

**UKRAINIAN FORTRESSES
A STUDY OF A STRONGHOLDS SYSTEM
FROM THE EARLY IRON AGE IN PODOLIA**

B-PS

21 • 2016

**Yuryi V. Boltryk
Marcin Ignaczak
Oksana Lifantii
Marcin Ławniczak
Łukasz Olędzki
Oleksandr Shelekhan**

ISSN 1231-0344

BALTIC-PONTIC STUDIES

V O L U M E 21 • 2016

BALTIC-PONTIC STUDIES
61-614 Poznań (Poland)
Umultowska 89 d
Tel. 618291418
E-mail: antokol@amu.edu.pl

EDITOR
Aleksander Koško

CO-EDITOR
Marzena Szmyt

EDITORS OF VOLUME
Yuryi V. Boltryk
Marcin Ignaczak

EDITORIAL COMMITTEE
Sophia S. Berezanskaya (Kiev), Lucyna Domańska (Łódź),
Elena G. Kalechyts (Minsk), Viktor I. Klochko (Kiev),
Mykola N. Kryvaltsevich (Minsk), Roman Litvinenko
(Donieck), Jan Machnik (Kraków), Przemysław Makarowicz
(Poznań), Vitaliy V. Otroshchenko (Kiev), Marzena Szmyt
(Poznań), Petro Tolochko (Kiev)

SECRETARIES OF VOLUME
Vitlyi Zhygola,
Marcin Ławniczak
Karolina Harat,
Danuta Żurkiewicz

ADAM MICKIEWICZ UNIVERSITY, POZNAŃ
INSTITUTE OF EASTERN STUDIES
INSTITUTE OF ARCHAEOLOGY
Poznań 2016
ISSN 1231-0344

- Vol. 1: *Weapons of the Tribes of the Northern Pontic Zone in the 16th–10th Centuries BC.*, by Viktor I. Klochko.
Vol. 2: *Nomadism and Pastoralism in the Circle of Baltic–Pontic Early Agrarian Cultures: 5000–1650 BC*, edited by Aleksander Koško.
Vol. 3: *Cemeteries of the Sofievka type: 2950–2750 BC*, edited by Aleksander Koško.
Vol. 4: *Eastern Exodus of the Globular Amphora People: 2950–2350 BC*, edited by Aleksander Koško.
Vol. 5: *Beyond Balkanization*, edited by Lucyna Domańska, Ken Jacobs.
Vol. 6: *The Trzciniec Area of the Early Bronze Age Civilization: 1950–1200 BC*, edited by Aleksander Koško.
Vol. 7: *The Foundations of Radiocarbon Chronology of Cultures Between the Vistula and Dnieper: 3150–1850 BC*, edited by Aleksander Koško.
Vol. 8: *Between West And East People of The Globular Amphora Culture in Eastern Europe: 2950–2350 BC*, by Marzena Szmyt.
Vol. 9: *The Western Border Area of the Tripolye Culture*, edited by Aleksander Koško.
Vol. 10: *Weaponry of Societies of the Northern Pontic Culture Circle: 5000–700 BC*, by Viktor I. Klochko.
Vol. 11: *Fluted Maces in the System of Long-Distance Exchange Trails of the Bronze Age: 2350–800 BC*, edited by Aleksander Koško.
Vol. 12: *The Foundations of Radiocarbon Chronology of Cultures Between the Vistula and Dnieper: 4000–1000 BC*, edited by Aleksander Koško and Viktor I. Klochko.
Vol. 13: *Funeral Rites of the Catacomb Community: 2800–1900 BC Ritual, Thanatology and Geographical Origins*, by Katarzyna Ślusarska.
Vol. 14: *Routes between the Seas: Baltic-Bug-Boh-Pont from the 3rd to the Middle of the 1st Millennium BC*, edited by Aleksander Koško and Viktor I. Klochko.
Vol. 15: *‘Cord’ Ornaments on Pottery in the Vistula and Dnieper Interfluvial Region: 5th–4th Mill. BC*, edited by Aleksander Koško and Marzena Szmyt.
Vol. 16: *Flint Atreifacts of Northern Pontic Population of the Early and Middle Bronze Age: 3200–1600 BC*, by Serhiy M. Razumov
Vol. 17: *Wood Tar in the Dnieper and Elbe Communities: VI – II Millenium BC*, by Sławomir Pietrzak
Vol. 18: *The Ingul-Donets Early Bronze Civilization as Springboard for Transmission of Pontic Cultural Patterns to the Baltic Drainage Basin 3200–1750 BC*, edited by Aleksander Koško and Viktor I. Klochko.
Vol. 19: *Reception Zones of ‘Early Bronze Age’ Pontic Culture Traditions: Baltic Basin – Baltic and Black Sea Drainage Borderlands, 4/3 Mill. to First Half 2 Mil. BC*, edited by Aleksander Koško and Viktor I. Klochko.
Vol. 20: *Podolia as a Cultural Contact Area in the 4th/3rd-2nd Millennium BC*, edited by Aleksander Koško.

Orders regarding *Baltic-Pontic Studies* should be addressed directly to the Editorial Office (BPS, Institute of Prehistory, Umultowska 89D, 61-614 Poznań, Poland). E-mail: iplib@amu.edu.pl; antokol@amu.edu.pl
Moreover, we are pleased to inform that BPS volumes currently out of print (1-20) are available online at the Adam Mickiewicz University Repository (AMUR): repozytorium.amu.edu.pl
Starting with volume 20, the BPS is also available on the De Gruyter Open platform.

The project was funded with measures National Science Center awarded by decision numer DEC-2012/07/ B/ HS3/01917.

**UKRAINIAN FORTRESSES
A STUDY OF A STRONGHOLDS SYSTEM
FROM THE EARLY IRON AGE IN PODOLIA**

Yuriy Boltryk

Marcin Ignaczak

Oksana Lifantii

Marcin Ławniczak

Łukasz Olędzki

Oleksandr Shelekhan

BALTIC-PONTIC STUDIES

V O L U M E 21 • 2016

© Copyright by BPS and Authors
All rights reserved

Reviewers: Janusz Czebreszuk
Przemysław Makarowicz

Cover Design: Eugeniusz Skorwider

Linguistic consultation: Łukasz Olędzki
Ira Sheyko
Agnieszka Tokarczuk

Printed in Poland

Computer typeset by PSO sp. z o.o. w Poznaniu

Printing: TOTEM.COM.PL sp. z o.o. spółka komandytowa

CONTENTS

EDITOR'S FOREWORD	4
EDITORIAL COMMENT	6
PART 1 – THE “UKRAINIAN FORTRESSES” IN THE NORTH PONTIC LANDSCAPE OF THE IRON AGE.....	7
Marcin Ławniczak, Marcin Ignaczak, MACROSPATIAL ANALYSIS OF EARLY SCYTHIAN FORTIFIED SETTLEMENTS IN THE RIGHT-BANK OF UKRAINE	7
Marcin Ławniczak, MICROSPATIAL ANALYSIS OF SELECTED EARLY SCYTHIAN FORTIFIED SETTLEMENTS IN PODOLIA	27
Marcin Ławniczak, PHOTOGRAMMETRY-BASED SPATIAL ANALYSES OF SETTLEMENTS IN SEVERYNIVKA AND NEMYRIV.....	54
PART 2 – THE HILLFORT IN SEVERYNIVKA, ZHMERYNKA REGION, VINNYTSIA OBLAST: RESEARCH RESULTS FROM 2009-2015	69
Oleksandr Shelekhan, Oksana Lifantii, Yuriy Boltryk, Marcin Ignaczak, DEFENSIVE STRUCTURES OF SEVERYNIVKA HILLFORT (EXCAVATIONS OF 2009 AND 2012-2013).....	69
Oleksandr Shelekhan, Oksana Lifantii, Yuriy Boltryk, Marcin Ignaczak, RESEARCH IN THE CENTRAL PART OF SEVERYNIVKA HILLFORT (QUADRATS F80, F90, G71, G81).....	91
Oleksandr Shelekhan, Oksana Lifantii, THE ELEMENTS OF THE HORSE BRIDLE FROM THE SEVERYNIVKA HILLFORT	219
Oksana Lifantii, Oleksandr Shelekhan, METAL ARTEFACTS FROM THE SEVERYNIVKA HILLFORT.....	255
PART 3 – CONCLUSIONS.....	277
Marcin Ignaczak, Yuriy Boltryk, Oleksandr Shelekhan, Oksana Lifantii, Łukasz Olędzki, THE FORTRESSES OF UKRAINE. THE BUILDERS OF EARLY IRON AGE STRONGHOLDS IN PODOLIA.....	277
LIST OF AUTHORS.....	291

Editor's Foreword

This volume of *Balic-Pontic Studies* presents the results of the latest Polish-Ukrainian studies on the 'fortresses of Ukraine', a name originally used to denote a network of Early Iron Age hillforts in the Ukrainian forest-steppe. The scope of their identification is related to the earlier findings of Ukrainian researchers, who linked the issue of 'fortified settlements' (the so-called giants' strongholds) with the influence of the nomads of the steppes. The Scythians brought East-Eurasian cultural patterns to the Pontic region, which was coetaneously colonised by the Greeks. Directly inspiring the cognitive framework of the programme, the findings of Ukrainian archaeologists failed to provide answers to basic questions about the genesis of settlement agglomerations of the 'fortresses of Ukraine' or the way they functioned. Neither did they enable to establish secure dating for this cultural phenomenon.

Diagnostic for the archaeological research on the issue, the site of Severynivka, Zhmerynka Region, Vinnytsia Oblast, was identified as a fortified settlement dating from 'Scythian times' by the 1946-1948 'South-Podolian archaeological expedition' of the Leningrad University led by Mikhail I. Artamonov. The research was continued in the 1960s by Galina I. Smirnova, who analysed the results of M.I. Artamonov's earlier research, and in the 1980s by B.M. Lobay. Intended to determine the typochronology of the hillfort, the investigations did not furnish any detailed information about the context of the settlement base.

The presented Polish-Ukrainian 'Podolia programme' was carried out between 2009 and 2015, under the grant of the Institute of Archaeology of the National Academy of Sciences of Ukraine; the Institute of Prehistory (now the Institute of Archaeology) Adam Mickiewicz University, Poznań, Poland; the Poznań Prehistoric Society; and from 2013 also the National Science Centre under the grant: „*Fortece Ukrainy. Badania nad systemem grodzisk z wczesnego okresu epoki żelaza na obszarze Podolia*” [*The Fortresses of Ukraine. The studies on the system of the Early Iron Age hillforts in Podolia*] (No. UMO-2012/07/B/HS3/01917).

In addition to excavations that were aimed at examining the fortifications of this diagnostic fortified settlement and producing archaeological and bioarchaeological sources, this programme included also an innovative (in terms of its methodology) geospatial prospection. Providing the first summary of the issue of the

fortresses of Podolia, this collection of papers offers a prologue for further research, mainly into the way these Late Bronze Age/Early Iron Age hillforts of the forest-steppe zone functioned in the settlement space.

This volume discusses the results of such outlined research programme in two cognitive dimensions. The first – general, macro spatial – looks at the geography of the settlement in right-bank Ukraine (part 1). The other one is source-related. It seeks to identify the concept behind the settlement in the Severynivka hillfort, a ‘test area’ for detailed findings, mostly regarding the taxonomy, typochronology and chronometry of the phenomenon of the ‘fortresses of Podolia’ (part 2).

The papers in this volume of BPS were peer reviewed by Professors Janusz Czebreszuk and Przemysław Makarowicz.

Editorial comment

1. All dates in the B-PS are calibrated [BC; see: Radiocarbon vol. 28, 1986, and the next volumes]. Deviations from this rule will be point out in notes [bc].
2. The names of the archaeological cultures and sites are standarized to the English literature on the subject (e.g. M. Gimbutas, J.P. Mallory). In the case of a new term, the author's original name has been retained.
3. The spelling of names of localities having the rank of administrative centres follows official, state, English language cartographic publications (e.g. *Ukraine, scale 1 : 2 000 000*, Kyiv: Mapa LTD, edition of 1996; *Rèspublika BELARUS', REVIEW-TOPOGRAPHIC MAP*, scale 1 : 1 000 000, Minsk: *BYELORUSSIAN CARTOGRAPHIC AN GEODETIC ENTERPISE*, edition 1993).

Oleksandr Shelekhan*, Oksana Lifantii**, Yuriy Boltryk***, Marcin Ignaczak****

DEFENSIVE STRUCTURES OF SEVERYNIVKA HILLFORT (EXCAVATIONS OF 2009 AND 2012-2013)

ABSTRACT

The article focuses on the research results of Severynivka hillfort fortifications. In 2009 a rampart and a moat on a cliff on the south floor-level side. In 2012-2013 there was made a rampart and escarp sections in the north-eastern part of the fortification. Separate stages of its construction are distinguished; the possible reconstruction of the defensive structures is suggested.

Key words: Black Sea region forest-steppe, Scythian time, hillfort, fortification, defensive structures, Early Iron Age

During the field seasons in 2009 research was conducted on the fortifications from the south side cliff floor-level of the Severynivka hillfort. Topographical conditions of the archaeological site location correspond to the construction features of the Scythian period fortifications. Defensive structures are a simple hoe-like fortified settlement of square-shaped form with one yard and one defense line [Moruzhenko 1969: 66; 1985: Fig. 2].

Nowadays the fortifications are preserved only by the floor-level south-eastern side, and the north-eastern side – by the natural ravine (Fig. 1: 1). According to

* Institute of Archaeology, National Academy of Science of Ukraine, Heroyiv Stalingrada, 254655 Kyiv, Ukraine, e-mail: dr.schultz.1399@gmail.com

** Institute of Archaeology, National Academy of Science of Ukraine, Heroyiv Stalingrada, 254655 Kyiv, Ukraine, e-mail: oksanalifantiy@gmail.com

*** Institute of Archaeology, National Academy of Science of Ukraine, Heroyiv Stalingrada, 254655 Kyiv, Ukraine, e-mail: boltryk@ukr.net

**** Institute of Archaeology, Adam Mickiewicz University, Umultowska 89D, 61-614 Poznań, Poland, e-mail: ignaczak@amu.edu.pl

written sources the fortification was originally surrounded by the rampart from three sides and on the Riv river side it was protected only by a steep cliff [Setsinskiy 1901: 225].

Regarding the entrance to the hillfort, there are a couple of theories. E. Yu. Setsinskiy noted that the entrance is located from the east. G.I. Smirnova wrote about two gaps between the two ramparts from the south and east. However, if the southern entrance is fairly modern, the situation with the eastern one is less clear. Here at the gap there are two “curtains” that are branching away [Smirnova 1961: 88, Fig. 1]. However, as they have not been researched yet, it is not clear enough to state their nature, as it is possible that they were formed during the World War II. The entrance to the hillfort on the rampart slope was traced on the Getaeans hillfort Tabara [Levinskiy 2010: 64].

The first season of excavations on fortifications area was implemented in the 1950s by the efforts of the Pivdenno-Podilska expedition headed by M.I. Artamonov [Artamonov 1955: 100]. The western edge of the cliff was partly reconstructed, because the part of the hillfort was continually destroyed to date. Researchers noted the presence of the cultural layer under the rampart that was presented with the ash filling pit and the hearth on the stone pavement. The rampart itself was divided into two horizons due to the presence of layers associated with fire. It was indicated by traces of burnt wood and clay. The moat had not been studied. Thus, firstly, the separation of the pre-fortified period of the archaeological site was ascertained, and, secondly, it was established that there were two construction periods [Smirnova 1961: 91].

1. EXCAVATIONS IN 2009

During the excavations new data on the structure features of Severynivka hillfort defensive structures was obtained. At first, the profiles of the fortifications from the floor-level side (Fig. 1: a-d) and from the ravine side (Fig. 1: e, f) were stripped. They showed that from the south-western floor-level side the hillfort was protected by a strong rampart and a moat that had all along approximately the same parameters on its full length. From the north-eastern side, where until recently there was a small stream, an archaeological monument was surrounded only by a low rampart that ends with a natural ravine.

The area on the southern part of the hillfort was chosen for the investigation (Fig. 1: a). The archaeological section of the defensive structures, perpendicular to the longitudinal axis of the rampart, was laid behind the south-east – north-west line. We arrived at it by stripping the cliff line on the same segment that was investigated in 1953. However, this section is separated from the previous one by

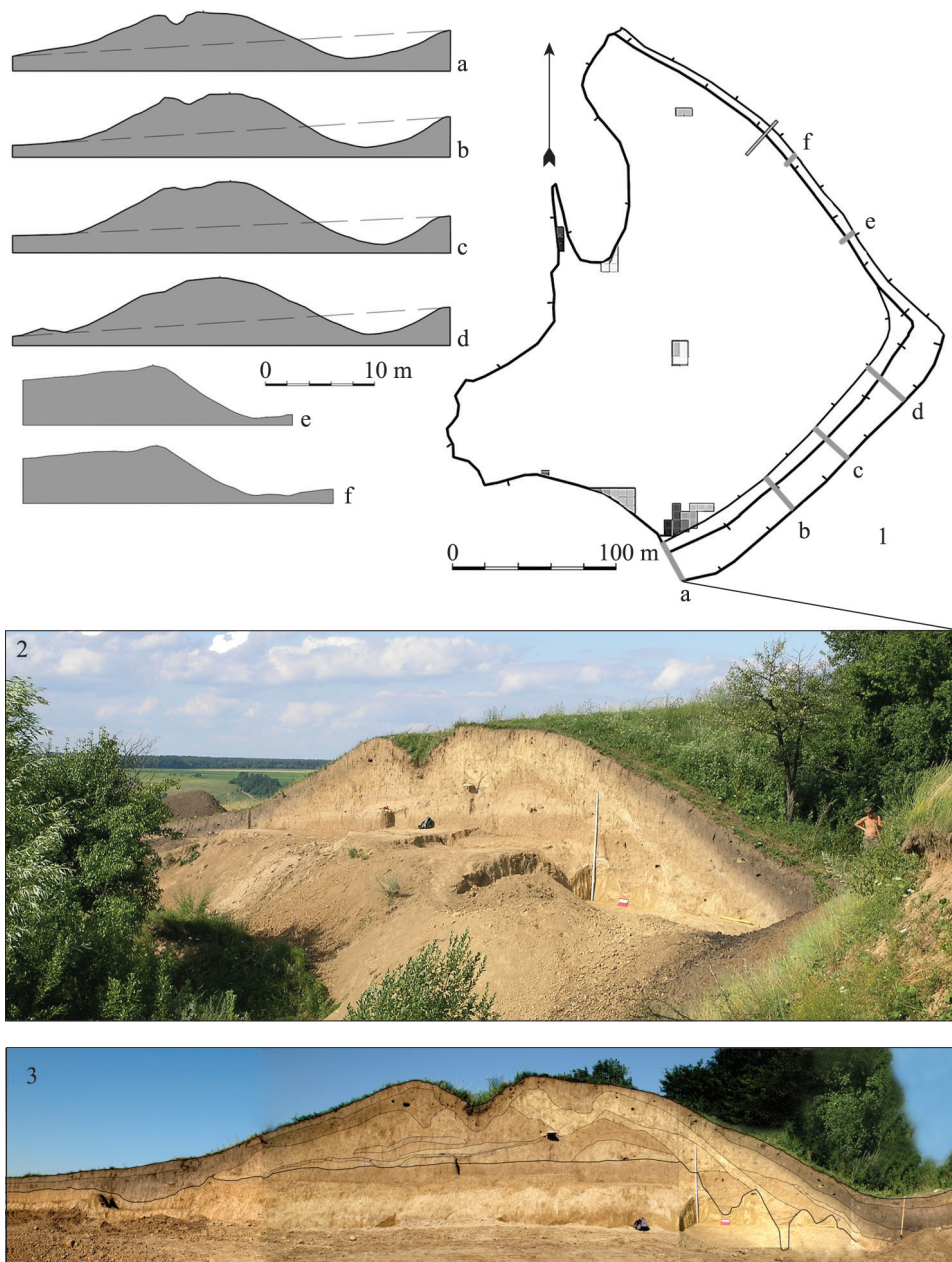


Fig. 1. Severynivka, Vinnytsia Oblast. The section of defensive structures of 2009. Key: 1 – hillfort plan and profiles of defensive structures; 2 – photo of rampart rabotage from the floor-side; 3 – rampart profile

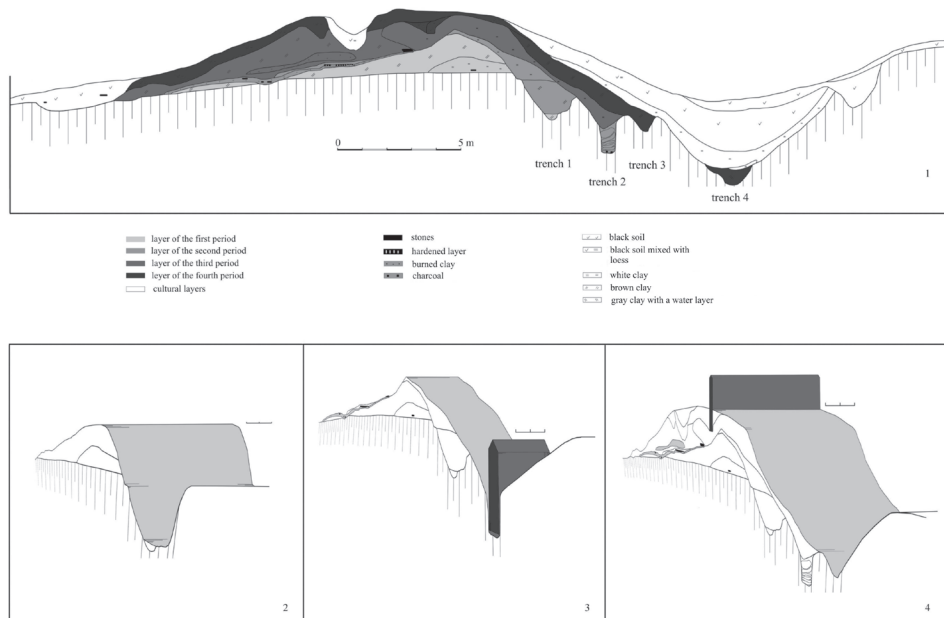


Fig. 2. Severynivka, Vinnytsia Oblast. The section of defensive structures of 2009. Key: 1 – section drawing; 2 – version of the first construction period defensive structures reconstruction; 3 – version of the second construction period defensive structures reconstruction; 4 – version of the third construction period defensive structures reconstruction

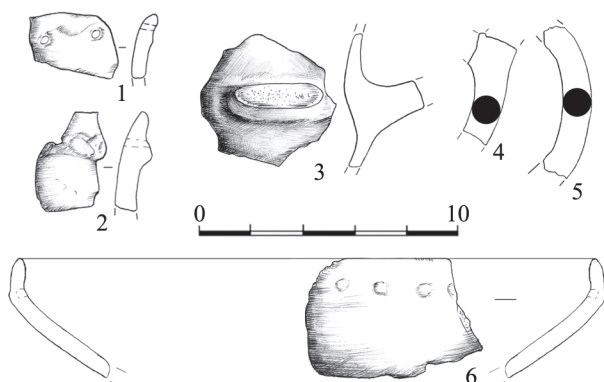


Fig. 3. Severynivka, Vinnytsia Oblast. Archaeological materials from the section of 2009. Key: 1-2 – pots rims; 3-5 – ladles fragments; 6 – bowl rim

approximately 15 m. After all, the cliff's modern line has significantly deepened into the hillfort due to erosion activity.

The section of 2009 (Fig. 2: 1) gave the following picture.

The rampart of 2.65 m height and about 20 m width, consisted of different colour and consistency clay layers. An internal lap "lies" in the cavity, which can be considered as pre-rampart groove, where the soil was taken for the bank [Zlatkovskaya 1965: 221]. Under the internal lap a stone pavement with traces of burnt clay was attached. It was covered with an ash layer comprising small stones and coal lens inclusions. At three metres from the pavement the layer was partially deepened into the buried soil. The rampart bank lies directly on a loam layer, based on what can be concluded the black earth was removed before its construction [Goleva *et al.* 2014: 92], or the old ground surface was at the loamy soil level. No cultural layers have been found under the rampart bank.

From the floor-level side the rampart was reinforced by a moat. At the beginning of the excavation it had largely slid down. During the excavations, under the south-east outer rampart lap, which was gradually going down into the moat, traces of three more moats were found. Since each of the four moats was consistently covered by layers of soil, therefore the presence of four constructional periods can thereby be stated.

At first look, this impractical system of the previous moat overlying the next rampart is known among Scythian antiquities. It was observed, for example, in Kamiansk [Moruzhenko 1975: 66], Tsyркunivsk [Kriutchenko 2016: 116-118] and Motronin hillforts [Chochorowski, Skoryi 2006: Fig. 2-5]. It is possible that as the moats are not contemporaneous to each other, it can be considered that there are three consistently overlaid "benches" in the Mateutsy hillfort moat [Zlatkovskaya 1965: 220-221, Fig. 4].

It is noteworthy that there may be other interpretations. For instance, A.N. Levinskiy implies, based on the fortifications reconstruction of Getaian Saharna "La Ravechyn" hillfort, that a chain of moats – is a synchronous element of the same wall [Levinskiy 2010: 61, Fig. 4]. However, it should be noted that unlike the proposed reconstruction, we traced the consistent overcutting and overlapping of moats by each other.

Let's consider the construction elements step-by-step.

In general, today we can reconstruct with a certain probability the exterior view of fortifications from only the first and the second construction periods (Fig. 2: 2-3), because their mounds were securely backfilled with the following layers.

Moat no. 1, which is correlated with the first construction period mound, initially had a triangular shape, but after reconstructing, it became trapezium-shaped, as evidenced of the lowest layers of the stratigraphy and the "step" in the outer wall. From the ancient buried surface level, its depth is 2.05 m, and the width – is 3.25 m. According to the mound stratigraphy, the first moat is associated with the dense rampart lower layers. It is a primary mound of white and red clay with a height of

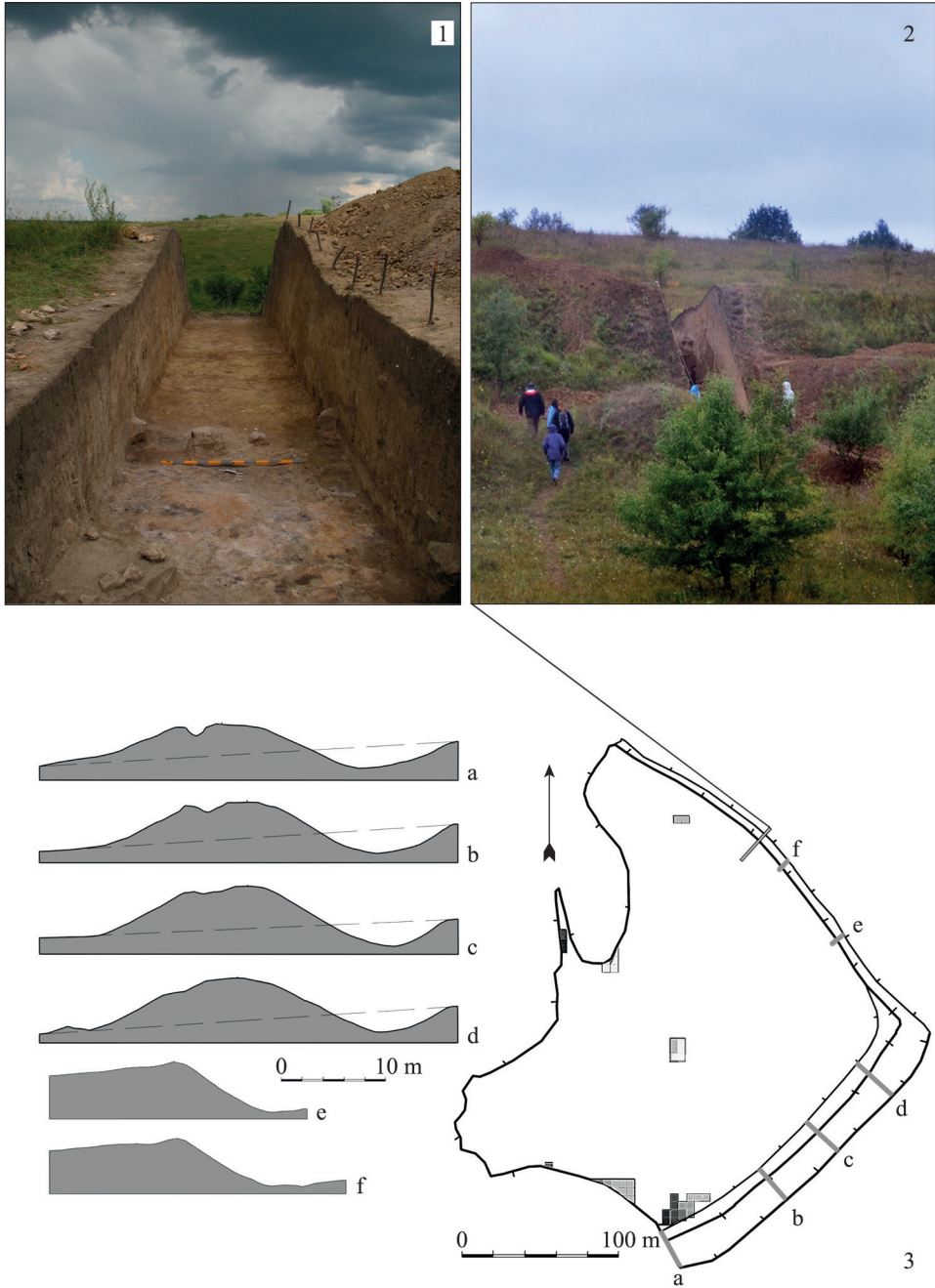


Fig. 4. Severynivka, Vinnytsia Oblast. The section of defensive structures of 2012-2013. Key: 1 – hillfort plan and profiles of defensive structures; 2 – photo of the section rabotage on the fireplace level; 3 – photo of the section from the east

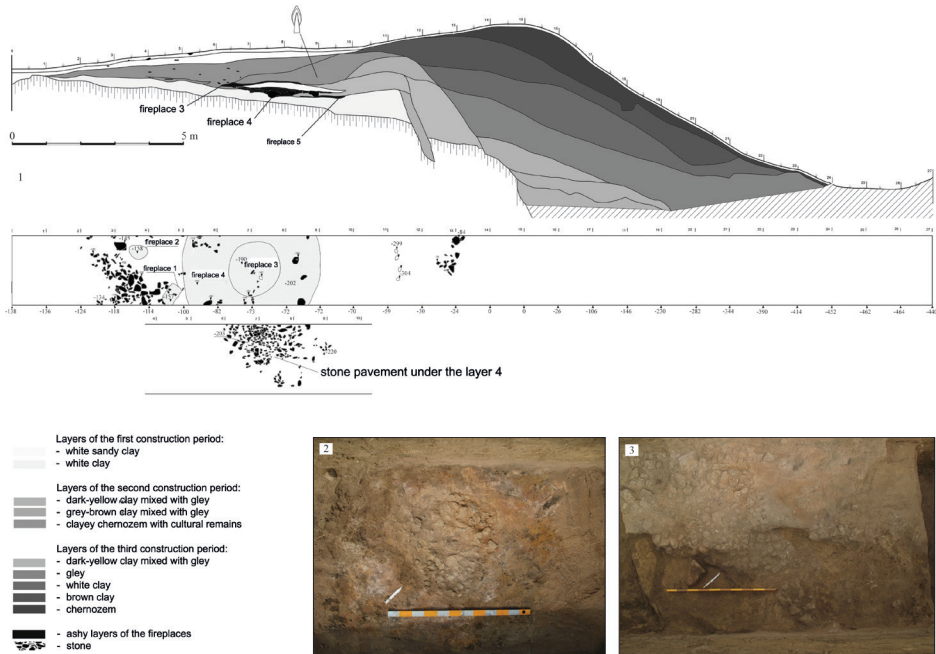


Fig. 5. Severynivka, Vinnytsia Oblast. The section of defensive structures of 2012-2013, north-western baulk. Key: 1 – section drawing; 2 – photos of the fireplace 4; 3 – stone pavement at the base of fireplace 4

1.35 m. From the inside, gradually going down the mound stretches for 11 m, forming a flat and downhill slope, which would be inherent to the following stages of construction. This construction detail was traced in the mound of the first period in Nemyriv hillfort [Moruzhenko 1985: 66] and also reconstructed based on the results of Kamiansk hillfort fortifications research [Moruzhenko 1975: 139-140].

Judging by what can be seen there are no traces of fixation in the mound of the first period of over-rampart wooden structure, so it can be assumed that at this time the rampart had no additional structures (Fig. 2: 2), such as the second construction period of the Great Bilsk hillfort [Shramko, Shramko 1991: 46]. It is also likely that the wooden structure had the form of light frame construction, supporting pillars of which were not recorded, as they did not get into the section [Zanoci 2013: Fig. 10: b].

Moat no. 2, associated with the mound of the second period, is of an unusual shape – triangular with a narrow deep ditch at the base. Its total depth is 3.7 m, width – 5.5 m. The ditch width is 0.6 m, depth – 1.4 m.

The rampart height of the second period was added by only 45 cm and from that time its overall height was 1.8 m. Its outer slope became more inclined by the backfilling of the first moat. The mound also had not had traces of a wooden struc-

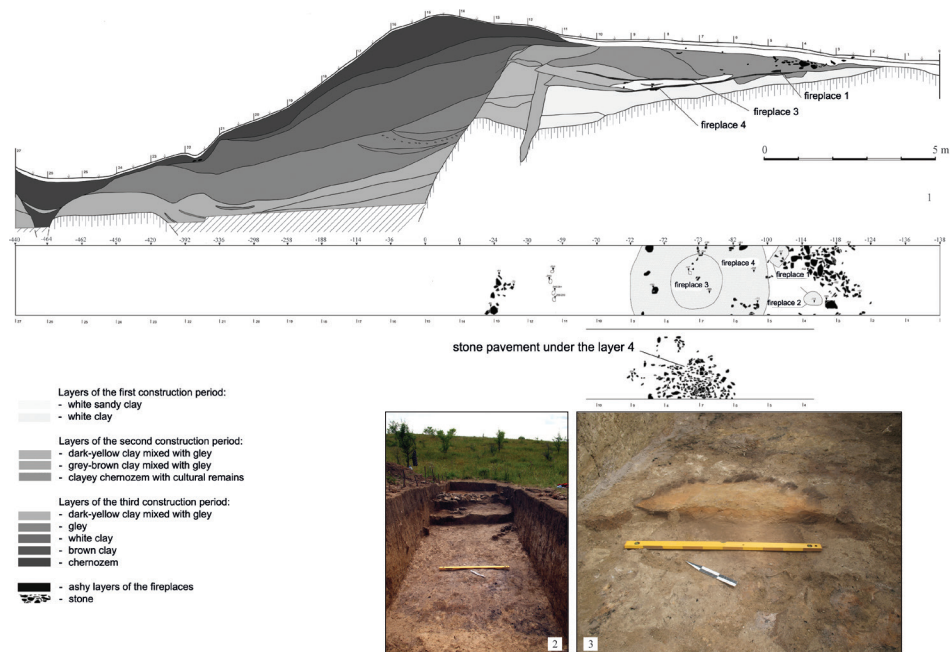


Fig. 6. Severnyivka, Vinnytsia Oblast. The section of defensive structures of 2012-2013, south-eastern baulk. Key: 1 – section drawing; 2 – rabotage on the fireplace 3 level; 3 – section of fireplace 3

ture. Radical restructuring to the moat was undertaken wherein 2.5 m of it was dug out from the previous one. In this case, it can be assumed that the deep narrow ditch at the bottom, which was fixed, served for the vertical fixation of stakes in the moat (Fig. 2: 3). It is indicated by the very form of the ditch and the remains of charcoal on its bottom. Similar construction features are recorded on Liubotynskiy [Shramko 1998: Fig. 3], Velykomolshanskyi [Shevchenko 2006: 137] and Semylyky hillforts [Priakhin, Razuvaev 1995: Fig. 3: 4].

According to the stratigraphy of natural soil overcrust, it can be argued that the paling did not exist throughout the functioning of the rampart and moat of the second period. Perhaps, because of destruction, the stakes were extracted and the ditch had been silting up for several years (?). After that the moat was backfilled and the construction of the following period was built there.

We also see that the ashy layer and rock pavement overlay the inner mound of the first period. Evidently, they refer to the time of functioning of defensive structures of the second period. The width of the pavement mentioned hereinabove is up to 2.0 m. It consisted of small stones with a diameter up to 5.0 cm, which were lying in a semicircle clay mound. A small layer of burned clay and an ashy layer with small pieces of charcoal inclusion were recorded there.

There is a discussion about the nature and purpose of fired clay in fortifications' mounds. According to the first point of view, clay was fired for getting cementing features. The second point is that fired clay got into the rampart mound as a result of the destruction of wooden structures [Kriutchenko 2013: 155].

Along with progress of excavations it became clear that each of these theories have the right to exist due to the disparity of conditions in each case. In the context of Severynivka hillfort structures, the formation of fired clay is associated with the vital activity of the hillfort inhabitants, as it is placed together with stone pavement. Perhaps it is the remains of the fireplace, built on the flat inner slope of defensive structures.

Moat no. 3, associated with the mound of the third construction period, is relatively small. Only the lower near-bottom part of the triangular shape remained there. In general, it might be said that its depth was 2.75 m, width – up to 5.0 m. The filling had soil overcrust feature.

The third construction period is marked with larger scale works. The rampart height was 2.4 m, width – 11 m. Thus, the rampart became trapezoidal in shape and its size came nearer to that one, which is seen today. Judging from the outer rampart slope the proportions of moat slopes were similar to the previous one. However, in this case, perhaps, the moat was cut in order to make its slope more rapid.

Moat no. 4, which related to the fourth construction period, is the largest – its depth is 4.05 m, width is up to 15.7 m. Initially, it had a triangular shape. After the rabotage, the traces of which are preserved in the stratigraphy, its shape approached the trapezoid one, but after the ancient builders had not reached the initial depth, the moat was extended by approximately two metres. Moat filling includes natural soil overcrusts, redeposited soil, which slid down from the rampart, and a modern trash layer.

The beginning of using soil from the inside of hillfort territory for the rampart construction is also associated with the fourth construction period. It can be indicated by a significant difference in the layers' features. It is obvious that the natural clay, removed from the moat, was mounded from the outer side, while from the inner side it was mixed chernozem-clay soil.

In the layer, which is the third period mound, there was a trapezoid pit above with a lower base width, where it had an ashy filling, of about 50 cm height. It can be assumed that we are dealing here with the post hole. In this case, the wooden structure of the fourth period appears as a palisade (Fig. 2: 3). It is possible that on the inside it was fastened with a “strainer” similar to the East Bilsk hillfort structures [Shramko 2016: Fig. 5] or to the Hod Hill type mound (according to I. Ralston) [Ralston 1996: Fig. 5: 3].

Quite simple construction of the palisade of this type is known at the Great Bilsk [Shramko, Shramko 1991: 46], Mohnachanske and Tsyrkunivske hillforts excavations [Hrechko 2010: 30]. Unfortunately, due to natural and anthropogenic fac-

tors it is impossible to authentically present the appearance of the rampart during its maximum size. Currently, we can only conclude that the present overall height of the fortifications from the top of the rampart to the bottom of the deepest moat, equals 6.7 m. For comparison, the total height of the Great Bilsk hillfort structures was 7.58 m [Shramko, Shramko 1991: 46]. The general parameters of defensive structures are shown in the table.

Table 1

Severynivka, Vinnytsia Oblast. Construction periods parameters

Period	Moat measurements		Rampart measurements		General Measurements	
	depth	width*	height	width	height	width
1	2.05	3.25	1.35	9.0**	3.40	12.25
2	2.30***	5.50	1.80	9.0**	4.10	14.5
3	2.40	5.60	2.35	11	4.75	16
4	4.05	15.7	2.65****	20	6.75	35.7

Remarks

- * theoretical width based on the inclination angle of the outer rampart slope;
- ** width including the internal area;
- *** depth without supporting ditch reference;
- **** as of today.

During the research of the hillfort territory in 2009-2012 a stone pavement on the inner rampart slope was recorded. From the fireplace pavement, which was recorded in the inner rampart slope of the second construction period, the construction differed as was made up of large boulders that were deposited on a larger area. During the excavations they were reconstructed and its lower part, which overlaid the rampart on the 20 m segment, was recorded. The stones partly overlaid the earlier complexes. However, cultural deposits were recorded over the stones layer. Unfortunately, the section did not include a vertical leveling of the pavement. However, discovered, it was deposited just below the topsoil layer, which allowed for connecting it with the final stage of the defensive structures erection.

A similar picture can be seen in section of 1953 excavations. The existence of separate stone platforms under the rampart is recorded by previous excavations, although they were treated by G.I. Smirnova the elements of cultural layer, which was under the defensive structures. Therefore, she separated a fortified and pre-fortified periods of the archaeological site's existence [Smirnova 1961: 91, Fig. 4].

However, if you pay attention to the section plan and imposed a cultural layer of the section of 1953 on the first construction period, highlighted by us, they

will almost completely coincide. Obviously, researchers in 1953 limited only by the rampart rabotage, did not here a full and complete picture and considered the mound of the first period as natural. While, from our point of view, the cultural layers found in the rampart mound in the form of fireplace with a concomitant ashy layer are directly related to the period of fortifications functioning. They do not distinguish the rampart mound and cultural layer, but the mounds of the first and second periods.

On the fireplace level significant, though not numerous, cultural remains were found. In particular, separate pot rims that were decorated with stuck raised border and pricks (Fig. 3: 1, 2). The bowl rim was ornamented with pricks and pearls (Fig. 3: 6). Findings of ladles are presented by fragments of handles (Fig. 3: 3-5). A rim of the big ladle with oval-shaped handle should be singled out (Fig. 3: 3). Thus, the mentioned artefacts are similar to the findings from the layer and hillfort complexes and belong to the same cultural horizon.

Returning back to the stone pavement, it should be noted that in general the usage of stone in defensive structures is not a typical feature of the Scythian forest-steppe hillforts. It is assumed that in this case Hallstatt traditions influenced it [Moruzhenko 1985: 170].

It is notable that unlike classical Hallstatt fortifications, which had powerful cages filled with stone, or dry masonry [see: Ralston 1996: 61; Dular, Hvala 2007: 84, Fig. 40-44; Niculiță *et al.* 2013: Fig. 23], the Black Sea region forest-steppe defensive structures were different in using stone in a more simplified manner. Only lap pavement was examined here. In this regard it should be also mentioned about the reconstruction of Saharna Mare hillfort defensive structures [Niculiță *et al.* 2013: 302; Niculiță, Zanoci *et al.* 2013]. Strengthening internal rampart slope with stone is also an example of La Tène fortifications which was reconstructed [Ralston 1996: Fig. 5: 7; Krause 2011: 141].

In favor of above-mentioned assumptions it is proved that this practice is inherent primarily for the western area of Scythoid culture. In particular, similar layers were recorded in the Hryhorivka hillfort on the Dniester [Artamonov 1955: 100]. Although natural factors play an important role – Podolia hillforts were often built near stone material outcrops.

Thus, as a result of Severynivka hillfort fortifications research in 2009 we managed to make important stratigraphic observations. There were four construction periods that correspond to the stages of a fundamental restructuring of defensive structures. The specificity of bedding the layers indicate that protective structures were built directly at the beginning of the site existence. Recorded cultural layers were formed during the fortifications functioning, and the acquired archaeological material is similar to the material from hillfort complexes.

The second section of defensive structures was laid in the north-eastern part of the hillfort (Fig. 4). From this side, it was limited by a ravine, and visually allocated artificial highlands were ascended above the hillfort only for 1.5 m. They consisted of a small rampart of approx. 0.5 m height and on the inside sloping area of 1.0 m height and approximately 10 m width (Fig. 4: e, f). According to the surface profiles feature, we assumed that at this part the scale of fortifications was more modest and was limited to the construction of a small rampart, possibly with the escarpment of the slope.

In 2012 in the north-eastern part of the hillfort a trench with length of 27 m and width of 2.0 m was laid. It passed perpendicularly to the rampart axis on azimuth 45° . Its eastern edge laid on the ravine lowland and ended south – at 14 m from the top of the rampart. South corner of the trench lies at a distance of 198 m in azimuth 14° from the mark. From the south-eastern corner of the hillfort the trench is distant for 170 m.

The main aim was to get the horizontal stratigraphic pattern of defensive structures, it was not obtained by rabotaging the cliff in 2009.

However, the excavations had brought some surprises. Over time, it became clearer that the volume of the mound is much larger than we could assume on the basis of the modern surface. It turned out that by nature the north-eastern part of the hillfort was more slanted than today. Ancient fortifications builders considerable work, by raising this slope above the valley stream. The volume of defensive structures here were no less large-scale than from the floor-side (Fig. 5, 6).

Above the section our expedition worked for two field seasons in 2012-2013. In the third year we were forced to stop the work due to the catastrophic erosion of the trench walls. As a result we could only cut the rampart mound and the mound area on the inside. The moat, if it was built, has remained unexplored. Only in the south-eastern baulk we managed to record the layers that can be identified with the top part of the moat filling (Fig. 6). In view of the incompleteness of the received stratigraphic pattern, we consider it appropriate to notice that further conclusions are preliminary. This is especially applied to the numeration of construction periods.

It should be separately noted that as from the floor-side, on this part the fortifications were built directly on the natural sterile loam. All the following cultural deposits are recorded in the rampart mound and associated with the periods of its functioning.

The first construction period is represented by the rise of the point level over the natural slope. The latter is recorded by the natural loam layer, which gradually decreases to the valley stream. On the loam an initial area of light yellow clay

with the outside thickness of 0.85 m was poured. The width of the area is 9.5 m and it is gradually shrinking from the inside. It is probable that, there had been a further escarpment of the slope from the outside, which was later destroyed by the following reconstructions.

In the layer of the light-yellow clay four asymmetrically tapered columns which let in the natural loam layer were traced. Unfortunately, none of them got into the vertical baulk. With a diameter of 0.10-0.15 m they were distinguished by black filling with the inclusion of charred wood. Perhaps they remained from the lightweight wicker paling recorded on the palisade [Zanoci 2013: Fig. 10: b].

Mixed grey-yellow clay layer with the inclusion of concretions and gley is recorded above. Obviously, it remained from the clay mound that was propped up by probable palisade.

On the inner slope of the structures of the first construction period three not simultaneous fireplaces were built, which received numbers 3-5.

Fireplace 5 seems to not have been functioning long as it was recorded as a lens of fired clay with a diameter of 130 cm, framed from the top with a thin layer of ash with a capacity up to 0.05 m (Fig. 5: 1). The lens went to the northern baulk. Fragments of any cultural remains at or on the fireplace level had not been recorded.

Fireplace 4 lies directly above the previous one. It is represented by an enroachment (Fig. 5: 3) with a diameter of 2.5 m that is overlaid with a layer of fired clay and ash (Fig. 5: 2). The diameter of the individual stones reaches 45 cm. The measurement of the vast majority of stones is within the range of 10-20 cm. The thickness of the ash layer that was formed above the stones is 10 cm, diameter – 4.0 m. In the north-eastern corner of fireplace 4 a large piece of charcoal that was not burnt-out and not smouldered was recorded. From the top fireplace 4 was overlaid by the sterile layer of white clay with a thickness of 0.2-0.3 m, which indicates it targeted backfill. Neither in ashy layer of fireplace 4, nor anywhere on its level have any findings been discovered.

Fireplace 3 was constructed on the white clay layer just over the previous fireplace 4. It did not have got a stone structure. It was fixated only as a lens of fired clay, overlaid with an ashy layer (Fig. 6: 2, 3). Obviously, it operated for less time than the previous one. Fired lens diameter was 110 cm, thickness – 5.0-10 cm. Diameter of the ashy layer reached 150 cm, thickness – up to 5.0 cm. It should be noted that in the central part of the lens an old digging filled with ash which could be traced to the ash removed from the side, was recorded. No cultural deposits have been recorded anywhere near the fireplace 4.

The second construction period is recorded by a number of features. From the outside the escarpment is clearly seen, it is overlaid by mixed layers of gray-brown clay with inclusions of gley. These layers may be perceived as remains of a down rampart that has slid down. The rampart and the escarpment line goes down to the mouth of the probable moat that we were not able to explore.

From the outside the second period mound is represented by a top up with the gley rampart platform level of 9.0 m width. It consisted of mixed clay and black soil and completely overlaid the fireplace 3 spot. Probably the ground for this platform was taken from the hillfort territory, as cultural remains were recorded there. Perhaps they come from before-rampart excavation, arranged in close proximity to the rampart.

This layer is characterised by mixed chernozem and clay soil with inclusions of charcoal fragments, animal bones and daub (some of them have stamps of the pal-ing). Close up to the rampart mound, its thickness reaches 70 cm and it gradually decreases in the direction from it.

From the inside the layer, saturated with cultural remains, was limited by the small stone pavement. The composition and nature of it are identical to the pavement that marked the rampart mound from the floor-level side. Under these stones two spots of fireplaces 1 and 2 were traced. However these objects occurred directly in the layer without any horizons marks and perhaps remained from one-time lighted fireplaces.

The findings are presented by fragments of handmade pottery, daub and animal bones. In general, the gained archaeological material occupies the same cultural and chronological niche as artefacts of the cultural layer and complexes of the hillfort.

The rims of the pots are decorated with stuck raised border with taps that is accompanied by pricks or stabs (Fig. 7: 1-8). Occasionally a similar raised border is fixated on the edge of the vessel (Fig. 7:10). Lids rims, recorded in the cultural layer, are disc-shaped with a diameter roughly corresponding to the diameter of the pots rims (Fig. 7: 11-15). In the Dniester region a handmade pottery complex, similar to the Severynivka one, was recorded at the settlement near the Zalissia village [Hanina 1984: 77]. This ancient archaeological monument by numerous imports was attributed to the end of the 7th – beginning of 6th century BC [Bruyako 2005: 199], but not before the middle of 7th century BC [Levitski, Kashuba 2009: 104]

There is a notable finding of a large pot's rim, decorated with a stuck handle-rest, under which there are no deep grooves in the shape of concentric circles (Fig. 7: 9). Traditionally, such ornament is considered by researchers to be a Hallstatt heritage. Although the negligent performance of this motif makes us assume its local manufacture ("à la Hallstatt" by O. Spitsin). Informative series of similar fragments is derived from Nemyriv hillfort [Smirnova 1998: 92; 2001: 37].

Also from the rampart mound comes a representative sample of ladles fragments. Analogies to them are known in the archaic forest-steppe archaeological monuments. These are: Shutnivets barrows 5 and 6 [Hutsal 2007: Fig. 1:20, 21], barrow 4 in Teklivskyi necropolis [Hutsal *et al.* 2007: 20], Repiakhuvata Mohyla, burial 2 [Grechko 2012, Fig. 2], Herasymivka, mounds 1 and 2 [Ilinskaya 1968: Tab. XIV, XLVI].

One of the most informative findings is the whole profile of the black-glossed ladle with S-shaped shallow cup with a rounded base and curved outwards rim.

It has got a high round in section handle, decorated with a “button”. At the base there is a hollow – “omphalos” (Fig. 7:19). The latter feature is inherent for rather archaic items, for instance, in Bobrytsia, mound 41, there was a similar ladle which was combined with the chalice, decorated with different ornaments [Kovpanenko 1981, Fig. 12].

A number of similar wares originate from early Scythian burial complexes of Podolia. The closest analogies are from Shutnivtsi, barrow 4, which is dated by the end of 7th – first half of 6th century BC [Hutsal 2007, Fig. 1:22]. The barrow near the Kruglyk village is indicative, which contained a similar ladle. Its date was originally specified to be within the middle – the second half of 6th century BC, later it was changed to the second half of 7th century BC [Smirnova 1993: 110]. In the Bug River region ladles with a shallow cup were a typical component of Nemyriv hillfort material culture [Smirnova 1993: 95; 2001; 2002].

A rim of the slightly curved high ladle, ornamented by two parallel horizontal lines (Fig. 7:17) should be noted separately. We can assume that its decoration reflects the extreme degree of simplification in ornamentation of different tableware [Daragan 2011: 534].

Fragments of bowls have rounded shape with a curved rim, with a common ornament of pricks with pearls, which is typical for the early Scythian time. There were two black-glossed bowls rims with a plastic ornaments. One of them is ornamented with paired oblique projections on the rim (Fig. 7:24). On another bowl rim, which is less preserved only one curved projection was recorded (Fig. 7:25). This feature is found on archaic wares from Medvyn (group II, barrow 2) [Kovpanenko 1981, Fig. 31].

This tradition is implemented in the Pre-Scythian time forest-steppe. Such bowls are found in the earliest complexes of Zhabotynske settlement, namely the dwelling from the 1/1950 site [Daragan 2011: Tab. 6] and are prevalent during its entire existence. The findings from the pit dwelling of the 14/1957 site and ground dwelling of the 9/1953 site also indicate that. The latter complex may be one of the latest in the archaeological monument [Daragan 2011: 542, Tab. 55, 57, 86] and refers, in our opinion, to the middle of 7th century BC.

Two spindle whorls in the layer were also recorded there. One of them has got a standard spherical shape (Fig. 7:26). The other one is in the shape of a chalice with a straight rim, rounded body with notches on the edge (Fig. 7:27).

The most interesting finding in this layer is a trilobite arrowhead in the shape of bay leaf with a broad head and protruding base (Fig. 7:29). Similar items with or without a tang occupy a prominent place in the quiver sets from Repiakhuvata Mohyla, burial 2 [Ilinskaya *et al.* 1980: Fig. 14] Kurylivka, barrow 77 and Lazirtsy, barrow 2 [Kovpanenko 1981: Fig. 25, 26]. With the greatest probability – the above-mentioned complexes can be dated to the end of 7th – beginning of the 6th century BC. It should be noted that the arrowhead was recorded in the cultural layer in the “hanging position” without a reference to any traces of destruction.

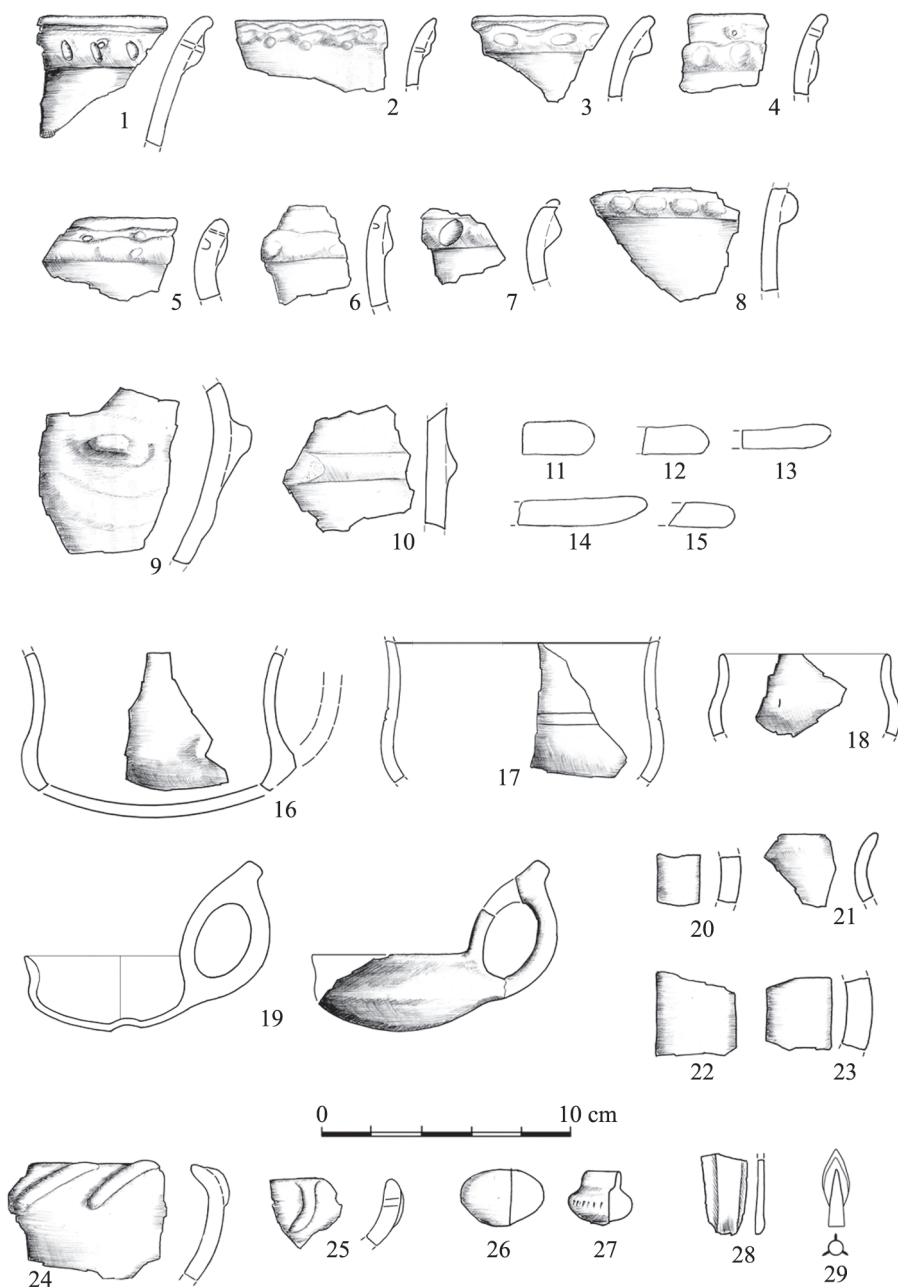


Fig. 7. Severynivka, Vinnytsia Oblast. Archaeological materials from the section of 2012-2013. Key: 1-8 – pots rims; 9 – large pot wall fragment; 10 – pot wall fragment; 11-15 – lids rims; 16-23 – ladles and chalices fragments; 24-25 – bowls rims; 26-27 – spindle whorls; 28 – fragment of flint artefact; 29 – arrowhead

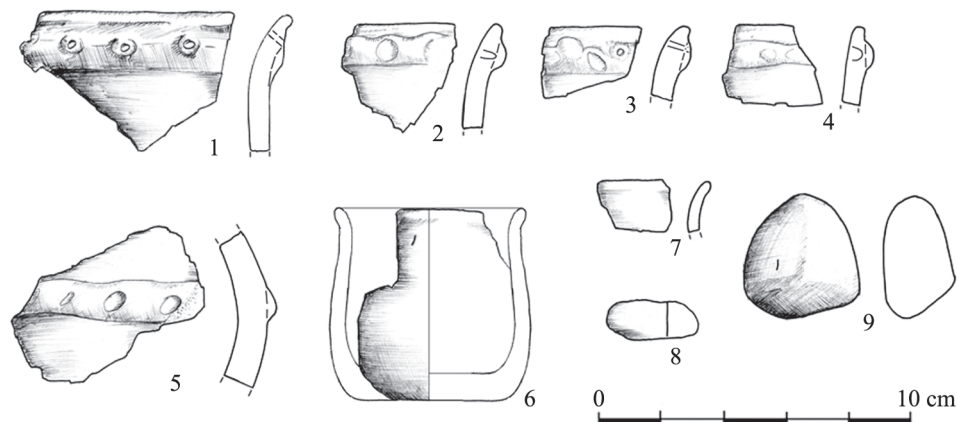


Fig. 8. Severynivka, Vinnitsia Oblast. Archaeological materials from ploughing layer and mound on the section of 2012-2013. Key: 1-4 – pots rims; 5 – pot wall fragment; 6 – chalice; 7 – ladle or chalice rim; 8 – spindle whorl; 9 – grinding stone

Rare arrowhead finds on the territory of Severynivka hillfort do not compare to the numerous weapons finds on the hillforts with traces of military conflicts. Specifically, illustrative examples of destroyed archaeological monuments of 7th-6th century BC are Smolenice Molpir hillfort, from which approx. 400 arrowheads were collected [Parzinger, Stegmann-Rajtár 1988: 163; Hellmuth 2006: 191, Fig. 6], and Trakhtemyriv hillfort [Fialko, Boltryk 2003: 76].

Above, in the ploughing layer, cultural inclusions can be noticed, which are similar to the previous ones, and are represented by rare fragments of daub and pottery. The pots rims and wall fragments, which are ornamented similarly to the findings of the previous layer, are worth mentioning (Fig. 8: 1-5).

There is a notable finding of a whole profile of slightly fired not ornamented miniature beaker with curved outside rim and rounded body (Fig. 8: 6). Similar items can be found among archaic complexes – Basivka, barrow 500, barrow in the Kruhlyk hole [Ilinskaya 1968, Tab. XXX, LIV].

The third construction period is the most large-scaled. From the outside it appears as a rampart, which can be seen today. It rises above the modern surface no more than 0.5-1.5 m. Here it gradually comes to the stream valley. The upper part consists of black earth and mixed loam. The base of the rampart consists of two thick layers of dense clay, which apparently were specifically chosen as the rampart core. The lower clay layer is very hard and tough with thin layers of concretions. According to its characteristics it can be attributed to the boggy or river soils (gley). The surface clay layer, light-yellow, probably composed of Holocene layers. Unfortunately, at this level there were no wooden structures recorded. Obviously their remains with earthen foundations

were completely washed away into the moat after the termination of life on the monument.

Occasionally, scattered animal bones occurred in the mound. From the findings a small polished stone in which we can observe a grinding stone similar to the ones, found in household pits on the territory of the hillfort (Fig. 8: 9) should be noted.

Described homogeneous layers in the ravine valley underlie the layer of gray alluvial clay. Judging by its consistency, the rampart mound slid down to the moat and partially blocked the old stream bed on this area. It noteworthy that similar gray clay was bedded at the bottom of the fourth moat from the floor-level of the hillfort.

Therefore, according to the available data, the construction and operation of defenses does not go beyond the middle of the 7th – beginning of the 6th century BC. Thus, it can be affirmed that they are consistent with the period of active life on the hillfort. In addition, it can be added that the defense organisation in principle was similar to the fixated from the floor-level side and was almost not inferior to it in the dimensions.

In addition, we can see that from the east the cliff, on which Severynivka hillfort was built, was far more gently sloping than now. Ancient fortifiers had to make great efforts to turn it into a powerful fortification. As the material culture of the archaeological monuments indicates its occupancy for about a century, we can assume that each generation of residents at least once in a lifetime was involved in the construction of new defensive structures.

The above-mentioned circumstances led us to the belief that the choice of location for its construction was not done by chance. Geographically, it is located in a little distance from the main array of synchronous the Southern Bug River region monuments. While the vast majority of monuments tend to the small tributaries of the Southern Bug, Severynivka hillfort is located on the watershed between the Dniester and Southern Bug rivers.

Material culture of Severynivka hillfort is closely related to Scythian layer of Nemyriv hillfort, and now there are traced similarities in fortification. However, against the background of a rather thick cultural layer and active connection of the latter with the ancient colonies, the material complex of Severynivka looks quite modest. A small cultural layer next to the active construction activities can be explained by the fact that the hillfort existed as a stronghold in the watershed system of Podolian group hillforts.

Translated by Ira Sheyko

REFERENCES

Artamonov M.I.

1955 Arkheologicheskie issledovaniya v Yuzhnoy Podolii v 1952-1953 gg. *Kratkie soobshcheniya Instituta istorii i materialnoy kultury* 59: 100-116.

Bruyako I.V.

2005 *Rannie kochevniki v Evrope*. Kishinev.

Chochorowski J., Skoryi S.

2006 Oboronitelnaya sistema Motroninskogo gorodishcha. In: *Arkheolohichniy litopys Livoberezhnoyi Ukrayiny*: 1: 74-84.

Daragan M.N.

2011 *Nachalo rannego zheleznogo veka v Dneprovskoy Pravoberezhnoy Lesostepi*. Kyiv.

Dular J., Hvala S.T.

2007 *South-East Slovenia in the Early Iron age. Settlement – economy – society*. Ljubljana.

Fialko O.E., Boltryk Y.V.

2003 *Napad skifiv na Trakhtemyrivske horodyshche*. Kyiv.

Goleva A.A, Koval V.Y., Syrovatko A.S.

2014 Gorodishcha i valy diakovskoy kultury kak obiekty paleoekologicheskikh issledovaniy: rezultaty, problemy, perspektivy. In: A.G. Sitdikov, N.A. Makarov, A.P. Derevianko (Eds) *Trudy IV (XXI) vserossiyskogo sezda v Kazani II*: 91-93. Kazan.

Grechko D.S. (= Hrechko D.S.)

2010 *Naselennia skifskoho chasu na Siverskomu Dintsi*. Kyiv.

2012 O vozmozhnykh „prosvetakh” v „temnoe” vremia (VI v. do n.e.) skifskoy istorii. *Stratum plus* 3: 75-106.

Hanina O.D.

1984 Poseleennia rannoskifskoy doby poblyzu Zalissia. *Arkheolohiya* 47: 68-79.

Hellmuth A.

2006 Smolenice-Molpir im Licht skythischer Angriffe auf die hallstattzeitlichen Siedlungen nördlich und südlich der Mährischen Pforte. *Slovenská Archeológia* LIV-2: 191-208.

Hutsal A.F.

- 2007 Shutnivetski kurhany. In: S.A. Skoryi (Ed.) *Ranniy zaliznyi vik Yevraziyi*, 62-64. Kyiv.

Hutsal A.F., Hutsal V.A., Mehey V.P., Mohylov O.D.

- 2007 Teklivskiy kurhannyi nekropol. *Visnyk Kamianets-Podilskoho natsionalnoho universytetu im. I. Ohiyenka* 1: 6-23. Kamianets-Podilskiy.

Ilinskaya V.A.

- 1968 *Skify Dneprovskogo Lesostepnogo Levoberezhya*. Kyiv.

Ilinskaya V.A., Mozolevskiy B.N., Terenozhkin A.I.

- 1980 Kurgany VI v. do n.e. u s. Matusov. In: A.I. Terenozhkin (Ed.) *Skifiya i Kavkaz*, 31-63. Kyiv.

Kovpanenko G.T.

- 1981 *Kurgany ranneskifskogo vremeni v bassejne r. Ros*. Kyiv.

Krause R.

- 2011 “Fürstensitze” – princely seats. Early celtic hillforts in Central Europe: status, hierarchy and diversity (6/5th century BC). In: V.I. Molodin, S. Hansen (Eds) *Terra Scythica*, 148-130. Novosibirsk.

Kriutchenko O.O.

- 2013 K voprosu o prednamerennom obzhige valov lesostepnykh gorodishch skifskogo vremeni. *Drevosti* 12: 155-162.
- 2016 Zakhysni sporudy Tsyrukunivskoho horodyscha. *Arkheolohiya i davnia istoriya Ukrainy* 2 (19): 114-123.

Levitski O., Kashuba M.

- 2009 Early grey wheel-made ware from East-Carpathian region (on the basis of finds from Trinca-Izvorul Lui Lica Settlement). *Pontica* XLII: 93-118.

Levinskiy A.N.

- 2010 Istoriya getov v lesostepi Yugo-Vostochnoy Evropy (konets VI – vtoraya polovina IV vv. do n.e.). *Stratum plus* 3: 15-127.

Moruzhenko A.O.

- 1969 Horodyscha skifskoho chasu na terytoriyi lisostepu Skhidnoyi Yevropy. *Visnyk Kharkivskoho universytetu* 3: 65-73.
- 1975 Oboronni sporudy Nemyrivskoho gorodishcha. *Arkheolohiya* 15: 66-70.
- 1985 Gorodishcha lesostepnykh plemen Dnepro-Donskogo mezhdurechia VII-III vv. do n. e. *Sovetskaya arkheologiya* 1: 160-178.

- Niculită I., Zanoci A., Băt M., Matveev S.
 2013 Investigațiile arheologice la situl Saharna Mare (2009-2012). *Tyragetia VII (XXII)*, 1: 219-292.
- Niculită I., Zanoci A., Băt M.
 2013 Fortified settlements of the 6th – 2nd centuries BC in the southern part of the middle Dniester. In: B. Petru Niculică, D. Boghian (Eds) *Semper Fidelis. In honorem magistri Mircea Ignat*, 299-323. Suceava.
- Parzinger H., Stegmann-Rajtár S.
 1988 Smolenice-Molpir und der Beginn Scythischer Sachkultur in der Südwestslowakei. *Præhistorische Zeitschrift* 63-2: 162-178.
- Priakhin A.D., Razuvaev Y.D.
 1995 Semilukskoe gorodishche pozdneskifskogo vremeni na r. Don. In: V.P. Cheliapov (Ed.) *Arkheologicheskie pamiatniki Srednego Poochia*, 43-68. Riazan.
- Ralston I.
 1996 *Fortification and defence. The Celtic world*. London-New York.
- Setsinskyi E.Y.
 1901 Arkheologicheskaya karta Podolskoy gubernii. In: P.S. Uvarova, S.S. Slutskiy (Eds) *Trudy odinnadtsatogo Arkheologicheskogo sezda v Kyive 1899 g.* 1, 197-354. Moskva.
- Shevchenko A.A.
 2006 Oboronitelnye sooruzheniya gorodishcha skifskogo vremeni Rossoshki na Srednem Donu. In: A.T Siniuk (Ed.) *Arkheologicheskie pamiatniki Vostochnoy Evropy* 12: 132-137. Voronezh.
- Shramko B.A., Shramko I.B.
 1991 Oboronni sporudy Velykoho Bilskoho horodyshcha. In: O.B. Suprunenko (Ed.) *Pamiatky arkeolohiyi Poltavshchyny*, 44-49. Poltava.
- Shramko B.A.
 1998 *Liubotinskoe gorodishche*. Kharkov.
 2016 Belskoe gorodishche skifskoy epokhi. In: I.I. Korost (Ed.) *Bilske horodyshche u pratsiakh B.A. Shramka*, 247-392. Kotelva-Kharkiv.
- Smirnova G. I.
 1961 Severinovskoe gorodishche. In: *Arkheologicheskii sbornik Gosudarstvennogo Ermitazha* 2: 88-103.
 1993 Pamiatniki Srednego Podnestrovia v khronologicheskoy skheme ranneskifskoy kultury. *Sovetskaya arkeologiya* 3: 101-118.

- 2001 Galshtatskiy komponent v ranneskifskoy kulture Severnogo Prichernomoria (po materialam Nemirovskogo gorodishcha). *Rossiyskaya arkheologiya* 4: 33-44.
- 2002 Nemirovskoe gorodishche v khronologicheskoy skheme skifskoy arkhaike Severnogo Prichernomoria. In: N.A. Ketraru (Ed.) *Severnoe Prichernomore: ot eneolita k antichnosti*, 217-233. Tiraspol.

Zanoci A.

- 2013 Fortificațiile din arealul culturilor Babadag și Cozia-Saharna. In: S.-C. Ailincăi, A.-C.Țârlea, C. Micu (Eds) *Din preistoria Dunării de Jos. 50 de ani de la începutul cercetărilor arheologice la Babadag (1962-2012)*, 311-348. Brăila.

Zlatkovskaya T.D.

- 1965 Gorodishche Mateutsy. In: E.I. Krupnov (Ed.) *Novoe v sovetskoy arkheologii*, 220-224. Moskva.