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A.V. Gusev¹, A.V. Plekhanov¹, and Y.A. Podosenova²¹Arctic Research Center,

Respubliki 73, Salekhard, 629008, Russia

E-mail: gusev_av2004@mail.ru; andrei_plehanov@mail.ru

²Perm Federal Research Center, Ural Branch, Russian Academy of Sciences,

Lenina 13A, Perm, 614990, Russia

E-mail: podosenka@yandex.ru

An Assemblage from a Medieval Burial at Lake Parisento, Gydan Peninsula, the Arctic Zone of Western Siberia

This article introduces an assemblage from a child burial discovered in 2016 in the central Gydan Peninsula, Tazovsky District, Yamal-Nenets Autonomous Okrug. Little is known about the archaeological past of Arctic Western Siberia, and these finds are relevant to the study of the medieval period of that area. Medieval burials were studied only in the adjacent peninsula of Yamal. The discovery of the burial is described in detail. It was exposed by soil eolation. Artifacts were redeposited, and virtually the entire skeleton was missing. In a lump of soil stuck to the metal bowl, a few bone fragments and hair were found. Their analysis suggests that the individual was an infant aged 1–3. The assemblage includes an imported bronze bowl, the bronze haft of a knife, a scabbard, and a silver earring. The bowl, made of tin bronze, was apparently manufactured in eastern Iran or Central Asia in the 10th or 11th century. The haft and the scabbard, judging by the type and technology, belonged to a category of artifacts that were common in the Lower Ob basin, the southern Yamal, and the Urals in the late first and early second millennia. On the basis of the results of X-ray fluorescence analysis, we assess the chemical composition of the metal of which all those artifacts are made. The decorated fragment of a clay vessel is attributed to the Tiutey-Sale variant (800–1300 AD) of the Lower Ob culture. The totality of indicators suggests a date for the burial of between 900 and 1100 AD. We conclude that the tundra areas of the Yamal and Gydan peninsulas were simultaneously colonized by migrants from the forest-tundra and the northern taiga zone of Western Siberia.

Keywords: Gydan Peninsula, Yamal-Nenets Autonomous Okrug, Middle Ages, metal bowl, bronze knife haft, scabbard, X-ray fluorescence analysis.

Introduction

The West Siberian circumpolar areas of Eurasia have been studied by archaeologists quite unevenly. For instance, in the Yamal-Nenets Autonomous Okrug (YNAO), more than 100 archaeological sites (mostly temporary camps of the medieval period) have been studied on the Yamal Peninsula over the latest 20–

30 years, while archaeological works at the Gydan Peninsula have just started. Recently, the archaeological survey in the Gydan tundra has produced the first data. In 2015–2016, the medieval sites of Khaltysneisalya-1 and -2 were discovered on the northwestern Gydan coast (Skochina, Enshin, 2017). In 2016, in the middle part of the peninsula, remains of a child burial were found, as well as several artifacts without archaeological context

(Gusev, Plekhanov, 2016). Of special interest are grave goods from the medieval child burial, which are described in this article.

The available evidence on the medieval burials in the Arctic Zone of Western Siberia is scarce, and any new data on archaeological sites are quite valuable. In 1929, V.N. Chernetsov excavated a settlement site on the coast of Malygin Strait, close to the Khaen-Sale Cape in northern Yamal. In one of the dwelling remains, a human burial without diagnostic grave goods was found. The deceased was placed on his left side, with bent legs, and his head oriented towards the north. The scholar attributed the settlement to the 16th century (Chernetsov, 1957: 236–237).

In the early 1980s, B.I. Vasilenko, a collector of antiques, transferred the items from his collection (bowls, adornments, knife hafts, and scabbards) to the Salekhard Museum. The donor explained that some of the items were found in the tombs of the Kheto-se cemetery destroyed by soil eolation, in southern Yamal. Later, A.V. Sokolov resumed studies of the cemetery: in 1992, two burials were excavated. One burial revealed a skeleton in a flexed position on the left side; the other skeleton was in an extended (prone?) position. The skeletons were situated in shallow pits, close to the ground surface. The burials are dated to the 9th to 12th centuries (Brusnitsyna, 2000: 37).

In 2016, one of the present authors excavated the archaeological site of Yur-Yakha III, in southern Yamal. Initially, the site was interpreted as a settlement. Three burials were excavated, two of which were comparatively well preserved. The burials were made 23–28 cm deep in virgin land of sandy loam; the dead were placed in a flexed position on their left sides. The grave goods (a ceramic vessel, a bronze knife haft, and a bracelet) suggest the site should be attributed to the 11th to 12th centuries (Plekhanov, 2016).

Also in 2016, the flat-grave burial ground Bukhta Nakhodka-2, in southeastern Yamal, was partially studied. As a result, a total of 14 burials were excavated, yielding the skeletal remains of six individuals, including two anatomically intact female skeletons (placed in a flexed position on the left side). Among the grave goods, noteworthy is a ceramic vessel similar to that from the flat-grave burial ground of Yur-Yakha III (Kardash, Gaidakova, 2017: Fig. 2). Another burial, in which only grave goods were preserved, contained an Iranian bronze bowl (Ibid.: Fig. 4). The researchers proposed two dates for the necropolis: the mid-6th to mid-7th and the 12th to 13th centuries, and associated it with inhabitants of the Bukhta Nakhodka fort.

The history of the find

The archaeological exploration was carried out in 2016 by the members of the Arctic Research Center, a YNAO

state public institution, at Lake Parisento, one of the largest lakes in the hydro-system of Gydan Peninsula (Fig. 1). At a small distance to the north of Parisento, a few considerably smaller unnamed bodies of water are situated. In the 1980s-1990s, on the bank of the closest, the geo-cryological permanent research station “Parisento” was operated. The topsoil at the territory of the station was significantly damaged by its economic activities, resulting in the formation of plots of wind-blown sandy soil without vegetation, and plots of accumulation of aeolian sediments.

The initial exploration revealed an exposed fragment of a bronze bowl lying upside down on the wind-blown top of a remnant 800 m to the north of Parisento. A test pit of 16 m² was established at this place (Fig. 2). During the cleaning, it was found out that under the topsoil and partially preserved turf, some other small fragments of this bowl had been deposited, as well as the bronze haft of a knife with a partially preserved iron blade, a bronze scabbard, an ear-ring, and a small rim fragment of a ceramic vessel. The items were located on a small area approximately 1.2 × 0.6 m in size. The observed random dispersal of the items suggested that they had been redeposited. The culture-bearing layers were formed by the podsolized light gray sandy loam, with minor inclusions of semi-decayed turf, and by yellow bedrock sandy loam disturbed by the soil eolation. No outlines of a depression containing the artifacts, bones, and other remains, which might have been associated with the burial construction, were found. The other test pits established in the vicinity did not produce any new archaeological finds.

A conglomeration of organic materials, including animal (deer?) and human hair and human bones, was revealed on the interior surface of the metal bowl, which suggests its association with burial practice. The conglomeration was analyzed in a laboratory by E.O. Svyatova, a physical anthropologist. She identified fragments of the right and left parietal, temporal, and occipital bones. It was shown that the osteological remains and some hair belonged to an infant 1 to 3 years of age. The most probable age at death was established as 1 year; available data did not provide opportunity for racial identification.

Description of finds

The bowl was made of tin bronze through the hot forging technique, and had a spherical shape (Fig. 3, 1). The bowl is 13.6 cm in diameter, 5.0 cm high; the walls are 0.05 cm thick. The context of the find suggests that the bowl was broken in antiquity; only seven fragments survived. The item was restored in the workshop of the Shemanovsky Yamalo-Nenets Regional Museum Complex (Salekhard). The color of the bowl varies from dark green to golden

Fig. 1. Archaeological sites in the Yamal and Gydan peninsulas.

yellow; some portions are patinated; the exterior and interior surfaces are polished. A motif of arches and circles made with the aid of a circle-cutting tool covers the bowl's interior surface. The background motif on the bottom of the bowl consists of small circles with dots in their centers, made with a two-cogged rotating tool. A six-petal rosette is in the center of the bottom. It is framed with two plain bands outlined by chains of circles with dots in their centers. The bowl's walls bear a wide band of decoration with the repeated motif of a swimming bird, and a line of circles larger than those on the bottom.

Abundant similar bowls have been reported from Iran, Central Asia, and Eastern Europe (Melikian-Chirvani, 1974: 151, fig. 40, 41). The nearest parallels to the Gydan Bowl were found in the Yamal Peninsula. One bowl fragment was found in the Yarte VI fortified settlement (Plekhanov, 2014: 68, fig. 241). Two bowls of similar type were recovered from the destroyed burials at the Kheto-Se cemetery, in the southern part of Yamal (Sokrovishcha..., 1996: 123, No. 57; p. 124, No. 58). Two other similar bowls were found in 2002 during excavations of the Zeleny Yar cemetery on the Polui River, in the Priural'sky District of YNAO (Zeleny Yar..., 2005: 141). One more such bowl was found in the flat-grave burial ground of Bukhta Nakhodka-2, excavated in YNAO in 2017 (Kardash, Gaidakova, 2017: 333, fig. 4). Similar bowls were acquired in the course of ethnological expeditions in YNAO (Baulo, 2011: 240, fig. 382; p. 250, fig. 383). Bowls of this type are dispersed all over the taiga and

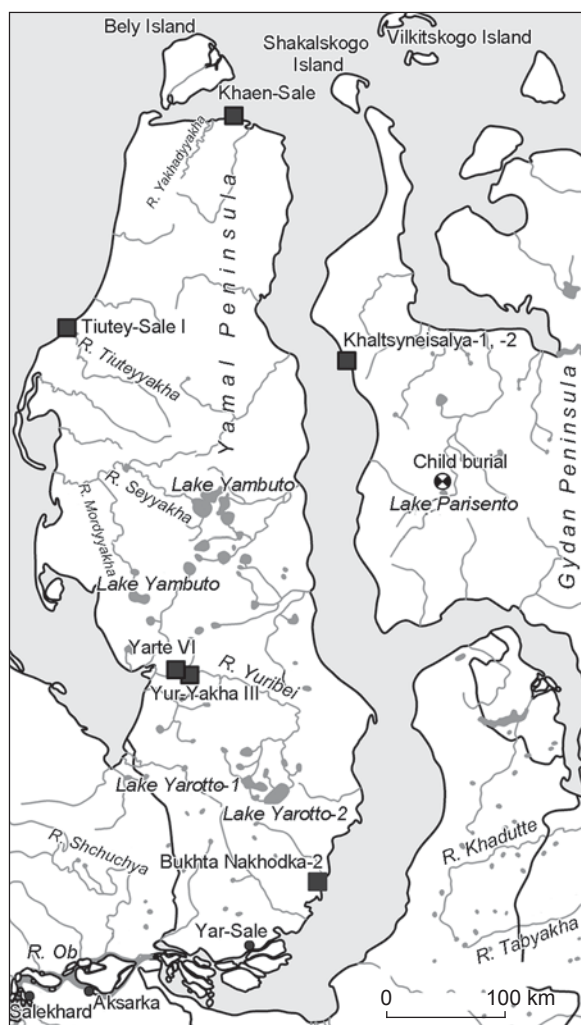


Fig. 2. Place of discovery of the artifacts.

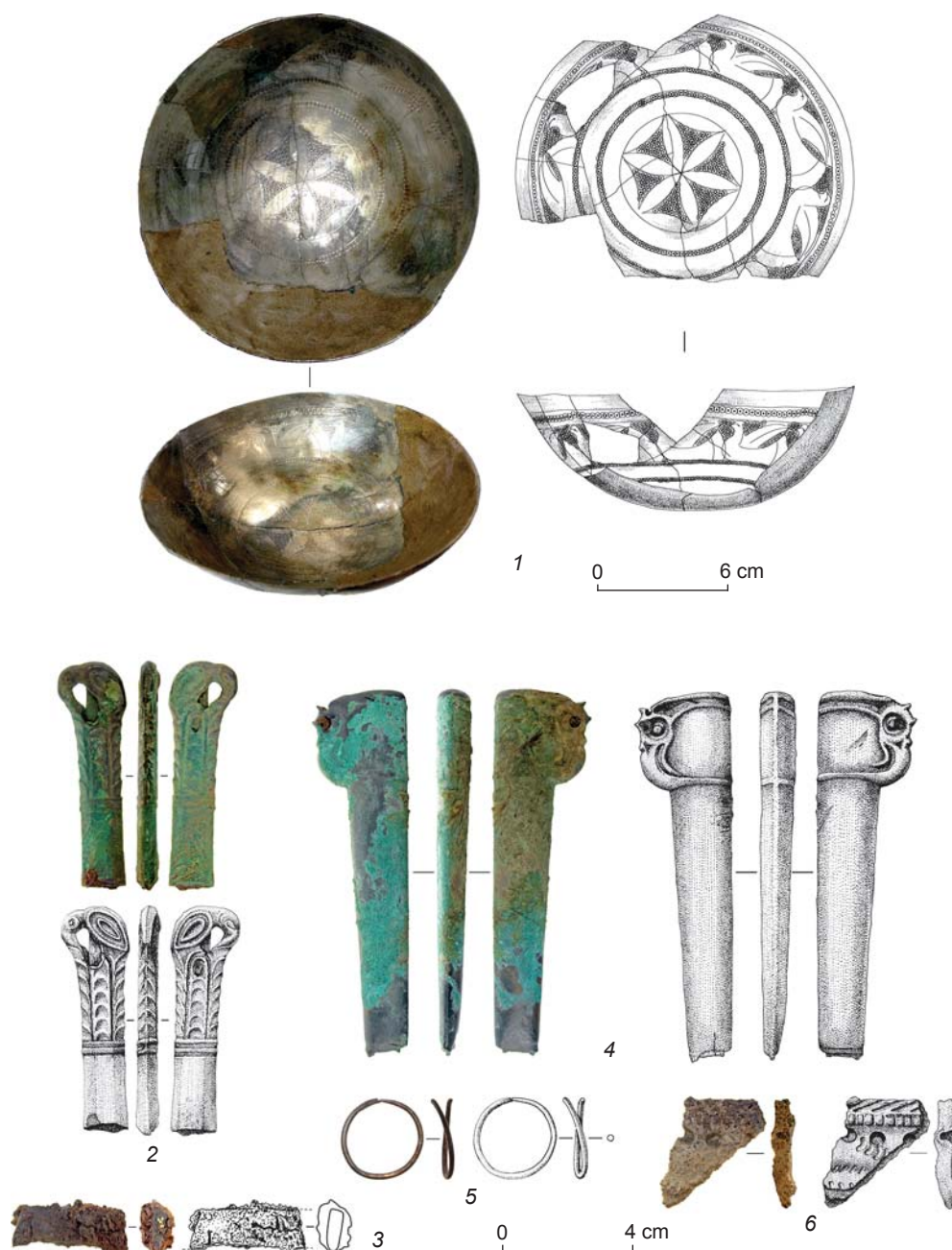


Fig. 3. Finds from the child burial.

1 – bowl; *2* – knife haft; *3* – fragment of knife blade; *4* – scabbard; *5* – earring; *6* – ceramic fragment. *1* – tin bronze; *2*, *4* – copper-based alloy; *3* – iron; *5* – silver-based alloy; *6* – clay.

tundra zones in Western Siberia; in total, not less than 20 intact and fragmented items (the smallest fragments do not exceed 1 cm²) have been reported (Fedorova, 2012: 86; Zykov et al., 1994: Cat. 302–304). In the European part of Russia, similar items have been recorded in the area from the western slopes of the Ural Mountains to the Oka basin (Rudenko, 2000: 85–87; Nikitina, Rudenko, Alibekov, 2017). The bowls were found in a stable association with burial features all over their dispersal

area: metal bowls (or their fragments) were among grave goods or commemorative assemblages at cemeteries.

The common opinion is that bowls of this type were produced by Iranian artisans as early as in the 8th century AD; their mass production began in the 9th to 11th centuries (Sokrovishcha..., 1996: 122). According to one of the latest versions, the places of manufacture of the bowls most probably were the states that existed in the 10th to 11th centuries in eastern Iran and Central

Asia: Kara-Khanid (Ghaznavid) Khanate and Samanid Empire (Nikitina, Rudenko, Alibekov, 2017: 77). Other researchers highlight the distinctive features of bowls from the Mari region of the Volga and northern parts of Western Siberia that differentiate them from classic bowls from Central Asia: northern bowls have no ornaments, and no Arabic inscriptions on their exterior surfaces (Litvinsky, Soloviev, 1985: 166, fig. 47, 3). However, there were certain exceptions: the bowl from burial 20 at Barsov Gorodok in the Surgut region of the Ob had an Arabic inscription (Arne, 1936). Information on the local specificities of the bowls unfortunately does not help to determine the centers of manufacture of such vessels, nor the mechanisms of their operation.

The bowls were possibly delivered to northern part of Western Siberia via medieval trade routes. They were most likely transported from eastern Iran and Central Asia through the Volga Bulgaria (Ibn Fadlan's embassy traveled along this route in the early 10th century). This route, representing a part of the Great Silk Road, connecting the eastern and western states, was used in the 9th to mid-11th centuries (Nikitina, Rudenko, Alibekov, 2017: 77).

The knife haft was cast in bipartite cored mold; its surface is covered with a green patina (Fig. 3, 2). The haft is 6.8 cm high and 1.7 cm wide. It is tubular with an oval cross-section topped with a side-view image of a standing predatory bird, with its long beak bent down. The decoration of the haft consists of two main parts. The lower part, bordering the blade, is faceted, and separated from the blade with a band of double fillet. The upper portion shows three vertical bands in the form of long petals. The bird's beak, sharp-clawed legs, and tail are resting on these petals. Inside the haft, a fragment of an iron stem inserted in a wooden socket remained.

Many parallels to the haft have been recorded in the Ural-Siberian region. For instance, similar hafts were found in cemeteries of the Surgut region of the Ob: Saigatinsky I and Barsovsky I (Barsov Gorodok) (excavations by A.P. Zykov and K.V. Terekhova) (Zykov et al., 1994: 91, 104). Large number of knife hafts were discovered in the Likino cemetery of the 10th to 13th centuries, to the southwest from Surgut (Viktorova, 2008). Hafts were also reported from the Lower Ob region (Chernetsov, 1957: 156, pl. VII, 4) and even the Upper Kama region (in this area, they are quite rare; possibly they were transported here across the Urals (Oborin, Chagin, 1988: 79, fig. 44). Geographically, the nearest finds to these hafts are from the Yuribei River in Yamal (Sokrovishcha..., 1996: 58–65, No. 13–17). Similar hafts of knives are also known from ethnographic materials and collections made by A.V. Baulo, E.A. Pivneva, and E.I. Tylikova in Shuryshkarsky District of YNAO (Baulo, 2011: 216, fig. 337–338; p. 217, fig. 339–340). Such hafts were in use in the 8th to 11th centuries.

The fragment of an iron knife's blade was found apart from the haft with a stem part; originally, these two finds likely constituted a single item. The fragment is 3.4 cm long and 1.4 cm wide. It is heavily corroded (Fig. 3, 3).

The bronze scabbard was cast in a bipartite mold (Fig. 3, 4). The surface was polished, and it is covered with green patina. The item is 10.9 cm long and 3.0 cm wide. The scabbard is oval in cross-section. The lower part has a hole; a semi-round flute runs along the exterior edge of the hole. Judging by the uneven edge, the scabbard should have had a decorated lower part. In the upper part of the scabbard, one of the edges is decorated with an image of the head of a griffin, whose neck transforms smoothly into two parallel fillets on the exterior surface of the scabbard. One more encircling fillet starts from the bent-down beak. Close to the griffin's eyes, there is a hanging hole, with the remains of a leather strap.

The bronze scabbard is a rather rare find in the Ob region. Its closest parallels are available in B.I. Vasilenko's collection; they were probably found in the vicinity of Lake Nanto and the Yuribei River (Sokrovishcha..., 1996: 64–65, No. 18). Two stylistically similar scabbards were described by Chernetsov in the mid-20th century. One of these was found in the southern part of Yamal, another in the Pechora basin (Chernetsov, 1957: 156, pl. VII, 2; p. 157, pl. VIII, 1). One more scabbard possibly originated from the Severnaya Sosva basin (Baulo, 2011: 219, cat. 342). Thus, all the scabbards discussed here were collected accidentally, beyond archaeological context. For that reason, their age can be determined solely on the basis of their style of decoration, which brings these items together with the bronze portable art of the 8th to 12th centuries.

The silver earring rolled up from a plate, 0.2 cm thick and 2.5 cm in diameter, is covered with a dark gray patina. The earring was made of a thin silver plate rolled up into a tube (Fig. 3, 5). One of its ends is pointed, the other shows a shallow notch.

The earliest bronze earrings and wire temple-pendants of similar shape and size appeared in the cemeteries of the Upper Kama region in the Lomovatovka period (Goldina, 1985: Pl. III, 1–3). Later, in the 10th to 13th centuries, similar items were placed, for example, into the Chirgino cemetery (Ivanov, 1997: 247, fig. 62, 2). A few bronze earrings of the same type were found in the Southern Trans-Urals, in the burials of the Likino cemetery of the 10th to 13th centuries (Viktorova, 2008: Fig. 149, 161; 160, 271). Chernetsov described an earring of similar shape from the Lenk-ponk cemetery in the Ob basin (1957: Pl. XXX, 10). Ring-like earrings were manufactured of silver in large numbers by Bulgarian artisans as early as in the 8th to 9th centuries; such earrings were reported, for example, among the materials from the Bolshie Tarkhany cemetery (Gening, Khalikov, 1964: Pl. XIV, 2). Earrings of this type were also in

use during the 10th to 13th centuries (Kazakov, 1991: 114–116; Polyakova, 1996: 169). It cannot be excluded that the center of manufacture of such adornments was located in the Kama basin. K.A. Rudenko agreed with A.P. Smirnov that the earrings of this type are not suitable for dating (Rudenko, 2015: 217). However, this opinion applies to the adornments made of copper or silver wire; parallels to the specimen under discussion (which was made of a silver plate) are, so far, unknown.

Ceramics in this assemblage are represented by a small rim. This fragment is 3.9 cm long, 2.6 cm wide, and 0.7 cm thick (Fig. 3, 6). The rim's edge is ornamented with imprints of a comb stamp slanting to the left; the upper part of the rim shows a band of similar imprints slanting to the right. Below the rim, there is an appliqué fillet with a horizontal bend of vertical imprints of a small comb stamp. Below the fillet, there is a row of pits 0.5 cm in diameter. Further below, on the fragment's neck, horizontal rows of crescent depressions slanting to the left are observed.

This type of decoration pattern was typical of the medieval pottery of Yamal and can be reliably attributed to the Tiutey-Sale type of the Lower Ob archaeological culture of the 9th to 12th centuries. This type was identified by L.P. Lashuk on the basis of artifacts found by Chernetsov at the settlement of Tiutey-Sale I (Chernetsov, 1957: 194; Lashuk, 1968). Direct parallels to this type of pottery in Yamal have been reported from the archaeological finds at the Yarte IV fortified settlement, Yur-Yakha III flat-grave burial ground (Plekhanov, 2017), and Bukhta Nakhodka-2 cemetery (Kardash, Gaidakova, 2017: 332, fig. 2). A typical feature of the vessels is a thick bottom on a low tray.

The whole range of dating features of the uncovered items suggests an age of the 9th to 11th centuries for the child burial at Lake Parisento. However, an age of the 10th to 11th centuries seems to be most probable.

Results of the X-ray fluorescence analysis (XRF)

Artifacts made of non-ferrous materials were analyzed in the portable X-ray fluorescence spectrometer Bruker S1 Sorter, which is intended for quantitative non-destructive analysis of the elemental composition of

materials using the X-ray fluorescence spectrometry method. The sensitivity of the XRF spectrometer is 0.01 %. This method has currently become a popular tool in archaeological studies, and has proved its efficiency despite certain limitations (Tishkin, Seregin, 2011: 61–66).

In order to detect any alterations in the chemical composition of metal that are caused by corrosion, several samples were collected from each item: from the uncleaned, the slightly cleaned, or the profoundly cleaned surface. The samples from the uncleaned surface showed certain alterations: a higher content of iron (Fe) and arsenic (As); some artifacts also showed a higher content of tin (Sn) and lead (Pb). The chemical composition of the metals has been established through averaging of the analytical data of the samples collected from the cleaned surfaces. The final processing was made according to the generally accepted classification of metals and alloys (Eniosova, Mitoyan, Saracheva, 2008: 125–132).

The bowl was made of Cu-Sn alloy (tin bronze). Similar proportions of copper and tin were also identified in other artifacts with similar morphology (Nikitina, Rudenko, Alibekov, 2017: 76; Melikian-Chervani, 1974: 150). Analysis of the knife haft and scabbard (Cu-Sn-Pb-Zn-As – multicomponent copper-based alloy) has yielded little information thus far; the process of study of composition of bronze West Siberian artifacts has just started. Analysis of the silver earring (Ag content over 91 % – silver-based alloy) has also only added to our knowledge about medieval adornments (see *Table*).

Conclusions

The currently available archaeological data on the arctic zone of the Gydan Peninsula testify to synchronous development of this territory and the neighboring Yamal Peninsula. According to the archaeological evidence, people arrived in the Yamal tundra zone to the north of the Yuribei River in the 5th to 6th centuries AD, which could have been because of the onset of a dry and warm climate (Ushedshiye v kholmy..., 1998). Climatic changes might have caused northward migrations of reindeer herds; human tribes followed the animals.

Chemical composition of metal of the artifacts (XRF analysis)

Item	Alloy	Ag	Cu	Pb	Fe	Se	Sb	As	Sn	Ni	Zn	Co
Bowl	Cu-Sn	0	76.5	0	0	0	0	0.44	22.6	0.27	0	0.19
Scabbard	Cu-Sn-Pb-Zn-As	0	49.2	15.1	0.89	0.07	0.49	3.33	27.4	0	3.52	0
Knife haft	Cu-Sn-Pb	0	77	3.87	0.63	0	0	0	18.2	0.26	0	0.04
Earring	Ag-Cu	91.6	6.98	0.79	0	0	0	0.63	0	0	0	0

By that time, the ancestors of the modern Ugro-Samoyedic population in the northern taiga zone had mastered reindeer-driven carriages, as evidenced by the materials from the ancient ritual-manufacturing center of Ust-Polui (around the 1st millennium BC to the 1st millennium AD) (Gusev, Plekhanov, Fedorova, 2016). The tribes of nomads expanding further to the north probably originated from the communities of hunters and fishermen populating Western Siberia and the forest-tundra zone. Finds from the early stratum at the settlement of Tiutey-Sale (the 6th to 7th centuries), located on the northwestern coast of Yamal, provide information concerning an early episode of this process. Far-away longitudinal migrations following the reindeer herds (northwards in summers, and southwards in winters) were the basis of the subsistence strategy for the population of this area. Gradually, the tundra population became isolated from other tribes, after which the local Tiutey-Sale type of pottery was developed in the 9th to 12th centuries. Exactly this type of pottery was found at the sites of Khaltsyneisalya-1 and -2, located on the northwestern end of the Gydan Peninsula. Thanks to the contacts of the northern taiga residents with the tribes of the southern regions, the taiga people were able to obtain prestigious alien adornments and other goods. The remain of a child burial with rich grave goods found in the central part of the Gydan Peninsula can be interpreted in this context. The Iranian bowl from this burial marks the northeastern boundary of the dispersal area of this type of thing.

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References

- Arne T.J. 1936**
Barsoff Gorodok: Ein westsibirisches Graberfeld aus der jungeren Eisenzeit. Stockholm: Kungl. Vitterhets Historie och Antikvitets. (In German).
- Baulo A.V. 2011**
Drevnyaya bronza iz etnograficheskikh kompleksov i sluchainykh sborov. Novosibirsk: Izd. IAET SO RAN.
- Brusnitsyna A.G. 2000**
Sovremennaya istochnikovaya baza izucheniya pozdnego zheleznogo veka polyarnoy zony Zapadnoy Sibiri. *Nauchnyy vestnik Yamalo-Nenets. a. o.*, iss. 3: 32–48.
- Chernetsov V.N. 1957**
Nizhneye Pribye v I tysacheletii nashey ery. In *Kultura drevnikh plemen Priuralya i Zapadnoy Sibiri*. Moscow: Izd. AN SSSR, pp. 136–245. (MIA SSSR; No. 58).
- Eniosova A.N., Mitoyan R.A., Saracheva T.G. 2008**
Khimicheskiy sostav yuvelirnogo syrya epokhi srednevekovyaya i puti yego postupleniya na territoriyu Drevney Rusi. In *Tsvetniye i dragotsenniye metally i ikh splavy na territorii Vostochnoy Yevropy v epokhu srednevekovyaya*, N.V. Ryndina (ed.). Moscow: Vost. lit., pp. 107–162.
- Fedorova N.V. 2012**
Sokrovishcha Severa (srednevekoviy khudozhestvenniy metall v Zapadnoy Sibiri). *Gornyy zhurnal: Spetsialnyy vyp.*, No. 2: 83–89.
- Gening V.F., Khalikov A.K. 1964**
Ranniye bolgary na Volge (Bolshe-Tarkhanskiy mogilnik). Moscow: Nauka.
- Goldina R.D. 1985**
Lomovatskaya kultura v Verkhnem Prikamye. Irkutsk: Izd. Irkut. Gos. Univ.
- Gusev A.V., Plekhanov A.V. 2016**
Arkheologicheskoye obsledovaniye v rayone oz. Parisento (p-ov Gydanskiy). In *Nauchnyy vestnik Yamalo-Nenets. a. o.*, iss. 3 (92). Salekhard: pp. 22–24.
- Gusev A.V., Plekhanov A.V., Fedorova N.V. 2016**
Olenevodstvo na severe Zapadnoy Sibiri: Ranniye zhelezniye vek – srednevekovye. In *Arkheologiya Arktiki*, iss. 3. Kaliningrad: pp. 228–239.
- Ivanov A.G. 1997**
Etnokulturniye i ekonomicheskiye svyazi naseleniya basseyna r. Cheptsy v epokhu srednevekovyaya: Konets V – pervaya polovina XIII v., M.G. Ivanova (ed.). Izhevsk: Udm. Inst. ist., yaz. i lit. UrO RAN.
- Kardash O.V., Gaidakova Z.G. 2017**
Bukhta Nakhodka-2: Pervye rezultaty arkheologicheskogo izucheniya gruntovogo mogilnika VI–XIII vekov na poluostrove Yamal. In *Problemy arkheologii, etnografii, antropologii Sibiri i sopredelnykh territoriy*, vol. XXIII. Novosibirsk: Izd. IAET SO RAN, pp. 331–335.
- Kazakov E.P. 1991**
Bulgarskoye selo X–XIII vekov nizoviy Kamy. Kazan: Tat. kn. izd.
- Lashuk L.P. 1968**
“Sirtya” – drevniye obitateli subarktiki. In *Problemy antropologii i istoricheskoy etnografii Azii*. Moscow: Nauka, pp. 178–193.
- Litvinsky B.A., Soloviev V.S. 1985**
Srednevekovaya kultura Tokharistana v svete raskopok v Vakhshskoy doline. Moscow: Nauka.
- Melikian-Chirvani A.S. 1974**
The white bronzes of Early Islamic Iran. *The Metropolitan Museum Journal*, vol. 9: 123–151.
- Nikitina T.B., Rudenko K.A., Alibekov S.Y. 2017**
Metal bowls from a medieval cemetery at Rusenikha. *Archaeology, Ethnology and Anthropology of Eurasia*, vol. 45 (2): 71–77.
- Oborin V.A., Chagin G.N. 1988**
Chudskiye drevnosti Rifeya. Permskiy zveriniy stil. Perm: Kn. izd.
- Plekhanov A.V. 2014**
Yarte VI – srednevekovoye “gorodishche” na r. Yuribey (p-ov Yamal): Katalog kollektsii. Yekaterinburg: Delovaya pressa.
- Plekhanov A.V. 2016**
Noviye issledovaniya arkheologicheskogo pamyatnika Yur-Yakha III. *Nauchnyy vestnik Yamalo-Nenets. a. o.*, iss. 3: 18–21.

Plekhanov A.V. 2017

Keramika kak marker protsessa formirovaniya naseleniya yamalskoy tundry (V–XII vv. n.e.). In *V (XXI) Vseros. arkheol. syezd*. Barnaul: Izd. Alt. Gos. Univ., pp. 829–830.

Polyakova G.F. 1996

Izdeliya iz tsvetnykh i dragotsennykh metallov. In *Gorod Bolgar: Remeslo metallurgov, kuznetsov, liteishchikov*. Kazan: Inst. yaz., lit. i isk. im. G. Ibragimova AN Tatarstana.

Rudenko K.A. 2000

Metallicheskaya posuda Privolzhya i Priuralya v VIII–XIV vv. Kazan: Reper.

Rudenko K.A. 2015

Bulgarskoye srebro. Drevnosti Bilyara, vol. II. Kazan: Zaman.

Skochina S.N., Enshin D.N. 2017

Arkheologicheskiye issledovaniya na severo-zapadnom poberezhye Gydanskogo p-va. In *Arkheologiya Arktiki: Tezisy dokl. I Mezhdunar. konf. 19–22 noyabrya 2017 g. g. Salekhard*. Yekaterinburg: Delovaya pressa, pp. 40–41.

Sokrovishcha Priobya. 1996

B. Marshak, M. Kramarovskiy (eds.). St. Petersburg: Formika.

Tishkin A.A., Seregin N.N. 2011

Metallicheskiye zerkala kak istochnik po drevney i srednevekovoy istorii Altaya (po materialam Muzeya arkheologii i etnografii Altaya Altay. Gos. Univ.). Barnaul: Azbuka.

Ushedshiye v kholmy. Kultura naseleniya poberezhny Severo-Zapadnogo Yamala. 1998

Yekaterinburg: Yekaterinburg.

Viktorova V.D. 2008

Drevniye ugry v lesakh Urala (stranitsy ranney istorii mansi). Yekaterinburg: Kvadrat.

Zeleny Yar: Arkheologicheskiy kompleks epokhi srednevekovya v Severnom Priobye. 2005

N.A. Aleksashenko, A.G. Brusnitsina, M.N. Litvinenko, P.A. Kosintsev, E.V. Perevalova, D.I. Razhev, N.V. Fedorova. Yekaterinburg, Salekhard: UrO RAN.

Zykov A.P., Koksharov S.F., Terekhova L.M.,**Fedorova N.V. 1994**

Ugorskoye nasledie. Yekaterinburg: Vneshtorgizdat.

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