

# ISLAMIC GLASS FROM THE AUDITORIA ON KOM EL-DIKKA IN ALEXANDRIA

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The glass presented here comes from the excavation of a complex of lecture halls located along the Theater Portico.<sup>1</sup> The vast area of three superimposed medieval Muslim cemeteries and thick overlying dump strata produced a significant collection of glass fragments, second only to that found at Fustat. The range in date is from early Byzantine (to be reported on later) through Islamic, with a concentration in the Fatimid and Early Mamluk periods.

As one would expect, this material is closely comparable with finds from other Islamic sites in Egypt and elsewhere in the region. The glass is overwhelmingly dominated by free-blown vessels. An outstanding feature is the large number of bottles, flasks and jars of different size, shape, decoration and function, but the variety of sherds makes it extremely difficult to identify specific vessel forms. Next in quantity are the open forms, consisting mainly of

simple drinking beakers and bowls. The excavated area yielded a number of pieces of lamps and, finally, noticeable quantities of window glass, executed in three different techniques.

The sizable quantities of different types of vessels not only emphasize their significance in daily life, but also confirm actual glass working on the site. Nearly all of the vessels were made of ordinary greenish-blue glass, containing many bubbles, sometimes impurities. A yellowish-green glass of varying intensity was also attested, other colors occurring sporadically. The glassware was on the whole quite simple and plain, but examples out of the ordinary formed a sizable group. They decoration was executed as tongued and mould-blown, two techniques most favored during the Islamic period. Another attested technique was that of incising. Indeed, some of the incised glass pieces were among the most remarkable in our corpus.

## BOTTLES

As noted at the beginning, bottles constituted a major category of the finds. Among the most prominent were small, plain items, commonly used for medicinal/apothecary and chemical needs. These ordinary, cheap and carelessly made wares

had a cylindrical neck, piriform body and concave base [*Fig. 1:1-4*]. They occurred in great abundance, not only among the glass finds from the auditoria, but also in the entire corpus of glass from the Kom el-Dikka excavations. Such forms have been com-

1 Cf. archaeological report by G. Majcherek in this volume.

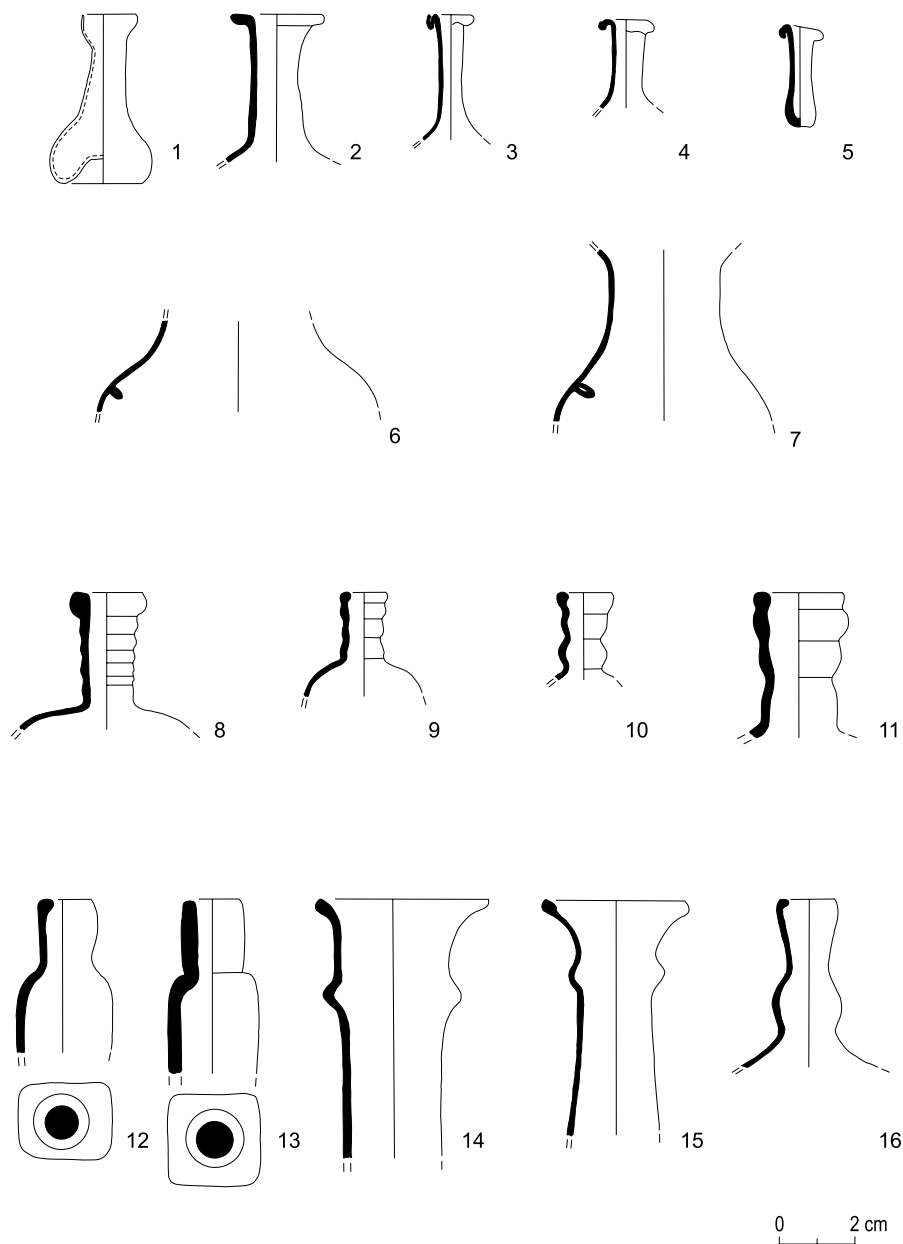


Fig. 1. *Islamic glass bottles*  
(Drawing and inking R. Kucharczyk)

monly recorded at Fustat,<sup>2</sup> Tebtynis<sup>3</sup> and Ashmunein.<sup>4</sup> Also included here were the small tube-shaped phials [*Fig. 1:5*], which were probably intended for the storage and measuring out of drugs, precious liquids or powders. Examples of such vessels have been reported from Fustat<sup>5</sup> and quite recently from Tiberias.<sup>6</sup>

Another common type of bottle, characterized by a horizontal tooled-in tube on the interior of the vessel, was represented by a considerable number of fragments [*Fig. 1:6-7*]. The significance of these inner tubes created by constriction, usually in the central part of a globular or bulbous body, is not clear.<sup>7</sup>

Small toilet bottles with horizontal ribbing on the cylindrical neck were another noted type [*Fig. 1:8-11*]. They have been reported from Islamic sites throughout Egypt.<sup>8</sup>

Likewise common were containers for perfumes and other liquids shaped like small square bottles [*Fig. 1:12-13*]. The nearest parallels to the fragments from the auditoria are found among the complete examples from Fustat.<sup>9</sup>

Bottles and flasks with a distinctive single or double bulge on the neck, belonging to the most characteristic and fairly common shapes of the Mamluk period [*Fig. 1:14-16*], are paralleled by similar fragments from Fustat,<sup>10</sup> Naqlun<sup>11</sup> and Quseir al-Qadim.<sup>12</sup>

The Early Islamic period witnessed considerable production of glass with mould-blown patterns. This decorative technique, which was descended from Roman tradition, allowed vessels to be created and ornamented by blowing into single or two-part molds. Of the recorded fragments of bottles, only a few bear such decoration. Ribbing, used since Roman times, was still practiced in the Islamic period. One piece with a faint spirally ribbed pattern, which most probably extended over the entire body, was optic-blown and tooled outside the mould, so that the ribs appear twisted [*Fig. 2:1*]. A bottle fragment with molded ribbing, but not twisted, was previously recorded at Kom el-Dikka<sup>13</sup> and recently at nearby Marea.<sup>14</sup> Another bottle executed in this technique demonstrated a much more elaborate pattern with the decoration on

2 G. T. Scanlon and R. Pinder-Wilson, *Fustat Glass of the Early Islamic Period* (London 2001), 40, Fig. 15n.

3 D. Foy, "Secteur Nord de Tebtynis (Fayyoun). Le Verre Byzantin et Islamique", *AnIsl* 35 (2001), 476-480, 487:111, 488:132, 145.

4 D. M. Bailey, *Excavations at El-Ashmunein* (London 1998), 152, Pl. 107:Y51.

5 Scanlon and Pinder-Wilson, *op. cit.*, 40-41, Fig. 6.

6 A. Lester, "The Glass", in: D. Stacey (ed.), *Excavations at Tiberias, 1973-1974. The Early Islamic Period* (Jerusalem 2004), 188, 191-192, Fig. 7.9:107-120.

7 Such fragments were attested at Tebtynis, cf. Foy, *op. cit.*, 476-479, 487:107, 488-134. This constriction occurs also on the open forms (lamps?), in which it could have served as a support for a metal rod which held the upper end of the wick.

8 Scanlon and Pinder-Wilson, *op. cit.*, 46-47, Fig. 20:d-g; Y. Shindo, "Glass", in: K. Sukurai and M. Kawatoko (eds), *Egyptian Islamic city, al-Fustat: Excavation report 1978-1985* (Tokyo 1992), 599: 26-30; Foy, *op. cit.*, 478, 488:148; Y. Shindo, "Islamic Glass Finds From Raya", *Annales du 15e Congres de l'AIHV* (New York 2001), 180-181, Fig. 2:4.

9 Scanlon and Pinder-Wilson, *op. cit.*, 66-68, Pl. 34e.

10 Shindo, "Glass", *op. cit.*, 601, 29-30.

11 M. Mossakowska-Gaubert, "Recipients en verre", *PAM XII, Reports 2000* (2001), 168-169, Fig. 1, type 4.

12 C. Meyer, *Glass from Quseir al-Qadim and the Indian Ocean Trade* (Chicago 1992), 76-76, Pl. 15:374-383, with extensive bibliography.

13 M. Rodziewicz, *Les habitations romaines tardives d'Alexandrie, Alexandrie III* (Warsaw 1984), 439, Pl. 74:386.

14 R. Kucharczyk, "Glass Finds from Marea, 2003", *PAM XV, Reports 2003* (2004), 66; not illustrated.

the shoulders, in high relief, consisting of a row of sunken dots and ovals surrounded by rhomboids. The motif with other, unfortunately blurred elements, is unclear [Fig. 2:2].

The smallest quantitatively group of bottles was made up of fragments with applied decoration. Such ornamentation includes green and opaque brownish-red trails, and sporadically also painted spots of the

same color [Fig. 2:3-5]. Considering the noticeable presence of semi-products of the same brownish-red color in the Kom el-Dikka assemblage, which is characteristic of early Islamic glass production, it is quite possible that vessels with this type of decoration were produced at the site.<sup>15</sup> Fragments of trailed glass have been reported from such places in Egypt as Fustat,<sup>16</sup> Tebtynis<sup>17</sup> and Raya.<sup>18</sup>

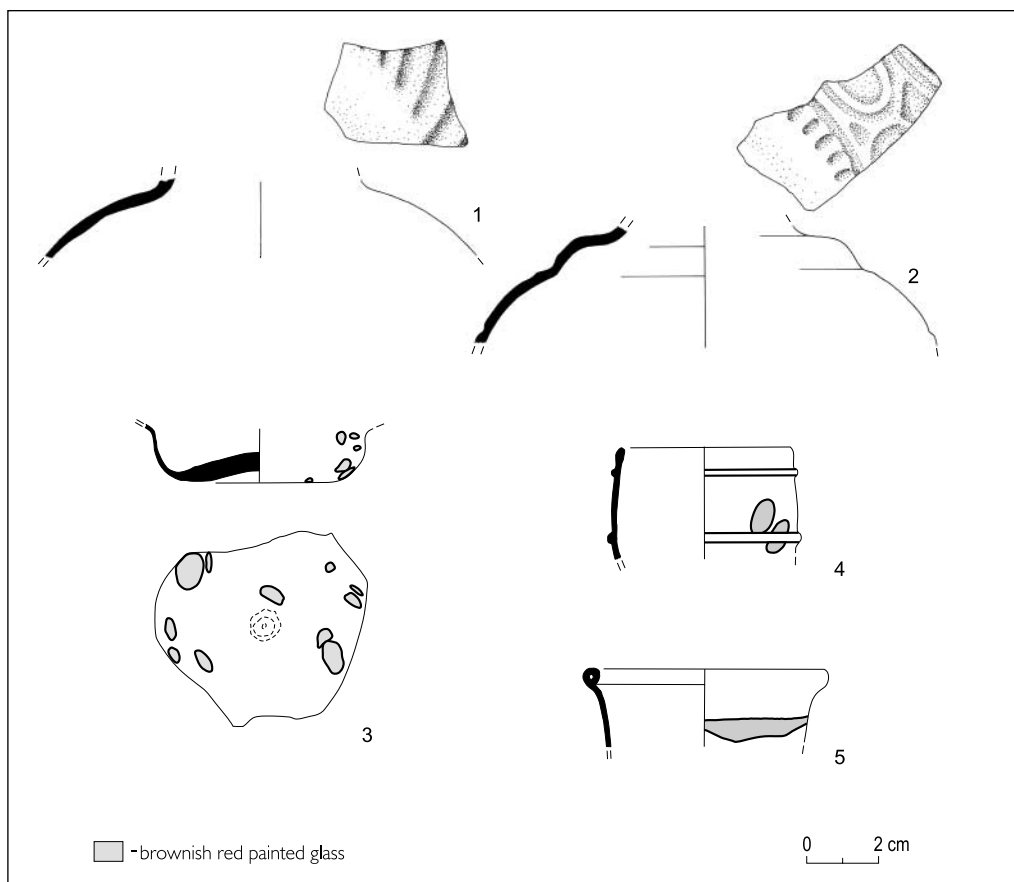


Fig. 2. Islamic glass bottles with mould-blown patterns (1-2) and applied ornaments (3-5) (Drawing and inking R. Kucharczyk and M. Momot)

15 Rodziewicz, op. cit., 239-243.

16 Scanlon and Pinder-Wilson, op. cit., 62-65, Pl. 32h, 32i.

17 Foy, op. cit., 471-472, 484: 50-51, 54, 56-57, 61.

18 Shindo "Raya", op. cit., 183.

## BEAKERS AND BOWLS

The second major group of vessels is composed of straight-sided cylindrical beakers and bowls with rounded rims and flattish bases, very often with a pontil scar. These included both undecorated [Fig. 3:1-2] and decorated examples [Fig. 3:3-7].

Decorated objects are easily identifiable because of their impressed patterns. Such vessels with tonged or pincered decoration are extremely common in the Islamic levels at Kom el-Dikka.<sup>19</sup> The technique, involving a tong-like tool with ornaments on both sides, is alleged to have originated in Egyptian workshops. Fustat was thought of as the main center of such production, but this exclusive attribution seems now to be contested by the findings from Alexandria. As a rule, the decoration of such vessels was simple and consisted of a limited number of geometrical motifs. Among the most common were concentric circles with or without a central dot, often distorted into ovals by subsequent free-blowing, but also rhomboids, dots and lines. All these elements were usually repeated around the wall. Sometimes they filled the entire surface of the vessels. A unique find at present is a fragment of side wall of a two-color beaker, featuring a cobalt blue upper part contrasting with

a colorless bottom with yellowish tinge [Fig. 3:5].<sup>20</sup> Most suited to this technique were open forms, but the decoration also occurred on vessels with cylindrical neck, as in the case of this big pitcher [Fig. 3:3]. It had a slightly flaring neck with rounded rim, bearing a horizontal line of circles impressed at irregular intervals, which assumed an oval shape after tooling. Vessels with tonged decoration are a frequent find on 9th and 10th century sites around the Islamic world. Findspots elsewhere in Egypt include Fustat,<sup>21</sup> Tebtynis,<sup>22</sup> Ashmunein,<sup>23</sup> el-Tur.<sup>24</sup> Pincered decoration is prevalent at Raya.<sup>25</sup> They have been found even as far as Gao, Mali<sup>26</sup> and China.<sup>27</sup>

A notable number of fragments of decorated bowls with moulded-blown ornaments were registered in the assemblage. Two of the bases are very similar in appearance. The molded and optic-blown decoration, executed in high relief, consists of an eight-petalled rosette, a motif widely used in Islamic art [Fig. 4:1-2]. Surrounding it is a row of ovals with triangular dimples between them. Other elements of the overall pattern could not be determined. A prominent pontil mark on the underside of the base, crudely superimposed on the design, evidently spoiled the pattern. A comparable flower

19 Rodziewicz, op. cit., 346, Fig. 348:1-8.

20 The same combination is observed on a jug with pinched decoration from the David Collection, cf. K. von Folsach, *Islamic art. The David Collection* (Copenhagen 1990), 144:223.

21 Scanlon and Pinder-Wilson, op. cit., 79-82, Fig. 38:a-f, h-j; undecorated 28-30, Pl. 8b; Shindo, "Glass", op. cit., 577:1-7, 22-23; undecorated 589:6-8.

22 Foy, op. cit., 474-475, Fig. 5:84-102; 478-480, 488, Fig. 7:131, 135-136, 141-144; undecorated 473, 476-477, 485:82, 487:116.

23 Bailey, op. cit., 150, Pl. 92:Y28, Y30; undecorated 149-150, Pl. 92:Y7, Y8, Y10, Y13.

24 M. Kawatoko, *A Port City Site on the Sinai Peninsula, al-Tur* (Tokyo 1996), 68, Pl. 40:11.

25 Shindo "Raya", op. cit., 181-182, Fig. 3:1-2; undecorated: 180-181, Fig. 2:1.

26 T. Insoll, "Islamic Glass from Gao, Mali", *JGS* 40 (1998), 82-85, Figs. 3-4.

27 An Jiayao, "Dated Islamic Glass in China", *Bulletin of the Asia Institute*, New Series 5 (1991), 124, 129, Fig. 9.

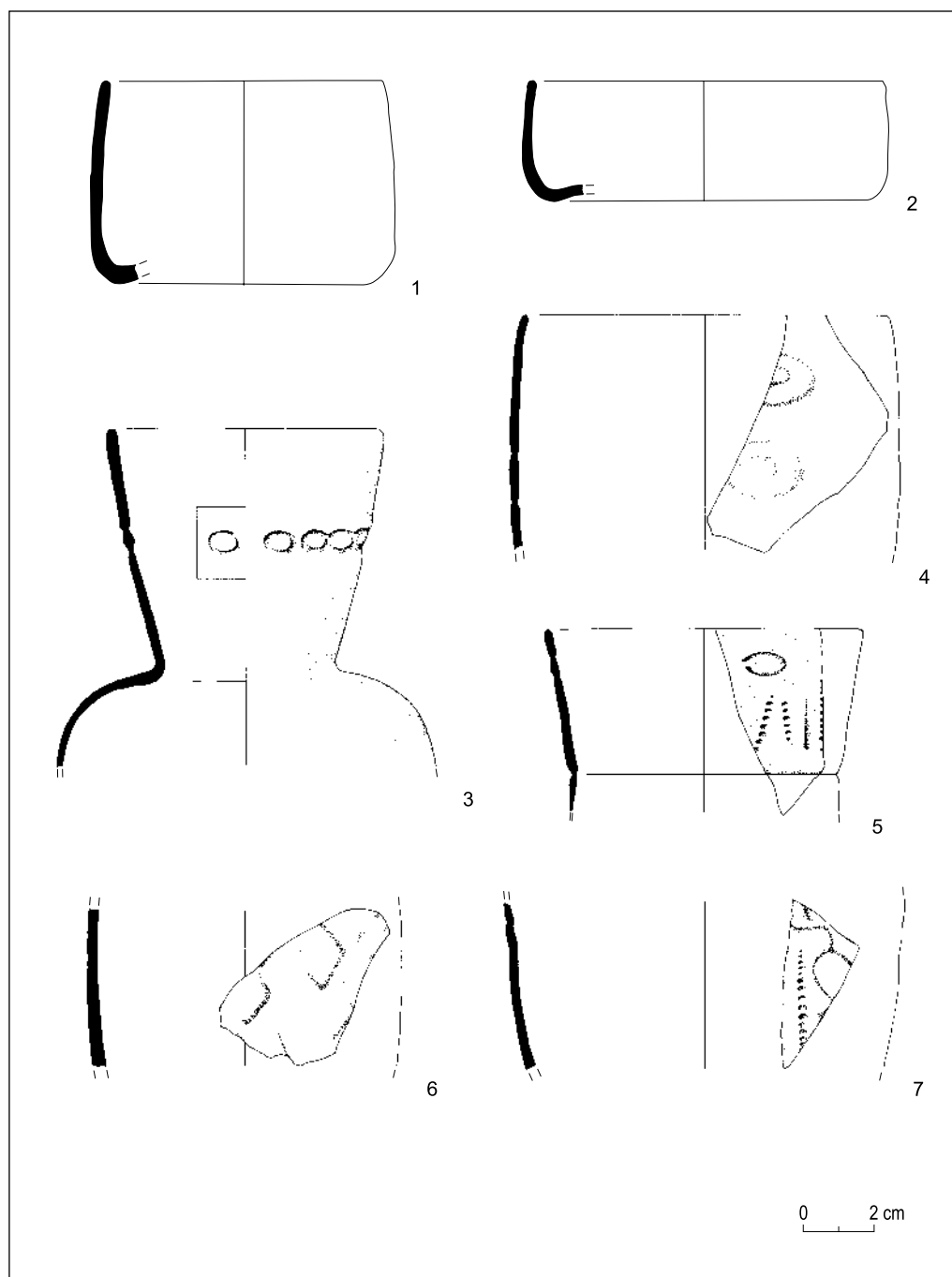


Fig. 3. Plain and tong-decorated vessels  
(Drawing and inking M. Momot)

rosette occurs on the base of a bowl from Fustat.<sup>28</sup> The decoration on the third fragment finds undoubtedly the best parallels in bowls from the early 11th century ship-

wreck of Serge Limani [Fig. 4:3].<sup>29</sup> This time, the main motif, a six-pointed star, is surrounded by oval dimples and most probably four multi-petalled flower rosettes.

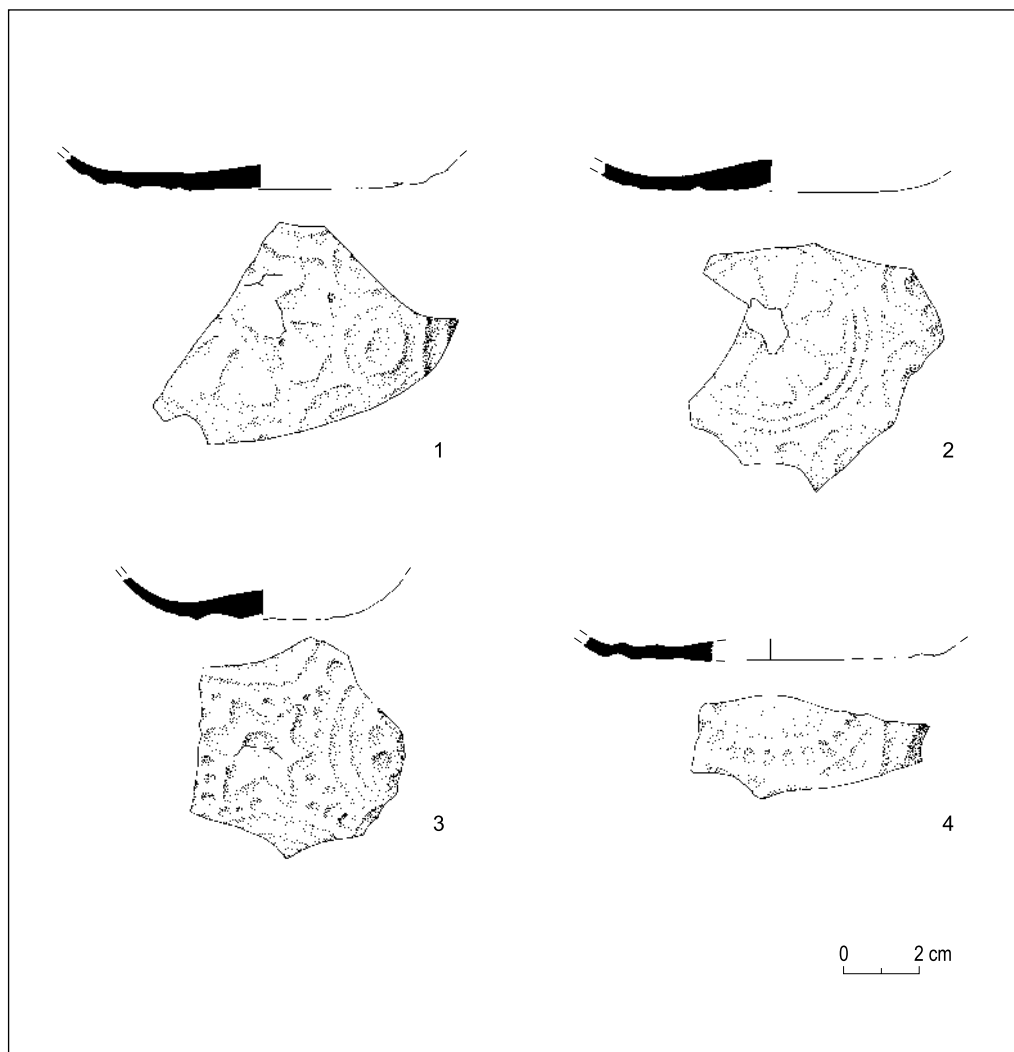


Fig. 4. *Moulded-blown vessel fragments*  
(Drawing and inking M. Momot)

28 Y. Shindo, "The Early Islamic Glass from al-Fustat in Egypt", *AnnAIHV* 14 (1998), 233-234, Fig. 1:5.

29 B. Lleddo, "Mold siblings in the 11th-century cullet from Serçe Limani", *JGS* 39 (1997), 54, Fig. 11b; Scanlon and Pinder-Wilson, op. cit., 73-77, Pl. 36k.

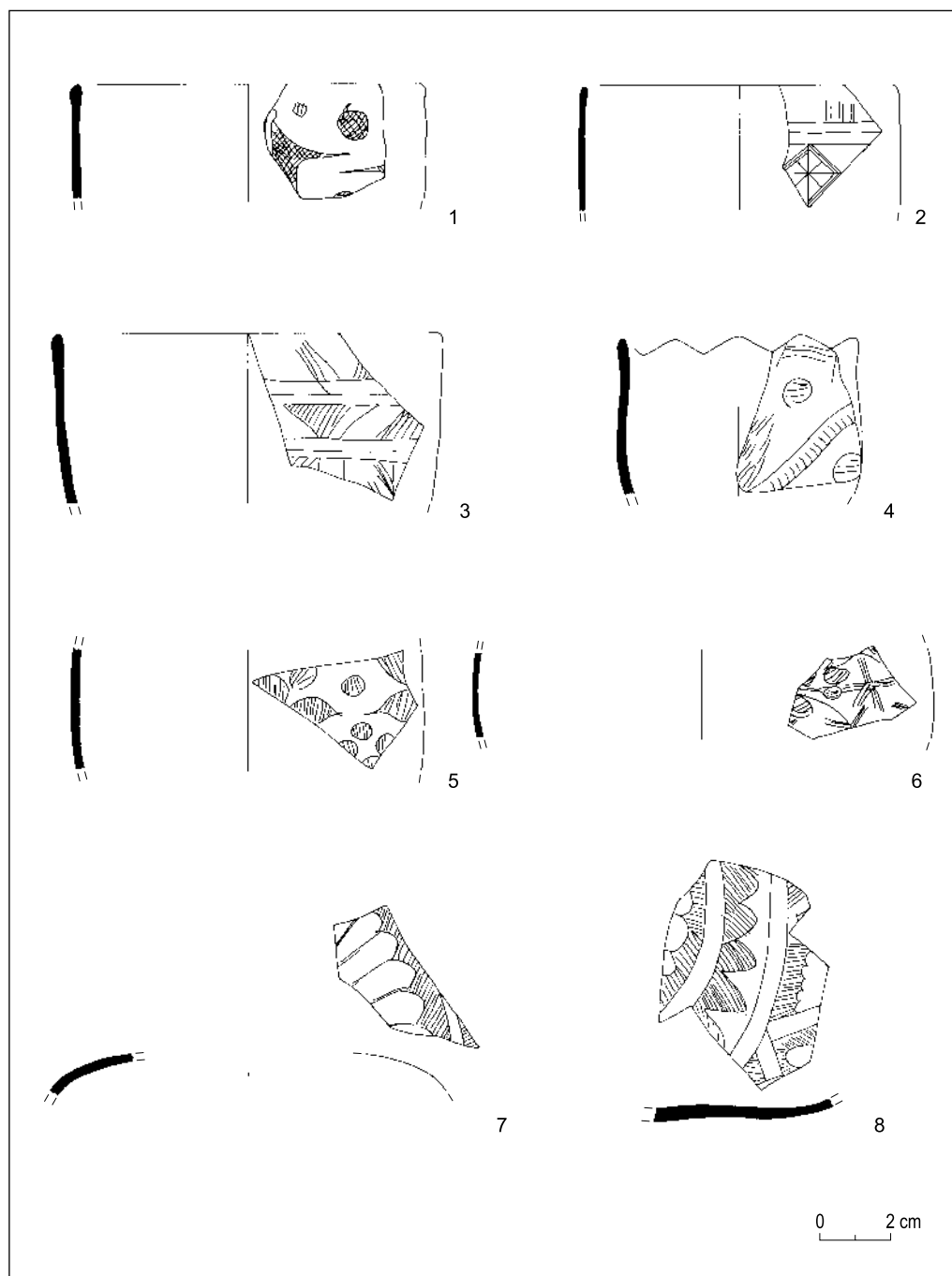


Fig. 5. Fragments of incised glass vessels: beakers (1-4), bottles (5-7), plate/bowl (8)  
(Drawing and inking R. Kucharczyk and M. Momot)



## INCISED GLASS

Kom-el-Dikka is among the many sites where scratch-decorated fragments were observed [Fig. 5].<sup>30</sup> Glass decorated in this manner is usually attributed to a period ranging from the 9th to the 10th century. The stylistic homogeneity of these pieces is sufficient to justify a conclusion about their not just generally Egyptian, but specifically Alexandrian provenance. The incised technique derives from Roman glass, but was undoubtedly revived and developed by Islamic glassmakers. The major innovations were in the area of style and motifs on an entirely new range of colored glass. Vivid colors, turquoise, purple, amber and cobalt blue, with finely scratched white lines created spectacular visual effects. As far as the form is concerned, there were three distinct groups: simple beakers,

plates/ bowls and bottles. Fragments from Alexandria formed a fairly consistent group, in which geometric designs prevailed over what appeared to be floral motifs [Fig. 5]. The design repertory is rich and consists of combinations of lines (horizontal, rectangular, oblique, and zigzag), triangles, trapezoids, circles and semicircles, ovals, squares. All these diverse elements, usually arranged in bands, are hatched with short parallel lines. The surface of the vessels is almost entirely covered with ornaments. A tendency to fill any empty space created the horror vacui effect that is so characteristic of Islamic ornamentation.

In Egypt, datable examples come from Fustat,<sup>31</sup> Raya,<sup>32</sup> el-Tur,<sup>33</sup> and Tebtynis.<sup>34</sup> Quite recently, a corpus of such glass has been published from Beth Shean.<sup>35</sup>

## ALEMBICS AND LAMPS

Islamic strata on Kom el-Dikka have yielded a considerable amount of specialized vessels associated with pharmacology and medicine (bloodletting) [Fig. 6: 1-2]. The alembics or cupping glasses, commonly found throughout the Islamic world, are easily recognized because of their characteristic shape: thin-walled cup with a long straight or curved pipe attached separately to one side of the vessel. They constitute part of sets used in alchemy for the distil-

lation of alcohol, perfumes and essential oils. Specimens were unearthed at Fustat<sup>36</sup> and Tebtynis.<sup>37</sup> A fair number of looped stirring glass rods were found along with the alembics. They were made of the same glass and carelessly fashioned [Fig. 6: 3-4]. Undoubtedly, they were also produced on the spot and most probably were used together with the alembics.

Lamps were well represented. The registered fragments belonged to a type de-

30 R. Kucharczyk, "Incised Glass from Kom el-Dikka", forthcoming; Rodziewicz, op. cit., 346, Fig. 348:11-12.

31 Scanlon and Pinder-Wilson, op. cit., 82-83, Fig. 39:a-b; Pl. 39a; Shindo, "Glass", op. cit., 583:21-23.

32 Shindo "Raya", op. cit., 182-184, Fig. 5.

33 Kawatoko, op. cit., 68, Pl. 40:8.

34 Foy, op. cit., 477-478, 487, Fig. 6:130.

35 S. Hadad, "Incised glass vessels from the Umayyad and Abbasid- Fatimid periods at Bet Shean, Israel", *BASOR* 317 (2000), 63-73, with extensive bibliography.

36 Scanlon and Pinder-Wilson, op. cit., 56-59, Fig. 29:a-g; Shindo, "Glass", op. cit., 611:1-3.

37 Foy, op. cit., 478-480, 488, Fig. 7:147.

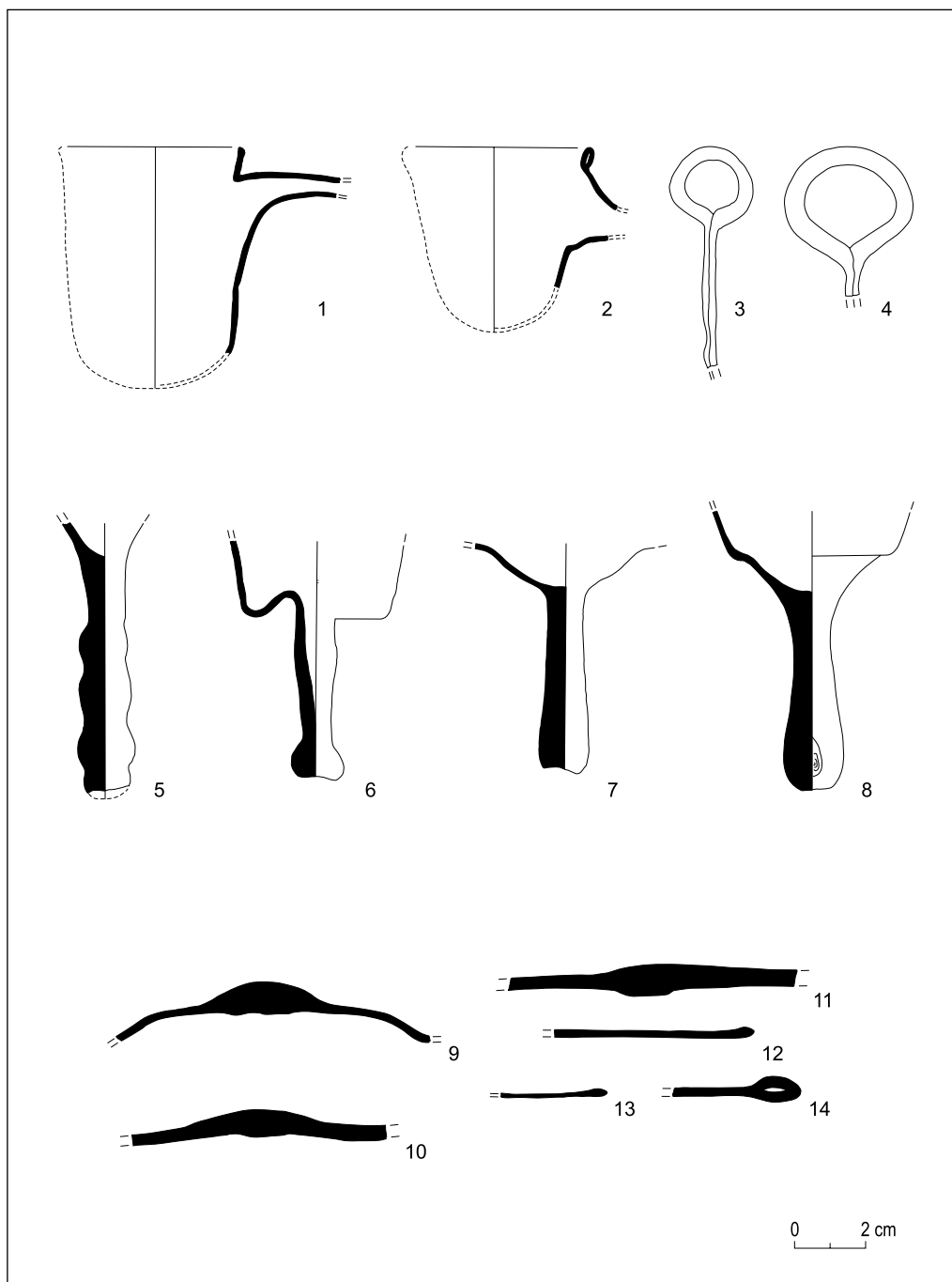


Fig. 6. Alembics and stirring glass rods (1-4), lamps (5-8) and window panes (9-14)  
(Drawing and inking R. Kucharczyk)

signed to fit *polycandela*. The most numerous were lamps with solid knobbed stem [Fig. 6:5-7]. The abundance of lamps with bulbous-like ending and impressed grooves or dots does not seem to be paralleled elsewhere [Fig. 6:8]. They are characteristic not only of the glass finds from Kom el-Dikka, but also of nearby Marea.<sup>38</sup>

A considerable amount of window glass fragments was observed in the material [Fig. 6:9-14]. Three different manufacturing methods were used, the most frequently prac-

ticed one being that of producing a round pane with a thick center and folded or rounded edges. Many pieces still bear the distinctive pontil scar. "Bull's-eye" circular glass panes were fire-polished on both sides.

In addition, some mold-pressed glass weights were recorded. Up to the end of the Fatimid period, such objects were used in the Islamic monetary system to establish the weight of coins.<sup>39</sup> Later, under the Mamluks and Ottomans, they may have also functioned as tokens.

38 Cf. R. Kucharczyk, "Glass finds from the Basilica in Marea, 2003", *PAM XV, Reports 2003* (2004), 63-64 and Fig. 1; R. Kucharczyk, "Glass finds from the Basilica in Marea, 2004" in this volume, 56, Fig. 1: 4-7.

39 K. Eldada, "Glass weights and vessel stamps", in: Jere L. Bacharach (ed.), *Fustat Finds. Beads, Coins, Medical instruments, Textiles, and Other Artifacts from the Awad Collection* (Cairo 2002), 112-165.