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### Discussing about the ceramic with array-attached decoration found in Xianbei and the Sarmatian-Late Scythian period remains

**Abstract.** There were some array-attached decoration ceramics had been found in Xianbei remains. Similar ones were widely seen in the Western Eurasian steppes, especially the Late-Scythian remains in Crimea, the remains of the Bosphorus Kingdom and the Samatian remains. This research discussed the types, evolutions and functions of this kind of ceramics. And according to the concerning burial structures, burial rites, accompanied objects and some other factors, it could give us a perspective to observe the the relationship between the Xianbei groups and the peoples in the Western Eurasian steppes.

**Keywords.** Xianbei, Sarmatian, Late-Scythian, Bosphorus Kingdom, ceramic, decoration

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### Сяньби болон Сармат Скифийн үеийн хэд хэдэн чимэглэл хавсарсан шавар вааран эдлэлийн тухай

**Товчлол.** Сяньбигийн оршуулгаас олдсон хэд хэдэн чимэглэл хавсарсан шавар вааран эдлэлүүд олджээ. Үүнтэй төстэй чимэглэлийг Баруун Евразийн тал хээр, ялангуяа Крым дахь Скифийн хожуу үе, Босфорын хаант улсын үе, Саматын үед өргөн тархсан шавар ваар савны үлдэгдлээс харж болох юм. Энэхүү өгүүлэлд энэ төрлийн шавар вааран эдлэлийн төрөл, хувьслын талаар хөндөн авч үзнэ. Мөн оршуулгын байгууламж, оршуулгын зан үйл, дагалдах эд зүйлс болон бусад баримтуудаас үзэхэд Сяньбигийн бүлгүүд болон Баруун Евразийн тал нутаг дахь ард түмний хоорондын харилцааг ажиглах боломжийг бидэнд өгч байгаа юм.

**Түлхүүр үг.** Сяньби, Сармат, Хожуу скифчүүд, Босфорын хаант улс, ваар сав, чимэглэл

#### Founds of array-attached decoration ceramics

In Xianbei remains found in Northern China, this kind of decoration were described using terms “cockcomb handle”, “nose shaped”, etc. It is commonly used the term “налеп” in Russian and the former Soviet Union materials. In this research I describe it as “array-attached decoration ceramics”, as the decorations attached to the shoulder of pottery, distributed in 3-4 equidistant arrays. Most of them are in shapes of inverted triangular pyramid, ellipse or noselike. In Xianbei remains, nearly all of them were found in tombs, mostly height of 13-16 CM, few ca. 20 CM (Fig. 1).

This kind of pottery could be also seen in Western Eurasian, especially Crimea, North and Northwest of Black Sea, Bosphorus Kingdom.

During this period in Crimea, mainly remains were belong to the Late Scythians, which were influenced by the Late Sarmatians and Early Alans. The pottery we discussed include jar, pot, bowl, etc., decorating 3-4 array-attached decorations, see-

ing as oval, nail, disk and triangular. And were discovered from settlements and burials. Mainly height of 10-15 CM, few found from city sites were huge. The earlier samples dated to 3<sup>rd</sup>-1<sup>st</sup> B.C., unearthed in Scythian Neapolis, belong to the Late Scythians remains [Dashevskaya, 1991: 29]. The later samples aged in 3<sup>rd</sup>-4<sup>th</sup> A.D., such as Neyzats cemetery ones, which belong to the Late Sarmatian and Early Alan remains (Fig. 2) [Khrapunov, 2008: 189-214; Khrapunov, 2006: 116-250; Khrapunov, 2006: 192-214].

These potteries were unearthed both in tombs and city sites in the Bosphorus Kingdom, such as Tanaï, Azov and Ilurat city, etc. The types of vessels are unitary, nearly all are pots, decorating with nail and oval array-attachments. In addition, there are samples with different shapes of array-attachments distributing alternately. Most height of 13-15CM, few higher than 25 CM. Mainly aged 2<sup>nd</sup>-3<sup>rd</sup> A.D. Concerning remains were often influenced by the steppes people, such as Sarmatians [Guguev, 2019:

92-107], Maeotians [Fomichev, 2009: 391-397], as well as the Thracians [Vinogradov, 2020: 64-72] living in the northwest of the Black Sea (Fig. 3).

From steppes between the Volga and the Dnieper River, almost all of these potteries were found in burials. Most were jars, few pots, in height of 11-30 CM, and majority dated to 1<sup>st</sup>-3<sup>rd</sup> A.D. They have oval, nail shaped and triangle array-attached decorations on shoulder, distributing in 3, 4 or 6 arrays. The remains mainly belong to Sarmatians, few Prokhorovka culture (early Sarmatian remains) [Moshkova, 1963: 26, 49], probably individually influenced by Jastorf culture and Przeworskaya culture of Central and Northern Europe (Fig. 4) [Terpilovskii, Bilinskaya, 2010: 45-54].

In Northwest of the Black Sea, the potteries were found in Southwest Ukraine, Moldova, Romania and Bulgaria. During the Hellenistic era, they were unearthed in pits, cremation tombs, etc., mainly belonging to the Geto-Dacian [Zanoci, 2019: 105-136] and Poyanesti-Lukashevskaya cultures [Smirnova, Megei, 2000: 156-171]. In 2<sup>nd</sup>-3<sup>rd</sup> A.D., the Late Sarmatian period, they were mostly found in tombs. The array-attached decorations were usually in disc, nail, and oval shape. About 10-20 CM high, few higher than 40 CM (Fig. 5).

#### **The origin and evolution of array-attached decoration ceramics**

There are generally 4 types of array-attached decorations: A-oval, B-nail, C-disc, D-triangle (Fig. 6).

In the Neolithic Age, these pottery decoration elements already scattered in northwest of the Black Sea, such as Bulgaria [Bachvarov, et al. 2019: 236-241]. And in the early and middle Bronze Age, had spreaded to the Dniester and South Bug River basins, Moldova and Ukrainian forest, where most of the decorations were in type B or some irregular shape, but the vessel shapes were quite different from that of the research period. In the late Bronze Age, they were also seen in northern Black Sea and Crimea. The decorations were mainly in types B and C, which belong to Sabatinovka Culture, Belozersk Culture and some other related remains (Fig. 7).

From Pre-Scythian to early Scythian period (ca. 9<sup>th</sup>-6<sup>th</sup> B.C.), they were found between the middle Dnieper River and the middle-lower Don River, seeing as types A and D. In northwest Black Sea, they mainly belong to Cimmerian [Vanchugov, 2013: 345-353], Thrace [Zelenchuk, 1974: 22-25], and Thrace-Gaita [Levitki, Haheu, 2011: 55-71] remains; on the steppes of Middle Dnieper, belong to Chernoles culture, Zabokin culture [Daragan, 2011]; in the lower Don River, belong to Kobyakovo culture [Vlasov, 2001: 18-31] (Fig. 7).

In the great prosperity of Scythian period (5<sup>th</sup>-4<sup>th</sup> B.C.), the numbers and distribution areas of such potteries decreased. They were continued to be

found in the northwest Black Sea, including types B, C and D, mainly belonging to the remains of the Scythian-Gaita-Thrace culture [Meljukova, 1971: 39-54]; scattered in Crimea and the middle-lower Don River [Smirnov, 1984: 27], belonging to Scythians [Shul'ga, Koltuhov, Vybornov, 2019: 83-96], Sauromatians [Smirnov, 1984: 27] remains; and in northern Black Sea, belonging to the Scythian-Hellenistic related remains [Marchenko, 1972: 122-134]. The latter two include types A and D. In the Dnieper River Basin, the ruling core area of Scythia is almost absent this kind of pottery (Fig. 7).

Roughly in the late Bronze Age, these kinds of pottery had commonalities with those in the early Iron Age, both in types and decoration styles. As shown in Fig. 8, type A is mainly seen in the Volga-Dnieper River basin and Crimea-northern Black Sea, and should be found in the whole period of 3<sup>rd</sup> B.C. to 3<sup>rd</sup> A.D., roughly consistent with the distributions of the Sarmatian culture. In 2<sup>nd</sup>-3<sup>rd</sup> A.D., during the Late Sarmatian period, they spreaded to the northwest Black Sea, Bosphorus kingdom in the lower Don River and Northern China; Type B also seen in 3<sup>rd</sup> B.C.-3<sup>rd</sup> A.D., distributed from the Volga River to the northwest Black Sea, which had the longest history since the Bronze Age, but did not appear in the Xianbei remains; Type C concentrated in northwest Black Sea and scattered Crimea-Northern Black Sea, probably related to the migration of the Geta peoples from the right bank of the Dniester River to the right bank of the North Donets River in the second half of the 4<sup>th</sup> B.C [Meljukova, 1971: 39-54]; Type D were found in the Crimea-Northern Black Sea in 2<sup>nd</sup> B.C.-1<sup>st</sup> A.D., and from the Xianbei remains in Northern China in 2<sup>nd</sup>-3<sup>rd</sup> A.D.

Such materials of Xianbei remains have the weakest direct relationship with the northwest Black Sea. But have certain connections with the late Scythian, late Sarmatian, and the Bosphorus Kingdom in Crimea-northern Black Sea and the Volga-Dnieper River Basin.

#### **The functions of array-attached decoration ceramics**

Such potteries might be using as sacrificial vessels. In the Pre-Scythian-Scythian period, they were found in sacrificial pits. Such as Dolgi Bugor pit 2 in southern Crimea, which is round and its floor cutting in rock. The remained lower part has a diameter of 0.8 and depth of 0.45 M, be filled with pottery, stones, animal bones and ashes, including one large pottery with array-attached decoration (Fig. 9: 1), dating to 8<sup>th</sup>-6<sup>th</sup> B.C [Tihomirov, Kropotov, 2020: 145-151]. Similar as Lake Dhalilgach settlement H10 located in western Crimea, where the pottery filling with dolphin bones, dating to 4<sup>th</sup>-3<sup>th</sup> B.C. [Smekalova, Kutajsov, 2017: 199-209] (Fig. 9: 2). And another exam-

ple was seen in Sary-Su kurgan 1 pit 3, located in the front of the Crimea Mountains, dating to the second half of 4<sup>th</sup> B.C. [Shul'ga, Koltuhov, Vyborno, 2019: 83-96] (Fig. 9: 3). In 2<sup>nd</sup>-1<sup>st</sup> B.C., some others were widely seen in the Geta-Dacian remains in northwest Black Sea [Sirbu, 2019: 105-136].

In China there are also some similar examples. Such as the Dongheigou site in Xingjiang. The stone circle X04 was found in house F1, which was filled messy, dismembered human and animal bones. Sheep astragalus, agate beads and 2 pieces of pottery were unearthed near the human bones, which including one pottery with array-attached decoration. This object was identified as human sacrifice remains, aged in 3<sup>rd</sup>-2<sup>nd</sup> B.C [新疆文物考古研究所等, 2009: 3-27] (Fig. 9: 4). As well as the Xianbei remain of Zhalainuoer cemetery in Northern China, where the researched type of pottery was filled with 40 sheep astragalus arranging in a circle [郑隆, 1961: 16-18]. Similar example was Akkermen II kurgan 10, found in northern Black Sea, which had 12 sheep astragalus filled in the pottery, belonging to Sarmatian remain, dating to 1<sup>st</sup>-2<sup>nd</sup> A.D. [Vjaz'mitina, Illins'ka, Pokrovs'ka, Ternozhkin, Kovpanenko, 1960: 22-135].

The pottery could be used as ossuary urn. For example, in Dolinyan tomb 29 in northwest of the Black Sea, inside of the ossuary urn were filled with fragments of human bones, fibula, etc. The tomb belongs to Poyanetsi-Lukashevskaya culture remains, aged in the second half of the 2<sup>nd</sup> to 1<sup>st</sup> B.C. [Smirnova, Megei, 2000: 156-171] (Fig. 10: 1). Similar as the ossuary urn unearthed from the Sholdaneshy cemetery in Moldova, dating to 8<sup>th</sup>-7<sup>th</sup> B.C., belonging to Thracian related remains of Basarab culture (Fig.10: 2). In Mutin cremation tomb, inside the pottery were found human bone fragments, fibula, spurs, etc., dating to the turn of the 1<sup>st</sup> A.D. And might be influenced by the Astorfa Culture and Przevorskaya Culture [Terpiulovskii, Bilinskaja, 2010: 45-54] (Fig. 10: 3).

Such pottery might be used as cooking utensils. The array-attachments may have a snap or heat resistant function. In Xianbei remains and the samples found in Xinjiang, the surface of potteries commonly were covered with heavy soot (Fig. 11).

During the research period, most potteries were found in tombs, and were preserved in good condition. But some samples found in Greek cities from Crimea and Bosphorus kingdom were in fragments, which might also be used as cooking utensils or tablewares. Such as the examples found in the Bulganak in Crimea, dating to 1<sup>st</sup> B.C.-1<sup>st</sup> A.D. [Vlasov, 1997: 204-303] (Fig. 12: 1-3). Also seeing in the Dzhiginka and Chekups-2 settlement in Bosphorus kingdom, dating to 2<sup>nd</sup>-3<sup>rd</sup> A.D. [Klemeshova, 2021: 246-256] (Fig. 12: 4-8).

The pottery might be an identification of female. According to the research by B. P. Vlasov,

around the beginning of 2<sup>nd</sup> A.D., these pottery with oval array-attached decoration were common seen in female tombs in the Volga-Don River, northern Black Sea, and the lower Dnieper River [Vlasov, 1997: 204-303]. The pottery was often combined with fibula, mirror, beads, etc., and the skeleton was common seen artificial deformation (Fig. 13).

### Conclusion

The potteries we discussed found in Xianbei remains are similar with those in Western Eurasian samples. In contrast, it has the most similarities with the Sarmatian remains in the Volga-Dnieper River Basin and the remains from the Bosphorus Kingdom in 2<sup>nd</sup>-3<sup>rd</sup> A.D.; secondly, was the Late Scythian and the Late Sarmatian remains in Crimea and northern Black Sea (Fig. 14).

During the research period, the tomb constructions concerning the researched potteries include pit, catacomb and niche. And the Middle-Late Sarmatian and Xianbei remains have high similarities both in tomb constructions and pottery types (Fig. 15).

It is important to notice that the researched type of pottery usually appeared concurrently with one another special type of pottery, which have strip-moustached shape ends decoration [魏坚, 2004: 55-102]. They were found both in Xianbei remains in Northern China and in the Pre-Scythian [Tihomirov, Kropotov, 2020: 145-151], the Late Bronze Age remains in Crimea-northern Black Sea [Gershkovich, Klochko, Evdokimov, 1987: 142-158] (Fig. 16).

It was common to see pottery with strip-moustached shape ends decoration in Xianbei remains (Fig.17: 1-6). And they had long deep tradition in western Eurasia. In the Pre-Scythian period, they were mostly found in the Ukrainian Steppes, belonging to the Cimmerians and other related remains (Fig.17: 7-10). In the late Bronze Age, were seen in the early Chernoles culture [Pokrovs'ka, Petrovs'ka, 1961: 129-144] (Fig.17:11), Lebedevka Culture [Savchuk, 1978:71-83] (Fig.17:12), Baigrudovsky Culture [Berezans'ka, 1964: 49-75] (Fig.17: 13) and Nova culture [Kavruk, 1985:83-94] (Fig.17: 14), etc. In addition, in the Early Middle Age, this factor also could be seen in the Turkic-related remains in Xinjiang [新疆文物考古研究所, 2016: 4-43], Mohe-related remains in northeast China [吉林省文物考古研究所, 1995: 29-47], and Shiwei-related remains in eastern Transbaikal.

In addition, Xianbei remains have many other similarities with concerning western EurAsian materials during the study period, such as astragalus, bracelet, spear and javelin head, etc. The mirrors of Han dynasty were commonly found in the Sarmatian remains, and some lacquerwares of Han Dynasty were seen in the remains of the Late Scythia in Crimea.

At present, there are almost no such potteries



found in Xiongnu and Xianbei remains in North Asia. The materials from Xinjiang and Central Asia were scattered, having diverse shapes and huge time span, mainly dating to 7<sup>th</sup> - 2<sup>nd</sup> B.C. (Fig. 18).

In the Early Iron Age, elements of Sarmatian culture could be seen in the archaeological remains of Xinjiang, such as artificial skull deformation, cauldron with horizontal ears, glassware with cutting decorations, etc. Therefore, the researched pottery might be introduced through Xinjiang to Xianbei remains in northern China.

Physical anthropological data showed that most of the ancient populations in Xinjiang during 11<sup>th</sup>-3<sup>rd</sup> B.C. were close to the Proto-Europeans; in the Han Dynasty, appeared the eastern branch of the Mediterranean, Syr Darya-Amu Darya of Central Asian and Mongoloid populations [中国社会科学院考古研究所等, 2014: 259-260]. The researches in mitochondrial DNA of Dongdajing and Qilangshan cemeteries of Xianbei remains in Northern China showed that they belonged to the Northern Asian type and had certain gene exchange with East Asia. Current Xianbei specimens showed a close genetic relationship with Xiongnu, but the polymorphic sites between the two were quite different, the mitochondrial DNA did not show the maximum similarities, and the phylogenetic analysis and multi-dimensional scale analysis were not good clustering distribution. In addition, one specimen from the Lamadong Cemetery of Murong Xianbei remain belongs to a haplotype group unique to western Eurasia [周慧主编, 2010: 104-112]. The mitochondrial DNA of Yuanhu (元祐), a member of the Tuoba Xianbei royal family, also indicated that it might belong to the Northern Asian population [张雅军等, 2017: 195-197, 200]. A. C. Pilipenko et al.'s researched on the ancient DNA of the Sarmatians along the lower Volga River, which showed that nearly 13% of the mitochondrial DNA of the specimens were belong to the eastern Eurasian haplotype, indicating that there were certain eastern Eurasian components in their population genes [Pilipenko, i dr., 2020: 17-50].

As shown in this article, the array-attached decoration ceramics have deep connections with the western Eurasia, and may have functions such as sacrificial vessel, ossuary urn, cooking utensil, and female identity symbols. In 2<sup>nd</sup>-3<sup>rd</sup> A.D., the Alans came to the Crimea from the steppes of lower Don and lower Kuban River, became parts of the early medieval populations of the Crimea [Vlasov, 2001: 18-31]. This movement of people from east to west had an impact on the Bosphorus Kingdom and Crimea. The Xianbei remains in Northern China might have certain factors from the Late Sarmatians, Late Scythians and Bosphorus Kingdom. It also provides us clues for discussing the origins of the complex small clan groups within the Xianbei Alliance.

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## References

- Berezans'ka, 1964** – S.S.Berezans'ka. Keramika Bilogrudivskoi kul'turi (Za materialami rozkopok bilja s. Sobkivka). // *Arheologija*. V. XVI, Pp. 49-75.
- Daragan, 2011** – M.H.Daragan. Nachlo rannego zheleznogo veka v Dneprovskoi Pravoberezhnoi Lesostepi. Kiev: KNT, 2011. – 848.
- Dashevskaya, 1991** – O.D.Dashevskaya. Pozdnie skify v Krymu, // *Svod arheologicheskikh istochnikov*. D1-7. Moskva: Izdatelstvo «Nauka». – 146.
- Fomichev, 2009** – N.M.Fomichev. K voprosu o dukhovnoi culture obitatelei Krepostnogo i Podazovskogo gorodish I vekov n. e. // *Pyataya Kubanskaya arheologicheskaya konferentsiya: Materialy konferentsii*. Krasnodar, - 475.
- Guguev, 2019** – V.K.Guguev. Kurgany na Vostochnom uchastke nekropolya Tanaisa. // *Vestnik Tanaisa*. V. 5, Pp. 92-123.
- Gershkovich, Klochko, Evdokimov, 1987** – Y.P.Gershkovich, V.I.Klochko, G.L.Evdokimov. Novokievckaja litejnaja mfsterskaja i problemy hronologii sabatinovskih pamjatnikov Nizhego Podneprov'ja. // *Sovetskaja arheologija*, no. 2, Pp. 142-158
- Kavruk, 1985** – V.I.Kavruk. Novyi pamjatnik epohi pozdnei bronzy v centrash'noi Moldavii. // *Arheologicheskie issledovanija v Moldavii v 1981g*. Pp. 83-94.
- Khrapunov, 2008** – I.N.Khrapunov. The Vault with Openwork Plaque from the Cemetery of Neyzats in the Crimea. // *The Turbulent Epoch: New Materials from the Late Roman Period and the Migration Period*, Lublin, Pp. 189-218.
- Khrapunov, 2006** – I.N.Khrapunov. Pogrebeniya detei v mogilnika Neizats, // *Materialy po arheologii, istorii i etnografii Tavrii*. V. 12, chast 1, Pp. 161-250.
- Khrapunov, 2011** – I.N.Khrapunov. Podboinaya mogila s dvumya pogrebeniyami III v. n. e. yz mogilnika Neizats. // *Materialy po arheologii, istorii i etnografii Tavrii*. V. XVII, Pp. 192-214.
- Klemeshova, 2021** – M.E.Klemeshova. Lepnaja keramika poselenij jugo-vostoka Aziatskovo Bospora II-III vv. n. e. (predvaritel'nye rezul'taty izuchnija). // *Drevnosti Bospora*. T. 26, Pp. 246-256.
- Levitki, Haheu. 2011** – O.Levitki., V.Haheu. Necropola Hallstattiană târzie de la Giurgiulești în contextul culturalistoric de la Dunărea de Jos. // *Revista Arheologică*. vol. VII, nr.1-2, 2011, Pp. 55-71.
- Marchenko, 1972** – K.K.Marchenko. Lepnaja keramika V-III vv. do n. e. s gorodischa u stanicy Elisavetovskoj na Nizhnem Donu. // *Sovetskaja arheologija*. 1972, no. 1, Pp. 122-134.

**Meljukova, 1971** – A.I.Meljukova Naselenie Nizhnego Podnestrov'ja v IV-III vv. do n.e. // Liberov P.D., Guljaev V.I. (otv. red.) Problemy skifskoj arheologii. Moskva: Nauka, Pp. 39-54.

**Moshkova, 1963** – Pamyatniki prokhorovskoi kultury. Moskva: Izdatelstvo Akademii nauk SSSR, -56.

Pokrovs'ka, Petrovs'ka, 1961 – Pokrovs'ka E. A., Petrovs'ka E. O. Poselenija Kincja epohi bronzi bilja s. Velika Andrusivka. // Arheologija. V. XIII, Pp. 129-144.

**Pilipenko, 2020** – A.S.Pilipenko i dr., K voprosu o geneticheskom sostave sarmatskogo naselenija Nizhnego Povolzh'ja (dannye paleogenetiki). // Vestnik VolGU. T. 25, v. 4, 2020, Pp. 17-50.

**Savchuk, 1978** – A.P.Savchuk Pam'jatki lebedivs'kogo tipu. // Arheologija. V. 25, Pp. 71-83.

**Smekalova, Kutajsov, 2017** – T.N.Smekalova., B.A.Kutajsov. Severo-vostochnyj rajon nad oz. Dzharlygach. // Materialy k arheologicheskoj karte Kryma. Byp. XVIII, Sankt-Peterburg: Aletejja, Pp. 199-209.

**Sirbu, 2019** – V.Sirbu. Structuri de locuire și gospodărești, ateliere și gropi de cult în așezarea geto-dacică (sec. II-I a. Chr.) de la Grădiștea, jud. Brăila. Zancu A. (ed.) Structuri arheologice din așezările epocii fierului în spațiul tiso-nistean. Cluj-Napoca: Editura Mega, 2019, pp. 105-136.

**Smirnova, Megei, 2000** – G.I.Smirnova, V.F.Megei. Mogilnik tipa Poyaneshty-Lukashevka u s. Dolinyany (raskopki 1985, 1987, 1988). // Stratum Plus. №4, Pp. 156-171.

**Smirnov, 1984** – K.F.Smirnov. Sarmaty e utverzhenie ih politicheskogo gospodstva v Skiffii. Mosva: Izdatel'stvo "Nauka", 1984. – 184.

**Shul'ga, Koltuhov, Vybornov, 2019** – P.I.Shul'ga., S.G.Koltuhov. A.V.Vybornov. Skifskij kurgan Sary-Su 1 v predgrnom Krymu. // Istorija i arheologija Kryma. Vyp. X, Pp. 83-96.

**Terpilovskii, 2010** – R.V.Terpilovskii., L.I.Bilinskaja. Truposozhzenie znatnogo voina rubezha er na Seime. // Germaniya – Sarmatiya. V. 2. Pp. 45-54

**Tihomirov, Kropotov, 2020** – B.A.Tihomirov., V.V.Kropotov. Issledovanie gorodischa Dolgij Bugor v 2020 godu. // Istorija i arheologija Kryma. Byp. XV, Pp. 145-151.

**Vanchugov, 2013** – V.P.Vanchugov. Kimmeriiskie drevnosti v severo-zapadnov Prichernomor'e. // Brujako I. V., Samoilova T.L. (otv. red.) Drevnie kul'tury Severo-Zapadnogo Prichnomor'ja. Odessa: SMIL, Pp. 345-353.

**Vinogradov, 2020** – Y.A.Vinogradov. Novye issledovaniya na zapadnoi okraine poseleniya Artyushenko-1. //

Bosporskie issledovaniya. V. 11, Pp. 64-85.

**Vjaz'mitina, Illins'ka, Pokrovs'ka, Ternozhkin, Kovpanenko, 1960** – M.I.Vjaz'mitina., V.A.Illins'ka., Pokrovs'ka I.F., Ternozhkin O.I., Kovpanenko G.T. Kurgani bilja s. Novo-Pilipivka i radgospu "Akkermen". // Arheologichi pam'jatki URSR, tom VIII, Pp. 22-135.

**Vlasov, 1997** – V.P.Vlasov. Lepnaja kepamika pozdneskifskogo Bulganakskogo gorodischa. // Bahchisarajskij istoriko-arheologicheskij sbornir. V. 1, Pp. 204-303.

**Vlasov, 2001** – V.R.Vlasov. Lepnaja keramika nizhnedonsko-prikubanskogo oblika iz krymskih pamjatnikov sarmatskogo vremeni. // Maneriapy po arheologii, istorii i etnografii Tavrii. V. VIII, Pp. 18-31.

**Zelenchuk, 1974** – V.S.Zelenchuk, (ot. red.) Drevnjaja kul'tury Moldadii. Kishinev: Shtiinca, 1974, Pp. 22-25.

吉林省文物考古研究所, 1995 – 吉林省文物考古研究所: 《吉林永吉查里巴鞑鞑墓地》, 《文物》, 第9期, 第29-47页。

魏坚, 2004 – 魏坚主编: 《商都县东大井墓地》 // 《内蒙古地区鲜卑墓葬的发现与研究》, 北京: 科学出版社, 第55-102。

新疆文物考古研究所等, 2009 – 新疆文物考古研究所等: 《新疆巴里坤县东黑沟遗址2006-2007年发掘简报》, 《考古》, 第1期, 第3-27页。

新疆文物考古研究所, 2016 – 新疆文物考古研究所: 《阜康市西沟墓地、遗址考古发掘简报》, 《新疆文物》, 第1期, 第4-43页。

郑隆, 1961 – 郑隆: 《内蒙古扎赉诺尔古墓群调查记》, 《文物》, 第9期, 第16-18页。

中国社会科学院考古研究所等, 2014 – 中国社会科学院考古研究所等: 《拜城多岗墓地》, 北京: 文物出版社。

周慧主编, 2010 – 周慧主编: 《中国北方古代人群线粒体DNA研究》, 北京: 科学出版社, 2010年。

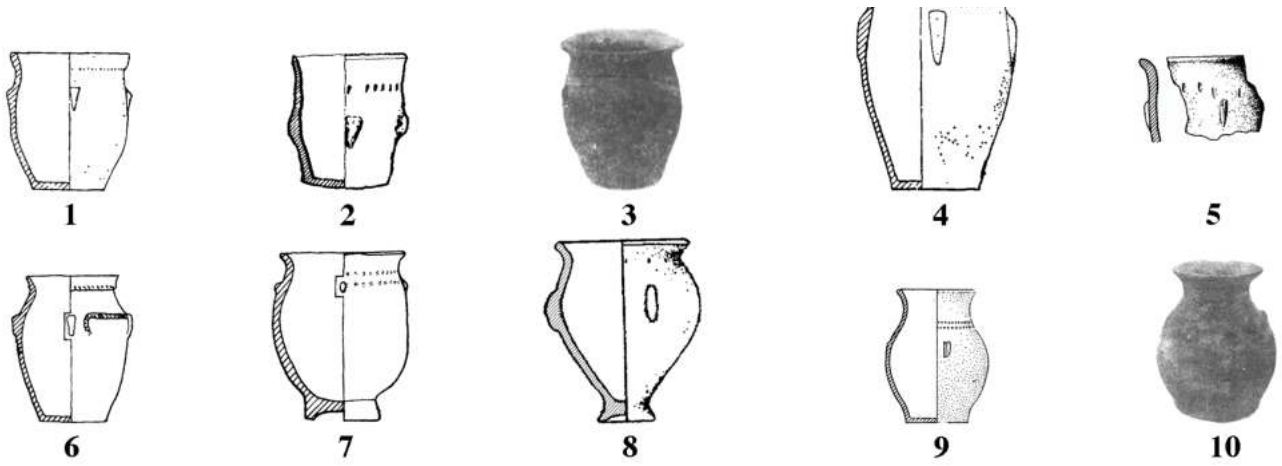
张雅军等, 2017 – 张雅军等: 《东魏皇族元祐的种族探寻》, 《南方文物》, 2017年第4期, 第195-197, 200页。



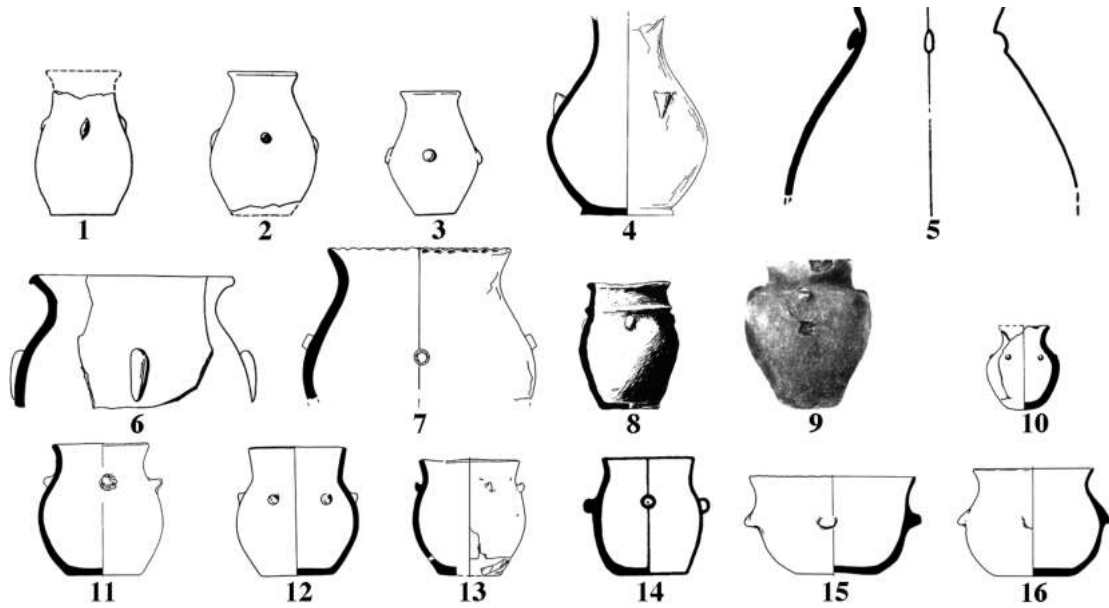
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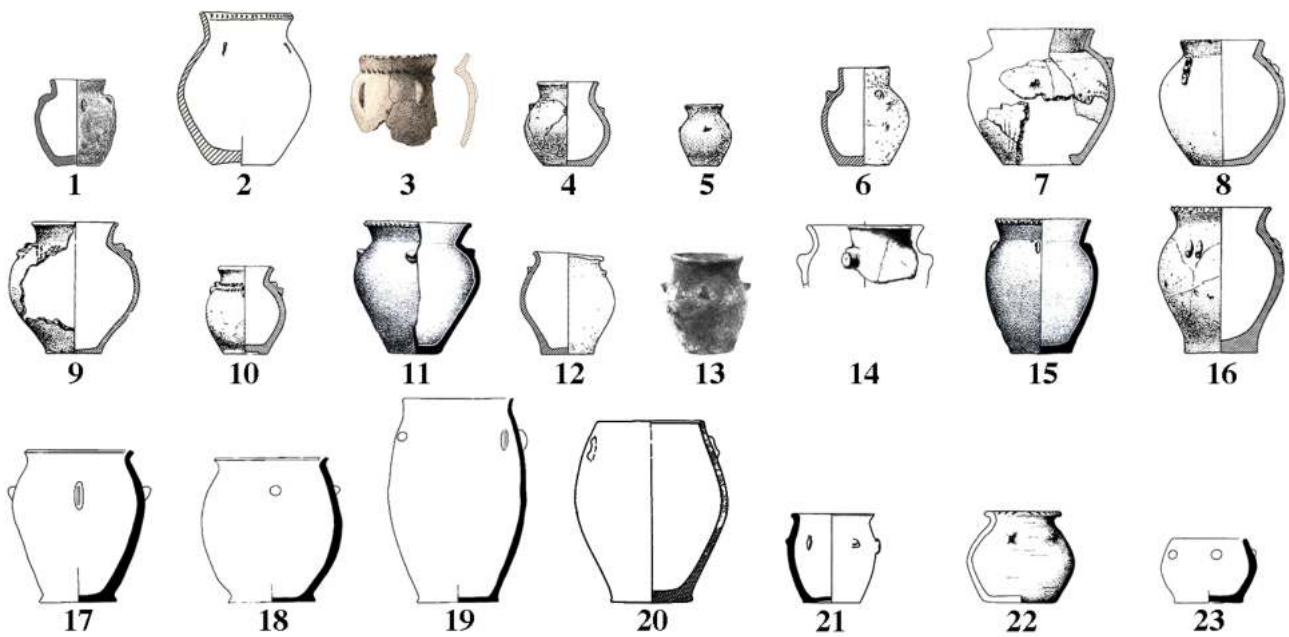


*Fig. 1. Array-attached decoration ceramics found in Xianbei remains in Northern China*  
 1. Youyu M4:2 2. Beijiapu M14:2 3. Tatuo 90M8:1 4. Youyu M17:1 5. Pittaogou 6. Dongdajing M6:3  
 7. Dongdajing M17:4 8. Zhainuoer 9. Shuoxianwang-M1:1 10. Tatuo 90M3:1



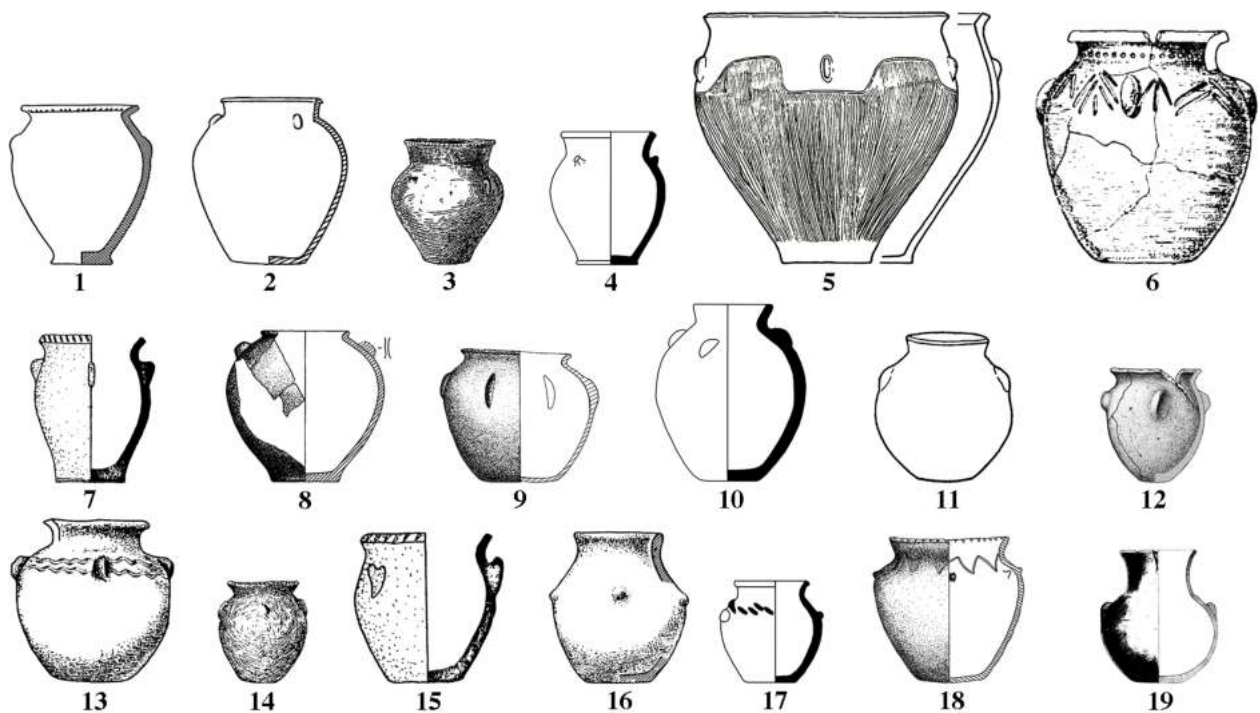
*Fig. 2. Samples found in Crimea and Northern Black Sea*  
 1-2. Scythian Neapolis city 3. Scythian Neapolis cemetery 4, 7. Scythian Neapolis Palace 5, 14. Olbia 6. Tarpanchi  
 8. Bitak tomb 147 9. Kozirka tomb 19 10. Bulganakskoe city 11. Neyzats tomb 123  
 12. Neyzats tomb 2 13. Neyzats tomb 300 15-16. Reka Chernaya tomb 35





*Fig. 3. Samples found in Bosphorus Kingdom*

1. Tanais kurgan 38 tomb 1 (1979-80) 2. Tanais tomb 43 (1982) 3. Podazovskoe city 4. Tanais section V house II 5. Tanais section VI house A (1956-57) 6, 12. Tanais basement B (1994-97) 7. Tanais section II layers 8. Tanais section V tomb 85 9. Tanais section I layers 10. Tanais section IV basement II 11, 15, 20. Azov city 13. Ilurat city house 12 14, 22. Lake Svinoe 16. Tanais section III layers 17-19, 23. Artyushchenko-1 site 21. Gorgippia house 6



*Fig. 4. Samples found between the Volga and the Dnieper River*

1. Kalinovka kurgan 8 tomb 5 2. Nagavskaya II kurgan 12 3. Akkermen II kurgan 17 4. Tretiaki kurgan 18 5. Mutin 6. Konstantinovsk kurgan 1 tomb 6 7. Ust-Kamenka kurgan 31 8. Aksai II kurgan 25 tomb 1 9. Aksai V kurgan 4 tomb 1 10. Nekhaevo kurgan 12 11. Upper Pogromnoye kurgan 18 tomb 6 12. Georgievskaya town VII tomb 7 13. Yasyrev III kurgan 1 tomb 7 14. Akkermen II kurgan 10 15. Ust-Kamenka kurgan 21 16. Yasyrev III kurgan 1 tomb 1 17. Tretiaki kurgan 76 18. Aksai V kurgan 3 tomb 1 19. Nizhnepavlov I

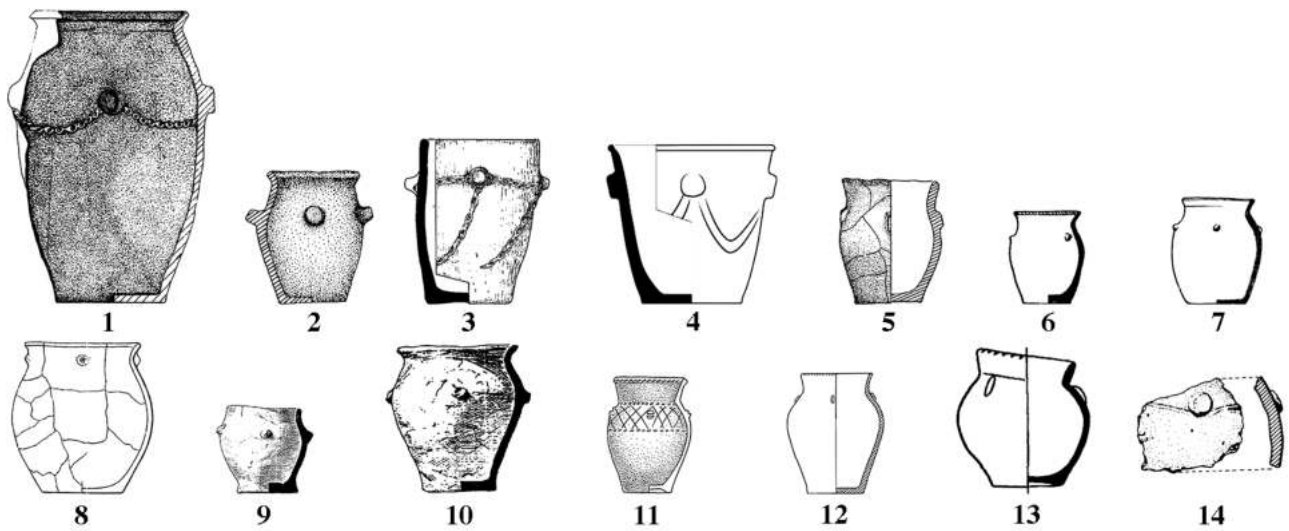


Fig. 5. Samples found in Northwest of the Black Sea

1. Grădișteea pit 124 2. Grădișteea pit 184 3. Gorni Dabnik pit C8 4. Malivska kurgan 5. Podoyma kurgan 3 tomb 5 6. Vasilyevka kurgan 1 tomb 1 7. Vasilyevka kurgan 1 tomb 3 8. Budești 9-10. Dolinyan tomb 29 11. Vasilyevka kurgan 23 12. Jinilor kurgan 8 13. Ogorodnoe-2 kurgan 4 14. Roșiori



Fig. 6. Types of the array-attached decorations

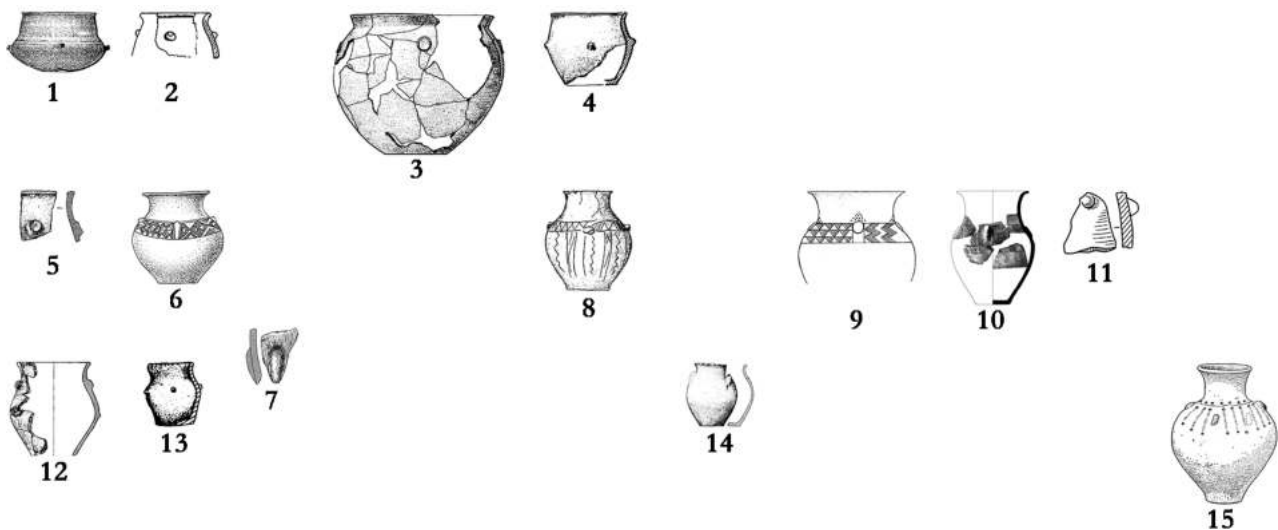


Fig. 7. The distributions of the potteries found in western Eurasian, from the Late Bronze age to the Scythian period  
 1. Khadzhillar kurgan 1 tomb 3 2. Cherneche II 3-4. Novokievka 5. Giurgiulești 6. Krasnoe 7. Chobruchi section I ò pit 61 8. Grigorievka kurgan 5 tomb 9 9. Zhabotyń 10. Zhabotyń-Skibovo 1. Kobyakovo III house 4 12. Nikolayevna 13. Semenovka 14. Sari-Su kurgan 1 pit 3 15. Mastukino kurgan



	Northwest Black Sea		Crimea-Northern Black Sea				Volga-Dnieper River Basin		Bosporus Kingdom		Xianbei remians	
3rd B.C.			▲	■	●			■	●			
2nd B.C.	●		▲	■	●	▲	◆	■	●			
1st B.C.	●		▲	■	●		◆	■	●			
1 A.D.			▲	■			◆	■	●			
2 A.D.	●	■	▲	■	●			■		◆	■	◆
3 A.D.	●	■	▲		●			■	●		■	◆

A ■ B ● C ▲ D ◆

Fig. 8. Distributions of the potteries in Xianbei-Sarmatian-Late Scythian period

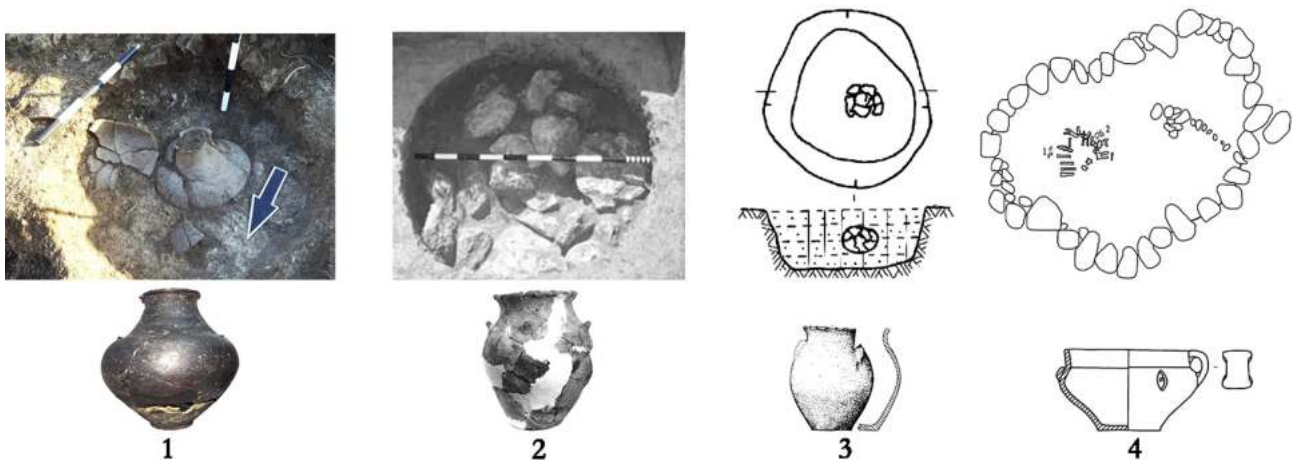


Fig. 9. Potteries were found in sacrificial pits

1. Dolgi Bugor pit 2. Lake Dhalilgach settlement H10 3. Sary-Su kurgan 1 pit 3  
4. Dongheigou stone circle X04

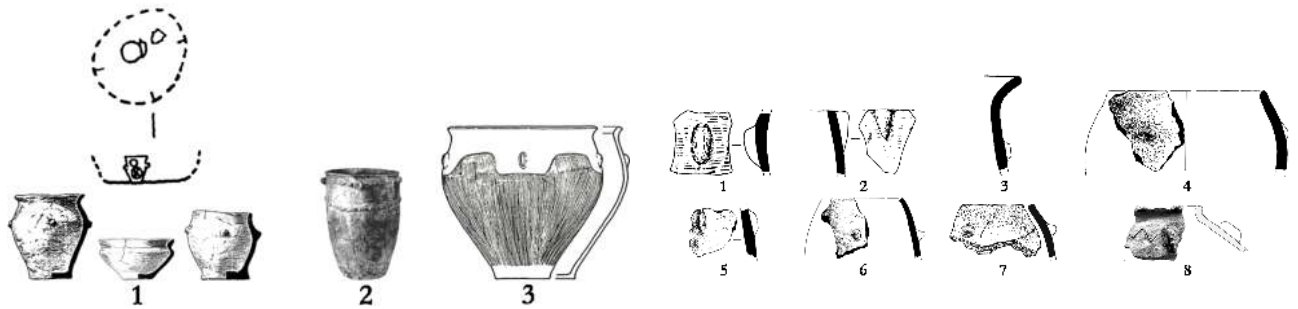


Fig. 10. Pottery using as ossuary urn  
1. Dolinyan tomb 29 2. Sholdaneshy 3. Mutin

Fig. 11. Sampls found in China covering with soot  
1. Youyu M17:1 2. Shuoxian Wang M1:1 3. Pitiaogou 4. Dongheigtou X04: 2 5. Zhailaimuoer

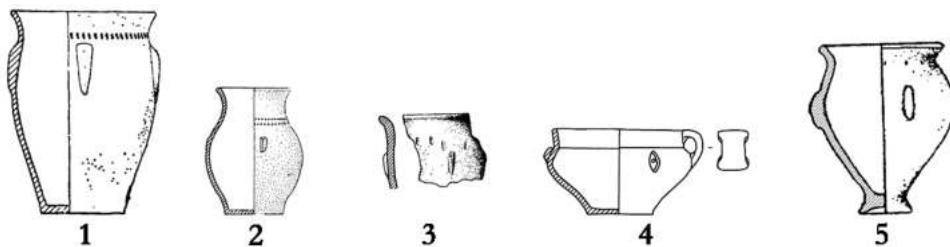


Fig. 12. The pottery Fragments found in Crimea and Bosporus Kingdom  
1-3. Bulganak city 4-6. Dzhiginka settlement 7-8. Chekups-2 settlement

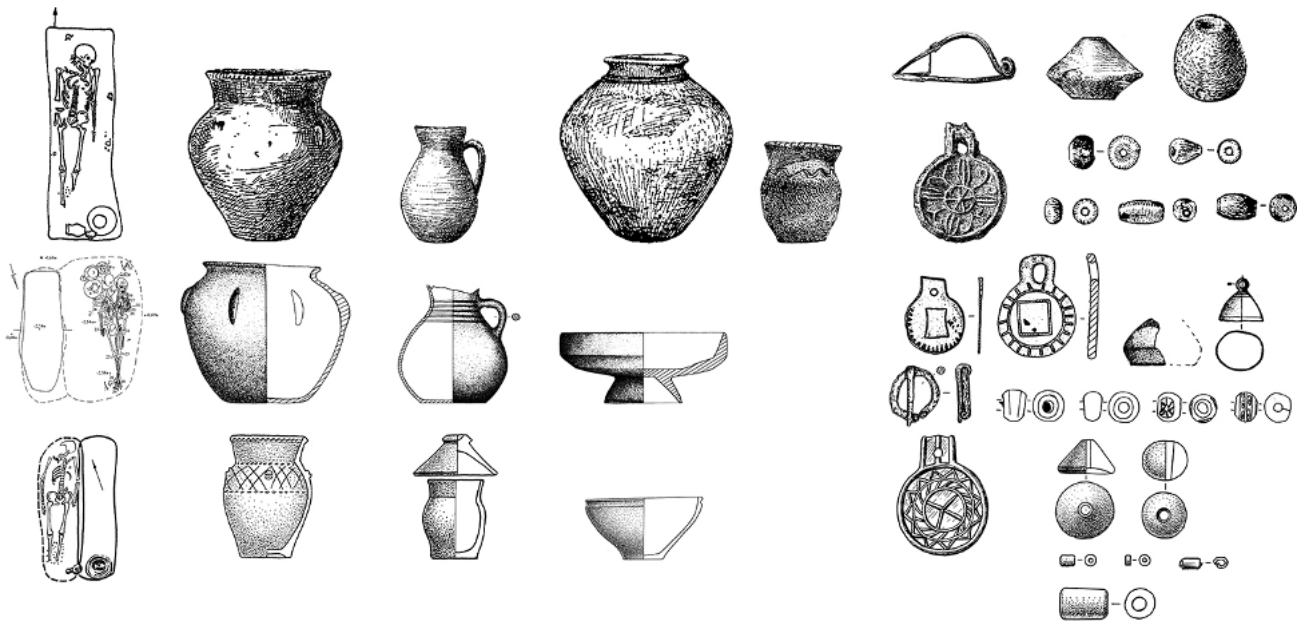


Fig. 13. The potteries found in Sarmatian female tombs

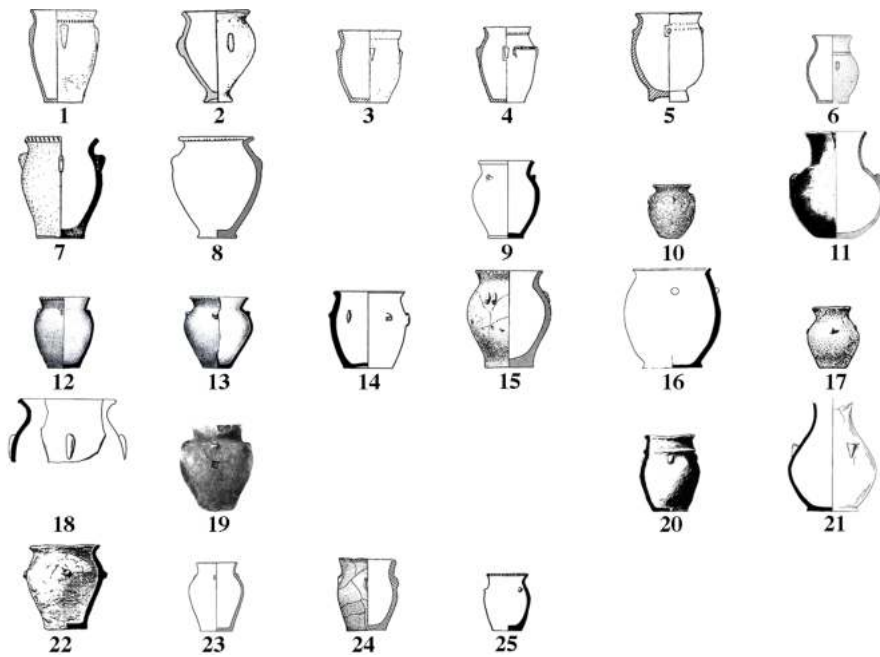


Fig. 14. Comparison between Xianbei and western Eurasian concerning remains

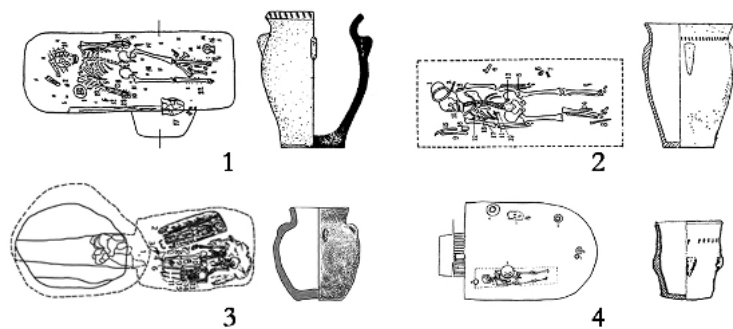


Fig. 15. Comparisons of tombs constructions and potteries  
 1. Ust-Kamenka kurgan 31 2. Youyu M17 3. Tanais kurgan 38 tomb 1 (1979-1980) 4. Beijiapu M14

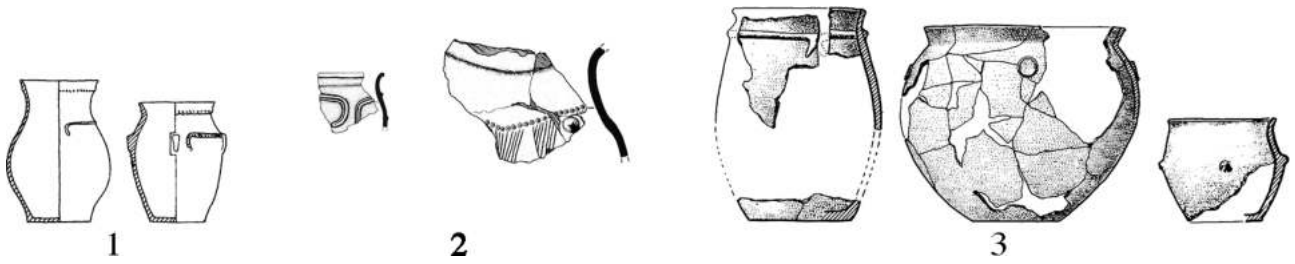


Fig. 16. Ceramics have array-attached and strip-moustached shape ends decorations found in one single context 1. Dongdajing M6 2. Dolgi Bugor pit 1 3. Novokievka

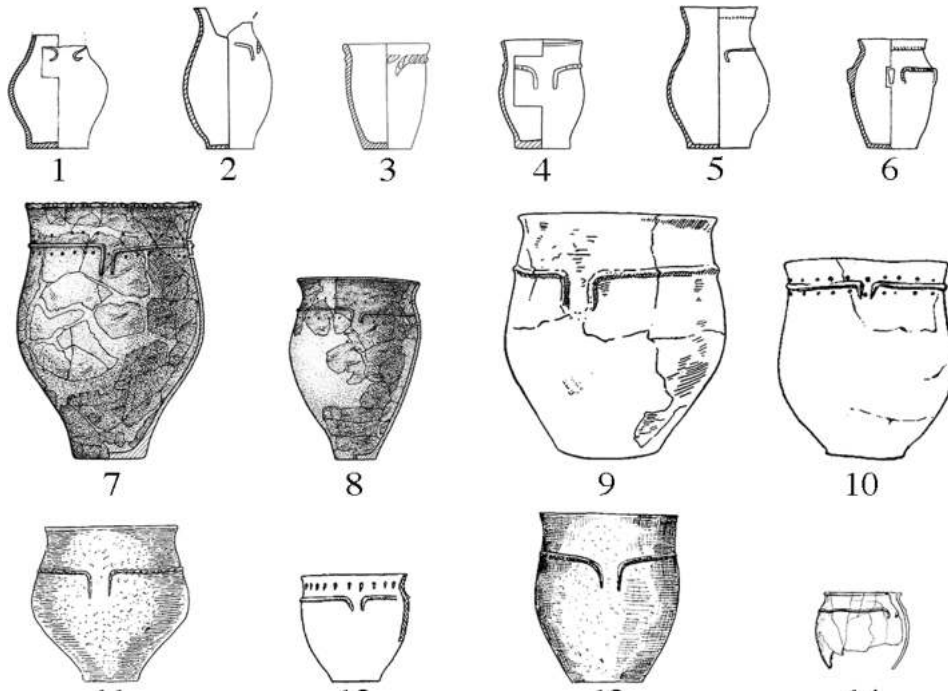


Fig. 17. Strip-moustached shape ends decorations ceramics found in Xianbei and western Eurasian regions 1. Mahuanghe M3:1 2. Haojiayao M1:2 3. Mogushan M5:1 4. Shichengzi M5: 1 5. Dongdajing M6: 4 6. Dongdajing M6:3 7-8. Matskovtsy 9. Sobkivka kurgan 8 10. Khukhri settlement 11. Velyka Andrusivka H32 12. Kozinci settlement 13. Sobkivka 14. Gansk

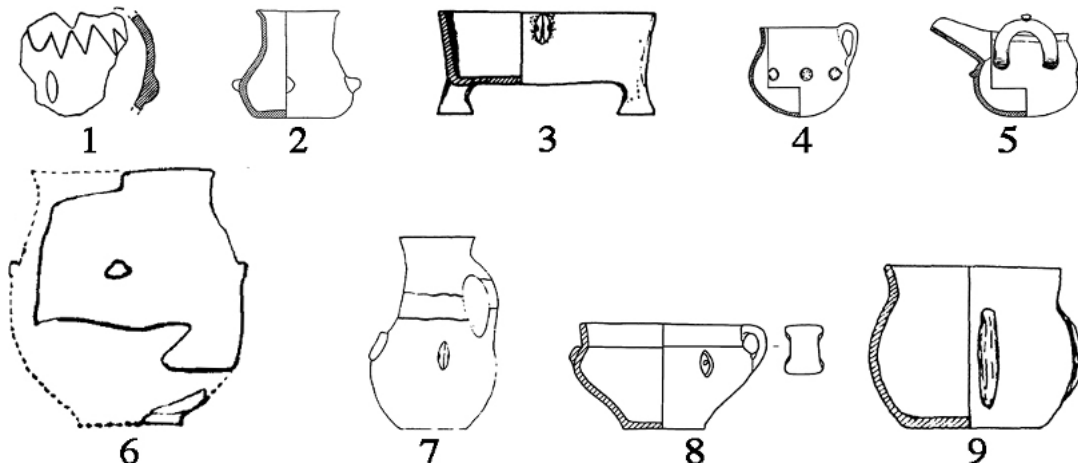


Fig. 18. Potteries found in Xinjiang in Early Iron Age 1. Hanqigou sample 7 2. Dongheigou M001:6 3. Shanshan Yanghai I M45:1 4. Shanshan Yanghai I M16:2 5. Shanshan Yanghai I M167:3 6. Hanqigou M1:13 7. Sangeqiao M3:11 8. Dongheigou X04:2 9. Shanshan Yanghai II M2206:1