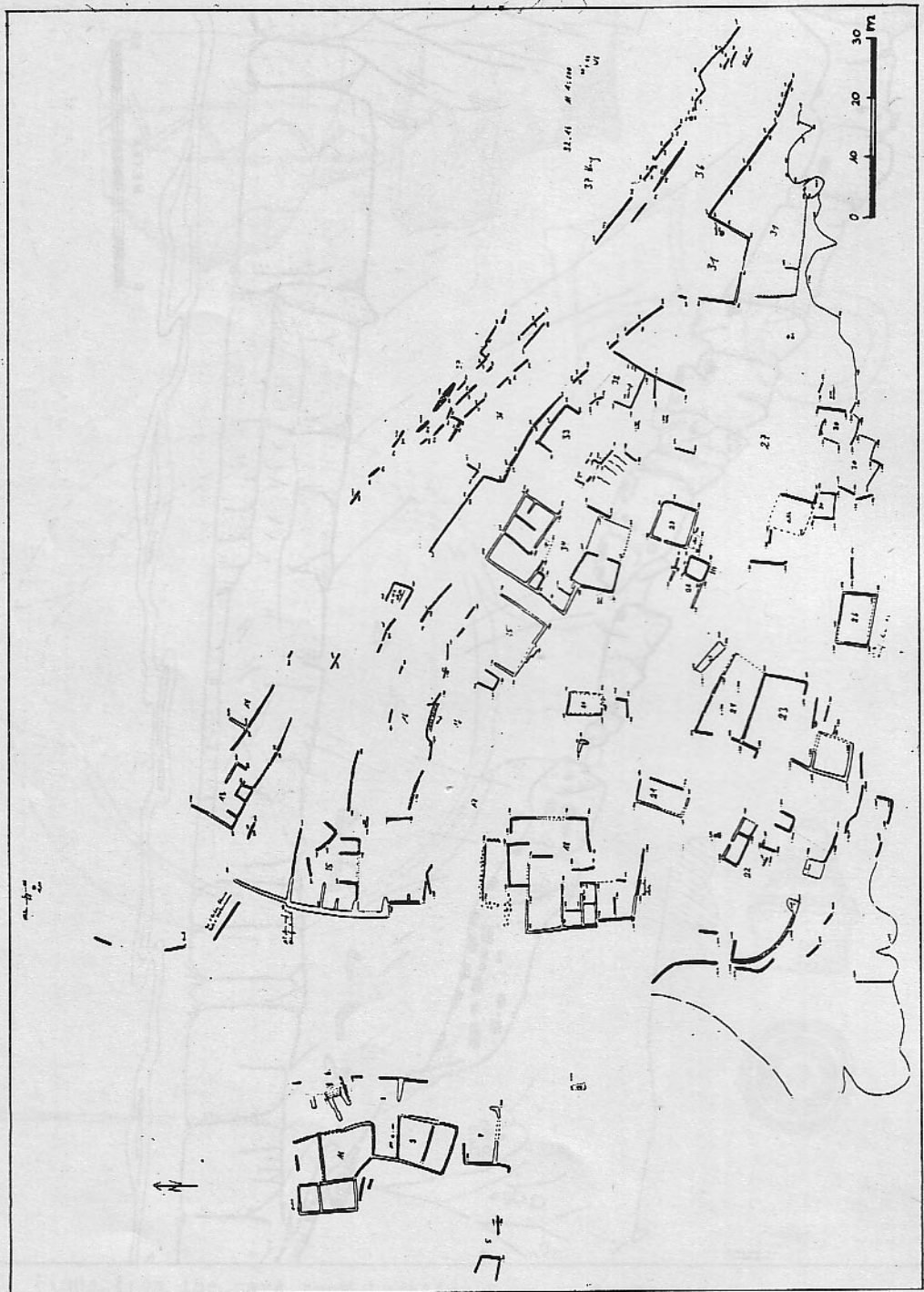


Fig. 15 Plan of the ancient village site of Phudzeling (site 92.16) with the remaining building structures.

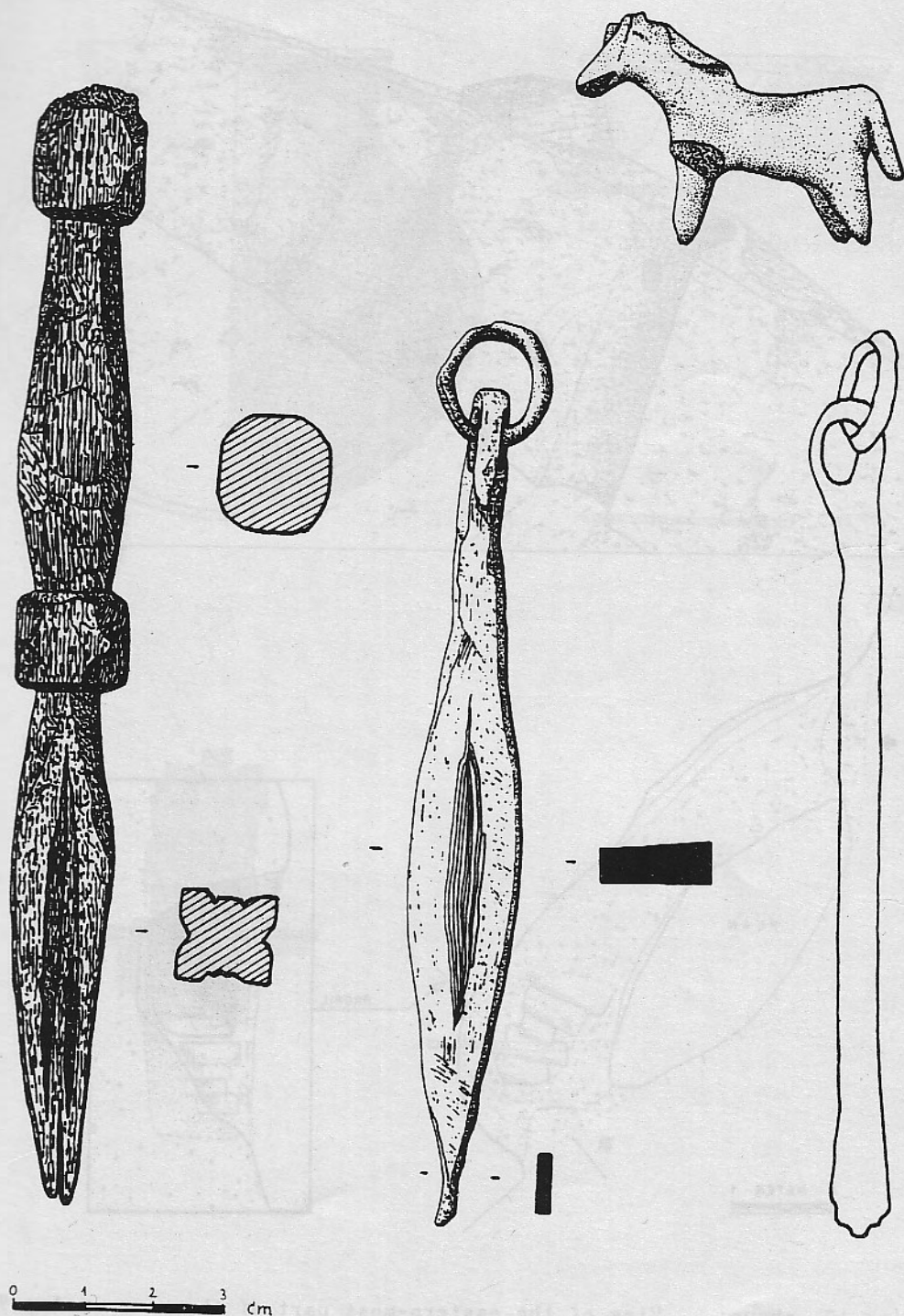


Fig. 16 Finds from the cave room Location 19, site 92.17. Scale 1:1.  
 above: horse made of unburnt clay  
 below: wooden phurba (left) and iron ritual object (right).

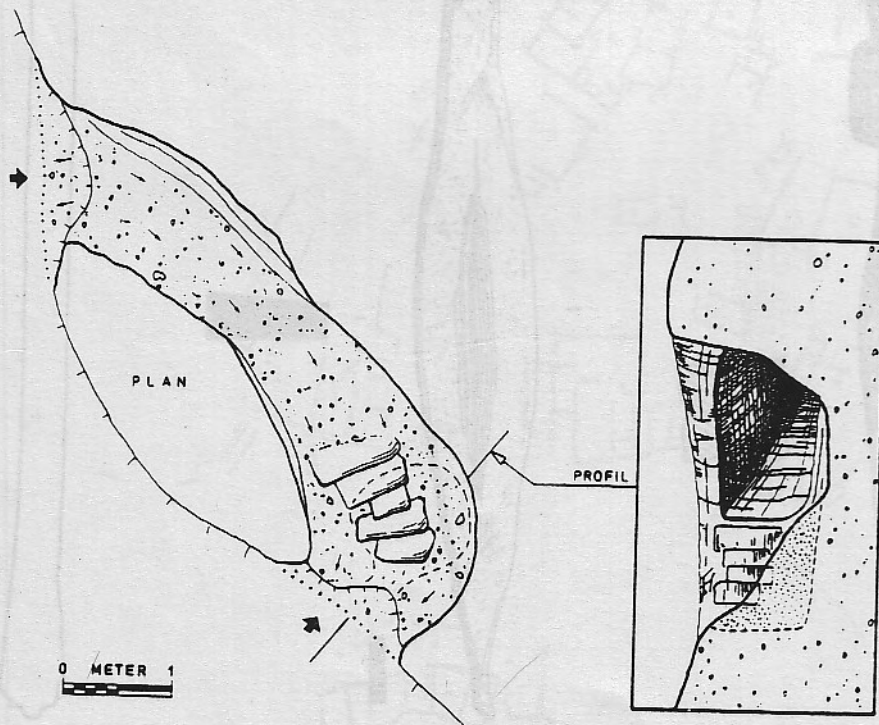
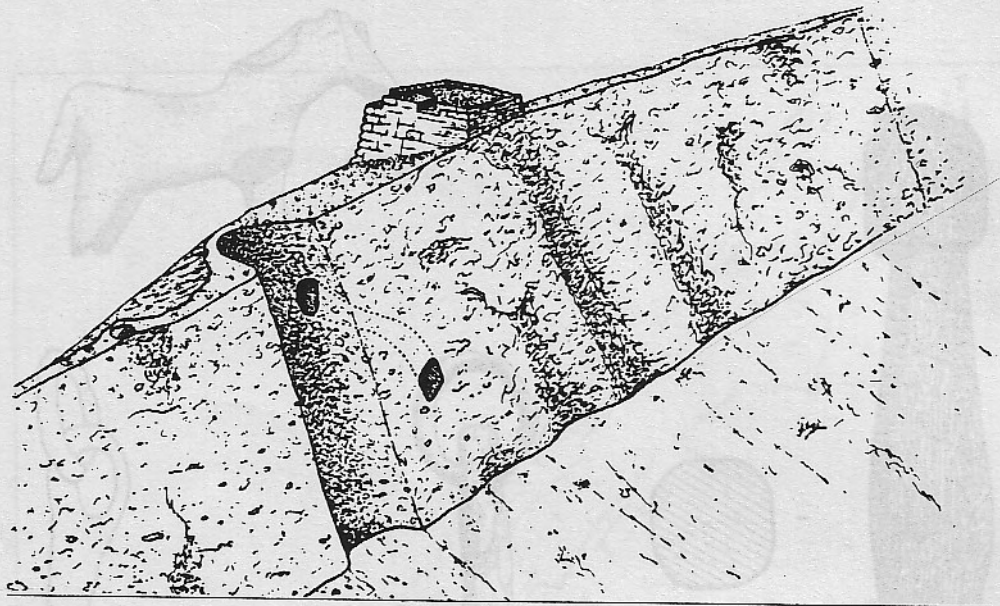


Fig. 17 above: View of the eastern-most part of the cave system 92.17 with the passage (Location 40) leading up to the ruins of the tower on top of the rock face (Location 41).  
 below: Plan and section of the passage Location 40 with the remains of the stairs leading upwards.



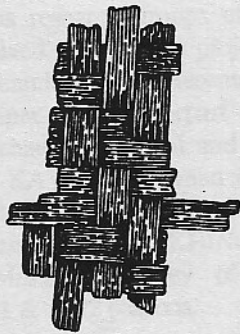
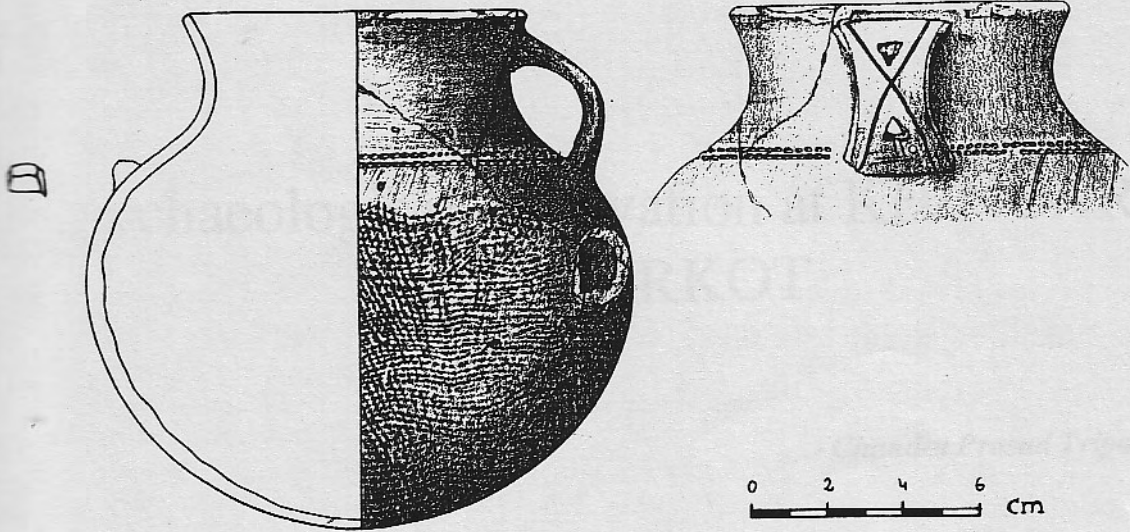


Fig. 18 Finds from the prehistoric pit below the stairs of Location 40: above: Clay vessel with incisions and cord impressions. Scale 1:2. below: fragments of a mat or a basket made of bamboo. Scale 1:1.