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VIMINACIUM - THE PEĆINE NECROPOLIS – SKELETONS AROUND LATE ANTIQUE BUILDINGS “A” AND “B”

ABSTRACT

In 1982, during the archaeological excavation of the Roman necropolis Viminacium-Pećine, next to the Building “B”, a group of 27 poorly preserved mediaeval skeletons were discovered. It is considered that this cemetery is fully excavated. It is dated to the period between the end of the 12th and the end of the 13th century.

After anthropological analysis, it was determined that ten skeletons belonged to male persons, nine to female persons, while three of them could not be determined. The other five skeletons were infants, indicating a clear deficit of children, especially those of a younger age. It was concluded that the average life span was no longer than 30 years.

Anthropologically, this group was very heterogeneous. It had approximately ten members, so it was proclaimed a colony, although needing further research.

KEY WORDS: MEDIAEVAL NECROPOLIS, DATING, PRESERVATION LEVEL, SKELETAL SEX, INDIVIDUAL AGE

INTRODUCTION

On the 18th of March 1982, in sondage 159, at the site Viminacium-Pećine, the late antique memoria “A” was discovered, followed on the 19th of March by the late antique memoria “B”. The remains of both of these buildings are positioned just next to the modern village cemetery. Their states

of preservation are different. By looking at the accompanying documentation, we realised that the stones out of which building “A” was built were accessible, so only the negatives of the walls were excavated. One here was dealing with a triconchal memoria, built above a tomb, whose walls were not preserved. The outer dimensions of the tomb were most likely 400 x 260 cm. The tomb itself was paved with three rows, each consisting of

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six bricks. It was vaulted and it lay beneath the level of the building. It was orientated west-east, with the western part deviating 22° towards the south. During the archaeological research at the bottom of the tomb, only a fragmented pelvis was unearthed, which, after anthropological research, was determined to be the pelvis of an adult person of undetermined sex.

The outer length of the triconchal memoria “A” was 15.50 m. Since only traces of it were discovered, which had been destroyed several times, its surroundings were archaeologically ruined. Given that remains of human skeletons were not unearthed, it will not be considered again in this paper.

Building “B” was also triconchal. Its length is 15.50 m. Its western conch was destroyed by the mechanisation of the thermo-power plant. It is orientated west-east, with a deviation of 17° of its western part towards the south. It was dated in 4th century. At its south-eastern side, 27 graves were situated. They were dug into a debris layer, resulting in very poor preservation. This mediaeval necropolis named “Kod groblja” was published by Dragana Spasić (Spasić, 1989-1990), custodian of the National museum in Požarevac.

Further study of the Viminacium-Pećine documentation for the year 1982 shows that, between buildings “A” and “B”, there was an object of “profane architecture”. One of its parts leans

on building “B”, but it is certainly older. Its dimensions are 13.5 x 14.5 m (more details on page 1820 of the field diary), but its purpose cannot be explained in detail.

THE MATERIAL

The cemetery around building “B” at Viminacium occupies an area of about 20 x 15 m. Archaeologically, 27 graves were examined, divided into five rows (sketch 1). The cemetery represents a closed complex and it can be considered fully excavated. Still, there is a possibility that some of the graves were destroyed through field work due to their very shallow depth, which varied between 40 and 60 cm (compared to the modern area).

Each of the graves from this necropolis contained a single skeleton, which means that individual burials were practised exclusively, rather than depending on sex or age.

The mediaeval skeletons at Viminacium were marked as either G3 or G4. The G3 mark refers to graves from the Great Migration, while the G4 mark refers to later periods. In the aforementioned paper by D. Spasić (Spasić 1989-1990), she introduced new marks for graves and skeletons, beginning with 1. They are also mentioned here, as well as the ones marked as G4 from the year 1982. The numbering is as follows:

number 1 = G4 1285	number 15 = G4 1836
2 = 1286	16 = 1860
3 = 1287	17 = 1883
4 = 1288	18 = 1898
5 = 1303	19 = 1899
6 = 1307	20 = 1968
7 = 1468	21 = 1969
8 = 1529	22 = 2194
9 = 1530	23 = 2195
10 = 1531	24 = 2196
11 = 1532	25 = 2197
13 = 1554	26 = 2299
14 = 1552	27 = 1552

Within the memoria several late antique graves were discovered. Only the grave G 3240, placed within the apsis, offered a minimum of anthropological remains. The skeleton in it was dislocated during a robbery and very fragmented. It was only certain that it was a child of between 4 and 6 years of age.

According to archaeological criteria, as stated by D. Spasić (Spasić 1989 – 1990: 168), the “Kod Groblja” cemetery, located around building “B” at Pećine can be dated to the last decades of the 12th or the end of the 13th century. Due to this, it can be concluded that it was used for about a hundred years, i.e. that the skeletons unearthed had a chronological span of about a hundred years. On the other hand, the settlement which could be connected with this necropolis remained unknown, although it can be supposed that it could have been a smaller settlement near the town of Braničevo.

THE METHOD

After the archaeological excavation and prior to the anthropological research, all the excavated skeletons were washed with water and dried before being reconstructed and deposited. The aim was to minimise the possible contamination of the human osteological material, allowing further laboratory analyses.

The method of determining the sex was adopted from the group of European and American anthropologists, defined by D. Ferembach, I. Schwidetzky and M. Stloukal (1980). More precisely, all preserved morphological elements of sex were determined and noted and later quantified, with the objective of determining a majority of either male or female skeletons.

Due to the very poor state of preservation of the skeletons within the whole series, determining individual biological ages at the moment of death represented a bigger problem. In that sense, a scheme of the obliteration level of the skull joints

was applied (Vallois 1937), as well as the classification of the wear of the upper crown surface of the molar teeth (Brothwell 1981). The possibility of observing the compactness of the spongiosa mass (*Masa spongiosa*) in the heads of femurs and humeri is almost negligible. A consequence of the previously mentioned poor state of preservation is a rather broad range of individual age, causing our results to be as follows.

The estimation of individual age was based upon the formation and eruption of milk and permanent teeth, according to a scheme devised by D. H. Ubelaker (1978). Apart from jaw fragments with some of the teeth, infant skeleton parts, such as wholly preserved long bones or epiphyseal-diaphyseal layers, were not studied due to their poor state of preservation. This is why we relied mostly on dentition, and therefore, our results in these age categories are rather broad, but certainly the only possible ones.

The above mentioned poor state of preservation of the skeletons found near building “B” at the Pećine site made anthropological analysis difficult. With regard to research methodology, it should be added that the anthropological measures were taken according to the definitions stated by R. Martin (Martin 1928), and to re-defined names of modern biophysical anthropology by W. M. Bass (Bass 1995). Unfortunately, the study of the epigenetic characteristics, paleo-pathological changes and markers of muscular stress gave insignificant results, due also to the poor state of preservation.

RESULTS

In this chapter anthropological data will be given accompanied with both numerical marks of the skeletons.

Skeleton number 1 (G 1285) is very poorly preserved and fragmented. There were no elements for determining the sex. It was only ascertained that it belonged to an adult person.

Skeleton number 2 (G 1286) is very poorly preserved, but there were elements for determining the sex. It was a female skeleton. Elements for determining individual age were no longer present, but it was surely a skeleton of an adult person.

Skeleton number 3 (G 1287) is poorly and incompletely preserved. According to its morphology, it belongs to a woman, while the individual age remains unknown (adult).

Skeleton number 4 (G 1288) has a very low preservation level. It was only certain that it belonged to a woman. After determining the individual age, we were only able to tell that it was an adult person.

Skeleton number 5 (G 1303) also had a low preservation level. It was an adult female person.

Skeleton number 6 (G 1307) is incomplete and very poorly preserved. It was an adult female person, whose growth and development were complete.

Skeleton number 7 (G 1486) consists of poorly preserved bones and the sex was undeterminable. The individual age was also not determined, due to the lack of necessary elements, but it was obviously an adult person.

Skeleton number 8 (G 1529) was preserved in smaller fragments. We were able to determine that it belonged to a child, who lived for between 3 and 4 years.

Skeleton number 9 (G 1530) has the same preservation level. It belongs to a child who, at the time of death, was between 8 and 10 years of age.

Skeleton number 10 (G 1531) has a preserved skull, while the postcranial part is fragmented and incomplete, so none of the anthropological measures were obtained. The sex is a robust male of about 50 years of age.

Skeleton number 10 (G1531) is illustrated in figure 1, with standardised anthropological projections. The skull measurements are given in table 2.

Pathological changes were noticed only on the jaws and the teeth. These were maxillar cists,

intra vitam loss of teeth and periodontitis.

The post mortem loss of teeth, especially the frontal ones, in both of the jaws, was also noticed.

Skeleton number 11 (G 1532) is a poorly preserved example. It was positively ascribed to a male person, whose individual age was about 30 years.

Skeleton number 12 (G 1551) has the same preservation level. It was determined as a male skeleton. The individual age at the time of death was about 30 years old.

Skeleton number 13 (G 1554) is incomplete and fragmented. It is certain that it belonged to a woman, whose age was no more than 21 to 23 years.

Skeleton number 14 (G 1555) has a very low preservation level. The sex and morphological elements present show that it was a man, whose individual age was about 40 years.

Skeleton number 15 (G 1836) was also very poorly preserved. Still, it certainly belongs to a woman, whose individual age was about 40 years.

Skeleton number 16 (G 1860) was preserved only in traces. Based on the minimum remains, it was concluded that it was a child's skeleton. The individual age was between 6 and 8 years.

Skeleton number 17 (G 1883) had a skull which, after the reconstruction, was successfully connected to its anatomic complex. A part of the frontal facial region on its right side is missing, as well as teeth lost post mortem. The postcranial skeleton is fragmented and was not anthropologically measurable.

This skeleton certainly belongs to a robust male. The individual age at the time of death was not more than 45 years of age. The cause of death of this person was not an injury, and pathological changes are visible only on the jaws and the teeth. More precisely, the third molar on the left side did not erupt, while there are other intra vitam extract-



Figure 1: The skull 10/G shown in anthropological projections.

ed teeth. Callusing on the teeth of both of the jaws was noticed, just like periodontitis in the alveolar bow of the maxilla.

Skull number 17/1883 in its anthropological projections is shown in figure 2. The primal skull measurements are given in table 2.

Skeleton number 18 (G 1898) consisted of a very small number of remains. It was determined

that they belonged to a four-year-old child. During the archaeological excavation, a skeleton of an adult person was found next to it. We consider that they come from a dislocated grave, most likely late antique, so they were not numerically separated.

Skeleton number 19 (G 1899) was in such a poor state that its sex and individual age were not determined. It was only certain that it belonged to



Figure 2: The skull of skeleton 17/G 1883 shown in anthropological projections

an adult person.

Skeleton number 20 (G 1968) belongs to the group of very poorly preserved ones. The sex and morphological elements were present, which made it possible to determine this skeleton as female. Her individual age was not more than 45 years.

Skeleton number 21 (G 1969) was very poorly preserved and incomplete. However, there were enough elements to ascribe it to a male person. The maximum age of this individual was 21

to 23 years of age.

Skeleton number 22 (G 2194) has a very low level of preservation. It was certain that it belonged to a female person. At the moment of death she was not older than 45 years of age.

Skeleton 23 (G 2195) is just as poorly preserved as most of the other examples. The fragments displayed were ascribed to a grown up child with a maximum age of 15 to 17 years. It was not possible to determine its sex.

Skeleton number 24 (G 2196) belongs to



Figure 3: Skull number 24/G 2196 shown in anthropological projections.

the few well preserved examples. It has a skull which was almost complete after reconstruction. It is shown in anthropological projections in figure 3. Its anthropological measurements are shown in table 2. Postcranial measurements were not obtained due to the extreme fragmentation of the long bones.

Just as with the previous two skulls, which offered anthropological measurements, this one certainly belongs to a male person. The individual age was estimated to be at least 40 years of age.

Skeleton number 25 (G 2197) was incomplete and very poorly preserved. It showed that it belonged to a man who did not live longer than 45 years.

Skeleton number 26 (G 2299) was even more poorly preserved. There were no elements for determining individual age. It was only obvious that it belonged to an adult person. However, there were reliable elements to ascribe this skeleton to a female person.

Skeleton number 27 (G 1552) has a very

low level of preservation. After considering all the anthropological factors, it was ascribed to a man who, at the time of death, was younger than 30 years of age.

As shown in table 1, an analysis of 27 individual skeletons of different age and sex was established from 27 graves. When the same table is paleo-demographically studied (Hassen 1981), we can see that, out of the total number of skeletons, there are 22 adults and only 5 children. This gives an adult to child percentage ratio of 81.5% to 18.5%. The number of male skeletons is ten, females nine, with three more adult skeletons of undetermined sex. A small number of infant skeletons, especially from the earliest life phase, can be attributed to the very poor preservation conditions, caused mostly by the structure of the soil and very shallow grave pits. It is possible that a very small quantity of bone mass went unnoticed during the archaeological research.

According to the results gained, an average life expectancy was calculated in the maximum variant, mostly because of the lack of infant skeletons which only make mortality higher. The life span was estimated to be about 30 (29.4) years of age, but it may also have been shorter.

As shown in table 2, the measurements were only gained for three male skulls. They differ in their morphostructure. According to the basic (longitudinal-latitude) cranial index, they belong to two index categories (Martin and Saller 1957): the skulls numbered 10/1531 and 24/2196 are mesocranial, but on the border line of dolicho-cranial with the indexes 75, 42 and 75, 14. Skull number 17/1883, with the index 82, 61, belongs to the brachicranial category.

DISCUSSION AND CONCLUSION

After summarising the results gained, we get a better picture of the characteristics of the mediaeval skeletons excavated in 1982 next to the mediaeval building “B” at the Viminacium-Pećine necropolis. As already stated, their chronological dating corresponds to the period between the end of the 12th and the end of the 13th century. It seems that this cemetery was in use for a maximum of about one hundred years. Nevertheless, based on archaeological-chronological elements, as well as those gained through the anthropological analysis, we can calculate the size of a hypothetical settlement which would be connected to this cemetery and the building, since we are obviously dealing with a building of a settlement. Firstly, the number of male and female skeletons is almost equal, while the number of infant skeletons is very small, caused mostly by the poor state of preservation of the human osteological material. It turned out that their average life span was less than 30 years (possibly significantly less). Furthermore, if we apply the paleo-demographic formula for calculating the size of the population, and therefore the settlement itself, as already tested in 1957 by the Hungarian anthropologist J. Nemeskeri (Nemeskeri 1957), we get the following results: with a prominent factor of 10% rather than 20% (after the presumed loss of infant skeletons), this population group, “at the moment of paleo-demographical statistical average”, included only ten or slightly more than ten members during the 13th century. Considering the average life length, two generations were most likely to live together at the same time within one family (household). Their biological vitality was not great, a fact born out by the endurance of the necropolis itself.

In comparison with the corresponding mediaeval skeletal series at archaeological sites like Felix Romuliana (Mikić 2009) and Sirmium (Miladinović- Radmilović 2011), we were able to see that, in the period after the 10th and 11th centu-

Skeleton number	Grave number	Sex/age	Individual age
1	1285	Undetermined	adultus
2	1286	Female	adultus
3	1287	Female	adultus
4	1288	Female	adultus
5	1303	Female	adultus
6	1307	Female	adultus
7	1486	Undetermined	adultus
8	1529	Infant	3-4 years
9	1530	Infant	8-10 years
10	1531	Male	about 50 years
11	1532	Male	about 30 years
12	1551	Male	about 30 years
13	1554	Female	21/23 years
14	1555	Male	about 45 years
15	1836	Female	about 40 years
16	1860	Infant	6-8 years
17	1883	Male	until 45 years
18	1898	Infant	about 4 years
19	1899	Undetermined	adultus
20	1968	Female	until 45 years
21	1969	Male	21/23 years
22	2194	Female	until 45 years
23	2195	Infant?	15/17 years
24	2196	Male	until 40 years
25	2197	Male	until 45 years
26	2299	Female	adultus
27	1552	Male	until 30 years

Table 1: Viminacium / Pećine necropolis – sex and age of the skeletons discovered near building “B”

Number	10/1531	17/1883	21/2196
Gender	Male	Male	Male
Individual age	Around 50 years.	Up to 45 years.	Up to 40 years.
GL-OP	179 mm	184	181
EU-EU	135	152	136
FT-FT	97	(104)	94
MST-MST	106	122	(102)
BA-B	---	---	(130)
PO-B	111	118	108
ZY-YZ	(130)	146	(130)
N-PR	66	72	67
MF-EK	40	(40)	(38)
Height of the eye-socket	32	32	(32)
Width of the nose-socket	24	22	21
N-NS	48	52	(46)
GO-GO	103	108	101 mm

Table 2: Viminacium / Pećine necropolis – primary skull measurements

() – represents a measurement gained through reconstruction.

ries, smaller population groups were buried next to late antique or urban complexes, or forts. A similar conclusion was drawn with this mediaeval group although, due to its heterogeneity and very small size, we consider it to be some kind of colony, not just because of its duration, but also from a bio-anthropological sense. At the same time, this is the first case of this kind in our research practice. It is certain that new anthropological remains of this or similar kinds would give a basis on which to support or deny the postulated conclusion.

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Remark: Due to a technical error in the periodical *Viminacium* (issued by the National museum Požarevac) number 4-5 for 1989-1990, and according to a later remark by the editorial board, in the quoted paper by D. Spasić, no situation plan of the presented necropolis was published. As a result, there are certain disproportions with our reconstructed plan made according to the archaeological documentation which was at our disposal.

REZIME
VIMINACIUM – NEKROPOLA NA
LOKALITETU PEĆINE – SKELETNI
OSTACI OKO KASNOANTICKIH
MEMORIJA “A” I “B”.

KLJUČNE REČI: SREDNJOVEKOVNA NEKROPOLA, DATOVANJE, STEPEN OČUVANOSTI, POL SKELETA, INDIVIDUALNA STAROST, PROSEČNI VEK, PALEODEMOGRAFIJA.

Na lokaciji Viminacijum - Pećine su tokom 1982. godine bila sprovedena arheološka istraživanja. U periodu od 16.-19. marta 1982. godine je pronađena kasnoantička memorija “A”, a posle nje i kasnoantička memorija “B”. Tom prilikom je pored memorije “B” pronađeno ukupno 27 skeleta. Period njihovog datovanja je između kraja XII i kraja XIII veka.

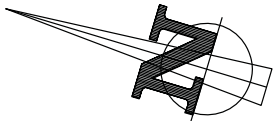
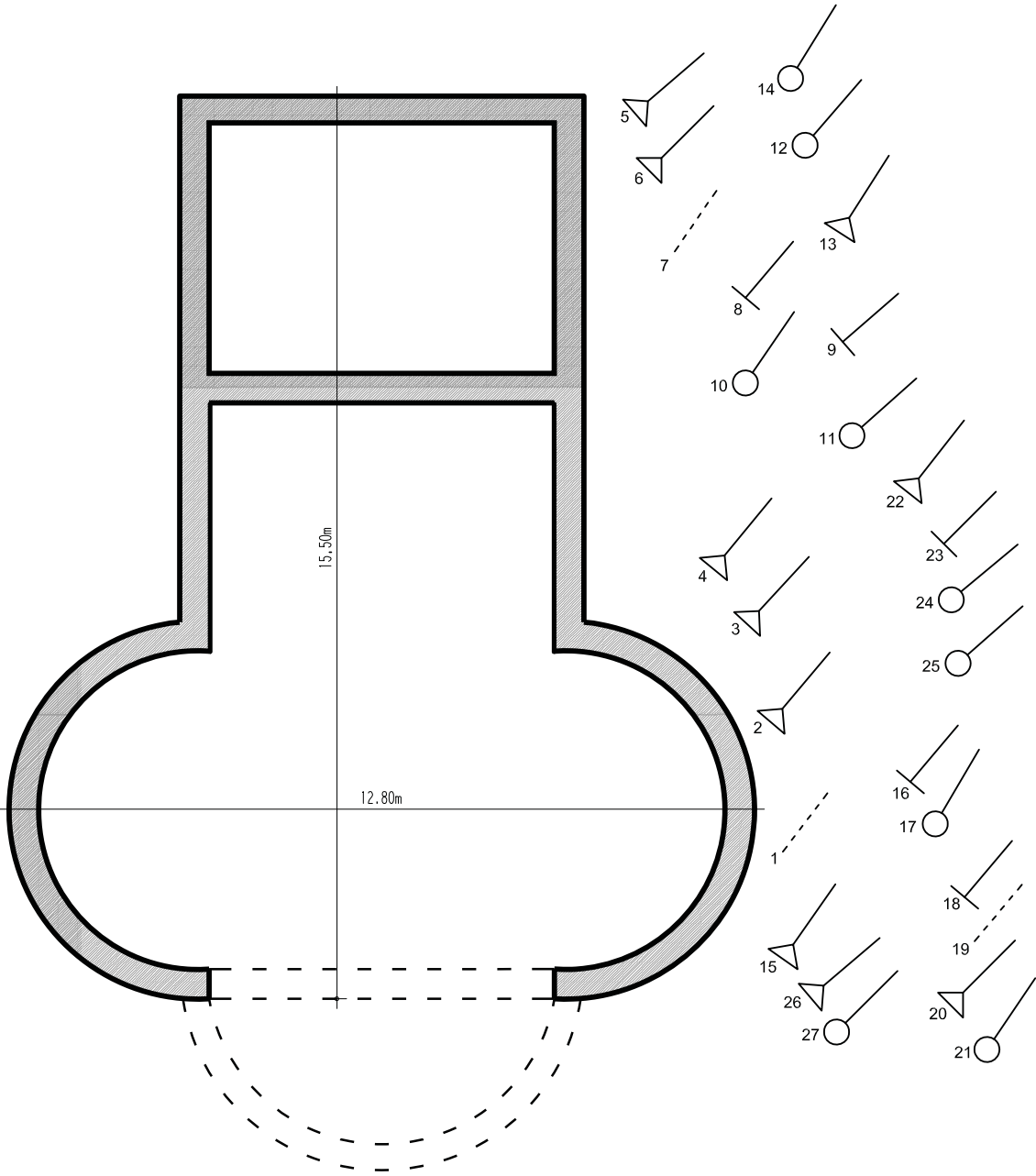
Antropološkom analizom je utvrđeno da je 10 individua bilo muškog pola, a 9 ženskog pola. Uz 5 skeleta dečijeg uzrasta, kod preostala 3 skeleta nije mogao biti utvrđen pol. Deficit dece je očigledan, pogotovo u prvim godinama života. Ova populacija je bila vrlo heterogena, a prosečni životni vek im je iznosio oko 30 godina života.

U oba slučaja se radilo o trikonhalnim memorijama, a njihova očuvanost je bila različita. Memorija “A” je imala izmerenu dužinu 13,70 m i veoma je loše očuvana. Grobovi oko nje nisu pronađeni tako da se na nju nismo osvrtni.

Kasnoantička memorija “B” je takođe trikonhalnog oblika. Njena dužina je iznosila 15,50 m. Zapadna konha je uništena mehanizacijom elektrane. Orijentacija je bila zapad-istok, sa odstupanjem od 17° zapadnim delom ka istoku. Pronađeno je ukupno 27 grobova koji su bili ukopani u sloj građevinskog šuta, a što je bio razlog slabije očuvanosti skeleta. Karakteristično je da je u svim grobovima pronađen samo po jedan skelet tako da je praktikovana individualna sahrana.

Ova populacija je u trenutku “paleodemografskog statističkog preseka” brojala oko 10 članova. To govori da su najviše dve različite gen-

eracije mogle da žive u istoj familiji. U poređenju sa Sirmijumom ili Gamzigradom, može se videti da se u periodu posle X/XI veka manje populacione grupe sahranjuju uz kasnoantičke ili poznije urbane celine. Situacije je slična i sa ovom srednjovekovnom kolonijom. Novija istraživanja bi omogućila da se termin kolonije konkretizuje ili imenski ospori.



Legend:

♂	=	○—
♀	=	△—
N	=	┃
n	=	---

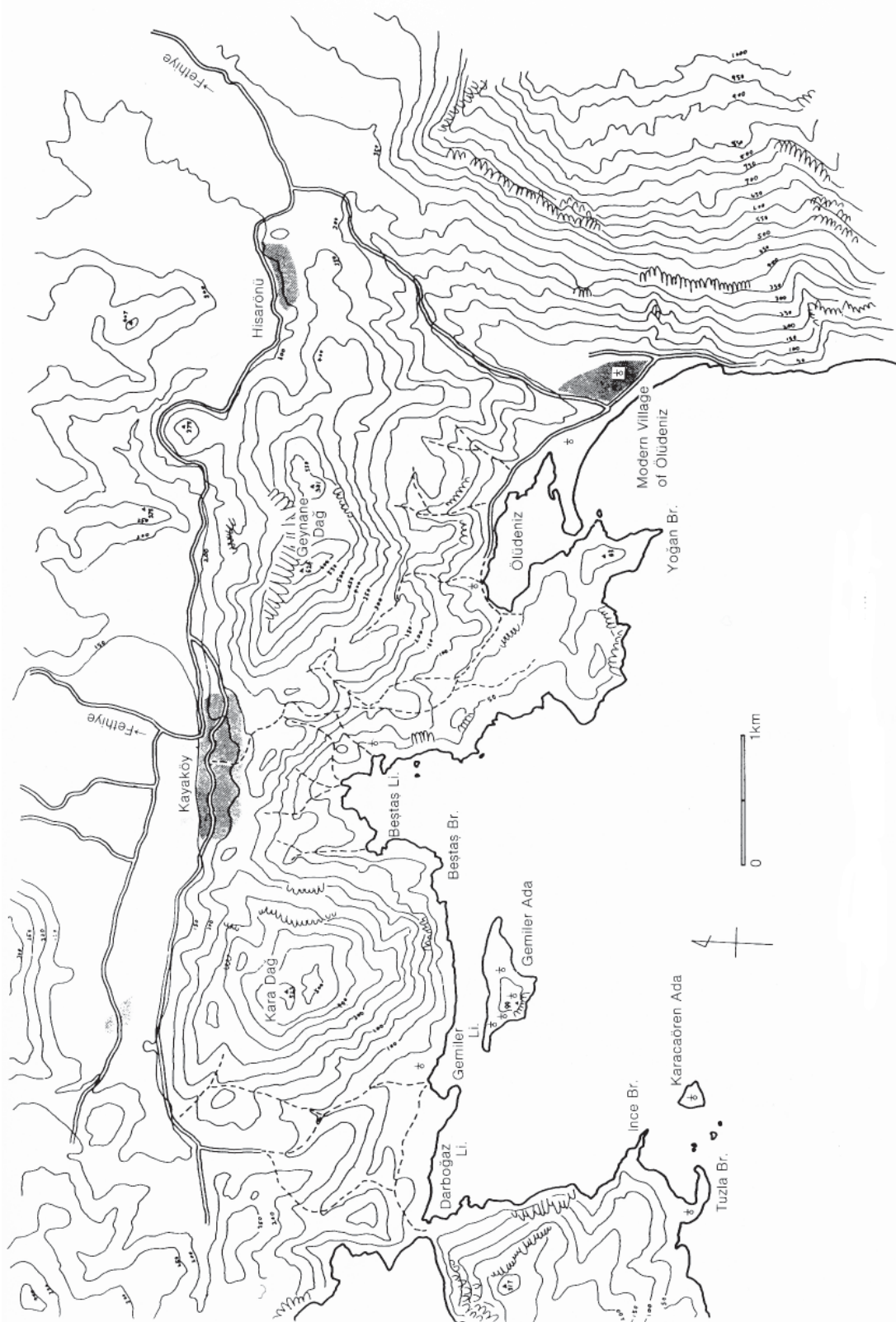


Fig. 1. Golfo di Belceğiz. Da Tsuji 1995.