DISCOVERING THE CATACOMBS OF SICILY

First analysis of the skeletal remains from the Late Antique hypogaeum of Scorrione

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Scorrione-West, dated to 4th–6th centuries AD, represents a unique site, both archaeologically and methodologically. Archaeological material suggests intermingling of various cultural groups. The presented report aims to add more data regarding the human aspect at Scorrione. It provides initial findings and results of anthropological analysis of the human remains excavated at the site during the season 2020–2021. Minimum number of excavated individuals was 16. In graves from the inner cave, young and prime-age adults, both males and females, were buried, all younger than 40 years of age. All but one grave contained the remains of more than one individual, even though flooding may have played a role. In Grave 40, five individuals with no apparent relation with each other were buried, probably not at the same time. The results of macroscopical osteological analysis appear to be consistent with archaeological data suggesting mostly hard-working individuals and the presence of multiple cultural groups, even though the 16 individuals do not necessarily represent the whole community.

INTRODUCTION

Ancient underground burial chambers – hypogae – can be found across the whole Hyblean Plateau, a complex of mountains and hills in south-eastern Sicily, Italy. These rock-cut vaults usually appear in clusters of small-size chambers carved into natural rock walls or pre-existing caves, and were commonly used from the Bronze Age to the Middle Ages. They are located throughout the whole island of Sicily (Cugno 2020; Di Stefano 1997; 1999; Führer/Schulze 1907; Leighton 2018; Sgarlata/Salvo 2006; Vitale 2020), as well as other islands in the region, e.g., in Malta (Bonanno/Militello 2008; Buhagiar 1986; Di Stefano/Cassar 2009). Alas, most of these sites have not yielded abundant archaeological material, as they were discovered and partially investigated already in the 19th c., thus producing insufficient documentation or no documentation at all. In addition, the sites were always well-visible and easily accessible, which is why they were regularly used as short-term shelters for farmers and war shelters during the Second World War (Leighton 2018; Padovani 2013), and therefore they are often looted.

One of such funerary sites was recently uncovered at the site of Scorrione near Ragusa, Sicily (Fig. 1). There is not much evidence of extensive anthropic alterations of the site in the upper layers, making it a unique source of information. Even though some hypogea in the Scorrione area had been known since the 19th c. and documented in the early 2000s by V. G. Sammito and A. Rizzone (2001; 2004; 2007; 2010–2011), the cluster in Scorrione W, formed by seven hypogea, were not systematically investigated before 2020. The first results of the ongoing systematic research, focusing on the dating and function of

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the site, are starting being published (Pinar Gil et al. 2022a; 2022b; Pinar Gil/Pleska, forthcoming). In short, the main phase of the use of the complex as a burial site falls in the 5th c. AD, archaeological material from the graves suggesting intermingling of various cultural groups, including Vandal or Gothic items co-occurring with the artifacts of local production (Pinar Gil/Pleska/Beghelli 2022). Later on, between the 6th and 9th c., the site went through some short-period abandonments and partial reconstructions suggesting a new, non-funerary function throughout the Byzantine period. It therefore represents a unique archaeological site, both archaeologically and methodologically: systematic stratigraphic research provides an exceptional set of information, testifying not only about the architecture of the burial complex, but also about those who were using it. The presented short report aims to add information on the human aspect at Scorrione, providing initial findings and results of anthropological analysis of the remains so far excavated from the site, and placing them within their archaeological context.

MATERIAL AND METHODS

In 2020 and 2021, the first two seasons of systematic stratigraphic research took place at Scorrione. During the excavations, first part of the rural cemetery was revealed and documented, represented by Hypogeum D, a part of a larger complex of catacombs carved into the rock wall of the small Scorrione valley in the Ragusa region.

In total, 40 graves were excavated in Hypogeum D (Fig. 2). The first phase of the burials is represented by the central, so-called “baldachin” structure (Graves 35 and 36) and surrounding graves situated along the walls. In the second phase, the remaining floor and wall space along the entrance were used (Graves 1–11, 39, 40). Only six graves contained human skeletal remains (Graves 6, 7, 26, 29, 39, 40). Three graves (Grave 6, 7, 40) were almost undisturbed and preserved due to their specific location within the cemetery. The graves had been regularly flooded, so individual burial pits possibly contain also several smaller bones originally buried elsewhere, most probably in the neighbouring graves. Skeletal material found in top, i.e., recent, layers is not the subject of the presented research.

Individual skeletons were evaluated macroscopically. For each burial, minimum number of individuals (MNI) was estimated. Sex, age at death and stature of the individuals were evaluated when possible.

Sex of the individuals was estimated by all the skulls and pelvic bones (Acsádi/Nemeskéri 1970; Brickley/ McKinley 2004; Buikstra/Ubelaker 1994; Graw/Czarnetzki/Haffner 1999; Phenice 1969; Rogers/Saunders 1994).
Dimensions of the long bones were also measured in order to distinguish between male and female bones (sectioning points summarised in Bass 2005).

The age-at-death was calculated by the level of dental attrition (Lovejoy 1985; Miles 2001), the morphology of pubic symphysis (Brooks/Suchey 1990; Meindl et al. 1985) and auricular surface of the ilium (Buckberry/Chamberlain 2002; Lovejoy et al. 1985). In the case of non-adults, the level of epiphyseal fusion was also addressed (Scheuer/Black 2004; Schaefer/Black/Scheuer 2009).

The bones of individuals were associated together on the basis of their compatibility, appearance, suggested sex and age-at-death.

Stature was calculated by T. Sjøvold (1990), as the formulas are not sex-related and are commonly used for European populations. All available long bones were used, final height representing an average of the calculated values.

In Grave 40, five individuals were buried (Fig. 2). The skeletons were almost complete, even though not all the spines, rib cages and small bones could be allocated to individual bodies. Individual skeletons were defined by the long bones and associated pelves. Where possible, additional bones were added to the individuals based on photo-documentation and bone-matching. Skulls were allocated according to the photo-documentation, and age-at-death and sex (Fig. 3).

RESULTS

The whole assemblage comprised of the remains of minimum of sixteen individuals, three females, three probably females, six males, two probably males, and two individuals whose sex was impossible to estimate. All individuals were adults, none being older than 40 years at their time of death. Half of the individuals were young adults younger than 25 years. Stature could be calculated for nine individuals, six males (165.6 cm in average) and three females (154.4 cm in average). Even though many of the bones were eroded and/or taphonomically damaged (e.g., by flooding or animal activity), in general, they indicated poorer health status and bore signs of heavy load and physically demanding lifestyle of the individuals. One individual showed physical traits resembling those seen in individuals of African ancestry, and three of preserved sets of dentitions included shovel-shaped incisors, a trait predominant in Asians, Asian-derived populations and Native Americans, but rare/absent in African
and European populations (Kimura et al. 2009). The summary of finds is provided in Tab. 1. Individual remains are described below.

Grave 6 contained only weathered teeth and extremely poorly preserved fragments of the long bones. The dentition indicated a very young individual (17–25 years old).

Grave 7 yielded few post-mortem-damaged human bones, including two mandibles, teeth, poorly preserved fragments of the long bones and other skeletal elements suggesting two individuals. Two sets of bones suggested one smaller and one bigger individual, both dying at the age of 17–25 years. The mandibles indicated female and male individuals, the female was slightly older than the male, even though dental attrition can be affected by several factors (e.g., consumed food, activity; Monaco et al. 2022; Smith 1984). The mandibles were morphologically similar, both being wide at the area of the second molar (Fig. 4: 1, 2). Both sets of dentitions also included shovel-shaped incisors, whereas the aetiology of the trait is believed to be genetical (Hlusko et al. 2018).

Grave 26 contained bones of both cranial and post-cranial skeletons of at least three individuals. Skull fragments and pelvic bones indicated one female (aged 25–40), one male (robust, muscular, aged 25–40), and another possibly male individual (less muscular, aged < 25). Stature could be calculated only for the older male (Tab. 1). It is possible that some of the bones had been originally buried in the nearby graves.
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and relocated by floods (e.g., in the adjoined Grave 25; Fig. 2). Unfortunately, only unidentifiable fragments of bones were retrieved from the surrounding graves.

In Grave 29, remains of at least three individuals were buried. Two almost complete mandibles suggested a mature male (30–40 years) and a smaller and gracile person aged 25–35. A very small fragment of the third mandible pointed to a very young person (< 25 years), matching the premolars and molars placed in the fragment of a maxilla. The most worn incisors were shoveled. One of the two preserved sacra showed female rather than male features, the level of intersegmental fusion of the second sacrum indicated individual younger than 25. Pelvic bones pointed to one mature male and one female individual of non-assessable age. All in all, it appears that the remains of a mature male with shovelled incisors, a prime-aged female, and an unsexed young individual were placed in Grave 29 (Fig. 3). Small bones of postcranial skeleton were also recovered, but macroscopic analysis did not allow for allocating them to individual skeletons with certainty.

Being on the floor, the small fragments of the long bones and a tooth from Grave 38 may not represent bones originally interred in the grave. MNI was estimated to 1.

Grave 39 contained skeletal remains of two individuals. The dimensions of the long bones indicated one male and one female individual (Tab. 1). Dental attrition indicated individuals younger than 25.

Grave 40 was the only grave where more than two individuals were intentionally buried. The remains of five individuals (three males and two females) lay on top of each other, mostly in anatomical positions (Fig. 2). All were young to prime-aged individuals (Tab. 1).

Individual A was a tall man with robust bones and marked muscle attachments. The skull associated with this individual manifested about 6 cm long cuts observed on the side of the left parietal (Fig. 4: 3–5), caused around the time of death, even though precise time and etiology of the lesions remains unknown. It could have been caused intentionally (in that case it could be associated with the individual’s death)

<table>
<thead>
<tr>
<th>Grave</th>
<th>MNI</th>
<th>Individual</th>
<th>Sex</th>
<th>Age at death</th>
<th>Stature</th>
<th>Notes to human remains</th>
<th>Items in the grave</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>17–25</td>
<td>–</td>
<td>weathered dentition; fragments of the long bones</td>
<td>clothing accessories, coins</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>A F?</td>
<td>M</td>
<td>17-25 (older)</td>
<td>–</td>
<td>loose teeth; AM toothloss (mandible); caries; dental enamel hypoplasia; slightly shovelled incisors; mandible with a thickened ramus (anomaly)</td>
<td>clothing accessories, jewellery, pottery, glass beads</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B M</td>
<td></td>
<td>17-25 (younger)</td>
<td>–</td>
<td>slightly shovelled incisors; mandible with a thickened ramus (anomaly)</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>3</td>
<td>A M</td>
<td>F</td>
<td>25–40</td>
<td>167.4</td>
<td>robust; marked muscle entheses</td>
<td>clothing accessories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B F</td>
<td>M</td>
<td>25–40</td>
<td>–</td>
<td>no marked muscle entheses</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C M?</td>
<td>F</td>
<td>&lt; 25</td>
<td>–</td>
<td>possibly using front teeth as tools</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>3</td>
<td>A M</td>
<td>M</td>
<td>20–35</td>
<td>170.8</td>
<td>big, robust bones with marked muscle entheses; skull with peri-mortem scratches and a circular lesion on the top of the cranium; periosteal lesion on the right medial distal tibia; signs of animal gnawing on the shafts</td>
<td>glass vessel fragment, jewellery (?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B M</td>
<td>F</td>
<td>20–30</td>
<td>156.7</td>
<td>animal teethmarks on the right side of the occipital bone</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C F</td>
<td>M</td>
<td>30–40</td>
<td>158.8</td>
<td>osteoarthritis of knees, sacrum and related articular facets of the vertebrae, possibly also hand bones; peri-mortem scratches on the left parietal bone, signs of taphonomic damage (animal teethmarks) on the top of the cranium</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D M</td>
<td>F</td>
<td>20–30</td>
<td>160.6</td>
<td>animal teethmarks on the femoral shaft</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>5</td>
<td>A M</td>
<td>M</td>
<td>20–35</td>
<td>170.8</td>
<td>signs of porotic hyperostosis of the skull; septal aperture; porosity of the ilium; Schmorl’s nodes on the lumbar vertebrae; cranial markers consistent with those typical for individuals of African origin</td>
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<tr>
<td></td>
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<td>B M</td>
<td>M</td>
<td>20–30</td>
<td>156.7</td>
<td>signs of porotic hyperostosis of the skull; septal aperture; porosity of the ilium; Schmorl’s nodes on the lumbar vertebrae; cranial markers consistent with those typical for individuals of African origin</td>
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<td>C F</td>
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<td>signs of porotic hyperostosis of the skull; septal aperture; porosity of the ilium; Schmorl’s nodes on the lumbar vertebrae; cranial markers consistent with those typical for individuals of African origin</td>
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<td></td>
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<td>D M</td>
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<td>20–30</td>
<td>160.6</td>
<td>signs of porotic hyperostosis of the skull; septal aperture; porosity of the ilium; Schmorl’s nodes on the lumbar vertebrae; cranial markers consistent with those typical for individuals of African origin</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E F</td>
<td>F</td>
<td>&lt; 23</td>
<td>149.4</td>
<td>signs of porotic hyperostosis of the skull; septal aperture; porosity of the ilium; Schmorl’s nodes on the lumbar vertebrae; cranial markers consistent with those typical for individuals of African origin</td>
<td></td>
</tr>
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</table>

Fig. 4. Lesions observed on the skeletons from Scorrione-West, Hypogeum D, season 2020–2021. 1, 2 – Grave 7, mandibles of individuals showing thickened ramus; 3 – Individual 40A, cutmarks on the left side of the skull; 4 – chopped portion of the posterior part of the left parietal bone; 5 – animal toothmarks on the tibial shaft; 6 – Individual 40B/D, taphonomic damage of the right side of the occipital bone; 7 – Individual 40E, porotic hyperostosis of the cranium; 8 – Individual 40C, cutmarks on the right posterior side of the cranium (arrows heading up) and taphonomic damage probably caused by animal teeth (arrows heading left) on the skull; 9 – eburnation on the distal femurs, caused by osteoarthritis.
or shortly after death. Another lesion on the cranium was a cut-off portion on the top of the skull (Fig. 4: 3–5). The position of the skull in the grave (Fig. 1) and the location of the lesion seem to suggest that it could have been produced by shifting the heavy covering stone. Animal teeth-marks were observed on the long bones of the lower extremities (Fig. 4: 3–5). Except for a minor periosteal lesion on the medial side of the right distal tibia, indicating local inflammation, no other pathological lesions were recorded.

The remains of Individuals B and D included only parts of the skulls, pelvis, and long leg bones (Fig. 3). The bones were similar in appearance, even though no apparent muscle attachments were observed in Individual B while those of Individual D were rather marked. Both individuals were young men about 157–161 cm tall. It was not possible to determine which skull belonged to which of the two individuals. In one case, only left side of the face was preserved (Fig. 3), showing ante-mortem tooth loss of the maxilla, the attrition being minimum. The other skull consisted of the lower-face bones, the occipital bone with adjoined fragments of the parietal bones, and the petrous bones (Fig. 3). On the right side of the occipital bone, grooves probably caused by roots or animals were observed (Fig. 4: 6). Similar lesions were recorded on the posterior femoral shaft. The left first and third molars were lost ante-mortem, caries were present on the neighbouring teeth (second premolar and second molar). Upper incisors were shovel-shaped, suggesting Asian or Asian-derived origin and/or relation to other individuals from the site who show the trait (Grave 7).

Individual C was a female (Tab. 1). The preserved teeth of the individual indicated younger age (20–30 years) than the bones (30–40, based on the morphology of the auricular surface, pubic symphysis, cranial suture closure). However, only four teeth from the right maxilla were preserved, and so the age-at-death indicated by dental attrition can be misleading; moreover, skeletal age-at-death indicators may have been affected by the increased/abnormal activity suggested by osteoarthritic changes or the female may have been on softer diet. Also, combination of both is possible. Except for the inferior articular facets of the fifth lumbar vertebra, advanced osteoarthritis was recorded on both knees as well as on the bases of both first metacarpal bones (Fig. 4: 8, 9). It is presumed that the hand bones with marked signs of activity may also have belonged to this individual, so the osteoarthritic changes could have been activity-related rather than, e.g., to the individual’s weight. On the right parietal bone and the adjacent part of the occipital bone, long scratches were observed (Fig. 4: 8, 9) but it was difficult to estimate if they had been caused peri-mortem or shortly after death. Grooves were also visible on the top of the skull posteriorly, their shape and appearance suggesting that they may have been caused by agents such as animal teeth (likely from repeated attempts to get a grip and move the cranium for scavenging; Fig. 4: 8, 9). Like in the case of Individual A, the sharp-tool injuries may have potentially been linked to the death of this probably hard-working prime-aged female.

Individual E was the youngest and the shortest of all individuals from Grave 40. The female was younger than 23, as suggested by unfused iliac crest and the sacrum. The skull showed features consistent with those observed in the skeletal remains of African origin (rectangular orbits, wider nasal aperture, flat nasal bridge, teeth prognation; Blumenfeld 2000, Cunha/Ubelaker 2020). The short stature could be linked with the signs of porotic hyperostosis of the skull, porosity of the ilium, and possibly also ribs (Fig. 4: 7), supposedly indicating a metabolic disorder. Dental enamel hypoplasia observed on the upper first incisor also suggests stress in childhood (Hillson 2005). Schmorl’s nodes were observed on both the inferior and superior bodies of the lumbar vertebrae, suggesting increased stress in the lower spine.

Given the depth of the burial pit and the number of interred individuals, it is possible that the dead were not put into the grave at the same time. Also, the scratches on the skulls could indicate possible relocation of the remains and an attempt to “squeeze” them in. The archaeological material from the grave, however, mainly belongs to the two central quarters of the 5th c.

DISCUSSION

What needs to be pointed out is that the sixteen individuals from Hypogeum D do not necessarily represent the entire community and it will be necessary to wait for more data and the results of additional analyses. Nevertheless, as it appears, the remains of the individuals from Scorrione-West suggest that at least the analysed part of the population comprised of mostly hard-working individuals. There is also an indication that the community may have lived in rather poor conditions. Not much information about skeletal remains from similar archaeological contexts are available. One of the few anthropologically studied assemblages comes from the cemetery of Contrada Mirion in Santa Croce Camerina (Sirugo/
Ventura 2013), which is located too in coastal Ragusa region, about 35 km west of Scorrione. There, pathological lesions such as Schmorl's nodes were identified at the site only on minimum number of individuals (n 10/101) but were also ascribed either to old age or hard work, similar to Scorrione. The population from Contrada Mirion is believed to have lived in prosperity, as no trace of violence or epidemics was detected there (Sirugo/Ventura 2013), but as prosperity is not defined purely by the lack of violence, the living conditions of the Contrada Mirion community are still open to discussion. Unfortunately, more detailed comparisons are limited by the lack of data. This situation might change with the results of the “Sicily in Transition” project, as new anthropological material is under study (Carver et al. 2019).

Among other architecturally similar catacombs, Cisternazzi hypogeum and St. Augustine Catacomb complex can be mentioned, even though the anthropological material from these sites is scarce and does not allow for a demographic analysis (Bruno/Scerra/Sirugo 2013, Padovani 2013). In the Cisternazzi hypogeum (Ragusa city area), a similar community to that burying in Scorrione can be assumed (Bruno/Scerra/Sirugo 2013).

The 16 analysed individuals from Scorrione do not solve the issue of the population and settlement structure in that region: the lack of archaeologically investigated settlements in the territory between Modica and Pozzallo does not allow us to determine the Scorrione W community as a strictly local one, related to a still unknown nearby settlement, or as a sample of a wider regional group. In this background, the central double grave enclosed by columns (the so called “baldachin”) in hypogeum D was probably used for the burial of high-ranking representatives of the entire community or even of the whole region. Unfortunately, no skeletal remains were identified in the two graves under the baldachin. As for the grave goods, especially the metal items found in graves 6, 7 and 40, are quite unusual for an ordinary rural society (Pinar Gil/Pleska 2022a; 2022b). At this stage of the research, J. Pinar Gil and M. Pleska (2022a) hypothesize that the Scorrione community may have hosted, not necessarily in an exclusive way, members of a possible garrison stationed near the coast about the final phase of the Hypogeum D burials. What is interesting is the possible correlation between the items of military equipment (Roman military belts) on the one hand, and individuals of possible Asian origin on the other: they appear together in graves 7 and 40, thus raising questions on the role of the late Roman and post-Roman military regarding the phenomena of long-distance mobility. The results of the anthropological analysis suggest that people with possibly foreign background were integrated in hard-working rural communities. However, understanding the composition and lifestyle of the Scorrione community will only be possible with more studied material and further analyses.

CONCLUDING REMARKS

Minimum number of individuals excavated at the Hypogeum D of Scorrione, Sicily, was sixteen. Graves outside the hypogeum included very fragmented and eroded set of remains. All but one grave contained the remains of more than one skeleton, even though flooding may have been a factor. In graves from the inner chamber, both males and females varying from young to prime-age adults were buried, all being younger than 40. In Grave 40, five individuals varying in morphology (suggesting individuals of Asians/Asian-derived and African origins) were buried. It is possible that the dead were not put into the grave at the same time. On several bones, signs of animal teeth were recorded, suggesting at least temporary exposure to outer agents. In general, skeletal markers suggest that the population probably comprised of hard-working individuals possibly living in poorer living conditions, even though the sixteen individuals may not represent the whole community. Yet, the results of osteological analysis appear to be consistent with archaeological data suggesting working rural community and the presence of multiple cultural and ethnic groups.

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Objavovanie kатаkomb na Sicílii

Prvá analýza kostrových pozostatkov z neskoroantického hypogea v Scorronie

Zuzana Hukelová – Dominika Schmidtová – Joan Pinar Gil – Saverio Scerra

Súhrn

zadnej časti lebky (šípky smerujúce nahor) a tafonomické poškodenie spôsobené pravdepodobne zubami zvierat (šípky smerujúce vľavo); 9 – patologické opotrebovanie/vyhladenie kolenných častí stehnových kostí, spôsobené artrózou.


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