

Greek Archaic Orientalising Pottery from the Barbarian Sites of the Forest-steppe Zone of the Northern Black Sea Coastal Region

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Introduction

Greek pottery found during the excavation of sites belonging to the local population of European Scythia is a source of great value. In particular, it serves as important evidence for all aspects of the problem of contacts between the Greeks and non-Greeks.

Greek pottery from the second half of the 7th to the early 6th century BC found in the barbarian sites and barrows of the forest-steppe zone is of special interest in the study of commercial relations between the Greeks and the population of the more distant regions. At the time of the Greek colonization, this population already had its own established culture, which had founded large, fortified settlements and was actively engaged in agriculture and cattle-breeding. Each group had their own complex system of contacts with Hallstatt-like cultures to the west.

The main aim of this article is to discuss briefly the finds of Greek Archaic pottery painted in the Orientalising style from the excavations of barbarian sites of the forest-steppe zone of the Black Sea coastal region. This is the earliest category of Greek pottery to be found in the sites of the barbarian world and it reflects the main lines of Greek-barbarian contacts during the first hundred years after the foundation of the Greek colonies in the region. According to the evidence of Eusebios (*Chron.* 95b), the earliest Greek settlement Borysthenes (Berezan') was founded in the lower South Bug region in 645/644 BC.¹ It was, thus, only after this date that the local people of the northern Black Sea coastal region entered into an economical relationship with the well-developed civilisation of Ionian Greece. From this time on, though, we can consider the whole territory as one vast contact zone, as East-Greek pottery clearly penetrated the whole area at the time of this first wave of colonization.

In this article, I shall concentrate on the principal objects and sites and focus primarily on the light they throw on the peculiarities of early Greek-barbarian connections. Most examples of the Greek pottery under consider-

ation were found during the excavations of the great, fortified settlements of the forest-steppe zone, settlements such as Bel'skoe, Trachtemirovskoe and Nemirovskoe, although several examples stem from barbarian villages and burial complexes. The earliest finds belong to the last third of the 7th century BC.

Review of the find

Among the Scythian burials that contained Greek imports barrow 1 in the burial ground near the village of Kolomak on the Vorskla river, near the Bel'skoe city-site should be mentioned. It contained two Chian trade amphorae, which S. Monachov has dated to the late 7th-early 6th century BC.² Moreover, two barrows in the Dnieper region, Boltyška, barrow 1, and Šandrovka contained fine ware pottery. At Boltyška, the neck of a round-mouthed North Ionian *oinochoe* has been found among the burial goods.³ It was decorated with the scene of a hunt. On one side can be seen the image of a goat, on the other a dog (Fig. 1). The fragment can be dated to c. 630-610 BC.⁴ At Šandrovka, an amphora of a type known from Tocra,⁵ dated to the second quarter of the 6th



Fig. 1. *Oinochoe neck from the Boltyška 1 barrow.*

century BC and decorated with a single frieze with a representation of a wild goat has been discovered.⁶

Several Scythian forest-steppe unfortified settlements have yielded finds of East-Greek Archaic pottery. The westernmost of these is Zales'e, where fragments of five Chian amphorae with white slip and bands of dark paint, single fragments of grey Lesbian and Ionian amphorae and several Ionian plates and cups from the early 6th century have been found (unpublished).⁷ Finally, during the excavations of the Scythian settlement Žabotin on the left bank of Dnieper, the fragment of an *oinochoe* frieze, probably from the late 7th–early 6th centuries BC was brought to light.⁸

A series of finds also came from excavations of major forest-steppe sites, each with a large territory and a defensive system. The best known places are Bel'skoe (the largest of all, amounting to about 45 hectares in area), Trachtemirov on the middle Dnieper, and Nemirovo on the middle Bug.

Bel'skoe. This great city-site is situated along Vorskla, the left tributary of the Dnieper. During the excavations of the eastern part of this site, several fragments of Attic or East-Greek pottery were found.⁹ The earliest fragment has a guilloche in the style of the Wild Goat *oinochoe*.¹⁰ Among the Greek imports discovered at Bel'skoe are also a Samian band vessel,¹¹ amphorae fragments,¹² and part of a North-Ionian dish from about the middle of the 6th century BC.¹³

Trachtemirov. This city-site on the right bank of the middle Dnieper has been excavated almost completely.¹⁴ In one of the buildings, a fragmented North Ionian bird-bowl was found.¹⁵ It was discovered in the context of the so-called ritual complex of Trachtemirov. This was the largest building uncovered at the site, with an ornamented clay altar in its right hand side, close to which the unique bird-shaped, hand-made vessel was found.¹⁶ Perhaps the Greek vessel, decorated with the representations of ducks, was used here in various ritual ceremonies. From other sources, we know that waterfowl played a role in the religious life of the local population.¹⁷ This bird-bowl is one of the earliest Greek imports found in the forest-steppe zone and has been dated to ca. 700–630 BC by M. Kerschner.¹⁸ A small piece of a Wild Goat *oinochoe* with a griffin head was also found at the site.¹⁹ This has a very detailed representation of high quality (Fig. 2), which allows us to date the vessel to c. 630–600 BC.



Fig. 2. *Oinochoe* fragment from the Trachtemirov city-site (after Kovpanenko 1968) (scale 1:1).



Fig. 3. Oinochoe from the Trachtemirov city-site (after Fialko & Boltrik 2003).

The defensive system of Trachtemirov was excavated recently, and during the investigations of the rampart a fragmented North Ionian *oinochoe* from the early 6th century BC was found.²⁰ Its belly was decorated with two friezes of wild goats and floral ornaments (Fig. 3).²¹

Pastyrskoe. During the excavations of this site the rims of two Ionian plates from the first quarter of the 6th century BC with floral ornaments were found – one of them with a representation of a duck dated to the first quarter of the 6th century BC²² – and several fragments of Klazomenian amphorae.²³

Chotovskoe. This, the most remote North Scythian settlement, situated near Kiev, yielded examples of East-Greek Archaic pottery. In one of the house complexes, several fragments of an Ionian banded cup were found; one of the trenches contained fragments of Klazomenian (?) amphorae.²⁴

Nemirovo. In the forest-steppe zone of eastern Europe, the most important site that has yielded a collection of Greek Archaic pottery is Nemirovo – a



Fig. 4. Fragments of the bird-bowl from Nemirovo.

large barbarian settlement, situated on the left bank of the middle southern Bug. The Greek materials gathered here date to between the third and the fourth quarters of the 7th century BC. The finds are very representative for a remote barbarian site and seem to reflect a high level of contacts with the Greeks. They give the impression of being a batch of goods that had come on the market as a single whole and somehow reached the barbarians. In comparison with the finds from Nemirovo, the remaining Archaic Greek pottery finds from barbarian sites in the forest-steppe zone are less numerous.

These materials, gathered during only three years of investigations (1933, 1946, and 1948), are kept in the State Hermitage Museum in Saint Petersburg.²⁵ They have only been partially published, first by B.V. Farmakovskij at the beginning of the 20th century,²⁶ and then by N.A. Onajko in 1966.²⁷ The collection as a whole, however, remains unpublished. The finds in question are quite numerous as well as important in other aspects: they have a stylistic and chronological significance, and can shed significant light on issues connected with the early period of contacts between the Greeks and the barbarians of the northern Black Sea coastal region.

The collection of Archaic East-Greek pottery from Nemirovo is, as noted above, representative and consists of about 100 pieces. Most of them are painted pottery, but there are also several fragments of East-Greek Archaic

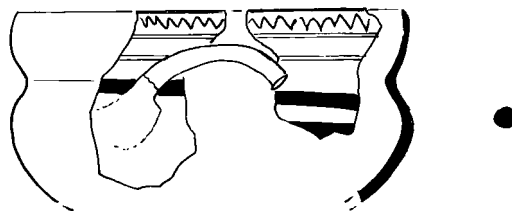


Fig. 5. Milesian (?) cup from Nemirovo (reconstruction).

amphorae – Lesbian, Klazomenian and Chian.²⁸ The most remarkable fragments are described below.

Of special interest are two fragments of a bird-bowl, painted in the sub-geometric style (Fig. 4). One fragment, a piece of the belly, is on the outside decorated with bands of dark triangles and hatched squares. Its interior is covered with dark paint. The clay itself is brown, the paint black and dark brown, and the slip brownish. Similar chains of triangles can be seen on a fragment found at Al-Mina in the level containing mixed late Geometric and early Orientalising pottery.²⁹ The second fragment seems to be the lower part of the same vessel. It is decorated with three narrow brown bands; the surface below these is covered with dark brown paint. The bowl may be dated to the third quarter of the 7th century BC. It has no parallels among the materials from the sites of the northern Black Sea coastal region.

The fragments of another cup (Fig. 5) also seem to belong to the second half of the 7th century BC. It is made of brown clay, and the interior is covered with dark brown paint. There is a zigzag ornament on the rim; below this are bands of red, brown and black paint. The cup was modelled in a rather delicate manner – the thickness of the pieces does not exceed 3 mm. This example, like the previous one, is also unique for the northern Black sea coastal region.³⁰ Several cups, analogous in shape and ornament, were discovered during excavations at Miletos.³¹ Perhaps the Nemirovo example is also Milesian in origin.

Part of the belly of a closed North Ionian vessel with a large ornamental emblem is also one of the earliest examples in the Nemirovo collection (Fig. 6). It may even be possible to date this example to a period not later than the third quarter of the 7th century BC.

Another rather early fragment comes from the foot of a crater, decorated with bands of dark colour on the white overlay.³² It is the earliest example of such a vessel to be found in this part of the world, and is very typical for the Greeks, but not for the barbarians living in the remote parts of Scythia. It may be dated to the 7th century BC.³³

To the rather uncommon type also belong the fragments of a big shoulder amphora:³⁴ three parts from the rim with a simple *guilloche*,³⁵ several small



Fig. 6. Fragment of a North Ionian vessel from Nemirovo.

fragments with lotus ornament from the neck, and a big fragment with the upper frieze with the image of a lion which can be dated to the last quarter of the 7th century BC.

However, by far the largest part of the fragments of Greek pottery from Nemirovo belongs to *oinochoai* decorated in the Wild Goat style. These had one of two shapes, both typical for the Archaic period: round-mouthed and trefoil. The clay of most examples is of various nuances of brown and yellow, while the slip is cream-coloured. The repertoire of painting on the fragments from Nemirovo is usual for East-Greek pottery of the Orientalising Style: wild goats, deer, lions and dogs. On many examples we can see bands of friezes divided by *guilloches*. Neither purple and white subsidiary colours, nor engraving are seen. From the manner of painting we may conclude that the majority of the vessels were produced in South Ionia.

The fragments of *oinochoai* from Nemirovo are often decorated with ornaments of lotus flowers and buds, typical for the Middle I and II Wild Goat style (ca. 630-600 BC),³⁶ and located on the shoulders or near the bottom of the vessels.

It is sometimes possible to distinguish fragments that originally came from the same vessel. Among them three fragments of a big *oinochoe* decorated with friezes of spotted deer and dogs (Fig. 7). The deer are represented running



Fig. 7. Oinochoe fragments from Nemirovo.

with their heads up; they have long ears and tiny horns, along their bellies are stripes containing two rows of dots. On one of the fragments a depiction of a dog chasing a deer was preserved. The friezes of the vessel were divided by bands of loop pattern, and there were filling ornaments consisting of large roundels, rosettes and half-rosettes of different types as well as swastikas and triangles. The manner of painting is typical for the third and the beginning of the fourth quarters of the 7th century BC.³⁷ Similar depictions of deer can be seen on *oinochoe* from Rhodes³⁸ and the sherd of a figure vessel from Emporio in Chios.³⁹

To the same period may belong some other fragments of an *oinochoe* found at Nemirovo, for example part of a shoulder panel with two swallows perched on the rosettes (Fig. 8). Above these may be seen a row of tongues, and to the left part of a large floral emblem. Similar depictions of swallows perching on palmettos, rosettes, goat's horns and the tails of animals can be seen on other vessels of the early Orientalising period.⁴⁰ The closest parallels to the painting on Nemirovo fragment may be seen on *oinochoai* from Rhodes⁴¹ and a vessel now in the USA.⁴²

A large fragment of a frieze with running goats is one of the finest examples of this style, demonstrating a very clear and delicate manner of painting (Fig. 9). The closest parallel we can find to this is the style of decoration on an



Fig. 8. *Oinochoe* fragments from Nemirovo.

oinochoe from the Temir-Gora barrow in the eastern Crimea, dated to about 640-630 BC.⁴³ L.V. Kopejkina has even suggested that the Nemirovo vessel and the Temir-Gora *oinochoe* were produced at the same workshop. The Nemirovo fragment also seems to belong to the third quarter of the 7th century BC.

The majority of the examples of East-Greek painted pottery, however, belong to the end of the third and fourth quarters of the 7th century BC.⁴⁴ Among these materials are two different fragments of *oinochoai* decorated with the depictions of goats (chased by dogs?), fragments with the depictions of dogs, a small fragment with part of a body of a strange, small animal – perhaps a young one, passed over by the grown-ups – a fragment of the neck and shoulder frieze of a trefoil *oinochoe* with the image of a lion with two swallows perching on its tail and many others.⁴⁵

Three fragments of two small closed vessels with globular bellies covered in dark grey (almost black) slip and narrow bands of orange paint belong to the late 7th-early 6th century BC.⁴⁶ The clay of the fragments is light brown. Such ware was produced in the second half of the 7th and first half of the 6th centuries BC in South Ionia and on Rhodes.⁴⁷

Pottery finds from the 6th century BC occur less frequently in the Nemirovo collection. Of note, though, is a fragment from a small amphora, decorated with only one frieze.⁴⁸ The clay of this fragment is bright orange, its paint dark



Fig. 9. Oinochoe fragment from Nemirovo.

red. Painted on the fragment, one can see parts of a goat's front leg and a big rosette. A series of such amphorae is known from the excavations at Tocra, from the levels belonging to c. 580-560 BC; one of the latest examples shows a stylistic similarity to the Nemirovo fragment.⁴⁹ The Nemirovo example can be dated to the second quarter of the century. Finds of such amphorae decorated with a single frieze are common on the sites of the Greek colonies of the Black Sea coastal region, most so in the settlement of Berezan'.⁵⁰

There is also a single example of classical Ionian banded ware in the Nemirovo collection – fragments of a trefoil *oinochoe* decorated with both wide and narrow bands of bright-red paint.⁵¹ The clay is rose in colour, the design painted on a light-rose overlay. A series of such banded *oinochoai* was found during the excavations at Istros. This allows us to reconstruct the shape of the Nemirovo *oinochoe* (Fig. 10). These same pottery finds from Istros also allow us to illustrate the development of this type. One of the examples from grave XVII/11 can be dated to the middle of the 6th century BC;⁵² others belong to the second half of the same century, and the most recent to the late 5th-early 4th centuries BC.⁵³ A similar vessel was found at the Anapa city-site (Taman Peninsula) in the northern Black Sea coastal region at a level with materials from the second half of 6th-5th centuries BC.⁵⁴ The shape of the Nemirovo example allows us to date it approximately to the second half of the 6th century BC.

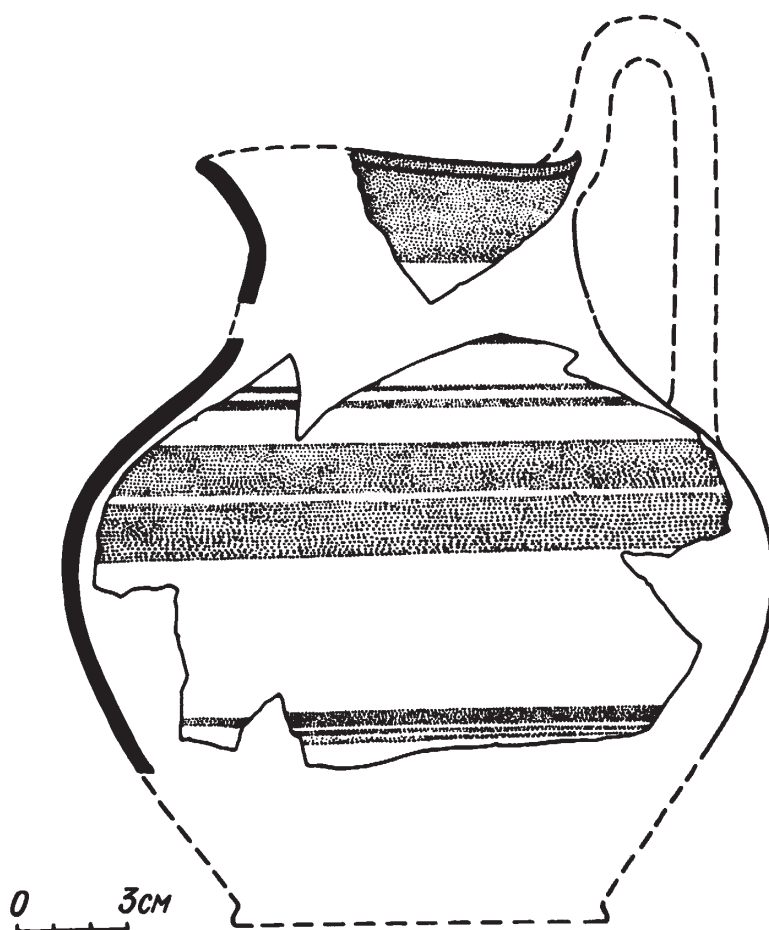


Fig. 10. Banded oinochoe from Nemirovo (reconstruction).

In general, the collection of East-Greek Archaic pottery from Nemirovo is widely representative and consists of surprisingly many examples of different types of Greek pottery for a remote barbarian site situated far from the Greek colonies. It should be noted that the collection of Greek pottery from this site remains the most plentiful of those gathered during the excavations of Archaic barbarian settlements and burial mounds of the region and seems to reflect a high level of contacts with the Greeks.

Several fragments from the Nemirovo collection show a stylistic similarity and evidently belonged to works produced at the same centre, perhaps even in the same workshop. Kopejkina has noted the stylistic similarity between the painting on some fragments from Nemirovo and the famous *oinochoe* from the Temir-Gora complex in eastern Crimea. She arrived at the conclusion that the *oinochoe* from Temir-Gora and some of the Nemirovo vessels had been made at the same workshop.⁵⁵

Therefore, in this case we are dealing with a rich collection of East-Greek Archaic pottery, dated to an early period, and mostly consisting of examples of the highest quality. The greatest part of the *oinochoe* fragments shows chronological and stylistic unity. This gives the impression of a single batch of goods, which had been on the market as a single whole, and which in one way or another was received by the barbarians of the Black Sea region in approximately the second half of the 7th century BC during the early period of Ionian colonisation. This raises the intriguing question – how and from which centre did this pottery penetrate the barbarian hinterland and reach Nemirovo? Perhaps the source of those imports was the settlement of Berezan' in the Lower Bug, which existed in the second half of the 7th century BC.⁵⁶ Berezan' pottery remains, however do not offer any close parallels in style.⁵⁷

After the middle of the 6th century BC, the situation changed in some way. The Greek pottery finds from this era at Nemirovo are rare, and their quality is not as high as those from the 7th century. Probably, the contacts between the Greek world and the local settlers of Nemirovo became less intensive or changed in nature.

Perhaps the peculiarity of the Nemirovo East-Greek pottery collection was due to this site's inhabitants' intensive contacts with the West. The culture of the local inhabitants had many western, Hallstatt features, and on the whole, in the Archaic epoch we can see a very strong Hallstatt influence on its development.⁵⁸ It is possible that the Greek Archaic pottery produced somewhere in southern Ionia penetrated this area at the same time as a wave of other western impulses.

A series of fragments of East Greek Orientalising pottery from the period 640-630 BC found quite recently during the excavations of Orgame in Romania and published by M. Mănucu-Adameşteanu⁵⁹ seems to strengthen this assumption. Though these fragments do not have close stylistic parallels with the Nemirovo finds, they are similar in date and of South Ionian production. Perhaps both Orgame and Nemirovo had a common "source" for Greek imports.

By the mid 6th century BC, a wave of Attic pottery begin to penetrate the region and as a result at the end of Archaic period, in the late 6th–early 5th century BC, Greek pottery was widely distributed, reaching the boundary between the forest-steppe and forest zones.

Conclusion

Based on the distribution of Archaic Greek pottery finds in the forest-steppe zone we can conclude that this type of pottery was fairly widespread in the barbarian world in the period connected with the Ionian colonization of the region and the first period of the Greek settlements. Quite possibly, the penetration of Greek Archaic pottery into the barbarian world reflects rather in-

tensive contacts established between the Greeks and different groups of the region's local population.

We have dealt here with only one category of Greek import – East-Greek Archaic pottery. If we include all the Archaic Greek objects discovered – even if only from the graves of a rather vast burial ground comprised of numerous Scythian barrows on the River Tjas'min⁶⁰ – we discover that every fourth burial contained Greek amphorae, plain pottery, beads, jewellery etc. This fact is further evidence of intensive contacts between the Greeks and the barbarians.

Of course, one of the main “sources” of those contacts was the settlement on Berezan'; but it is also quite possible, that it was not the only place, from which the barbarians could acquire Greek products. There may also have been numerous trade routes, including traditional waterways using the great rivers and their tributaries, land routes and both combined.⁶¹ As a result of the contacts between Greek settlers and different groups of the local population, Greek pottery was widely distributed throughout the vast territory by the end of the Archaic period.

The contacts between the Greeks and the barbarians of the forest-steppe zone are also reflected in the appearance in this region of simple grey wheel-thrown pottery (jars and bowls). The pottery in question co-existed with traditional hand-made wares; after the end of the Archaic period and the changes that took place in the early 5th century in the barbarian areas of the region, however, “local” wheel-made pottery disappeared. The finds of such ware correspond with the sites, where the examples of East-Greek Archaic painted pottery were found. The most western of these is Zales'e.⁶² G.I. Smirnova, who carried out a comparative analysis of this category of simple grey wheel-made table pottery and determined its date, concluded that under Greek influence the inhabitants of the barbarian sites learned the new technology of pottery making. But this phenomenon may also be explained by the possible presence and activity of Greek craftsmen at local settlements. It seems that during the Archaic period, the situation in the region was favourable for such kind of activity. This assumption perfectly explains the total disappearance from the region of the earlier type of pottery making, which was never revived in Scythia during the Classical era.

Archive material:

Kovpanenko, G.T. 1967. Otčet o rabote Trachtemirovskogo otrjada Sredne-Dneprovskoj ekspedicii, Institut Archeologii Akademii Nauk Ukrainskoj Sovetskoj Socialisticheskoj Respubliki za 1967 god, Naučnij archiv Institut archeologii Nacional'noj Akademii nauk Ukrainy, n. 1967/12, Kyiv.

Notes

- 1 We also have some archaeological evidence that strengthens the data of our written sources: Kopejkina 1973.
- 2 Monachov 1999, 34, fig. 1.
- 3 Farmakovskij 1914b, pl. 6-7; Onajko 1966, kat. 1.
- 4 Schiering 1957, 24-25.
- 5 Boardman & Hayes 1966, pl. 28.
- 6 Muchopad 1988, 111.
- 7 Ganina 1972. The Greek materials are unpublished. I am most grateful to O.D. Ganina for the opportunity to examine the Greek pottery from Zales'e.
- 8 Onajko 1966, kat. 3, pl. 3.9.
- 9 Šramko 1973; 1975, 123-124, fig. 12-13.
- 10 Šramko 1975, fig. 13.8.
- 11 Šramko 1973, fig. 3.1; 1975, fig. 12.3.
- 12 Šramko 1975, 123, fig. 12.1, 4, 5.
- 13 Šramko 1987, 124, fig. 60.2.
- 14 The excavations were carried out by the expedition of G.T. Kovpanenko.
- 15 Onajko 1966, pl. III.12.
- 16 Unpublished excavation report (Kovpanenko 1967, pl. 2). I am very grateful to G.T. Kovpanenko for permission to read the Trachtemirov excavation reports in the archive of the Institute of Archaeology in Kiev (Ukraine).
- 17 Ljapuškina 1961, 99-100.
- 18 Kerschner 2006, 237-238, Abb. 14; see also Cook & Dupont 1998, 27, fig. 6.1.
- 19 Kovpanenko 1968, 109, fig. 9.
- 20 Fialko & Boltrik 2003, 127-132, fig. 19-24.
- 21 See the parallel: Walter-Karydi 1973, pl. 105.879.
- 22 Farmakovskij 1914a, pl. 2.1,2.
- 23 Farmakovskij 1914b, pl. 2.1; Onajko 1966, kat. no. 42 & 49.
- 24 Petrovskaja 1970, 137, fig. 12; Onajko 1966, pl. 11.17; 5.10.
- 25 I am most grateful to the keeper, Dr. Galina Smirnova, for the opportunity to observe all these materials.
- 26 Farmakovskij 1914a, 30, pl. II.3.
- 27 Onajko 1966, 56, pl. 3.1-8, 10-11.
- 28 Vachtina 1998, 123, fig. 1; 130, figs. 4-8.
- 29 Robertson 1941, pl. 1.o.
- 30 Vachtina 2004, fig. 1.
- 31 Schlotzhauer 2000.
- 32 Vachtina 2000, 214, pl. II.4.
- 33 Walter 1968, pl. 74.409; pl. 75.414-415; pl. 77.423.
- 34 For an analogy to the shape, cf. Cook & Dupont 1998, 59, fig. 8.22.
- 35 These rim fragments were formerly interpreted as fragments of *dinoi*: Onajko 1966, pl. V.1; Vachtina 2000, 210, pl. I.7; pl. II.1,2. I am most grateful to M. Kerschner pointed me at the type of the vessel.
- 36 Cook & Dupont 1998, 46, fig. 8.13a.
- 37 Schiering 1957, 51-52.
- 38 Jacopi 1932-1933, 59, fig. 59 and 96, fig. 108.
- 39 Boardman 1967, pl. 54.634.
- 40 CVA, fasc. 1, Louvre II, pl. 6.2; pl. 7; Kopejkina 1973, 240.
- 41 Kinch 1914, 211, fig. 98.

- 42 CVA USA, fasc. 8, pl. 33.3.
- 43 Kopejkina 1972, 156; Cook & Dupont 1998, 36, fig. 8.5.
- 44 Some fragments from the recent excavations of Miletos showing a close similarity in style to the Nemirovo collection examples perhaps belong to an earlier period – the third quarter of the 7th century BC: Käufler 1999, fig. 1-2. But because of the fragmentary character of the Nemirovo finds, it is difficult to prove their date in terms of this period.
- 45 Vachtina 2000.
- 46 Vachtina 2000, 214, pl. III.1-3.
- 47 Vallet & Villard 1964, 90.
- 48 Vachtina 2000, 213, pl. I.6.
- 49 Boardman & Hayes 1966, pl. 28.580.
- 50 Kopejkina 1968, 29.
- 51 Vachtina 2000, 214, pl. II.3.
- 52 Alexandrescu 1966, 32, fig. 1.
- 53 Alexandrescu 1978, 98-101, pl. 68.
- 54 Alekseeva 1991, pl. 70.7.
- 55 Kopejkina 1972, 157, figs. 5a, 5b.
- 56 Solovyov 1999, 48.
- 57 Kopejkina 1982, 6-35.
- 58 Smirnova 1996, 80-81; 1998, 115-116; 2001, 42-43.
- 59 Mănucu Adameşteanu 2000, 195-201, fig. 1.
- 60 Il'inskaja 1975.
- 61 E.g. Domansky 1970; Šramko 1987, 18-24, fig. 1; Boltrik 1981, 59-60; 1990; Gavriljuk 1999, 264; Bandurovsky 2001, 16; 2004, 15.
- 62 Smirnova 1999, see map on p. 45.