The First Results of the Archaeological Surveys Near Cape Čauda and Lake Kačik on the Kerch Peninsula

Alexander V. Gavrilov

The southwestern part of the Kerch Peninsula (the area reaching from Cape Čauda as far as Mt Opuk and the eastern shore of the Gulf of Feodosija) has remained as yet the most poorly investigated region of the Bosporan Kingdom.¹ Because of its natural geographic conditions this area of the peninsula has until recently been considered the least favourable for ancient habitation.² Nevertheless, aerial photos and mapping have showed traces of ancient landdivision here. These are still awaiting study and the identification of their relation to and position in the land-owning systems of the ancient *poleis* of the European Bosporos.³ In 2005, a series of graves from the 1st-4th centuries AD was excavated on Cape Čauda by employees of the Crimean Branch of the Institute of Archaeology, NAS of Ukraine. These burials belonged to the necropolis of a settlement located nearby.⁴ In December 2006, the author of this paper conducted archaeological surveys in the vicinity of Cape Čauda and Lake Kačik. The results of this reconnaissance expedition are published here.



Fig. 1. Map of Cape Čauda and its surroundings. 1: settlement of the Classical period on Cape Karangat. Scale 1:1 km.

Cape Cauda is the easternmost point of the Gulf of Feodosija enclosing it to the east (the bearings of the cape and the site identified by a "Garmin" GPS 45 device are N 45° 00137 # E 35° 49535). It is situated in a direct line 35 km east from Cape II'ja which forms the westernmost point of the gulf (Fig. 1). Cape Čauda's height is 25-30 m. The limestone-shellrock deposits of the Čauda marine terrace, which are among the key reference points in the geomorphology of the Crimea, cover a rather small peninsula ending in a cape (Fig. 1). These deposits stretch three kilometres east to west and one kilometre north to south. The cape's surface is smooth; the shores west of it are composed of aleurites and clays subjected to sea abrasion with the velocity amounting sometimes to 0.5-1.0 m per year. This area of the coast (to the west of the cape) is divided by a number of large ravines, the deepest with a depth of 10-12 m. The shores east of the cape have not been so significantly eroded, since their soft rocks are bedded on limestone-shellrock and grey waterproof clays. Cape Čauda itself has also suffered from erosion and is composed partly of layers of the lower quaternary yellowish-grey limestone-shellrock which lie at a depth of 1.0-5.0 m. The shore near Cape Čauda is not protected against erosion and its entire length is covered by landslides 100-150 m in length and up to 10 m thick. To the east of the cape, along the line of the cliffs, 10 m from their edge, deep fissures and subsiding of the soil are everywhere observable. These are produced by subterranean waters flowing on the surface of the rock shield and eroding the lower clay layers. Furthermore, the existence of fifty-year-old buildings, which have already been destroyed by the landslides or stand on the very edge of the shore cliffs, suggest that the destruction of the shores has been greatly intensified in the second half of the 20th century. A considerable area of the cape (and correspondingly of the archaeological site) broke off and collapsed into the sea in winter 2004 (Fig. 2).

Landslides and erosion have destroyed most of the ancient site, the average minimum speed of the annual erosion of the cliff amounting here to at least 0.03-0.04 m or 0.2-0.3 m³ per running metre. The landslides have cut off not less than 100 m of the plateau close to Cape Čauda itself. In the cross section of one of the landslides (60 m south-east of the cape), some intact traces of depressions left by wooden beams are preserved while in the sea similar traces on rocky blocks broken off the cliff can be observed. Most probably these beams belonged to awnings or certain other structures of the Medieval period (Fig. 3), suggesting that some of the landslides occurred during the last 1500-1000 years, *i.e.* at the final stage of the Nymphaian transgression. Moreover, from the beginning of the Classical period, erosion has destroyed at least 50-100 m of the cape's shore as suggested by ranges of lumps of eroded landslide deposits on the sea bottom near the shores of the cape. Still the cape itself has not been entirely annihilated by landslides and erosion, if only because the landslides have moved large limestone-shellrock blocks towards the shore line. These form a kind of barrier which breaks the surge and restrains the erosion of the shore. Nonetheless, a considerable section of the settlement-site and its necropolis has



Fig. 2. Cape Čauda shore.

already been obliterated by the sea.

We are thus justified in supposing that in Greek times the coastline and Cape Čauda had a somewhat different configuration. The formation of what is now Cape Čauda and Majačnaja Bay (west of the cape) took place due to the rapid erosion of the shore built of fairly soft rocks. That process started probably during the period of the Nymphaian transgression when the sea level came close to the rocks causing active destruction. This process has continued until now although it slowed during the Korsun' regression which took place in the early Medieval period.

Subterranean waters accumulated in water-permeable sands and aleurites bedded on the waterproof Majkop clays accompany the entire area of deposits found on the Čauda marine terrace. This water-bearing level is supplied mainly by rain and melting snow which infiltrate through the porous lime-



Fig. 3. Intact traces of wooden beams at Cape Čauda.



Fig. 4. Ancient well at Majačnaja Bay.



Fig. 5. Still functioning ancient well at Majačnaja Bay.

stone-shellrocks of the Čauda terrace, but also by other forms of condensation. On the plateau of Cape Čauda, within a fairly small area on its northern side there are four ancient wells, 5-7 m deep, cut in the Čauda limestone-shellrock down to the water-bearing level of the sands and aleurites. The first well is 130 m from the shore of Majačnaja Bay in an artificial crater on the bottom of an ancient guarry in the western part of the plateau. Its visible depth is 2 m, while its mouth is at the height of 22 m above the sea level (Fig. 4). The second well is located near the household block of the Čauda Lighthouse, 150 m from the shore of Majačnaja Bay, 24 m above the sea level (N 45° 00217 # E 35° 50074). This well functions even today (Fig. 5). The third well was found just under the edge of a soil deposit which had collapsed in a landslide. It was situated 100 m from the sea on the eastern slope of the bay. The well was without water because of the aforementioned landslide, which took place in 2004. The fourth well is situated 200 m from the seashore, on top of the plateau between the bay and lighthouse precincts (24.5 m above the sea level). It was reconstructed in fairly recent times, but is now obstructed and used only for watering cattle (N 45° 00206 # E 35° 50066) (Fig. 6). All of the wells have the pear-shaped form characteristic of water-collecting reservoirs. Three have circular mouths while the fourth has a rectangular one. The shafts of the wells are cut directly in the rock.

Throughout the south-western plain of the Kerch Peninsula, between Theodosia and Kimmerikon, such favourable hydro-geological conditions are found only on Cape Čauda and Cape Karangat (Fig. 1). Because of this, as well as the availability of arable lands, the region was occupied and settlements founded here in the Classical period.

The preserved cultural layers of the settlement on Cape Čauda are found 20-30 m above the sea level and stretch from the cape along the shoreline from the northeast to the southeast. The thickness of the archaeological cultural layer here is not great with an average of only 0.50 m. This is due to the fact that the



Fig. 6. Recently reconstructed ancient well at Majačnaja Bay.



Fig. 7. Remains of Classical and early Medieval structures.

rocks underlying it are fairly close to the modern surface. Most of the cape proper is covered with outcrops of bedrock, and therefore the cultural layer is preserved here only fragmentarily, mainly in micro-depressions. A considerable part of the cultural layer has washed down the slope, and secondary deposits thereof up to 1.50 m thick can be found, having accumulated below the precipices in waterside depressions. On the modern surface of the plateau, 50 m southwest of the lighthouse, the remains of some structures of the Classical and early Medieval periods are preserved. Amidst these ruins, fragments of amphorae of the 4th century BC have been found. The collapsed stonework is partly covered by building remains from the second half of the 19th century (Fig. 7). In total, the area containing surface finds, on the shores of Majačnaja Bay north-west from the cape itself, does not exceed 350 m in length. To the east, the boundary of the distribution of surface finds lies 400 m from the cape. On the western side of the cape, the vast remains of an ancient quarry are traceable (Fig. 8).

The surface materials collected on the cape are divided into three chronological groups: finds from the Hellenistic period, those dated to the first centuries of our era and those from the early Medieval period. The earliest group of finds includes fragmentary amphorae from Herakleia, Sinope, Chios, Knidos, the so-called "Pantikapaian" amphorae, as well as fragments of *louteria* and fish-plates. Occasionally, rare fragments of black-glazed ware are to be found. Most of these finds come from thick deposits of eroded cultural layer on the very cape itself. A few examples, however, have also been found at the western edge of the plateau (the shore of Majačnaja Bay).

The second group of finds is represented by fragments of amphorae from the end of the 1st century BC and the 1st century AD. This group includes pseudo-Rhodian amphorae of light clay, some with pointed bases and profiled handles: types C-II and C-III according to S.Ju. Vnukov,⁵ and types A and C according to D.B. Šelov (mid-1st century BC to first third of the 1st century AD; Šelov 1978), including handles of light-clay and narrow-necked ampho-

Fig. 8. Ancient quarry.



rae of the 1st century AD. Of particular interest are fragments of amphorae of the following types: beak-shaped rims, pink clay, broad neck (late 2nd to first half of the 3rd century AD); type Delakeu, and amphorae of light clay which are identified as type F according to D.B. Šelov (second half of the 2nd to 4th century AD; Šelov 1978). Noteworthy amongst the fragments of tableware are red-glazed plates and jugs of the same period. The group under consideration has generally been found on the plateau of the cape itself and on the cliff on its western shore.

The third group of finds has come mostly from the area south of the lighthouse precincts, on the cape itself and from the area on the shore of the bay, 200 m south-west from the lighthouse. These finds are represented by relatively numerous fragments of the Black-Sea/Pontic? ribbed amphorae of the 8th to mid-10th century AD, walls of amphorae with fine grooves on the body (8th to 11th century), and walls of wheel-made grey-ware pots belonging to the Saltovo-Majatskaja culture (8th to 10th century AD). Fragments of Medieval red clay, green-glazed ware with graffiti (14th-15th century AD) also occur.

V.F. Gajdukevič supposed that the salty Lake Kačik nearby (5.5 km to the east and northeast of Cape Čauda) was originally a gulf, on the shores of which the settlement of Kazeka was situated during the Classical period.⁶ In the second half of the 1st millennium BC, when the so-called Phanagorian Regression took place, there was probably a vast lowland and a ravine on the site of the lake. Assuming that the lakes of Kojaš, Uzunlar and Kačik have a similar morphology, the formation of a shallow gulf on the site of Lake Kačik must have taken place in the first half and the middle of the 1st millennium AD. At present, the lake is a fairly shallow reservoir separated from the sea by a narrow barrier and replenished by precipitation and sea-water during storms.

According to the evidence of Arrian in his *Periplous* of Pontos Euxeinos (2nd century AD) and in the *Periplous* of an anonymous author, allegedly Ps.-Arrian (4th-5th century AD), (Arr. *P.P.Eux.* 30; Anon. *Peripl.P.Eux.* 76), there may have



Fig. 9. Ribbed limestone rollers for threshing grain.

been a settlement ($\kappa \omega \mu \epsilon$) at Kazeka near the eastern extremity of the Gulf of Feodosija on Cape Čauda in the 2nd century AD.7 Arrian reports that the "small town" of Kazeka "lying near the sea" was situated 420 stadia from Pantikapaion in the direction of Theodosia (Arr. P.P.Eux. 30), whereas the anonymous author of the Periplous of the Pontos defines the distance between ancient Kazeka and ancient Kimmerikon as equal to 180 stadia or 24 miles (Anon. Peripl.P.Eux. 76). The author further adds that from Kazeka to the abandoned city of Theodosia there were 280 stadia or 37 1/3 Roman miles. According to M.V. Agbunov's studies, the works of these authors both use the stade of Eratosthenes which is equal to 157.7 m. The anonymous author, moreover, supplements his use of that stade by later converting it into Roman miles (1481 m), although he uses an incorrect ratio of the stade to the mile.8 The distances between Pantikapaion and Kazeka, Kimmerikon and Kazeka, and Theodosia and Kazeka thus must have been about 66, 28 and 44 km respectively. The most exact distances given are those between Cape Čauda, Kimmerikon and Theodosia which along the shore line amount respectively to 27.5 and 42 km. At the same time, the distance from Pantikapaion indicates a location close to Lake Kačik. Since the coastline between Kazeka and Kimmerikon and that between Kazeka and Theodosia are fairly straight (contrary to that near the capes of Takil' and Kamyš-Burun) the distances between the above points are reported quite exactly. The discrepancy of slightly more than 4 km from the real distance between Cape Čauda and Mt Mithridates does not seem very problematic either.

During the reconnaissance of 2003, on the small cape of Karangat, at the site of what was recently a frontier post, a settlement of the Classical period was found.⁹ In the talus on the shore, fragments of the so-called two-barrelled handles of light-clay amphorae (1st century BC until 1st century AD) were found.¹⁰ In addition, there seems to have been a late Medieval settlement here as is suggested by a well in the ravine. The mouth of the well was covered over with a limestone slab with an aperture. This well was probably replenished

by subsoil waters in the same way as similar wells on Cape Čauda. It is clear that erosion has destroyed most of the late Medieval as well as the ancient settlement.

During the surveys at the southern foot of Mt Djurmen at the ruins of the former Tartar village Djurmen (or "Mill", abandoned in 1944) north of Cape Karangat, numerous fragments of Herakleian and Sinopean amphorae of the 4th century BC were found. This suggests that the territory was occupied in the Classical period (Fig. 1). Moreover, the remains of a number of old wells are preserved here, indicating a relatively good water-supply for the locality. In addition, it is noteworthy that, ribbed limestone rollers for threshing grain have been found in what is believed to be ancient courtyards (Fig. 9). All this attests to the notion that the local population was occupied with agriculture until the first half of the 20th century and that the local soils were suitable for growing grain.

The settlement of Djurmen proper occupied a considerable area. It emerged only fairly recently in the 17th or 18th century as may be judged from the surface finds. The remains of the stone foundations of houses are preserved as is the village's cemetery in which limestone turban-shaped gravestones are distinguishable. Of special note are the foundations of the houses: they are rectangular, extending east-west along the longer axis with a width of slightly over 3 m; as well they are divided into three parts with the entrance and courtyard facing south. The walls were constructed from mud-bricks; the roofs must have been made of clay or straw since no tiles are to be found on the surface. This technique of house-building is very old and has, to some extent, local roots.

To the west of the village, closer to Lake Kačik, traces of ancient land-division in the form of undistinguished small earthen banks are preserved throughout a fairly large area (Fig. 10). These run from north to south or from the coast towards the southern foot of Mt Djurmen. The division boundaries are preserved since no intensive fieldwork or land-improvement have been carried out here in the last sixty years. It is noteworthy that today the soils around Lake Kačik are extremely saline and mostly suitable only for pasturing.

A similar situation was also observed on the site of the former Tartar settlement of Kačik not far from the western bank of Lake Kačik. Amongst materials of modern times, numerous fragments of Herakleian and Sinopean amphorae of the 4th century BC were found here as well. It is quite possible that other Tartar settlements in the region (which are fairly numerous judging by maps of the 19th century) will likewise yield ancient materials in the future. This would not be surprising since the localities once occupied because of their propitious situation, the availability of fresh water, soils and easy means of communication were repeatedly chosen for habitation by newcomers. A similar picture is observed at many sites in the Crimean Peninsula.

Not far from what is now Lake Kačik, at a point where a number of small ravines run into the lake, two ancient settlement-sites (or farms) have been discovered. One of these, Kačik-1, was situated on the level left bank of a ra-



Fig. 10. Traces of ancient land divisions near Lake Kačik.

vine. Here, a pond was constructed by means of a dam; possibly this hydroengineering structure goes as far back as the Classical period. In micro-relief it is distinguishable because of its low elevation and an accumulation of limestone rubble. Found on its surface are fragments of red-clay and black-glazed ware, handmade pottery, and Herakleian, Sinopean and Mendean amphorae of the 4th century BC. Even a Pantikapaian *tetrachalcon* of the type "bearded satyr/griffin, sturgeon, ΠAN " of the last quarter of the 4th century BC has been found here (Fig. 11).¹¹ The area of the settlement-site, amounting to about 80 x 50 m, is covered with turf. Also traceable on the surface of the steppe nearby are low earthen banks which could be the remains of land-division boundaries. Their direction is E-NE to W-NW.

The second settlement-site, Kačik-2, was situated on the left slope of another ravine in which a pond was also constructed. A destroyed farming tractor station was located nearby. The remains of the settlement are in no way distinguishable in the micro-relief; only ashy spots, discernible because different varieties of plants grow on them, suggest that there had once been some structures here. The dimensions of the site are 150×100 m. Limestone rubble is rare, but fragments of handmade pottery and amphorae from the 4th century BC from Herakleia and Sinope are occasionally found on the surface. In addition, a number of Pantikapaian *tetrachalcons* of the type "bearded satyr/ griffin, sturgeon, ΠAN " of the last quarter of the 4th and early 3rd century BC and "young satyr/lion, sturgeon, ΠAN "¹² have been collected on this spot.

On the eastern bank of Lake Kačik, a Bronze Age site has also been revealed with fragments of handmade pottery and flint flakes being discovered there; in addition, a broken flint point has also been found here.

The vicinity of Cape Čauda is flat country with occasional hills, an inexpressive net of ravines and temporary lakes. The most elevated points near Cape Čauda are the heights of Akbulat-Oba (51.8 m) and Ochči-Oba (43.4 m), the lowest level is Lake Kara-Kol' (*uročišče* of Belobrodskoe). Predominant



Fig. 11. Pottery from the surface of Kačik-1.

here are saline chernozems deposited on Sarmatian and Majkop clays. The area under consideration has been subjected to almost no anthropogenic influence and is now covered by various steppe weeds among which feather grass, wormwood and fescue-grass are predominant. In the *kols*, the grass is rich, dense and stable growing to between one and two meters in height.

The ravines all flow into the Gulf of Feodosija and Lake Kačik, the water in them being fed mostly by rain and melting water. The local population traditionally has used these ravines as water sources constructing dams in them which allowed the accumulation of a supply of water for the summer period. Such dams are still preserved in many of the ravines, and late Medieval settlements are frequently found nearby. During the arid periods of the year this system of water storage has proved its worth especially considering the lack of local water resources. The subterranean water is salty. It lies at a depth of 30-40 m and can be reached by digging wells, mostly in the talwegs of ravines and lowlands.

During the investigation of the eastern parts of the coast of the Gulf of Feodosija, traces of ancient settlements at the mouths of some ravines were revealed in the sea. The active erosion of the coast has destroyed most of this area. The remains, however, give us reason to suppose the existence of a definite settlement structure here. In this region the following archaeological sites have been revealed:

No. 1. On the right side of a small ravine, at the place where it runs into the sea, accumulations of amphora fragments from the 4th century BC and small pieces of limestone rubble have been found within an area of about 100 x 70 m. It is clear that some settlement or a farm was once situated here in the Classical period.

- **No. 2.** On the left side of a small ravine, at the place where it runs into the sea, similar accumulations of amphora fragments from the 4th century BC and small pieces of limestone rubble have been found within an area of about 70 x 70 m. The thick grass hid the features of the micro-relief and of the upper section of the cultural layer making the details of the site unclear. Undoubtedly, there was a farmhouse from the Classical period here. On the same side of the ravine, the remains of land-demarcation around the farmhouse were discernible. These were small earthen banks directed E-SE-W-NW and N-NE-S-SW. Their height was 0.3-0.4 m, and their width 1.3-1.5 m. and they were marked by a different type of steppe plant growing on their surface. In the ravine, a pond with an earthen dam was constructed. It was supplied by rain waters. At the junction of the ravine and the sea (below the farmhouse described) an ancient coin was found by a serviceman. According to descriptions available to us it was quite possibly a Chersonesean *stater* from the second quarter of the 1st century AD.¹³
- **No. 3.** On the southern bank of Lake Kara-Kol' (*uročišče* of Belobrodskoe) an ancient settlement-site with materials from the 4th century BC has been revealed. The lake is dried out and covered with tall, thick grass which is difficult to traverse. The settlement-site extends along the lake bank from NE to SW. Its approximate dimensions judging by the distribution of surface finds are 80 m from east to west and 50 m from north to south. Found within this area are fragmentary amphorae and handmade pottery, lever querns made from the greenish Karadag trass and small fragments of limestone rubble, evidently from ancient structures; the surface itself is covered with turf.
- **No. 4**. In the same place, on the northern slopes of the watershed pointing towards Lake Kara-Kol', traces of ancient land-divisions have been revealed. These are low earthen banks running E-SE to W-NW. The height of these banks is 0.3-0.4 m, their width 3.5-4.0 m; the interval between them is 60-75 m. At the side of some banks shallow grooves formed during the digging of the soil have been traced. They are relatively easy to distinguish on the surface of the steppe, and are occasionally overgrown with different plants than the monotonous steppe grass which otherwise covers the area.
- **No. 5.** On the north-western bank of Lake Kara-Kol' the remains of what was a large Tartar village, Sarylar (abandoned after 1944), is to be found and quite possibly materials from the Greek period will be discovered here. The rich vegetation has not allowed us to investigate the surface of this site in detail.
- **No. 6.** Deposits of amphora and handmade fragments from the 4th century BC and small pieces of limestone rubble are to be noted 0.3-0.6 km SE of the heights of Ochči-Oba. A detailed investigation of the surface of this site is complicated by the dense vegetation.
- No. 7. During the Classical period there were probably some discrete field

structures here as suggested by the fact that in the lowland (1.0 km NE from the site) traces of vineyard field-divisions have been revealed. These are low earthen banks 1.0-1.5 m wide and 0.2-0.3 m high with an interval of 1.8-2.3 m between them; their direction runs N/NW-S/SE. The lowland named is protected from cold winds on almost all sides; it has unusually warm temperatures and was evidently particularly suitable for growing vines. The net of ravines within the lowland runs into Lake Kačik; the water flows via these ravines only at the times when snow is melting and in the rainy seasons.

No. 8. Small deposits of fragmentary amphorae from the 4th century BC and small fragments of limestone rubble can be noted on the top of the watershed between the heights 37.9 and 43.4 m (Ochči-Oba). Possibly some light structures stood there in the Classical period.

Meanwhile, fragments of amphorae occur throughout the entire territory north of Cape Čauda; in particular a Sinopean stamp of the magistrate Kallisthenos on a handle has been found there. The stamp is dated to the 270s BC.¹⁴ These finds probably belonged to a large Greek settlement (Kazeka) on Cape Čauda and they suggest intensive agricultural use of the demarcated areas.

East and northeast of Cape Čauda, directly outside the area of the settlement, on the turf-covered steppe surface, a poorly articulated, small earthen bank (0.4 m high and ca. 5.2 m wide) is discernible. It runs in an E-NE direction, between the shore and the asphalt highway (which connects the lighthouse and the military unit). Probably, the bank is the remains of an ancient land-demarcation system which started directly outside the settlement of the Classical period. In one spot (290 m SW of the Cape Čauda lighthouse) a section of that bank was investigated. It showed that the bank was constructed with a heap of chernozem on the ancient surface. Fine fragments of handmade and wheel-made pottery found in the bank yielded nothing to help in establishing the chronology of the structure investigated.

Similar earthen banks have been revealed in the coastal zone between Cape Čauda and Lake Kačik. Here, they are better preserved, higher, and more densely arranged, oriented transversely to the coast from south to north. In the steppe further inland, surface traces of these banks are lost, probably ploughed up by inhabitants of the settlement of Kačik in the late Middle Ages.

In the same locality slightly inland, a number of stonework structures have been found on the surface of the steppe. Some of these are fairly long, ranged along the axes east-west and north-south. The others are oval in plan. Their purpose and date are so far unclear and demand further investigation.

The creation of the cadastral land system over so vast a space was due to a number of reasons: the inequality of the land-plots in terms of their fertility, the development of a certain system of crop rotation, the ease of counting the sown and grown crops for proper taxation *etc*. A number of questions remain unanswered. Who created the cadastre and when, how long did it exist, to which ancient centre did it belong, what was the total number of land plots demarcated, among whom were they distributed and who farmed them, in what way did their owners maintain the demarcations and what crops were grown here? The answers to these questions must so far remain only hypothetical. Relatively exact information can be yielded only by means of further field explorations and excavations.

Was the land cadastre in any way connected with Theodosia of the Classical period? It is doubtful. More probably it was associated with the Bosporos. No early materials (5th century BC) have been revealed here while by the 4th century BC, after the Bosporo-Theodosian war, this territory was already part of the Bosporan Kingdom. Only such a powerful and centralized state as Bosporos in that period could have been able to carry out so large-scale and expensive work with such a definite purpose. It is tempting to discern in this cadastre the activities of King Eumelos aimed at the development of the region of Psoa for exiled Kallatians,¹⁵ particularly as the first few available finds indicate the late 4th-early 3rd century BC. We must avoid, however, as yet any definite conclusions as these must await detailed investigations. The name of the area mentioned above suggests rather the Asiatic part of the Bosporos where similar appellations are more common both for the people's resident there and for geographic locations.

Thus, the visual investigations of the coastal zone of the Kerch Peninsula from Cape Karangat to Cape Čauda and that of the eastern part of the Gulf of Feodosija, as well as of the more inland areas of the virgin steppe, have shown the existence here of the remains of a settlement structure and traces of land demarcations from the Classical period. These objects demand further more detailed study which will be of help in elucidating certain moments of the history of Bosporos and ancient Theodosia. These studies are also important for our understanding of the systems of both ancient and modern land tenure and for the science of ancient soils and paleoclimatology.

Notes

- 1 See Kruglikova 1975, 254, fig. 101.
- 2 Šelov-Kovedjaev 1985, 38-40.
- 3 Smekalova 2006, 393, 397; Maslennikov & Smekalov 2005, 290; Smekalova, Maslennikov & Smekalov 2005, 83; Smekalova & Smekalov 2006, 216.
- 4 Gavrilov et al. 2006, 144.
- 5 Vnukov 2003, 96, 102.
- 6 Gajdukevič 1971, 203.
- 7 Zubarev 2005, 241.
- 8 Agbunov 1992, 29-30.
- 9 The seashore in this locality consists of cliffs and because of substantial erosion the post has been moved inland.
- 10 Vnukov 2003, 52, 202.
- 11 Anochin 1986, 140, pl. 3.111.

- 12 Anochin 1986, 140, 141, pl. 3.111; 4.125.
- 13 Anochin 1977, 149, pl. 14.215.
- 14 Fedoseev 1998, 258.
- 15 Šelov-Kovedjaev 1985, 152.

Bibliography

- Agbunov, M.V. 1992. Antičnaja geografija Severnogo Pričernomor'ja. Moskva.
- Anochin, V.A. 1977. Monetnoe delo Chersonesa (IV v. do n. e.-XII v. n. e.). Kiev.
- Anochin, V.A. 1986. Monetnoe delo Bospora v VI-II vv. do n. e. Kiev.
- Fedoseev, N.F. 1998. Keramičeskie klejma iz raskopok poselenija "Baklan'ja skala", *Drevnosti Bospora* 1, Moskva, 253-270.
- Gajdukevič, V.F. 1971. Das Bosporanische Reich. Berlin.
- Gavrilov, A.V., V.K. Golenko, A.L. Ermolin & P.G. Stoljarenko 2006. Razvedki na myse Čauda i ego okrestnostjach, *Drevnosti Bospora* 10, Moskva, 144-155.
- Kruglikova, I.T. 1975. Sel'skoe chozjajstvo Bospora. Moskva.
- Maslennikov, A.A. & T.N. Smekalova 2005. Sledy drevnego zemlevladenija i zemlepol'zovanija na chore Evropejskogo Bospora (Vvedenie v temu), *Drevnosti Bospora* 8, Moskva, 276-307.
- Smekalova, T.N. 2006. Sravnenie ortogonal'nych sistem razmeževanija zemel' na Evropejskom Bospore i v Chersonese (Tarchankutskij poluostrov), Drevnosti Bospora 10, Moskva, 389-415.
- Smekalova, T.N. & S.L. Smekalov 2006. Ancient Roads and Land Division in the Chorai of the European Bosporos and Chersonesos on the Evidence of Air Photographs, Mapping and Surface Surveys, in: P. Guldager Bilde & V.F. Stolba (eds.), Surveying the Greek Chora Black Sea Region in a Comparative Perspective. Aarhus, 207-248.
- Smekalova, T.N., A.A. Maslennikov & S.L. Smekalov 2005. Ortogonal'nye sistemy razmeževanija zemel' evropejskogo Bospora i prirodnodemografičeskie faktory, in: V.Ju. Zuev et al. (eds.), Bosporskij fenomen: problema sootnošenija pis'mennych i archeologičeskich istočnikov. Materialy meždunarodnoj naučnoj konferencii. St Peterburg, 79-97.
- Šelov, D.B. 1978. Uzkogorlye svetloglinjanye amfory pervych vekov našej ery. Klassifikacija i chronologija, *KSIA* 156, 16-21.
- Šelov-Kovedjaev F.V. 1985. Istorija Bospora v VI-IV vv. do n.e., in: A.P. Novosel'cev (ed.), Drevnejšie gosudarstva na territorii SSSR. Materialy i issledovanija, 1984 god. Moskva, 5-187.
- Vnukov, S.Ju. 2003. Pričernomorskie amfory I v. do n.e.-II v. n.e. Moskva.
- Zubarev, V.G. 2005. Istoričeskaja geografija Severnogo Pričernomor'ja po dannym antičnoj pis'mennoj tradicii. Moskva.