### A New Group of *Tarand* Graves in the South-Western Part of Leningrad Oblast

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#### Abstract

During recent years, a new group of *tarand* graves was discovered on the Izhora Heights (south-western Leningrad oblast). The majority of them are dated to the Early Roman Period. In total, 15 sites and find spots have been reported. In 2008–2013, the present author conducted excavations at two burial grounds with *tarand* graves – Kerstovo 1 and Malli. This study discusses the evidence on the burial rite and funerary structures at these cemeteries. Typical groups of grave goods have been identified from the sites on the Izhora Heights and linked with particular chronological spans from the Early Roman Period to the Merovingian Period. The *tarand* graves of the Roman Period represent a local variant that finds its closest parallels at sites in north-eastern Estonia. The particular peculiarity of this group of cemeteries arises from the fact that they are geographically isolated and contain numerous weapons and objects imported from the more eastern regions of the Finno-Ugric world. The sites of the Late Roman Period and the Migration Period have yielded only individual finds. The Merovingian Period is best represented by the finds from the cemetery of Malli. The closest parallels for these finds are found among the synchronous antiquities of Estonia.

#### 1 Introduction

During recent years, a new group of archaeological sites was discovered on the Izhora Heights (south-western Leningrad oblast). Most of them belong to the *tarand* graves dating from the Early Roman Period. Funerary installations of this period were first discovered by E.A. Ryabinin during the excavations of the medieval burial grounds of Valgovitsy and Velikino in 1984-1986. Finds associated with the tarand graves of north-western Russia were summarised in a study by V.S. Kuleshov (2005). From 2005 onwards, information on the numerous finds of metal artefacts and monetary hoards in the west of the Izhora Heights started to appear. These objects were presented in publications by P. E. Sorokin, O. V. Sharov, M. A. Yushkova, I. V. Stasyuk, E. R.

Mikhaylova, and I. A. Feodorov. Archaeological surveys were conducted and excavations of the *tarand* graves were started in the region. The *tarand* graves have been investigated by the present authors at the cemeteries of Kerstovo 1 (excavations in 2008–2009) and Malli (excavations in 2010–2011 and 2013). Exploratory excavations were conducted by E. R. Mikhaylova at the burial grounds of Kommunar and Udosolovo.

Altogether 15 sites and separate find spots concentrated in the west of the Izhora Heights have been reported (Fig. 1). These are the cemeteries of Valgovitsy, Velikino, Kerstovo 1, Malli, Udosolovo, Kotel'skiy, and Kommunar. Isolated finds, possibly originating from disturbed burials, were found in the villages of Ratchino, Georgiyevsky, Voynosolovo, and Ropsha. Three hoards come from the surroundings of the vil-

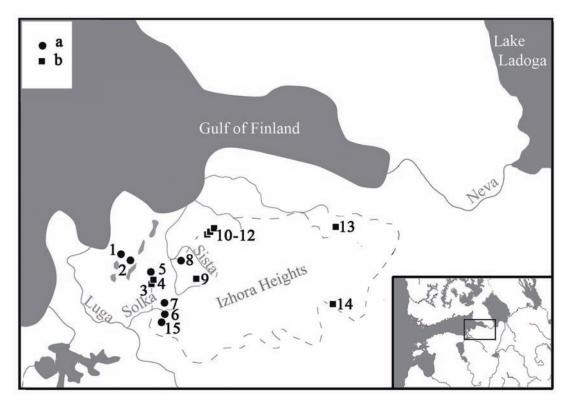


Figure 1. Map of the sites of the 1st–7th centuries AD. a – cemeteries; b – single finds and hoards. 1 – Valgovitsy; 2 – Velikino; 3 – Georgiyevsky; 4 – Voynosolovo; 5 – Kotel'skiy; 6 – Kerstovo 1; 7 – Malli; 8 – Udosolovo; 9 – Ratchino; 10–12 – 1st Koporye, 2nd Koporye and Yuryev hoards; 13 – Ropsha; 14 – Shpan'kovo; 15 – Kommunar. Map: M. A. Yushkova.

lage of Koporye; one coin of the Roman Period was discovered among a later hoard found near the village of Shpan'kovo. These sites are concentrated in the north-western area of the Izhora Heights; the maximum distance between the cemeteries is about 20 km.

The purpose of this study is, firstly, to publish data on new excavations of the *tarand* graves and, secondly, to systematise all available information on finds of the 1<sup>st</sup>-7<sup>th</sup> centuries AD in the south-western part of Leningrad oblast. The article describes the features of the burial structures, the mortuary rite, and the typology and chronology of grave goods that are dated to various periods from the Pre-Roman Period to the Merovingian Period.

### 2 Description of the sites and research history

*The cemetery of Valgovitsy*. A burial was discovered among the medieval cemetery of Valgovitsy during excavations by E. A. Ryabinin in 1984 and 1986. The extent of the excavated area was 80 m<sup>2</sup> (Kuleshov 2005: 186–188; Ryabinin 1987; 1990; 1994; 1997: 22–23). A few grave goods were found without any skeletal remains.

*The cemetery of Velikino.* This funerary object was discovered at a medieval burial ground during excavations by E. A. Ryabinin in 1985–1986 (Kuleshov 2005: 186–188; Ryabinin 1987; 1990; 1994; 1997: 22–23). A few grave goods and calcined bones were found.

*The cemetery of Kerstovo 1* was revealed in 2008 through stray finds. This burial ground is situated on an arable field and its upper level was partly disturbed. In 2008-2009, the present author conducted archaeological excavations at the location. A funerary installation consisting of a chain of four tarand graves was investigated (Yushkova 2010a; 2010b; Yushkova & Kuleshov 2010; Yushkova & Kulešov 2011). The area of the excavation was 156 m<sup>2</sup>. The materials from the excavations and the surface finds suggest that also other tarand graves can be found here. During the excavations, grave goods were found, including 155 objects. Also numerous skeletal remains were discovered altogether ca. 19 kg of bones, mostly calcined. The collection of surface finds amounts to 150 bronze and iron objects.

The cemetery of Malli. In the area of a medieval kurgan burial ground, surface finds from an earlier period were collected (Stasyuk 2012: 68-71; Yushkova 2010b: 325-326). In 2010, the present author discovered a stone mound in the cemetery. The mound was of a nearly rectangular form, measured at least 12 x 20 m, and was about 0.5 m high. It was located on a low natural slope and represents turf-covered tarand graves. In 2010, 2011, and 2013, the author conducted archaeological investigations at the site, with the total area of excavations amounting to 143 m<sup>2</sup>. In the course of the excavations, most of the burial structure was investigated (Shirobokov & Yushkova 2014; Yushkova 2013; 2015). The excavations uncovered numerous grave goods - in total, 850 artefacts. In addition, about 116 kg of bones were recovered. The latter included both calcined and unburned fragments. The finds are distinctly subdivided into two groups belonging to different periods. The first group is dated to the time of construction of the tarand graves, the Roman Period; the second group derives from the third quarter of the 1<sup>st</sup> millennium AD.

The cemetery of Udosolovo has been known since 2005 through surface finds. These finds were studied by P. E. Sorokin and O. V. Sharov (Sorokin & Sharov 2008) and analysed by the present author (Yushkova 2010b: 322– 325). The cemetery had the form of a flat stone mound measuring about 40 x 50 m and with a height of 0.3-0.8 m. In 2009, the cemetery was looted. In 2013, E. R. Mikhaylova made an exploratory excavation of  $16 \text{ m}^2$  in the area of the cemetery (Mikhaylova 2014).

The cemetery of Kotelsky was discovered during an archaeological survey in 2010–2011. It is a mound of nearly rectangular shape, located in the centre of a kurgan burial ground; it has not been excavated (Fedorov & Murzenkov 2012).

*The cemetery of Kommunar*. In 2009, surface finds dating to the third quarter of the 1<sup>st</sup> millennium AD were collected here (Mikhaylova & Fedorov 2011). Exploratory investigations revealed isolated artefacts and calcined bones in a layer of loam (Mikhaylova 2014: 366).

*The site of Ratchino* has been known since 2008, when surface finds were collected at the location – these were artefacts of the Roman Period (Yushkova 2010b: 326–327) and the Middle Ages. In 2009–2010, excavations were conducted under the direction of I. V. Stasyuk. In the course of the fieldwork, medieval barrows were found and investigated. The excavations also revealed individual objects of the Roman Period, but no funerary installations were discovered (Stasyuk 2011: 226; 2012: 66).

*The site of Georgiyevsky.* Isolated finds of the first half of the 1<sup>st</sup> millennium AD were found near the village of Georgiyevsky, and a few medieval objects have been discovered in the same place (Sorokin & Yushkova 2014).

*The site of Voynosolovo*. Isolated finds of the 1<sup>st</sup> millennium AD were discovered in the vicinity of the village of Voynosolovo (Sorokin & Yushkova 2014).

*The site of Ropsha*. A brooch of the Roman Period was found in the vicinity of the village of Ropsha (Stasyuk 2012: Appendix I).

*Hoards*. In 2008, three hoards of Roman coins were discovered – the first Koporye hoard consisting of 30 coins, the second Koporye hoard with 13 coins and a few bronze ornaments, and the Yuryev hoard consisting of 10 coins (Khavrin et al. 2011: 217–219 Pl. 2; Sharov et al. 2011; Yushkova 2010b: 327). In the eastern part of the Izhora Heights,



Figure 2. Kerstovo 1, walls of the tarand grave. View from south. Photo: M. A. Yushkova.

in the Gatchina district near the village of Shpan'kovo, a hoard of 1850 coins of the 10<sup>th</sup>– 11<sup>th</sup> centuries AD was found, including a fragment of a Roman silver coin (Kropotkin 1961: 45).

### 3 Burial structures and the mortuary rite

The *tarand* graves have been excavated at the burial sites of Kerstovo 1 and Malli. Similar structures are found at the cemetery of Valgovitsy and also in Velikino.

At the cemetery of Kerstovo 1, a chain of four *tarand* graves was excavated (Fig. 2). These were oriented with their longer side along the north-south axis. The walls were constructed of boulders or slabs of limestone, while the inner space was filled with smaller stones and limestone gravel. The dimensions of the *tarand* graves varied from 1.2 x 3 m to 3 x 6.5 m.

The grave goods were found on the surface and in the fill of the *tarand* graves, as well as beyond their limits. The bones were found within the structures both as isolated pieces and in associations; about 19 kg of bones were collected. The rite of an outside cremation prevailed and the skeletal remains are predominantly represented by small calcined fragments. Also fragments of unburned bones were found; these were lying in no anatomical order. At least 38 persons were interred at the site.

At the cemetery of Malli, a burial structure was discovered consisting of two *tarand* graves and stone pavements (Figs. 3 & 4). The walls were constructed of limestone, while the internal space was packed with granite boulders and limestone gravel. The western *tarand* grave was built of thick limestone blocks up to 1.75 m wide and 0.7 m high. Its total dimensions were 9 m along the western wall and 4.85 m along the northern wall. The walls of the eastern *tarand* grave were up to 0.8 m wide. This *tarand* grave was 5 m long (along the western wall) and 2–2.3 m wide. In both *tarand* graves, the eastern walls were unpre-



Figure 3. Malli, western tarand grave, southern part. View from south-east. Photo: M. A. Yushkova.



Figure 4. Malli, the tarand grave, northern part. View from north-east. Photo: O. V. Grigor'yeva.

served. The *tarand* graves are of slightly differing orientation: the western one is extended along the north-north-east to south-south-west axis, the eastern one along a line from northeast to south-west. It seems that the western *tarand* grave was built first. Later, its eastern wall was destroyed and the eastern *tarand* grave was constructed. The walls were joined by a lateral mound constructed of limestone gravel and granite pavement. The lateral mound was well preserved along the western wall of the western *tarand* graves, a stone pavement was discovered.

Funerary offerings were found on the surface and in the fill of the *tarand* graves, as well as outside of them. The bones were deposited within the structures both dispersed and in accumulations. Over 116 kg of bones have been collected, and the remains of at least 93 persons have been identified. Two main variants of the burial rite have been recognised: cremation outside the graves and inhumation, possibly of a secondary character. Any anatomic order was absent, both among the cremated and unburned bones.

The distribution maps of anthropological materials from the excavations of 2010 demonstrate that the slightly burned bones, as well as those showing no visible effects of fire, are found in association with artefacts of the Roman Period. Remains of high-temperature cremations are encountered throughout the entire area of the burial ground, although their largest accumulations are concentrated to the south of the stone structure. These correlate with the concentrations of finds from the Merovingian Period, probably dating mostly from the third quarter of the 1st millennium AD (Shirobokov & Yushkova 2014). It seems that the Merovingian Period burials were practiced in a stone cemetery with fences deriving from the Roman Period; the later interments were deposited into the already-existing stone mound or into pits dug nearby.

At the cemeteries of Valgovitsy and Velikino, stone structures resembling the *tarand* graves were found (Ryabinin 1994).

At the cemetery of Valgovitsy, a *tarand* grave measuring 3 x 6 m was found. This was joined from the east and west by stone pavements, which probably represent remains of neighbouring *tarand* graves. The graves are oriented from north-east to south-west. In the cemetery of Velikino, a pavement measuring about 5 x 10 m was found, and also partly preserved *tarand* graves, oriented along the north-south axis, were traceable.

In a test pit dug at the cemetery of Udosolovo, traces of at least two stages of constructed burial structures were identified. The interments of the earlier stage were made in stone cists following the inhumation rite. A series of six partly preserved cists has been discovered (Mikhaylova 2014). The cists with inhumations were located near each other and were constructed of vertically set slabs. They were preserved to a height of 10-15 cm. No circular pavements around them were found. Similar cist-like structures were built in the early tarand graves of the Pre-Roman Period in northern Estonia and southwestern Finland. The next stage of funerary practices in Udosolovo is represented by a layer of limestone gravel where cremations were discovered without any tarand graves. Taking into consideration the small size of the excavated area (16 m<sup>2</sup>), however, the presence of tarand graves in the unexcavated section of the cemetery cannot be ruled out.

## 4 Grave goods – types and chronology

The datings of the *tarand* graves were defined on the basis of certain types of brooches, plaques, and other artefacts belonging to such archaeological cultures as Wielbark and Dolkeim-Kovrovo and Lithuanian burial grounds, as well as based on the chronology of the closest group of *tarand* graves – the cemeteries of north-eastern Estonia. The third quarter of the 1<sup>st</sup> millennium AD is chronologically marked primarily by belt mounts, as well as razors of certain types, knives, beads, and other artefacts.

Finds from the cemeteries date from the

Pre-Roman Period, Roman Period, Migration Period, and Merovingian Period (Appendix 1). The chronology and the periodic division of the *tarand* graves on the Izhora Heights have been already discussed elsewhere (Yushkova 2010b: 316–319).

The oldest materials were yielded by the burial grounds of Udosolovo, Valgovitsy, and, perhaps, Velikino. These sites can all be attributed to the *Pre-Roman Period*. The stone cists from the cemetery of Udosolovo have parallels in *tarand* graves of the Pre-Roman Period. A narrow bronze bracelet, a dart head, and a knife (?) were found here (Mikhaylova 2014). Possibly also four iron pins with ring-shaped heads, found at the same location sometime earlier, are associated with the utilisation period of the cemetery.<sup>1</sup>

The burial structures at the cemeteries of Valgovitsy and Velikino include *tarand* graves, but the composition of finds indicates a relatively early date: they include iron ornaments – bracelets and pins – whereas bronze objects are rare. Finds from Valgovitsy consist of two iron bracelets, a celt-axe with a lug, a segmented bronze bracelet, a whetstone, and a small ceramic vessel. In Velikino, a fragment of a hunchback scythe and fragmentary iron pins were found.

*Early Roman Period* (from ca. the last third of the 1<sup>st</sup> century until the turn between the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD) is represented in the burial grounds of the Izhora Heights by an overwhelming number of finds (Figs. 5 & 6). The most representative collection derives from the cemetery of Kerstovo 1 (Yushkova 2010a; Yushkova & Kuleshov 2010; Yushkova & Kuleshov 2011).

The grave goods from the excavations at Kerstovo 1 included parts of garments and bronze ornaments, among others a profiled fibula, four eye fibulas, and a head-shield fibula. Other ornaments include bronze bracelets (lamellar and manufactured from round-section blanks), rings (closed and spiral-shaped), temple rings, large beads, mounts (in the form of a rosette and shaped like a webbed bird foot) with a lug, and an iron clasp. In addition, weapons and iron tools for everyday life were found (spearheads and dartheads, half-moon-shaped razors, a scythe, a needle, awls, and knives), as well as a gold-glass bead, a bronze needle, and fragments of ceramic vessels.

The surface finds (150 metal objects) included bronze ornaments – eye brooches, profile fibulas, rings, and a plaque in the form of a rosette, as well as iron dartheads and spearheads, socketed axes, and knives. The total number of brooches from this cemetery was 45, that of spearheads and dartheads was 44.

In terms of diversity and amount of finds, Kerstovo 1 is a standard cemetery when compared with those of the Early Roman Period on the Izhora Heights. Its finds are similar to the ones found in the tarand graves of northeastern Estonia, the closest local group of burials. Despite the close similarity, some differences can nevertheless be seen. The most noteworthy is the presence of numerous weapons, namely spearheads and javelin heads - the presence of weapons is generally not typical of the Estonian tarand graves (Lang 2007: 216). Another differing feature is the presence of imported goods from the more eastern regions of the Finno-Ugric world (two seven-petalled rosette-plaques and a paw-mount).

The cemetery of Malli was founded also in the Early Roman Period. However, it stayed in use also during later times. The finds of the Roman Period are represented here by bronze and iron ornaments, as well as ceramics. In total, 12 brooches, three needles, and 15 spirals from fibulas have been found. The fibulas are represented by the types of Almgren 68, eye fibulas of the Estonian series, profiled headshield brooches, one profiled brooch, and a profiled cross-bar brooch. All these brooches, except for the latter specimen, are datable to the Early Roman Period, while the cross-bar fibula can be dated to the end of the Early Roman Period or to the first half of the Late Roman Period. The discovered bronze ornaments included closed and spiral rings, banded and grooved bracelets, bracelets of the armilla type, spiral beads, spiral temple rings, and fragments of neck rings (?). Ornaments of rarer

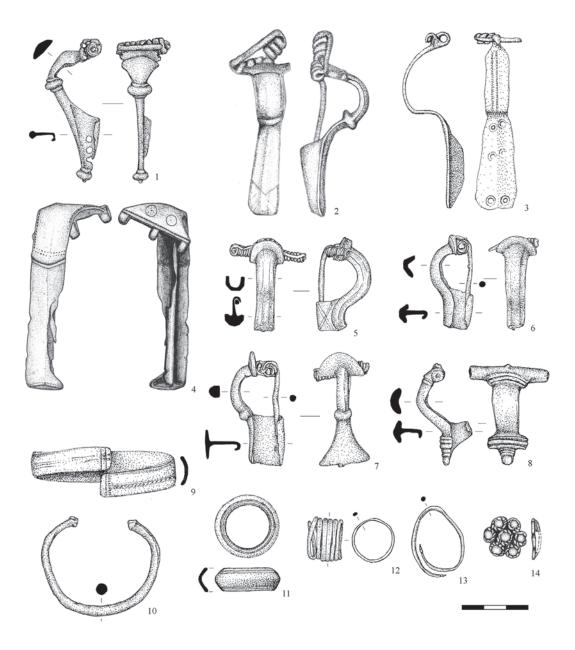


Figure 5. Typical finds from burial grounds on the Izhora Heights (see also Appendix 1). The Roman Period; bronze. No 1, 5–8, 10, 12–13 – Malli; No 2–4, 9, 11, 14 – Kerstovo 1. Drawings: A. A. Kostyleva, V. S. Kuleshov & S. V. Voronyatov.

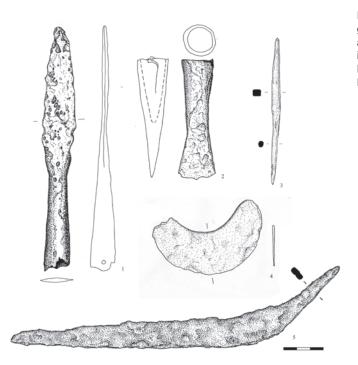


Figure 6. Typical finds from burial grounds on the Izhora Heights (see also Appendix 1). The Roman Period; iron. No 1, 2, 4 – Kerstovo 1; No 3, 5 – Malli. Drawings: A. A. Kostyleva & V. S. Kuleshov.

types are represented by a barrel-shaped, large bronze bead and a rectangular cast plaque with a toothed pattern and two loops on the back. These objects are typical of the Pyanobor archaeological culture and, evidently, are imported from the Kama River region.

The weaponry and tools included iron spearheads, scythes and knives with a curved back, awls, a miniature pick-axe, and a miniature knife. In addition, two whetstones were found. Fragments of striated ceramics and smoothwalled pottery belong to the same period.

The finds from the cemetery of Malli portray the same features that are notable at the cemetery of Kerstovo 1 – the grave goods include weapons (spearheads) and imports from more eastern regions (plaque, bead).

The burial ground of Udosolovo continued to function during the Early Roman Period, as evidenced by one of the stages of the burial structures. Here, nine brooches have been found (eight as surface finds and one from excavations), in addition to other objects. Finds from the chronological horizon under consideration were represented also in excavations and among the surface finds from the cemetery of Ratchino (eight brooches, a bracelet fragment, a spearhead fragment, and a knife fragment), as well as by stray finds in Georgiyevsky (three brooches), Voynosolovo (two brooches), and Ropsha (one brooch).

In the second half and the very end of the  $2^{nd}$  century AD, the coin hoards discovered in the region of Koporye were deposited. The first Koporye hoard consisted of 30 copper coins – sestertii and dupondia. The second Koporye hoard included 12 copper sestertii and a silver denarius (found sometime later at the location of the hoard), as well as three bronze objects – a fragment of a bracelet, a neck ring, and a brooch. The coins from the Yuryev hoard were in a poor state of preservation. They are dated to the second half of the  $2^{nd}$  century AD or, perhaps, to the  $3^{rd}$  century AD.

Isolated finds from the next chronological stage are represented among the finds from Malli and Udosolovo. In the cemetery of Malli, a cross-bar brooch was found. In the cemetery

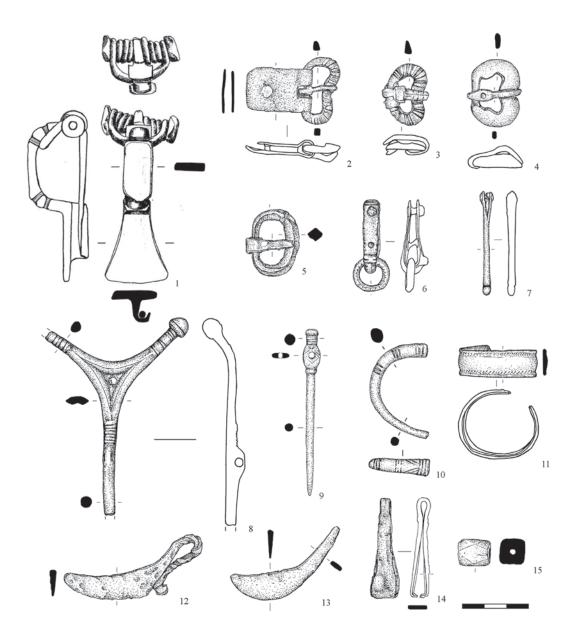


Figure 7. Typical finds from burial grounds on the Izhora Heights (see also Appendix 1). The Migration Period (No 1) and Merovingian Period (No 2–15); bronze (No 1–4, 6–11); iron (No 5, 12–14); glass (No 15). No 1 – Georgiyevsky; No 2–15 – Malli. Drawings: A. A. Kostyleva.

of Udosolovo, there was a fragment of an enamelled horseshoe fibula. These finds are datable to the period from the late  $2^{nd}$  to the middle of the second half of the  $3^{rd}$  century AD.

The end of the Late Roman Period is marked in Voynosolovo by the find of a fragment of a two-part, sagged, tied-up brooch with a spike, which is derivative of the Almgren 164 type. Partly molten fragments of similar (?) brooches were found at Ratchino (Stasyuk 2012: 66). The following Migration Period (the 3rd quarter of the 4<sup>th</sup> century – the beginning of the 6<sup>th</sup> century AD) is also represented by an isolated find of a crossbow brooch from Georgiyevsky (Fig. 7: 1). It is similar to the fibulas with shovel-shaped and star-shaped feet. Isolated finds of this period also come from several places in north-western Russia, outside the limits of the Izhora Heights - these include the settlement sites of Gorodnya, Lyubotezh (?), Pskov, and Georgy (Sorokin & Yushkova 2014: 317-319).

The next chronological stage, the Merovingian Period (the third quarter of the 1st millennium AD), is best represented by the materials from excavations of the cemetery of Malli (Fig. 7: 2–15). The antiquities of the Merovingian Period include ornaments, weapons, and everyday objects. Numerous items of belt sets were found - buckles (35 specimens), mounts, and belt tips. Buckles with B-shaped, round, and D-shaped frames were encountered. These included grooved B-shaped and hollow smooth B-shaped buckles, which were heraldic belt sets, and also buckles with a rounded 'heart-shaped' frame. The presence of weapons is indicated by finds of shield parts - fragments of umbones, nails, and mounts. Bronze ornaments are represented by pins, pendants, fragmentary chains, chain holders, etc. Also blue glass beads were found. The everyday objects include iron razors with straight and looped tangs, small pincers with slightly broadened blades, awls, knives, spindle-whorls made of bone epiphyses, and occasional fragments of pottery with a coarse or slightly polished surface. In addition, a piece of an oval fire-striker of fine-grained pink quartzite was discovered.

The cemetery of Kommunar is dated to the

same period based on finds from surface collection and test excavations. It is situated at a distance of two kilometres from the cemetery of Malli. A B-shaped buckle of bronze, various fragmentary bracelets (some with broadened ends), and other objects, as well as calcined bones were found there.

#### 5 Conclusions

On the Izhora Heights, burial sites and isolated artefacts belonging to all stages of evolution of the *tarand* graves have been found. The oldest materials were yielded by the cemetery of Udosolovo, where burials in stone cists were discovered, and also by the cemeteries of Valgovitsy and Velikino.

The overwhelming number of finds is dated to the Early Roman Period, that is, to the time span from the last third of the 1<sup>st</sup> century to the turn between the 2<sup>nd</sup> and the 3<sup>rd</sup> centuries AD. The *tarand* graves at the cemeteries of Kerstovo 1 and Malli, one use period of the Udosolovo cemetery, as well as isolated finds and hoards from Ratchino, Georgiyevsky, Voynosolovo, and Ropsha are dated to this period.

The sites discussed here belonged to a local variant of *tarand* graves, and are most similar to the group of sites in north-eastern Estonia. The easternmost site in Estonia – the cemetery of Utria (Shmidekhel'm 1955: Fig. 53: 73) – is located some 40 km to the west of the sites on the Izhora Heights. Also noteworthy is their close similarity with the stone cemeteries of south-western and western Finland.

The sites on the Izhora Heights are marked by a series of distinctive features. Firstly, they are geographically isolated – the sites are concentrated on the north-western edge of the Heights. The grave goods have direct parallels in the *tarand* graves, but a distinctive difference compared to the Estonian sites is formed by the presence of items of weaponry – spearheads, javelin heads, and axes. In Estonia and Latvia, weapons of this period are not found in cemeteries but in hoards. In this sense, the sites were closer to the stone cemeteries of Finland, where swords, spearheads and dartheads, umbones, and axes are a typical feature (Salo 1968).

Plaques imported from more eastern regions of the Finno-Ugric world are characteristic of the cemeteries of the Izhora Heights. Similar objects are encountered in the area of the Dyakovo culture (basins of the Upper Volga, Mologa, and Moskva Rivers) and Pyanobor (Cheganda) culture (basin of the Middle Volga and the Kama region). The closest parallels for the plaques were found at funerary sites of the Mologa–Sheksna region.

The period under study is characterised by an avalanche-like increase in the amount of bronze objects (ornaments). These include brooches imported from the south-eastern Baltic region, as well as locally manufactured brooches, bracelets, rings, and other ornaments. The sharp increase in the number of bronze objects in the territory of the *tarand* graves can be connected with the beginning of the active importation of Roman copper coins, which served as raw material for making these ornaments (see Khavrin et al. 2011).

Analysis of the chemical composition of 113 bronze objects from the cemetery of Kerstovo 1 has demonstrated that they were, indeed, cast from the metal of Roman copper coins of the second half of the 1<sup>st</sup> to the first half of the 3<sup>rd</sup> century AD. The monetary hoards are dated to the second half and the end of the 2<sup>nd</sup> century AD (Koporye hoards) or, perhaps, a later period (Yuryev hoard). On the Izhora Heights, 53 coins and over 80 brooches of the Roman Period (mostly Early Roman Period) have been found by now. Comparison of the weight of brooches and coins has shown that for the manufacture of one fibula, depending on its type, one or two coins were needed.

The period of coin importation to the area of the *tarand* graves coincided with the rise of the Early Roman state and its expanding external trade. Studies of hoards of silver denarii in eastern Europe have demonstrated that the peak of the importation of silver coins dates to the mid-2<sup>nd</sup> century AD. The decrease of coin importation in the second half of the 2<sup>nd</sup> century AD was induced by the economic crisis of the Roman Empire and political events of this epoch (Kropotkin 1961: 24–28).

In north-western Russia, outside the limits of the Izhora Heights (i.e. to the east of the main area of the *tarand* graves), isolated finds of artefacts characteristic of the tarand graves are found: iron celts, knives with a smoothly bent back, and a bronze ring from the cemetery of Zalakhtovye in the eastern region of Lake Chudskoye; a cross-bar brooch from Staraya Ladoga; a crossbow brooch with a ring decoration from the settlement of Gorodnya on the Chernava River; similar fibulas (?) from the settlement of Lyubotezh on the Lochkina River in the eastern Lake Chudskoye region; a brooch with a shovel-shaped foot from Pskov (Kuleshov 2005; Sharov 2006; Sorokin & Yushkova 2014: 317-318). In the region of the Lower Velikaya River (cemetery of Vybuty), a funerary structure with finds of the Early Roman Period typical of the tarand graves and similar funerary rites was discovered (Kuleshov 2005: 179-180; Yakovlev 1995; 1997). Another burial structure, resembling the tarand graves in construction and finds, is situated in Solonitsko, in the western Lake Ilmen area (Alexandrov & Tallgren 1930).

The next stages (the Late Roman Period and the Migration Period) are represented by isolated finds only. Then, in the third quarter of the 1st millennium AD, the funeral tradition of the local population was subjected to certain alterations. However, as the example of Malli has demonstrated, the tarand graves built in the Early Roman Period continued to be used for interments. This fact suggests the direct continuation of the cultural traditions of the local people. The burial rite retained the tradition of cremation, but low-temperature cremation was now replaced by high-temperature cremation. The grave goods, similarly to the previous period, were distributed all over the burial site, and no individual graves are identifiable. Among the set of accompanying goods, the same categories of artefacts are found ornaments (of bronze), everyday objects, and weapons; only the types of these objects were changing.

The assemblage of finds of the third quarter of the 1<sup>st</sup> millennium AD, which is most completely represented at the cemetery of Malli, is unique and cannot be attributed to any reported cultural groups. The closest parallels can be found in the synchronous cemeteries of Estonia – Proosa, Lihula, Paju, and others.

The sites described in this article allow us to study the culture of the Baltic-Finnic population of north-western Russia over a long period, from the Pre-Roman Period to the Middle Ages.

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#### Note

Based on the composition of the stray finds from the cemetery of Udosolovo, published by P. E. Sorokin and O. V. Sharov (2008), the present author made the supposition that the cemetery had been functioning through a number of chronological periods, from the turn between the eras to the second half of the 3rd century AD (Yushkova 2010b: 322-325). However, O. V. Sharov (2013) maintains that the chronological range of the use of this cemetery was narrower, and included only the Early Roman Period. He notes, inter alia, that the posterior date for the use of iron pins has not been reliably defined, and that they may have been contemporaneous to the brooches found at the cemetery. Meanwhile, at the burial grounds of Kerstovo 1 and Malli, where hundreds of artefacts of the Early Roman Period have been discovered, there are no iron ornaments. If we take this information into consideration, it is justifiable to suppose that at the cemeteries on the Izhora Heights, the bronze ornaments of the Early Roman time had completely ousted the iron ornaments (pins and bracelets) used in the previous period. The arguments in favour of the long-term use of the cemetery of Udosolovo, beginning with the turn of the eras (or earlier), were obtained from excavations by E. R. Mikhaylova (2014), who discovered burials in stone cists, datable to the Pre-Roman Period.

Appendix 1

Finds from the cemeteries.

	Kerstovo 1 –	Malli – exca- vation finds	Udosolovo		Ratchino Georgiyevsky Voynosolovo		Valgovitsy Velikino		Ropsha Kommunar 1 <sup>st</sup> Kopo- rve hoard	1st Kopo- rve hoard	2 <sup>nd</sup> Koporye Yuryev hoard hoard	Yuryev hoard
	excava- tion finds	(surface finds)									5	
	(surface finds)											
Pre-Roman Period	-											
Iron pins with			4					2				
ring-shaped												
heads												
Iron bracelets							2					
Roman Period												
Brooches	-	+								•	-	
of fibulas of												
Almgren 68–69 (Fia. 5: 1)												
Eve fibulas of the 0(8)	0(8)											
main series												
(Almgren 46, 50, 51, 52, 53) (Fig. 5: 2)		·	ı									
Eye fibulas of the	2(10)		2		e	-			•			
Prussian series												
(Aimgren ο / – οδ, 61) (Fig. 5: 3)												
Eye fibulas of the	2(21)	3(1)	2	2					•		-	
(Almgren 55–56)												
(Fig. J. 4) Shiold hood	10/0	141										
fibulas with a	(c)n	(1)		_								
hollow shield and												
a faceted foot												
(derivatives from												
Almgren 120,												
124—125) (FIG. 5: 5)												

s = - <sup>S</sup> ti	excava- tion finds (surface finds) 1(7)	(surface finds)										
head s with a ar scute r faceted Almgren derivatives 125) (Fig. head	1(7)											
d-head		4	-					-		1		
fibulas with a laminar scute and a triangular foot (Almgren 100 and deriva-	0(3)	-	÷	ო		-				ı		
Heavily-profiled - fibulas (Fig. 5: 8)		2	2						ı			
	3(6)	7(1)	ı	N	,				ı		۲	,
(0	0	5										
	7(19)	16			ı	ı			·		ı	ı
; (Fig.	9	34					•				·	
Temporal rings 7 (Fig. 5: 13)	7	9										·
n the Kama Iques, J.	2(1)	7		1			1			ı		
nd spear- (Fig. 6: 1)	12(32)	7	-					·	ı	·		

	Kerstovo 1 -	Malli – exca- vation finds	Udosolovo	Ratchino	Georgiyevsky Voynosolovo	Voynosolovo	Valgovitsy Velikino		Ropsha	Ropsha Kommunar	1st Kopo- rye hoard	2 <sup>nd</sup> Koporye hoard	2 <sup>nd</sup> Koporye Yuryev hoard hoard
	excava- tion finds	(surface finds)											
	(surtace finds)												
Socketed axes (Fig. 6: 2)	0(2)			ı			-	1					
Awls (Fig. 6: 3)	9	24											
Crescent-shaped	2						•						
razors (Fig. 6: 4)													
Needles	2	-	,										
Scythes (Fig. 6: 5)	1(5)	4											
Coins											30	13	10
Late Roman Period / Migration Period	od / Migratior	n Period											
Crossbow fibulas	ı			+	-	-							
Merovingian Period	þ												
Belt buckles (Fig.		35	-							-			
(q—Z :/													
Belt mounts (Fig. 7: 6)		28	ı			ı						ı	ı
Belt tips (Fig. 7: 7)		9		ı	<del>~</del>	ı							ı
Pins (Fig. 7: 8–9)		6			ı								
Bracelets with		-								<del></del>			
broadened ends (Fig. 7: 10)													
Banded relief bracelets (Fig. 7: 11)	ı	б			1	,				ı	ı		,
Razors with		13	-				•						
a straight or looped tang (Fig. 7: 12–13)													
Pincers (Fig. 7: 14)		19		ı	-								
Blue beads (Fig. 7: 15)		16		ı		ı							ı
Fragments of umbones		+											

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