

НАЦІОНАЛЬНА АКАДЕМІЯ НАУК УКРАЇНИ • ІНСТИТУТ АРХЕОЛОГІЇ НАН УКРАЇНИ



АРХЕОЛОГІЯ

НАУКОВИЙ ЖУРНАЛ – ЗАСНОВАНИЙ У 1947 р.
ВИДАЄТЬСЯ ЩОКВАРТАЛЬНО

КИЇВ • 4•2025

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ARHEOLOGIA

SCIENTIFIC JOURNAL – FOUNDED IN 1947
FREQUENCY: QUARTERLY

KYIV • 4•2025

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O. D. MOHYLOV**SCYTHIAN PERIOD FUNERARY CONSTRUCTIONS OF THE SVITLOVODSK CEMETERY IN THE MIDDLE DNIPRO REGION**

The article is devoted to the analysis of the burial structures discovered at the Svitlovodsk cemetery of the Scythian period in the Kirovohrad oblast, located in the south of the Dnipro Right-Bank Forest-Steppe region. Comparisons are made with analogous grave structures of the Middle Scythian and Late Scythian stages in the forest-steppe and steppe regions. Their chronology is determined.

Key words: Middle Dnipro region, Scythian period, necropolis, barrow, barrowless burial, tomb, catacomb, pillar tomb.

The Svitlovodsk cemetery is one of the largest and best-studied burial sites of the Scythian period in southern Eastern Europe. In terms of the number of excavated burials in the Northern Black Sea region, it is second only to Mamai-Hora on the Lower Dnipro region (Андрух, Тоцев 1999, 2004; Андрух 2001). In terms of the number of burials investigated, it ranks second only to several large Maeotian burial grounds in the Kuban region (Гей, Каменецкий 1986; Лимберис, Марченко 2001, с. 48-49; Марченко, Лимберис, Бочковой 2001; Каменецкий 2009).

The necropolis was located in the south of the Dnipro Right Bank Forest-Steppe on the border with the steppe region (fig. 1). It was discovered on the western outskirts of Svitlovodsk, the district centre of Kirovohrad oblast. The cemetery is located at some distance from the descent to the river valley, on a large right cape at the entrance of the Tsybulnyk River gully into the Dnipro valley, situated on a hill surrounded by ravines on all sides except the south-east.

It took 11 seasons to complete the excavations, in 1975, 1979–1986, 1989–1990, the expeditions of the Kirovohrad Museum of Local Lore and the

Kirovohrad State Pedagogical Institute. The work was led by N. M. Bokii and later by I. A. Kozyr¹. The necropolis was built in a place where a Bronze Age barrow (no. 6) had already existed.

Despite the existence of individual studies (Бокий 1980; Могилов 2023), a comprehensive analysis of the entire necropolis — including its burial rites, material culture, chronology, and social structure, is still needed. It is important to study the funerary structures of the necropolis as it enables their comparison with other steppe and forest-steppe structures. Such analysis makes it possible to draw important conclusions about the ethno-cultural affiliation of the population that created the Svitlovodsk necropolis. This article focuses on the typology of graves.

The work begins with a description of the burial ground and its funerary structures. These are then analysed and placed in the general Scythian context. Finally, ethno-cultural conclusions are drawn from the data obtained.

The cemetery contains flat graves and mounds. A total of 155 moundless graves were excavated here (all but one of them belong to the Scythian period) and six barrows containing 20 burials (seven of the Scythian period, 13 of other periods, mainly of the Bronze Age). In total, 161 burials are attributed to the Scythian period — 154 flat graves and seven barrow burials. Ground burials of the Scythian period are concentrated around synchronous barrows (fig. 2).

The three oldest Scythian burials date to the Middle Scythian period (Могилов 2017b), but the vast majority, based on materials, are dated to the 4th century BC.

The Svitlovodsk cemetery is located on the border of the steppe and forest-steppe regions of Scythia. In this regard, an important task is to determine its ethno-cultural affiliation, to attribute it to the settled forest-steppe tribes or nomadic Irani-

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¹ For publications of necropolis materials and their analysis, see: (Бокий 1980; Козир 1989, 2014; Бокий, Могилов, Панченко 2013; Бокий, Могилов 2014; Панченко 2014; Бокий, Могилов 2015; Могилов 2016a, 2016b, 2017a, 2017b, 2018a, 2019a, 2019b, 2019c, 2019d, 2020, 2023).

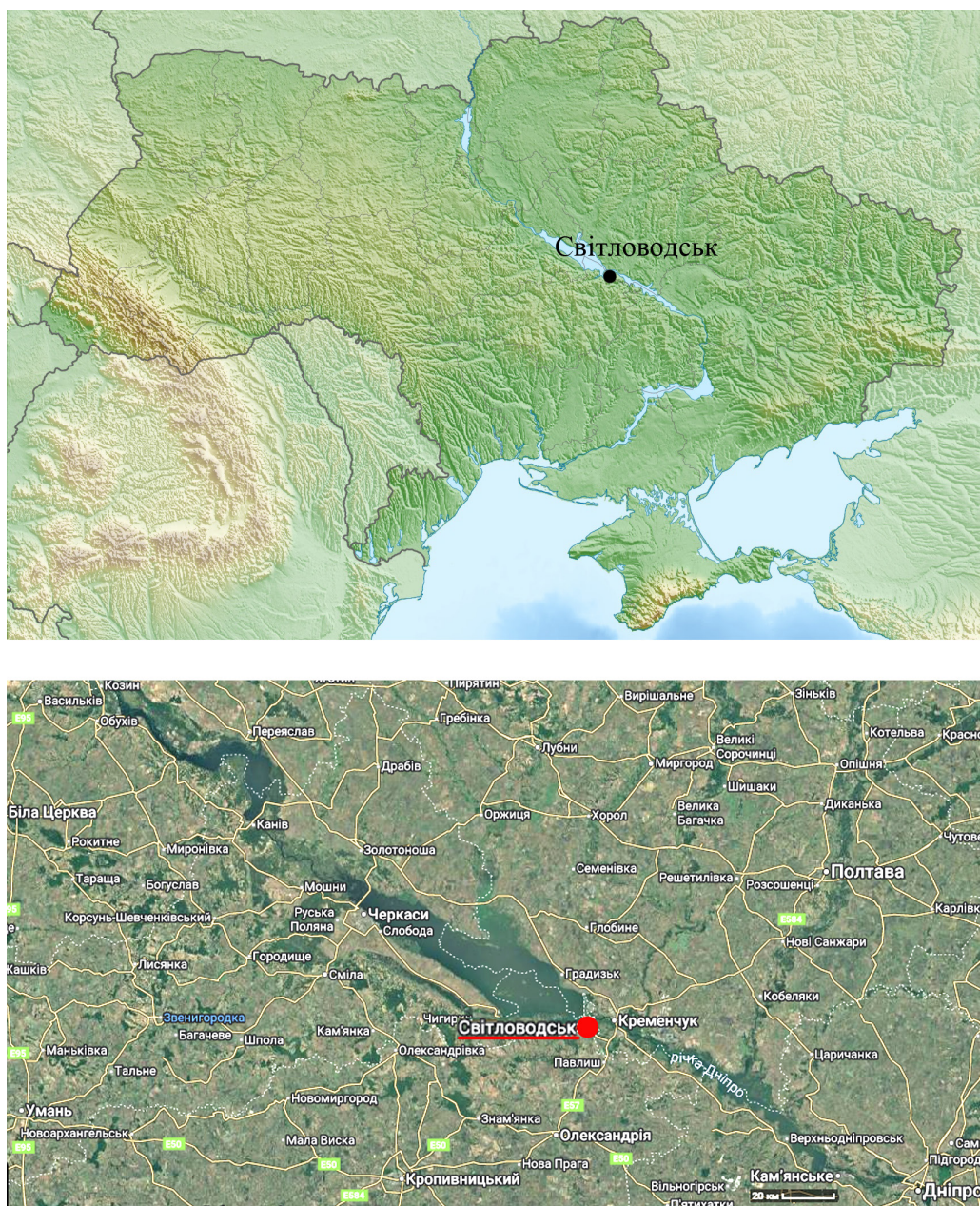


Fig. 1. Svitlovodsk Burial Ground on the Map of Ukraine, Google, 2005

an-speaking Scythians. The types of grave structures provide important information for this purpose.

The Burial Structures of the Middle Scythian Period

The burial structures of this period at Svitlovodsk (Могилов 2017b, рис. 2–4) are flat graves with individual burials (graves 21, 39, and 51). They can be dated by arrowheads to the second half of the 6th — first quarter of the 5th century BC (Могилов 2017b). All the burials were made in rectangular, small pitgraves measuring

2.05–2.50 m in length, 0.95–1.25 m in width, 1.2–1.8 m in depth, and 3.21–3.96 m³ in volume. The graves were orientated from west to east. All of them contain a single individual, judging by the preserved bones — the bodies were lying stretched out on their backs, and, according to the stock, male. The bodies are generally oriented towards the west. The inventory, due to robberies, is not numerous. In all cases, we can speak about the burials of men-warriors. It should be noted that the dominance of male warrior burials is considered common for the early, initial stage of territory development by the ethnos (Ольховский 1991, с. 57). In particular, it is noted that in the

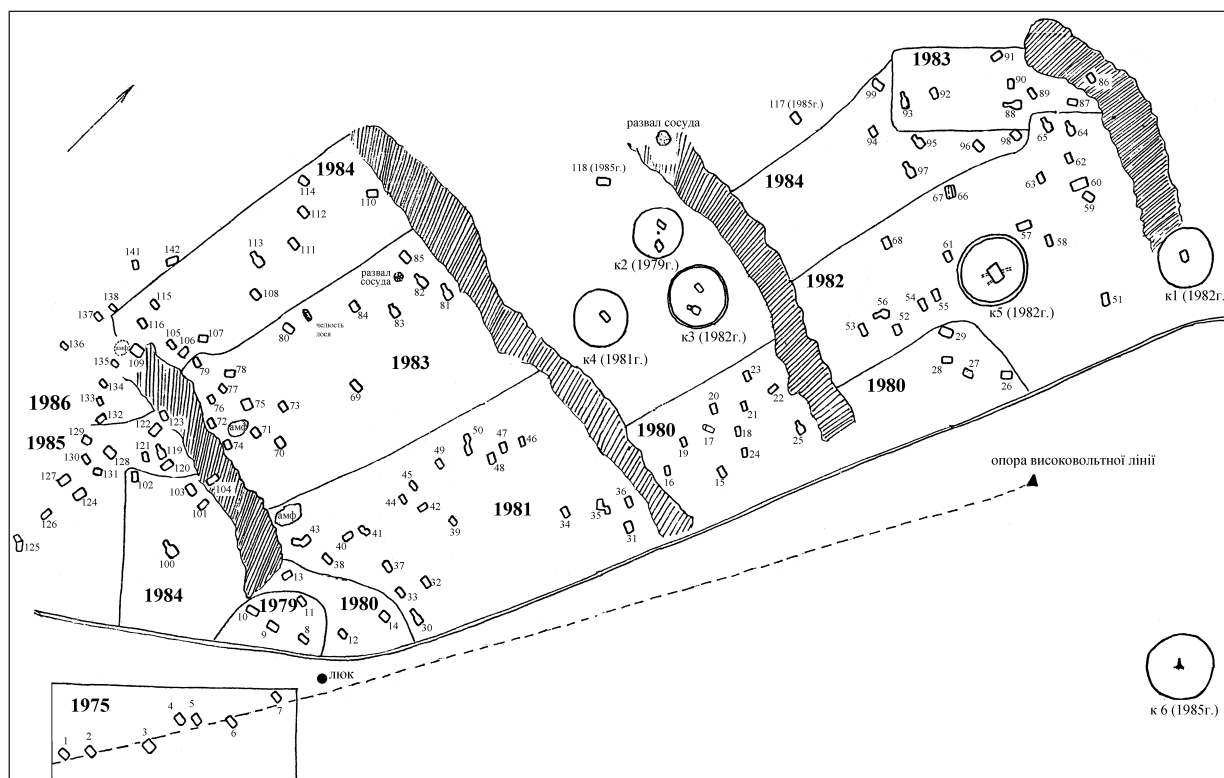


Fig. 2. Plan of the Svitlovodsk Burial Ground (Excavations 1975–1986), after: Бокій 1986 (published without scale)

steppe, among the complexes dating to the 6th–5th centuries BC, male warrior burials predominate (Черненко и др. 1986, с. 118–119).

Funeral Rite of the 4th century BC

The beginning of the tradition of under-mound burials dates back to this time.

Barrows.

In total, five barrows of the 4th century BC were excavated at Svitlovodsk, containing seven graves (Бокій 1982, рис. 7; Могилов 2019d, с. 60). Three barrows (60 %) included tomb each, and two of them (40 %) — two tombs each. The barrows were up to 1.5 m high (no. 5 — ploughed, no. 2 — 0.3 m, no. 4 — 0.9 m, no. 1 — 1 m, no. 3 — 1.5 m). Diameter — 16–30 m (no. 5 — up to 16–17 m, nos. 2 and 4 — 20 m, no. 1 — 24 m, no. 3 — 30 m). As can be seen, the height and diameter were proportional.

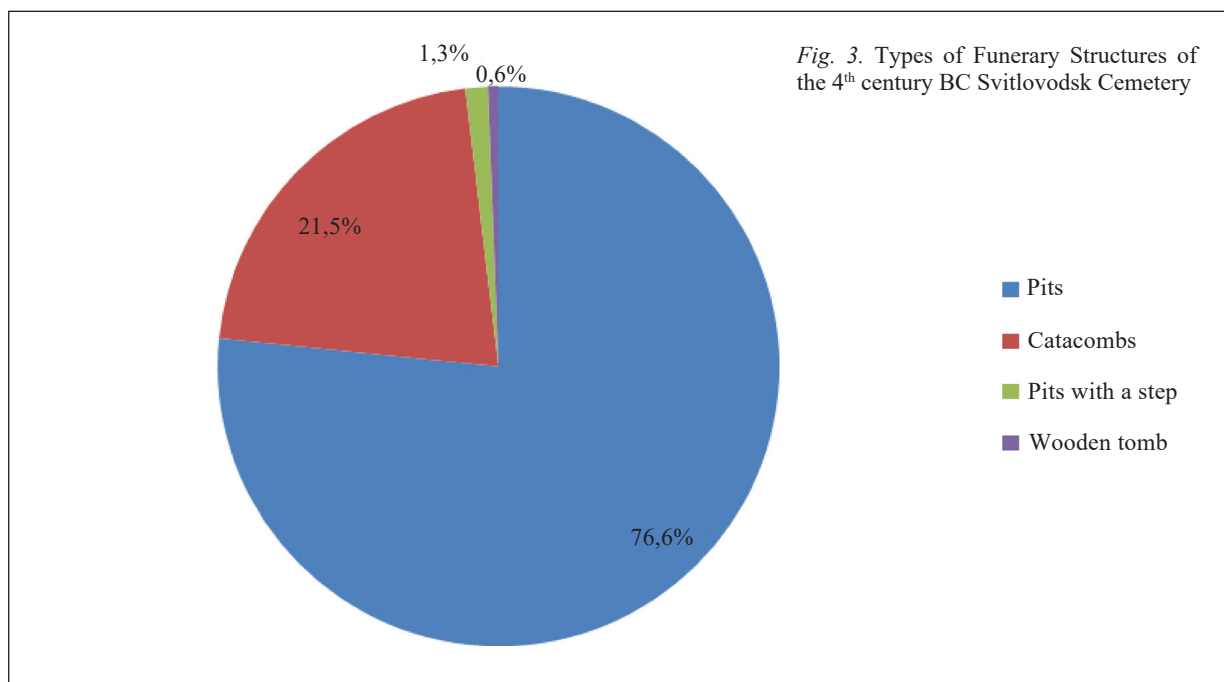
A 16–17 m diameter ditch surrounded Barrow 5. It was 0.7 m deep and 0.9 m wide. In its south-western sector, the upper part of the amphora from the funeral service was cleared. In addition, on the general plan of the cemetery, two concentric lines, which usually indicate a ditch, also circle the Barrow 3. However, neither the text nor the drawing of this complex contains any mention of a ditch.

The graves of Svitlovodsk.

The graves of Svitlovodsk, which date back to the 4th century BC, are sunken into the ground and are represented by several types. Of the 158 graves of this period, 121 (76.6 %) are pit graves, 34 (21.5 %) are catacombs, two (1.3 %) are pits with a step, and one (0.6 %) is a wooden tomb (fig. 3, table 1).

In the 4th century BC, the latitudinal orientation of the burial structures prevails — 90 tombs (57 %). The long axis from northeast to southwest is formed by 34 tombs (21.5 %), from southeast to northwest by 22 (13.9 %). And only 12 complexes (7.6 %) are stretched from north to south. The predominance of west-to-east orientation of graves is typical of Scythian steppe burials of the 4th century BC (Ольховский 1991, с. 103).

The size of the graves depended on three factors. First, the age of the deceased. For example, children were given small graves proportional to their height, even though, a few of them are still larger than the rest. Secondly, the size was determined by the number of the individuals buried. Accordingly, tombs containing a larger number of individuals required a larger and more spacious construction. However, in terms of the volume per one person, they are still smaller than single tombs. Thirdly, tomb size depended on the social



status of the deceased within the community and their wealth. Accordingly, individuals of higher status had larger tombs. The pattern is most clearly illustrated by a group of individual burials of mature male warriors and several women's burials with relatively representative set of inventory combined with a larger volume of the tomb.

Rectangular pits are the most common type of burial structures at the site (Бокий, Могилов 2015, рис. 3, 6; Могилов 2016b, рис. 1). As mentioned, a total of 121 structures of the kind are known, accounting for 76.6 % of the total number of graves from this period. The majority of burials (116) are ground burials. Only five are located under the barrows. All of them have a fairly standard rectangular shape with rounded corners. Although graves 153 and 154 have one shorter side, the outline of the grave seems to be more trapezoidal.

They measure 1.2–3.8 m in length, 0.65–3.20 m in width, and 0.8–3.0 m in depth. The volume is 0.98–31.60 m³. The sub-curb pits are noticeably larger than the ground pits. They measure 2.4–3.8 m in length, 1.4–3.2 m in width, and 1.0–2.7 m in depth. The length of groundwater pits is 1.2–3.4 m, the width 0.65–2.40 m, and the depth 0.8–3.0 m. The volume correlates to 4.0–31.6 m³ versus 0.98–8.19 m³ (on average, 15.452 m³ in barrows and 5.455 m³ in earth tombs), i.e. almost three times larger.

Latitudinal orientation is prevalent in burial structures. Thus, 66 pit graves (54.5 %) were dug from west to east, with some deviations. Of these, 62 (53.5 %) belong to the ground graves, and

four (80 %) belong to the barrow graves. Twenty-five tombs (20.7 %) have north-east to south-west orientation and 19 complexes (15.7 %) are oriented northwest-southeast. Meridional orientation is rare, observed only in 11 tombs (9.1 %).

In 17 cases, traces of wooden flooring were recorded. Apparently, most of the pit graves had one. In total, at least 157 individuals were buried in rectangular pits at Svitlovodsk, which is almost 72.7 % of the deceased in the 4th century BC. The number of male and female burials is equal, with 40 skeletons each. There are 13 adolescents (10 %) and 23 children (17.7 %).

Most of the pit burials (92 complexes, 76.7 %) are individual, while 20 graves (16.7 %) are paired and 8 (6.6 %) are group graves. In one burial, no bones were found (table 2).

Individual ground burials were made in pits 0.85–1.80 m wide, most commonly 1.0–1.6 m. Paired graves measured 0.8–1.8 m in width, typically 1.2–1.6 m. Triple burials ranged from 1.2 to 2.0 m, while pits for four measured approximately 2.4 m. In the barrows, the pits are wider (from 1.4 m) and larger in volume. Single burials are made here in pits 1.4–2.2 m wide, while doubles measure 1.6 m. Another tomb, which contained no bones, had the greatest width in the necropolis — 3.2 m. In a number of cases, there is a clear correlation between the size of the tomb and the wealth of the inventory.

The more elaborate the grave goods, the wider and larger the pit. This is also confirmed by barrows — burials of representatives of the commu-

nity's upper class, with larger graves and equipment (in addition, barrows also served as an indicator of high social status). The size of the burial structure depends on gender and age. For children, small graves were built more often, according to their size (with some exceptions). The largest pits were dug for male warriors and, in some cases, for wealthy women (table 2). The size of the structure was also influenced by the number of deceased in it. Although the average volume per deceased is smaller than in single tombs.

The catacombs (Бокий 1981, рис. 32; Бокий, Могилов, Панченко 2013, рис. 1; Панченко 2014, рис. 1–2; Могилов 2019d, рис. 2; 2023, рис. 3–4) are scattered over the entire area of the cemetery. But in two places their concentration is denser. The first was on the northern edge of the excavated area, where eight catacombs are concentrated (nos. 63, 64, 65, 87, 89, 93, 95, 97, 98). The second is on the western edge, where seven such complexes are located (nos. 143, 144, 146, 147, 148, 149, 155).

Table 1. Distribution of Skeletons by Burial Type in the 4th century BC

	All	Wooden Tomb	Pit With a Staircase	Catacomb	Pit
Individual	112	1	1	18	92
Paired	33		1	12	20
Collective	12			4	8
Not known	1				
Men	55		1	13	41
Women	55			15	40
All Adults	133		1	39	93
Adolescents	14			1	13
Children	34		2	9	23
Unidentified Individuals	36	1		7	28
No bones	1				1
All Deceased	217	1	3	56	157
All Graves	158	1	2	34	121

In total, 34 catacombs are recorded among the complexes of the Svitlovodsk burial ground dating to the 4th century BC, representing 21.5 % of all tombs from this period. Among the ground burials, 33 are found which accounts for 21.8 %. The catacombs are located throughout the cemetery. One of these is a sub-barrow, representing 14.3 % of the total. They are simple structures consisting of a rectangular or square vertical entrance pit and a horizontal burial chamber extending from its wall. Most catacombs are single-chambered. Only in Tomb 155 were two burial chambers recorded. A small dromos can be traced in Tomb 149. In Tombs 51 and 80, the side constrictions clearly mark the entrance to the chamber. As a rule, the chamber extends directly from the pit wall, without a narrowed entrance.

The entrances to the catacombs measure 0.9–2.1 m in length, 0.72–1.88 m in width, and 1.45–3.50 m in depth. Their volume ranges from 1.54 m³ to 7.8 m³, with an average volume of 3.471 m³. The length of the burial chambers is 1.2–2.9 m, and the width is 0.8–2.2 m.

Most of the catacombs have a long axis oriented in the latitudinal direction (20 structures, 58.8 %). Significantly fewer are those oriented from north-east to southwest (nine tombs, 26.5 %). There are only three examples (8.8 %) of north-west-south-east orientation. The meridional direction is also not typical: only two cases or 5.9 %.

The predominance of longitudinal structures among the catacombs, where the long axes of both pits and chambers lie in the same line, results in a latitudinal orientation of most burial chambers. Although their percentage is somewhat smaller (15 tombs, 44.1 %), they are still the most numerous. Many chambers are oriented from the north-east to the southwest (10 tombs, 29.4 %). Meridional direction is rare (four cases, 11.7 %). Such structures are rarely oriented from northwest to southeast (five tombs, 14.7 %).

Probably, to facilitate the placement of the deceased into the catacomb, steps were made along one of the walls of the entrance pit. They were recorded in 29 tombs (85.3 %). Most often, they were carved in the lower part of the pit. However, in Tomb 33, they are quite high and, at the same time, narrow. Most commonly, two of such ledges were made (19 catacombs), while in eight cases there was only one step. Finally, in complexes 113 and 149, there were three steps.

The entrance to the chamber was sometimes blocked by a wooden barrier. Traces of it were re-

Table 2. Correlation of Grave Types and their Metric Characteristics with the Number, Gender, and Age of the Buried. Conventional abbreviations: l — length, w — width, d — depth, v — volume, sav — specific average volume per deceased, av — average, t — total graves, a.u. — arbitrary unit. Data are given in meters, volume figures in cubic meters.

Gener/Age				
Type of grave, number of buried	Men	Women	Children	Teenagers
Pit, individual	l. 1.60–3.20 (av. 2.30) w. 0.80–1.60 (av. 1.24) d. 1.10–2.70 (av. 1.89) v. 1.87–10.24 (av. 5.79) sav. 5.79, t. 27	l. 1.70–2.60 (av. 2.23) w. 0.75–1.80 (av. 1.30) d. 0.80–2.25 (av. 1.65) v. 1.53–8.97 (av. 5.13) sav. 5.13, t. 21	l. 1.04–2.20 (av. 1.79) w. 0.65–1.40 (av. 1.10) d. 1.00–3.00 (av. 1.59) v. 0.98–8.19 (av. 3.27) sav. 3.27, t. 13	l. 1.70–2.20 (av. 1.98) w. 0.90–1.20 (av. 1.08) d. 1.00–1.50 (av. 1.26) v. 1.87–3.30 (av. 2.69) sav. 2.69, t. 5
Pit, in pairs	l. 2.00–2.40 (av. 2.23) w. 0.80–1.60 (av. 1.30) d. 1.50–2.60 (av. 1.82) v. 3.24–9.98 (av. 5.38) sav. 2.69, t. 7	l. 2.00–3.40 (av. 2.42) w. 1.20–1.75 (av. 1.50) d. 1.10–3.40 (av. 1.90) v. 3.90–10.71 (av. 7.06) sav. 3.53, t. 7	l. 2.25–3.00 (av. 2.58) w. 0.80–1.60 (av. 1.30) d. 1.80–2.60 (av. 2.20) v. 3.24–10.40 (av. 7.84) sav. 3.92, t. 3	l. 2.0–2.30 (av. 2.17) w. 1.20–1.40 (av. 1.32) d. 1.60–2.20 (av. 1.87) v. 3.84–6.10 (av. 5.39) sav. 2.69, t. 4
Pit, collective	l. 2.15–2.50 (av. 2.32) w. 1.30–2.00 (av. 1.65) d. 2.10–2.70 (av. 2.40) v. 7.54–10.50 (av. 9.02) sav. 3, t. 2	l. 2.15–3.60 (av. 2.86) w. 1.20–2.00 (av. 1.71) d. 2.00–3.00 м (av. 2.30) v. 5.64–18.00 (av. 11.5) sav. 3.83, t. 6	l. 2.35–3.60 (av. 2.91) w. 1.20–2.00 (av. 1.71) d. 1.90–3.00 (av. 2.20) v. 5.64–18.00 (av. 11.57) sav. 3.85, t. 4	l. 2.20 w. 1.250 d. 1.80–4.95 sav. 1.65, t. 1
Pits, total	l. 1.60–3.20 (av. 2.28) w. 0.80–2.00 (av. 1.27) d. 1.10–2.70 (av. 1.90) v. 1.87–10.50 (av. 5.89) sav. 4.48, t. 36	l. 1.70–3.40 (av. 2.38) w. 0.75–2.00 (av. 1.41) d. 0.80–3.40 (av. 1.82) v. 1.53–18.00 (av. 6.65) sav. 4.26, t. 34	l. 1.04–3.60 (av. 2.15) w. 0.65–2.00 (cp. 1.25) d. 1.00–3.00 (av. 1.81) v. 0.98–18.00 (av. 5.74) sav. 3.63, 20	l. 1.70–2.30 (av. 2.08) w. 0.90–1.40 (av. 1.19) d. 1.00–2.20 (av. 1.56) v. 1.87–6.10 (av. 3.99) sav. 2.85, t. 10
Catacomb, individual	d. 1.85–2.25 (av. 2.10) v. 4.79–7.06 (av. 5.88) sav. 5.88, t. 5	d. 1.60–3.30 (av. 2.63) v. 4.25–10.90 (av. 6.89) sav. 6.89, t. 6	d. 1.90–2.15 (av. 2.25) v. 2.65–2.78 (av. 2.71) sav. 2.71, t. 2	
Catacomb, in pairs	d. 1.95–3.50 (av. 2.98) v. 2.49–10.43 (av. 8.39) sav. 4.19, t. 6	d. 1.95–2.80 (av. 2.44) v. 5.15–10.43 (av. 7.19) sav. 3.59, t. 6	d. 1.20–3.00 (av. 2.50) v. 4.78–8.87 (av. 6.59) sav. 3.29, t. 4	
Catacomb collective	d. 3.20 v. 7.10. sav. 1.42, t. 1	d. 3.20 v. 7.10. sav. 1.42, t. 1	d. 2.15–3.20 (av. 2.67) v. 3.65–7.10 (av. 5.37) sav. 1.79, t. 2	d. 2.72 v. 7.50 sav. 7.50, t. 1
Catacombs total	d. 1.85–3.50 (av. 2.68) v. 2.49–10.43 (av. 8.06) sav. 3.82, t. 12	d. 1.60–3.30 (av. 2.58) v. 4.25–10.90 (av. 7.05) sav. 4.82, t. 13	d. 1.20–3.20 (av. 2.42) v. 2.45–8.78 (av. 5.31) sav. 2.65, t. 8	v. 7.50 a.u. 7.50, t. 1
Pit with a step, individual	l. 2.50 w. 1.65 d. 1.40 v. 5.32 a.u. 5.32, t. 1			
Pit with a step, in pairs			l. 2.90 w. 1.40 d. 1.54 v. 6.25 sav. 6.25, t. 1	
Pits with a step total	l. 2.50 w. 1.65 d. 1.40 v. 5.32 sav. 5.32, t. 1		l. 2.90 w. 1.40 d. 1.54 v. 6.25 sav. 6.25, t. 1	

corded in four graves (11.8 %): Graves 63, 143, 155, and Burial 1 of Barrow 3. In the latter case, recesses measuring 0.1 m in width and 0.15 m in depth on the sides of the entrance, were recorded, which served as grooves for the obstruction mentioned. In Tomb 143, the exit was closed by six rods or pegs, which may have served as a solid base for matting or fabric.

At one time, V. H. Petrenko noted the wooden barriers of the chambers of the forest-steppe catacombs as a local feature distinct from the steppe (Петренко 1967, с. 16-17). However, further expansion of the source base showed that similar structural elements are also found in the south. Wooden and wicker structures are not common there (only 2.6 %). They were used from the 6th–5th centuries BC to the Late Scythian period (Ольховский 1991, с. 30, 31).

In total, at least 56 dead people were buried in the Svitlovodsk catacombs. In longitudinal structures, where the long axes of both the entrance pit and the chamber coincide, the custom prevailed to place the corpse with the head towards the exit and the feet towards the far wall. This situation was recorded in all burials, both single and paired (Graves 17, 41, 43, 63, 64, 81, 82, 95, 97, 113, 119, 125). In the Tomb 65 alone, the skeletons of a man, a woman, and a child lay with their heads facing the entrance, and another woman lay against the wall with her head facing forward. In a number of graves with a perpendicular arrangement of the entrance pit and burial chamber, the skeletons were lying sideways to the exit, more often on the right (Graves 143, 147, 155). But in the latter case, the catacomb was paired, with the burial chambers located opposite each other. And the other skeleton, accordingly, was lying with its left side to the entrance.

Catacombs required more labour to build and often contained richer goods. However, the burial chambers themselves are less voluminous than the pits. Moreover, when there were multiple skeletons, they had to be placed quite compactly in confined conditions. The broader topic of use and construction of burial structures, extensively discussed in previous studies (Ольховский 1991, с. 56-136) will not be addressed here. This publication focuses on data relevant to the current study.

Most of the burials in the catacombs are individual: 18 structures or 52.9 %. However, compared to the pits, there is a high proportion of paired and group burials — 16 or more than 47 %, including 12 paired ones (35.3 %) and 3 (8.8 %) triple burials. There is one finding of the burial for five people.

Female burials are more common, with 15 cases (53.6 %), while male burials are less frequent, numbering 13 (46.4 %), including the only case of a sub-barrow catacomb. There are nine children (18.4 %) and one adolescent (2 %). Adults outnumber children four times to one, with 39 adult and nine juvenile skeletons (81.2 % and 18.8 % respectively). In different types of burial structures, male burials are typically associated with weapons, while female burials are distinguished by jewellery, spinning wheels, and mirrors. There is a small group of burials of women with weapons, which reflects the presence of a social stratum of women warriors in Scythian society (Фиалко 1991; Фіалко 2023).

There are several types of catacombs at Svitlovodsk: longitudinal catacombs, catacombs with a perpendicular arrangement of the entrance pit and burial chamber, a catacomb with a chamber located at an angle to the entrance pit, a catacomb with the burial chamber emerging from the corner of the entrance pit and a two-chamber catacomb with perpendicular arrangement of the chambers and the entrance pit.

Longitudinal catacombs (Бокій, Могилов, Панченко 2013, рис. 1; Могилов 2019d, рис. 2). In these structures, the long axes of the entrance pit and the floor lie in the same line. This is the most numerous type, comprising 23 structures (67.6 % of the catacombs). Among them are Graves 17, 25, 43, 63, 64, 65, 81, 82, 83, 88, 93, 95, 97, 98, 100, 103, 113, 119, 125, 144, 146, 149, and Burial 1 of Barrow 3. Graves 30, 41, 51, and 56 can also be included here, where the axes of the chambers are slightly deviated to the side. They are characterised by variation in the number, gender, and age of the buried. The orientation is most often latitudinal.

According to B. N. Grakov's classification, these structures belong to Type 2 (Граков 1964, с. 123, рис. 5). V. S. Olkhovskiy classified them as Type 2, Variant 1a, noting that they account for 17.3 % of the catacombs in Steppe Scythia. They are dated to the 4th century BC (Ольховский 1977, с. 112, рис. 2; 1991, с. 27, 35). In the Dnipro Forest-Steppe Right Bank region (as of the 1980s), this type accounted for 13.9 % (5 out of 36) catacombs (Ковпаненко, Бессонова, Скорый 1989, с. 43).

Svitlovodsk Tomb 149 is a dromosal longitudinal catacomb that can be attributed to Type II, Variant 2a. Such structures are dated to the 4th century BC (Ольховский 1991, с. 27, 35, табл. II).

It is interesting that Catacomb 30 from Svitlovodsk, repeating the longitudinal scheme, has

a chamber that deviates slightly from the longitudinal axis. According to V. S. Olkhovskyi's classification, this means a different attribution. Such structures should be attributed to Type VI, Variant 1. Such graves are not uncommon in Steppe Scythia, accounting for 6.1 % of the total. They are also dated to the 4th century BC (Ольховский 1991, с. 28, 35, табл. II).

Another type is catacombs with a perpendicular arrangement of the entrance pit and burial chamber (Могилов 2023, рис. 3). A total of four such structures (11.7 %) were excavated: Tombs 89, 143, 147, 148. These tombs are relatively small and contain little surviving goods. The long axis of these catacombs is oriented more often latitudinally, and the burial chambers, respectively, meridionally. The surviving skeletons lie with their heads to the north.

According to the classification of B. N. Grakov, they belong to Type III (Граков 1964, с. 124-125, рис. 6). According to V. S. Olkhovskyi's typology, they belong to Type III, Variant 1a. Among the catacombs of the steppe, such structures account for 10.7 %. They date to the 4th century BC (Ольховский 1977, с. 117, рис. 2; 1991, с. 28, 35, 124, 125), while in the Right-Bank Forest-Steppe, they accounted for 36.1 % (13 out of 36) (Ковпаченко, Бессонова, Скорый 1989, с. 43).

A separate type consists of a catacomb with a chamber located at an angle to the entrance pit (Панченко 2014, рис. 1-2; Могилов 2023, рис. 4). The shape of Tomb 79 repeats the previous scheme with a perpendicular layout, but the chamber is located obliquely. The broadly orientated structure contained the burial of a woman. This catacomb can be compared with the structures of Type V, Variant 1, which date back to the 4th century BC. This is a rare type, making up 6.2 % of the steppe burials (Ольховский 1977, с. 119, рис. 2; 1991, с. 28, табл. II).

The next type includes a catacomb with the burial chamber emerging from the corner of the entrance pit. Grave 35, which had been completely looted, contained three skeletons. The structure can be attributed to Type VI, Variant 1, according to the classification of V. S. Olkhovskyi. These structures appeared in the first half of the 4th century BC and existed until the end of the era (Ольховский 1977, с. 119, рис. 2; 1991, с. 28, табл. II).

And a final type is a two-chamber catacomb with perpendicular arrangement of the chambers and the entrance pit (Панченко 2014, рис. 1). Tomb 155 is the only multi-chambered tomb in the necropolis, also distinguished by its larger volume. But, in fact, it is only a more sophisticated version of Type 3.

The chambers reveal the burial of a wealthy man and woman, possibly related to each other. They are orientated with their heads towards the southeast. This is a rather peculiar form of a grave. V. S. Olkhovskyi did not describe it separately, but his universal classification allows us to attribute this structure to Type III, Variant 3. Type III is dated to the 4th century BC (Ольховский 1977, с. 117-119, рис. 2; 1991, с. 28, 35, табл. II). Rare examples of two-chambered catacombs of the common people in Steppe Scythia include Barrow 11, Burial 9 of Barrow 20 at Mamai-Hora. There is also an example of a three-chambered catacomb at the site: Barrow 10, Burial 10 (Андрух, Тоцев 1999, с. 79, 83, 84, 123).

Pits with steps (Могилов 2023, рис. 5: 1, 2) are also a rare type of burial structure at Svitlovodsk. These graves are rectangular hollowings with a step left under one of the walls. Only two such complexes are known (1.3 % of the total number of burials). Both of them are oriented in latitude. In Grave 54, the step is positioned along the long side. In Grave 151, the grave is located near the narrow end of the pit. In the first case, a warrior man with a sword and sacrificial meat is buried with his head to the west. In the second, a pair of children is buried (judging by the spinning wheel, one of them could be female). The pits measure 2.5–2.9 m in length, 1.40–1.65 m in width, and 1.40–1.54 m in depth. Their volumes range from 5.32 to 6.25 m³, which can be assessed as an intermediate group between medium and large necropolis structures.

Wooden pillars tomb (Могилов 2023, fig. 5: 3) at Svitlovodsk was discovered only once (only 0.6 % of the total number of complexes) under the mound of Barrow 3 (Tomb 2). The burial was carried out in a large (length — 4.58 m, width — 2.20 m, depth — 2.15 m), latitudinally orientated pit with a volume of more than 21 m³. The ceiling was supported by eight pillars situated in the corners and in the middle of each wall. Their thickness is 0.3–0.4 m. Unfortunately, the tomb was completely looted. However, its very size and the fact that it was covered by a barrow, leave no doubt that the person buried in it belonged to the upper social stratum of the local community.

Occasionally, traces of **fire rituals** were recorded in graves at Svitlovodsk. Only four such cases (2.5 %) are known. For example, in Grave 100, in the entrance pit of the catacomb, a cluster of coals measuring 30 by 35 cm was cleared. The soil beneath them was burnt by 3–5 cm. This indicates that the fire was burning on the spot. In the entrance pit, near the entrance to the chamber in Catacomb 149, embers

and burnt bones were cleared. Traces of burnt wood were found in the corner of Grave-Pit 153 which is the burial of a child. Charcoal was also found under the north-eastern sector of Barrow 5.

Thus, at Svitlovodsk, there are three manifestations of the fire cult, none of which can be reliably linked to human cremation, and which are not otherwise known in the necropolis:

- Remains of burial rites on the sub-barrow surface.
- Burning in the entrance pit of the catacomb.
- Placing coals or starting a fire in a soil pit.

In one case, burnt bones were found in the fire. In others, only charcoal was found, and it is unclear whether any organic materials were burned or whether the fire was simply maintained. The latter was quite possible, given the special sacred role of the fire.

Traces of **bedding** were found in three tombs. It was probably used much more often, but due to the perishability of organic materials, it can no longer be traced today. Bedding remains were found beneath the male warriors from Graves 129 and 152. The warrior from Burial 1 of Barrow 3 was laid on a wooden boardwalk, traces of which have been preserved. A layer of some other organic material (grass?) was laid on top of it, which stood out with a special colour.

Analysis of the Burial Structures of the Svitlovodsk Cemetery

We will consider the funerary structures of the Svitlovodsk cemetery in the context of the funerary rites of the synchronous monuments of the Northern Black Sea region. Particular attention will be paid to similar forest-steppe and steppe cemeteries, which also contained barrowless burials.

The topography of the Svitlovodsk cemetery.

The topography of the Svitlovodsk cemetery, located on a large promontory near the edge of the plateau above the Dnipro valley, is not typical of barrow necropolises located mainly on watersheds (Ковпаненко, Бессонова, Скорый 1989, с. 27; Ольховский 1991, с. 132; Бандуровский, Буйнов 2000, с. 27, 28). It is typical for barrowless and some “mixed” ground-barrow necropolises in southern Eastern Europe, which were usually located mainly above river valleys, often closer to the edge of the plateau and the slope leading down to the valley. Frequently, they were also located on various promontories formed by a bend in the main river or its tributaries, gullies. There are a few exceptions when barrowless necropolises

are located in floodplains, deltas, or on islands, although certain regional peculiarities in their localisation can be noted.

The above fully applies to the Dnipro Right-Bank Forest-Steppe region. The well-known Pyrohiv burial ground was located on a plateau promontory above the valley (Петровская 1970, с. 138). A burial at Pekari was also excavated on the plateau promontory bounded by a ravine (Гречко 2013, с. 69). The edge of the above-river plateau became a burial site at Obukhiv (Гороховський 1979, с. 105). The crest of the plateau edge is occupied by a barrow and earthen burial ground at Chornyi Lis near Bohdanivka (Тереножкін 1952, с. 118, 119). At Khalepia, a burial was made on the edge of a high left terrace on the right bank of the Dnipro River (Квітницький, Лисенко 2009, с. 156; Лысенко 2010, с. 110). And at Velyka Buhaivka — near the slope of the source of a waterlogged gully, in fact, on the edge of the plateau, above this gully (Лысенко 2010, с. 106; Петраускас, Шишкін 2013, рис. 1, 2).

The necropolis at Zalomy is somewhat different from the usual pattern. It is located on a hill, occupying both its top and slopes (Панченко 2016, р. 237). The necropolis at Hryshchentsi was located on a plateau, but near a gully (Петренко 1962, с. 142).

In the Ukrainian Left-Bank Forest-Steppe region, burials at Duchyntsi were recorded on the edge of a plateau (Шерстюк, МIRONENKO 2010, с. 373-374; Шерстюк 2011). The settlement of Bile Ozero near Tsybli is now being eroded by the waters of the reservoir. Previously, it occupied a floodplain terrace above the Dnipro valley. The burial at Dolynske is located on the edge of a forest terrace that rises above the Seim (Мельниковская 1950, с. 70-72).

At the Pereshchepyne necropolis, the earth graves are located between barrows on a hill above the valley of the Bilsk Stream (Кулатова, Супруненко 2010, с. 142). The necropolis at Poltava is located close to the top of the plateau (Супруненко 2016, с. 262-267). The topography of the Chutivka cemetery is unusual. It is embedded in a dune upland in the floodplain of the Sula River (Гречко, Шерстюк, Щербань 2016, с. 119).

The Middle Don region shows us the earthen burials located closer to the edge of the first Don floodplain terraces. Thus, a burial at the Kamianka settlement was recorded on a plateau promontory above the valley of this river (Бирюков, Разуваев 2004, с. 184, 189). The complexes at the Mostyshche hillfort were also located in a similar topographic situation, on a promontory (Березуц-

кий 1993, с. 72-75). Burials were made on the edge of a high plateau near Kulakivka (Разуваев 2012, с. 165-169). The ground burials at Ksizovo are located at different distances from the edge of the terrace above the Don valley (Козмирчук, Моисеев, Разуваев 2011, с. 196-202; Обломский, Разуваев 2013, с. 183-193). Moreover, the gullies that flow into the valley also create a certain cape-like impression of the relief. At the same time, the graves near Ruska Trostianka are located in the upper reaches of a small river (Разуваев 2014, с. 103).

The situation is similar in Steppe Scythia. Thus, the necropolises of the Lower Dnipro region tend to gravitate towards the main waterway, the Dnipro, rather than being located as barrows in watersheds (Остапенко 2007, с. 154). The earthen burials cemetery at Skelky was excavated on a high promontory above the Dnipro valley, at the confluence of the Konka River (Попандопуло 2011, с. 11, 12). A burial was discovered at Verkhniotarasivka in the cape part of the forest plateau (Шапошникова, Бодянский, Щепинский 1957, с. 37; Бодянский 1962, с. 273). The Znamianka burials were made on the edge of the loess river bank above the Konka River (Погребова 1958, с. 129).

On the plateau above the Dnipro valley, a burial was noted at Dniprorudne (Мурзин 1977, с. 60). On the edge of the cape, barrowless complexes near Viiskove were studied (Бодянский 1977, с. 8). The Blahovishchenka cemetery stood on the cliffs above the Dnipro valley (Бодянский 1977, с. 26). The necropolis at Ivanivka is located on the edge of the plateau, next to a gully (Шапошникова, Бодянский, Щепинский 1957, с. 57). A burial at Ushkalka was found on a high terrace of the Dnipro's original bank (Телегин 1956, с. 48-49).

The situation is similar to other necropolises in the region. For example, the monument near Staryi Kodak is located on a promontory at the Demska gully (Шарафутдинова, Телегин 1958, с. 11). The Kichkas burial grounds are located on a large promontory washed by the waters of the Dnipro, the surface of which slopes down to the river. Some complexes, like those at Svitlovodsk, stretched significantly back into the cape (Добровольский 1929; Рудинский 1929).

At Hadiucha Balka, stone lining occupied the second and third Dnipro floodplain terraces on the promontories at the confluence of the namesake gully (Сап'ян 1928; Киранів 1928; Козар 1928; Могилов 2018b, рис. 1). The burial at the Kruhlyk tract near Fedorivka village was discovered on the edge of the plateau and on the slope leading to the Dnipro,

on a promontory above the river valley, near a gully (Бодянский 1949, с. 1; Добровольский 1949, с. 188). In Zaporizhzhia, in the Vyrva tract, stone lining and barrows were found on the second floodplain terrace (Остапенко 2007, с. 150). On the descent to the old Dnipro riverbed, a necropolis near the Third Quarry of Dniprobud was explored (Смолічев 1931, с. 23-25; Могилов 2022, с. 256). The cemetery in Mykhailivka is located on two hills above the Pidpilna River, which is a tributary of the Dnipro (Лагодовская, Сымонович 1973, с. 235).

Special mention should be made of burials on the Dnipro islands (Остапенко 2007, с. 148, 150-153). The situation is similar in the barrowless burials of the Donetsk region. The burial in Makiivka was made on a promontory above a gully (Полідович 1998, с. 103). In Styła, the burial is located on a ridge above a river (Привалова 1993, с. 161).

In many coastal burials, the situation is similar. At Nadlymanske, the complexes were excavated on the edge of the plateau above the Dnister estuary (Суботин, Охотников 1981, с. 106). At the Mykolaivka cemetery (on Lenin Street), the burials were located on the edge of the plateau, on the slope descending to the estuary (Дзис-Райко 1965, с. 59).

The barrowless burials of the Lower Don are characterised by different topography. The barrowless burials on the Bihlytsia Spit (Прохорова 1997, с. 18) are located essentially in a watershed area that is periodically flooded by the sea. In this case, the topography is similar to that of the barrows.

The Karataievskiy and nearby Leventsivskiy necropolises, on the contrary, are closer to the Lower Dnipro necropolises, rising above the Don Delta. The authors of the excavations note that the first monument was the edge of a high terrace above the Mertyvi Donets River. Scythian complexes were also recorded on the second terrace of the original bank of this channel at the Leventsivka cemetery (Беспалый 1997, с. 28, 29; Братченко, Шарафутдинова 2000, с. 169, 170; Братченко 2012, с. 9-11).

The Dugino necropolis is located on a dune on one of the islands in the Don Delta, not far from the Kalancha Strait (Прокофьев 2014, с. 9). The barrowless necropolises of Crimea also demonstrate a different topography. Most of them, however, tend to be located on various elevations. At Pryrichne, for example, they are located in a flat interfluvium, partly at the foot and partly at the base of a Bronze Age barrow (Гаврилов, Колотухин, Колтухов 2002, с. 94). At the Kirovske settlement, the terrain, on the contrary, is a hillside above a gully (Лесков 1970, с. 7).

In the Eastern Crimea, burials tend to be located on the hills above the lowlands. At Rybne, they were either on a plateau above the sea shore or on the slopes of hills and mountains (Лесков 1961, с. 263; Кругликова 1973, с. 162). At Cape Zuk, the boxes were located on the top of a small mountain (Дирин 1896, с. 128). At Zolote, the necropolis was located on a raised plateau (Копысова, Орлов 1978, с. 66; Масленников 1995, с. 6). Stone chests were also excavated on the high coastal plateau at Mysyr (Масленников 1995, с. 21). At Frontove, on the contrary, the cemetery was investigated on a high river bank (Цвек 1968).

Thus, in terms of its position on a plateau above the river valley, Svitlovodsk resembles most other Northern Black Sea cemeteries with barrowless burials.

The planigraphy of the Svitlovodsk cemetery.

The planigraphy of the Svitlovodsk cemetery, where the ground graves are arranged around barrows representing the burials of the local social elite, shows similarities with other necropolises. In particular, in the steppe, the barrows in a cemetery are often grouped around the largest barrows (Ольховский 1991, с. 3). A similar situation is also known in the Dnipro Right-Bank Forest-Steppe region (Ковпаненко, Бессонова, Скорый 1989, с. 27; Бессонова, Скорый 2001, рис. 1), in Posullia (Ильинская 1968, с. 8). On the Siverskyi Donets, on the contrary, the largest barrows were more often located on the periphery of the group (Гречко 2010, с. 40).

Necropolises with barrowless burials show the following picture. In the Chornyi Lis, the ground graves were located in the space between the barrows. The largest of the barrows, in turn, were constructed along the central axis of the barrow group (Тереножкін 1952). At Mykolaivka in the Lower Dnister region, the ground graves are located mostly to the north of the barrows (Мелюкова 1975, рис. 27), but this is partly because this area was primarily investigated. At the Bihlytsia necropolis, the earthen graves are located in the interbarrow space (Прохорова 1997).

The barrow and barrowless type of the Svitlovodsk cemetery.

The barrow and barrowless type of the Svitlovodsk cemetery is interesting in the context of its location on the border of the forest-steppe and steppe, on the border of the settled and nomadic worlds. Other similar necropolises are located either in the steppe or in the neighbouring for-

est-steppe south. Thus, this characteristic makes the site more similar to the necropolises of the Steppe Scythians.

In the Dnipro Right-Bank Forest-Steppe region, most of the known burials of the Scythian period were made under barrows, although the share of ground burials is increasing, reaching a significant number today. Ground burials are well known here (Петренко 1962; Петровська 1970). In the south of the region, a large barrow and earthen cemetery in the Chornyi Lis was investigated, with 265 barrows recorded (Тереножкін 1949, с. 3-16; Тереножкін 1952, с. 124-127). In the Ukrainian Left-Bank Forest-Steppe, a similar situation was only at the Pereshchepyne cemetery of the Bilsk hillfort, where, among many barrows, two earthen burials in narrow pits were excavated (Кулатова, Супруненко 2010, с. 142-144).

In Steppe Scythia, most of the known burials, including those of the 4th century BC, are sub-barrow. However, the number of earth graves has increased significantly today compared to earlier data (Ольховский 1991, с. 121, 162).

Today, in the Lower Dnipro region, there are more than 40 sites where barrowless burials have been recorded. Only eight of them are "mixed" necropolises (up to 1/5). In particular, at the Blahovishchenka cemetery, among many earthen burial complexes, two barrows are mentioned (Бодянский 1977, с. 26; Попандопуло 2012). An eroded barrow and earthen cemetery are mentioned near Viiskove (Бодянский 1954, с. 20, 21; 1977, с. 8). At Hadiucha Balka, burials under stone lining prevailed, with 14 complexes, while two sites had a small barrow (Сап'ян 1928; Козар 1928; Киранив 1928; Могилов 2018b, с. 289). At Kichkas necropolises, on the contrary, the majority (up 3/4) were complexes under the barrow (Добровольський 1929; Рудинський 1929; Смоличев 1929; Мартенс 1930; Смоличев 1931; Могилов 2018b). At Dniprozavodbud, burials under the barrow also dominated (Міллер 1930a, с. 1-28; 1930b, с. 1-9; Смоличев 1930a, с. 1-3; 1930b, с. 1-70; Грінченко 1930a, с. 1-5; 1930b, с. 1-25; 1930c, с. 1-4; 1930d, с. 1-21; Мартенс 1930, с. 1-19; Могилов 2018b, с. 293). In Zaporizhzhia, about thirty stone lays and only a few barrows were recorded in the Vyrva tract (Остапенко 2007, с. 150).

It may be mentioned that in the Eastern Crimea, stone boxes could have no barrow, or, on the contrary, be located in a barrow. A similar situation was recorded at the Mysyr cemetery (Масленников 1995, с. 21-24). At Pryrichne in the Central

Crimea, Scythian graves were inserted into the Bronze Age barrow and its periphery (Гаврилов, Колотухин, Колтухов 2002).

In the Lower Don region, barrow and earthen burial grounds are also well known. For example, numerous burials have been discovered in the interbarrow space on the Bihlytsia Spit (Прохорова 1997, с. 18, 19). An unbarrowed burial was also discovered at the famous Elizavetynske necropolis near the settlement of the same name in the Don Delta (Копылов и др. 2012, с. 123-128). Both burial barrows and earthen graves are known near the Leventsivka fortress and on its territory (Житников и др. 1979, с. 125; Беспалый 1994, с. 11; 1997, с. 28, 29; Братченко, Шарафутдинова 2000, с. 170; Братченко 2012, с. 68).

A large earthen-and-barrow necropolis of Mykolaivka is known in the Lower Dnister region (Мелюкова 1975).

Thus, by its mixed character, Svitlovodsk is close to the steppe Scythian necropolises.

A 16–17 m in diameter, 0.7 m deep and 0.9 m wide ditch surrounded Barrow 5 at Svitlovodsk. This design detail is typical of the funerary and memorial rites of Steppe Scythia. Here in the 4th century BC, it surrounded 20.5 % of the barrows and another 14.7 % of Bronze Age barrows with Scythian inlet burials. Moreover, in 40 of the 100 barrows, where they were completely excavated, these structures formed uninterrupted closed circuits (Ольховский 1991, с. 129).

Among the ordinary steppe barrow necropolises included in K. P. Buniatian's study, almost 27 % had ditches (Бунятян 1985, с. 45). Ditches are rare in the Dnipro Right-Bank Forest-Steppe region. In particular, only five cases have been recorded for the 4th century BC (Ковпаненко, Бессонова, Скорый 1989, с. 42).

About the Svitlovodsk cemetery, it is very important that the ditches around the barrow are considered a feature of the funerary rites of the Steppe Scythians and, for the forest-steppe, serve as an indicator of the alien nomads' burials (Скорый 2003, с. 53).

It is interesting that the presence of ditches is considered uncharacteristic for the Siverskyi Donets group. However, at the Hryshkivka cemetery, identified with the Scythians, ditches were present in five out of thirteen barrows (38.5 %) (Бандуровский, Буйнов 2000, с. 29, 30; Гречко, Шелехань 2012, с. 51). It should be noted that several monuments had ditches on the territory of the Dnipro Terrace Left-Bank Forest-Steppe, where the presence of various steppe traditions is also attest-

ed. This gave rise to speculation about the penetration of nomadic Scythians through this plain corridor along the Dnipro River up to the northern borders of the forest-steppe (Ильинская, Тереножкин 1983, с. 308-312; Фиалко 1994, рис. 7; 8; 11).

As for the other earth-barrow cemeteries, ditches around the barrows are quite rare. In the Right-Bank Forest-Steppe region, they are not mentioned in the description of the Chornyi Lis cemetery (Тереножкин 1949; Тереножкин 1952). However, in the Left Bank region, in the Pereshchepyne necropolis of the Bilsk hillfort, such a structural feature is known (Кулатова, Супруненко 2010, с. 107).

In the steppe "mixed" cemeteries of the Lower Dnipro and Dnister, ditches were not often recorded. However, they are well known in the barrow necropolises of these regions. They were present in only two of the five barrows at Dniprozavodbud (once with a *tryzna* — funeral feast remains (Могилев 2018b, с. 293)). At Koshary, there is a known burial in levelled Barrow 55, surrounded by a ditch with lintels and a *tryzna* near them. Although, the necropolis belongs to a Greek settlement, it has many nomadic features. This barrow is classified as a site of the Scythian circle (Хохоровски 2018, с. 195).

In the Lower Don region, near the Leventsivka fortress, some of the graves are surrounded by ditches (i.e. they used to have small barrows). Here, the periphery of the barrow with a part of the stone barrow and a ditch with a *tryzna* was explored (Беспалый 1994, с. 11; 1997, с. 28, 29). Two perpendicular ditches of a different type were recorded at the Dugino earthwork cemetery (Прокófьев 2014, с. 278-282).

Thus, the ditch around the Svitlovodsk barrow has the most references in Steppe Scythia.

Rectangular pits.

Rectangular pits were a common grave type in Scythian times. In the 4th century BC, they prevailed in Svitlovodsk (76.6 %). As of the 1980s, burials in various pits accounted for more than 40 % (63 out of 155 known) in the Dnipro Right-Bank Forest-Steppe region. Moreover, 1/3 of them are simple rectangular pits. Of these, 1/5 had wooden flooring (Ковпаненко, Бессонова, Скорый 1989, с. 42).

V. H. Petrenko, when analysing the Middle Scythian and Late Scythian complexes in the area, classified simple pits as Type 8, noting that they belonged, as a rule, to simple community members and were often small in size. They are mainly found in large cemeteries of the Tiasmyn and Ros subgroups (Петренко 1967, с. 16).

Speaking about the distribution of pits in Steppe Scythia, it should be noted that V. S. Olkhovskiy classified them as Type I, Variant 1. In the steppe, pits accounted for 40.2 % of burials throughout the Scythian period. Among them, pits of Type 1 accounted for 88.6 %. In the 4th century BC, there were 33 % of such structures (91.6 % of which belong to Type 1). Among the steppe groups of this time, the Northern Steppe group exhibits the highest percentage of pits (58 %), located in the neighbourhood of Svitlovodsk. However, other groups show considerably lower percentages, generally similar to the Dnipro Right-Bank Forest-Steppe. In other neighbouring steppe groups, the percentage of pits is even lower, ranging from one-fourth to one-third. In particular, in the Inhulets group it accounts for 25.4 %, in the Podniprovska group — 20.4 %. Only in the Lower Don the percentage of pits is 87 % (Ольховский 1991, с. 17, 94, 206, табл. 1, 12). Interestingly, in the selection of Lower Dnipro steppe cemeteries used by K. P. Buniatian, pits account for only 12.3 % (Бунятян 1985, с. 46).

It is worth noting that pits also account for about 50 % of the Middle Buh region (Бессонова 1994, с. 11). The percentage of such structures in the Siverskyi Donets region is high — 70 % (Бандуровский, Буйнов 2000, с. 33; Гречко 2010, с. 45). In the Hryshkivka cemetery, associated with the Scythians, this is the only type of burial structure (Гречко, Шелехань 2012, с. 55). They are also known in the Left-Bank Terraced Forest-Steppe (Яковенко 1965, рис. 1; Ильинская 1966; Фиалко 1994, рис. 4).

Therefore, in terms of the high percentage of simple pits, the Svitlovodsk cemetery is most consistent with the borderland monuments of the southern Forest-Steppe and northern Steppe Ukraine.

In the vast majority of cases, pits dominate the barrowless and earthen-and-barrow necropolises of the Northern Black Sea coast. In other similar monuments of the Dnipro Forest-Steppe Right Bank region, this is, with rare exceptions, the only type of ground grave. This is how burials were carried out in Kalantaievo (Покровська, Ковпаненко 1961, с. 161-135), Рухове (Петровська 1970, с. 138-144; Кубишев, Скиба, Скорий 1995), Hryshchentsi (Петренко 1962), Busheve (Скорый 2003, с. 135), Pekari (Гречко 2013). Probably also in Velyka Buhaivka (Лысенко 2010, с. 106-107) and Khalepia (Лысенко 2010, с. 110, 111). They also make up the majority in Zalomy, where only one catacomb was discovered (Бокий 1987; Панченко 2017, с. 336; 2018, с. 330). Obviously, the deceased

were buried in simple pits in the interbarrow space of the Chorny Lis necropolis (Тереножкін 1952, с. 118, 119).

The pits contain earthen burials in the Middle Don region. The predominance of pits is also recorded in the Lower Dnipro region (Остапенко 2007, с. 155), although here we can see a whole group of catacombs, which are characteristic of the funerary rites of the Steppe Scythians, and the latter can dominate in some necropolises. There are also pits with stone lining on the surface. A burial was made in such a funerary structure in Verkhniotarasivka (Бодянский 1962, с. 273-275), Mykhailivka cemetery (Лагодовская, Сымонович 1973). Ground pits are known at the Znamianka hillfort (Порбекова 1958, с. 129). They also prevail on Khortytsia, although here a couple of catacombs were found, too (Остапенко 2007, с. 150-153). They have been excavated at Ivanivtsi, Illinka 1 (Шапошникова, Бодянский, Щепинский 1957, с. 31, 32, 41), Staryi Kodak (Шарафутдинова, Телегин 1958, с. 11) and Ushkalka (Телегин 1956, с. 48, 49). Pits predominate in the barrow and earthen burial grounds of Kichkas: 30 complexes (88.2 %) (Гринченко 1928; Добровольский 1929; Рудинский 1929; Смоличев 1930b; Могилов 2018b). Pits are the only form of grave in Hadiucha Balka (Киранів 1928; Сап'ян 1928; Козар 1928; Могилов 2018b). A burial was also made in a pit on Dubovy Island (Остапенко 2007, с. 147). Along with the catacombs, there were pits at the I Blahovishchenka cemetery (Бодянский 1967–1969, с. 2). At Skelky, the number of pits is only 30.4 %, while the number of catacombs is twice as high reaching 69.4 % (Попандопуло 2011).

In the Donetsk region, in the 5th century BC burial near Stila was made in a pit (Привалова 1993, с. 161-166). In the Central Crimea, pits completely dominate among the earthen graves. A burial at the Kirovske settlement testifies to their appearance already in the Early Scythian period (Лесков 1970, с. 15). At Pryrichne, they account for 88.5 % (Гаврилов, Колотухин, Колтухов 2002). They unconditionally dominate in the Frontove necropolis (Цвек 1968; Корпусова 1972). Among the barrowless burials in the Eastern Crimea, stone boxes predominate, however, pits are occasionally found (Масленников 1995, с. 21-24).

In the Lower Dnister region, pits also dominate among barrowless burials, although catacombs are also known. At the Mykolaivka cemetery, pits account for 75 % of the total, and 73.5 % of the ground graves (Мелюкова 1975). According to these indicators, the Mykolaivka necropolis

is the most similar to the Svitlovodsk cemetery. In another necropolis at Mykolaivka on Lenin Street, pits are the only type of burial structures, while a catacomb was excavated in Nadlymanske (Дзис-Райко 1965; Суботин, Охотников 1981).

On the Lower Don, except the Bihlytsia Spit, pits dominate. At the Karataieve cemetery (Ильюков 2002), burials under stone lining were also made in pits. At Dugino, the deceased were also most often buried in pits (Прокофьев 2014). They are known to be found near the neighbouring Lev-entsivka fortress or on its territory (Смирнов 1984, с. 55; Беспалый 1997, с. 28, 29; Братченко 2012, с. 66-68). They are located near the Elizavetynske hillfort (Копылов и др. 2012, с. 123-125). At Malakhov Yerik, the deceased was laid in an oval pit (Копылов, Коваленко 2006, с. 181; Копылов 2009, рис. 5). At Bihlytsi Spit, on the contrary, most burials were made in catacombs, although pits were also found (Прохорова 1997, с. 20-22).

Catacombs.

Catacombs make up a rather significant proportion in Svitlovodsk (34 structures, 21.5 %). They are considered to be inherent to the ethnic Steppe Scythians, and their distribution in the Right-Bank Forest-Steppe is interpreted as indicating the presence of these Iranian-speaking nomads in the region (Петренко 1967, с. 16, 17; Скорый 2003, с. 49).

By the mid-1980s, there were 36 catacombs in the monuments of the 4th century BC. There were 36 catacombs in the sites of the Dnipro Right-Bank Forest-Steppe, which accounted for 16 % of the burial structures of that period (Ковпаненко, Бессонова, Скорый 1989, с. 43). Since then, the number of recorded structures has increased to 47 (Назаров, Скорый 2019, с. 47).

A small number of similar structures (six) are also known in the south of the Dnipro-Don Forest-Steppe region, in the Siverski Donetsk group (Гречко 2010, с. 49). They are also known in the Left-Bank Terraced Forest-Steppe, which researchers consider to be a plain corridor through which nomads penetrated far to the north (Ильинская 1966, рис. 2, 4, 5; Ильинская, Тереножкин 1983, с. 308-312; Фиалко 1994, рис. 5, 12-14, 16).

A catacomb is a traditional steppe burial structure. In general, 48.8 % of burials among the Scythians of the Northern Black Sea region are catacombs. However, in the 4th century BC, this percentage was as high as 64.8 %. At that time, such graves were predominant (Ольховский 1991, с. 27, 94). In terms of the percentage of catacombs, the Svitlovodsk cemetery can be compared with the burials of the North-

ern Steppe group where they make up 25.8 %. In other groups, the percentage is much higher: in the Inhul group — 71.4 %, in the Dnipro group — 78.2 % (Ольховский 1991, табл. 12). In the selection of Lower Dnipro ordinary cemeteries, analysed by K. P. Buniatian, there are as many as 85.7 % (Бунятян 1985, с. 46). Thus, Svitlovodsk, with its 21.5 %, in terms of the proportion of catacombs, occupies an intermediate position between the neighbouring Dnipro Right-Bank Forest-Steppe region (16 %) and the Northern Steppe group (25.8 %).

Catacombs are almost not typical for other barrowless burial grounds of the Right-Bank Forest-Steppe region. No such complexes have been recorded in the barrow and earthen necropolis at Chornyi Lis (Тереножкин 1952). Only one similar structure was found in Zalomy (Панченко 2017, с. 236; 2018, с. 330).

Catacombs are not typical for most of the Left Bank Forest-Steppe region earthen necropolises. The exception is the burial ground on the Barvinkova Hill near the Bilsk hillfort, which possesses many steppe features (Гречко та ін. 2020, с. 60-72). There are no catacombs in the earthen burials of the Middle Don basin.

However, it is common for the barrowless or “mixed” cemeteries of Steppe Scythia. Although in some similar necropolises of this region, they were not found. The largest percentage of catacombs is at Skelky (up to 70 %) (Попандопуло 2011). Among other barrowless necropolises of the Lower Dnipro, such structures are represented near the Third Quarry of Dniprobud (Смолічев 1931, с. 23-25; Могилов 2022, с. 257). Probably, a significant percentage of them were also found at the I Blahovishchenka cemetery (Бодянский 1967-1969, с. 2; Попандопуло 2012). There is a known catacomb on Khortytisia Island (Остапенко 2007, с. 150-153). A similar structure is also mentioned in Viiskove (Бодянский 1977, с. 7-8).

In the Donetsk region, a barrowless burial was made in a catacomb in Makiivka (Полідович 1998, с. 103). The percentage of these structures is not high in the Crimea. For example, in Pryrichne, there are only two graves (7.7 %) that belong to Type 1 according to V. S. Olkhovskiy's classification (Гаврилов, Колотухин, Колтухов 2002). The percentage in Frontove is not much higher (Цвек 1968; Корпусова 1972).

In the Northern Azov Sea region, catacombs predominate among the burials of the Bihlytsia Spit (Прохорова 1997, с. 20-22). They are not typical of the Don Delta complexes.

In the Lower Dnister region, at the Mykolaiv necropolis, 18 catacombs have been excavated, accounting for 25 % of the local graves (Мелюкова 1975). One structure is known from Nadlymanske (Суботин, Охотников 1981, с. 107).

Pits with steps.

Pits with steps represent a relatively rare type of burial structure in European Scythia. In terms of their design features, they are similar to both catacombs and ordinary pits, but still represent a separate type of burial structure.

O. O. Bobrynskoï considered these burial structures to be transitional from pits ("ordinary graves") to catacombs (Бобринской 1910b, с. 59). V. H. Petrenko, highlighting them in Tiasmyn region, wrote about the influence of catacombs on their construction (Петренко 1967, с. 16). Depending on the shape, V. S. Olkhovskiy divided such graves into Type 1, Variant 3 and Type 2, Variant 2 (Ольховский 1991, с. 21, 23, табл. 1).

Such structures are found in Steppe Scythia, as well as in the south of the Dnipro Right-Bank Forest-Steppe region, where they appear, probably, under steppe influence (Могилов, Бокій 2016, с. 78, 79). Their origin is linked to the steppe of the Northern Black Sea region. Their prototype is known among Cimmerian burial structures (Тереножкин 1976, с. 60, 61). They also existed here in the Early Scythian period, the evidence can be seen in the barrows near Kostiantynivsk-on-Don (Кияшко, Коренько 1976, с. 170, 171), seven (Burial 8) near Novooleksandrivka (Коренько, Лукьяшко 1982, с. 153, 154, рис. 5). However, in the latter case, the step runs only along part of the wall of a narrow pit. Such structures continue to exist in the south in the Middle Scythian and Late Scythian periods (Ольховский 1991, с. 21, 23, табл. 1).

In the south of the Dnipro Right-Bank Forest-Steppe region, on the borderland of forest-steppe and steppe, such graves appear under southern influence in the Middle Scythian period, continuing to exist in the 4th century BC. They are known as Barrows 25 and 32 in Vilshanka (Могилов, Бокій 2016, с. 76, 78), six near Sukhyi Tashlyk (Бокій 1972, с. 171-173), and two of the Pokazove 2 group (Бокій 1971, с. 155). In the 4th century BC, similar burials were concentrated in the Tiasmyn subgroup. In addition to the Svitlovodsk complexes, we can mention Barrows 458 near Turiiia (Бобринской 1906, с. 5, 6), 480 (tombs 1 and 2), 481 (Бобринской 1910b, с. 57-59), 487 near Kapitanivka (Бобринской 1910a, с. 67-71). In the south of the Dnipro-Donets Forest-Steppe re-

gion, this tomb was recorded under Barrow 29 of the Pisochyn cemetery (Бабенко 2005, с. 30, рис. 33: 3-4).

The very geography of their distribution in the steppe with further spread to the south of the forest-steppe, as well as the presence in these northern tombs of features considered to be inherent in nomadic Iranian-speaking Scythians (Скорый 2003), testify to the Scythian origin of this type of tombs. Among them: the burial of the deceased on a spread out protective armour, the presence of burials of a horse, a cauldron, sacrificial animal food, combined with the presence of other weapons and a bridle. All this gives grounds to assume that the pits with steps from the Ukrainian Forest-Steppe belonged to nomadic Scythians (Могилов, Бокій 2016, с. 85).

The pillar tomb.

The pillar tomb from Svitlovodsk can be compared primarily with similar structures of the Eastern European Forest-Steppe. At the Dnipro Right Bank in the 4th century BC, similar structures were allocated to type III, three — pits with post structures. Although pillar crypts are close to them. In total, there were 18 of them (11.6 %) in this period (Ковпаненко, Бессонова, Скорый 1989, с. 43, табл. 8).

For Scythian steppe monuments, wooden tombs are not very common. V. S. Olkhovskiy once counted only 18 such structures here. According to his typology, the Svitlovodsk structure can be classified as Type II, Variant 2. He noted that by the 4th century BC such structures were almost extinct (five structures — 0.38 %). There are a little more of them in the Northern Steppe group bordering the forest-steppe: three structures (9.38 %) (Ольховский 1991, с. 40, 41, 94, 98, табл. 12).

Wooden tombs are not typical for barrowless or "mixed" cemeteries of southern Eastern Europe. Only a log house from Kichkas can be mentioned (Рудинський 1929, с. 50-51).

The forest-steppe origin of the Svitlovodsk wooden tomb can hardly be questioned. However, in terms of the percentage of structures in the necropolis (0.6 %), this type is far inferior to both the Tiasmyn region and the Right-Bank Forest-Steppe region in general. It is also inferior to the Northern Steppe group, which has similar indicators to the Tiasmyn region. Probably, the reason for this should be sought in the common character of the necropolis at Svitlovodsk. Thus, the pillar tomb from Svitlovodsk can be considered as a forest-steppe element, which may indicate the presence of autochthons in the community.

Conclusion

Thus, the analysis of the burial structures showed that a group of sites from Svitlovodsk have analogies in the steppe region and show similarities to the burials of Iranian-speaking Scythians (Могиллов 2023, с. 51). We are talking about such features (Скорый 2003) as the presence of a ditch around the mound and a tryzna in it, catacombs of various types, and pit graves with steps. This may be complemented by the mound and flat grave character of the cemetery, which are known either in the steppe or in the southern forest-steppe, and the burial of meat food. The inventory complex is also similar to the steppe one, with a massive number of weapons, a typical set of decorations, a small number of stuc-

co ware, and the presence of wooden utensils with metal staples.

Anthropological materials also demonstrate similarities with those from Steppe Scythia. This is indicated by the male series of skulls, which has parallels in the Lower Dnipro cemeteries, including some flat grave necropolises (Ефимова 2000, с. 39-40; рис. 1, 2; Круц, Рудич 2021, с. 288-291). This suggests that the basis of the Svitlovodsk community was the Scythian population with steppe roots. At the same time, the presence of a pillar wooden tomb does not exclude the fact that some of the community members could have been forest-steppe inhabitants, who mixed with their southern neighbours.

Received 11.04.2025

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ПОХОВАЛЬНІ СПОРУДИ СВІТЛОВДСЬКОГО МОГИЛЬНИКА СКІФСЬКОГО ЧАСУ НА СЕРЕДНЬОМУ ДНІПРІ

Світловдський могильник належить до найбільших поховальних пам'яток скіфського часу на півдні Східної Європи. Некрополь розкопувався протягом 11 польових сезонів, у 1975, 1979–1986, 1989–1990 рр. експедиціями Кіровоградського краєзнавчого музею і Кіровоградського державного педагогічного інституту. Археологічні дослідження велися під керівництвом Н. М. Бокій, а згодом — І. А. Козир.

Могильник розташовувався на півдні Дніпровського Правобережного Лісостепу на кордоні зі степовим регіоном. Він локалізувався на околиці м. Світловдська — районного центру Кіровоградської області. Пам'ятка наближена до великого мису, при впадінні в Дніпро р. Цибульник. При цьому, на відміну від більшості некрополів з безкурганними похованнями, вона дещо зміщена від краю плато над річковою долиною.

Некрополь виник у місці, де вже височів курган доби бронзи. Декілька найраніших його поховань датуються середньоскіфським періодом. Але абсолютна їх більшість — уже IV ст. до н.е. Грунтові поховання скіфського періоду зосереджені навколо синхронних курганів.

Пам'ятка належить до змішаних ґрунтово-курганних. Загалом тут розкопано 154 ґрунтові могили скіфського часу і п'ять синхронних курганів, які містили сім поховань.

Висота курганів — до 1,5 м, діаметр — 16–30 м. Один з них був оточений кільцевим ровом діаметром 16–17 м, глибиною 0,7 м і шириною 0,9 м, де виявлено рештки тризни. Могильні споруди середньоскіфського часу представлені трьома неширокими прямокутними ямами. Серед могил IV ст. до н.е. переважають прості ями (121 споруда, 76,6 %). Катакомб — 34 (21,5 %), ям зі сходиною — дві (1,3 %), стовпова гробниця — одна (0,6 %). Переважає широтне орієнтування гробниць. У них простежені такі елементи, як дерев'яні перекриття та заслони входів до катакомб, сліди вогняних ритуалів і підстилок під небіжчиками.

Аналіз поховальних споруд та інших елементів поховально-поминальної обрядовості, інвентарного комплексу, залучення антропологічних матеріалів дозволяє висловлювати припущення про те, що основу Світловдської общини складали степові скіфи. Утім до її складу входили і окремі представники лісостепоного населення.

К л ю ч о в і с л о в а: Середнє Подніпров'я, скіфський час, некрополь, курган, безкурганне поховання, могила, катакомба, стовпова гробниця.

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PALEOLANDSCAPE ANALYSIS OF THE EARLY SLAVIC HILLFORT IN OPISHNIA

This article is dedicated to interdisciplinary research of the Opishnia settlement. Based on the integration of archaeological and paleogeographical data, a paleolandscape analysis of the early Slavic settlement is conducted. The study reconstructs the natural environment of the settlement in the Early Middle Ages, highlighting its landscape conditions, main principles of economic activity, and the formation structure.

Key words: the Early Middle Ages, Romny culture, the Slavs, hillfort, geoarchaeology, paleolandscapes, soil, natural conditions.

Paleolandscape analysis is a scientific approach to studying ancient natural landscapes, their structure, dynamics, and evolution during various geological epochs. This analysis allows for the reconstruction of past environmental conditions, including climate, flora, fauna, and human influence on the natural environment.

The main methods of paleolandscape analysis include the study of geological, paleontological, archaeological, and geographical data, as well as the application of modern technologies such as geographic information systems (GIS), isotope analysis, and other chemical markers.

Studying paleolandscapes is important for understanding the economy, culture, and life of early Slavs, as the natural environment directly in-

fluenced the development of their societies. Paleolandscape analysis allows us to reconstruct the conditions in which the Slavs lived and understand how they adapted to changing ecological conditions. These studies play a crucial role in examining settlement structures, as they reveal how settlement sites changed depending on natural conditions, such as climatic shifts, water level decreases, or landscape movements. This helps reconstruct the organisation of space, relationships between different groups, and the preconditions for the emergence of complex social structures. Overall, the study of paleolandscapes is an important tool for understanding how early Slavs interacted with natural environment, how it shaped their economic activities, culture, and social structures, and how environmental changes influenced their development (Горбаненко 2005; Матвіїшина, Пархоменко 2016; Матвіїшина, Пархоменко, Скороход 2019; Горбаненко, Журавльов 2021; Матвіїшина та ін. 2021; Пуголов, Кушнір 2022).

For more detailed information on the results of paleo-soil research of Eneolithic-Early Modern sites as part of the general paleolandscape analysis, please refer to the web resource that includes the corresponding database: <https://paleosoil-holocen.info/> (Leiberiuk, Kushnir, Shvaiko 2024) and summarizing works by the staff of the Paleogeography Department of the Institute of Geography of the National Academy of Sciences of Ukraine (Матвіїшина та ін. 2024).

It is worth noting that such studies in settlement archaeology are not rare. The high mobility of the population, particularly during the Early Middle Ages, caused a reorganization of the natural landscape. As a result, the remains of medieval settlements in Europe serve as indicators of human impact on both the natural and cultural landscapes (Herold 2016, p. 107-120; ed. Contreras 2017; Dobrowolski et al. 2018; Marcinkowski, Szczepaniak 2019; Zamelska-Monczak et al. 2021). On a global scale, climate was one of the factors influencing migration. In this publication, we present the impact of humans on the local landscape, using the example of an early Slavic settlement near Opishnia.

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