

# Glass finds from Area F (Houses FA and FB) at the Kom el-Dikka site in Alexandria (season 2021)



**Abstract:** The collection of early to mid-Roman glasses from the Kom el-Dikka site in Alexandria has been augmented by new finds from the excavation of substantial remains of Roman domestic architecture (Houses FA and FB) in Sector F in the central part of the site. The range of vessel forms in this new set is not extensive, and shapes known from previous investigations in this sector are repeated to a degree. The most noteworthy contribution is the new data on colourless glassware of the period, a category that has hitherto been represented by a rather limited number of finds from the excavations, and which constitutes key evidence of artisanal activities in the final occupation phase of the Roman houses here.

**Keywords:** Alexandria, Roman glass, colourless glass, gold-in-glass beads

The finds of ancient glass presented here come from the remains of Roman domestic architecture discovered in the central part of the site (Sector F), located between the Imperial bath, the cistern and the theatre. Excavation of this zone started as early as 1995 and was pursued off and on for several seasons, the most recent fieldwork being in 2021. Early Roman levels were reached in 2017 (Majcherek 2018; 2019).

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**Acknowledgments**

I wish to express my deepest gratitude to Iwona Zych for her friendly support and perceptive editing of my papers.

The uncovered early houses (labelled FA and FB) are typical examples of Roman Alexandrian residential architecture, combining Greco-Roman features with traditional Egyptian elements. This is suggested both by details of the plan, and the nature of the architectural decoration. The chronology of the complex has been established based on, traditionally, pottery, lamps and coins. The glass finds from the excavation have contributed supplementary information to this end, that is, to determine their time of construction and occupation. According to this periodization, the houses were occupied between the 1st and 3rd centuries CE, and lost

their purely domestic character in favor of the operation of different craft workshops sometime in the late 3rd century. Particularly significant and undoubtedly impressive is the evidence of gold-in-glass manufacture, including large quantities of beads, waste and grooved moulds made of stone intended for bead shaping. The latter are still unique as finds, not just from Egypt but from the entire eastern Mediterranean.

For the sake of reporting clarity, the finds from the two houses will be considered separately, whereas the summary at the end will refer to the chronological and typological assemblages as a whole.

## GLASS FINDS FROM HOUSE FA

The site of House FA started to be explored in 1995 (Majcherek 1996: 14–20); extensive work was done in 1997–1999 (Majcherek 1997: 19–31; 1998: 25–30; 1999: 35–37) and most recently in 2021 (Majcherek 2022, in this volume). In the 2021 season, the fill of House FA, directly overlying the mosaic floors of the early Roman building, yielded a set of just 19 vessel fragments. The repertoire proved to be limited, comprising a beaker, a juglet and bottles. All the vessels were free-blown except for one mould-blown bottle. The chronological breakdown is by the two main chronological horizons identified in the structure: early/mid Roman (2nd–3rd century CE), and late Roman (4th–5th century CE).

### VESSELS OF EARLY/MID ROMAN DATE

This very small group of finds is characterised by the presence of free-blown colourless specimens characteristic of

the 2nd–3rd century CE. There is no evidence of any kind of decoration. Among the recovered shards one could identify a thin body fragment of a beaker with a rounded, thickened rim and several body and base shards of bottles with globular bodies and slightly concave bases (FReg. 2022.2.21; not illustrated). Importantly, vessels of this date from the Kom el-Dikka site, very rare on the whole, are blown of colourless glass. Completing the record is a fragment of a juglet strap handle from the 2nd–3rd centuries CE (FReg. 2012.4.21; not illustrated).

### LATE ROMAN FINDS

The material includes a flat circular base and a wall fragment with a series of short grooves on the body, just above the base (FReg. 2017.7.21; not illustrated). It is highly probable that this piece, mould-blown of an opaque brownish-red glass, came from a head flask, and the grooves,

forming a herringbone-like motif, most probably imitate hair. The insufficient preservation of this piece does not allow one to ascertain whether there was one or two faces (two heads, back-to-back). The vessel can be dated to the 4th century (for a general discussion of the different types of Roman head-shaped flasks, with single, double or multi heads, originating from the Eastern Mediterranean probably in the Augustan period, see Stern 1995: 210–215).

Mould-blown head flasks are present in the Roman glass repertoire from the 1st century CE onward, but they are rather uncommon in Roman Egypt. At Kom el-Dikka, they are represented by a complete, pale yellowish-amber double-faced bottle with chubby child-like faces, most probably representing Dionysus or Eros, found in the underground corridors of the late antique bath service area, in a thick ash deposit originating from the furnaces (Kucharczyk 2004: 43–44, Fig. 1A), and by several bases with a part of the lower wall, made of either yellowish-green, blue or purple glass, found in domestic contexts (Kucharczyk 2010a: 59, Fig. 2:5; 2011: 58–59, Fig. 1:12; 2016a: 92). Some fragments of a toilet container of this type, possibly with double-faces, also appeared at Marina el-Alamein: in House 1 in a context assigned to the 2nd through 3rd centuries CE (Kucharczyk 2010b: 116–117, Fig. 1:7) and in a subterranean domestic cistern in House 1, where

it was part of a glass assemblage dated from the 1st through the mid-5th century CE (Kucharczyk 2010b: 118). Recently new evidence of this type of glass: a roughly circular base with a fragment of a wavy wall (hair curls?), came to light at the Marea site on Lake Maryut, in a funerary context most probably dated to the late Roman/early Byzantine period (Kucharczyk forthcoming). Other findplaces of this type of flask in Egypt include Karanis (Harden 1936: 214 n.1, Pl. XVIII: 629, early 2nd to mid-3rd century. A remarkable single, head-shaped bottle (the face is of a chubby child-like type) with a tall cylindrical neck, and a disk-like foot with an applied bead stem came to light at Ismant el-Kharab, ancient Kellis, in Dakhleh Oasis. Interestingly, the vessel contained residue of pine, cedar or fir resin (Hope and Whitehouse 2004: 292–294, Fig. 1a and Plate 1, Group 1, late 3rd or early 4th century). A few fragments of head-flasks recently excavated at Berenike belong to the late Roman period (author's personal observation).

Exemplifying utilitarian architectural forms are two fragments of flat window-panes made in the cylinder technique (FReg. 2022.1.21; not illustrated), and two glass tubes for bead-making: one of them is of thick, brownish-red opaque glass streaked by dark brown glass (FReg. 2072.1.21; not illustrated), the second, is a thin tube made of green glass (FReg. 2017.5.21; not illustrated).

## GLASS FINDS FROM HOUSE FB

Situated in the western part of sector F, House FB was partly uncovered in 1998 (Majcherek 1999: 37–39), and later explored from 2007 to 2009 (Majcherek

2010: 35–42, Figs 7–9; 2011: 38–46, Figs 6–8). The excavation campaign in 2019 uncovered a very well preserved multicoloured *triclinium* mosaic floor with lotus

flowers and a geometric design in *opus tessellatum* (Majcherek 2020: 474–481, Figs 2–3). The glass assemblage from the house is likewise assigned to two periods: early/mid Roman (2nd–3rd centuries CE) and late Roman (4th–5th centuries CE).

#### FINDS FROM EARLY/MID-ROMAN TIMES

The early group, dating to the early/mid Roman period (2nd–3rd centuries CE) consists of vessels alone. The record includes the bottom part of a colourless specimen supported on 17 small projections/toes pinched out of the body around the base. The toes are of various size, densely spaced and set in an uneven circle. The spreading wall suggests a flask with globular body (FReg. 2003.1.21) [Fig. 11].

Vessels of this date with a base ring formed by pinched out toes are extremely rare at Kom el-Dikka. So far only one almost complete vessel is known from the site. It belongs to a perfume flask, a so-called dropper or sprinkler (Kucharczyk 2004: 44–45, Fig. 1B). Its globular body, supported on 18 small protrusions, pulled down from the base and set in a circular arrangement forming a raised stand, is decorated with eight unevenly and widely distributed pinched ribs, higher in the middle than at the ends, running from the shoulder down to the base; all of them are intact. Also featured on the body of the bottle are eight small protrusions pinched between the ribs, on the upper part of the wall, in a horizontal row. Between the body and the missing cylindrical neck is a tooled constriction ring, an internal diaphragm with a narrow aperture in the centre, intended for dripping small quantities of liquid (per-

fumes, rose water, essential oils, or other costly liquids) drop by drop and for preventing evaporation. This find is distinctive because of the clarity of the glass, precise workmanship, and good state of preservation, features that are rather unusual for glass of this period found at Kom el-Dikka. A slightly concave base of a colourless bottle, standing on 17 small, unevenly spaced toes of various size set in an uneven circle, was discovered back in 2007 (context 69/07). Similarly shaped bases are present in the glass material from Marina el-Alamein: the 3rd–4th century CE assemblage recovered from House 1 (Kucharczyk 2010b: 116–117, Fig. 1:8) and the 1st through mid-5th century CE glass from the cistern in the courtyard of House 1 (Kucharczyk 2010b: 118, Fig. 2:4).

The Kom el-Dikka site has also produced a few bases of late Roman date, with edges formed by a ring of pinched toes. The difference between base rings of 2nd–3rd century date and those from later contexts is clearly discernible. The latter finds are thick and solid, made of green and yellowish-green glass, and could be part of bowls and bottles (Kucharczyk 2010a: 57–58, Fig. 1:14–16). Bases shaped in this fashion were observed in the glass material from the 3rd–4th centuries CE coming from House 1 at Marina el-Alamein (Kucharczyk 2010b: 116–118, Fig. 1:9–10). Vessels with a ring of small pinched-out toes are reported from Karanis, where they are thought to be the bases of flasks (Harden 1936: 219–220, Nos 682–685). Evidence of glass material of this kind has been published also from Didymoi (modern Khashm el-Minayh), a small fortlet in the Eastern Desert (Brun 2011: 222, Fig. 271:136).

## Catalog

Flask	[Fig. 1:1]
FReg. 2003.1.21 (context 2003/21)	
Complete base and body fragment; base with a ring of 17 pinched-out small toes (one lost), uneven in size, each with a tiny cavity on the outside; unequal spaces between them; roughly circular; thin, curving wall; concave floor.	
Base Dia. 3.6 cm	
Colourless glass with greenish tinge; some small spherical bubbles	
Milky-white weathering, areas of peacock iridescence	
No pontil scar	
2nd–3rd century CE	

Flask	[Fig. 1:2]
FReg. 2001.5.21 (context 2001/21)	
Neck, rim and body fragment; cylindrical neck with a thick "collar-like" rim, constricted at the junction with the body; funnel mouth, rim folded outward, then downward to form a flange; probably pear-shaped body.	
Rim Dia. 2.8 cm; height (preserved) 4.00 cm	
Colourless glass with greenish tinge; numerous small spherical bubbles near the rim and some impurities	
Milky-white weathering, areas of peacock iridescence	
Free-blown, worked on the pontil	
2nd century CE and later	

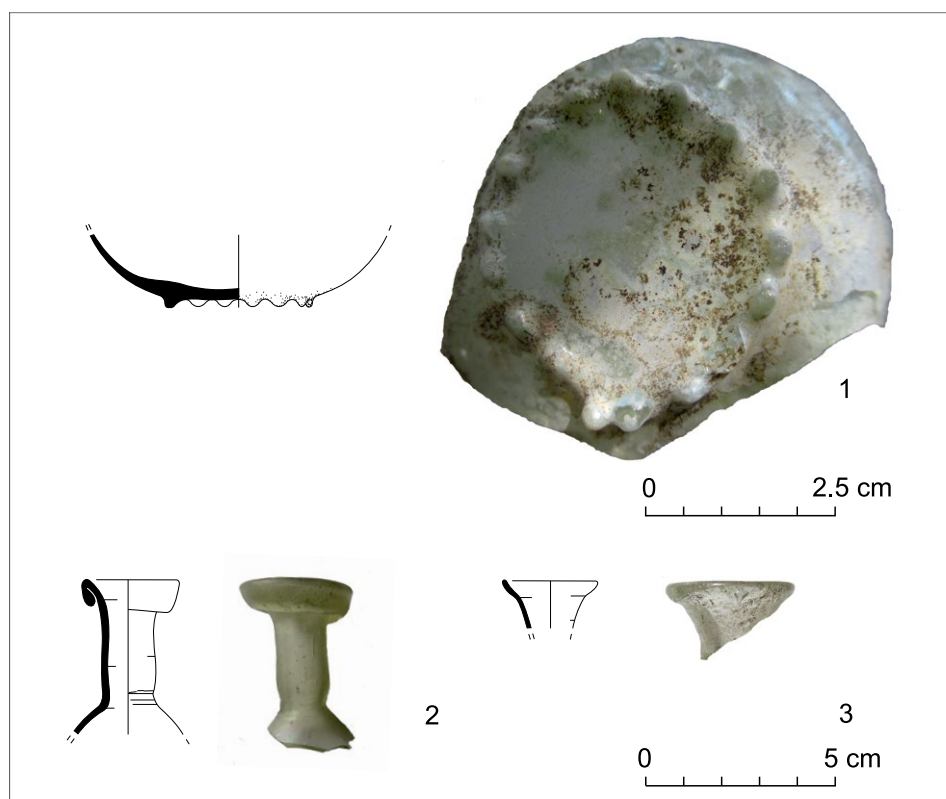


Fig. 1. Glass vessels of the early/mid Roman period from House FB (2nd–3rd centuries CE): 1 – base ring with pinched-out toes; 2 – flask neck with thick “collar-like” rim; 3 – bottle with funnel-mouth (PCMA UW | drawing R. Kucharczyk and M. Momot; photos R. Kucharczyk)

Flask	[Fig. 1:3]
FReg. 2007.3a.21 (context 2007/21)	
Fragment; rim and part of neck; short funnel-shaped mouth with fire-rounded edge.	
Rim Dia. 2.5 cm; height (preserved) 4.00 cm	
Colourless glass with greenish tinge; numerous small spherical bubbles and larger one, particular near the rim	
Transparent	
Free-blown, tooled	
2nd–3rd centuries CE	

A long cylindrical neck in the material has a characteristic thick “collar-like” rim, and a constriction at the base of the neck, widening toward an apparently pear-shaped body (FReg. 2001.5.21). It is an example of a typical form of Egyptian perfume container known from the 2nd century onwards [Fig. 1:2]. The form was recorded earlier in the material from House FB (Kucharczyk 2010a: 66–67, Fig. 7:4).

Such specimens have good parallels in many glass assemblages from Egypt. Several fragments of rather thick-walled examples were excavated in the Roman bath at Marina el-Alamein, together with beakers, bowls and bottles characteristic of the 2nd–3rd centuries CE (Kucharczyk 2005: 96, 98, Fig. 3:4–5). This type of toilet container is particularly well represented in the assemblage from Medinet Madi (Silvano 2012: 46–47, Pls XXX and XXXII). Other comparable pieces are reported from the Bagawat necropolis (Nenna 2010: 203, Cat. 28), Tebtynis (Nenna 2000: 22, Fig. 3:3) and Ismant el-Kharab in Dakhleh Oasis (Marchini 1999: 81–82, Fig. 4b). Analogous examples were unearthed in Karanis, but with

slightly different rim profiles (Harden 1936: Pl. XVII:516,537,542) and at Bah-nasa/Oxyrhynchos (Cooney 1976: 107, No. 1093). Turning to other sites in Egypt, comparative material is known from Elephantine (Rodziewicz 2005: 86, Pls 4.68, 4.69), Quseir al-Qadim (Meyer 1992: 28, Pl. 8:170), Didymoi (Brun 2011: 221, Fig. 270:118–121) and the fort of Quaret el-Toub in Bahariya Oasis (Mos-sakowska-Gaubert 2012: 134, Fig. 7.8).

This group of finds includes also a fragment made of very bubbly, colourless glass, apparently representing a small bottle with a funnel-mouth (FReg. 2007.3a.21) [Fig. 1:3]. A very good parallel to the shape and fabric is provided by a small bottle with a conical body and a conical mouth published from Tebtynis (Gallazzi and Hadji-Minaglou 2019: 192, No. 123, 2nd–3rd centuries).

Earlier seasons in House FB have yielded glass material of the 2nd–3rd centuries CE in the form of a few vessels made of colourless glass: a shallow bowl, a flat solid base apparently from a beaker, a solid base ring from a small plate or bowl, and circular dome-shaped glass objects (gaming counters, insets?), one of them made of mosaic glass (Kucharczyk 2010a: 66–67, Fig. 7:1–4). Added to this is a group of finds recovered from a charcoal deposit inside a room, provisionally identified as a kitchen. This set consisted of a colourless bottle (severely deformed by high temperatures) with a “collar-like” rim, with a dark residue, probably kohl, on the bottom, found with two bone rods, apparently cosmetic tools (Kucharczyk 2011: 63–66, Fig. 7).

Completing this list of finds are objects associated with a workshop produc-

ing jewellery items, supposedly operating in the house in its final phase. Among them are gold-in-glass beads, and grooved soapstone moulds for bead shaping, beads made of glass and various stones, as well as coral. Artisanal activities include also bezels or insets made of various colours of glass, and agate (onyx and sardonyx) and coral working (Kucharczyk 2011: 64–66, Fig. 8:1; 2019: 48–49, Fig. 5; Majcherek 2018: 43–46, Fig. 9–11).

### GLASS FINDS FROM THE LATE ROMAN PERIOD

Only two, free-blown glass vessel fragments and a few objects made by non-blowing techniques were recorded from House FB. The vessels are represented by a lamp and a bottle. The massive, neatly formed solid knob base of yellowish-green glass was part of a conical lamp (FReg. 2007.3b.21) [Fig. 2:1]. Fragments of lamps of this type, represented by variously shaped bases (coiled knob base, solid, triangular in section), body shards (plain or with applied decorative elements, such as small or large blobs, usually dark blue in colour and trailed-on decoration of open diamonds), and cracked-off or rounded, thickened rims are very well represented at the Kom el-Dikka site in contexts dated to the 4th–5th centuries CE. They are made mostly of yellowish-green or green glass (Kucharczyk 2007a: 46–48, Fig. 1:1–12; 2010a: 63–65, Fig. 5:7–13; 2011: 61, Fig. 3:2; 2016a: 96–97, Fig. 6:4–5; 2020: 502–503, 506–507, 510–511, Figs 2:4–6, 4:12, 5:5). Conical lamps, either plain or decorated with applied blue and green large blobs arranged in one horizontal row running around the upper part of the lamp or in groups forming roughly

triangular forms, were recorded from the fill of two underground cisterns in Houses 1 and 2 at Marina el-Alamein, in contexts associated respectively with the 1st through mid-5th centuries CE and the 4th–5th centuries CE (Kucharczyk 2010b: 116–117, 122–125, Figs 1:13, 6:1–3, 5–6, 7:1–4; 127, Fig. 9:3, 7–8). Very limited evidence of this type of lamp (some variously shaped bases and body parts with cracked-off rims) comes from the site of ‘Marea’ on Lake Mareotis, from deposits inside the Great Basilica (Kucharczyk 2007b: 73, Fig. 3:1) and House H1 (Kucharczyk forthcoming).

Such specimens are in turn very well attested at many sites in Egypt. Complete vessels come from the Roman houses in Karanis (Harden 1936: Pl. XVI:436–478). Other sites include Medinet Madi (Sil-

#### Catalog

Lamp	[Fig. 2:1]
FReg. 2007.3b.21 (context 2007/21)	
Conical body; thick, solid knobbed base	
Base Dia. 3.00 cm	
Yellowish-green glass, some spherical bubbles	
Milky-white weathering, areas of peacock iridescence	
Tooled, fine workmanship	
4th–5th centuries CE	

Bottle	[Fig. 2:2]
FReg. 2004.1.21 (context 2004/21)	
Complete, high, concave base and wall fragment; thin vertical wall; no pontil mark	
Base Dia. 6.00 cm	
Yellowish-green glass, translucent and transparent; numerous small spherical bubbles, some black impurities	
Free-blown	
4th–5th centuries CE	



Wall revetment [Fig. 2:3]	Rod [Fig. 2:5]
FReg. 2001.7.21 (context 2001/21)	FReg. 2002.3.21 (context 2002/21)
Fragment	Fragment; square in section (4 mm x 4 mm), length as preserved 1.4 cm
Opaque brownish-red glass with sections of white canes; upper surface glossy, bottom rough; grozed edges	Opaque brownish-red glass
	Shape obtained by casting molten glass into a mould; longitudinal striations
Wall revetment [Fig. 2:4]	Raw coral [Fig. 2:6]
FReg. 2001.7.21 (context 2001/21)	FReg. 2002.5.21 (context 2002/21)
Fragment	Chunk of raw coral ( <i>Corallium rubrum</i> )
Opaque green glass with sections of opaque white canes; upper surface glossy, bottom rough	

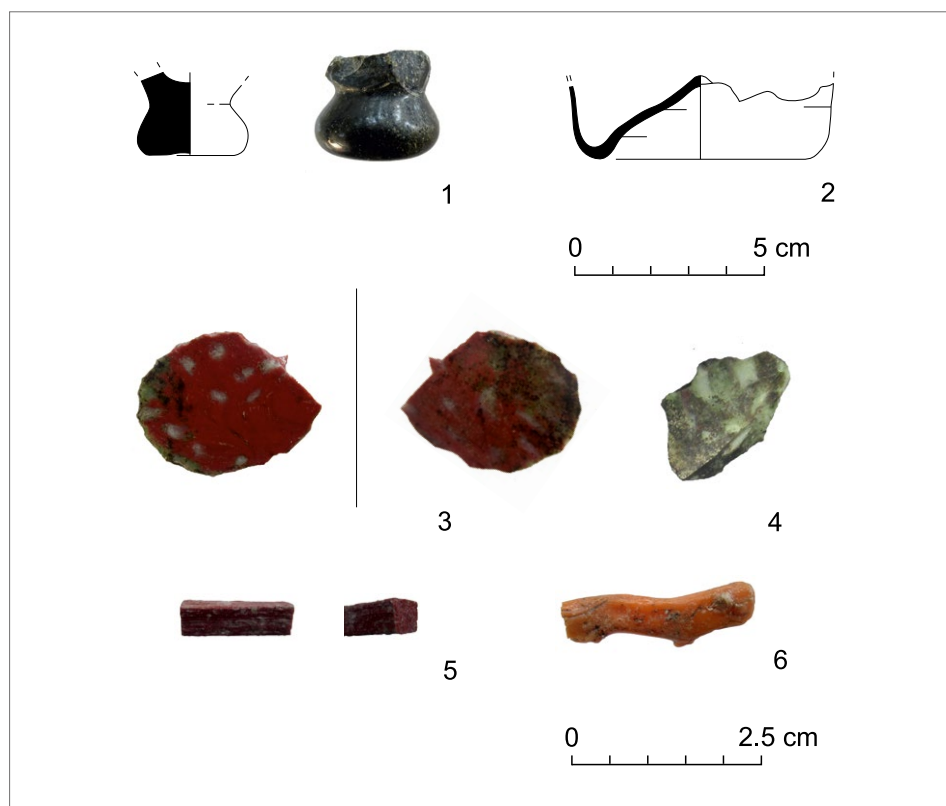


Fig. 2. Glass finds from the late Roman period (4th–5th centuries CE) from House FB: 1 – base of conical lamp; 2 – base of bottle; 3–4 – wall revetment; 5 – glass rod, square in section; 6 – chunk of raw coral (*Corallium rubrum*) (PCMA UW | drawing R. Kucharczyk, M. Momot; photos R. Kucharczyk)

vano 2012: 53, Pl. 39:766–773), Tebtynis (Foy 2001: 465–466, Fig. 1:1–5) and Benenike on the Red Sea coast (Kucharczyk and Zych 2019: 92, Fig. 2:1–2) among other places. They are also reported from monastic sites: Naqlun (Monastery of Archangel Gabriel) (Mossakowska-Gaubert 2012: 358–359, Fig. 2) and Kellia (Bonnet Borel 2013: 169–170, 215–216, Fig. 44:E360 and 63:89) where this type of lamp was particularly common. A few cracked-off rims, some body shards with dark blue glass drops, and a few conical bases found at the site of the Hatshepsut temple in Deir-el Bahari should be mentioned, the published evidence of vessel types from Western Thebes being very limited (Kucharczyk 2021: 115–116, Fig. 3C:8–12). The second fragment belongs to the bottom part of a bottle with straight sides and a high concave base [Fig. 2:2]. Its yellowish-green fabric, the same as in the case of a knobbed base of a lamp, characteristic of the late Roman glass vessels excavated at Kom el-Dikka (it was used to produce an array of objects, both bottles and flasks, dishes on high ring-bases, and windowpanes), assigns this bottle, and a conical lamp as well, to the discussed period and suggests local manufacture.

The assemblage also contains evidence of objects made of mosaic glass. It includes two fragments of wall revetment that could have been used in *opus sectile* decoration, like those found in the northern necropolis in Antinopolis, dated to the 4th–5th centuries CE (Silvano 2008; 2017), and Karanis (Harden 1936: 299, No. 952, Pl. XXI.9; see also Gasparini 2022). One of them, of a large tear-drop shape, has neatly grozed sides (FReg. 2001.7.21) [Fig. 2:3]. The colour combination could be

an imitation of marble: opaque brownish-red glass with sections of opaque white canes embedded in a matrix probably imitating red porphyry. In turn, a fragment made of green glass with white insertions probably imitates *serpentina moschinata* [Fig. 2:4]. The mosaic technique was also attested on a solid circular dome-shaped object with flat bottom, made of green glass streaked with milky-white opaque threads (FReg. 2001.8.21; not illustrated). Finds of this kind are nothing unusual on Kom el-Dikka. Either plain objects or objects made in the mosaic technique are well attested at the site. Those made in the mosaic technique, with a decoration consisting of sections of yellow opaque rods with a green centre, randomly encased in various shades of a green matrix, is usually considered as an imitation of *serpentino verde*. It is one of the commonest patterns observed on mosaic glass, likewise in the early and late Roman periods (Kucharczyk 2010a: 67, Fig. 7:2; 2011: 66–67, Fig. 9:3; 2020: 508–509).

Circular and oval dome-shaped glass objects, which can be used for very different purposes, are generally associated with the Hellenistic and early Roman periods (Spaer 2001: 235–236, Pl. 41:547–548). Those made of coloured glass presumably mimicked semi-precious stones such as carnelian, amethyst, lapis lazuli, sapphire and rock crystal. They could be imitation cabochon bezels in rings, pendants and other jewellery, with the flat side placed against the setting. Another possible function is that of a counter or gaming piece.

The presence of mosaic glass is hardly a surprise, as the technique was known to be still alive after its flourishing in the

Augustan period and experienced a great revival in 4th-century Egypt. Important evidence of this has come to light on Kom el-Dikka, including prefabricated mosaic canes, vessels, wall revetment/plaques, game pieces and beads. However, it should be stressed in this context that the archaeological evidence of mosaic glass published from Alexandria is still rather limited and somewhat disappointing (Kucharczyk 2016b).

Among the recovered finds are two small glass tesserae of green colour, which probably originated from a mo-

saic that once adorned the floor of the excavated house (FReg. 2005.3.21). An opaque brownish-red rod, square in section, could have been used to make tiny tesserae. Instead of cubes cut from glass cakes, they could be more easily cut from such canes (FReg. 2002.3.21) [Fig. 2:5].

A single chunk of raw coral (*Corallium rubrum*) was recorded (FReg. 2002.5.21) [Fig. 2:6]. Chunks of raw coral and a small globular bead were also reported in the material from earlier seasons at the site (Kucharczyk 2019: 51–52, Fig. 6B:7–8).

## CONCLUSIONS

The few pieces of glass excavated from the early Roman houses on the Kom el-Dikka site in Alexandria in the 2021 season are still of interest for a number of reasons. The most significant feature of this collection is a sizeable presence of colourless glass; until the present excavations the site had yielded little in this respect. Together with the earlier findings from the site, this new material has complemented the known repertoire of glassware used in the homes of wealthy Alexandrians during the early and mid-Roman periods.

The well-dated find contexts have also added further weight to the data. The collected material provides a much needed and useful reference, particularly with regard to the chronology of the Roman domestic architecture, uncovered in Sector F. Habitation in this part of the archaeological site, dated from the 1st through the 3rd century CE, covers all the main phases, starting from the original occupation of the houses for domestic purposes, continuing through various alterations and ending with a period of artisanal activity within these complexes.

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**How to cite this article:** Kucharczyk, R. (2022). Glass finds from Area F (Houses FA and FB) at the Kom el-Dikka site in Alexandria (season 2021). *Polish Archaeology in the Mediterranean*, 31, 217–230. <https://doi.org/10.37343/uw.2083-537X.pam31.21>

## References

- Bonnet Borel, F. (2013). Mobilier et datation archéologique. In D. Weidmann, *Kellia: Kôm Qouçoûr 'Îsâ 1. Fouilles de 1965 à 1978* (=Recherches suisses d'archéologie copte 4) (pp. 143–254). Leuven: Peeters
- Brun, J.-P. (2011). Les objets en verre. In H. Cuvigny (ed.), *Praesidia du désert de Bérénice IV.1. Didymoi: une garnison romaine dans le désert oriental d'Égypte* (=Fouilles de l'Institut français d'archéologie orientale du Caire 64) (pp. 215–241). Cairo: Institut français d'archéologie orientale
- Cooney, J.D. (1976). *Catalogue of Egyptian antiquities in the British Museum IV. Glass*. London: British Museum Publications
- Foy, D. (2001). Secteur nord de Tebtynis (Fayyoun): le verre byzantin et islamique. *Annales Islamologiques*, 35, 465–489
- Gallazzi, C. and Hadji-Minaglou, G. (2019). *Trésors inattendus: 30 ans de fouilles et de coopération à Tebrynîs (Fayoum): Le Caire, Musée Égyptien, 4 février–4 avril 2019*. Cairo: Institut français d'archéologie orientale
- Gasparini, E. (2022). Old and new evidence for glass in opera sectilia: Visual dialogues between appearance and reality. *Journal of Roman Archaeology*, 35(1), 139–176
- Harden, D.B. (1936). *Roman glass from Karanis found by the University of Michigan Archaeological Expedition in Egypt, 1924–29*. Ann Arbor, MI: University of Michigan Press
- Hope, C.A. and Whitehouse, H.V. (2004). The gladiator jug from Ismant el-Kharab. In G.E. Bowen and C.A. Hope (eds), *The Oasis papers 3: Proceedings of the Third International Conference of the Dakhleh Oasis Project* (=Dakhleh Oasis Project Monograph 14) (pp. 291–310). Oxford: Oxbow Books
- Kucharczyk, R. (2004). Two Roman toilet bottles from Kom el-Dikka. *Polish Archaeology in the Mediterranean*, 15, 43–45
- Kucharczyk, R. (2005). Early Roman Glass from Marina el-Alamein. *Polish Archaeology in the Mediterranean*, 16, 93–99
- Kucharczyk, R. (2007a). Late Roman/early Byzantine glass from the auditoria on Kom el-Dikka in Alexandria. *Polish Archaeology in the Mediterranean*, 17, 45–53
- Kucharczyk, R. (2007b). Late Roman/early Byzantine glass from the basilica in Marea. *Polish Archaeology in the Mediterranean*, 17, 70–74
- Kucharczyk, R. (2010a). Glass from Area F on Kom el-Dikka (Alexandria). *Polish Archaeology in the Mediterranean*, 19, 56–70
- Kucharczyk, R. (2010b). Glass from Houses 1 and 2 in Marina el-Alamein. *Polish Archaeology in the Mediterranean*, 19, 114–130
- Kucharczyk, R. (2011). Glass from Area F on Kom el-Dikka (Alexandria). Excavations 2008. *Polish Archaeology in the Mediterranean*, 20, 56–69
- Kucharczyk, R. (2016a). Glass finds from Areas U and G at the Kom el-Dikka site in Alexandria (excavations in 2012 and 2013). *Polish Archaeology in the Mediterranean*, 25, 87–103

- Kucharczyk, R. (2016b). Mosaic floral plaque fragment from Alexandria. *Études et Travaux*, 29, 125–134
- Kucharczyk, R. (2019). Glass finds and other artifacts from excavations of Area FW at the Kom el-Dikka site in Alexandria in 2018. *Polish Archaeology in the Mediterranean*, 28/2, 43–60
- Kucharczyk, R. (2020). Glass finds from Area FW at Kom el-Dikka in Alexandria. Season 2019. *Polish Archaeology in the Mediterranean*, 29/2, 497–513
- Kucharczyk, R. (2021). (Un)usual? Glass finds from the site of the Hatshepsut Temple in Deir el-Bahari. In P. Chudzik and Z.E. Szafrński (eds), *Deir el-Bahari studies 3* (= *Polish Archaeology in the Mediterranean* 30/1) (pp. 105–126). Warsaw: University of Warsaw Press
- Kucharczyk, R. (forthcoming). *Glass finds from House H1 in Marea*
- Kucharczyk, R. and Zych, I. (2019). Traps of residuality: What is early Roman glass doing in a late Roman household rubbish dump? The case of trench BE10-59 from Berenike on the Red Sea (Egypt). In P. Ballet, S. Lemaître, and I. Bertrand (eds), *De la Gaule à l'Orient méditerranéen. Fonctions et statuts des mobiliers archéologiques dans leur contexte* (pp. 91–96). Rennes: Presses Universitaires Rennes
- Majcherek, G. (1996). Excavations at Kom el-Dikka 1995. *Polish Archaeology in the Mediterranean*, 7, 13–22
- Majcherek, G. (1997). Kom el-Dikka excavations 1995–1996. *Polish Archaeology in the Mediterranean*, 8, 17–31
- Majcherek, G. (1998). Kom el-Dikka excavations 1997. *Polish Archaeology in the Mediterranean*, 9, 23–36
- Majcherek, G. (1999). Kom el-Dikka. Excavations, 1997/98. *Polish Archaeology in the Mediterranean*, 10, 29–39
- Majcherek, G. (2010). Alexandria. Excavations and preservation work. Preliminary report 2006/2007. *Polish Archaeology in the Mediterranean*, 19, 31–48
- Majcherek, G. (2011). Alexandria: Kom el-Dikka excavations and preservation work. Preliminary report 2007/2008. *Polish Archaeology in the Mediterranean*, 20, 35–51
- Majcherek, G. (2018). Alexandria, Kom el-Dikka. Season 2017. *Polish Archaeology in the Mediterranean*, 27/1, 35–56
- Majcherek, G. (2019). Alexandria Kom el-Dikka. Excavations and preservation work in the 2018 season. *Polish Archaeology in the Mediterranean*, 28/2, 21–42
- Majcherek, G. (2020). Alexandria, Kom el-Dikka. Fieldwork in the 2019 season. *Polish Archaeology in the Mediterranean*, 29/2, 469–496
- Majcherek, G. (2022). Alexandria, Kom el-Dikka, season 2021. *Polish Archaeology in the Mediterranean*, 31, 191–216
- Marchini, C. (1999). Glass from the 1993 excavations at Ismant el-Kharab. In C.A. Hope and A.J. Mills (eds), *Dakhleh Oasis Project: Preliminary reports on the 1992–1993 and 1993–1994 field seasons* (= *Dakhleh Oasis Project Monograph* 8) (pp. 75–82). Oxford: Oxbow Books

- Meyer, C. (1992). *Glass from Quseir al-Qadim and the Indian Ocean trade* (=Studies in Ancient Oriental Civilization 53). Chicago: Oriental Institute of the University of Chicago
- Mossakowska-Gaubert, M. (2012). Verres de l'époque byzantine—début de l'époque arabe (V<sup>e</sup>–VIII<sup>e</sup> siècle): objets provenant des ermitages en Égypte. In D. Ignatiadou and A. Antonaras (eds), *Annales du 18<sup>e</sup> Congrès de l'Association Internationale pour l'Histoire du Verre: Thessaloniki 2009* (pp. 357–366). Thessaloniki: AIHV
- Nenna, M.-D. (2000). Ateliers de production et sites de consommation en Égypte (V<sup>e</sup> siècle av. J.-C. – VII<sup>e</sup> s. ap. J.-C.). Premier bilan. In *Annales du 14<sup>e</sup> congrès de l'Association internationale pour l'histoire du verre: Italia/Venezia-Milano 1998* (pp. 20–24). Lochem: Association internationale pour l'histoire du verre
- Nenna, M.-D. (2010). The glass vessel decor of a funerary chapel in the Bagawat necropolis, Kharga Oasis, Egypt. In J. Drauschke and D. Keller (eds), *Glass in Byzantium—Production, usage, analyses: International workshop organised by the Byzantine Archaeology Mainz, 17th–18th of January 2008, Römisch-Germanisches Zentralmuseum* (pp. 199–214). Mainz: Verlag des Römisch-Germanischen Zentralmuseums
- Rodziewicz, M.D. (2005). *Elephantine XXVII. Early Roman industries on Elephantine* (=Archäologische Veröffentlichungen 107). Mainz am Rhein: Philipp von Zabern
- Silvano, F. (2008). Materiale vitreo dalla Necropoli Nord di Antinoe. In R. Pintaudi (ed.), *Antinoupolis I* (=Scavi e materiali 1) (pp. 419–432). Florence: Istituto Papirologico “G. Vitelli”
- Silvano, F. (2012). *I vetri di epoca romana dagli scavi di Medinet Madi (1998–2004): l'area del tempio C* (=Monografie di “Egitto e Vicino Oriente” 5). Pisa: PLUS-Pisa University Press
- Silvano, F. (2017). New finds of mosaic glass inlays from Antinoupolis, Egypt. In S. Wolf and A. de Pury-Gysel (eds), *Annales du 20<sup>e</sup> congrès de l'association internationale pour l'histoire du verre, Fribourg/Romont, 7–11 septembre 2015* (pp. 243–247). Rahden/Westf.: Verlag Marie Leidorf
- Spaer, M. (2001). *Ancient glass in the Israel Museum: Beads and other small objects*. Jerusalem: Israel Museum
- Stern, E.M. (1995). *Roman mold-blown glass: The first through sixth centuries*. Rome: “L'Erma” di Bretschneider