

Stanislav V. Bel'skiy FORTIFICATION OF TIURI LINNAsAARI (TIVERSKIY GORODOK) ON THE VUOKSI RIVER: RESULTS AND PERSPECTIVES OF CURRENT ARCHAEOLOGI- CAL INVESTIGATIONS

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INTRODUCTION

Archaeological expedition of the Peter the Great Museum of Anthropology and Ethnography, Russian Academy of Sciences (MAE/RAS, Kunstkamera) conducted archaeological investigations in the area of the fortified site Tiverskiy Gorodok (Fi. Tiuri Linnasaari) in 2017. The goal of the excavations was to study the rampart of the fortified town, which is best preserved in its southern part. The task was to study the construction details of the rampart, to find out the presence of settlement cultural layer(s) pre-dating the time of its construction, and to obtain artefacts and bone and charcoal samples for subsequent interdisciplinary analyses and dating. The present paper publishes the first results of these investigations.

The historical background of the studies of Tiverskiy Gorodok was presented in detail in several monographs (Appelgren 1891: 98–106, no 217; Schwindt 1893: 85–90, 93; Taavitsainen 1990: 239–40; Uino 1997: 297–300; Saksa 1998: 87–8; Kochkurkina

2010: 29–52). Nevertheless, it is important to note that in historiography there is no common opinion on the chronology of the site, nor on the phases of its construction history.

SITE AND LANDSCAPE

The object of cultural heritage of Federal significance Tiverskiy Gorodok (Tiuri Linnasaari in Finnish historiography) is situated 27.8 km south-west of the city of Priozersk (Fi. Käkisalmi), and 9.85 km south-east of the centre of the village of Mel'nikovo (Fi. Räisälä) in the Priozersk District of the Leningrad Oblast (Figs. 1–2). Prior to the artificial discharge of water

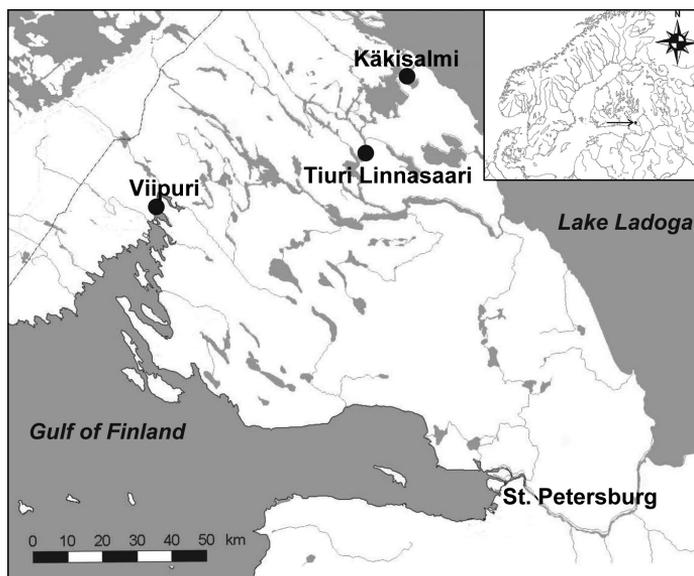
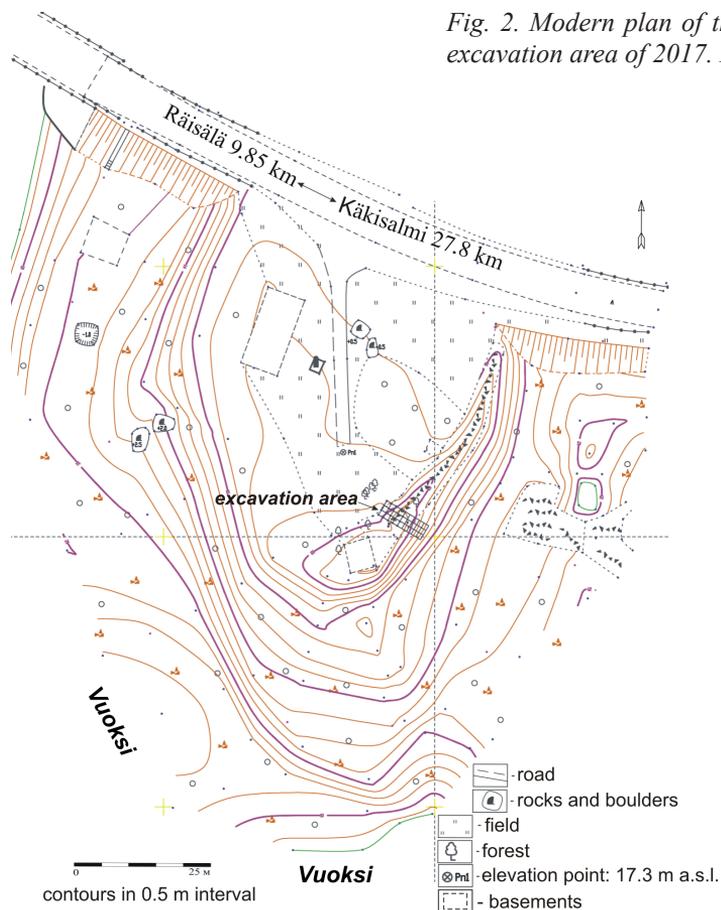


Fig. 1. Map of the Karelian Isthmus and the location of the Tiverskiy Gorodok (Fi. Tiuri Linnasaari) fortress. Map: S. Bel'skiy.

Fig. 2. Modern plan of the fortress (southern part) and the excavation area of 2017. Map: S. Bel'skiy & G. Poroshin.



from the Vuoksi River in 1857, the fortifications were located on an island washed by two (eastern and western) river branches. Then the island was elongated in shape, c 200 m in the north-south direction and reached a width of up to 80 m in the southern part. S.I. Kochkurkina (1981: 32) noted that the dimensions given to Tiverskiy Gorodok vary slightly in literature: 225 m from north to south and 44–60 m from east to west according to H. Appelgren and T. Schvindt, 230 and 50 m (respectively) according to A.N. Kirpichnikov; Kochkurkina herself indicates the dimensions of 215–230 m from north to south and 40–56 m from west to east.

Two features of the fortifications of Tiverskiy Gorodok are especially noteworthy. Firstly, the rampart was not continuous but divided into separate sections. The line of the rampart corresponds to the contour of the sloping edge of the island, following its relief. However, in the

southern part, the natural slope was possibly made steeper. Secondly, the island on which the fortified settlement is located is divided by a road, and the character of the fortifications in these two areas differs visually. In the northern part, a wall constructed of large boulders in dry masonry is visible – in the southern section, a turf-covered bank of stone and earth is traceable. The reasons for such differences are still debated. It is noteworthy that the modern highway does not follow exactly the old road line throughout the townsite, but due to several reconfigurations and the construction of a bridge over the Vuoksi River, the road was shifted north. Therefore H. Appelgren's plan, which served as the base of reference for all subsequent archaeological investigations, despite its high

quality, does not represent precisely the modern situation (Uino 1997: 79, Fig. 3:35).

In 2017, the task was set to study the most preserved and information-rich area of the townsite with causing minimal disturbance through excavations. Considering the fairly numerous artefacts found at the site and predating the 13th–14th centuries, as well as the repeated mentions of cultural layer under the stone wall, it was decided to transect the best-preserved area of the rampart with a trench in order to investigate its full profile and the deposits possibly found under it. The investigations took place in the southern part of Tiverskiy Gorodok, south of the Priozersk–Mel'nikovo highway, in the south-eastern section of the rampart (Fig. 2). This is the area where the earliest finds from the territory are concentrated, including a well-known hoard (Uino 1997: 298). In addition, the rampart here is in fairly good condition.

During a visual examination before digging, it was concluded that the rampart in the area where the excavations were planned (henceforth Excavation 1) consisted of a turf-covered bank of stone and earth, the height of which was 0.8–0.9 m from the inner yard of the fortress. The inner wall of the rampart is relatively gently-sloping, the outer, on the contrary, almost vertical, passing into the naturally steep slope of the nowadays dried-out channel bed. At the foot of the rampart, on the outer side, large boulders were traced along the perimeter. As further field investigations showed, these constituted one of the external stone walls reinforcing the bank. The distance from the top of the rampart down to their level was 1.2–1.3 m. The visually determined rampart width was c 4.5 m. Excavations were started 5.5 m north-east of the stone-faced north-east wall of the famous cellar, where the above-mentioned hoard of silver objects was found.

EXCAVATION RESULTS

General observations

Before the start of digging, geodetic survey was carried out throughout the entire southern part of the site, between the highway and the present-day Vuoksi River (Fig. 2). As a result, a detailed plan was drawn indicating the peculiarities of local relief and the excavation area. Excavation 1, 27 m² in size, was placed in such a way that



a complete cross-section of the rampart was to be obtained as a result of investigations. In plan, the trench was 9 m long (north-west–south-east) and 3 m wide (north-east–south-west); the azimuth of the longer axis was approximately 120°. In the north-western edge, the trench adjoined the south-eastern edge of Excavation XI of S.I. Kochkurkina, which was located on the inner side of the rampart and had an area of 128 m² (Kochkurkina 1981: 38, Fig. 12).

Before starting work, levelling measurements were conducted and excavation site microrelief plan was obtained. After removing the turf up to 0.1 m thick, it was noted that the surface of the rampart constituted of a dark dusty sandy loam with numerous stones. Tops of large boulders were visible throughout the entire area. When excavations proceeded deeper, the colour of the deposits became lighter. Excavations on the outer slope of the bank revealed two amorphous accumulations of light clay. These finds confirm the observation of S.I. Kochkurkina (1981: 45) that the rampart was additionally strengthened with clay daub. However, the daub did not form any distinctive thick layers and was rather loose and amorphous.

From a depth of 0.35–0.4 m from the modern surface, three stone walls were clearly visible: the loose fill of the rampart was divided by the *central* wall and limited on its edges by the *outer* and the remains of the *inner* stone wall (Fig. 3). All further excavations were conducted in the areas between these walls. Loose deposits in parts of the excavation not occupied by stone walls continued to be of a mixed character: areas of light sandy loam alternated with lenses of humic sandy loam. Fill of the rampart contained very numerous pieces of stone.

Between the central and outer walls, a horizon of

Fig. 3. General view of the excavation area: stone walls inside the rampart. Photo: S. Bel'skiy.

Fig. 4. Finds from the excavations in 2017; 1–6) iron, 7) bronze, 8) glass. Drawing: A. Mashezerskaya, layout: S. Bel'skiy.

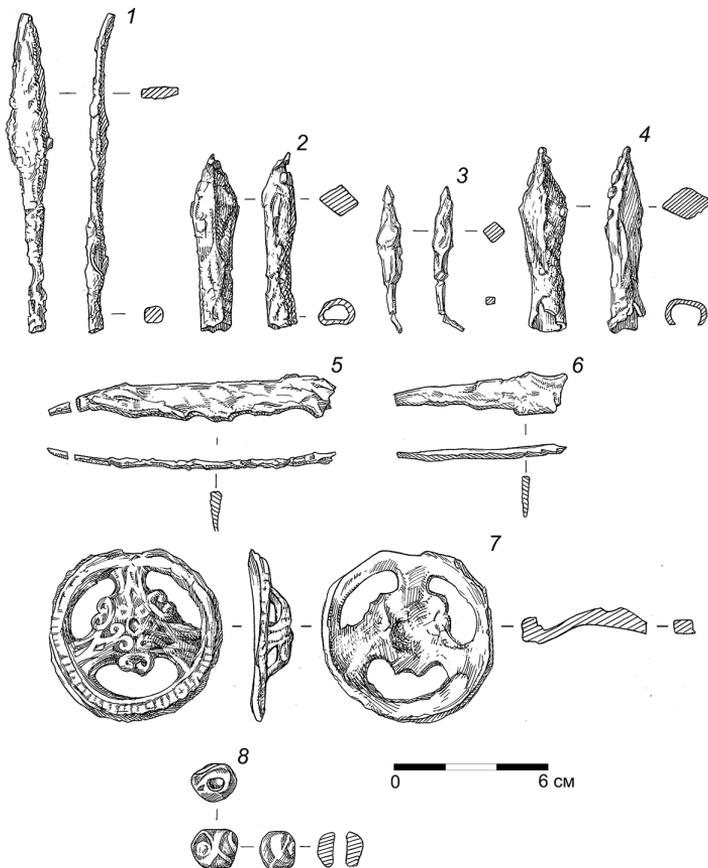
dark humic sandy loam was uncovered at absolute elevations of 17.55 m (south-eastern sector) and 17.4 m (north-eastern area). Charcoal concentrations (taken for radiocarbon analysis), as well as individual calcined bones, fragments of pottery, and different other artefacts were found in this horizon (Fig. 4). Most likely, this horizon contains the remains of the cultural layer of the settlement that existed before the construction of the rampart. It was disturbed during the building of the rampart, but preserved under the bank. This horizon was up to 0.25 m thick.

The native surface, found at absolute elevations of 17.3 m in the south-eastern section of the excavation and 17.25 m in the north-western part, was a continuous horizon of moraine rocks interrupted by rock outcrops and isolated spots of light coarse-grained morainic sandy loam. The dense stone base and natural rock surfaces served as a convenient foundation for the stone walls of the fortified settlement, and the fill between the walls.

Remains of walls

The structure of the outer wall was visible on the surface of the outer rampart slope before the start of work. Based on observations made during excavations in 2017, it was built of at least three rows of boulders based on stony moraine or bedrock. It was also confirmed, that the cracks between the boulders were filled with small rubble. The total height of the wall was about 2 m.

The remains of the inner wall were recorded already in the cross-sections presented in the publications of Kochkurkina (1981: 46, Fig.



15; 2010: 40, Fig. 35). It consists of only two courses of masonry, which rest on a rock base in the north-western part of the excavation area. Perhaps because of the adjacent residential area, it was most badly disturbed.

An extremely surprising discovery was the opening of the central wall inside the rampart during the excavations of 2017. Moreover, this wall is the best preserved of the three. The latter fact is easily explained, since it was completely covered during the construction of the rampart. The central wall was not mentioned by any of the researchers of Tiverskiy Gorodok in previous years. The height of this wall was 1.4–1.45 m, and the width near the natural surface was 2.2 m. It consisted of four to five horizontal rows of boulders set on one another without any binding mortar. Each layer was narrower than the previous one, and finally, the uppermost layer was built of one row of boulders laid close to each other. The orientation of the wall, like the other two, corresponded to the axis of the rampart.

On the sides it was reinforced with rubble masonry. During the excavations, the wall was not destroyed, but preserved *in situ*. All the recorded features seem to indicate that the central wall was a peculiar technological part that served as an internal framework for the entire rampart.

Stratigraphy

Stratigraphy was examined in all four excavation profiles. The profile of the north-eastern wall turned out to be the most informative (Fig. 5). The thickness of the turf was c 0.1 m throughout the area. Under it was a horizon of dusty humic sandy loam with the inclusion of numerous stones of small and medium size (diameter up to 0.35 m). This horizon, up to 0.8 m thick, was traced in the central part of the excavation area, above the stone walls.

Below that was a horizon of dark mixed coarse-grained sandy loam with inclusions of charcoal. The layer thickness varied because of uneven surfaces of natural soil and bedrock and reached 0.95 m in the lowest areas (on the outer

and inner edges of the central wall). This horizon gave the most numerous finds. In total, the depth of the excavated deposits was a maximum of 1.7 m in the central part of the excavation, where the rampart was highest.

Finds

The finds can be divided in two groups: traces of a military event on the fortification (arrowheads and arbalest bolts) and artefacts from an earlier settlement. Arrowheads and arbalest bolts of different types were found under the turf on the upper and outer slope of the rampart or in the cracks between the masonry of the outer wall (Fig. 4:1–4).

Artefacts from an earlier settlement are represented by a bronze belt divider in the shape of a ring with a flattened cross-section and spokes dividing it into three segments (Fig. 4:7). The object is decorated with cast plant design and shows traces of thermal impact. An eye bead of black glass with relief eyes encircled by white loops also belongs to this group of finds (Fig.

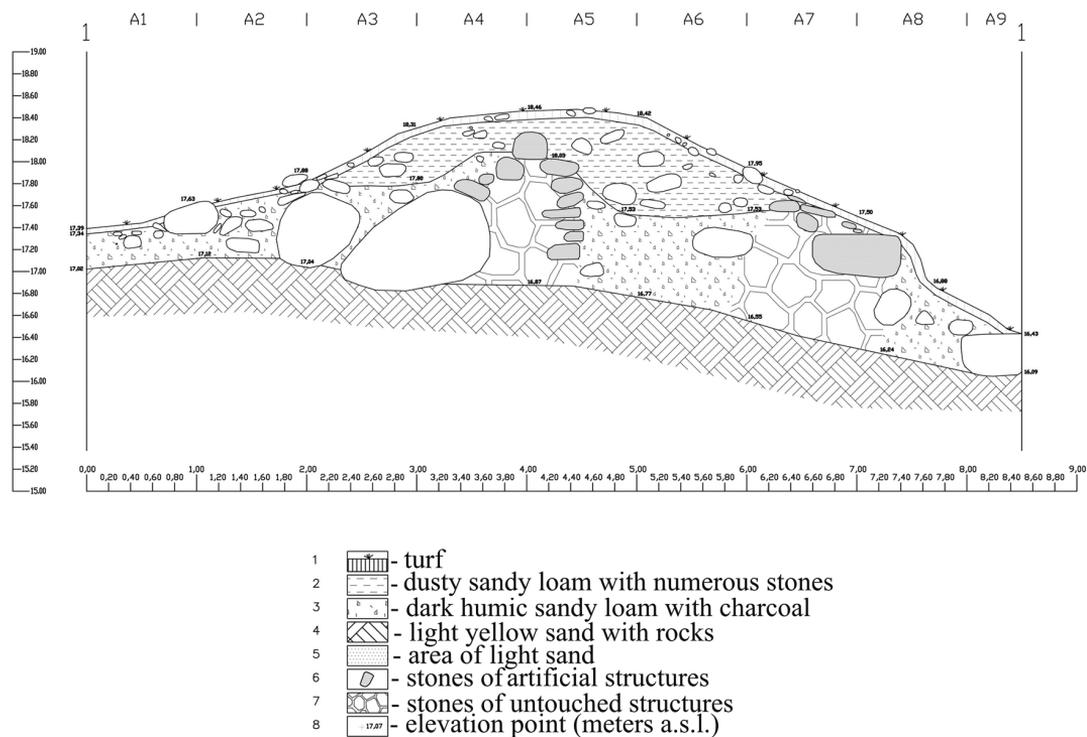


Fig. 5. Stratigraphy of the rampart. Drawing: S. Bel'skiy & I. Zaitsev.

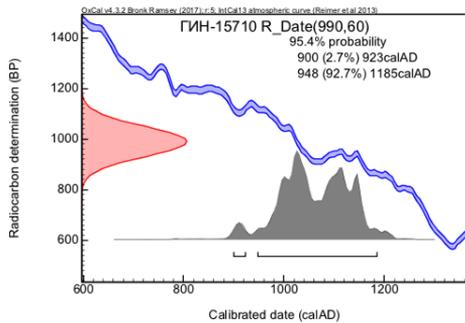


Fig. 6. Results of radiocarbon dating: sample (charcoal) from horizon 4.

4:8). Fragments of iron knives were retrieved from the base of the dark humic sandy loam (Fig. 4:5–6).

Two flint artefacts were found: a retouched fragment and, presumably, a flake of dark smoky flint. Possibly the origin of these finds is a layer of the Early Metal Age settlement, the materials (pottery) of which are known from previous excavations at the site (Uino 1997: 394–6). In addition, two ceramic weights, a whetstone, a fragment of a boat rivet and 32 small fragments of non-ornamented hand- and wheel-made ceramic vessels were found.

CONCLUSIONS

After excavations, the stratigraphy of the excavated deposits allowed them to be divided into two main cultural horizons. The first is the earthen bank of the rampart itself. Its colour and finds indicate that the soil used in it was retrieved from the cultural layer of an older settlement site, which preceded the fortification on the island. The second horizon is the cultural layer of the earlier settlement.

It should be noted that the rampart was built mostly of stone. Archaeological investigations of 2017 demonstrated that the fortifications in the northern and southern parts of the townsite do not fundamentally differ and, quite possibly, could be synchronous. In general, the stratigraphy recorded in the excavation profiles of 2017 is similar to that recorded by S. I. Kochkurkina in her Excavation IV, which also crossed the rampart in its southern part; these excavations

were located 15 m south-west of 2017 trench, on the opposite side of the cellar (Kochkurkina 1981: 46, Fig. 15). However, there are three significant differences.

Firstly, archaeological investigations of 2017 showed that the rampart was built in one stage. Lenses of light sandy loam could have accidentally appeared during the construction of the rampart. Secondly, it is obvious that under the rampart is the cultural layer of an earlier settlement. The presence of cultural deposits of the Late Viking–Early Middle Ages under the rampart is confirmed by a radiocarbon dating of charcoal collected from horizon 4 (990±60 BP, GIN-15710) (Fig. 6). Thirdly, three stone walls were revealed in the bank of the rampart. The description of the central wall is completely absent in the report of Excavation IV of S.I. Kochkurkina, who mentions that ‘...huge boulders, lying in a continuous chain in a row on clean virgin sand, served as the foundation of the rampart approximately 6–7 m wide. To strengthen and protect against breaking down, large boulders were supported by smaller ones.’ (Kochkurkina 2010: 40). It seems that here we are talking about the outer wall of the rampart, part of which was visible in the profiles (Kochkurkina 1981: 46, Fig. 15).

As a result, the construction process of the ramparts of Tiverskiy Gorodok can be represented as follows. Three walls were simultaneously built of boulder with dry masonry on top of the cultural layer of the settlement along the perimeter of the island, on the edge of the slope. The space between the walls was filled with soil and stones taken from the territory inside the fortification. This led to a fairly strong and dense structure without any binding mortar. The outer side of the rampart was reinforced with clay.

In conclusion, it seems necessary to explain the difference between the visually distinguishable features of the rampart structure in different parts of the site, as well as the differences recorded during excavations conducted by different researchers. In my opinion, the defences of Tiverskiy Gorodok are an example of uncompleted fortifications built without any general plan. Some areas were better fortified, while other were built less diligently – in some places, the defences were altogether absent. It should be noted that no traces of additional fortifica-

tions made of wood, a stockade or the like, were found. The rather short time of occupation of this place as a defensive point proves its rather low importance in the defence system of the Novgorod Lands at the end of the 14th – beginning of the 15th century. It is very possible that this fortress was not restored after it was stormed in 1411 (Uino 1997: 298), which, obviously, left traces in the form of numerous arbalest bolts and arrows found in the bank of the rampart. At the same time, evidence of the existence of the settlement before the construction of the fortress, as well as, perhaps, a cemetery of an even earlier period (Viking Age artefacts were found both during excavations of 2017 and excavations of other researchers) makes this place a parallel to the fortresses of Korela (Sw. Keksholm, Fi. Käkisalme) and Vyborg (Fi. Viipuri), where layers dating earlier than the construction of the defensive walls were also revealed (Saksa 2010: 229). Furthermore, the similarity of landscape conditions is obvious: all these fortresses arose on the islands at key points of the Vuoksi route through the Karelian Isthmus. Finds of flint artefacts confirm the assumption of the existence of a settlement during the Early Metal Period or the Early Iron Age; this settlement could not have appeared before the formation of the Neva River (the 3rd millennium calBC). There is no doubt that Tiverskiy Gorodok (Fi. Tiuri Linnasaari), as a multicomponent archaeological site, has a great potential for further studies.

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