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GLASSWARE OF 6TH – 5TH CENTURIES BCE FROM BURIAL AND RESIDENTIAL COMPLEXES OF BORYSTHENES

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Collections of glass vessels made with the core-formed technique from an ancient settlement on the island of Berezan are analyzed. The collection includes 8 alabastra, most of which are preserved in small fragments. Among the finds, there are items that have rare analogies in the Mediterranean or are found for the first time in the Northern Black Sea region. Type Al.2.V (515/510-495/490 BCE) is represented by only one item. In the Northern Black Sea region, a find from Berezan island is the only one so far. One fragment of alabastrum corresponds to the type Al.4.I (510-500 BCE). Two items of the type Al.9.I (480-425 BCE or 475-450 BCE) come from Borysthenes excavations. Type Al.14.I (475-450 BCE) is represented by the almost intact form. The most common in the Northern Black Sea region are alabastra decorated with a continuous zigzag pattern (type Al.16, 455/450-425/415 BCE). 3 items are found during the excavations of the settlement on Berezan island.

In the collection of glassware from Berezan, there are 6 amphoriskoi, which correspond to three types. Type Am.1.I (510/505-500/495 BCE) is represented by two fragmented vessels from the necropolis excavations in 1900-1901. Almost intact amphoriskos and a fragment of the vessel's wall from the necropolis excavations in 1900-1901 represent the type Am.2 (505-495/490 BCE). The latest amphoriskos from Berezan collection is an item of type Am.4.IV (430-420/405 BCE). One fragment of the amphoriskos does not correspond to any type, but stylistic features give the opportunity to assume the chronology of its usage within the 5th century BCE.

Using glass aryballoi by the population of Borysthenes is evidenced by only one fragmented item. Stylistic features of the preserved part of the vessel may indicate two variants of the type Ar.4.I, II, dating back to the first half of the 5th century BCE.

Thanks to information from the catalog of objects found on the island of Berezan by G.L. Skadovskyi in 1900-1901 and the photo album of the tables of finds, the complexes of finding for three vials were managed to find out. This allowed clarifying the dating of the complexes. Present-day excavations in Borysthenes show that the glass core-formed vessels were used not only during the burial rites but also in everyday life since a number of fragments of core-formed vessels were found in residential areas of the site. The available finds indicate that the import of glass vials to the settlement began in the late 6th century BCE, and lasted until the last quarter of the 5th century BCE.

Keywords: *collection, vial, core-formed technique, Northern Black Sea region (North Pontic region), Mediterranean*

Archaeological research on the Berezan island is conducted for over than hundred years. The notable literature treats history of the settlement, appearance and development of polis, architectural remains, material culture and spiritual life of the inhabitants. Against the general background of the very detailed description available for the material culture of ancient Berezan, the "white spot" is core-formed glassware of VI-I centuries BCE. Certain finds were published in the works summarizing the

immediate results of excavations and museum catalogs of State Hermitage (Saint-Petersburg) and Kherson regional history museum[1].

At the current moment there are 18 specimens mentioned among this category of finds. 16 specimens were preserved in fragments or archaeologically complete items and two others are known exclusively via notes in the field documentation. The finds are kept in the State Hermitage (2 it., inv. №№ Б 124, Б 125), Kherson regional history museum (7 it., №№ ХКМ-а-5288, 9611, 5701-5705)[2], Odesa archaeological museum of NAS Ukraine (1 it., inv. № 51786), Mykolaiv regional history museum (4 it., inv. №№ Б-2005/229, Б-2009/534, Б-2010/555, Б-2015/452), scientific funds of Institute of archaeology NAS Ukraine (2 it., Б-1971/АБ-275; Б-1984/АБ-210)[3]. The dispersal of collection made it difficult to analyze it in its entirety. Thus, we can raise an issue of core-formed glass in the Berezan settlement as an actual problem of modern archaeological science.

Typological analysis. Despite the small number of vessels, their variability permits to define several morphological groups as well as stylistically distinct types. The represented shapes include alabastra, amphoriskoi and an aryballos. Typological classification is performed by the scheme developed by A.M. Kolesnychenko[4] (definition in *italic* in the text below) and taking into account existing similar schemes[5] (listed afterwards).

Alabastra. The collection yielded 8 alabastra, mostly in small fragments. There are specimens with rare analogies in Mediterranean basin or those, which are unique for the North Pontic region.

Type Al.2.V (515/510 – 495/490 BCE)

Classification after: Harden 1981: form 1; McClellan 1984: type II.A.ii; Grose 1989: form I:1.

This type is represented by a single specimen in the Berezan collection (inv. № БЭ 2005. 36/229). It consists of several glued fragments. The vessel was made of white non-transparent glass and decorated with festoons of dark glass of unidentifiable colour (fig. 1: 2). The complete specimens of such alabastra had a body with wider lower part. Apart from several exemptions, they had funnel-shaped rim. Their bodies

[1] Абікулова М.Й., Лопушинський А.І., Сікоза Д.М. Антична колекція Херсонського краєзнавчого музею. Каталог. Херсон: Айлант, 2015. С. 69. Кат. 485, 486; Борисфен-Березань. Начало античной эпохи в Северном Причерноморье. К 120-летию археологических раскопок на острове Березань. Каталог выставки / ред. Сенина И.А. СПб: ГЭ, 2005. Кат. 197, 198.

[2] The author would like to express his gratitude to the director of Kherson museum T.G. Bratchenko for a permission to study the Berezan collection in 2016. I am also very grateful to the collaborators of scientific funds of the museum: sadly passed away M.Y. Abikulova and A.V. Kostenko for their help in the search of artifacts and deciphering related documents.

[3] The author is very grateful to the excavators D.E. Chistov and Yu.I. Illina and keepers of collections in Institute of archaeology NAS Ukraine and Odessa archaeological Museum NAS Ukraine for the provided information.

[4] Колесниченко А.М. Скляний посуд в техніці сердечника з Північного Причорномор'я: дис… к. іст. н. Київ, 2020. 366 с.

[5] Harden D.B. Catalogue of Greek and Roman Glass in the British Museum. Vol. I. Core- and Rod-Formed Vessels and Pendants. London: The Trustees of the British Museum, 1981. 187 p; McClellan M.C. Core-formed glass from dated contexts / Unpublished PhD dissertation. University of Pennsylvania. University Microfilms International. Ann Arbor (UMI 8505107). Michigan, 1984. 436 p.; Grose D.F. The Toledo Museum of Art. Early Ancient Glass. Core-Formed, Rod-Formed, Cast Vessels and Objects from the Late Bronze Age to the Early Roman Empire (from 1600 B.C. to A.D. 50). N-Y.: Hudson Hills Press, 1989. 453 p.

were decorated with dolfin-shaped handles. The inverse festoons covered the whole body.

Alabastra of the type Al.2.V are not numerous and are known mainly from Apennine peninsula and near-by islands. In the North Pontic region the find from the Berezan island is the only one so far known. A pair of the analogous alabastra are found in the Etruscan necropolis Cerveteri[6], and ritual complex Terravecchia di Grammichele (Sicily) dated around 500 BCE[7] Two specimens from Nola and Palestrina are kept in Brussels (№ 1548, 1547)[8]. Another two items with unknown provenience can be found in the private collection in England[9] and in the State Hermitage in Pizzati collection[10].

According to M. McClellan these alabastra can be dated to the timespan 525-500 BCE[11]. As far as this type is not numerous and almost completely devoid from the information on the chronology of the contexts, the vessels can only be dated via the chronology of the similar vessels ornamented by zigzags of purple or blue glass. There are 10 specimens of this variety in the North Pontic region, mostly coming from complexes of Olbia Pontica, encompassing 525-490 BCE[12]. Similar vessels are known in continental Greece, Thasos, Rhodes, Italy and Anatoly[13]. Chronology of complexes from Mediterranean and Pontic regions encompass the period of the last quarter of VI century – first decade of the V century BCE. However, the most probable period of production for the white glass alabastra decorated with purple threads can be quite limited: 515-500 BCE. In fact, they are so similar stylistically that they are most likely products of a single artisan. It seems that these alabastra with festoon decoration were made a bit later (500-490 BCE).

Type Al.4.I (510-500 BCE)

Classification after: Harden 1981: form 1; McClellan 1984: type II.A.vi; Grose 1989: form I:1.

The collection includes a single specimen of this type, found in the room № 25 (БЭ-2015, f.n. 452). It is represented by a wall fragment of a vessel with dark-coloured body decorated by densely spaced rows of small zigzags made of white glass (fig. 1: 1). The

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[6] Fossing P. Glass Vessels before Glass-Blowing. Copenhagen, 1940. fig. 32.

[7] Orsi P. Anathemata di una citta Sicula-Greca a Terravecchia di Grammichele (Catania) // Monumenti Antichi, 1907. XVIII. P. 149-150, fig. 8; Giammellaro A.S. I vetri della Sicilia punica. Roma, 2008. P. 58.

[8] Saldern A.V., Nolte B., La Baume P., Haevernick T.E. Gläser der Antike. Sammlung Oppenländer. Hamburg, 1974. S. 72.

[9] Constable-Maxwell A. Catalogue of the Constable-Maxwell Collection of Ancient Glass. London, 1979. no 14.

[10] Voščinina A.I. Frühantike Glasgefäße in der Eremitage (Gruppe der Salbgefäße in der Sandkern-Technik) // Wissenschaftliche Zeitschrift der Universität Rostock 1967. 16 Jhrg. Heft. 7/8. S. 557, Taf. 122: 3 r.

[11] McClellan M. Op. cit. P. 387.

[12] Колесниченко А.Н., Папанова В.А. Группа стеклянных сосудов конца VI в. до н.э. из некрополя Ольвийской пригородной усадьбы // Старожитності степового Причорномор'я і Криму. 2016. XIX. С. 148.

[13] McClellan M. Op. cit. P. 173; Weinberg G.D., Mcclellan M. Glass Vessels in Ancient Greece. Their History Illustrated from the Collection of the National Archaeological Museum. Athens, 1992. P. 80, no 4; Nenna M.-D. Les contenants à huile parfumée façonnés sur noyau dans les dépôts votifs des sanctuaires grecs : l`exemple de l`Artémision de Thasos // Annales du 18e Congrès de l'Association Internationale pour l`Histoire du Verre, 2012. P. 64, Fig. 1: a,b; Fossing P. Op. cit. P. 61, Fig. 30; Atik Ş. Iç-kalip tekniği ile yapilmiş Anadolu kayanaklicam kaplar // 1-st International Anatolian glass symposium. April, 26-27th 1988. Istanbul, 1990. P. 24, no. 1, res. 18.

known complete specimens of this type have a rounded body with a little wider bottom part. Some vessels have a roughly shaped body with impressions or a body narrowing to a bottom. Alabastra were made from dark glass, mostly blue, and were decorated with threads of white and yellow glass organized in regular zigzags all over the body.

In the North Pontic region there were two similar alabastra found in pit-dwelling № 16 in the Olbian suburb (О-1949, f.n. 4098; О-Некроп. 4 – 2016/334) and in the burial № А114 of the Nymphaion cemetery[14].

This type's range extended as far as Italy, Greece, Macedonia and Carthage. Analogous vessel is known from the Etruscan necropolis, burial № 281 (525-500 BCE) in Certosa (Bologna)[15]. Another specimen was detected in the burial № 80 in the Ritsona cemetery. The burial is dated to 525-500 BCE[16], or around 500 BCE according to W.A. Sparkes[17]. Similar alabastron is discovered in Trebenişte (Macedonia), from the complex of the late VI century BCE[18].

The finds from the North Pontic region improve the precision of the chronology of this type. The fragment of alabastron coming from Olbian suburb, pit-dwelling № 16 can be dated to the last quarter – late VI century BCE so far as it is the date for the first stage of the lifecycle of the pit-dwelling[19]. The Berezan fragment was found in the room № 25 (building МК-3), in the horizon of the phase II-А, which is dated to the third-fourth quarter of VI century BCE. It was the construction phase of the building before the fire in the last quarter of VI century BCE. The finds from the layer are mostly dated to the last quarter of VI century BCE[20]. Similar alabastron decorated with yellow and blue glass threads was found in the burial № 162 at the necropolis Volna-1. Complex included a black-figure hydria of the last quarter of VI century BCE, which could be a vessel of the Leagros group of the last decade of the VI century BCE[21]. The Nymphaion burial (containing a glass alabastron of this type) was dated to the late VI century BCE by the black-figure alabastron depicting a scene in palaestra[22]. Thus, the chronology of this type is well grounded on the complexes with precise chronology, generally encompassing 525-500 BCE. Three of seven dated complexes (containing alabastra of this type) can be placed in the late VI century BCE, probably 510-500 BCE.

Type Al.9.I (480-425 BCE or 475-450 BCE).

Classification after: Harden 1981: form 2, 3; Grose 1989: Class I:A, form I: 2, 3A; McClellan 1984: II.A.iv.

The settlement of Berezan yielded two specimens of this type. The fragment of disc-

[14] Грач Н.Л. Некрополь Нимфея. Санкт-Петербург: Наука, 1999. С. 65, табл. 65, 4.
[15] Zannoni A. Gli scavi della Certosa di Bologna. Bologna, 1876. P. 341, Pl. 94: 10; Fossing P. Op. cit. P. 65; McClellan M. Op. cit. P. 295.
[16] Ure P.N. Aryballoi and Figurines from Rhitsona in Boeotia. Cambridge, 1934. P. 76, Pl. 21.
[17] McClellan M. Op. cit. P. 294.
[18] Filow B. Die archaische Nekropole von Trebenischte am Ochridasee. Berlin und Leipzig, 1927. S. 94, Abb. 112, 4.
[19] Буйских А.В., Форнасье Й., Кузьмищев А.Г. Предместье Ольвии в свете новых украинско-германских исследований // Записки Института истории материальной культуры РАН. 2016. no. 14. С. 54.
[20] Чистов Д.Е., Ильина Ю.И. Исследования экспедиции Государственного Эрмитажа на острове Березань в 2015 году // Археологический сборник Государственного Эрмитажа. 2017. Вып. 41. С. 187-189.
[21] Beazley J.D. Attic Black-figure Vase-Painters. Oxford, 1956. P. 354-391.
[22] Грач Н.Л. Некрополь Нимфея. Санкт-Петербург, 1999. С. 65, рис. 26, табл. 137.

rim of white glass decorated by a thread of purple glass was found in 1971, f.n. АБ/2751971 (fig. 1: 4). One more alabastron is represented by a fragment of its body made of white glass (ХЕМ-а-5703). The latter bears a zigzag decoration made with purple glass thread (fig. 1: 8). The complete vessels of these alabastra have a cylindrical body with well-shaped cylindrical neck and disc-rim. The body's glass is white, while decoration is purple. Ornament consists of belts and zigzags situated in the middle of the body.

Alabastra of the type Al.9.I are well-known in Mediterranean and Pontic regions. The North Pontic sites yielded over 20 items. Olbia yielded 6 vessels[23]. Panticapeum – 8 items[24]. They are reported from Anapa[25], Hermonassa[26], Tuzla necropolis[27], and Volna-1 cemetery[28].

The necropolis of Kamiros on Rhodes yielded almost half of the finds from Mediterranean region[29]. Similar alabastra were also known from Athens[30], Megara[31] and other centres.

M. McClellan suggested to subdivide this type into two chronological groups reflecting the works of two generations of craftsmen: 500-475 BCE and 440-425 BCE[32].

The North Pontic finds opens a possibility to narrow down the chronology of this type. The well-dated burials with these alabastra were committed in the second-third quarter of V century BCE. The timespan of 475-450 BCE corresponds to the apex of popularity of these vessels and their production most likely happened during this period of time.

Type Al.14.I (475-450 BCE).

Classification after: Harden 1981: form 3; Grose 1989: form I: 3A,B; McClellan 1984: type II.A.xii.

Almost complete alabastron was found by G.L. Skadovskyi in 1900-1901 (ХКМ-а-

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[23] Фармаковский Б.В. Раскопки в Ольвии в 1902-1903 годах // Известия Императорской Археологической Комиссии. 1906. Т. 13. С. 161, № 32; Козуб Ю.І. Некрополь Ольвії V-IV ст. до н.е. Київ, 1974. С. 138, Рис. 134, 7; О-72, п.н. 256; Колесниченко А.М. Скляний посуд доримського часу з Південного теменосу Ольвії Понтійської // Північне Причорномор'я за античної доби (на пошану С.Д. Крижицького). Київ, 2017. С. 66, рис. 1, 7; О/Некроп.2007, п.н. 402; О/Некроп.2006, п.н. 260.

[24] Кунина Н.З. Античное стекло в собрании Эрмитажа. Санкт-Петербург, 1997. Кат. № 7; Кунина Н.З. Стеклянные сосуды, сделанные в технике сердечника (VI в. до н.э. – начало I в. н.э.) из некрополя Пантикапея в собрании Эрмитажа // Труды Государственного Эрмитажа. 2008. Т. XLI. Кат. № 13; Arveiller-Dulong V., Nenna M.-D. Les Verres Antiques du Musée du Louvre. Vol. I. Les contenants à parfum en verre moulé sur noyau et vaisselle moulée (VII siècle avant J.-C. – I siècle après J.-C.). Paris, 2000. P. 39-40, cat. 6-9; Odesa Archaeological Museum of the National Academy of Sciences of Ukraine, інв. № 51941.

[25] Алексеева Е.М. Греческая колонизация Северо-Западного Кавказа. Москва, 1991. С. 56, Табл. 17; Алексеева Е.М. Горгиппия // Античное наследие Кубани. 2010. Т. 1. С. 476-478, Рис. 8.

[26] Кунина Н.З. Стеклянные сосуды из некрополей Таманского полуострова в Эрмитаже // Таманская старина. 2002. Вып. 4. С. 111-112, Рис. 1, 4.

[27] Ibid. С. 109-110, Рис. 1: 1,2.

[28] Мимоход Р.А., Сударев Н.И., Успенский П.С. Новый «городской» некрополь архаического и классического времени на Таманском полуострове (предварительная информация) // Древности Боспора. Т. 21. С. 303, рис. 9, 2.

[29] Harden D. Op. cit., no. 85, 86, 88, 90, 92, 94; Saldern et al. Op. cit. P. 66.

[30] Ibid. no. 91.

[31] McClellan M. Op. cit. P. 176, no. 14.

[32] Ibid. P. 33-34.

9611)[33]. The vessel has a cylindrical body and dolphin-shaped handles. The neck and the part of the body are lost. Alabastron is made of dark-brown glass and decorated by 7 plain trails of white glass (fig. 1: 6).

The Pontic selection of similar alabastra includes around 7 specimens found in Panticapeum[34] and Olbia[35]. Two alabastra from the site of the southern Ukraine lost information on their provenance[36]. In Mediterranean region, similar alabastra were detected in Tanagra[37], Certosa[38].

The dating of Berezan alabastron as well as the chronology of the type as a whole is grounded on two assemblages. According to M. McClellan, an alabastron of this type, found in the burial № 351 of Certosa cemetery, can be dated to the timespan of 500-475 BCE[39]. Another vessel was found in the burial № 298 of Pichvnari necropolis. The burial goods indicate that the latter burial happened somewhere around middle V century BCE.[40] Taking into account the well-established fact that alabastra with cylindrical body (but another decorative pattern) were started to be produced only since the second quarter of V century BCE, we can limit the existence of such alabastra to the second quarter of V century BCE thanks to the find from Pichvnari.

Type Al.16 (455/450 – 425/415 BCE)

Classification after: Harden 1981: form 2,3; Grose 1989: I:2,3A, B, form I:3A/B; McClellan 1984: II. A. xiii.

Alabastra of this type have a cylindrical body, well-shaped cylindrical neck and disc-rim. They were produced of glass of various colours (green, blue, red, black). Zigzag decoration covered the whole body. The decorations were carried out with threads of white, blue, yellow, or red non-transparent glass.

The Berezan settlement yielded 3 items of this type (БЕ-2010, f.n. 555; inv. № ХЕМ-а-5705; inv. № ДЕ, Б-125). They are:

– a fragment of a neck with a disc-rim found in the upper layer in 2010 (f.n. 555). The vessel was made of semi-transparent greenish blue glass and its neck retained yellow ornamental threads (fig. 1: 7);

– a fragment of neck and disc-rim found by G.L. Skadovskyi on the Berezan necropolis in 1900-1901. The alabastron was made of non-transparent glass of reddish brown colour. The rim was decorated by glass threads of yellow and bluish green colours (fig. 1: 3);

– an almost complete vessel (without neck and rim) was found in the burial № 98 (f.n. 96) in 1900. The colour of the body is unidentifiable. The body is decorated with yellow and blue glass threads. Irization heavily damaged blue glass. It turned to almost white (fig. 1: 5).

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[33] Абікулова М.Й., Лопушинський А.І., Сікоза Д.М. Op. cit. С. 69, ном. 486.
[34] Кунина Н. Op. cit. кат. 14, 15, 16.
[35] State Historical Museum, Moscow, inv. № 26429; О-93/НГС/1071.
[36] Fossing P. Op. cit. P. 62, Fig. 33; Кунина Н. Op. cit. кат. 9.
[37] Weinberg, McClellan. Op. cit. P. 82, no. 9.
[38] grave 351, Zannoni Lavoro citato, 1876. P. 376, Pl. 117, 11.
[39] McClellan M. Op. cit. P. 192, 300.
[40] Kakhidze A., Shalikadze T. Pichvnari 4. Resultes of excavations conducted by the N. Berdzenishvili Batumi Research institute, the Joint British-Georgian Pichvnari expedition, and the Gonio-Apsarus Archaeological expedition: Glassware from the Southwestern litoral of Georgia. Tbilisi, 2009. P. 45, kat. 37.

Similar alabastra are widely-spread and well-known. There are over 50 specimens of this type in the North Pontic region. A notable series came from Panticapeum[41] and Olbia[42]. They are known from Nymphaion[43], Citea[44], Nikonion[45]. They are found also in the Anapa necropolis[46], cemeteries of Tuzla[47], and Volna-1[48]. The similar alabastra are numerous also in the Mediterranean region. Their range extended up to the whole Mediterranean region[49].

According to M. McClellan the alabastra of this type were produced and traded during 460-390 BCE[50]. However, the Pontic region finds can be dated more precisely: to the timespan of 455-415 BCE. Maximum of their distribution corresponds to the third quarter of V century BCE. Later specimens are less numerous and could be in a prolonged use by their owners.

Amphoriskoi. The collection of glass bottles from Berezan includes 6 specimens, which represent 3 types.

Type Am.1.I (510/505 – 500/495 BCE)

Classification after: Harden 1981: group 1, form 1, 1a; McClellan 1984: II.C.i; Grose 1989: class I: A, form I:1.

This type of Amphoriskoi to have high conical body with a smooth transition between shoulder and high neck. They were made of non-transparent white glass. The ornament consists of wavy elongated zigzags of purple, almost black, glass and covered the major part of the body.

The collection includes two fragmented vessels from the necropolis found in 1900-1901. The upper part of amphoriskos (ХКМ-а-5288)[51] of white glass had high handles and funnel rim, which were decorated by a purple glass thread (fig. 2: 2). Another specimen is kept in fragments (ХЕМ-а-5704). Seven shards are parts of its body and rim (fig. 2: 3). The amphoriskos of white glass had vertically fluted walls with ornamental pattern of elongated zigzags on them. The rim was decorated by a purple glass thread.

Similar amphoriskoi were found in many sites of the North Pontic region, mostly in Olbia. Here they were discovered in burial complexes[52] and in the city's quarters[53]. The

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41 Кунина Н. Op. cit. Кат. 17-22, 24-26.

42 Козуб Ю. Op. cit. С. 81, 140, 145, 146, Рис. 34: 6; Скуднова В.М. Архаический некрополь Ольвии. Публикация одной коллекции. Ленинград, 1988. С. 42; Колесниченко А.М. Скляний посуд доримського часу з Південного теменосу Ольвії Понтійської. Кат. 9, 25, Рис. 1: 10-11.

43 Грач Н.Л. Некрополь Нимфея. Санкт-Петербург, 1999. С. 96, табл. 137.

44 Молев Е.А., Молева Н.В. Боспорский город Китей. Часть II // Боспорские исследования. Supplementum 5. Симферополь-Керчь, 2016. С. 452, С. 131, Табл. III: 25.

45 Колесниченко А.Н. Стеклянные сосуды из Никония, изготовленные в технике сердечника // Stratum plus. 2017. № 3. Кат. 11, Рис. 5, 2.

46 Алексеева Е.М. Греческая колонизация Северо-Западного Кавказа… С. 56, Табл. 17; Сударев Н.И. Ч. XI. Религия. Погребальные обряды. Глава 2. Некрополи и погребальные обряды // Античное наследие Кубани. Т. II. Москва, 2010. С. 444, Рис. 19.

47 Сорокина Н.П. Тузлинский некрополь. Москва, 1957. Табл. III, 5.

48 Цокур И.В. Грунтовый могильник «Волна-1» // Древности Боспора. Т. 20. Рис. 5, 23.

49 McClellan M. Op. cit. P. 193-196.

50 Ibid. P. 46-48.

51 Абікулова М.Й., Лопушинський А.І., Сікоза Д.М. Op. cit. С. 69, ном. 485.

52 Скуднова В.М. Архаический некрополь Ольвии… Кат. 102, 238; Колесниченко А.Н. Стеклянные сосуды конца VI – нач. V в. до н.э., изготовленные в технике сердечника, из некрополя Ольвии в районе Широкой Балки // Стародавнє Причорномор'я. Вип. XI. С. 263, Рис. 1: 1, 3.

amphoriskoi of white glass and analogous morphology are known in Panticapeum, mostly from the necropolis[54]. These vessels were also recovered from the Tuzla cemetery[55].

The distribution range of these amphoriskoi encompassed continental and insular Greece, Macedonia, Italy, Spain and Anatolia[56].

M. McClellan suggested the date of 530-500 BCE for these amphoriskoi[57]. Numerous finds from dated complexes (incl. North Pontic sites) permit us to define the most probable period of circulation for these vessels, namely 510/505 – 500/495 BCE.

Type Am.2 (505 – 495/490 BCE)

Classification after: Harden 1981: form 1; Grose 1989: I: H, form I: 3; McClellan 1984: II. C. iii.

Complete shapes have an elongated body, a high neck with a funnel rim and high straight handles. Amphoriskoi were made of blue semi-transparent glass and were ornamented by threads of yellow, white and blue colours. Ornamentation was represented by trails and zigzags. The surface is deeply fluted in vertical direction.

The Berezan necropolis yielded almost complete amphoriskos with lost foot (inv. № ДЕ, Б-124) and a fragment of body's wall (inv. № ХЕМ-а-5702). The almost complete vessel belongs to the third variant of this type. The fragment belongs to this type but cannot be identified to a variant.

Similar amphoriskoi had conical bodies with steep shoulders. They had high handles, which were attached under a rim and on shoulders. The vessel was decorated by a thread of yellow glass running down from the rim to the neck and shoulders. The body was decorated by several zigzags with arch-shaped sides made of blue and yellow glass, which were situated approximately in the middle of the vessel height.

M. McClellan has never defined a typological taxon, which could be analogous to the type Am.2 of A. Kolesnychenko. However, similar amphoriskoi were defined by him as belonging to the type II.C.iv dated to 500-475 BCE.[58]. The definition of type Am.2 and analysis of the contexts, where its specimens were recovered, resulted in the higher precision of chronology for amphoriskoi of this type. Moreover, most dated specimens shared a narrow timespan of 505-495 BCE in their external (contextual) chronologies This timespan is the likely period of production for these amphoriskoi. On the other hand, taking into account the relative copiousness of finds of this type, we can suggest that the better-shaped amphoriskoi decorated with regular zigzags were produced a little later, in a short timespan during the first quarter V century BCE. However, this hypothesis needs a verification by some new finds from dated contexts.

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[53] Колесниченко А.М. Скляний посуд доримського часу з Південного теменосу Ольвії Понтійської… Кат. 19, 26.

[54] Кунина Н.З. Стеклянные сосуды, сделанные в технике сердечника… Кат. № 35, 36; Arveiller-Dulong V., Nenna M.-D. Les Verres Antiques du Musée du Louvre. Vol. I… Cat. 80.

[55] Кунина Н.З. Стеклянные сосуды из некрополей Таманского полуострова в Эрмитаже… Кат. 5, 6, Рис. 2: 1, 2.

[56] Колесниченко А.Н., Папанова В.А. Группа стеклянных сосудов конца VI в. до н.э. из некрополя Ольвийской пригородной усадьбы… С. 150.

[57] McClellan M. Op. cit. P. 51-52.

[58] McClellan M. Op. cit. P. 51-52.

Type Am.4 (430-420/405 BCE)

Classification after: Harden 1981: form 2; McClellan 1984: II.C.iv, vii; Grose 1989: IB, form I:2.

The latest amphoriskos of the Berezan collection is the specimen (Odesa Archaeological Museum, inv. № 51786) of this type dated to the time span of 430-420/405 BCE. In the North Pontic region they are mostly known in Bosporus (10 items) and Olbia (6 items)[59]. Bosporan finds were recovered in Panticapeum[60], cemeteries Volna-4[61], Tuzla, necropolises of Kepoi[62] and Tyramba[63], in Nymphaeum and Phanagoria. There are at least seven similar amphoriskoi coming from unknown centers of North Pontic region[64].

However, despite their multiplicity, the finds from well-dated contexts remain rare. Some finds were revealed in the burials dated earlier than the possible chronology of this type according to our current knowledge of the core-formed glass industry development[65]. Complex № 29 of Kepoi necropolis was dated to the middle – third quarter of V century BCE[66]. On the other hand, the burial from Tyramba was placed into much later period of IV-III centuries BCE. Outside the North Pontic region, these bottles are very common. In particular, they were recovered in Tarsus[67], in the islands of Milos[68], and Rhodes in the burial № 226 in Fikellura cemetery[69]. The east Pontic cemetery of Pichvnari yielded a similar amphoriskos coming from the burial № 244, well dated into V century BCE[70]: The later chronology is characteristic for such bottles found in Apollonia: burial chambers № 440 (second half of IV century BCE), № 448 (late V century BCE), № 645 (second half IV century BCE)[71].

Thus, the recovery contexts for amphoriskoi of the variant Am. 4.IV were dated to very distant chronological intervals. However, their controversive chronologies mostly encompass the second half of the V century BCE. And finally five of the seven well-dated contexts could co-exist during 430-420 BCE. This short timespan is the likely production time for this variant. The later specimens could reflect the prolonged life-cycle for the amphoriskoi of this variant.

Summing up the available data it is possible to suggest their principal period of existence in-between third and fourth quarters of the V century BCE.

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[59] Скуднова В.М. Архаический некрополь Ольвии… Кат. 114

[60] Кунина Н.З. Стеклянные сосуды, сделанные в технике сердечника…

[61] Сударев Н.И., Крайнева А.А., Русин Г.К. Погребальные памятники поселения Волна-4 // Боспорский Феномен. Население, языки, контакты. Санкт-Петербург, 2011. С. 331, рис. 1.

[62] Сорокина Н.П. Новые находки стеклянных сосудов V в. до н.э. на Таманском полуострове // История и культура Восточной Европы по археологическим данным. Москва, 1971. С. 79-80, 87, Рис. 3: 1.

[63] Коровина А.К. Тирамба (городище и некрополь). Итог археологических работ экспедиции Государственного музея изобразительных искусств им. А.С. Пушкина за 1959, 1961-1963 и 1965 годы // Сообщения Государственного музея изобразительных искусств имени А.С. Пушкина. Т. IV. С. 65, 66, 69, Рис. 16: 3

[64] Rohde E. Antikes Glas: Eine Vorlage aus den Beständen der Berliner Antiken-Sammlung // Forschungen und Berichte. 1980. Bd. 20. Kat. 3

[65] Скуднова М. Op. cit. С. 78.

[66] Сорокина Н. Новые находки стеклянных сосудов V в. до н.э. на Таманском полуострове... С. 87.

[67] Arveiller-Dulong V., Nenna M.-D. Les Verres Antiques du Musée du Louvre… Cat. 95

[68] Harden D. Op. cit. no. 213, 215

[69] Ibid. no. 206

[70] Kakhidze A., Shalikadze T. Op. cit. P. 39-40, no. 26, tab. VIII

[71] Младенова Я. Предмети от стъкло и алабастър от некропола на Аполония // Аполония. Разкопките в некропола на Аполония през. 1947-1949 гг. София, 1963. Таб. 163, № 990-993.

There is a fragment of amphoriskos (Бер. 1984. АБ/210), which can not be identified to a certain type. However its general stylistic peculiarities indicate that it was produced in V century BCE.

Aryballoi

The glass aryballoi in the Berezan settlement are attested by a single fragment (БЕ-2009/534). The stylistics of its decoration could belong to one of the two variants of type *Ar.4.I,II,* both dated to the first half of the V century BCE. The vessels with similar rim decoration are known from Olbia, Panticapeum, Nikonion, and Pichvnari necropolis[72]. Context of the Berezan finds indicates that it can be dated to 480-470 BCE.

There is also a non-identifiable fragment (inv. № ХЕМ-а-5701) of a core-formed vessel of blue glass in the Berezan collection. There is an ornament of some wide belts and a single row of zigzags made of yellow and blue glass (fig. 2, 4). The sherd cold be a fragment of an amphoriskos or an oenochoe of the discussed stylistics (fig. 2, 6, 8). Its stylistic pattern is typical for core-formed vessels of V century BCE.

Analysis of contexts.

Contexts of recovery can shed additional light on the social, symbolic and utilitarian functions of core-formed glassware in the life of Pontic ancient Greeks. However, sites with the long history of research (such as the Berezan settlement) are prone to loss of the contextual information related to some finds. Taking into account that some excavations were carried out in relatively distant past and collections and documentation were dispersed in different museums and archives, it is no wonder that, sometimes, the reconstruction of contexts, also for well-known artefacts, can become an independent research problem. The solution is sought in comparative analysis of field documentation, notes in museum catalogs and inventories, codes and inscriptions on the artifacts under study. Following this way, we suggest a reconstruction of contexts for core-formed glassware discovered by G.L. Skadovkyi in 1900-1901. The reconstruction can be effectively compared with the better documented contexts of finds from recent works on the site.

The Berezan cemetery is relatively poorly known, namely its excavations by G.L. Skadovskyi in 1900-1901. The finds and documentation were distributed among different museums and archives and till now were not published in a single work. Here, we try to reconstruct contexts of discovery for some of the above-mentioned core-formed vessels coming from complexes of the Berezan necropolis.

We suppose that all the core-formed vessels kept in Kherson regional history museum (fig. 1) were obtained during the excavations of G.L. Skadovskyi in 1900-1901. The documentation of these works is kept in Scientific archive of Institute of history of material culture (Saint-Petersburg)[73], Kherson regional history museum and Odesa Archaeological Museum of NAS Ukraine. The analysis of this documentation helped us to define the complexes with the finds of core-formed vessels and establish a correspondence between vessels and complexes. The field diary and catalog of finds contain information on five finds of core-formed glass bottles:

[72] Кунина Н. Op. cit. кат. 56, 58; Kakhidze A., Shalikadze T. Op. cit. No. 8, tab. III, 8; Колесниченко А. Op. cit. С. 365, кат. 4.

[73] The author is very grateful to E.V. Chetverkina for her help in the search of information in the Scientific archive of IHMC (Saint-Petersburg).

1) 1900, fourth stripe, burial pit № 128, glass vessels with a number 96 (fig. 3, 1);

2) 1900, sixth stripe, nearby the fireplace № 6 and two amphorae with a № 347, there was the fragment of a glass vessel № 181 under the above-mentioned amphorae (fig. 3, 3);

3) 1900, the eighth stripe, child's burial № 372, glass vessels with № 200; (fig. 3, 2);

4) 1900, ninth stripe, the construction № 418, the stone pavement, under whom there was a child's burial in amphora № 422, glass fragment № 237;

5) 1900, glass vessel № 494, no information on a context.

Thus, four of five glass bottles mentioned in the field documentation came from meaningful contexts, which can be defined as assemblages connected with funeral rite.

Thanks to the catalog of finds in the Berezan settlement by G.L. Skadovskyi and photoalbum of finds[74], we were able to detect core-formed bottle № 96 (alabastron) from the burial № 128 is now kept in the State Hermitage (inv. № Б-125). Via the same reasoning, it is firmly established that amphoriskos with number № 200 from child's burial № 372 is also kept in the Hermitage (inv. № Б-124). The old inventory number № 181 written on a paper label, which is stuck to the neck of amphoriskos from Kherson regional history museum (inv. № ХЕМ-а-5288) proves that this vessel was found near the fireplace № 6. The chronology of these vessels (discussed in detail above) enables us to suggest that the burial № 128 is dated to 455/450 – 425/415 BCE, burial № 372 is dated to 505-495/490 BCE, the complex by fireplace № 6 is dated to 510/505 – 500/495 BCE. So, we able to link three glass bottles with their recovery contexts.

Let us treat in detail the three reconstructed contexts.

The burial 128 was discovered in 1900 on the fourth stripe. The burial chamber was excavated in soil loose sand, somewhat lower than the nearby pits. It was oriented from south-west to north-east. The supine skeleton pointed to the north-east with its skull. Two golden ear-rings were found near the skull in the position correspondent to their function. The core-formed bottle was found close to the skull. There were also 11 golden and 6 silver small beads, some beads of paste and glass, copper bracelet. Two clay figurines were found by the feet of the skeleton. One figurine was that of Priapus and another one depicted a goddess sitting in the throne with hair-dress and veil running down till her shoulders[75]. The chronology of core-formed glassware permits us to date this complex to 455/450 – 425/415 BCE.

Complex by the fireplace № 6 was revealed in 1900 on the sixth stripe. Here, two amphorae were found to the south-east of the centre. There were iron knife, a fragment of a core-formed glass bottle and sherd depicting a rearing horse[76]. This complex came either from a destroyed burial or rests of funeral feast. By the core-formed bottle fragment it can be dated to 510/505 – 500/495 BCE.

The child burial № 372 was found in 1900 on the sixth stripe during the excavation of a "hill". There were several skeletons lying nearby. The child's skeleton was recovered in a supine position, with a head pointing to east, north-east. The wrist of its right arm almost touched to a glass amphoriskos[77]. As far as there were no other finds,

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[74] Альбом фотоснимков из раскопок Скадовского // The Scientific Archive of the Institute for the History of Material Culture, Russian Academy of Sciences. F. 1. 1900. File 141a. P. 13.

[75] Скадовский Г.Л. Дневник раскопок на о. Березань 1900-1901 г. / The Archive of the Kherson regional history museum, № 57. Лист 46.

[76] Ibid. Лист 78.

[77] Ibid. Лист 98.

the burial chronology can be defined only thanks to the dating of the glass amphoriskos. It is dated to 505 – 495/490 BCE.

There are six more core-formed bottles found in 1900-1901, most likely in the cemetery, however the information of the contexts of recovery is till missing.

The recent excavations of the Berezan settlement proved that the core-formed glass vessels were used not only in the funeral rites, but also in the secular life, in the houses and blocks of the settlement. The fragment of the vessel (БЕ-2005.36/229) was found in the well № 87 (2005). By the authors of research, the well refill was connected to the phase II – B2 (complexes and deposits of the late VI- the first quarter of V century BCE). The sherd of alabastron (БЕ-2015/452) was found in the room № 25 (building МК-3) on the level of the horizon of the phase II-A, dated to the last half of the VI century BCE. The rim of the glass aryballos was found in the pit-dwelling № 46 jointly with attic black-figure and black-glazed pottery of 480-470 BCE.

Thus, the recent excavations brought to light core-formed bottles coming from quotidian, secular contexts, living blocks and houses, while glassware found in 1900-1901 came from the funeral contexts of variable integrity. The comparison of two data-sets (1900-1901 and recent) enables us to state that inhabitants of the Berezan settlement used the core-formed glass both in funeral and quotidian spheres of their lives.

Conclusion. The paper revealed the typological variability of core-formed glassware from the Berezan. Despite numerical insufficiency, the core-formed glass collection from the Berezan settlement bears a rich informational potential. Namely, it can shed new light on the chronology of glass vessels importation on the settlement, on the dates of certain types and complexes, and on the peculiarities of bottles circulation in the everyday life of the ancient Pontic Greeks.

The available data indicate that the core-formed vessels started to be imported onto the site by the late VI century BCE and this trade lasted till the last quarter of V century BCE. Some specimens found no analogies in the North Pontic region, thus, they were probably directly imported from the Mediterranean region. Thus, we can suppose a peculiar connection of the Berezan island with the yet unknown centre of production of these vessels.

On the other hand, the bottles of white glass enrich the largest selection of them in North Pontic region coming from the near-by Olbia. They indicate the similarity of trade connections of Berezan and Olbia. These vessels could be produced by a single workshop working probably in Rhodes, thus, adding the core-formed glassware to a list of possible Rhodian imports in the Berezan collection.

Analysis of the contexts of recovery of the vessels revealed the flexibility of their application by ancient Greeks. The analysis of archival documentation helped to reconstruct dating of three burial complexes with core-formed glassware excavated in 1900. The necropolis yielded the most glass bottles found in the Berezan island. On the other hand, a notable share of glass shards comes from living quarters of the settlement. They indicate the use of these vessels in the secular contexts of mundane life. Thus, core-formed glass vessels found their place both in the residential quarters and in burial complexes.

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Скляний посуд VI-V ст. до н.е. з поховальних і житлових комплексів Борисфену

Проаналізовано колекції скляних посудин, виготовлених у техніці сердечника, з античного поселення на острові Березань. У зібранні виділено 8 екземплярів алабастрів, більшість з них збереглися у дрібних уламках. Серед знахідок наявні екземпляри, які мають рідкісні аналогії в Середземномор'ї, або ж вперше зустрічаються у Північному Причорномор'ї. Тип Al.2.V (515/510 – 495/490 рр. до н.е.) представлений лише одним екземпляром. У Північному Причорномор'ї знахідка з о. Березань поки що є єдиною. Один фрагмент алабастру відповідає типу Al.4.I (510-500 рр. до н.е.). З розкопок Борисфену походить два екземпляри типу Al.9.I (480-425 рр. до н.е. або 475-450 рр. до н.е.). Тип Al.14.I (475-450 рр. до н.е.) представлено майже цілою формою. Найпоширенішими у північнопричорноморському регіоні є алабастри прикрашені суцільним зигзагоподібним орнаментом (тип Al.16, 455/450 – 425/415 рр. до н.е.). З розкопок поселення на о. Березань походить 3 екземпляри.

У колекції скляних флаконів з Березані налічується 6 екземплярів амфорисків, які відповідають трьом типам. Тип Am.1.I (510/505 – 500/495 рр. до н.е.) представлено двома фрагментованими посудинами з розкопок некрополя у 1900-1901 рр. Майже цілий амфориск і фрагмент стінки з розкопок некрополя у 1900-1901 рр. відносяться до типу Am.2 (505 – 495/490 рр. до н.е.). Найпізнішим амфориском з березанської колекції є екземпляр типу Am.4.IV (430 – 420/405 рр. до н.е.). Один фрагмент амфориску не визначається до типу, проте стилістичні ознаки дають можливість припустити його хронологію побутування в межах V ст. до н.е.

Використання скляних арибалів населенням Борисфену засвідчено лише одним фрагментованим екземпляром. Стилістичні ознаки збереженої частини посудини можуть вказувати на два варіанти типу Ar.4.I,II, які датуються в межах першої половини V ст. до н.е.

Завдяки інформації з каталогу предметів знайдених на острові Березань Г.Л. Скадовським 1900-1901 рр. та фотоальбому таблиць знахідок вдалося встановити комплекси виявлення для трьох флаконів. Це дозволило уточнити датування комплексів. Сучасні розкопки Борисфену свідчать, що використання скляного сердечникового посуду відбувалося не тільки у поховальному обряді, а й у повсякденному житті, адже низку фрагментів сердечникового посуду виявлено у житлових зонах пам'ятки. Наявні знахідки вказують, що імпорт скляних флаконів до поселення розпочався в кінці VI ст. до н.е., і продовжувався до останньої чверті V ст. до н.е.

Ключові слова: колекція, флакон, техніка сердечника, Північне Причорномор'я, Середземномор'я

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Fig. 1. Core-formed glass alabastra. Berezan.

Fig. 2. Core-formed glass amphoriskoi and other fragments. Berezan.

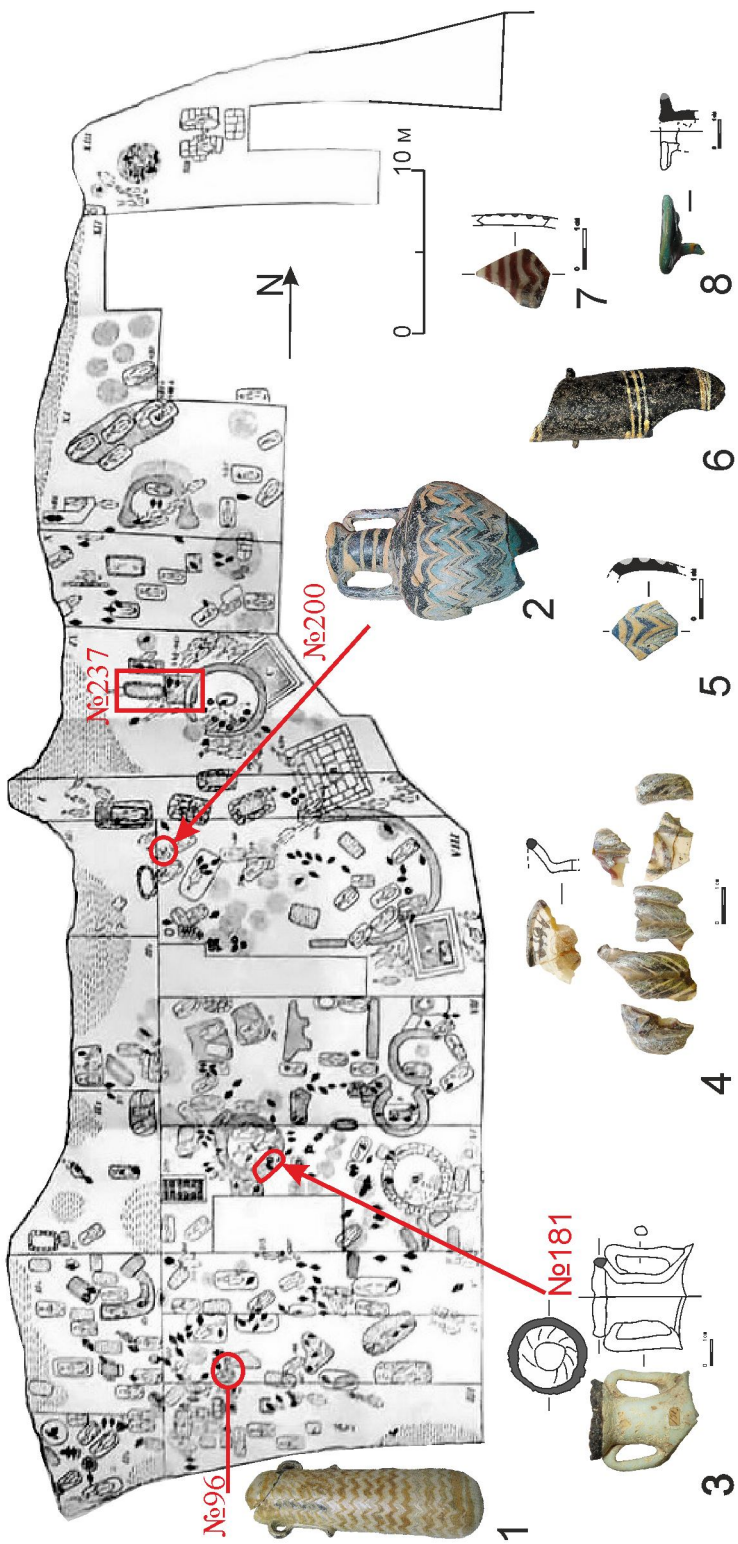

Fig. 3. Glass vessels from the Berezan necropolis (excavated in 1900-1901 by G.L. Skadovskyi). Necropolis plan after: Lapin 1966. Numbers on the plan are field inventory numbers of vessels found in these complexes. There are vessels with a known context: 1. alabastron № 96, inv. ДЕ № Б-125; 2. amphoriskos № 200, inv. ДЕ № Б-124; 3. amphoriskos (fragment) № 181, inv. № ХКМ-а-5288; and vessels with unknown attribution (but coming from the cemetery): 4. amphoriskos (fragment), inv. № ХЕМ-а-5704; 5. amphoriskos (fragment), inv. № ХЕМ-а-5702; 6. alabastron, inv. № ХКМ-а-9611; 7. alabastron (fragment), inv. № ХЕМ-а-5703; 8. alabastron (fragment), inv. № ХЕМ-а-5705. The complex № 418 yielded one of the non-identified fragments of core-formed glass (specimen № 237).