DOI: 10.17746/1563-0110.2019.47.4.043-052

I.A. Kukushkin and E.A. Dmitriev
Saryarka Archaeological Institute,
Buketov Karaganda State University, Universitetskaya 28,
Karaganda, 100028, Republic of Kazakhstan
E-mail: sai@ksu.kz; yevgenii1992@mail.ru

Burial with a Chariot at the Tabyldy Cemetery, Central Kazakhstan

This article describes a high-ranking burial at the Tabyldy cemetery in the Shetsky District of the Karaganda Region, Kazakhstan. The mound was encircled with a stone enclosure and marked a double burial of horses with discoid cheek-pieces and metal staples, symbolizing a chariot. Funerary items include a bronze knife-dagger, a goad-head, a metal pendant from a plate twisted 1.5 times and overlaid with gold, paste beads, tubular beads, and potsherds. A detailed description of these items is provided. The cheek-pieces resemble those of the Staroyuryevo type. Their position on the skulls of the horses suggests a reconstruction of the harness. On the basis of new finds, the evolution of the cheek-pieces is proposed. The reconstructed severe bits were made by interweaving metal staples with leather strips. This innovation, securing better driving, was the reason why later cheek-pieces had no studs. A comparative analysis of the burial rite and funerary items suggests an Early Alakul attribution. The fact that the horses' heads were oriented to the northeast, like those of the buried humans (judging by the places where the bottoms of ceramic vessels were concentrated), evidences the influence of the Early Timber-Grave (Pokrovsk) culture. The AMS date and its 1 SD limits point to the late 18th to early 17th century BC, suggesting the Nurtai stage of the Alakul culture in Central Kazakhstan.

Keywords: *Central Kazakhstan, Bronze Age, Early Alakul culture, chariot harness, discoid cheek-pieces, bits.*

Introduction

The subject of chariot driving, which became widespread in the first centuries of the second millennium BC over the vast territory of the Volga-Don region, Ural-Volga region, southern Trans-Urals, and Northern Kazakhstan, has been studied for a long time, and has its own large historiography. Yet, each new site with the evidence of chariot use, especially if it is located in a peripheral zone where chariot traditions were not so pronounced, for example in Central Kazakhstan, is always of interest. Until recently, only six cheek-pieces were known from this area. These cheek-pieces included five, which were grooved, made of the tubular bones of large animals, which were split lengthwise, found at the cemeteries of Sattan (Evdokimov, Varfolomeev, 2002: Fig. 3, *8*) and Maitan (Tkachev A.A., 2002: Pt. 2, 177), and at the settlements of Myrzhik and Ikpen I (Kadyrbaev, Kurmankulov, 1992: Fig. 145, *6*; Tkachev A.A., 2002: Pt. 1, fig. 13, *1*), and one segmented cheek-piece carved of elk antler, found at the necropolis of Ashchisu (Kukushkin I.A., 2007: Fig. 4, *1*). Several double burials of horses imitating chariot teams have been registered. To date, 12 cheek-pieces and 15 double burials of horses have been discovered. One of the sites where chariot symbolism is especially pronounced has been investigated at the Tabyldy cemetery.

Description of materials discovered at the site

The Tabyldy cemetery is located in the Shetsky District of Karaganda Region in Central Kazakhstan, 90 km

Archaeology, Ethnology & Anthropology of Eurasia 47/4 (2019) 43–52 E-mail: Eurasia@archaeology.nsc.ru

Fig. 1. Location of the Tabyldy cemetery.

southeast of the city of Karaganda, 10 km northeast of the village of Taldy. The site is located on the right bank of the Taldy River (Fig. 1). Nineteen structures were visually recorded on the burial field. In 2018, one of the largest earthen kurgans (No. 3) of the necropolis was investigated.

The diameter of the kurgan is 13.2 m; its height is 0.57 m. A ring-shaped enclosure of slabs set on their edge and protruding up to 0.5 m above the present-day surface was found in the mound floor. The mound also had a ring-shaped ditch (Fig. 2).

A double burial of horses was discovered after removing the soil in the northeastern section of the ground under the mound, at a depth of 0.3 m*, placed with their backs to each other and oriented to the northeast. Bridle sets in the form of two pairs of discoid cheek-pieces with metal staples, which were placed on the heads of harness horses, were unearthed *in situ* on the horses' skulls. The cheek-pieces were at different heights relative to each other.

*The "northern"** horse*: two almost identical discoid cheek-pieces made of horn with inserted studs were found on the horse's skull.

Cheek-piece No. 1, right, upper, with obverse (front) side up. It has a rounded disc with a diameter of 9.4 cm and a triangular plate with two projecting edges, cut in the same plane. Its total length with the disc and triangular plate is 11.5 cm. The thickness of the surviving part of the item reaches 0.7 cm. The disc has a central snaffle hole with a diameter of 0.8 cm, and four holes for inserting studs with a diameter of 0.8 cm, set in the form of a cross in relation to the triangular plate (Fig. 3, *1*). Two conical-cylindrical studs with height reaching 1.4 cm and diameter reaching 0.7 cm survived (Fig. 3, *2*). Three small mounting holes with a diameter of 0.3 cm were drilled in a row at the base of the triangular plate. The front side of the disc is decorated with small triangles cut around the central hole and with two bands containing inscribed circles along the edge of the disc, which were filled with small triangles with their vertices pointing towards each other.

Cheek-piece No. 2, left, lower, with back side up. It has a rounded disc with a diameter of 8.5 cm and triangular plate with two projecting edges. The total length with the disc and triangular plate is 11.2 cm.

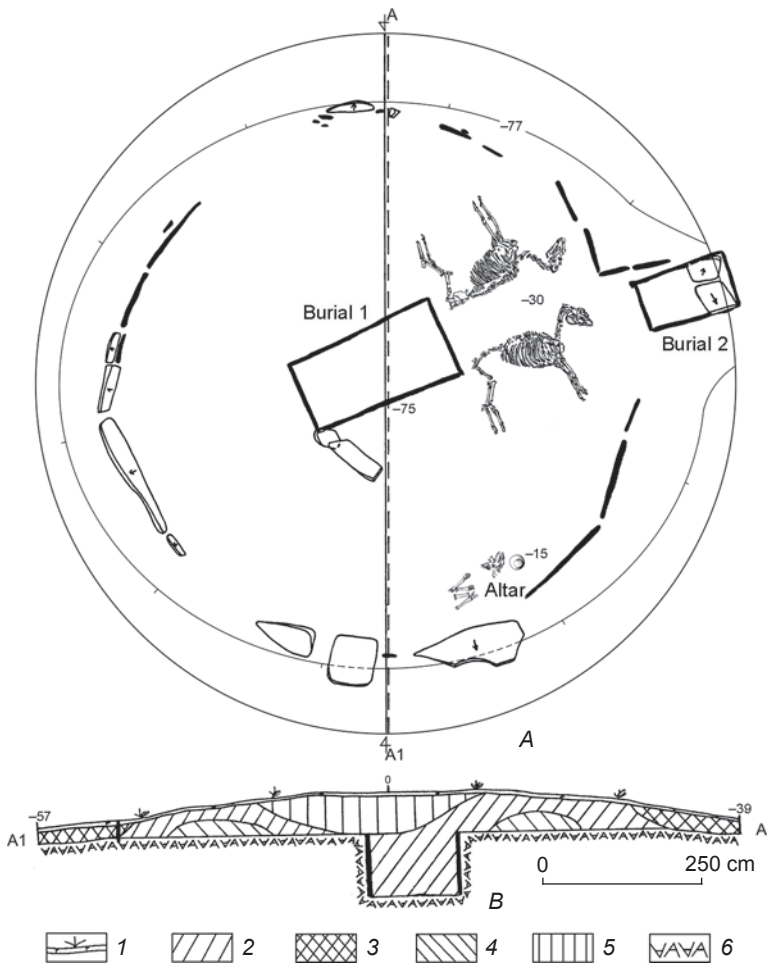

Fig. 2. Ground plan (*A*) and cross-section (*B*) of kurgan 3 of the Tabyldy cemetery.

1 – sod; *2* – light gray layer with inclusion of crushed stone; *3* – brown layer; *4* – gray layer with inclusion of crushed stone; *5* – dark brown layer; *6* – sterile soil.

*Hereinafter, the paleozoological definitions were provided by Dr. P.A. Kosintsev (Institute of History and Archaeology of the Ural Branch of RAS).

**The horses were conventionally divided into "northern" and "southern" according to their location at the burial site.

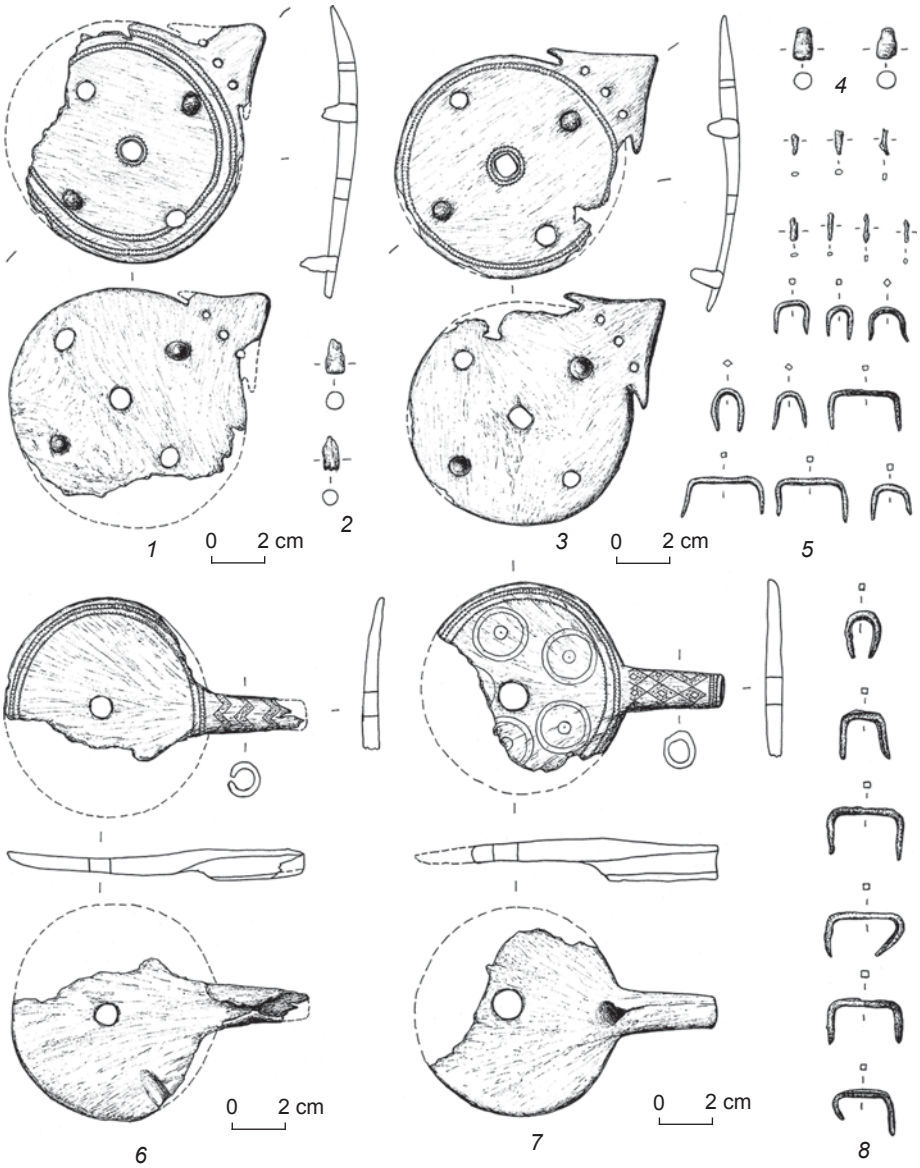

Fig. 3. Sets of bridle elements.
1, *3*, *6*, *7* – cheek-pieces made of horn; *2*, *4* – bone studs; *5*, *8* – metal staples and rods.

The thickness of the surviving part of the item reaches 0.6 cm. A central snaffle hole of subrectangular shape in plan view, with rounded corners measuring 0.9 × 0.7 cm, and four holes for inserting studs 0.8 cm in diameter, set in the form of a cross in relation to the triangular plate, were made in the disc (Fig. 3, *3*). Two conical-cylindrical studs up to 1.2 cm high and 0.6 cm in diameter (Fig. 3, *4*) were found. Three small holes 0.3 cm in diameter were drilled in a row at the base of the triangular plate. On the front side, the disc is decorated with two rows of small triangles carved around the central hole, and one band filled with two rows of small triangles pointing with their vertices towards each other along the edge of the item. A cluster of nine metal staples of various sizes, tetrahedral in cross-section, quadrangular and horseshoe-shaped in plan view, with slightly pointed ends, and seven small pin rods, oval, rounded, and quadrangular in cross-section, were found on the disc (Fig. 3, *5*).

The "southern" horse: two almost identical discoid cheek-pieces of unique design were found on the horse's skull.

Cheek-piece No. 1, right, lower, with front side up. It has a rounded disc with a diameter of 8.3 cm. A hollow tube with a diameter of 1.5 cm, cut together with the disc from the same piece, is in place of the triangular plate. Studs are not part of the design. On the back (working) surface of the disc, a hole corresponding to the cavity in the tube is visible. The total length with the disc and tube is 11.6 cm. The thickness of the surviving part of the disc reaches 0.8 cm. A central snaffle hole with a diameter of

0.8 cm was made in the disc. The front side of the cheek-piece is decorated along the outer edge, with three bands of small triangles directed with their vertices towards each other. The hollow tube is decorated with three bands of horizontal zigzag bands filled with dots (Fig. 3, *6*).

Cheek-piece No. 2, left, upper, with back side up. It has a rounded disc with a diameter of 8 cm. A hollow tube with a diameter of 1.3 cm, cut together with the disc from the same piece, is in place of the triangular plate. Studs are not part of the design. On the surface of the disc, a hole corresponding to the cavity in the tube is visible. The total length with the disc and tube is 11.5 cm. The thickness of the surviving part of the disc reaches 1 cm. The disc has a central snaffle hole with a diameter of 1.1 cm. The front side of the cheek-piece is decorated along the outer edge with three bands of small triangles directed with their vertices towards each other. The surface of the disc is decorated with a compass ornamental decoration in the form of three concentric circles with a dot in the center. The hollow tube is decorated with chains of lozenges inscribed into each other; the space between the lozenges is filled with dots. At the end of the tube, a drawing in the form of small triangles and a vertical ladder can be seen (Fig. 3, *7*). A cluster of six staples of different sizes, tetrahedral in cross-section, quadrangular and horseshoe-shaped in plan view, with pointed ends (Fig. 3, *8*), was found in the immediate proximity of the cheek-piece.

In the southeastern sector at a depth of 0.15 m, an altar was discovered. A ceramic vessel turned upside down (Fig. 4, *6*) was located there; a little further from the vessel, a cow skull oriented with its facial side to the northeast and four metapodia were found (see Fig. 2).

The unearthed enclosure of rounded shape in plan view, with a diameter of 8.5 m, consisted of slabs up to 0.75 m high, set on their edge in the sterile soil. The southern part of the enclosure fell in an outward direction;

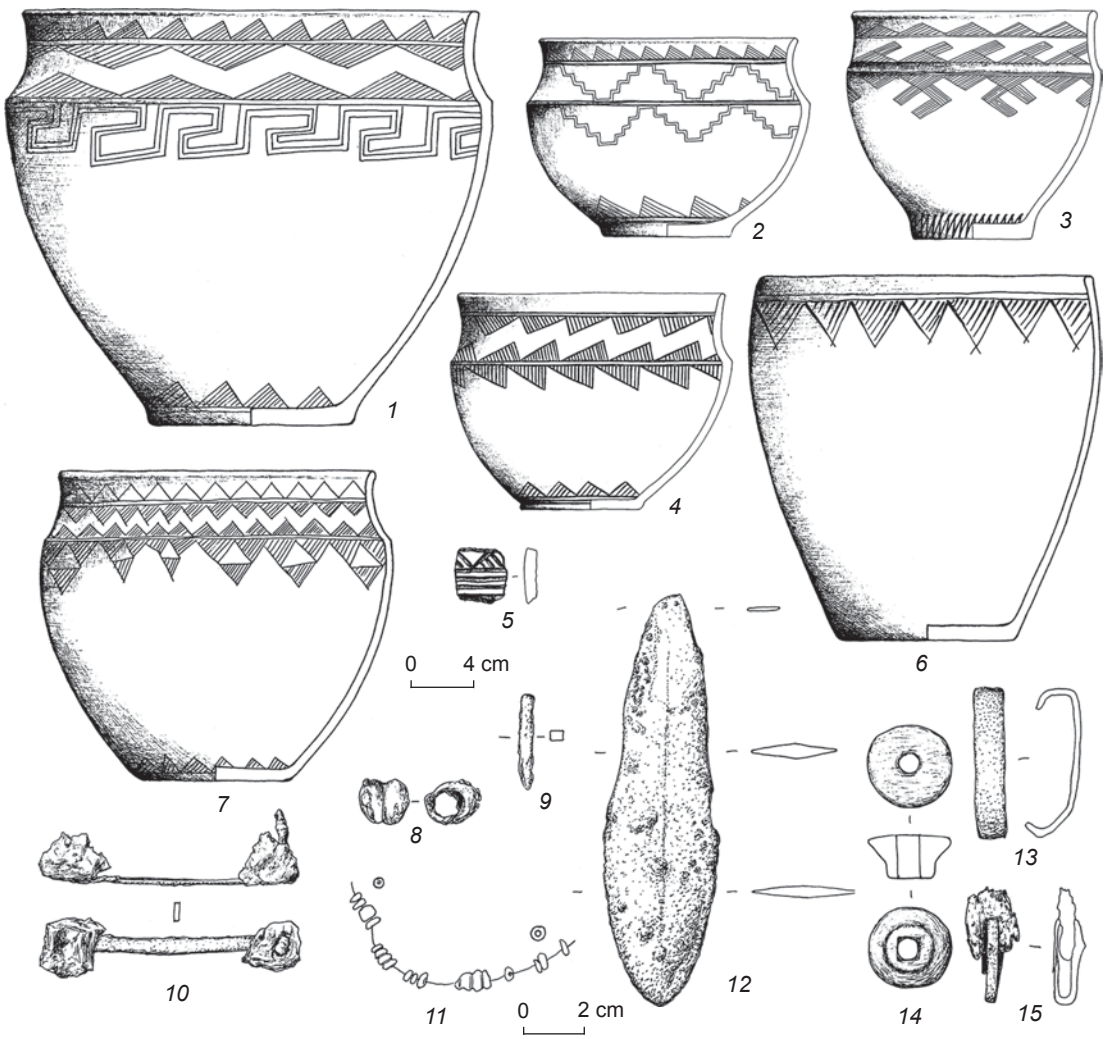

Fig. 4. Material evidence.
1–7 – pottery; *8* – pendant in the form of a plate twisted 1.5 times; *9* – goad-head; *10*, *13*, *15* – staples; *11* – regular and tubular beads; *12* – knife-dagger; *14* – mushroom-shaped pommel.

the northern part was mostly absent. On the northeastern side, two vertically set slabs preserved from an additional structure, adjoined the enclosure. The upper edges of the end plates of a rectangular-shaped stone box protruding 0.15 m above the sterile soil were found in the central part of the space inside the enclosure. The box measuring 2.45 × 1.44 × 1 m and oriented along the NE-SW line was made of four massive granite slabs. In the process of removing the filling of the grave, individual fragments of slabs remaining from the broken cover were found in the upper layers of the filling. A goad-head (Fig. 4, *9*) and a metal pendant in the form of a plate twisted 1.5 times and overlaid with gold leaf (Fig. 4, *8*) were discovered in the southeastern corner, at a depth of 0.4 m. Fragments of five vessels (Fig. 4, *1–5*), a metal staple (Fig. 4, *15*) holding a wooden fragment, and a flattened staple that held together the crack on a ceramic vessel (Fig. 4, *13*) were found on the bottom along the northeastern end wall of the box. Fragments remaining of what might have been the wooden structure of the burial chamber were found the northeastern part of the burial, mostly at a depth of 0.5–0.6 m.

A metal knife-dagger in a wooden case (Fig. 4, *12*) was discovered on the bottom of the central part of the grave, near the southeastern longitudinal wall. Metal and paste beads, tubular beads (Fig. 4, *11*), and bones belonging to two individuals were scattered throughout the rest of the area. According to the place where the fragments of vessels, usually placed at the head, were concentrated, the buried persons were oriented with their heads to the northeast.

A stone box of rectangular shape measuring 1.5 × 0.9 × × 0.7 m, built of four massive slabs and oriented along the NE-SW line was unearthed in the additional structure adjacent to the enclosure to the northeast, at a depth of 0.25 m from sterile layer. Slabs of the cover were located on the east side of the burial.

Individual human bones were found on the bottom in the center of the grave, and a partially broken ceramic vessel (Fig. 4, *7*), mushroom-shaped pommel made of horn (Fig. 4, *14*), and elongated metal staple with wooden fragments on the ends (Fig. 4, *10*) were discovered at the northeastern wall.

Discussion

Investigation of the large kurgan at the Tabyldy cemetery of the Bronze Age have revealed an elite funeral complex with chariot paraphernalia, which contained a central high-ranking burial performed according to the rite of inhumation in a stone box, and an adjacent structure. A specific feature of the kurgan was the presence of a pair of graves of harness horses symbolizing a chariot team with the stone box acting as the chariot in the area under the mound. This burial was obviously intended to emphasize that the deceased had belonged to a tribal military aristocracy originally associated with an elite community of chariot warriors. The location of the animal skeletons corresponds to representations of horses with chariots in rock art (Novozhenov, 1994: Fig. 77), which suggests that the petroglyphs and burial complex originated in the same chronological period, if not at the same time. The presence of bone remains of two individuals in the burial, as well as a bronze knife-dagger, goad-head, and female jewelry indicates that this was a double burial of the representatives of different sexes. The additional altar in the form of the skull and limbs of a cow, accompanied by a vessel placed upside down is noteworthy. Judging by the bottoms of the ceramic vessels, which have retained their original position in the grave, and orientation of the paired horses, the deceased were oriented to the northeast, which was typical of the traditions of the Timber-Grave culture (Kuzmina et al., 2012: 9). This conclusion is also supported by the orientation of the burial found in the additional structure along the SW-NE line.

Funerary items include a bronze knife-dagger, metal and paste beads, pendant in the form of a plate twisted 1.5 times and overlaid with gold leaf, a goad-head, staples, and pommel made of bone.

The bronze knife-dagger has a weakly expressed tang, slightly noticeable side indentations, and leaf-shaped blade. According to typological characteristics, it is completely similar to the daggers of the second type (according to A.D. Degtyareva), known among the Sintashta, Petrovka, Pokrovsk, Abashevo, and Potapovka antiquities; according to its morphological features, it is close to the stereotypes of the Circumpontian metallurgical province (Degtyareva, 2010: 104). The Tabyldy dagger shows the greatest resemblance to the knives from the Sintashta I (Gening V.F., Zdanovich, Gening V.V., 1992: Fig. 146, *2*) and Stepnoye VII cemeteries (Kupriyanova, Zdanovich, 2015: Fig. 54, *3*) from the southern Trans-Urals.

Pendants in the form of a plate twisted 1.5 times as a type of head adornment appeared quite early and were widely used in the complexes of different cultures and chronological periods from Transylvania to the Altai in the north, and to Iran in the south (Avanesova, 1991: 53). In Central Kazakhstan, they appear among materials from the Nurtai, Bozengen, and Aktobe II cemeteries (Tkachev A.A., 2002: Pt. 1, fig. 71, *24*, *25*; 96, *5*, *6*, *16*, *18*, *26*; 121, *9*). Paste (faience) beads were no less widespread. According to the latest data, they were imported in huge quantities from Egypt, where their mass production has been established (Likhter, Usmanova, 2017).

The mushroom-shaped pommel with a through hole, made of horn, is of interest. Similar items are known from the materials of the Central Kazakhstan cemeteries of Bozengen (Tkachev A.A., 2002: Pt. 1, fig. 96, *9*, *12*)

and Tanabai (Kukushkin I.A., Dmitriev, 2018: Fig. 3, *31*), and can be interpreted as tops of goads (Tkachev V.V., 2007: 30, 193).

Two staples holding the remains of wooden items (possibly vessels) have been found. During drying, cracks appeared in the walls of vessels. Metal staples were used for fixing defects which appeared. One of the fragments of a vessel had a pronounced flattened rim.

The pottery assemblage included six completely reconstructed vessels: five pots of the Alakul type, stepped in profile view, and one large vessel of closed jar-like shape. Ornamental décor on all the pots appeared in three zones—the neck, body, and bottom part. Its specific elements were chains of triangles directed with their vertices towards each other; variations of meanders and pyramids were less common. A rocker stamp decorated the bottom of one of the vessels; this stamp is more typical of the Early Alakul pottery of Northern Kazakhstan (Zdanovich G.B., 1988: Fig. 25, 27, 43). Drawings were made by incision and smooth stamping.

Several discussions have followed the large-scale studies of material evidence originating from the sites with chariot-related attributes, which have been carried out in Kazakhstan over recent decades. The greatest controversy concerns the reconstruction of the strap head harness and ways of placing the cheek-pieces on the horse's head, which the structural features of the horse harness depended on. The reconstruction of the position of cheek-pieces was figuratively called "the problem of 90 degrees", and was analyzed in great detail in a special study by A.N. Usachuk (2010). After reviewing in detail all known reconstructions, he came to the conclusion that there were various ways of attaching and arranging the cheek-pieces in the system of a strap head harness (Ibid.: 245, 255).

Two discoid cheek-pieces, which were a part of a strap head harness, were located on each of the heads of the Tabyldy harness horses. This is a very rare case. On the territory of the Urals-Kazakhstan region, over a hundred cheek-pieces have been found (Chechushkov, Epimakhov, 2010: 185), but as a rule they were located not even near the skulls of the animals (Cherlenok, 2004). Grooved cheek-pieces lay on a horse's skull in enclosure 29C of the Maitan cemetery in Central Kazakhstan (Tkachev A.A., 2014: 658). One cheek-piece was found on the half-destroyed skull of a horse in burial 62 of the Khripuny cemetery in Western Siberia (Matveev, Volkov, Kostomarova, 2007: 110, 112). In the Middle Volga region, cheek-pieces on the horse's skull occurred in the burial of kurgan 5 at the cemetery near the village of Komarovka (Alikhova, 1955: 96). Finally, a pair of discoid cheek-pieces with inserted studs was discovered on the skull of one of two horses in a ritual burial in the fortified settlement of Oarța de Sus in Transylvania (Romania) (Boroffka, 1994: 60; Penner, 2004).

The cheek-pieces on the skulls of the two horses from the Tabyldy cemetery were paired, but were structurally significantly different from each other. It should be emphasized that the head harness with cheek-pieces was neatly placed on the heads of the horses in such a way that they appeared to be in working condition (Fig. 5, *1*, *2*).

The discovery of the cheek-pieces directly on the sculls of the horses and their specific location make it possible to offer a reconstruction of the strap head harness. Notably, the cheek-pieces on the heads of both horses were oriented in the same direction and were parallel to each other. They were tightly fixed in this position on the straps of the head harness, which then was arranged on the heads of the animals. Moreover, the plates were placed in a horizontal position, which indicates the method not only of location, but also of fastening on the horse's head. Had the bridle implied the location of the cheek-pieces with plates directed up, the plates would have been directed towards each other. Respectively, had the cheek-pieces been placed with the plates down, the plates would have been oriented in opposite directions.

During the archaeological process, each pair of cheek-pieces turned over simultaneously to one side. This suggests the presence of bits fastened to the snaffle holes, which were pulled by the fallen cheek-pieces (front side down), which were probably weighted with metal staples. This is indicated by accumulation of metal staples on the back of one of the cheek-pieces; the staples of the other cheek-piece were found in its immediate proximity. Interestingly, the sharp ends of the staples were not bent on both sides inwardly by the fastening method, but protruded outwardly. In such a way they could not have been used for fastening straps to each other. In our opinion, staples with sharp ends were interweaved into leather bits as with manufacturing horsewhips, which even in our days are tightly woven of thin leather straps cut from a specially processed goat or calf skin. Obviously, the presence of such studs on the bits made it possible to better control the horse and subsequently completely abandon the use of studs on the cheek-pieces. Since some of the staples were horseshoe-shaped, we can assume a rounded cross-section of the woven bits (Kukushkin I.A., 2018: 65–66). It is doubtful that an ordinary strap was used as bits, since in this case there would have not been a reliable fastening of staples during use. The experiments of using staples with sharp points in bits might have started as early as the Sintashta time. For example, staples similar in shape and size were found next to the lower jaw of one of the horses in burial 2 of the Bolshaya Sintashta flat-grave burial ground (Gening V.F., Zdanovich, Gening V.V., 1992: 113). Generally, staples of distinctive design with unbent sharpened ends have often been found among the materials from the burial sites of chariot cultures. Most likely, once the idea of using studs on cheek-pieces

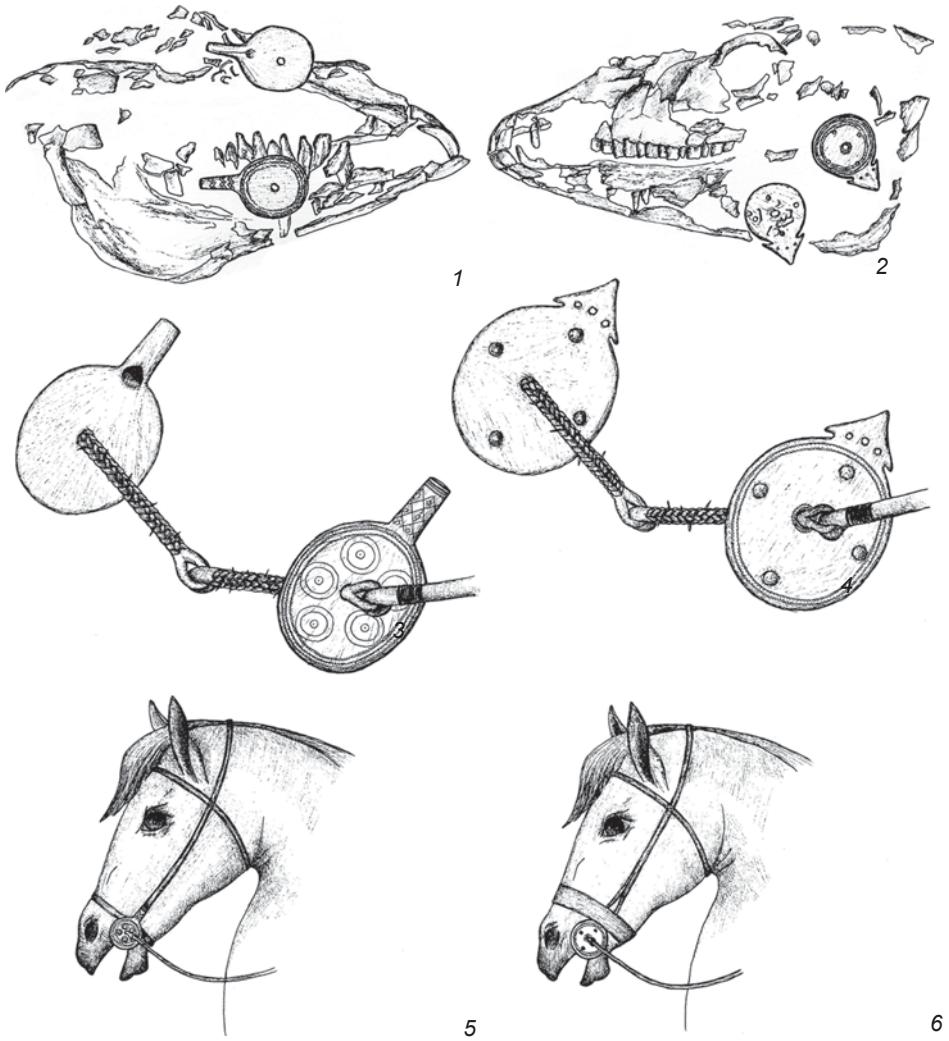

Fig. 5. Reconstruction of the horse harness system.
1, *2* – location of cheek-pieces on the conventionally displayed skulls of horses; *3*, *4* – reconstruction of the bits; *5*, *6* – reconstruction of the head harness.

appeared, it was with time successfully transferred to the bits, but using small metal studs as the means of pain-inflicting action on the horse (see Fig. 3, *5*, *8*)*.

The appearance of bits studded with metal staples was probably associated with the adjustments made to the system for controlling two horses, which pulled a draw cart. Accumulations of staples, as noted above, were found only on the back of one of the cheek-pieces of the "northern" horse and near the cheek-piece of the "southern" horse, which in a pair of harnessed horses implies increased control during the left or right turn. Such local accumulations of staples point to increased functions of only one part of the bits: the left part for the "northern" horse and the right part for the "southern" horse. In our case, when the straps of head harness were placed on the "southern" horse, the bridle could have twisted and the cheek-pieces switched places, or they were initially laid upside down. However, another option is possible. Given the relatively large number of staples, we can assume that they were evenly distributed along

*It is curious that probably one of the earliest methods of taming wild horses has survived until this day among the Kazakhs. In order to tame a 3–4–5 year old horse, a horse with the needed characteristics is selected from the herd, caught with a lasso, knocked to the ground, and its legs are tied. Then, the extremely sensitive corners of its lips are rubbed with intensive friction until they start to bleed, thereby virtually cutting them. After this painful procedure, a bridle and saddle are put on the animal. The pain is so great that a wild horse, which has grown freely in the steppe herd and has never walked under a saddle, becomes controllable and begins to execute the rider's commands given by the reins (informant T.S. Tuleuov, the Head of the Center for Preservation of Historical and Cultural Heritage of the Karaganda Region).

the entire length of the bits. A tear occurred during natural decomposition of organic material, and the leather bits, when these were drying, probably shrank and were pulled toward one of the cheek-pieces. This assumption can only be verified experimentally. Be that as it may, the system of controlling a pair of harnessed horses fundamentally changed after the invention of severe bits: now the system was based not on the impact of studs located on cheek-pieces, but on severe bits equipped with metal studs.

The "northern" horse. It is assumed that the cheek-pieces were attached with the plate to the noseband in a horizontal position through the three linearly located holes in the base of the triangular plate. The bifurcated cheek (crown) piece was fastened possibly with loops to the two projecting edges, according to their design features. This strap was pulled in the opposite direction of the hooks in the triangular plate. Most likely, the strap of the noseband overlapped the triangular plate and partially the cheek (crown) piece. Indirect evidence in favor of this assumption is the absence of decorations on the triangular plate: it was hidden and did not need to be decorated (Fig. 5, *6*). Were the plate visible, it would have had some ornamental décor just as the disc; such plates occurred among the materials of, for example, the Ashchisu (Central Kazakhstan) and Novonikolskoye (Northern Kazakhstan) cemeteries. The suggested reconstruction involves the blockage of the excessively free motion of the disc and plate, which would become movable relative to the axis of the small mounting holes in the process of using the cheek-pieces in the operating mode. In this case, the conditions leading to possible flaring, loosening of fasteners, and risks of other types of mechanical damage would be eliminated.

The "southern" horse. The presence of through sockets on the cheek-pieces, as well as their location on the horse's skull, correspond to a horizontal connection of the cheek (crown) piece through the hole in the tube with the noseband; these two pieces might have been stitched together (Fig. 5, *5*). Other methods were hardly possible. Judging by the use of severe bits equipped with metal studs, cheek-pieces served as strap distributors for the head harness of the horse. This is confirmed by the absence of studs in this pair of cheek-pieces.

With the emergence of severe bits of this type, the need for studs on cheek-pieces disappeared, since they became an extra duplicating element in the system of controlling horses. Therefore, there were two studs on each cheek-piece of the "northern" horse, and not four. The ubiquitous transition from the severe cheek-pieces to severe bits was probably the reason for the disappearance of studs on cheek-pieces in the chariot tradition of the Alakul culture.

The items found in the Volga-Don region at the sites of the Pokrovsk type, such as Staroyuryevo (Pryakhin, 1972), Staritskoye (Dremov, 1991: Fig. 1, *12*), Filatovka (Sinyuk, Kozmirchuk, 1995: Fig. 9, *1*, *2*), Selezni I, II (Moiseev, 1996: Fig. 2, *1*; Pryakhin, Moiseev, Besedin, 1998: Fig. 11, *4*, *5*), Uvarovka II (Mikhailova, Kuzmina, 1999: Fig. 17, *1*), and Borodaevka II (Usachuk, 2000: 131, Fig. 13, *3*, *4*), show similarities to the cheek-pieces on the "northern" horse. These items are similar in the size (rather large) and shape of the disc, linear arrangement of small mounting holes along the base of the plate, presence of inserted studs, two projecting edges on the plate, which implies a similar system of design and functioning of horse harness. However, for example, the triangular shape of the plate with hooks was more typical of the southern Urals items and possibly reflects the interaction of cultures in the Timber-Grave–Alakul contact zone (Tkachev V.V., 2004: 27; Chechushkov, Epimakhov, 2010: 190). It is interesting that, according to the main morphological features, the closest cheek-piece to the Tabyldy cheek-pieces (large disc and triangular plate with projecting edges cut in the same plane) was discovered during the study of the Mirny IV settlement in the southern Trans-Urals, which yielded Alakul, Petrovka, and Timber-Grave pottery (Chemyakin, Epimakhov, 2004: 106, 108, fig. 1, *3*). Probably the most striking similarity of all four Tabyldy cheek-pieces with the items of the Pokrovsk type is manifested by the presence of embossed carved ornamentation applied along the outer edge of the items and around the central hole, on the "front" side of the discs. In the decoration, preference was given to concentric circles which formed narrow bands filled with small triangles. Noteworthy are the parallels between the Tabyldy and Alakul cheek-pieces of rounded shape with four through holes for inserted studs, and distinctive ornamentation of the disc from the Ilekshar I cemetery in Western Kazakhstan (Tkachev V.V., 2003). An example of the influence on the part of Western chariot traditions is a discoid cheek-piece that shows the features of the Volga-Don bone-carving tradition from the Late Sintashta Kamenny Ambar-5 cemetery in the southern Trans-Urals (Usachuk, 1999; Epimakhov, 2005: 161, fig. 31, *4*; Bochkarev, Kuznetsov, 2013: 66).

Scholars have already mentioned a rather distinct demarcation of two large areas where the traditions of chariot driving were spread—the Volga-Don region and Urals-Kazakhstan region (Pryakhin, Besedin, 1998: 33). The analysis of the Tabyldy cheek-pieces has shown that, according to their main features they tend to show similarities with the Volga-Don bone-carving tradition of the Pokrovsk (Early Timber-Grave) culture. It differs significantly from the Petrovka (Early Alakul) tradition of the southern Urals and Northern Kazakhstan, which typically had segment-shaped cheek-pieces with monolithic studs, checkered arrangement of additional holes on the plate, and absence of ornamental decoration on the front side of the disc. An exception are individual cheek-pieces of the Alakul type found at the Alakul (Salnikov, 1952: 57) and Novonikolskoye (Zdanovich,

1985: 115, fig. 4) cemeteries, with decorated discs (in one case, the plate is decorated) and without studs. Further research will likely expand the collection of cheek-pieces of this type. At least, the unpublished materials from the Bayansha necropolis (Northern Kazakhstan) and fragment of a cheek-piece found in the Alakul layer of Shibaevo I (Nelin, Usachuk, 2004) are promising. The materials from Central Kazakhstan include eight cheek-pieces, including a grooved cheek-piece (Sattan cemetery) with ornamentation on the disc and even on the plate, which can be considered as an argument in favor of the assumption that the Western groups of the Timber-Grave population might have participated in the cultural genesis of the Alakul population of the region.

Conclusions

The cheek-pieces discovered at the Tabyldy cemetery, typical of the Volga-Don bone-carving tradition, as well as the remains of chariot horses and people, oriented to the northeast, and the Alakul-type pottery are probable evidence of a mixture of two cultural traditions associated with the Early Alakul and the Early Timber-Grave population, which inhabited the territory of Central Kazakhstan at the Nurtai stage of the Alakul culture. This process can be seen from the finds originating from a number of burial complexes with chariot attributes and other materials reflecting the worldview traditions of the Timber-Grave community (for example, the Kyzyltau cemetery) (Kukushkin I.A., Dmitriev, Kukushkin A.I., 2019). Apparently, during this period, the studs on the cheek-pieces, which were needed for strict control of horses harnessed to a chariot, were replaced by strict bits with small metal studs. In the future, cheek-pieces traditionally continued to be used; but in the system of the head harness of horses they performed only the functions of strap dispensers (Epimakhov, Chechushkov, 2004: 42–43), often decorated.

The evidence from the Tabyldy cemetery, in our opinion, belongs to the Nurtai stage of the Alakul culture of Central Kazakhstan (Kukushkin, Dmitriev, 2018: 36). This conclusion is confirmed by the absolute AMS-date of the main burial in kurgan 3, which was established at the Poznan Radiocarbon Laboratory (Poland): the second half of the 18th to first half of the 17th century BC (3390 ± 35 BP: 1σ (68.2 %)—1737–1641 cal BC, 2σ (95.4 %)—1862–1612 cal BC).

Acknowledgments

This study was performed under the projects, “Study of Ethnic and Cultural Processes in Saryarka and Adjacent Regions in the Bronze Age” (grant AP05131774) and “History of the Population Inhabiting the Steppe Zone of Kazakhstan from the Bronze Age to the Initial Early Iron Age (According to Pottery Technology)” (grant AP05131861), supported by the Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan.

References

Alikhova A.E. 1955
Kurgany epokhi bronzy u s. Komarovki. *KSIIMK*, iss. 59: 96–97.

Avanesova N.A. 1991
Kultura pastusheskikh plemen epokhi bronzy aziatskoy chasti SSSR. Tashkent: FAN.

Bochkarev V.S., Kuznetsov P.F. 2013
Kulturno-tipologicheskiye kharakteristiki drevneishikh diskovidnykh psaliyev Severnoy Evrazii. In *Problemy periodizatsii i khronologii v arkheologii rannego metalla Vostochnoy Evropy*. St. Petersburg: Skifiya-print, pp. 61–79.

Boroffka N.G.O. 1994
Die Wietenberg-Kultur. Ein Beitrag zur Erforschung der Bronzezeit in Südosteuropa. Bonn: Dr. Rudolf Habelt GmbH.

Chechushkov I.V., Epimakhov A.V. 2010
Kolesnichniy kompleks Uralo-Kazakhstanskikh stepey. In *Koni, kolesnitsy i kolesnichiye stepey Evrazii*. Yekaterinburg, Samara, Donetsk: Rifey, pp. 182–229.

Chemyakin Y.P., Epimakhov A.V. 2004
Materialy po konskoy upryazhi perioda pozdney bronzy Zauralya. In *Arkheologicheskiy almanakh*. No. 15: Psalii. Elementy upryazhi i konskogo snaryazheniya v drevnosti. Donetsk: pp. 106–110.

Cherlenok E.A. 2004
O raspolozhenii psaliyev v pogrebeniyakh Potapovskogo i Utevskogo mogilnikov. In *Almanakh molodykh arkheologov 2004*. St. Petersburg: Dmitriy Bulanin, pp. 54–59.

Degtyareva A.D. 2010
Istoriya metalloproizvodstva Yuzhnogo Zauralya v epokhu bronzy. Novosibirsk: Nauka.

Dremov I.I. 1991
Pogrebeniye iz kurgana u s. Staritskoye (Saratovskaya obl.). *KSIA*, iss. 203: 101–105.

Epimakhov A.V. 2005
Ranniye kompleksniye obshchestva Tsentralnoy Yevrazii (po materialam mogilnika Kamenniy Ambar-5), Bk. 1. Chelyabinsk: Chelyab. dom pechati.

Epimakhov A.V., Chechushkov I.V. 2004
Eksperimentalniye raboty po rekonstruktsii konskoy upryazhi epokhi bronzy. In *Arkheologicheskiy almanakh*. No. 15: Psalii. Elementy upryazhi i konskogo snaryazheniya v drevnosti. Donetsk: pp. 39–45.

Evdokimov V.V., Varfolomeev V.V. 2002
Epokha bronzy Severnogo i Tsentralnogo Kazakhstana. Karaganda: Izd. Kar. Gos. Univ.

Gening V.F., Zdanovich G.B., Gening V.V. 1992
Sintashta: Arkheologicheskiye pamyatniki ariyskikh plemen Uralo-Kazakhstanskikh stepey. Chelyabinsk: Yuzh.-Ural. kn. izd.

Kadyrbaev M.K., Kurmankulov Z. 1992
Kultura drevnikh skotovodov i metallurgov Sary-Arki (po materialam Severnoy Betpak-Daly). Almaty: Gylym.

Kukushkin I.A. 2007
Arkheologicheskiye issledovaniya mogilnika Ashchisu. Kurgan 1. In *Istoriko-kulturnoye naslediye Saryarki*. Karaganda: IP E.A. Sytina, pp. 40–64.

Kukushkin I.A. 2018
Kulturno-istoricheskiye istoki i naslediye sintashtinskoy kultury. In *Stepnaya Evraziya v epokhu bronzy: Kkultury, idei, tekhnologii*. Chelyabinsk: Izd. Chelyab. Gos. Univ., pp. 62–81.

Kukushkin I.A., Dmitriev E.A. 2018
Rannealakulskiye drevnosti mogilnika Tanabai (po materialam kurgana 4). *Vestnik arkheologii, antropologii i etnografii*, No. 2 (41): 28–40.

Kukushkin I.A., Dmitriev E.A., Kukushkin A.I. 2019
Materialy mogilnika Kyzyltau kak otrazheniye srubnogo komponenta v formirovanii rannealakulskikh drevnostey Tsentralnogo Kazakhstana. *Teoriya i praktika arkheologicheskikh issledovaniy*, No. 2 (26): 109–130.

Kupriyanova E.V., Zdanovich D.G. 2015
Drevnosti lesostepnogo Zauralya: Mogilnik Stepnoye VII. Chelyabinsk: Entsiklopediya.

Kuzmina O.V., Kuznetsov P.F., Kramarev A.I., Salugina N.P., Khokhlov A.A., Roslyakova N.V., Vasilieva D.I. 2012
Epokha bronzy Samarskogo Povolzhya. In *Bronzoviy vek. Epokha geroyev (po materialam pogrebalnykh pamyatnikov Samarskoy oblasti)*. Samara: Aeroprint, pp. 6–36.

Likhter Y.A., Usmanova E.R. 2017
Busy iz egipetskogo fayansa iz kazakhstanskikh pamyatnikov andronovskoy obshchnosti. In *Istoriya i arkheologiya Semirechya*. Almaty: Inst. Arkheol. im. A.K. Margulana, pp. 40–54.

Matveev A.V., Volkov E.N., Kostomarova Y.V. 2007
Materialy novykh raskopok Khripunovskogo mogilnika. In *Problemy arkheologii: Ural i Zapadnaya Sibir*. Kurgan: Izd. Kurg. Gos. Univ., pp. 108–114.

Mikhailova O.V., Kuzmina O.V. 1999
Noviye pamyatniki epokhi bronzy v Samarskom Povolzhye. In *Okhrana i izucheniye pamyatnikov istorii i kultury v Samarskoy oblasti*, iss. 1. Samara: SamVen, pp. 98–141.

Moiseev N.B. 1996
Diskovidniye psalii iz Seleznevskoy parnoy kurgannoy gruppy. In *Abashevskaya kulturno-istoricheskaya obshchnost v sisteme drevnostey epokhi bronzy stepi i lesostepi Evrazii*. Tambov: Tambov. Gos. Univ., pp. 24–26.

Nelin D.V., Usachuk A.N. 2004
Trasologicheskiy analiz psaliya s poseleniya Shibayevo I. In *Arkheologicheskiy almanakh*. No. 15: Psalii. Elementy upryazhi i konskogo snaryazheniya v drevnosti. Donetsk: pp. 103–105.

Novozhenov V.A. 1994
Naskalniye izobrazheniya povozok Sredney i Tsentralnoy Azii (k probleme migratsii naseleniya stepnoy Evrazii v epokhu eneolita i bronzy). Almaty: Argumenty i Fakty Kazakhstan.

Penner S. 2004
Die Wangenscheiben aus Mykene und ihre nordöstlichen Beziehungen. In *Arkheologicheskiy almanakh*. No. 15: Psalii. Elementy upryazhi i konskogo snaryazheniya v drevnosti. Donetsk: pp. 46–72.

Pryakhin A.D. 1972
Kurgany pozdney bronzy u s. Staroyuryevo. *Sovetskaya arkheologiya*, No. 3: 233–243.

Pryakhin A.D., Besedin V.I. 1998
Konskaya uzda epokhi sredney bronzy v Vostochno-yevropeiskoy stepi i lesostepi. *Rossiyskaya arkheologiya*, No. 3: 22–35.

Pryakhin A.D., Moiseev N.B., Besedin V.I. 1998
Selezni-2. Kurgan dono-volzhskoy abashevskoy kultury. Voronezh: Voronezh. Gos. Univ.

Salnikov K.V. 1952
Kurgany na ozere Alakul. *MIA*, No. 24: 49–71.

Sinyuk A.T., Kozmirchuk I.A. 1995
Nekotoriye aspekty izucheniya abashevskoy kultury v basseine Dona (po materialam pogrebeniy). In *Drevniye indoiranskiye kultury Volgo-Uralya (II tysyacheletiye do n. e.)*. Samara: Izd. Samar. Ped. Univ., pp. 37–72.

Tkachev A.A. 2002
Tsentralniy Kazakhstan v epokhu bronzy, pts. 1, 2. Tyumen: Tyum. Gos. Neftegaz. Univ.

Tkachev A.A. 2014
K voprosu o formirovanii i razvitii pogrebalnoy obryadnosti atasuskoy kultury. In *Dialog kultur Evrazii v arkheologii Kazakhstana*. Astana: Saryarka, pp. 653–664.

Tkachev V.V. 2003
Pogrebeniye arkhaichnogo lidera epokhi pozdney bronzy iz mogilnika Ilekshar I v Zapadnom Kazakhstane. *Voprosy istorii i arkheologii Zapadnogo Kazakhstana*, iss. 2: 80–86.

Tkachev V.V. 2004
Pogrebalniye kompleksy s shchitkovymi psaliyami v Stepnom Priuralye. In *Arkheologicheskiy almanakh*. No. 15: Psalii. Elementy upryazhi i konskogo snaryazheniya v drevnosti. Donetsk: pp. 7–30.

Tkachev V.V. 2007
Stepi Yuzhnogo Priuralya i Zapadnogo Kazakhstana na rubezhe epokh sredney i pozdney bronzy. Aktobe: Aktyub. obl. tsentr istorii, etnografii i arkheologii.

Usachuk A.N. 1999
Sochetaniye dvukh traditsiy izgotovleniya shchitkovykh psaliyev (na primere psaliya iz Zauralya). In *Etnichna istoriya ta kultura naselennya stepu ta lisostepu Evrazii (vid kamyanogo viku po ranne serednovichchya)*. Dnepropetrovsk: pp. 99–101.

Usachuk A.N. 2000
K voprosu ob ornamentatsii shchitkovykh i zhelobchatykh psaliyev. In *Vzaimodeistviye i razvitiye drevnikh kultur yuzhnogo pogranichya Evropy i Azii*. Saratov: Nauch. kn., pp. 130–132.

Usachuk A.N. 2010
Rekonstruktsii krepleniya drevneishikh psaliyev v sisteme remney ogolovya loshadi: Protivorechiya i perspektivy. In *Koni, kolesnitsy i kolesnichiye stepey Evrazii*. Yekaterinburg, Samara, Donetsk: Rifey, pp. 238–291.

Zdanovich G.B. 1985
Shchitkoviye psalii Srednego Priishimya. In *Eneolit i bronzoviy vek Uralo-Irtyshskogo mezhdurechya*. Chelyabinsk: Chelyab. Gos. Univ., pp. 110–119.

Zdanovich G.B. 1988
Bronzoviy vek Uralo-Kazakhstanskikh stepey (osnovy periodizatsii). Sverdlovsk: Izd. Ural. Gos. Univ.

Received January 15, 2019.