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Mediterranean Archaeology



Title: **Islamic glass from area U (2012–2013).**

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Journal: *Polish Archaeology in the Mediterranean* 24/1 (Research)

Year: 2015

Pages: 73 - 86

ISSN 1234–5415 (Print), ISSN 2083–537X (Online)

Publisher: Polish Centre of Mediterranean Archaeology, University of Warsaw (PCMA UW),
Wydawnictwa Uniwersytetu Warszawskiego (WUW)

www.pcma.uw.edu.pl www.wuw.edu.pl

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Keywords: Alexandria, early Islamic glass, Mamluk glass, tongued, scratched-engraved, marvered and enamelled decoration

الزجاج الإسلامي من المنطقة U في 2012 - 2013

Renata Kucharczyk

الملخص : إن أعمال التنقيب لفريق المركز البولندي لآثار البحر المتوسط من جامعة وارسو في المنطقة U في موقع كوم الدكة في الإسكندرية في عام 2012-2013 قد كشفت عن عدد من شظايا الزجاج لا بأس به والتركيب يتضمن مجموعتين زمنيتين مختلفتين : الحقبة الرومانية المبكرة إلى الرومانية المتأخرة والبيزنطية والإسلامية فترة صناعة الزجاج . وتتألف عادةً من أدوات مائدة الطعام المصنوعة من الزجاج العادي ، وهذه الأدوات بلا شك صناعة الإسكندرية وكذلك الأوعية الفاخرة المزينة بتقنيات مختلفة تمثل ربما الواردات من سوريا .

POLISH ARCHAEOLOGY IN THE MEDITERRANEAN (PAM)
Annual of the Polish Centre of Mediterranean Archaeology, University of Warsaw

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POLISH ARCHAEOLOGY IN THE MEDITERRANEAN

XXIV/1

RESEARCH



ABBREVIATIONS

<i>AA</i>	<i>Archäologischer Anzeiger; Jahrbuch des Deutschen Archäologischen Instituts</i> (Berlin)
<i>ANM</i>	<i>Archéologie du Nil Moyen</i> (Lille)
<i>ASAE</i>	<i>Annales du Service des Antiquités de l'Égypte</i> (Cairo)
<i>AV</i>	<i>Archäologische Veröffentlichungen, Deutsches Archäologisches Institut, Abteilung Kairo</i> (Berlin–Mainz am Rhein)
<i>BAAL</i>	<i>Bulletin d'archéologie et d'architecture libanaises</i> (Beirut)
<i>BAH</i>	<i>Bibliothèque archéologique et historique</i> (Paris)
<i>BAR IS</i>	<i>British Archaeology Reports International Series</i> (Oxford)
<i>BASOR</i>	<i>Bulletin of the American Schools of Oriental Research</i> (Ann Arbor, MI)
<i>BCH</i>	<i>Bulletin de correspondance hellénique</i> (Paris)
<i>BdE</i>	<i>Bibliothèque d'étude</i> (Cairo)
<i>BIFAO</i>	<i>Bulletin de l'Institut français d'archéologie orientale</i> (Cairo)
<i>BSAA</i>	<i>Bulletin de la Société d'archéologie d'Alexandrie</i> (Cairo)
<i>BSFE</i>	<i>Bulletin de la Société française d'égyptologie</i> (Paris)
<i>CCE</i>	<i>Cahiers de la céramique égyptienne</i> (Cairo)
<i>EtTrav</i>	<i>Études et travaux. Travaux du Centre d'archéologie méditerranéenne de l'Académie des sciences polonaise</i> (Warsaw)
<i>FIFAO</i>	<i>Fouilles de l'Institut français d'archéologie orientale</i> (Cairo)
<i>GAMAR</i>	<i>Gdańsk Archaeological Museum African Reports</i> (Gdańsk)
<i>GM</i>	<i>Göttinger Miszellen</i> (Göttingen)
<i>IAMS</i>	<i>Institute of Archaeo-Metallurgical Studies</i> (London)
<i>JARCE</i>	<i>Journal of the American Research Center in Egypt</i> (Boston–Princeton–New York–Cairo)
<i>JEJ</i>	<i>Journal of Egyptian Archaeology</i> (London)
<i>JGS</i>	<i>Journal of Glass Studies</i> (Corning, NY)
<i>JJP</i>	<i>Journal of Juristic Papyrology</i> (Warsaw)
<i>JRS</i>	<i>Journal of Roman Studies</i> (London)
<i>MDAIK</i>	<i>Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo</i> (Wiesbaden)
<i>OIP</i>	<i>Oriental Institute Publications</i> (Chicago)
<i>OLA</i>	<i>Orientalia lovaniensia analecta</i> (Louvain)
<i>PAM</i>	<i>Polish Archaeology in the Mediterranean</i> (Warsaw)
<i>PSAS</i>	<i>Proceedings of the Seminar for Arabian Studies</i> (London)
<i>SAAC</i>	<i>Studies in Ancient Art and Civilisation</i> (Kraków)
<i>SAK</i>	<i>Studien zur altägyptischen Kultur</i> (Hamburg)
<i>SAOC</i>	<i>Studies in Ancient Oriental Civilization</i> (Chicago)
<i>WVDOG</i>	<i>Wissenschaftliche Veröffentlichungen der deutschen Orient-Gesellschaft</i> (Berlin–Leipzig)

ISLAMIC GLASS FROM AREA U (2012–2013)

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Abstract: Excavations by a PCMA team from the University of Warsaw in area U of the Kom el-Dikka site in Alexandria in 2012–2013 yielded a fair number of glass fragments. The assemblage comprised two distinct chronological groups: early Roman to late Roman/early Byzantine and Islamic-period glass. It consisted of plain, ordinary tableware, often made of very poor quality glass, undoubtedly of local, Alexandrian production, as well as luxury vessels, decorated in various techniques, representing imports, probably from Syria.

Keywords: Alexandria, early Islamic glass, Mamluk glass, tongued, scratched-engraved, marvered and enamelled decoration

Excavations in 2012–2013 in area U, located in the northwestern part of the site, yielded a fair number of glass vessel fragments (for the plan of the site and report on the archaeological excavations, see Majcherek 2015, in this volume). They form an assemblage which falls into two distinct chronological groups: early Roman to late Roman/early Byzantine and Islamic-period glass. This report deals only with the material from the Islamic period, the early Roman to late Roman/early Byzantine period assemblage to be published as a separate study in the next volume of the *PAM* journal.

Islamic glass came mostly from strata overlying the necropolis. The chronological range of this rather small assemblage extended from the Umayyad through the Mamluk periods. Although it comprised mainly vessels of everyday use, there were also a few examples of luxury glass, which clearly stood out among the finds. The

assortment of shapes was considerable despite the limited number of fragments. Included are bottles, flasks, bowls, cups, beakers, and a jar. Most of the examples are plain, free-blown specimens, but there are a few exhibiting a variety of decorative techniques: mold-blowing, tonguing, scratched-engraving, marvering and enamelling, as well as applied prunts and trails in contrasting colors. The vessels were made of green and noticeably poor-quality, very bubbly yellowish-greenish glass. Some pale bluish, dark blue, light yellow and colorless glass was also attested. Almost all fragments exhibited milky-white and black coating, peacock and silver iridescence. The vessel shapes, distinct decorative techniques, quality and color of the glass find parallels in many similar fragments already known from the site. Most of the vessels were manufactured undoubtedly in local workshops with a handful only representing imported wares.

EARLY ISLAMIC-PERIOD GLASS

The early Islamic — from the Umayyad to the Fatimid period — glass repertoire comprised six fragments. Representing Umayyad-period glass was a single, small body shard, most probably from a bottle, bearing a line painted in brownish-red on green glass (not illustrated). The line may or may not have been part of a decorative pattern. Vessels with brownish-red decoration are quite well represented in the glass assemblage from Kom el-Dikka. Around 40 such pieces, mainly fragments of various bottles, have been registered already (Kucharczyk 2005: 34, Fig. 2:3–5), the decoration on these including painted elements of diverse shape beside the applied glass threads. The painted motifs comprised big and small patches, small spots and splashes, circular and elongated elements, and various lines.

The only other site from Egypt from which vessels with painted brownish-red decoration have been reported is Marea, a locality near Alexandria. The glasses were excavated from the basilica (Kucharczyk 2007: 70–72, Fig. 2:1–3; Babraj, Drzymuchowska, and Willburger 2014: 56, Fig. 9:9) and the bath (Kucharczyk 2008: 131, Fig. 46:23). The presence of a notable number of such fragments at these two sites points to this particular kind of vessels being made and traded in the region. The decoration specifically appears to be some sort of “hallmark” of local workshops, operating most probably in Alexandria in the early Byzantine and Umayyad period (6th–8th century AD).

Vessels with brownish-red ornamentation have been discovered at a few other sites in Egypt where they occur in 7th–9th century AD contexts. Decoration

on cylindrical and conical goblets from Tebtynis (Foy 2001: 471–472, 484, Fig. 3:50–54, 56–57, 61) and on small bottles and beakers from Rāya in the Sinai (Shindo 2007: 101–102, Pls 1–7, 8, 2:4) is limited to threads applied on the vessel body. On lamps from Fustāt trails were tooled to form festoons and ovals (Scanlon and Pinder-Wilson 2001: 62–65, No. 32h, i, Fig. 32h, i). A similarly patterned surface can be found also on the two unique wineglasses assigned to the 6th–7th century AD from S. Antonino di Perti, in Liguria (Sternini 1995: 261, Fig. 19.38) and from Chersoneses in Crimea (Golofast 2009: 317, Fig. 16:9, 18). Moreover, a recently published fragment of a wineglass from Odercy (Bulgaria) is adorned with trails and additionally with a painted Greek inscription (Dekówna and Dymaczewska 2014: 235–236). The juxtaposition of two types of decoration on a single vessel makes this specimen exceptional (Kucharczyk 2014: dating to the 6th century AD). Apart from Egypt, which seems to be the source of vessels with brownish-red decoration, in the other locations with noted presence of these glasses we are probably talking of imports, possibly from Egypt.

At Kom el-Dikka, as at other Egyptian sites of the early Islamic period, there is a noticeable presence in the glass assemblage of straight-sided cylindrical cups and bowls with rounded rims and flat or slightly concave bases. This commonest form of glass drinking vessels in the 9th–10th century included decorated examples beside the plain ones, the decoration being mainly in the tongued and scratched-engraved techniques.

The tongued ornamentation was achieved by using a tong-like implement with the same pattern at its ends. The tool was clamped several times around the circumference of the open vessels, in rare instances also on closed forms. As a result, the same design can be seen on the inside as well as the outside of the vessel. A fragment with tongued decoration from area U exhibits stylized palmettes arranged in two horizontal rows [*Fig. 1:1*]. The cup was blown of pale green glass, which is the most characteristic color of vessels with this type of decoration occurring at Kom el-Dikka. More than 250 fragments, mainly of open vessels, have been discovered to date (Kucharczyk 2005: 35–36, Fig. 3: 3–7). They bear decoration with either simple or elaborate geometric designs, and absolutely no evidence of inscriptions or zoomorphic images. A few basic shapes were employed to create in many cases complicated decoration patterns. These shapes included: straight, diagonal and curved lines, lines of minute indentations, and their combinations with triangles, rhomboids, diamonds, multipetaled rosettes, lozenges, stylized palmettes, ovals, double ovals or single ones with or without a central dot. Motifs tended to overlap and appear together and there were frequent pattern deformations caused by the continuous rotation of the vessels during blowing.

In Egypt, similarly patterned glass had been reported from Fustāt (Shindo 1992: 577, Nos 1–7, 22–23; Scanlon and Pinder-Wilson 2001: 80–82, Fig. 38a–38j), Tebtynis (Foy 2001: 474–475, 478–480, Figs 5 and 7:131, 135–136, 141–144), el-Ashmunein (Bailey 1998: 150, Pl. 92:Y28-Y30) and Rāya (Shindo 2003: 181–183, Fig. 3:1; 2007: 103, Pl. 2:8–

10; 2009: 26, Pls 8:2, 9:5–6). Further evidence comes from Syene/Aswan and Elephantine (Keller 2014: 196, Figs 19.3, 19.4). An intact cylindrical bowl with a pinched trail handle, decorated with lozenges, was unearthed at Tell Atrib (Ruszczyc 1997: 36, photo on the cover). Some additional fragments are in the collection of the Graeco-Roman Museum in Alexandria (Khawassek 1995: 334, Pl. XV: 3, wrongly assigned to the early Roman period) and at the Egyptian Museum in Cairo (Edgar 1905: Nos 32475, 32716).

This type of impressed decoration is thought to have been introduced by Egyptian glassmakers and spread to other locations (Lamm 1929–1930: 64–65; for a general discussion, see Carboni 2001a: 261–271; 2001b: 126–127). The significant number of fragments from Kom el-Dikka (beside area U), the uniformity of glass color and quality pointed to the ware being a local, Alexandrian product. The Egyptian origin of vessels with this type of decoration is further supported by fragments stamped with a medallion bearing the inscription “amal misr”: made in Egypt, i.e., Fustāt, from the Museum für Islamische Kunst in Berlin and the Benaki Museum (see respectively Lamm 1929–1930: 61; Clairmont 1977: 72, No. 235).

The scratched-engraved decorative technique was also typical of early Islamic glass. Similarly to the tongued decoration, it was executed mainly on cylindrical cups and bowls, very rarely on bottles. Area U produced only one such fragment belonging to an open form (not illustrated). The surface of a small, slightly curved, thick pale green glass displays a simple decoration consisting of

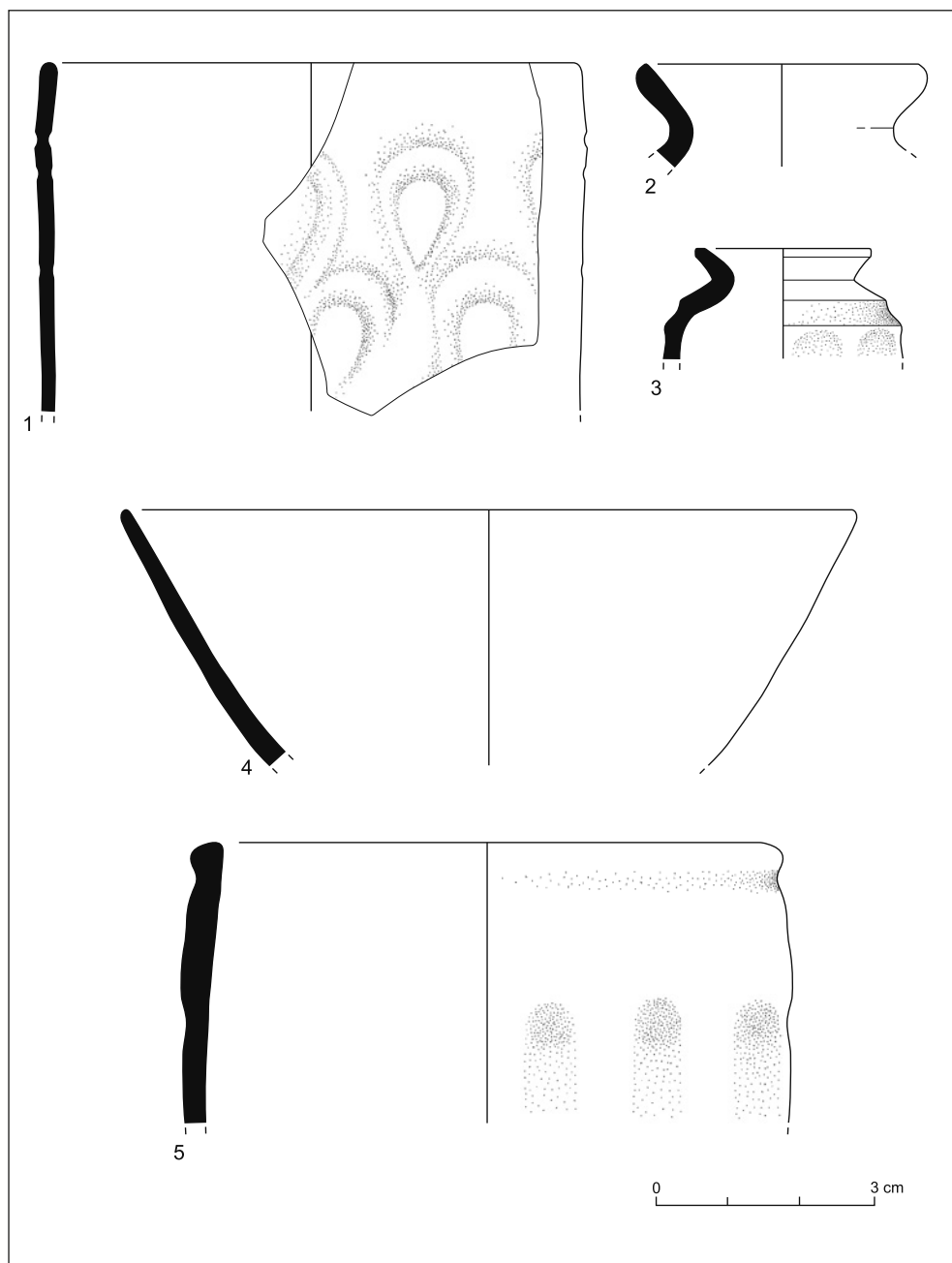


Fig. 1. Early Islamic glass vessels
 (All drawings R. Kucharczyk, E. Kulicka; digitizing M. Momot)

a combination of various lines and most probably triangles.

The scratched-engraved technique is very well represented in the glass assemblage from Kom el-Dikka. It is noteworthy that this is the biggest group of the scratched-engraved glasses ever published from Egypt (Kucharczyk 2009). The decorative repertoire includes combinations of various foliate and geometrical patterns such as small triangles, trapezoids, large and small squares and rectangles, circles and semicircles, ovals, as well as “stars”, stylized flowers and trees, crosshatching, and various lines, the most common element employed on almost all fragments. In Egypt, sites that have yielded similar material include Fustāt (Shindo 1992: 583, Nos 21–23; Scanlon and Pinder-Wilson 2001: 13–16, 82, 83, Pl. 3a–b), Tebtynis (Foy 2001: 478, Fig. 6.130), Rāya (Shindo 2003: 183–184, Fig. 5; 2007: 103–104, Pl. 2, No. 12) and al-Tūr (Kawatoko 1996: 68, Pl. 40.8).

Further forms of that period are represented by a jar, a bowl and a cup. A small, thick-walled, pale bluish unguent jar featured a low everted neck with a thick-

ened, pointed rim, and most probably globular body [Fig. 1:2]. The thickness of the glass suggests that the vessel may have had cut decoration, as on two other small jars previously excavated at the site. The latter had been decorated with a deeply cut horizontal groove on the vessel shoulder and a horizontal row of concave facets placed below it [Fig. 1:3]. Similar arrangements of facet-cutting also occurred on a small jar from Rāya (Shindo 2009: 28, Pls 11–12). To this assemblage one may add also jars from the Nasser Khalili Collection (Goldstein 2005: 170–171, No. 202) and the Corning Museum of Glass (Whitehouse 2010: 118, No. 193).

A second fragment belongs to a deep bowl characterized by a rounded rim and walls curving toward a probable concave base. This ordinary, undecorated vessel was made of extremely poor quality glass of pale greenish color [Fig. 1:4]. Finally, a straight-sided, thick-walled, deep cylindrical cup made of pale brownish glass. Its molded decoration, created in a single-part mold, features circular depressions and faint vertical flutes [Fig. 1:5].

MAMLUK-PERIOD GLASS

The most interesting group from area U were the Mamluk-period glass fragments. The assemblage is very small but important nonetheless, containing a few notable finds beside the simple, undecorated wares. Three shards represented thin-walled closed, utilitarian household receptacles fashioned as plain, apparently handleless bottles with long cylindrical necks and high pushed-in bases with a pointed kick and sometimes with a distinct pontil scar on the bottom [Fig. 2:1–3]. A fragment of a large bowl

with flattened external fold [Fig. 2:6] is among the ordinary glasses. A solid, square-sided pointed base represents a kohl flask [Fig. 2:4] that appears to have been a cheap local copy of the marvered, luxury counterparts. The markedly inferior pale yellowish-greenish glass of these examples indicate a common source in a primary production site, undoubtedly located in Alexandria. There is also no doubt that these three vessels represent the output of local workshops.

A few vessels typical of the period merit closer attention. Among them is the neck of a flask with a distinctive single bulge at its base. It represents one of the most common types of necks in this period. The emerald green thread, which begins to be wound below the edge of the rim and is coiled twice down, greatly contributes to the appeal of this toilet specimen made of colorless glass [Fig. 3:1]. Although excavations at Kom el-Dikka yielded many fragments of necks with a bulge, these

were usually plain examples (Kucharczyk 2005: 32–33, Fig. 1:14–16). Similarly shaped bottles were reported from various excavations in Egypt, among others from Fustāt (Scanlon and Pinder-Wilson 2001: 40, Fig. 15n; Shindo 1992: 601, 26–30) and Qusair al-Qadim (Meyer 1992: 76–77, Pl. 15:374–383).

The principal aim of the glasshouses during the Mamluk period as far as decoration was concerned was a coloristic effect and marvering was a popular

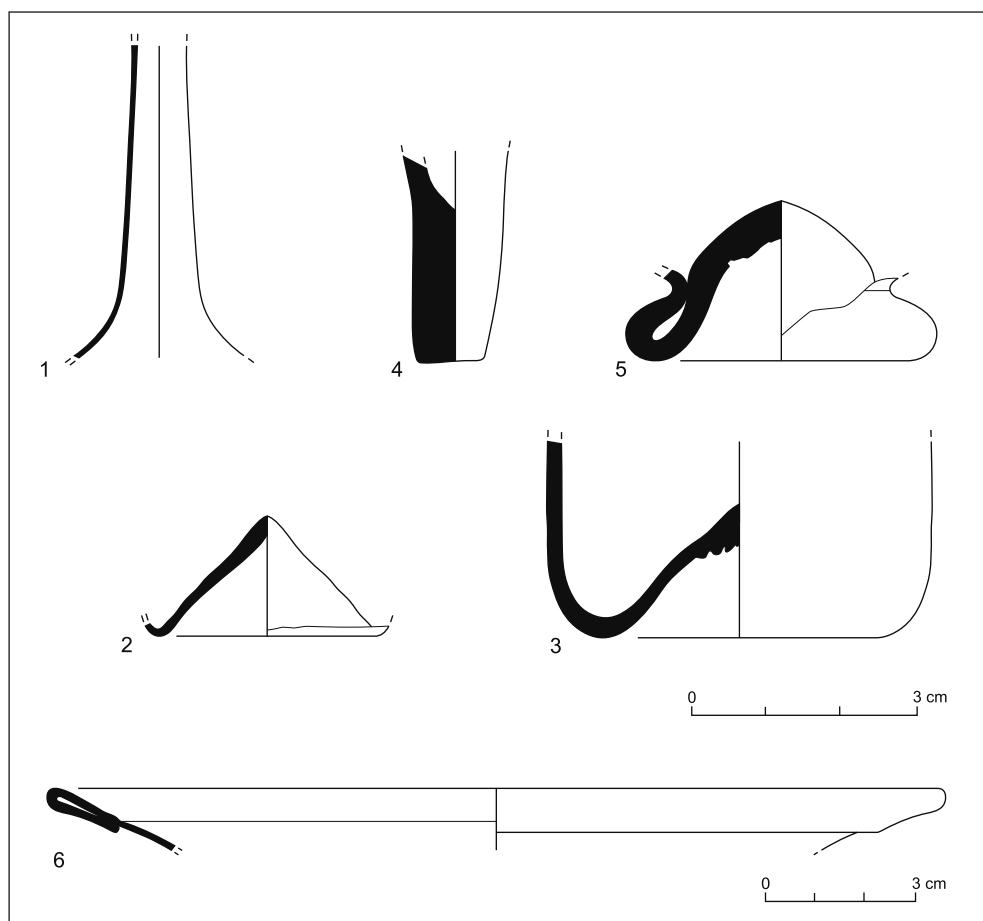


Fig. 2. Plain Mamluk glasses

technique for achieving it (for a comprehensive study of marvered glass, see Allan 1995; for scientific analyses of marvered glass, see Henderson 1995). Marvered decoration from area U is represented by a small shoulder fragment of a dark blue bottle, decorated with white trails, combed to a feather design. The form was a typical elegant kohl flask (not illustrated). Such containers usually featured a short or long cylindrical neck, sometimes with one bulge, a flared squarish body with curved shoulder and a small square, pointed base (Carboni 2001a: 304–305, Cat. 80a–b). Their function as kohl bottles was attested by the find of an intact bottle at al-Tūr in Sinai with not only some kohl residue still inside it, but also a copper eye stick found alongside the vessel (Shindo 1993: 302–304, Figs 7–9). Marvered decoration can be suggested also in the case of another toilet bottle from area U, which had a thick, well pushed-up domed base with a distinct pontil scar and which was made of very good quality glass of a dark manganese purple color [*Fig. 2:5*]. From the same period is an identical base found at Qusair al-Qadim (Meyer 1992: 87, Pl. 19, No. 518) and both have an exact parallel in a marvered example from Hama (Riis 1957: 62–63, No. 182).

The assemblage of marvered glass from Kom el-Dikka contains 90 fragments that are either free-blown or blown into ribbed molds, decorated with only one thread in white. The importance of this collection lies in the fact that it covers a wide chronological span, from the Umayyad through the Mamluk period. However, the only other site with similarly dated published material is Bet Shean (Hadad 2002: 151–158; 2005: 27, 38–39, 43–44, 60, 70–71). The vessels from

Kom el-Dikka exhibit a notable variety of shapes. There are the rare pale blue cylindrical cups with white trails, creating an irregular wavy, festooned pattern; the small and large cups and bowls decorated with a diamond lattice; the thick-walled fluted beaker with horizontally applied opaque white threads, giving a rippling effect; the cosmetic containers including a variety of kohl flasks; the luxury omoms; and finally the domed lid from a cosmetic box. It seems that some of these glasses, such as the kohl toilet bottles, may have been produced locally. They are often carelessly made of various shades of blue glass, which is among the most common colors of glass at Kom el-Dikka during the 9th–10th century. In turn, many finer pieces demonstrating a higher quality of workmanship, with decoration executed on manganese purple and emerald green glass, which are rather rare colors in the Kom el-Dikka assemblage, should be seen as being most probably of Syrian provenance. This is certainly the case of a few examples of rosewater sprinklers popular in this region in the 13th century [*Fig. 3:2*].

Other sites in Egypt offering vessels with marvered decoration include Fustāt (Scanlon and Pinder-Wilson 2001: 106–108, 110; Shindo 1992: 581:1–32; 2000: 233, *Fig. 1:1–2*) and al-Tūr in Sinai with its abundance of fragments of bowls, jars and kohl bottles (Shindo 1993: 297–303; 2009: 31). Bowls and small vials with combed and marvered patterns worked into a green or purple-brown glass were excavated at Qusair al-Qadim (Meyer 1992: 89–90, Pl. 19, 548–553). Meriting note is a 13th-century intact purple chalice with a knobbed stem, excavated at the cathedral in Faras. It has white trailing on the rim and a marvered decoration

consisting of an elaborate spiralling pattern, incorporating a series of white diamond-shaped motifs (Jakobielski 1986: Fig. 7). It is very closely matched by a chalice at the Ashmolean Museum (Allan 1995: Fig. 4).

The origin of decorating glass by pressing into the surface colored trails lies

in Egyptian core-formed vessels of the Eighteenth Dynasty that included small thick-walled perfume bottles, kohl flasks, unguent jars and fish-shaped containers. The technique was practiced in the later Hellenistic period when numbers of alabastra and amphoriskoi were made and was revived and flourished again in the

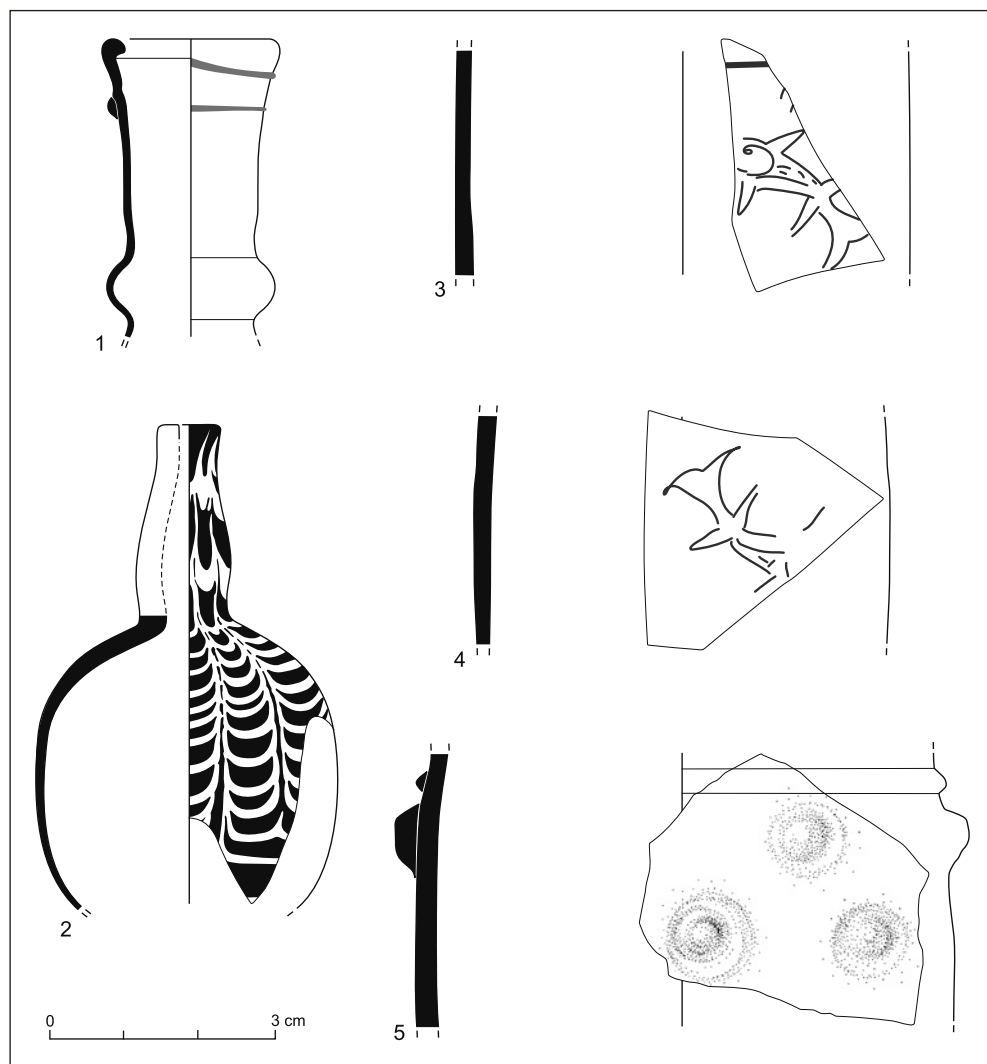


Fig. 3. Decorated Mamluk glasses

12th–13th century AD, particularly in Egypt and Syria.

From the 13th century onwards the technique of marvering was gradually superseded by the enamel and gilded technique, commonly regarded as the crowning achievement of Islamic glass-makers. The assemblage from area U contains three fragments bearing enamelled decoration, but there is no reason not to believe that gilded decoration could have been present on the unpreserved parts of vessel. These pieces deserve particular note also in view of the extreme rareness of enamelled glasses in the assemblage from the Kom el-Dikka site. The vessels, a bowl and a beaker, were made of almost colorless glass providing the proper backdrop to enhance the painted decoration.

Too little has survived from the large shallow bowl to establish the nature of the decoration pattern executed on the inner wall [Fig. 4]. It bears a fragmentarily preserved inscription, placed below the rim and written in typical naskh script of the early Mamluk period. Only three letters, alifs and probably waw, can be identified. The inscription, which could be read only by looking into the vessel, is arranged in a horizontal band, framed by thin red lines

(only one is preserved). The red enamel also served to outline letters, which later were filled with viscous blue enamel (glass paste). It was applied cold to the surface of the vessel and then fixed by firing at a low temperature, causing the enamels to fuse onto the surface and leaving the enamel standing in slight relief.

Of particular interest are two other shards with fragmentary enamelled decoration. Although they do not join, they still could have come from one vessel, most probably from a tall cylindrical beaker with flaring mouth and rounded rim, and a flattened or slightly concave base, which is stabilized by an applied heavy, trailed-on ring. Beakers of this type belong to one of the most common vessels produced by the Ayyubid and Mamluk glassmakers. In Kenesson's typology of Mamluk beakers it belongs to Type C and can be dated to the mid-13th century (Kenesson 1998: Table 3).

These two fragments depict fish (sharks?) in simple red outline (for the motif of fish and its meaning, employed on various vessels, especially on Mamluk metalwork, see Baer 1998: 104–105). A fragment of a thin red line survived in the upper part of one shard [Fig. 3:3–4]. Most probably, it separated an enamelled inscription band, occurring in the upper part of the cylindrical beaker, from the main part of the body filled with omnipresent fish scattered on the surface, similarly to a beaker from the Kunstmuseum in Düsseldorf (Shalem 1994: 7–8, Fig. 8). In Egypt, fragments of vessels decorated with fish have been reported from Fustāt (Shindo 1992: 587, No. 15; Scanlon and Pinder-Wilson 2001: 117, No. 46, Fig. 46n) and from the Sheikh's house at Qusair al-Qadim (Whitcomb 1983: 103–104,

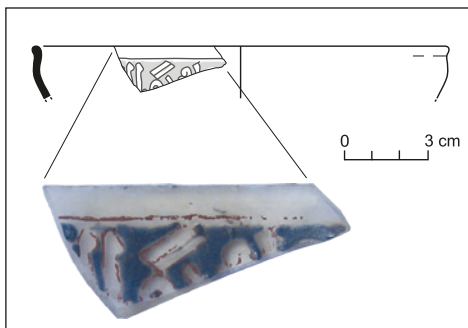


Fig. 4. Mamluk bowl fragment with enamelled decoration

Fig. 3:k). An intact beaker with gilded fish came to light at Quft in Upper Egypt (Tait 1991: 130–131, No. 164). Recently, beakers with fish and a polychrome band of inscription and floral designs were published from Arsuf (Apollonia) in Israel (Jackson-Tal and Tal 2013: 91–95, Figs 6, 8). Further very close parallels can be found among others on fragments of beakers excavated at al-Mina (Lane 1937: 73, Fig. 13A–B) and Hama in Syria (Riis 1957: 82–83, Fig. 252A–D). Examples from the Benaki Museum, including goblets and bottles (Clairmont 1977: 125, 128–129, 131, Pl. XVI, Nos 447, 449, Pl. XVII, Nos 448, 467, Pl. XVIII, No. 475), the Gellatly Collection (Carboni 1999: 173–174, Figs 3–4), as well as a beaker with fish and a band with pseudo floral decoration from the al-Sabah Collection (Carboni 2001a: 326, Cat. 85a) should also be included.

Interestingly, the fish depicted on all the said beakers are homogenous in appearance. They feature a narrow, elongated body with two pectoral fins near the head and two fins closer to the triangular tail. Another characteristic feature of all these beakers is their shape, representing a cylindrical body with a flaring mouth and a kick-up base with a trailed foot. The enamelled beakers are assumed to be either drinking vessels or lighting devices (Shalem 1994: 7). The examples with elaborate and elegant paintings may have been ceremonial or show objects (Atıl 1981: 126–127, Nos 44–45 extremely rare two beakers featuring architectural settings; see also Carboni 2001a: 340–341, Cat. 90a–l; 2001b: 258–260, No. 128 beaker with a stylized marine landscape; Carboni 2001a: 330–331, Cat. 86a beaker with two figures separated by large plants).

The dating and origin of enamelled glass is still disputed. It has been suggested that this decorative technique was invented in the leading glass workshops operating in Raqqa, Hama, Aleppo and Damascus (Lamm 1929–1930; Carboni 2001a: 323–325; 2001b: 203–207; Wenzel 1984: 5–7 points however to Egypt as a major source of such vessels). Later, this technique was also introduced to Egypt, probably in response to the great demand for highly valued products, often executed in ostentatious sizes with richly decorated surfaces (for the evidence from Fustât, see Shindo 1992: 585, 587, Figs 6.7:19–28, 6.8:1–24; Scanlon and Pinder-Wilson 2001: 114–119, Fig. 46). Among the gilded and enamelled glass objects that have survived are lavishly decorated bottles, flasks, beakers, bowls, cups, goblets, basins, and the most familiar form, oversize lamps commissioned by the Mamluk sultans and their emirs throughout the 13th and 14th centuries to adorn and illuminate the mosques, madrasas, mausoleums, and other public buildings of their founding.

Another type of luxury glass characteristic of the Mamluk period that was found in area U is the pruned beaker. A pale yellow fragment represents a side wall, decorated with a thin, horizontal thread and three uneven raised prunts applied below, most probably set in quincunx. All elements of the decoration are of the same color as the vessel [*Fig. 3:5*].

Kom el-Dikka to date has yielded about 15 fragments of pruned beakers (Kucharczyk 2010: 67–68, Fig. 7:6). They represent two main varieties. The first has a short, flaring rim, a squat, slightly bulbous body and an applied trailed base-ring. A fragment from area U represents this variety and finds a close parallel in an

example from Corinth (Davidson 1952: 113–114, Fig. 14:744). The second variety features a wide flaring rim and a cylindrical body, tapering gradually towards the bottom, terminating in an applied, “toed” base-ring, and a high, concave base often with a large pontil mark underneath. All types are free-blown, their rims are separated from the body by an applied thread of the same color as the vessel. Below it, there is a zone of prunts arranged in horizontal rows, forming a quincunx. The only other site in Egypt where this type of beaker is attested is Quseir al-Qadim (Meyer 1992: 81, Pl. 16, Nos 427, 429, 532).

This form was first identified by Gladys Davidson in the material from the glass production site at Corinth and assigned to the 11th–12th century AD (Davidson

1952: 87–88, 113–114, Fig. 14: 742–745; Weinberg 1975). David Whitehouse, however, after assessing new evidence, has proposed a revised dating in the 13th or early 14th century AD (Whitehouse 1991: 73–78). The distribution of the form is very wide, from Aidhab in Sudan on the Red Sea coast (Harden 1955: 70–71, Fig. 40), through Egypt to the many sites in Israel, including the Crusader sites, for example ‘Akko (Gorin-Rosen 2013: 109–110, Fig. 1:3), in Lebanon (Jennings 2006: 229–230, No. 2), Syria (Lamm 1929–1930/I: 89–90; II: Pl. 26, Nos 12–18, Pl. 27, Nos 2–4, 14–15) and Turkey (Bakirer 2009: 203–208, Figs 1–15; Schwarzer 2009: 94–95, Figs 51–52, 54). They are often found on many Italian sites and in various parts of Central Europe (Newby 1991; Whitehouse 1987; 1991: 76–77).

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REFERENCES

- Allan, J. W. (1995). Investigation into marvered glass: 1. In J. W. Allan (Ed.), *Islamic art in the Ashmolean Museum* [=Oxford Studies in Islamic Art 10] (pp. 1–30). Oxford: Oxford University Press.
- Atil, E. (1981). *Renaissance of Islam: Art of the Mamluks*. Washington, DC: Smithsonian Institution Press.
- Babraj, K., Drzymuchowska, A., and Willburger, N. (2014). Marea 2011. *PAM*, 23/1, 45–61.
- Baer, E. (1998). *Islamic ornament*. New York: New York University Press.
- Bailey, D. M. (1998). Glass. In D. M. Bailey, *Excavations at el-Ashmunein V. Pottery, lamps and glass of the late Roman and early Arab periods* (pp. 149–153). London: British Museum Press.
- Bakirer, Ö. (2009). Glass from the Seljuk Palace at Alanya. In E. Laffı (Ed.), *Late Antique/early Byzantine glass in the Eastern Mediterranean* (pp. 199–212). Izmir: Hürriyet Matbaası.
- Carboni, S. (1999). Glass production in the Fatimid lands and beyond. In M. Barrucand (Ed.), *L’Égypte fatimide : son art et son histoire. Actes du colloque organisé à Paris les 28, 29 et 30 mai 1998* (pp. 169–177). Paris: Presses de l’Université de Paris-Sorbonne.

- Carboni, S. (2001a). *Glass from Islamic lands*. New York: Thames & Hudson.
- Carboni, S. (2001b). Painted glass. In S. Carboni and D. Whitehouse, *Glass of the sultans* (pp. 199–207). New York: Metropolitan Museum of Art.
- Clairmont, C. W. (1977). *Catalogue of ancient and Islamic glass*. Athens: Benaki Museum.
- Davidson, G. R. (1952). *Corinth: Results of excavations conducted by the American School of Classical Studies at Athens XII. The minor objects*. Princeton, NJ: American School of Classical Studies at Athens.
- Dekówna, M., and Dymaczewska, U. (2014). Fragment naczynia szklanego z napisem znaleziony w Odercy (Bułgaria) [Fragment of an inscribed glass vessel from Odarci (Bulgaria)]. *Archeologia Polski*, 59(1–2), 231–269 [in Polish with an English summary].
- Edgar, C. C. (1905). *Graeco-Egyptian glass* [= *Catalogue général des antiquités égyptiennes du Musée du Caire* 22]. Cairo: Institut français d'archéologie orientale.
- Foy, D. (2001). Secteur nord de Tebtynis (Fayyoun): Le verre byzantin et islamique. *Annales Islamologiques*, 35, 465–489.
- Goldstein, S. M. (2005). *Glass: From Sasanian antecedents to European imitations* [= *Nasser D. Khalili Collection of Islamic Art* 15]. London: The Nour Foundation.
- Golofast, L. (2009). Early Byzantine glass from the Tauric Chersonesos (Crimea). In E. Laffi (Ed.), *Late Antique/early Byzantine glass in the Eastern Mediterranean* (pp. 301–335). Izmir: Hürriyet Matbaası.
- Gorin-Rosen, Y. (2013). Glass finds from the Crusader-period bathhouse in 'Akko (Acre). *'Atiqot*, 73, 109–116.
- Hadad, S. (2002). Marvered glass vessels from the Umayyad through Mamluk periods at Bet Shean, Israel. *Levant*, 34, 151–159.
- Hadad, S. (2005). *Islamic glass vessels from the Hebrew University excavations at Bet Shean* [= *Qedem Reports* 8]. Jerusalem: Institute of Archaeology, the Hebrew University of Jerusalem.
- Harden, D. B. (1955). The glass found at Soba. In P. L. Shinnie, *Excavations at Soba* [= *Sudan Antiquities Service Occasional Papers* 3] (pp. 60–77). Khartoum: Commissioner for Archaeology, Sudan Antiquities Service.
- Henderson, J. (1995). Investigation into marvered glass: 2. In J. W. Allan (Ed.), *Islamic art in the Ashmolean Museum* [= *Oxford Studies in Islamic Art* 10] (pp. 31–50). Oxford: Oxford University Press.
- Jackson-Tal, R. E., and Tal, O. (2013). Crusader glass in context: The destruction of Arsuf (Apollonia-Arsuf, Israel), April 1265. *JGS*, 55, 85–100.
- Jakobielski, S. (1986). Faras. In Z. Kiss (Ed.), *50 lat polskich wykopalisk w Egipcie i na Bliskim Wschodzie* [50 years of Polish excavations in Egypt and the Near East] (pp. 85–90). Warsaw: Dom Słowa Polskiego [in Polish].
- Jennings, S. (2006). *Vessel glass from Beirut: BEY 006, 007, and 045* [= *Berytus* 48–49]. Beirut: Faculty of Arts and Sciences, American University of Beirut.
- Kawatoko, M. (1996). *A port city site on the Sinai Peninsula, al-Ṭūr: The 12th expedition in 1995 (a summary report)*. Tokyo: Committee for Egyptian Islamic Archaeology, Middle Eastern Culture Center in Japan.

- Keller, D. (2014). Continuity and change in Byzantine and early Islamic glass from Syene / Aswan and Elephantine, Egypt. In D. Keller, J. Price, and C. Jackson (Eds.), *Neighbours and successors of Rome. Traditions of glass production and use* (pp. 194–199). Oxford: Oxbow Books.
- Kenesson, S. (1998). Islamic enamelled beakers: A new chronology. In R. Ward (Ed.), *Gilded and enamelled glass from the Middle East* (pp. 45–49). London: British Museum Press.
- Khawassek, F. S. (1995). A collection of Roman glass in the Graeco-Roman Museum. In *Alessandria e il mondo ellenistico-romano: 1. centenario del Museo greco-romano, Alessandria, 23–27 novembre 1992. Atti del 2. Congresso internazionale italo-egiziano* (pp. 333–338). Rome: “L’Erma” di Bretschneider.
- Kucharczyk, R. (2005). Islamic glass from the auditoria on Kom el-Dikka in Alexandria. *PAM*, 16, 31–41.
- Kucharczyk, R. (2007). Late Roman/early Byzantine glass from the basilica in Marea. *PAM*, 17, 70–74.
- Kucharczyk, R. (2008). Glass finds from the baths and sāqiyah. In H. Szymańska and K. Babraj (Eds.), *Marea I. Byzantine Marea: Excavations in 2000–2003 and 2006* [=Biblioteka Muzeum Archeologicznego w Krakowie 4] (pp. 129–143). Kraków: Muzeum Archeologiczne w Krakowie.
- Kucharczyk, R. (2009). Islamic scratch-engraved glass from Alexandria (Kom el-Dikka). *JGS*, 51, 40–52.
- Kucharczyk, R. (2010). Glass from Area F on Kom el-Dikka (Alexandria). *PAM*, 19, 56–70.
- Kucharczyk, R. (2014). Kilka uwag o fragmencie naczynia z Odecy (Bułgaria) [Some remarks on glass fragment from Odarci (Bulgaria)]. *Archeologia Polski*, 59(1–2), 279–284 [in Polish with an English summary].
- Lamm, C. J. (1929–1930). *Mittelalterliche Gläser und Steinschnittarbeiten aus dem Nahen Osten I–II* [=Forschungen zur islamischen Kunst 5]. Berlin: Reimer.
- Lane, A. (1937). Medieval finds from Al Mina in North Syria. *Archaeologia*, 87, 19–78.
- Majcherek, G. (2015). Alexandria. Excavations and preservation work on Kom el-Dikka. Seasons 2012 and 2013. *PAM*, 24/1, 29–61.
- Meyer, C. (1992). *Glass from Quseir al-Qadim and the Indian Ocean trade* [=SAOC 53]. Chicago: Oriental Institute of the University of Chicago.
- Newby, M. S. (1991). The glass from Farfa Abbey: An interim report. *JGS*, 33, 32–41.
- Riis, P. J. (1957). Les verreries. In P. J. Riis and V. Poulsen, *Hama: fouilles et recherches de la Fondation Carlsberg (1931–1938) IV.2. Les verreries et poteries médiévales* [=Nationalmuseets skrifter. Større beretninger 3] (pp. 30–116). Copenhagen: Nationalmuseet.
- Ruszczyc, B. (1997). *Kościół pod wezwaniem Świętej Dziewicy w Tell Atrib* [The Church of the Holy Virgin in Tell Atrib]. Warsaw: Upowszechnianie Nauki – Oświata “UN-O” [in Polish].
- Scanlon, G. T., and Pinder-Wilson, R. H. (2001). *Fustat glass of the early Islamic period: Finds excavated by the American Research Center in Egypt, 1964–1980*. London: Altajir World of Islam Trust.

- Schwarzer, H. (2009). Spätantike, byzantinische und islamische Glasfunde aus Pergamon. In E. Lafi (Ed.), *Late Antique/early Byzantine glass in the Eastern Mediterranean* (pp. 85–109). Izmir: Hürriyet Matbaası.
- Shalem, A. (1994). Fountains of light: The meaning of medieval Islamic rock crystal lamps. *Muqarnas*, 11, 1–11.
- Shindo, Y. (1992). Glassware. In K. Sakurai and M. Kawatoko (Eds.), *Egyptian Islamic city: Al-Fustat. Excavations report, 1978–1985*, II (pp. 572–617). Tokyo: Waseda Daigaku Shuppanbu [in Japanese].
- Shindo, Y. (1993). The Islamic marvered glass from al-Tur, South Sinai. In *Annales du 12^e Congrès de l'Association internationale pour l'histoire du verre: Vienne, 26–31 août 1991* (pp. 297–305). Amsterdam: Association internationale pour l'histoire du verre.
- Shindo, Y. (2000). The early Islamic glass from al-Fustat in Egypt. In *Annales du 14^e congrès de l'Association internationale pour l'histoire du verre: Italia/Venezia-Milano 1998* (pp. 233–237). Lochem: Association internationale pour l'histoire du verre.
- Shindo, Y. (2003). Islamic glass finds from Raya, Southern Sinai. In *Annales du 15^e congrès de l'Association internationale pour l'histoire du verre: New York-Corning 2001* (pp. 180–184). Nottingham: Association internationale pour l'histoire du verre.
- Shindo, Y. (2007). Islamic glass of the 8th century in Rāya. In M. Kawatoko (Ed.), *Archaeological survey of the Rāya/al-Ṭūr area on the Sinai Peninsula, Egypt, 2005 and 2006: The first Japanese-Kuwaiti Archaeological Expedition (2006)* [=Islamic Archaeology and Culture 1] (pp. 97–107). Tokyo: Islamic Archaeological Mission, the Middle Eastern Culture Center in Japan.
- Shindo, Y. (2009). Glazed pottery and glass unearthed in the Rāya/al-Ṭūr area. In M. Kawatoko and Y. Shindo (Eds.), *Artifacts of the Islamic period excavated in the Rāya/al-Ṭūr area, South Sinai, Egypt: Ceramics/glass/painted plaster* (pp. 23–35). Tokyo: Joint Usage/Research Center for Islamic Area Studies Organization for Islamic Area Studies, Waseda University.
- Sternini, M. (1995). Il vetro in Italia tra V e IX secoli. In D. Foy (Ed.), *Le verre de l'antiquité tardive et du haut moyen âge : typologie, chronologie, diffusion* (pp. 243–289). Guiry-en-Vexin: Musée Archéologique Départemental du Val d'Oise.
- Tait, H. (1991). *Five thousand years of glass*. London: British Museum Press.
- Weinberg, G. D. (1975). A medieval mystery: Byzantine glass production. *JGS*, 17, 127–141.
- Wenzel, M. (1984). Thirteenth-century Islamic enamelled glass found in medieval Abingdon. *Oxford Journal of Archaeology*, 3(3), 1–21.
- Whitcomb, D. S. (1983). Islamic glass from Quseir al-Qadim, Egypt. *JGS*, 25, 101–108.
- Whitehouse, D. (1987). Medieval glass from Tarquinia. In *Annales du 10^e congrès de l'Association internationale pour l'histoire du verre: Madrid-Segovie, 23–28 septembre 1985* (pp. 317–330). Amsterdam: Association internationale pour l'histoire du verre.
- Whitehouse, D. (1991). Glassmaking at Corinth: A reassessment. In D. Foy and G. Sennequier (Eds.), *Ateliers de verriers, de l'antiquité à la période pré-industrielle: actes des 4^{èmes} Rencontres, Rouen, 24–25 novembre 1989* (pp. 73–82). Rouen: Association française pour l'archéologie du verre.
- Whitehouse, D. (2010). *Islamic glass in the Corning Museum of Glass I. Objects with scratch-engraved and wheel-cut ornament*. Corning, NY: Corning Museum of Glass.

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POLISH ARCHAEOLOGY IN THE MEDITERRANEAN (PAM)
Annual of the Polish Centre of Mediterranean Archaeology, University of Warsaw

PAM Editor-in-chief: Iwona Zych

Volume 24/1: Research

All texts peer-reviewed.

<http://www.pcma.uw.edu.pl/en/pam-journal/pam-independent-reviewers/>

Press-reviewing process: Urszula Wicenciak

Bibliographic editor: Aleksandra Zych

Language consultation: Iwona Zych

Technical editor: Iwona Zych

Digital processing: Ewa Czyżewska-Zalewska

Image processing and copyediting assistance: Ewa Czyżewska-Zalewska, Szymon Maślak, Marta Momot, Marek Puzkarski, Urszula Wicenciak

Original graphic design: Jerzy Kowalski, updated by Ewa Czyżewska-Zalewska for PCMA

DTP: Ewa Czyżewska-Zalewska, assisted by Agnieszka Dzwonek

Cover: Tumulus SB 100 from the Al-Subiyah region of Kuwait during exploration
(Photo M. Makowski)

ISSN 1234–5415 (Print), ISSN 2083–537X (Online)

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00-497 Warszawa, Poland, ul. Nowy Świat 4

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Internet Bookshop: www.wuw.pl/ksiegarnia

Printed in Poland

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