

# The *Chora* of Nymphaion (6th century BC-6th century AD)

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The exploration of the rural areas of the European Bosphoros has gained in scope over the last decades. Earlier scholars focused on studying particular archaeological sites and an overall reconstruction of the rural territories of the Bosporan *poleis* as well as on a general understanding of the *polis-chora* relationship.<sup>1</sup> These works did not aim at an in-depth study of the *chora* of any one particular city-state limited as they were to small-scale excavations of individual settlements. In 1989, the author launched a comprehensive research project on the *chora* of Nymphaion. A careful examination of archive materials and the results of the surveys revealed an extensive number of previously unknown archaeological sites.

The limits of Nymphaion's rural territory corresponded to natural border-lines (gullies, steep slopes of ridges etc.) impassable to the Barbarian cavalry. The region has better soils than the rest of the peninsula, namely dark chestnut *černozems*,<sup>2</sup> and the average level of precipitation is 100 mm higher than in other areas.<sup>3</sup> The core of the territory was represented by fertile lands,

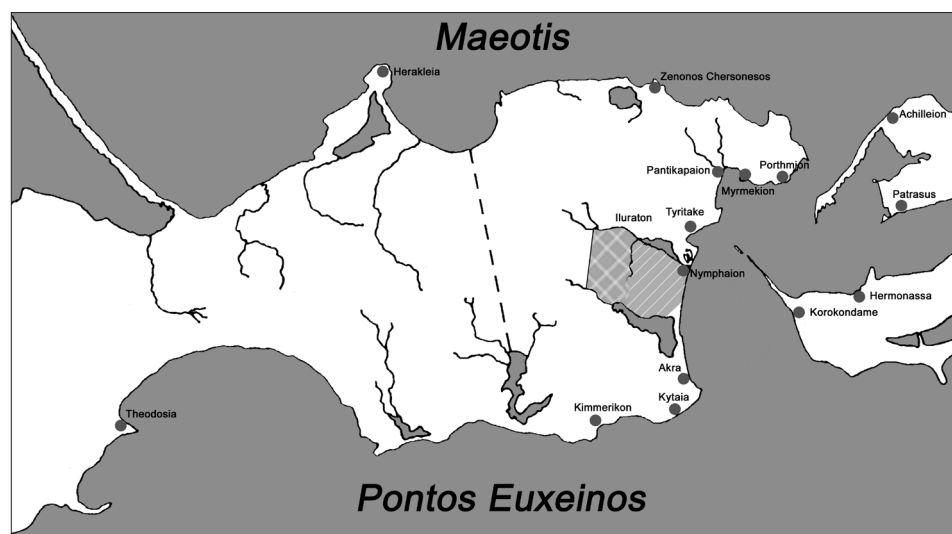


Fig. 1. Map of the Kimmerian Bosphoros (hatched – chora of Nymphaion in the 5th century BC; cross-hatched – chora of Nymphaion in the 4th-early 3rd centuries BC).

stretching from the littoral inland, and bounded to the north and south by two ravines situated 7 km apart. The two ravines originally began at the western extremities of the ancient estuaries (now the Tobečik and Čurubaš Lakes). The distant *chora* occupied over 40 km<sup>2</sup> further west and ended in a ridge of rocky hills with steep western slopes. This ridge may have constituted the natural western boundary of the Nymphaion *polis*

The city itself stood on a high rocky cape, which formed a triangle with the apex facing east, towards the sea. In ancient times there was a spit stretching eastward from the cape to the shores of the Taman' Peninsula. Its remains were found at a depth of 7-9 m in the modern Kerch Strait.<sup>4</sup> It can probably be linked with the southern "Kimmerian sea-crossing" mentioned by ancient authors (Hdt. 4.12; Strab. 7.4.5, 11.2.8). The cape dominates a great part of the shoreline, limited by the present-day Čurubaš Lake and a ravine stretching more than 15 km to the west, with its southern boundary the Tobečik Lake. According to some scholars, the eastern part of the Tobečik Lake used to be a gulf, while its western part was in ancient times the mouth of the Ički-Džilga Ravine. At that time the Čurubaš Lake was a ravine the now submerged mouth of which was a sea gulf.<sup>5</sup> The ancient city of Tyritake was situated on the northern bank of this gulf, while Nymphaion lay on the southern. Further south, across the Tobečik Lake and along the seacoast, other Greek *poleis* with their rural areas were situated.

The eastern boundary of the city's *chora* was the seashore, the configuration of which has changed greatly due to the rise in sea level, the displacement of the sand spits and progressive coastal erosion. Underwater investigations carried out by the author in the region in 1990-1995 revealed three submerged settlements as well as ancient moorings.<sup>6</sup> Moreover, it has been established that a large part of littoral settlements such as Geroevka-1, 2, 3, 4, Eltigen-Museum and others were destroyed by erosion and flooded by the sea. The ancient shoreline was situated at an average 300 m further east than that of today.

The beginnings of the Samian *apoikia* on the site of Nymphaion go back to 580-560 BC.<sup>7</sup> It can hardly be doubted that the cultivation of neighbouring fertile lands began immediately after the foundation of the city. Archaeological evidence for a Scythian presence in the territory of Nymphaion is absent.<sup>8</sup> About ten Scythian burials dating to the 6th century BC have been found in the Crimea so far.<sup>9</sup> In the eastern part of the peninsula only a single burial on Temir Gora can be assigned to this period.<sup>10</sup> The burial is situated at the extreme north-eastern point of the Kerch Peninsula, in a position dominating the northern "Kimmerian sea-crossing" mentioned by Herodotos. Probably, relations between Greeks and Scythians in the region of the strait were mostly limited to infrequent commercial interactions and some political agreements during the second and the third quarters of the 6th century BC. For some reason, the Scythians might not have used the extreme southern sea-crossing during this period. At any rate their presence in the region is not attested in

this connection. At the same time, in the area of the northern sea-crossing military opposition intensified, which caused the construction of defensive lines in Porthmion and Myrmekion in the second half of the 6th century BC.<sup>11</sup>

Simultaneously, during the last quarter of the 6th century BC the first rural settlements appeared within the city's *chora*.<sup>12</sup> They were situated so that they were visible from the *polis* on the rocky cape and were, in fact, relatively small, long-term, unfortified villages characterized by an irregular layout.<sup>13</sup> By the end of the 6th century BC the lands along the strait's coast must have been brought under cultivation by the city. The same may also have happened to the north-west as far as the Glubokaja Ravine where the Južno-Čurubaškoe settlement was located (Fig. 2). The settlements were linked to the seashore, where fresh water springs are to be found. Mostly these settlements were inhabited by the Greeks. The cultural strata and numerous finds of this period were recorded in Geroevka-1;<sup>14</sup> some amphora fragments were also found in the settlement of Južno-Čurubaškoe. According to the latest publications by Kruglikova (2002), however, and the results of my own excavations from recent years, strata and buildings dating prior to the 5th century BC are absent in this settlement. Possibly, Južno-Čurubaškoe was a Scythian site at the frontier of the *polis* of Nymphaion. In 1995, a complex dated to as early as the late 6th-early 5th century BC was discovered at the settlement of Gero-

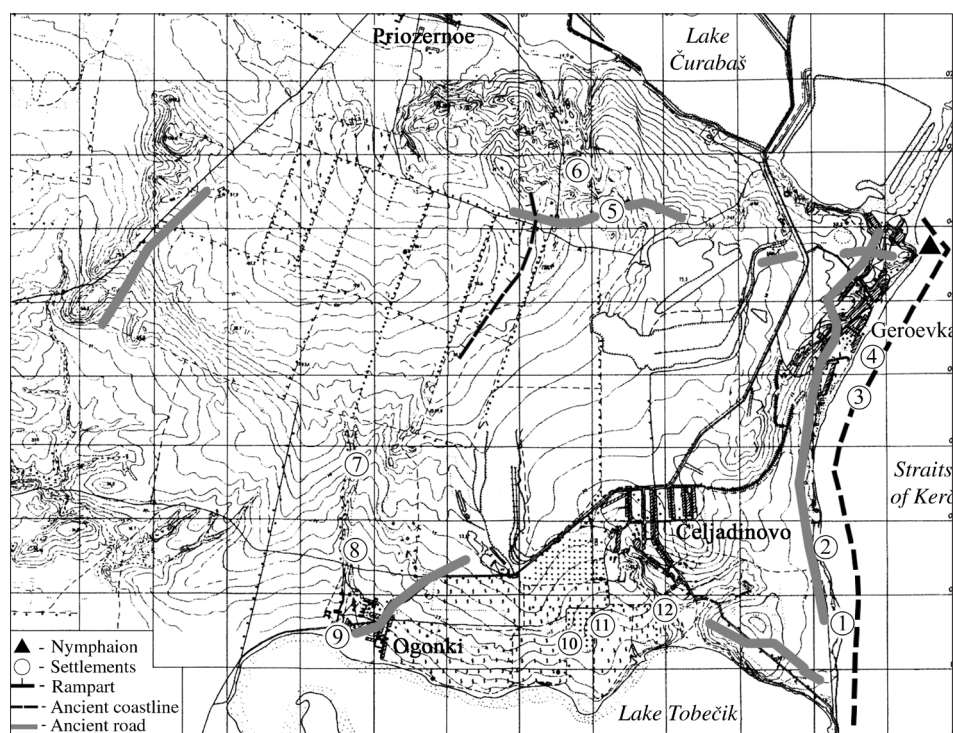


Fig. 2. Chora of Nymphaion in the 5th century BC.

evka-2.<sup>15</sup> There, in a small ash-hole, a decorated Rhodian-Ionian amphora with a globular body, a similar grey clay amphora and a painted Ionic *kyathos* were found. (Fig. 3)

In the settlement of Geroevka-1 a small (4 × 3 m) oval pit-house dating back to the last quarter of the 6th century BC was excavated,<sup>16</sup> as were several household pits, the remains of a stove, a stone well and paving dating to the late 6th or early 5th century BC.<sup>17</sup> On the whole, the number of structures in the early settlements was not large and they were situated at a distance of between 10 to 150 m from each other. All of them except Južno-Čurubašskoe, are located in the littoral zone. Two pathways were possibly formed, connecting these settlements. One of them, running along the coast, led from the town to the south. The second one led inland to the west.

At the turn of the 6th to the 5th century BC a wave of nomads closely related to the Scythians appeared in the steppe Crimea.<sup>18</sup> In the first quarter of the 5th century BC the majority of the Bosporan cities suffered from this barbarian onset. No signs of destruction, however, have been detected yet as for the first quarter of the 5th century BC, although traces of fire datable to that period were detected in the settlements of Geroevka-1 and Geroevka-2.<sup>19</sup> In the Geroevka-1 settlement remains of a stone structure and eight household pits belonging to the early 5th century BC were found. These pits yielded such Scythian finds as a lion-head shaped buckle and an *akinakes*. From this time on, a few Scythian burial mounds start to appear, both in the necropolis of the city of Nymphaion and in the countryside. During the 5th century BC, Nymphaion maintained its independence from Pantikapaion. We may assume that at the initial stage of this struggle, its citizens heavily relied on help from the Scythians.<sup>20</sup> The majority of fifth-century Scythian burials recorded in the European part of Bosporos are concentrated around this city.<sup>21</sup> Eight of them are presently known, with the most recent dating to the third or early fourth quarter of the 5th century BC.<sup>22</sup> In the tumuli situated to the west of the city's *chora*, three Scythian statues were found, all of which date to the late 6th or 5th century BC and thus prove to be the earliest of all such statues known from the Crimea.<sup>23</sup> An ancient pathway was also found there, leading along the only convenient way from the steppes, passing the Južno-Čurubašskoe settlement and heading towards the Nymphaion cape, where there was a major departure point for the Scythians' sea-crossing to the land of Sindoi. Notwithstanding the growing number of Scythian burials from the 5th century BC in eastern Crimea, there is no reason to speak of their prevalence in the Nymphaion region. On the western outskirts of the Nymphaion Plateau some tumuli with rather specific burial constructions have been revealed – tombs in the form of rough stone cists encircled by stone rings. Tumuli of this kind were explored here by N.P. Kondakov as early as 1876. These complexes are reminiscent of the burial memorials of the Kizil-Koba population of the Crimean foothills. Such burial structures are also known from the Crimean Azov Sea coast, where they date back to the 6th to 3rd centuries BC.<sup>24</sup>

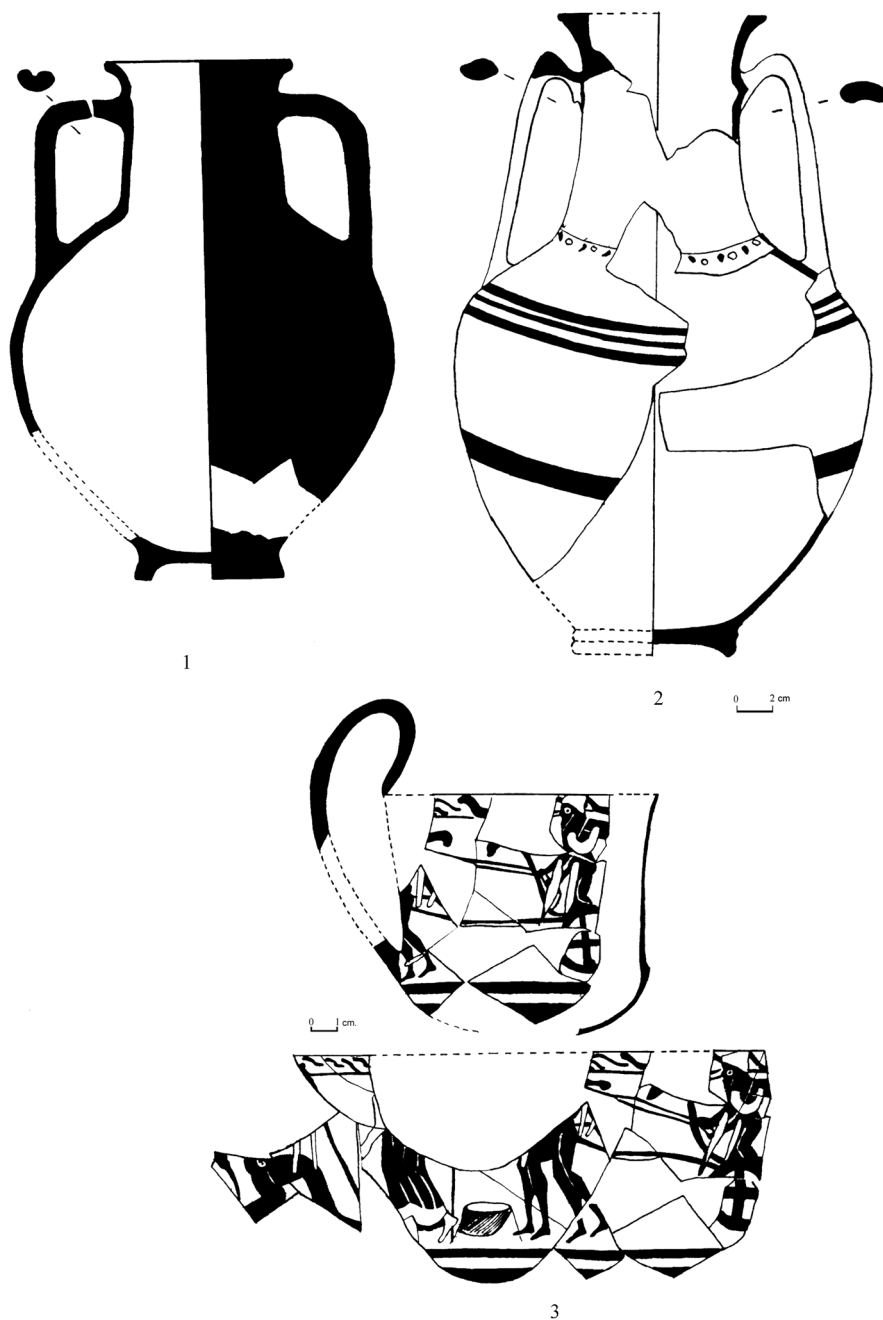


Fig. 3. Pottery finds from the settlement of Geroevka-2 (1 – grey ware amphora; 2 – East-Greek amphora; 3 – Attic cup).

A supposed alliance with the Scythians in the 5th century BC allowed Nymphaion to broaden its territory towards the west. As well, the most distant south-western part of the Nymphaion plateau along the Tobečik Lake was apparently included into the city's agrarian area. Nine rural sites were found there (Fig. 2). Thus, the settlements of Tobečik-3, Tobečik-8 and Tobečik-9 yielded fragments of amphorae and black-glazed Attic bowls dating to the 5th century BC. In the middle of the 5th century BC the Ogon'ki settlement was founded.<sup>25</sup> It is situated on a small cape of the Tobečik Lake at a distance of 9 km to the south-west of Nymphaion. It is thought to be the most important site on the *polis'* south-western frontier. A wide neighbouring ravine leading northward probably became the new western border of the *chora*. Several smaller settlements were detected along the eastern slope of the ravine. In immediate proximity to them can be found remains of fences in the form of low banks. Plots of arable land were also found near the Geroevka-1, 2 and Južno-Čurubašskoe settlements (Fig. 4) as well as in the Čurubašskie Skalki settlement. The size of fenced plots varies from 1.1 to 35.1 ha.<sup>26</sup> The major part of this cadastre system, however, is poorly preserved.<sup>27</sup> At this time, the date of the land division can be determined only approximately. In Čurubašskie Skalki two different systems for the orientation of the walls delineating the plots can be distinguished. The population of these rural settlements consisted of both Greeks and barbarians.

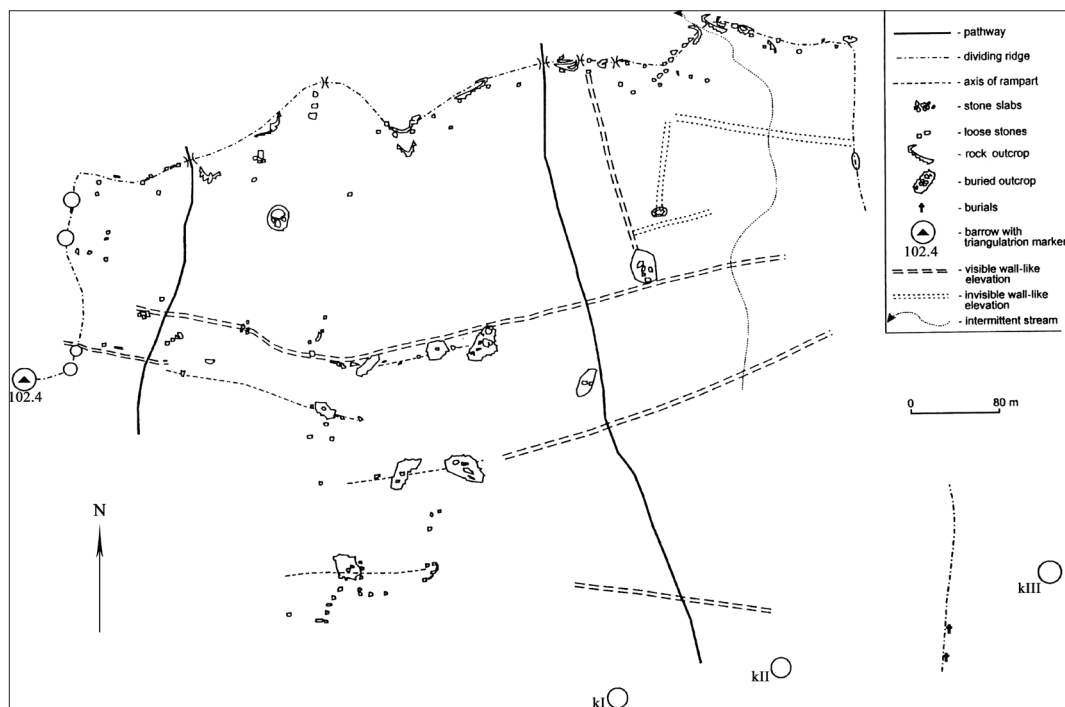


Fig. 4. Remains of land-lot delimitation near the Južno-Čurubašskoe settlement.



The situation on the Bosporos, however, might have changed radically with the new dynasty of the Spartokids which came to power in 438 BC – an event which entailed changes in the Pantikapaion policy concerning the neighbouring Scythian tribes. Soon Nymphaion began to lose its allies in its struggle against the Bosporan tyrants. This is probably why Nymphaion joined the Delian League in the 430s BC, and thus became a centre for Athenian influence in the Kimmerian Bosporos. The nature of the Athenian presence in Nymphaion can be estimated in various ways.<sup>28</sup> A suggestion that it lead to an establishment of the Athenian *klerouchia* seems very likely. The new settlers might have received the land in the south-western outskirts of the Nymphaion Plateau. There, in the last half of the 5th century BC, a mighty four-towered fort (the Tobečik-9 settlement) with a large courtyard, 50 × 50 m, was constructed.

Next to this settlement, a harbour might have existed. According to geomorphologic data, the eastern part of the present-day Tobečik Lake was a sea gulf during the ancient epoch. The joint Ukrainian-Polish geophysical surveys conducted at the site in 1995 disclosed fragments of stone walls occupying a small territory. It was ascertained that originally, in the second half of the 5th century BC, a large building oriented latitudinally with massive, mud brick walls, up to 1.2 m thick, was built. In a later period that lasted to the early 3rd century BC smaller buildings were erected, the 0.5-0.6 m thick walls of which were oriented along a line running from the north-east to the south-west.

Nymphaion's presumed participation in the Delian League must have impacted the *polis'* economy, as suggested by an active exploitation of all the *chora* territory, which covered an area of about 50 km<sup>2</sup>. The settlements lay along the perimeter of the *chora* while the arable lands lay inside. On the whole, a dense system of settlements along the *chora's* borders located at a distance of not more than 1 or 2 km from each other was formed. They were connected to each other as well as to the city itself by several radial roads.<sup>29</sup> These roads are well marked both by tumuli and by fragments of pottery (mostly amphorae), and in some places, they can be traced for several kilometres.

The period of the *polis'* independence terminated in 405/404 BC when Nymphaion was subdued by the rulers of Bosporos as a result of the so-called Gylon's betrayal (Aisch. 3.171-172). The loss of independence, however, apparently did not affect the development of the town and its *chora*. After it was included in the orbit of the Bosporan State, Nymphaion expanded into new western steppe regions. It should be born in mind that the barbarian population, in various forms, constituted a considerable number of the dwellers in the majority of the rural settlements. Besides Scythians and Kizil-Koba settlers, some new barbarian groups seem to appear from the Asian side of the Bosporos in the early 4th century BC.<sup>30</sup>

The flourishing of the Nymphaion countryside characterized the next period of the late 4th and early 3rd centuries BC (Fig. 5). Strata and buildings from that period have been revealed in all of the settlements, which have been

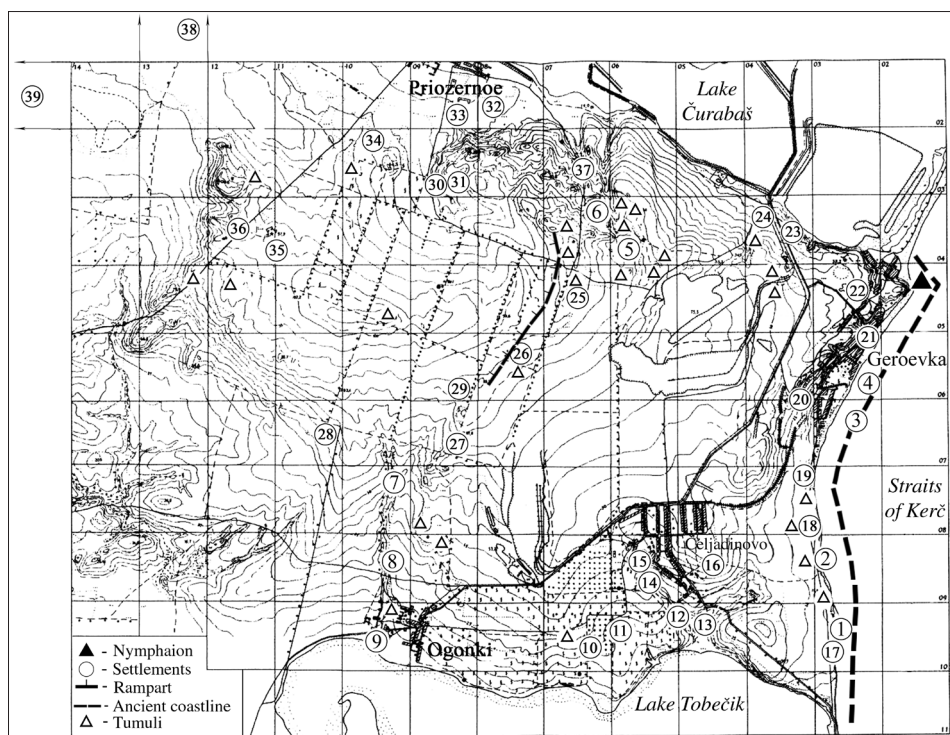


Fig. 5. Chora of Nymphaion in the 4th-early 3rd centuries BC.

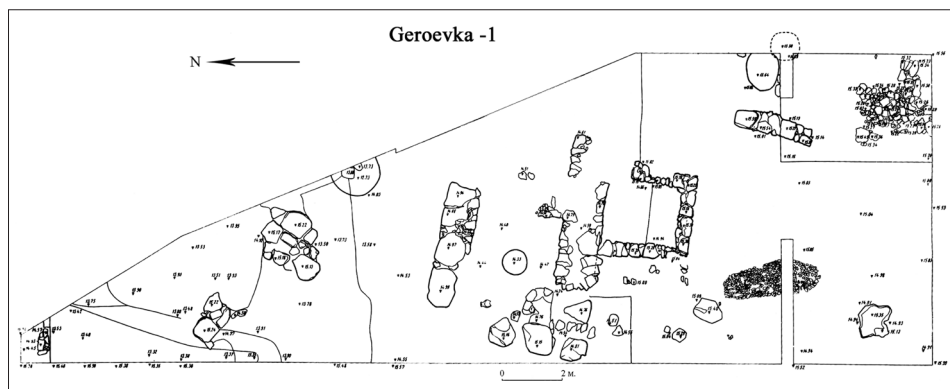


Fig. 6. Settlement of Geroevka-1. Remains of fourth-century farmhouse.

excavated (Geroevka-1, 2, 3, 6, Ogon'ki-1, Južno-Čurubašskoe, Čurubašskoe), and in the rest of them surface finds from this period have been collected. The older settlements continued to exist and more than ten new ones appeared in the heart of the *chora*. Alongside the continued use of two-room mud brick houses, known from excavations in the settlements of Geroevka-1 (Fig. 6) and



Južno-Čurubašskoe,<sup>31</sup> construction of larger farmsteads with an interior household yard began. To the first quarter of the 4th century BC belongs a big fortified farmhouse, the western outer wall of which was 1.4 m thick and 30 m long. The structure also included a square tower measuring  $3 \times 2.8$  m with outer walls up to 1.7 m thick. In the centre there was a courtyard flanked by medium-sized rooms on two of the sides. The farmhouse continued in use until the middle of the 4th century BC.<sup>32</sup> At the same time, a large limestone building was established in the settlement of Ogon'ki-1, while a fortified block with massive stone walls occupied c. 1.5 ha in the central part of settlement of Tobečik-8, the overall area of which was about 10 ha. In the second half of the same century a large farmhouse was built at the Južno-Čurubašskoe settlement. In 2001-2003 another building was partially explored there on the territory of more than 500 m<sup>2</sup>; it consisted of both large and small rooms and a household yard.

In the northern part of the complex was a mud brick building consisting of five rooms attached to the outer northern wall. This 0.70-0.85 m thick wall traced for more than 30 m defines the main axis of the complex.

Room 2 of the building may have been a smithy. The finds are few in number being represented by several fragments of amphorae and black-glazed bowls as well as a bronze coin from Pantikapaion with a young satyr's head and the forepart of Pegasus and dating to c. 340-330 BC. The character of the

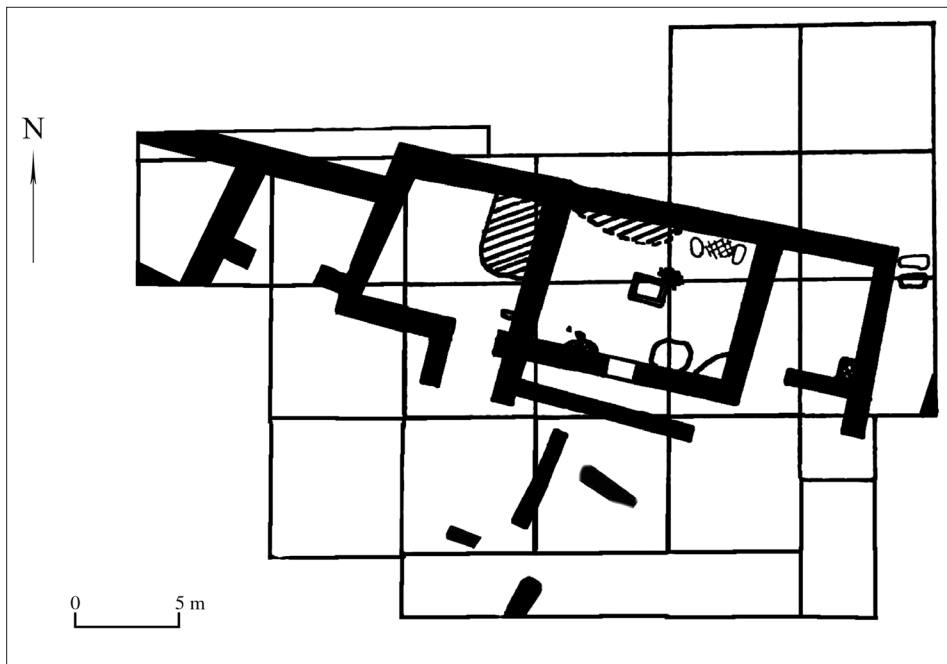


Fig. 7. Settlement of Južno-Čurubašskoe. Plan of farmhouse, 2nd to 3rd quarter of the 4th century BC.

finds clearly suggests that the site was abandoned never to be used again. Most likely this happened in the third or the last quarter of the 4th century BC.

The remains of a big stone building were explored by the underwater team of our expedition in the littoral part of the Geroevka-2 settlement. Piled rocks, big processed blocks among them, as well as separate fragments of roof tile, were found at a depth of 2 to 3.5 m.

Extremely rapid population growth took place in the second and third quarters of the 4th century BC. Alongside stone buildings, the rural settlements contain dwelling and household complexes consisting of dugouts. Strata and structures of that time have been explored within a territory of about 1,200 m<sup>2</sup> in the settlement of Geroevka-2.<sup>33</sup> In the excavated central part of the settlement, two pit-houses have been studied – both having the character of ordinary household dwellings – with eight household pits north of them. North of the Geroevka-2 settlement several barrows of the 4th century BC have been explored. Nearest to the settlement, Tumulus 1 measured 15-18 m in diameter and contained four burials, of which three date to the 4th century BC (Fig. 8).<sup>34</sup> Four tumuli, one of which was excavated in 2002, were also recorded south-west of the Geroevka-4 settlement. There, in a cist built of nicely processed large limestone blocks a red-figured *hydria* filled with ashes was found. In 1995, another rural necropolis, Čeljadinovo-Vostočnoe, situated north-west of Geroevka-1 was studied in detail (Fig. 9). The complex contained 21 barrows, three of which were partly destroyed by the shore's erosion. One of these tumuli (Tumulus 16), which has been excavated completely, contained a family grave belonging to residents of the *chora*, and had been in use for some decades (Fig. 10).<sup>35</sup>

In 1965, D. Kirilin excavated the "Three Brothers" tumuli group next to the settlement of Ogon'ki-1. There were six burial structures inside the three barrows. In all three tumuli horse skeletons with bridle sets in the Scythian Animal style were found. The best known is the burial in Vault 1 with a stepped crypt dating from the second half of the 4th century BC (Fig. 11). A woman in a rich dress was buried here. Inside the barrow, a monumental limestone relief was found depicting Demeter in a chariot and a rider. The burial rites used in all burials from this group display Scythian features with a high degree of the Greek influence. This can also be observed in other rural necropoleis of the 4th century BC., for example in Južno-Čurubašskoe. Moreover, some types of burials such as the interment of children in amphorae, mud brick sepulchres and cremations were earlier unknown in the *chora*. However, all these types are recorded in the city's necropolis of Nymphaion.

Moundless burials of the rural population have been revealed only at Južno-Čurubašskoe, where in the early 1960s I.T. Kruglikova found a burial ground on the southern outskirts of the settlement. Here, six stone cists and a *fossa* grave were excavated.<sup>36</sup> All these burials belong to the 4th century BC.

Another burial ground, of which an area of more than 500 m<sup>2</sup> was studied, was found 250 m north of the settlement of Južno-Čurubašskoe.<sup>37</sup> Three stone

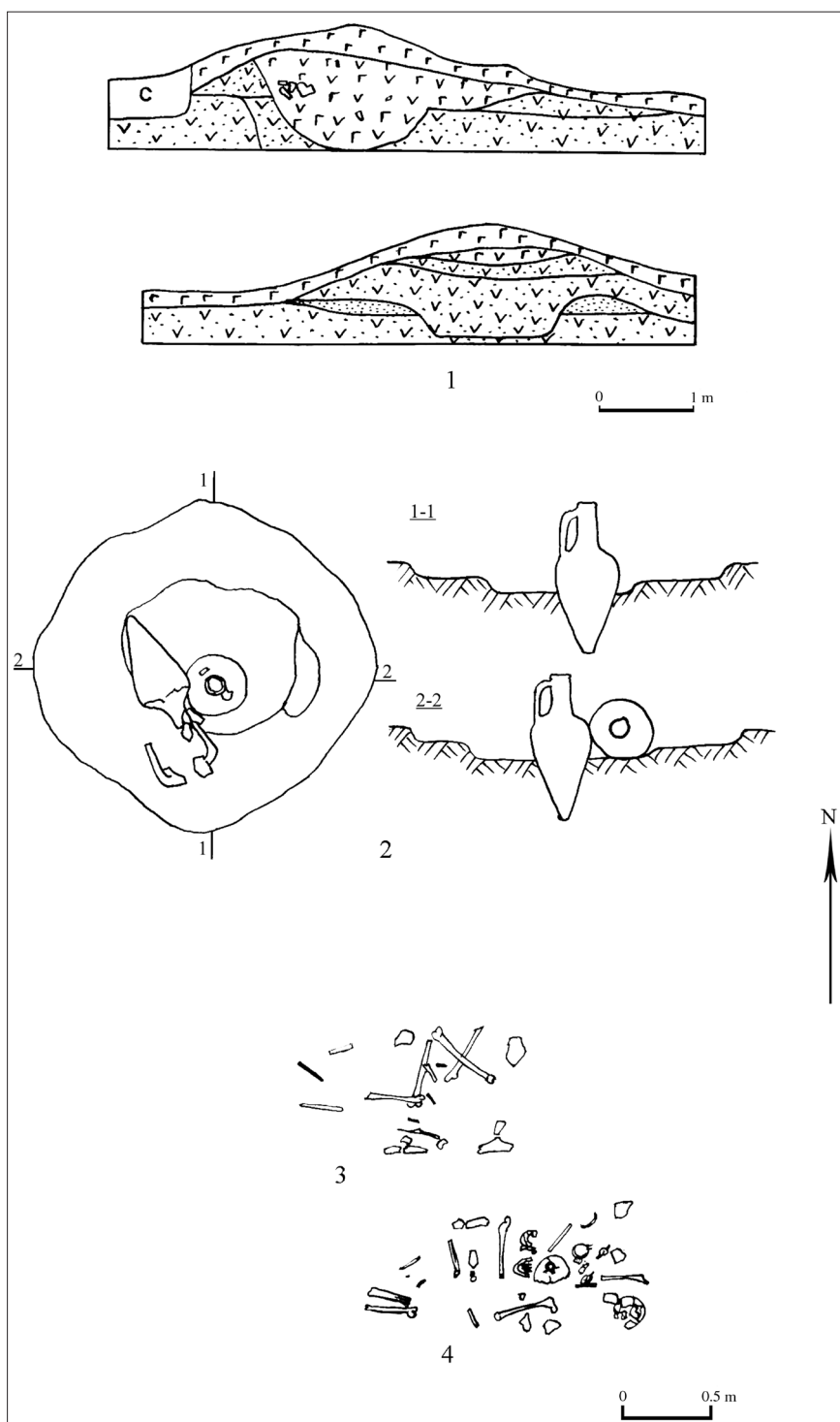


Fig. 8. Burials in Tumulus 1 near the settlement of Geroevka-2.

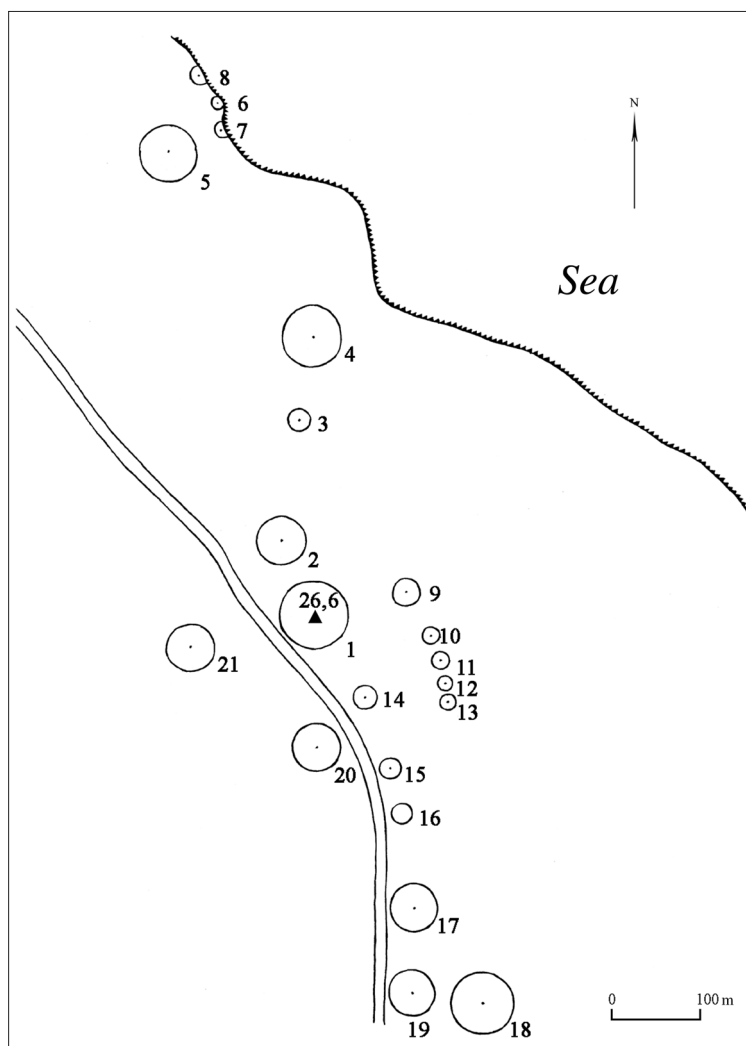


Fig. 9. Plan of the tumular necropolis of Čelajdinovo-Vostočnoe.

rings made of limestone boulders were found there, so too were sepulchral structures in the form of stone cists with covers, cists without covers, burials in the ancient topsoil under stone piles as well as the remains of three altars. Tombstones and burial structures studied in the process of excavations of the Northern necropolis of Južno-Čurubašskoe date to the late 5th and the first half of the 4th century BC. This is consistent with finds of pottery (amphora fragments and black-glazed ware), most of which could be assigned to the first decade of the 4th century BC.

A number of new settlements (Čurubašskij Majak-1, 2, Džankojskij Bugor,

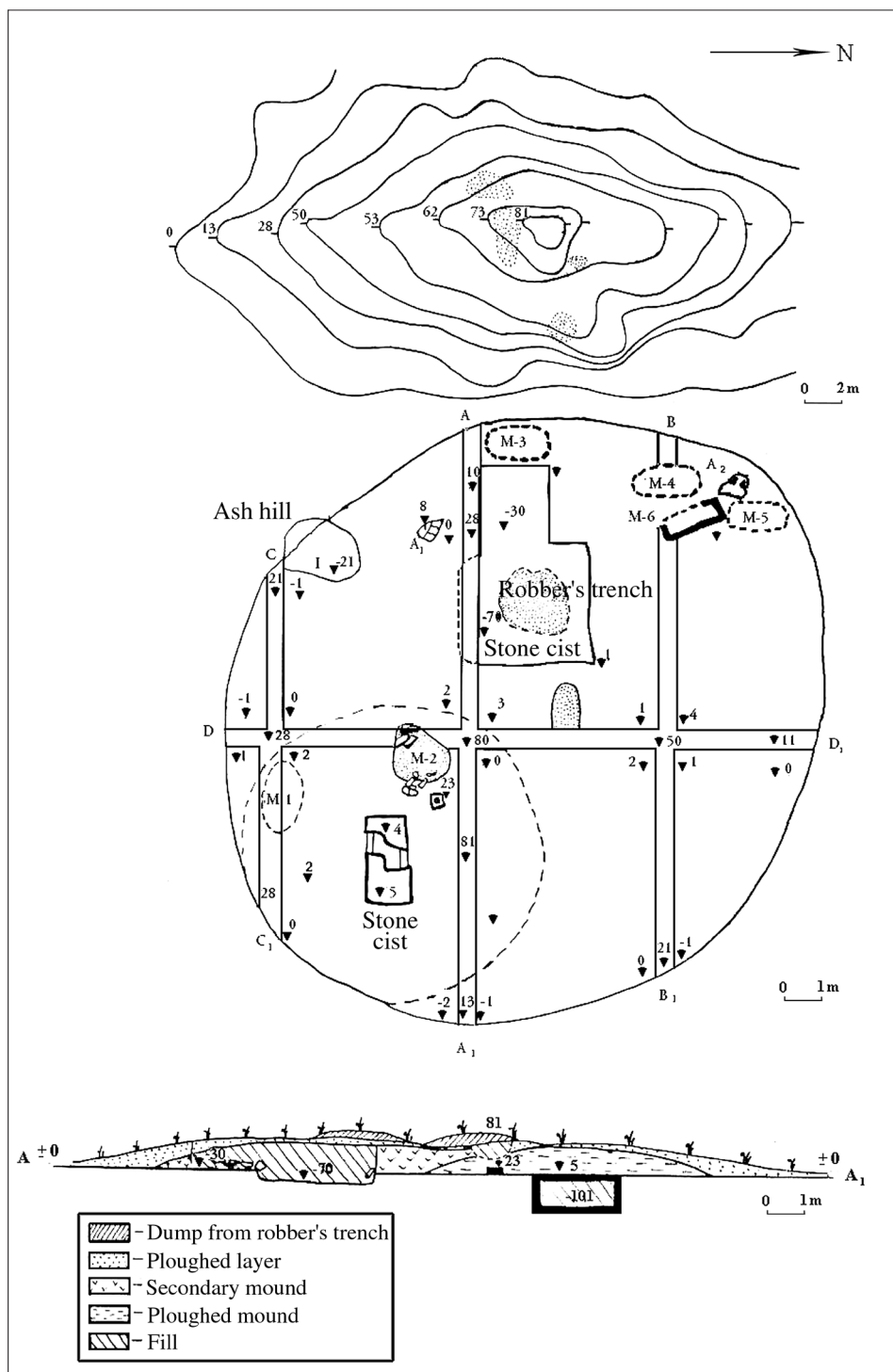


Fig. 10. Tumulus 16 of the Čelajdinovo-Vostočnoe necropolis.



Michajlovka, Ivanovka, etc.) appeared on the perimeter of the *polis'* territory, by then already expanded by two or more kilometres to the west of the former *chora* limits, in the 4th or early 3rd century BC (Fig. 5). The appearance of these settlements can probably be explained by both the establishment of the distant *chora* of Nymphaion and a deliberate policy of the Spartokids aimed at expanding their own landownership. Some of this territory might be part of the so-called royal *chora*. The total territory of the distant *chora* could have reached 40-50 km<sup>2</sup>. Some of the settlements (Michajlovka, Ivanovka) were probably fortified and controlled approaches to the southern part of the Bosporos. The rest of the sites (Čurubašskij Majak-1, Džankojckij Bugor) are represented by detached dwelling and household complexes, except the settlement of Čurubašskij Majak-2 where remains of six farmhouses were recorded.

On the whole, several types of settlements existed at that time. These are: large settlements on the borders controlling certain districts of the *chora* (Tobečik-8, Ogon'ki-1, Čurubaš-2, Michajlovka); settlements consisting of several dwelling and household complexes of various layouts (Južno-Čurubašskoe, Čurubašskoe, Geroevka-1, Tobečik-2, etc.); sites consisting of one farmhouse (Geroevka-2, Geroevka-5, Nižne-Čurubašskoe-2, Tobečik-1, Ogon'ki-6, etc.); and seasonal stations without any stone buildings (Čurubaš-3).

One object which seems unique for the Greek *chorai* of the northern Black Sea region is worthy of special note. It is the 4th century BC water supply found 2 km west of the city of Nymphaion near the site of Nižne-Čurubašskoe-2 and partially investigated. It consisted of inspection wells made of limestone, which were connected to one another by ceramic pipes laid in stone-built ducts at a depth of 3 m. The length of each pipe section is 0.91 m, and the inner diameter 0.08 m.

This period ended at the conclusion of the first third of the 3rd century BC with the collapse of the whole system of relationships between the Greeks and the barbarians, which terminated all sites in the rural territory of Nymphaion.

The next period, spanning from the second half of the 3rd to the early 1st century BC brought a sharp decrease in the total number of rural sites. Strata and finds from the second half of the 3rd to the 2nd century BC were revealed in only four of the *chora's* settlements. Two of them are situated on the shore. For example, a farmhouse of the late 3rd-first half of the 2nd century BC was explored within the territory of 1,400 m<sup>2</sup> of the settlement of Geroevka-1. The evidence suggests that this house was abandoned soon after this period.<sup>38</sup> Amphora fragments and one Rhodian amphora stamp dating to 180 BC were found at the Eltigen-Museum settlement, which also lies on the shore, 700 m south of Nymphaion. The Ogon'ki-1 settlement in the south-western corner of the *chora* continued to exist during most of this period. According to the excavation results obtained by Kirilin, life on this site also stopped in the 2nd century BC, and no building remains have been found in its most recent stratum.

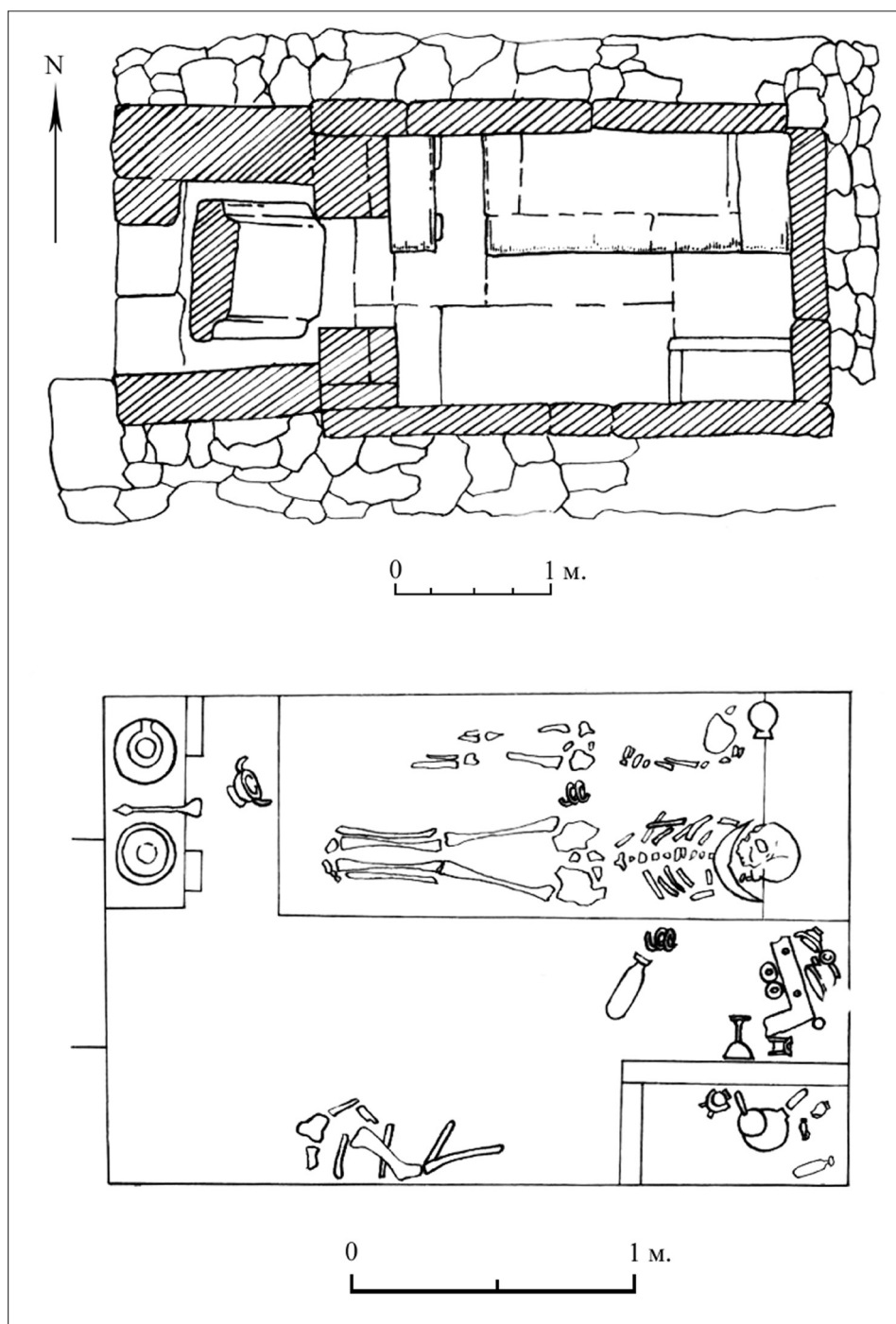


Fig. 11. "Priestess" burial from the "Three-brothers" barrow group.

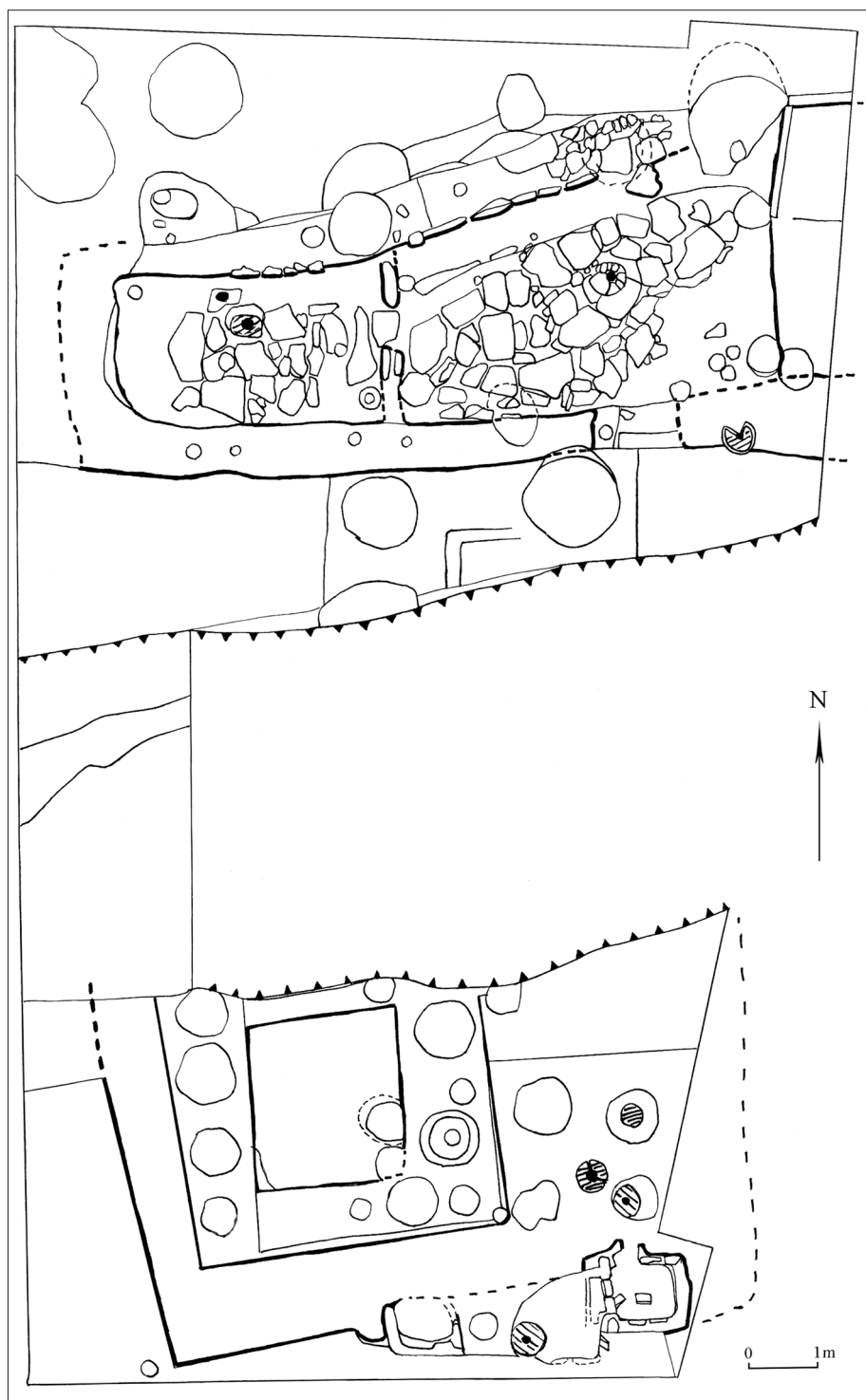
The strata of the late 3rd-2nd century BC have been explored by Kruglikova within the Čurubašskoe settlement, in the north-western part of the *chora*, in the rocky area of Čurubašskie Skalki. During the exploration of its vicinity, in the small valleys between the ridges of rocky hills, remains of walls delineating land plots were revealed. They take the form of banks 1.5 m wide and 0.20-0.30 m high, stretching from north to south at a distance of 40 to 100 m from each other.

During the following period (the late 1st century BC to the third quarter of the 3rd century AD) on the Kerch Peninsula a whole system of settlements of various kinds appears. Mapping and analysis of them prove that they are part of one and the same military and administrative strategy, which apparently aimed at the complex defence of the whole rural territory of the Bosporan Kingdom.<sup>39</sup> An original fortification system was also built on the outskirts of the *polis* of Nymphaion to protect its *chora*. At this point the new settlement of Čurubašskij Majak-3 was established, built on a high hill and playing the role of a fortified outpost. During this period, the settlements of Geroevka-1, Eltigen-Museum, Tobečik-1 and Čurubašskoe were settled anew and the rocky north-western territories near the Čurubašskie Skalki were also actively built over.

While exploring this area, a particular fortified district protecting the approaches to Nymphaion and its *chora* from the north-west along the Čurubaš River was revealed. It consisted of a system of separate strongholds (towers, walls, stone blockages) controlling the approaches into the *chora* through the ravines as well as of the strong fortified site of Čurubaš-Citadel. The latter was situated on a rocky height and had, besides outer walls, a square citadel with a tower on its top. On the whole, the number of settlements in the home *chora* of Nymphaion did not exceed ten during that period. They were positioned to function as strongholds and were able to control the *chora* borders.

The final phase of the Nymphaion *chora* is worthy of special note. It spanned from the late 3rd to the last quarter of the 6th century AD. In the Geroevka-2 settlement, a farmstead of this period, partially destroyed by coastal erosion, was excavated by the author (Fig. 12).<sup>40</sup> It consisted of a rural house with a yard in the middle measuring over 30 m<sup>2</sup>, with premises for the processing and storage of cereals in its southern part and a three-room dwelling unit in its northern part. Judging from the finds of pottery (amphora fragments, red-glazed and handmade wares), the farm existed from the 4th until the third quarter of the 6th century AD, when it perished in a great fire. Besides other finds, the destruction layer yielded a Byzantine bronze coin of the 6th century AD. The remains of mudbrick buildings of the late 5th-6th century AD were also excavated by Gorončarovskij in the aforementioned settlement of Geroevka-1.

On the whole, in spite of some chronological gaps which are probably caused by the still insufficient degree of our knowledge about this region, it can be stated that life within the *chora* of Nymphaion continued virtually



*Fig. 12. Late antique farmhouse at Geroevka-2.*

during all of Antiquity. In major points, it correlates with the general development of the rural territories of the whole European part of the Bosporos, although a certain originality can distinctly be seen, which was conditioned by the specific role of the *polis* during the initial period of its existence.

## Notes

- 1 Kruglikova 1975; Maslennikov 1993; 1998.
- 2 Kotova 1961, 67.
- 3 Važov 1983, 25.
- 4 Nevesskij 1958, 25.
- 5 Gubanov & Kljukin 1979, 121; Naumenko & Krivošeeva 1979, 98.
- 6 Zin'ko 1996, 4; Šamraj 2003.
- 7 Kuznecov 1991; Molev 1997.
- 8 Zin'ko 2003, 106.
- 9 Kolotuchin 2000, 58-59.
- 10 Jakovenko 1972, 259-267.
- 11 Vachtina & Vinogradov 2001, 44.
- 12 Zin'ko 1998a, 87.
- 13 Zin'ko 1996, 13.
- 14 Kruglikova 1975, 27.
- 15 Zin'ko 1997.
- 16 Gorončarovskij 1991, 23.
- 17 Kruglikova 1975, 40.
- 18 Alexeev 1992, 28; Kolotuchin 2000, 68-69.
- 19 Geroevka-1: Kruglikova 1975, 32; Geroevka-2: Zin'ko 1998a, 91.
- 20 Šelov-Kovedjaev 1985, 81.
- 21 Skudnova 1954.
- 22 Zin'ko 2003, 109.
- 23 Zin'ko 2003, 30-33.
- 24 Maslennikov 1995.
- 25 Kirilin 1966.
- 26 Kruglikova 1975, 131.
- 27 *See also the contribution by T.N. Smekalova and S.L. Smekalov in this volume. Eds.*
- 28 Šelov-Kovedjaev 1985; Molev 1997.
- 29 Scholl & Zin'ko 1999, 104-108.
- 30 Zin'ko 2001.
- 31 Kruglikova 1975, 46, fig. 14.
- 32 Gorončarovskij 1991, 24.
- 33 Zin'ko 1997.
- 34 Zin'ko 1998b, 183.
- 35 Zin'ko 1998b, 173-182.
- 36 Kruglikova 2002, 147-148, fig. 17.
- 37 Zin'ko 2001, 35-41; 2002a, 219-248; 2002b, 109-111.
- 38 Gorončarovskij 1991, 24.
- 39 Maslennikov 1993, 22.
- 40 Zin'ko 1994, 19-20; 1996, 18-19; 2003, 191-195.



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## Abbreviations

*MAIET*                      Materialy po archeologii, istorii i etnografii Tavrii. Simferopol'.