



Studies in Speleology

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HEADS WILL ROLL: PREHISTORIC HUMAN REMAINS AND POTTERY FROM TWO SITES IN THE MATIENZO AREA (NORTH SPAIN)

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SUMMARIES

In recent years, the caving expeditions to Matienzo have discovered human crania in two different caves. Pottery was found together with the human remains at one site, and this is attributed to the middle Bronze Age. Both sites appear to be examples of a particular kind of burial site, where the bodies were introduced into small caves. In both cases the remains have been disturbed and moved since their burial.

En años recientes, las expediciones espeleológicas a Matienzo han hallado cráneos humanos en dos cavidades diferentes. Se halló cerámica, atribuida a la Edad de Bronce plena, junta con los restos humanos en uno de los yacimientos. Las dos estaciones parecen ser ejemplos de un tipo de cueva sepulcral, donde se introducían los cuerpos dentro de cavidades pequeñas. En los dos casos, los restos se han removido y se han trasladado después de su enterramiento.

INTRODUCTION

The “Matienzo Area” refers to the hills and valleys immediately surrounding the Matienzo polje, in the region of Cantabria in North Spain. Speleological expeditions have been exploring the numerous caves within this outstanding karst landscape for over 40 years. Since 1970, a series of British and International expeditions have succeeded in finding and surveying a number of large cave systems, including the Four Valleys System, currently (autumn 2007) over 49km long. Full up to date details are given on the web-site: www.matienzo.org.uk.

Scientific research has accompanied the caving exploration, and a study of the magnetic susceptibility of cave sediments has been published in *Studies in Speleology* (Quin, 1995). Archaeology has sometimes been another component of the expeditions, either through accidental finds made in the course of the cave exploration, or by collaborating with the scientific excavations carried out by Spanish archaeologists in the area. At present, over 70 prehistoric caves are known within the Matienzo area, dating to practically all periods from the Mousterian to the Iron Age. Deposits of pottery are particularly abundant; one site with a deposit of Bronze Age pottery, already published in *Studies in Speleology*, is Cueva de las Grajas (Ruiz Cobo *et al.*, 1999/2000). Palaeolithic parietal art has been found in six caves in Matienzo and the surrounding valleys; full descriptions of these and other decorated caves in Cantabria have also been the subject of a paper in *Studies in Speleology* (Smith, 2001/2002).

Figure 1 provides location maps of the area under discussion and shows the major cave systems and the positions of sites mentioned in the text.

A full report on the excavated sites and all the other archaeological caves known in the Matienzo Depression at that time, was published in 2001 (Ruiz Cobo & Smith (eds), 2001). Since then, cave explorers have continued to come across prehistoric artefacts and remains. This paper describes the pottery and human remains found in this way at two sites: Cave 2139 and Cueva del Torno. In both cases the principal find was a human skull, or more correctly, a cranium, as the mandibles were not recovered in either instance.

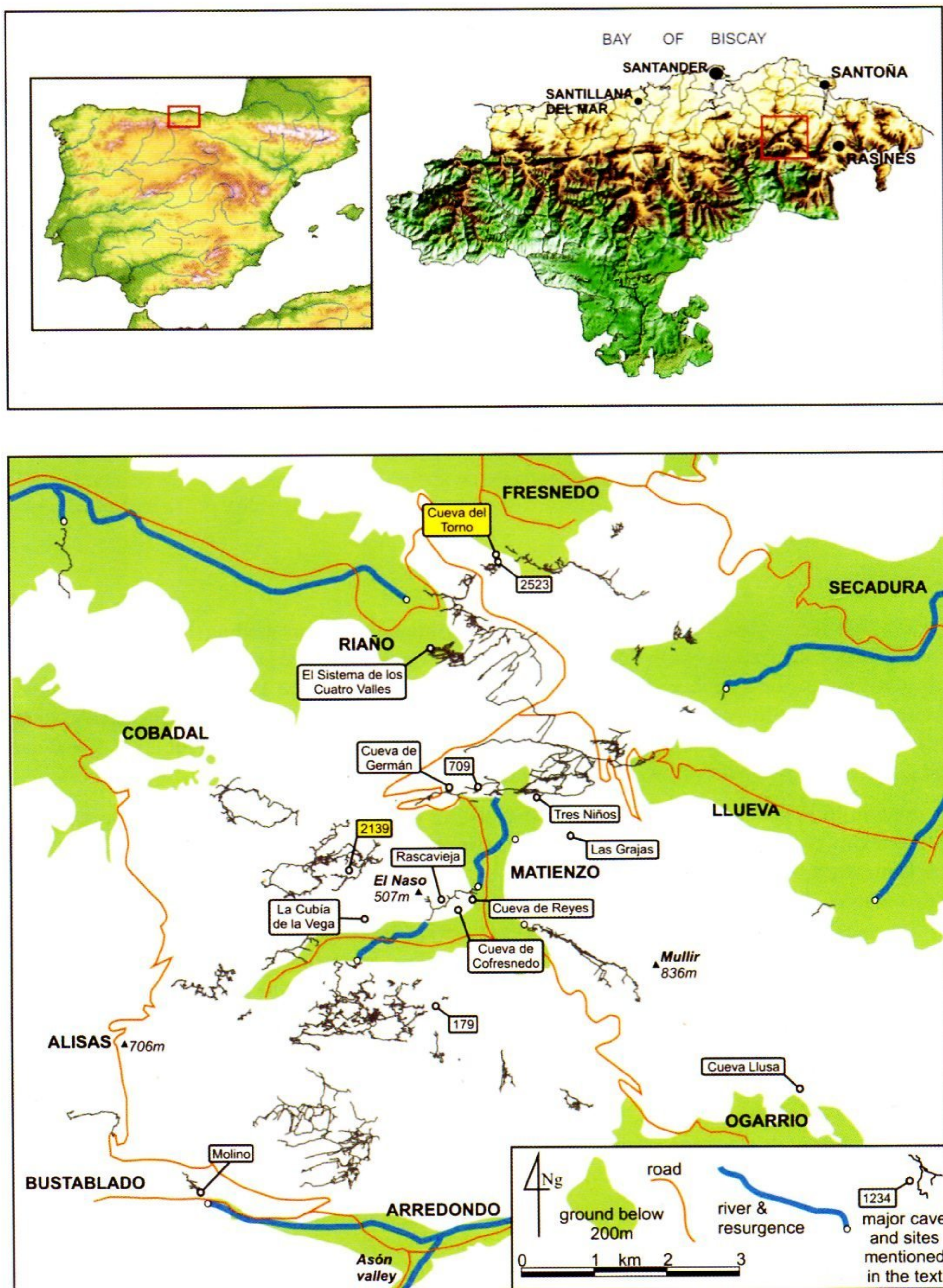


Figure 1. Location maps showing: 1) the location of Cantabria in the Iberian Peninsula; 2) the location of the Matienzo area within Cantabria, and; 3) the area around Matienzo, with the major cave systems and the positions of sites mentioned in the text.

SITE 2139

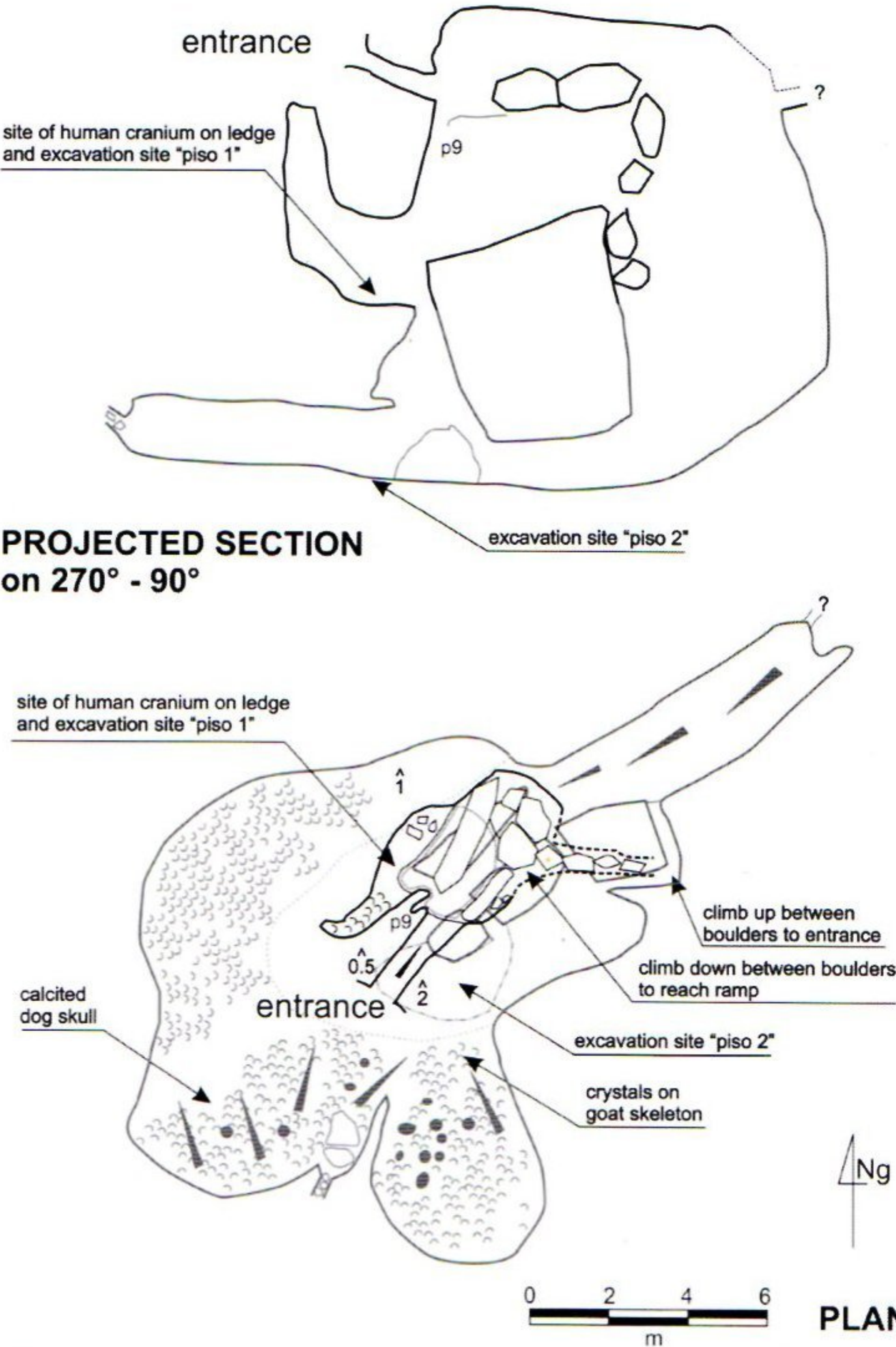
Location and Description

This cave is situated within the Matienzo depression, on the slopes of the Cubija side-valley. The entrance is about 100m above the floor of the valley, at 396m above sea level. The entrance is small, about 0.7m high by 0.75m wide, leading to a low passage; there is no area that could be used as a habitat by prehistoric societies.

The first passage is about 2.5m long and slopes down slightly, with an earth floor and a few small stones of limestone. This passage ends abruptly at the head of a shaft about 9m deep. The cave is wider at the top of the shaft, but this narrows to 2 or 3m across, about 4m down, where a ledge leads to a short side-passage. At the base of the shaft, to the south and west, the cave opens in a wide (10m) if somewhat low chamber with calcite formations. To the northeast, a 4m-wide passage slopes up to the base of a vertical wall with a possible passage at the top.

Research and fieldwork

The cave was found at the end of 2004, being catalogued with the number 2139, although the site has also come to be known as Torca del Cráneo. At the time of its discovery, the entrance was covered by a large stone. When the shaft was descended, fragments of prehistoric pottery were seen at its base. It was only when the ladder was being re-climbed that the human cranium was noticed, on the ledge at about 5m depth. It was lying on the surface of the ledge, face downwards. Much of its right hand side was missing, and it was lightly covered with calcite. More pot sherds were found on the same ledge.



Site 2139: Torca del Cráneo
Cubija 30T 0450509 4797048 Altitude 396m Length 51m Depth 11m
Surveyed 2005 to BCRA 5c Drawn by Juan Corrin with Jenny Corrin

Figure 2. Survey of Site 2139.

The archaeologist Dr Jesús Ruiz Cobo, who collaborates with the Caving Expeditions and who is researching the archaeology of the Asón Valley (Ruiz Cobo *et al.*, 2007), was notified of the finds. He applied to the *Consejería de Cultura* of the Cantabrian Government for permission to collect the archaeological materials that were visible on the cave floor and which might be in danger of being damaged in the course of the cave exploration. Authorisation was granted in time for the fieldwork to be carried out in summer 2005.

The first step was to set up adequate illumination of the shaft, using a portable generator outside the entrance and three lights totalling 600W. This made it possible to carry out the archaeological work with appropriate lighting conditions, and to take photographs and digital videos of the process. While the whole cave had been surveyed by the Caving Expedition, a more detailed plan was made of the ledge where the skull and pottery were found. When this was completed, the skull and artefacts were lifted up the shaft and taken out of the cave. Finally, at the base of the shaft, a 2 x 2m grid was established, and a plan was made of the area, plotting each sherd and bone before it was photographed and lifted. Only the pieces that could be seen on the surface of the cave floor, among the stones and calcite, were collected; the floor was not dug in any way to search for any further remains, as no excavations of any kind had been authorised.

A number of bones, to the south of the grid, were identified as belonging to a goat and a dog. These are probably relatively modern individuals that have fallen down the shaft. Their remains were photographed and were left *in situ*.

The skull, bones and pottery were cleaned and treated, following the usual procedure. Some of the sherds could be re-fitted, which reduced the number of fragments. The skull was given to the specialist Dr P. Rasines for more detailed study.

Distribution of the finds

As explained above, the archaeological material was found in two areas (or “pisos”) in the cave.

- Area 1.1 The first ledge on the right of the shaft, made up of large blocks wedged across the drop, at about -4m. Two small sherds were found there.
- Area 1.2 The main ledge on the left of the shaft. The human skull was found here, lying face downwards. Two sherds were to its right, and a further three sherds were discovered beneath some stones that had fallen more recently.
- Area 1.3 A small shelf on the lower side of the previous ledge. A large rim sherd was found balanced there. It is decorated with finger impressions and a button-shaped knob.



Figure 3. The cranium in Torca del Cráneo was discovered at the edge of a 4m drop having probably already fallen 5m to this ledge. (Photograph: J. Corrin).

Area 2 The floor area at the base of the shaft, directly beneath the vertical drop. The floor covering of small stones and calcite is divided by a large block of limestone. About 40 objects or groups of objects were found in this area, consisting of pottery fragments belonging to at least three vessels, and a number of bones. A human cuneiform bone was identified, also a long bone saturated in water, human in appearance, and a scapula fragment. The domestic goat skeleton was about a metre to the south from the concentration of pottery and human bones. The skull of a dog and various post-cranial bones were also recognised, dispersed over a wider area. Most of these were saturated, and some of them had been damaged by falling stones.

The evidence of the context of the finds suggests that the human remains and the pottery had fallen down the shaft from the entrance passage. Most had reached the bottom of the shaft, while a few had fortuitously landed on the different ledges and shelves. They probably fell down by natural causes, moved by animals using the cave and by the force of gravity or, less probably, thrown by other humans. This must have occurred a relatively long time ago as some fragments had become covered by stones or by calcite deposits. The goat skeleton is comparatively well-conserved, suggesting it fell much more recently than the human bones. The conservation of the dog skeleton is intermediate.

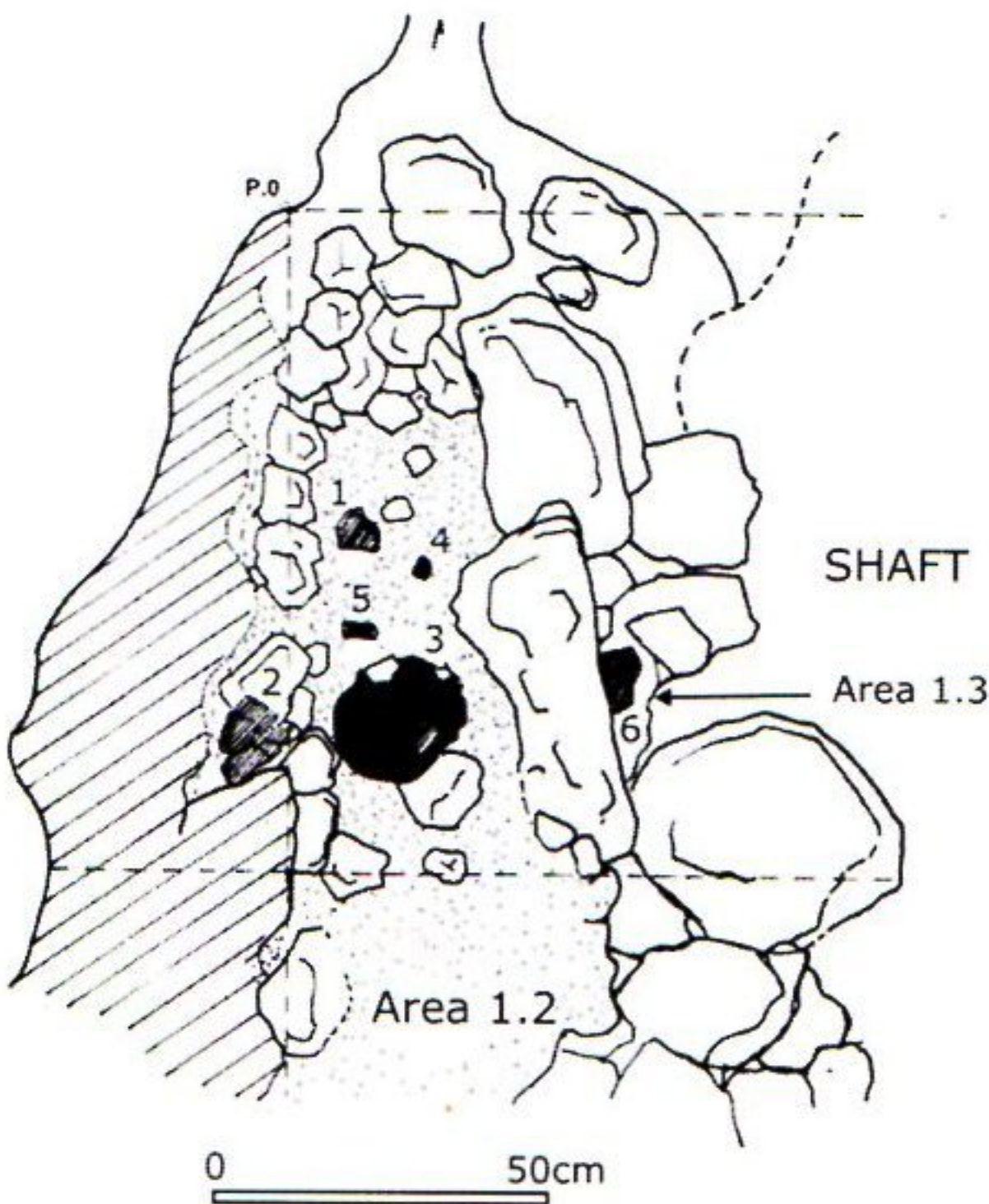


Figure 4. Plan of Areas 1.2 and 1.3 (1, 2 and 6: pottery; 3: the cranium; 4 and 5: other human remains).

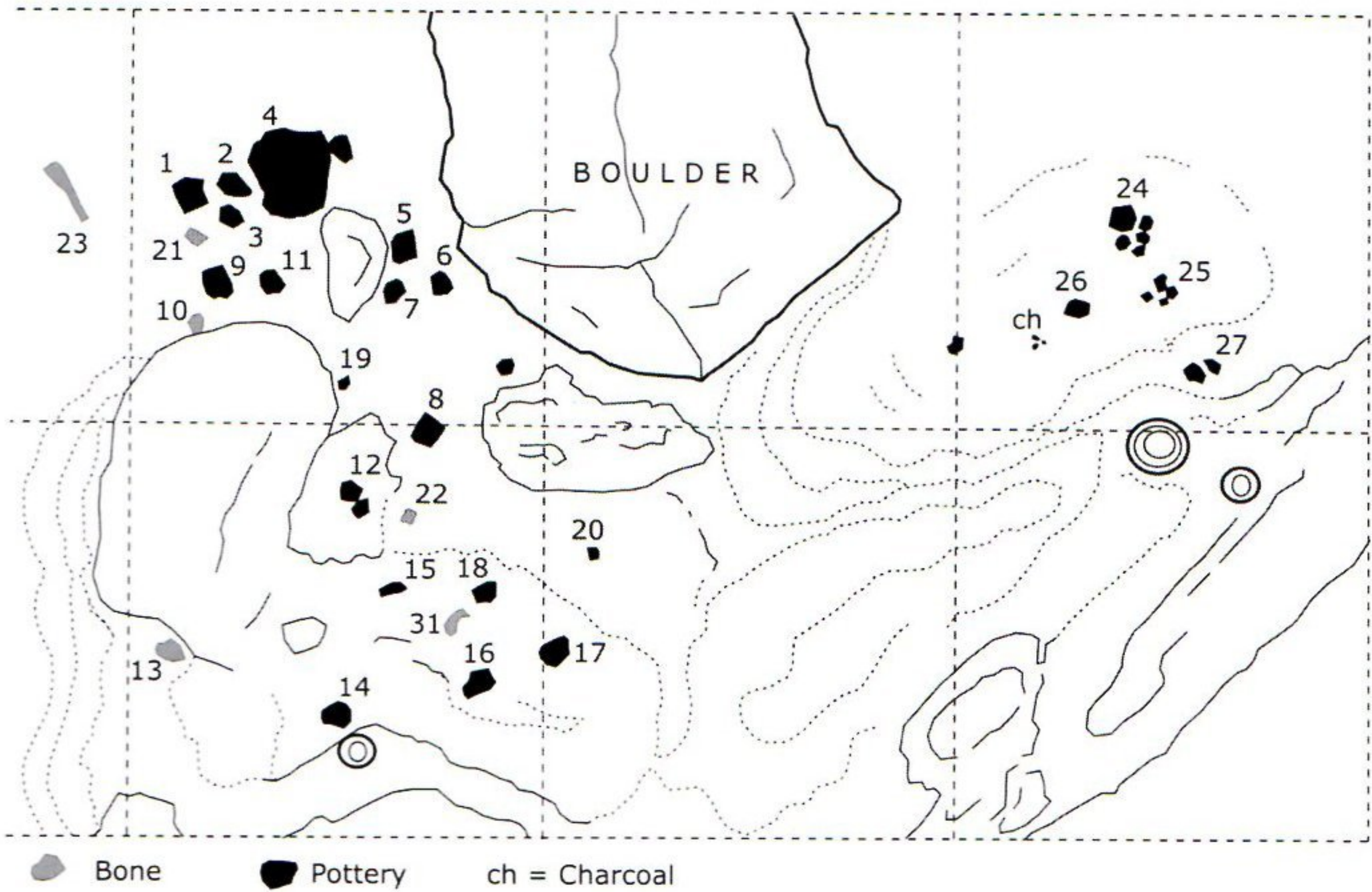


Figure 5. Plan of Area 2 on the same scale as Figure 4.

Most of the human bones making up the complete skeleton may still be under the earth floor of the entrance passage, or in the clay floor at the base of the shaft, beneath the covering of small stones and calcite. Or in many cases it is likely that they have disintegrated as a result of the effects of water and falling stones and completely disappeared. The skull is much better preserved as it remained on the ledge, where the humidity is much lower and there is no standing water.

The archaeological material

The sherds that have been recovered belong to a minimum of five vessels:

- Vessel 1. A large jar; the diameter of the mouth is estimated at 300mm and the walls are about 13mm thick. It is represented by 3 rim sherds and 7 wall sherds, a few of which were found in Area 1 and the rest in Area 2. Both the external and the internal surfaces were smoothed and they are marked with disperse impressed marks, made with a kind of comb. The external colour varies from grey to light sienna, and the internal from black to brown. The clay fabric is very compact with abundant inclusions of grog and some of charcoal. The rim has a bevelled section, with finger-nail impressions along the top edge. A few centimetres below the rim, one fragment conserves a vertical lug, marked with further nail impressions. The walls turn outwards near the mouth giving the vessel an open profile. Although the percentage recovered is low, it is higher than that of the other vessels. The rim sherds total a length of 165mm, which is equivalent to about 17.5% of the rim circumference.
- Vessel 2. A single rim and wall sherd of a large hemispherical bowl, found on the shelf of Area 1.3. The estimated diameter is 280mm and the wall thickness varies from 13 to 15mm. The inner and outer surfaces are smoothed with no impressed marks, the external colour is homogenous light sienna and the internal is light brown. The fabric is compact with medium and small-sized grog inclusions. The rim is straight, with fingernail impressions on the flat top surface. Just below the rim, there is a circular button-shaped lug, 23mm in diameter. This sherd only amounts to about 8% of the total circumference of the mouth.
- Vessel 3. A rim and 9 wall sherds of a medium-sized carinated vessel. This, and the other two vessels, were all found at the bottom of the shaft, in Area 2. The diameter of the mouth is 194mm and the wall thickness 7-8mm. The surfaces were finished with a spatula, and the internal and external colour varies from grey to sienna (a fracture shows that the fabric has a light brown outer layer, while the core and the inner layer are black). Remains of a carbonised material are adhered to the inner wall. The fabric is compact and no inclusions can be seen. The rim is straight and the walls are slightly thicker in the line of the carination. This type of high carinated ware is frequent in middle and late Bronze Age contexts. Some 15% of the rim perimeter has been recovered.
- Vessel 4. A basal fragment and 8 wall sherds of a vessel of medium-size and unknown shape. The wall thickness is 7-8mm and the base is 8-9mm thick. The surfaces are smoothed, black to light brown on the outside and grey to brown on the inside. The fabric is coarse, and contains limestone and grog inclusions. The pot is highly fractured because of the poor quality of its fabric. One sherd from near the neck of the vessel conserves a button-shaped lug, 15mm in diameter, hollow in its centre.
- Vessel 5. Of this vessel only one rim sherd and one body sherd have been recovered. The latter includes the start of the foot of the vessel, or possibly of a carination. They correspond to a small pot, with an estimated diameter of 80-120mm, and a wall thickness of 5mm. The surface is very rough with cavities where inclusions have been leached out. The fabric is coarse, with abundant calcite crystal inclusions, whose size varies from fine to large (up to 2.5mm). The rim, of which

about 9.5% has been recovered, has a semi-circular cross-section.

The skeletal remains that have been recovered consist of the cranium, three identifiable bones and other small fragments.

The cranium, found in Area 1.2, was logically damaged by the fall down the shaft, and much of the right hand side is missing. The splanchnocranium was partially affected, although the damage to the neurocranium was greater. The temporal bone and part of the frontal bone are missing, the parietal bone was found separated from the rest of the cranium, and the base of the occipital and the right zygomatic bone are also missing.

The only teeth found in the maxilla were the second pre-molar on the left side and the second pre-molar and first molar on the right. They show little wear, although a fine layer of calcite covering them makes it difficult to ascertain their exact condition. However, their appearance, together with the complete absence of fusion of the cranial sutures, is indicative of an estimated age at death of between 12 and 15 years. The general morphology suggests the cranium was of a male.

Due to the damage to the cranium, the only measurements that have been taken of it are:

Maximum length: 202mm

Maximum breadth: 158mm

The other remains were collected in Area 2, at the base of the shaft. They are:

- A second cuneiform bone whose surface is affected by the action of dripwater.
- A scapula fragment, with the base of the scapular spine
- A humerus fragment, corresponding to subadult. This was found completely saturated in water.
- Four small diaphysis fragments from thick long bones, in two cases affected by fire. These are probably human, although this is not certain.

Results

The decorations seen on the pottery include finger-nail impressions on the rims (vessels 1 and 2), round buttons (vessels 2 and 4) and a vertical lug also with impressions (vessel 1). Vessel 3 is

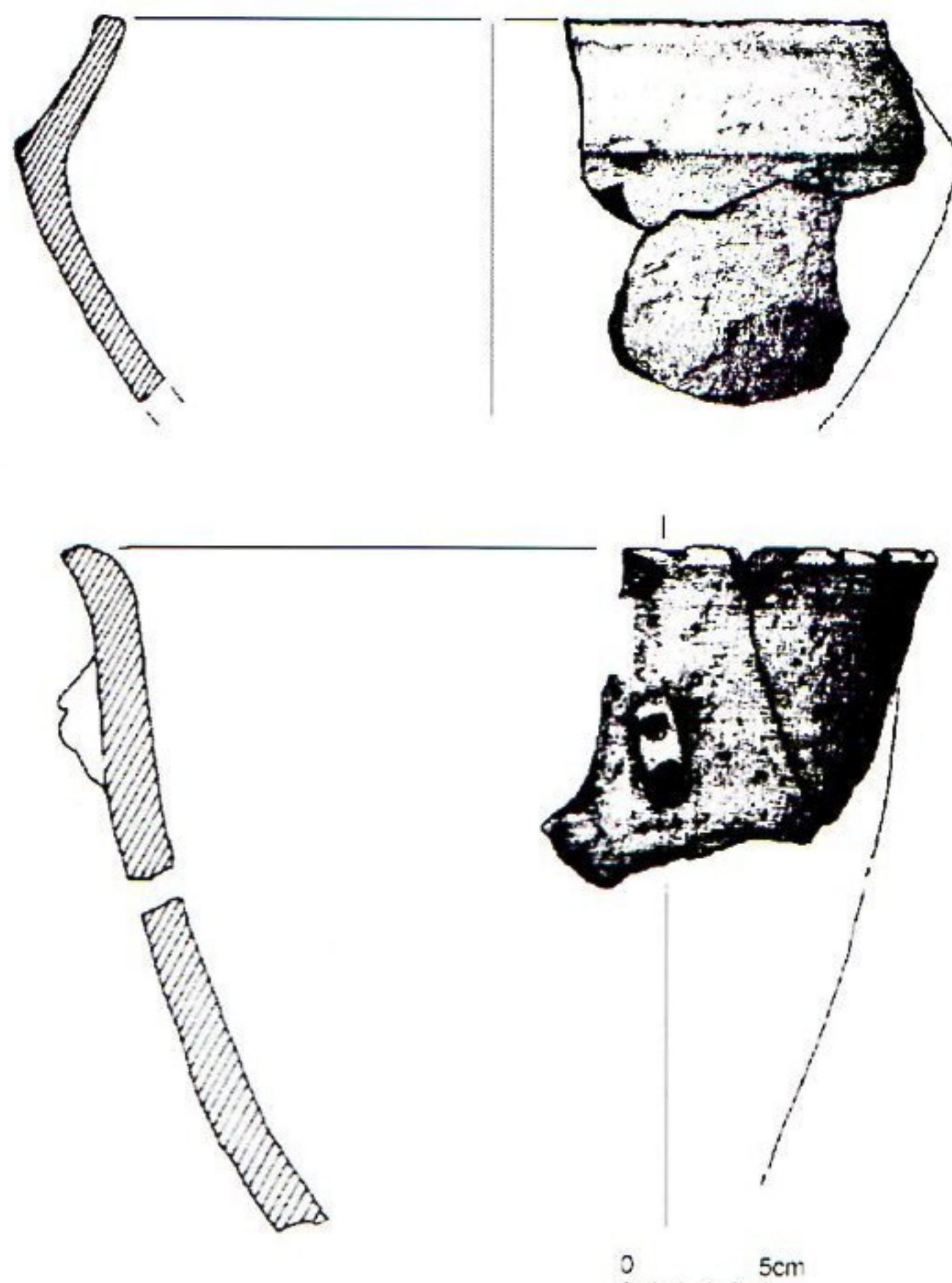


Figure 6. Vessels 3 (above) and 1 (below) from Site 2139.

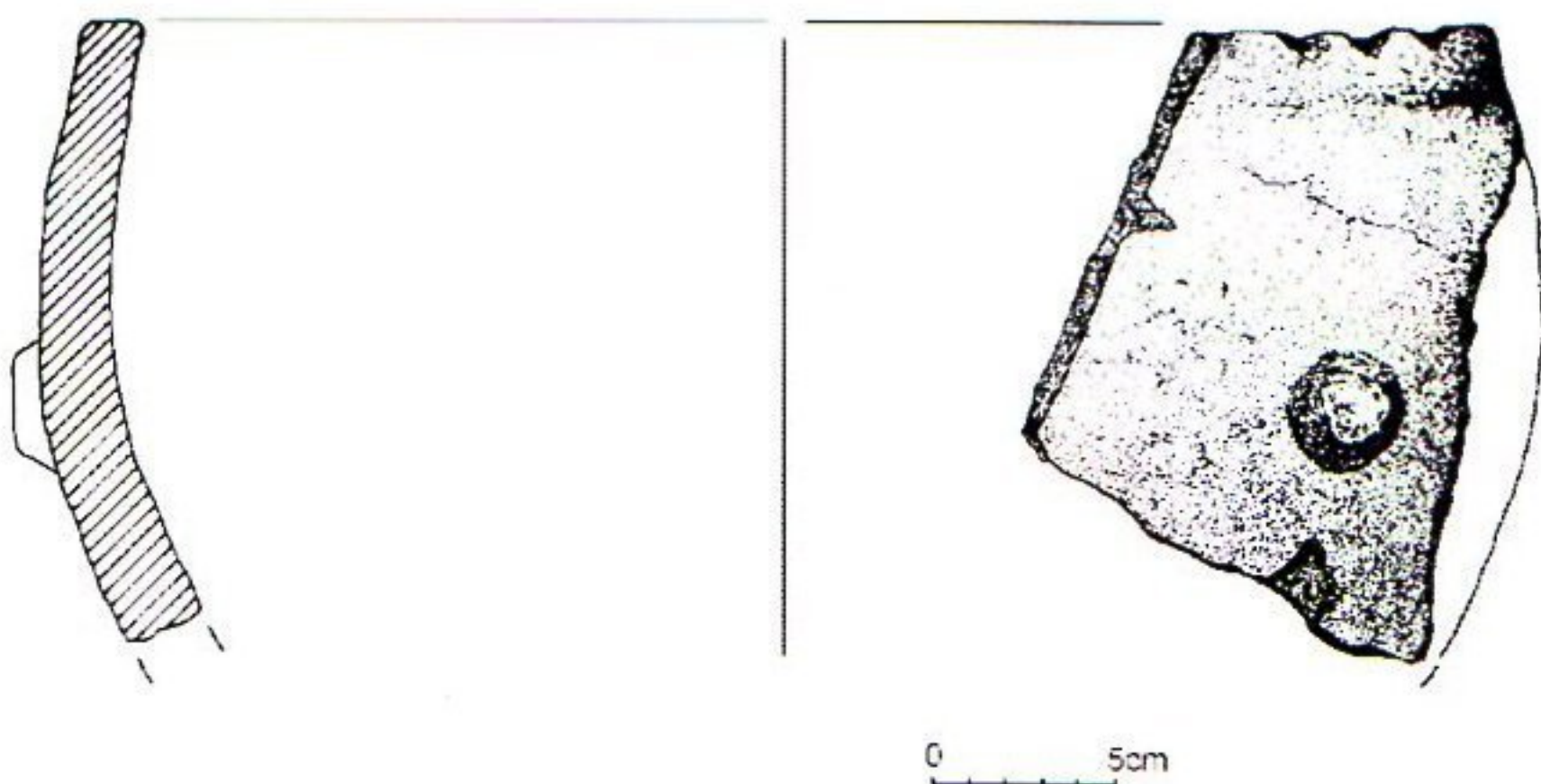


Figure 7. Vessel 2 from Site 2139.

carinated and possibly 5 also. These are all elements and characteristics associated with middle and late Bronze Age ware in Cantabria. One of the largest ceramic assemblages with carinated vessels in the region comes from Cueva del Pendo (Camargo), where a wooden dish found with the pottery was radiocarbon dated to 3370 ± 50 BP (circa 1670 BC) (Morlote & Muñoz, 2001).



Figure 8. The cranium from Site 2139; left lateral view. (Photograph: J. Ruiz Cobo).

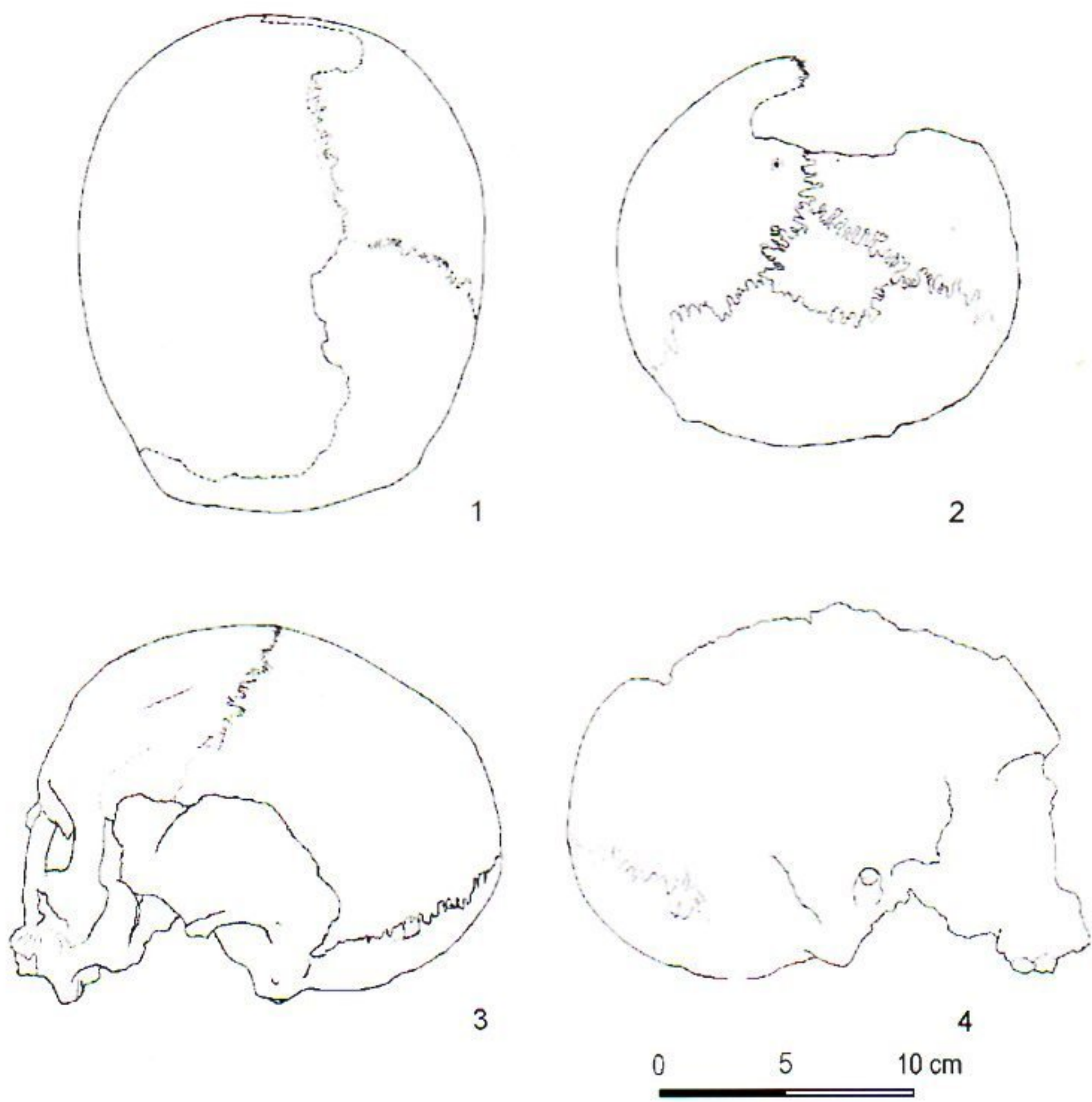


Figure 9. Superior, posterior and lateral views of the cranium from Site 2139.

In Matienzo, thermoluminescence dates have been obtained directly for urns which are on a larger scale than all the vessels in the Cave 2139 assemblage, except perhaps for Vessel 1 (mouth diameter of about 300mm). These large urns, characterised by a layer of finger-fluted clay on their lower outer surface, have been found in a number of caves, including Cueva 179, Cueva de Reyes, Las Grajas and Cofresnedo. Samples from the latter two sites were dated to 3797 ± 348 and 3923 ± 340 BP respectively; so both belong to the early 2nd millennium BC (Ruiz Cobo & Smith, 2003). They are therefore probably an older pottery type, although they are sometimes similarly decorated with finger-nail impressions and lugs.

Carinated vessels with decorated rims have previously been found in Matienzo at Cueva de Germán and La Cubía de La Vega. In both of these cases the walls become almost vertical above the carination, and their design is therefore distinct from Vessel 3, whose sides turn inwards. Assemblages with decorated vessels and similar profiles have been found in the upper Asón Valley at such sites as Cueva del Masío and Coventosa (Arredondo) or Cueva de Cofiar (Soba), where they have been attributed to the late Bronze Age or early Iron Age (Ruiz Cobo *et al.*, 2007).

This particular collection of vessels from Cave 2139 was probably deposited in the first passage just inside the entrance, together with the body, in the middle of the 2nd millennium BC. As they were broken up, by natural or human action, they fell down the shaft, some sherds landing on the ledges while most reached the bottom.

CUEVA DEL TORNO

Location and description

This cave is located near the town of Solórzano, to the north of the Matienzo depression. The present entrance is a small opening in the corner of a field overlooking the flat-floored valley, at 207m above sea level. This leads into a series of rifts, active stream-passages and chambers, with a total length explored of over 3km. The human cranium was not found inside the entrance, but at the end of a passage which comes close to the surface, although to reach this part of the cave involves traversing a considerable distance underground. It was found lying in the middle of the flat cave floor, only partially embedded in the silty sediment. Beyond this point, the passage turns to the left, the floor rises and the passage soon becomes too restricted along a small tube, although this has a narrow aven in its roof.

Research and fieldwork

Members of the Caving Expedition to Matienzo were shown the entrance by the land-owners at Easter 2006. The cave was explored during Easter and in the summer expedition, when the skull was discovered by P. Eagan, A. Pringle and A. Neill in the course of the first exploration of the passage where it was situated. Photographs were taken of the find and the area around it was immediately taped off in order to protect it. As in the case of Site 2139, J. Ruiz Cobo was informed, and he obtained permission from the *Consejería de Cultura* to remove the skull at Easter 2007.

Before he carried this out, several attempts were made to make access to the passage easier. First, a dig was started in a small side-passage near the entrance, which the survey shows as being very close to the skull. This had to be abandoned because of problems with bad air. Second, molephones (on loan from the Mendip Rescue Organisation) were used to locate the position of the skull with respect to the surface. The radiolocation was successful, due to the proximity of the passage to the surface; hammer blows made on the cave wall could be heard above ground and finally even voices could be heard. However, nothing could be seen on the surface, indicating where to dig in order

Cueva del Torno

Fresnedo 30T 0452783 4801431
Altitude 207m Length 3022m Depth 60m
Surveyed 2006 to BCRA 5c

Entrance and northern sector.

The route taken by the cranium is shown by the dotted line. The cave continues down to the south and west.

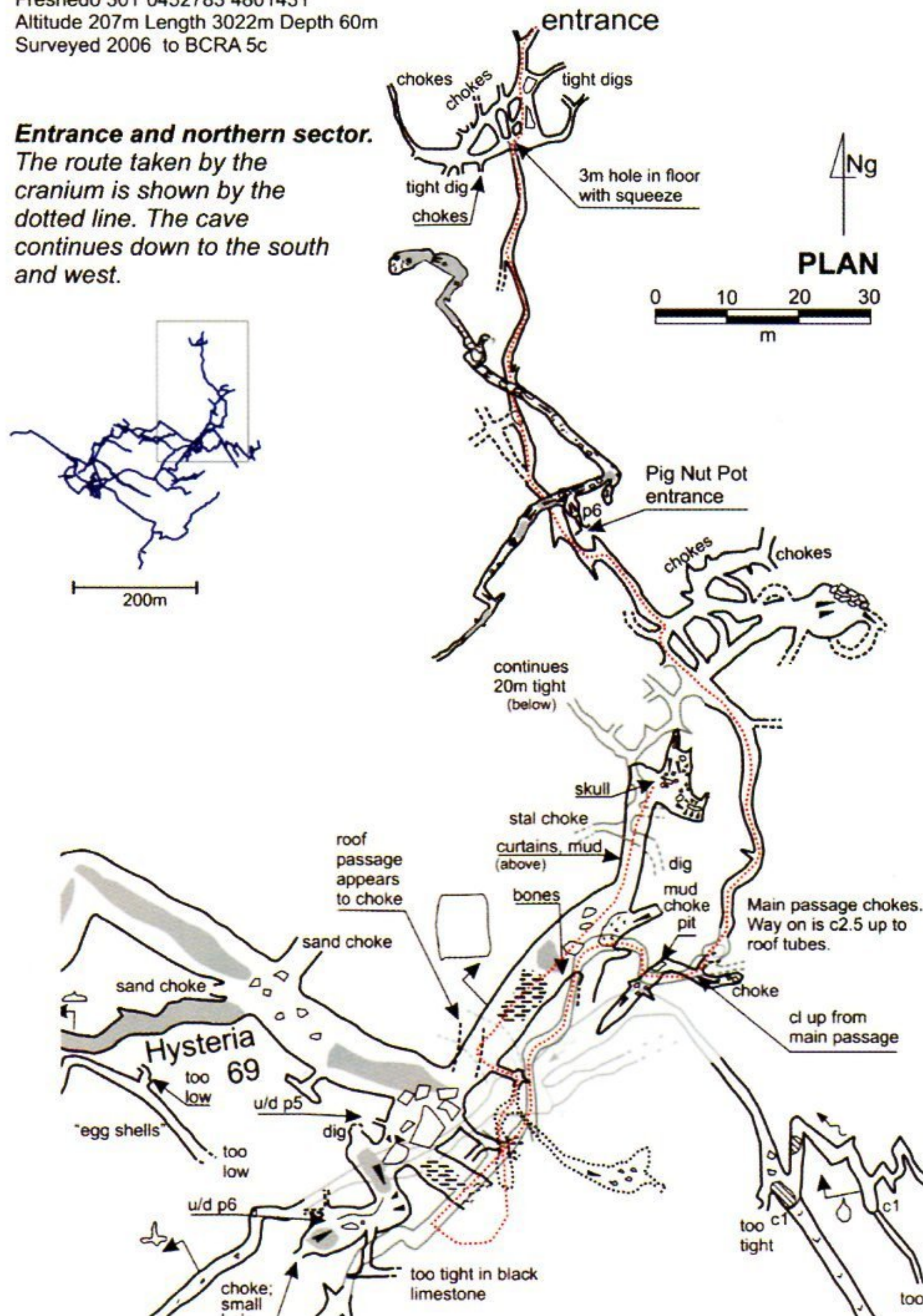


Figure 10. Survey of Cueva del Torno.

to reach the cave and, in fact, no evidence of the original entrance, which must once have existed, was visible.

The skull had to be brought out through the cave. Fortunately, a short cut was found between two passages by P.Stacey and P.Eagan and, although the new route needed to be widened, it greatly reduced the distance that the cranium had to be transported. More importantly, it also reduced the risk of the cranium sustaining damage as it was carried out.

“Skull Chamber” was surveyed in detail, and searched for further human remains. The only items that could be seen were in the smaller inlet passage, where water had washed some of the sediment away, leaving sections through the layers of silt and uncovering a number of bone fragments. A series of photographs were taken of the skull *in situ*. It was then carefully lifted and wrapped in protective material to be taken out of the cave.

Description of the passage and stratigraphy

Near its end, the passage in Cueva del Torno known as “The Posture of Progression” turns north-east and then almost due north. It then bends to the east again in a small chamber where the roof height dips to about 1.5m. It was in this chamber where the cranium was lying, in the middle of an almost flat floor about 5m wide. The floor of the chamber is covered by silt and calcite flowstone; this has collapsed in the south-east corner, revealing an accumulation of small limestone boulders.

At the far end of the chamber the passage swings left and takes the form of a slope leading up to the end of the cave. In this latter area, water has cut through the sediment revealing a stratigraphy of two layers:

- Layer 1 Surface layer of light brown clay, about 35cm thick, archaeologically sterile.
- Layer 2 This is beneath Layer 1, and about 40cm thick. It is made up of gravel and sand in its upper section, with an increasing proportion of small limestone and sandstone pebbles in its lower part. It contains fragments of charcoal and bones, as well as abundant snail shell fragments.

Further back in “The Posture of Progression” an accumulation of animal bones was seen on the right-hand side of the passage. These appear to be of sheep or goats and are lightly covered by silt and calcite. They probably fell into the passage via an aven.

Skeletal remains

The human remains have been examined by the forensic scientist Francisco Etxeberria and his team, who have produced a report on their conclusions (Etxeberria, Herraste & Bandres 2007).



Figure 11. The cranium in Cueva del Torno discovered as the passage was being newly explored. (Photograph: P. T. Eagan).

The remains that have been found are essentially the cranium, teeth and a number of bone fragments. When the skull was lifted from its position on the floor of the chamber, it was seen to be partly filled with clay, belonging to Layer 1, containing pieces of charcoal and some snail shells. The left zygomatic arch was missing and the right was fractured. The nasal bone was also missing.

However, the cranium is in a good state of conservation apart from this post-mortem damage to the facial area. The maximum breadth is 135mm and maximum cranial length is 182mm. This gives a cranial index of 74.17, so the skull is dolichocephalic or long-headed. The size and shape of the mastoid processes and supraorbital ridges suggest that the individual was male, and judging by the cranial sutures (the endocranial sutures have not fused), he would have been a young adult, about 25 to 30 years old.

Six teeth were found in place in their sockets, these are the two pre-molars and first two molars on the right, and the second molar and wisdom tooth on the left. The left canine and second pre-molar were recovered near the cranium. All these show considerable attrition, with enamel removed and the dentine exposed (molar wear-level III, except for the right first molar affected at level IV). Using tables such as the one for pre-medieval British skulls (Brothwell, 1963), this would again indicate an age of between 25 and 35 years. The only caries noted affects the right first pre-molar, between its occlusal and distal surfaces.

Fifteen human bone fragments were collected from the section through Layer 2 on the final slope and of these, seven could be identified. They are:

- Phalange diaphysis fragment (17mm)
- Distal end of left humerus (51mm)
- Femur diaphysis fragment (22mm),
- Two tibia diaphysis fragments (92 and 58mm)
- Tibia proximal epiphysis fragment (42mm)
- Right tibia proximal epiphysis fragment (43mm).

The remaining fragments are too small for identification.

Except for the phalange diaphysis, all the other bones had been affected by fire. However, the fractures are not typical of a cremated cadaver, and instead it seems that the bones came into contact with fire after the decomposition of the body and after they had become fragmented. They show signs of carbonisation, which means the temperature of the fire was below 600°C.

The most noticeable feature of the cranium is a traumatic injury to the left frontal bone, which the individual survived. The blow produced a depression in the bone 30mm long, 18mm wide and between 8 and 9mm deep. The edges of the depression are rounded and it appears to be nearly or

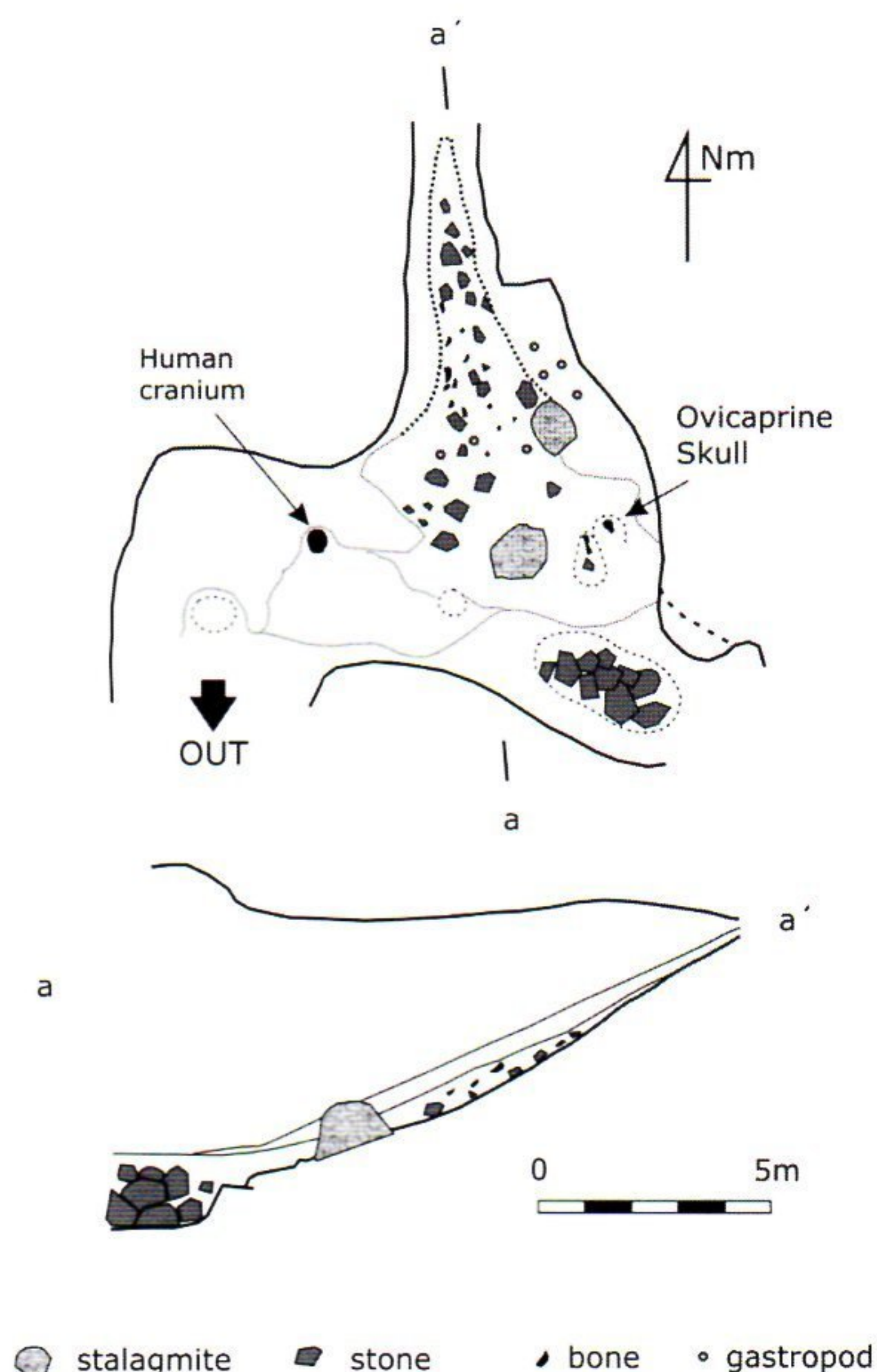


Figure 12. Plan of Skull Chamber in Cueva del Torno.



Figure 13. The cranium from Cueva del Torno; right lateral view. (Photograph: J. Ruiz Cobo).



Figure 14. Detail of the injury to the frontal bone. (Photograph: J. Ruiz Cobo).

fully healed. Therefore the individual survived the injury for some considerable time and there is no reason to believe that there is any direct connection between the injury and the cause of death. The traumatism would have been caused by a small instrument, such as the corner of an axe or a spear-head. It is probable that, when it healed, the skin covering the injury was also concave, and we may also speculate that the depressed bone might have caused irritation of the cerebral cortex and as a result the individual could have suffered from epileptic seizures.

Another bone fragment that was collected, due to its greater thickness of 8.5mm, appears to belong to a large mammal. This had also been exposed to fire. It is fractured longitudinally and marks produced by impacts, probably owing to human action, are visible. It had also been gnawed by a carnivore. In addition, four sheep goat bones were studied *in situ*, within the sediment of Layer 2. These were a skull, a tibia-fibula, and two vertebrae.

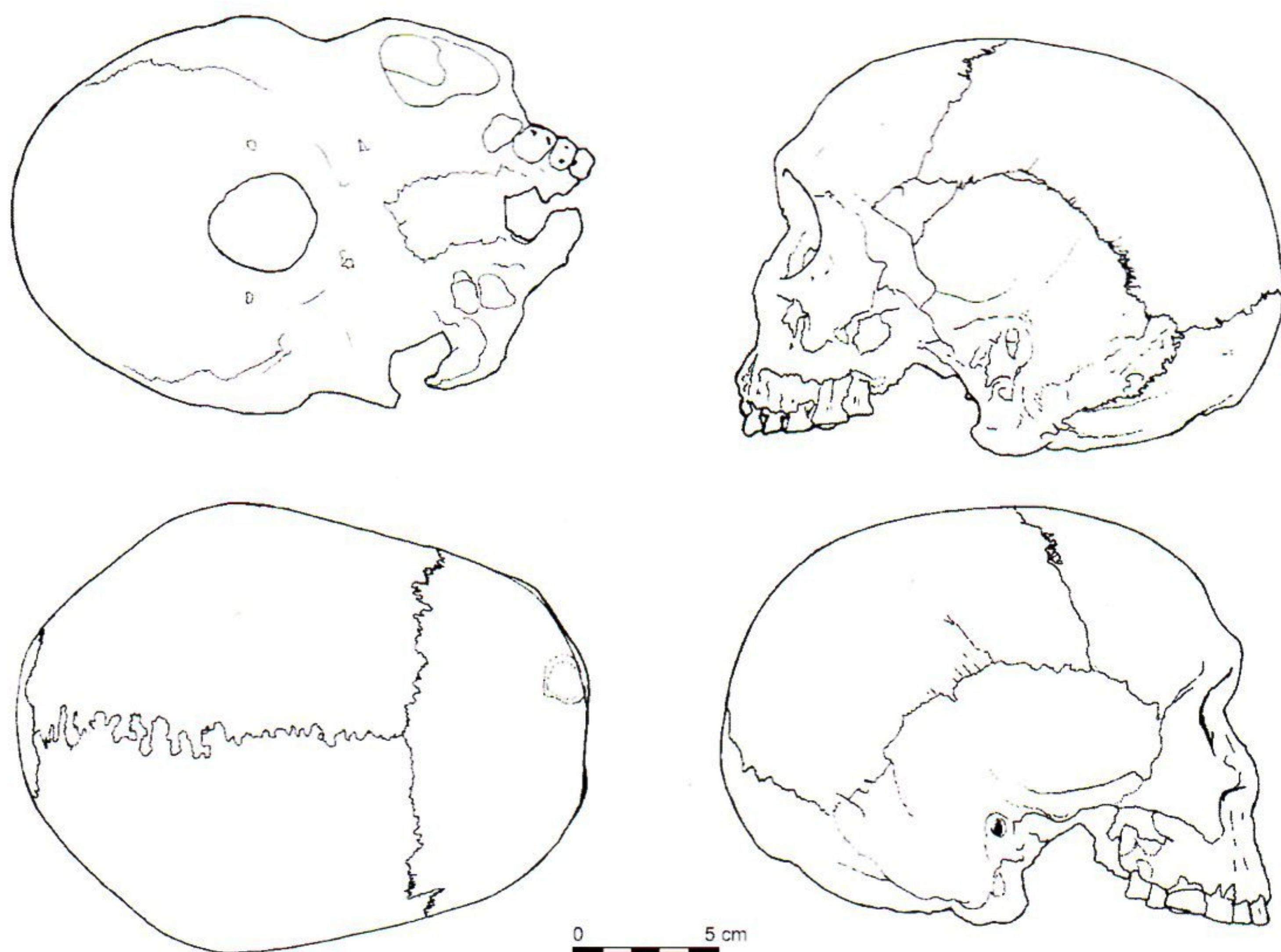


Figure 15. Inferior, superior, and lateral views of the cranium from Cueva del Torno.

The gastropod shells found with the cranium and on the final slope belong to *Cepaea nemoralis* and *Elona quimperiana*, with a smaller number of *Cyclostoma elegans* and *Helicella* sp. fragments. The colouring is still visible on some of the *C. nemoralis* shells so these cannot be very old. The life-cycle of all these species, except *E. quimperiana*, takes place outside caves.

Results

The sedimentological study shows how coarser material was washed into the cave along the final passage, and formed Layer 2. This material included bones and charcoal. As the passage became almost completely blocked, only finer silts and clays filtered into the cave, forming Layer 1. At a later date, percolation water began to cut through the two layers, washing away part of the sediment that had been deposited. Bone fragments, and almost certainly the skull, were thus freed from the sediment and the skull must have rolled down into the chamber. The continuing movements of sediments partially filled the skull, which still contained charcoal and other material from Layer 2, with silt from Layer 1. This erosional process may have occurred at a relatively recent time, as the ovicaprine bones found in the sediment do not look particularly old.

The skull and other bones must have entered the cave through another entrance that is now covered over. A search for this entrance succeeded in discovering another cave, Site 2523 or Pignut Cave, 102m long. Although it comes very near to this part of El Torno, the two caves do not connect.

A number of bones were found in Site 2523 but these all belong to different animal species, which apparently include bear.

DISCUSSION: BURIAL CAVES OF THE 3rd AND 2nd MILLENNIA BC IN THE ASÓN VALLEY

In the valleys of the River Asón and its tributaries, some fifty caves are known with human remains, found in association with artefacts that can be assigned to the Late Chalcolithic and Bronze Age. They are most common in the middle valley (24 sites) in comparison with 14 and 13 in the lower and upper valleys respectively. In addition, in a further twenty caves human remains have been found without any elements that might be used to date them.

Most of these sites have been dated in the period covering the end of the 3rd millennium and the start of the 2nd millennium BC. Cave 2139, judging by its pottery assemblage, is probably a little more recent, and is attributed to the Middle Bronze Age, circa 1500 BC. However, as only a small number of absolute dates have been obtained at sites in the area, different phases within the period cannot easily be differentiated.

In general, medium or small sized caves were chosen for burial uses, and the average width of the entrances is about 3m. The burials were usually located in the middle part of the cave, within the dark zone, but as the caves tend to be quite small, the average distance from the entrance is just over 7m. Within Matienzo, two sites that follow this pattern are Cave 709 and the entrance passage of Cueva de los Tres Niños. Because of these preferred characteristics for funeral purposes, the caves were usually unsuited for human occupation, and sites with a double use are the exception. At many sites in Cantabria reference has been made to stones or walls covering the cave entrances and this suggests that small caves were chosen for burials because they would be easy to cover. The entrances may have been blocked because of religious beliefs or to protect the bodies from the action of animals.

However, when they were available, use was made of large caves too. In Matienzo, human remains belonging to this period have been found in the caves of Rascavieja and Cofresnedo. At the former site they have been dated to 3999 ± 59 BP (circa 2500 BC) and at the latter to 3410 ± 50 and 3000 ± 60 BP (circa 1700 and 1250 BC). In these cases the bodies were placed at the side of the large chambers, in a space between boulders, or in small side-chambers.

The most common artefacts found with the human remains are pottery, personal ornaments, and sometimes other objects such as bone awls or large flint blades. It is also usual to find the bones of domestic animals, such as cattle or pigs, possibly because portions of meat were left as a kind of offering. In one case a deposit of "abundant wheat grains" was found together with human remains, in Cueva de la Doncella near Santoña.

The most characteristic type of ceramic vessels are large urns, often decorated with raised cordons, lugs, and fingernail impressions in the upper third of their walls, and with an extra layer of finger-fluted clay around their lower half. In Matienzo an urn of this kind was found in Cueva de Cofresnedo, in association with human remains, and it was dated by TL to 3923 BP. To the south of Matienzo, Cueva del Molino (Bustablado) is another example of a site with sherds of this type of urn and human remains. In this case, it is a large cave, although the entrance is not particularly big.

Carinated pots, comparable with the one at Cave 2139, have been found at other sites with human remains. For example a high carinated vessel, with a diameter of 155mm at the mouth and fingernail impressions around the rim, was recovered at Cueva Llusa (Ogarrio). However, this cave is better known for the find there of three bronze swords.

The most common personal ornaments are beads, which have been found made from bone and from bronze at Cueva de Cofresnedo and Cueva de Tarrerón (Lanestosa). Examples made from stone, shells and teeth are also known.

When the sites have been excavated or where the remains have been brought to the surface, it has been possible to conclude that the minimum number of buried individuals was four or five (Caves of Las Pajucas, at Lanestosa, and La Doncella and Mosolla, near Santoña), six (Cueva de San Roque, at Rasines) or thirteen (Cueva del Campuco, also at Rasines). The human remains are usually found the uppermost layer of the cave floor, in the silt or flowstone, and in direct association with the grave goods. It is therefore supposed that the bodies were laid directly on the cave floor, dressed in their clothes and ornaments, together with a number of pottery vessels.

Few open-air sites dating to this period are known in the area, although the large number of caves used for burials suggests that it must have been quite densely settled. The valleys around the Asón estuary, at Ampuero and Rasines, or Secadura and Llueva, or further inland at Hazas de Cesto – Solórzano and the Matienzo depression, will have provided fertile soils and protected environments, suitable for a mixed farming economy. Evidence of the existence of a settlement has been identified at a few sites, generally in the form of assemblages of lithic implements, including small scrapers and blades with cereal polish, and querns. Artefacts of this kind have been found in the lower Asón valley, near the coast, and at Rasines in the middle valley. In several places in Cantabria, an association has been seen between settlements, in valleys, and burial caves, in the surrounding hillsides and often forming groups.

It is therefore probable that Cave 2139 was associated with a small open-air settlement, possibly located at the head of the Cubija valley where the cave is situated. The pottery has been attributed to the middle Bronze Age, which is more recent than the probable age of most burial sites. However, the funeral ritual, which involved depositing the body in a small cave together with grave goods including ceramic vessels, appears to have continued unchanged since the end of the Chalcolithic period. The human remains at Cueva del Torno were not found together with any elements that might be used to date them, but they are most likely to belong to this same period, when burials in caves were most common – late Chalcolithic early Bronze Age. The cave's position, on the hillside overlooking the fertile Solórzano valley, is typical. Equally, the now covered-over and lost entrance, through which the cranium and other bones reached the chamber, must have been quite small and so in this respect the cave would have fitted the pattern seen at many other sites. At nearby Hazas de Cesto, two other burial caves are known: Cueva de los Moros with human remains and pottery, and Cueva de Lavalles, with human remains only.

In the late Bronze Age, it appears that settlements moved towards higher, more easily-defended locations. Thus occupations dated at the end of the Bronze Age or early Iron Age are known at the hillfort locations of La Garma and Castilnegro, in the neighbouring Miera valley.

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REFERENCES

- BROTHWELL, D. R., 1963. *Digging up Bones*, British Museum, London.
- ETXEBERRIA GABILONDO, F., HERRASTE, L. & BANDRES, A., 2007. *Informe relativo a los restos humanos recuperados en la Cueva del Torno (Fresnedo, Solórzano)*. Unpublished report.
- MORLOTE, J.M. & MUÑOZ, E., 2001. Los depósitos arqueológicos de la Edad del Bronce. In *La Cueva de El Pendo. Actuaciones Arqueológicas 1994-2000*. Eds. R. MONTES & J. SANGUINO, pp. 245-265. Santander Camargo
- QUIN, A., 1995. Morphological links between distinct cave systems, as revealed by the magnetic properties of cave sediments. *Studies in Speleology*, Vol X, December 1995, pp 5 - 19.
- RUIZ COBO, J. & SMITH, P. 2003. *La cueva de Cofresnedo en el valle de Matienzo*. Gobierno de Cantabria.
- RUIZ COBO, J. *et al.*, 2007. *Paisaje y arqueología en el Alto Asón (Cantabria, España)*. British Archaeological Reports International Series 1614. Oxford.
- RUIZ, J., SMITH, P., SERNA, A. & MUÑOZ, E., 1999 2000. The Prehistoric Cave Site "Cueva de las Grajas" in Matienzo, North Spain. *Studies in Speleology*, Vol. XI, pp 43-49.
- RUIZ COBO, J. & SMITH, P. (eds), 2001. *The Archaeology of the Matienzo Depression, North Spain*. British Archaeological Reports International Series 975. Oxford.
- SMITH, P., 2001 2002. Palaeolithic Cave Art in Cantabria, North Spain. *Studies in Speleology*, Vol. XII, pp 5 – 64.