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THE PATRIARCHAL MONASTERY OF SATYROS IN BITHYNIA.  
A BYZANTINE SITE IN THE CONSTANTINOPOLITAN HINTERLAND:  
A FIRST REPORT ON THE GLASS FINDS

Παρουσιάζονται εδώ για πρώτη φορά τα γυάλινα ευρήματα των ανασκαφών του 2016 και 2017 στο μνημειακό μοναστηριακό συγκρότημα Σατύρου ή Ανατέλλοντος στο Küçükalyı, στην ακτή του Μαρμαρά/Βιθυνία, το οποίο είναι αναγνωρισμένο ότι ιδρύθηκε από τον πατριάρχη Ιγνάτιο το 873/74 και έπαινε να λειτουργεί περί τα μέσα του 14ου αιώνα. Πρόκειται για ψηφίδες, κυκλικούς ναλοπίνακες και αγγεία, κυρίως καντήλες, ποτήρια και κούπες, που επίσης πιθανώς χρησιμοποιήθηκαν ως καντήλες, και μπουκάλια.

The glass finds, predominantly excavated during the 2016 and 2017 campaigns, are presented here for the first time from the complex at Küçükalyı (Istanbul) on the shore of Marmara/Bithynia, which has been identified as the monumental suburban monastery of Satyros, or Anatellon, founded by patriarch Ignatios around 873/74 and which functioned until the middle of the 14th century. The finds comprise glass tesserae, round window panes and vessels, mainly lamps, beakers and bowls that might have also been used as lamps, as well as a few flasks.

Λέξεις κλειδιά

Μεσοβυζαντινή περίοδος, υστεροβυζαντινή περίοδος, αρχιτεκτονική, ναλοργία, μονή Σατύρου ή Ανατέλλοντος, Βιθυνία, Küçükalyı, Κωνσταντινούπολη.

Keywords

Middle Byzantine period; Late Byzantine period; architecture; glass production; monastery of Satyros, or Anatellon; Bithynia; Küçükalyı; Constantinople.

Several texts indicate that the patriarch of Constantinople Ignatios built a monastery (known as Satyros or Anatellon) with a katholikon dedicated to the Archangel Michael on the Bithynian mainland by the Marmara seashore. Furthermore, the texts make clear that the complex was built outside Constantinople and opposite the Princes' Islands in the sixth year of the reign of the emperor Basil I, that is, 873/74<sup>1</sup>. The monastery and the church

are also described as the finest ones among the network of monasteries Ignatios built on the Princes' Islands and on the Marmara seashore. A survey of the present-day neighborhood of Küçükalyı (Greater Municipality of Istanbul), followed by archaeological excavations, brought to light portions of the katholikon and features of the monastery now identified with those of Satyros<sup>2</sup>.

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\*\*\*\* Alessandra Ricci signs the part entitled: "The Site and its Context".

\*\*\*\*\* Anastassios Ch. Antonaras signs the part entitled: "The Glass Finds".

<sup>1</sup> Among them, *Nicetae Davidis, Vita Ignatii Patriarchae / The life of Patriarch Ignatius*, text and translation by Andrew Smithies, with notes by J. M. Duffy (CFHB 11), Washington, D. C. 2013, 25-35.

<sup>2</sup> For a summary on the identification, A. Ricci, "Rediscovery of the Patriarchal Monastery of Satyros (Küçükalyı, Istanbul): Architecture, Archaeology and Hagiography", *Bizantinistica. Rivista di studi bizantini e slavi* XIX (2018), 347-366.

Byzantine-period excavations in Istanbul and its immediate vicinities are not uncommon, though they are associated largely, if not exclusively, with rescue or preventive undertakings, catering more to the needs of modern Istanbul's rapid and widespread growth across the Bosphorus into the region of Bithynia than to the requirements of specific research projects. Archaeological investigations at the site now identified as the monastery of Satyros represent a rare exception inasmuch as work centers on a specific site with a defined research and urban archaeology project. This means that excavations were not subject to the time pressure that normally defines preventive archaeology, allowing time to implement, for example, stratigraphical excavation, detailed documentation, and study of the finds. This contribution presents preliminary results of research carried out on some of the glass finds retrieved at the site. The preliminary considerations are also presented in relation to their archaeological, architectural, and historical contexts.

### The Site and its Context

The surviving portions of the monastic complex consist mainly of an earthen platform with buttressed retaining walls measuring circa 69×57 m that formed a rectangular-in-plan perimeter with visible extensions to the north-west (Fig. 1). On the platform and above the section of the cistern that retained its roof, that is, the eastern portion, the remains of polygonal apses were visible and were understood as those of an ecclesiastical building<sup>3</sup>. The area of the platform was covered with a layer of topsoil, accumulated since the abandonment of the medieval site, as well as noticeable areas within the platform's topsoil that had been disturbed by modern activities. A total of eight excavation seasons took place between 2008 and 2018, centering largely on the platform<sup>4</sup>. The survey and excavation campaigns have

<sup>3</sup> Description of architectural features and summary of the most recent archaeological excavations in, A. Ricci, "The Küçükaly ArkeoPark (Istanbul), 2016-2018: Excavation, Conservation, Cultural Heritage and Public Archaeology," *Anatolia Antiqua* XXVII (2019), 255-277 with earlier references.

<sup>4</sup> On the discovery and interpretation of the architectural features, A. Ricci, "The Küçükaly ArkeoPark (Istanbul), 2016-2018",

been carried out within the framework of the Küçükaly ArkeoPark Project, run in collaboration with the Istanbul Archaeological Museums and under the scientific coordination of the author. The Küçükaly ArkeoPark Project, which focuses primarily on interdisciplinary archaeological inquiry, is propaedeutic to the creation of a sustainable urban archaeological park for the city of Istanbul and has, from its outset, developed a heritage awareness vocation as part of its activities<sup>5</sup>.

The surviving architectural components of the complex thus far identified include a rectangular-in-plan subterranean water reservoir-oriented east-west and with the inflow channel to the east; a rectangular-in-plan buttressed retaining wall which includes the cistern's western wall; extensions of the retaining wall documented to the west and to the north; and a manmade earth platform enclosed by the rectangular-in-plan wall with remains of buildings (Fig. 2). The underground of the platform was in parts occupied by a monumental cistern, originally covered by a larger brick dome to the east and four parallel rows of twenty-eight smaller-sized domes to the west. Among these components and above the eastern portions of the water reservoir is the ecclesiastical building noted during the first survey. Partial excavations of the church have revealed a building defined in its interior by an octagonal dome; a bema with tripartite apse; lateral entrances; and a narthex likely connected to an atrium<sup>6</sup>. From an architectural standpoint, the katholikon building fits within the cross-domed type with a tripartite sanctuary and isolated northern and southern apses likely functioning as chapels<sup>7</sup>. In fact, the main apse is flanked on both sides by rectangular-in-plan spaces which did not communicate with the northern and southern apses. Lateral entrances, of which the northern one was fully excavated, provided access to

op.cit. (n. 3), 255-277. A. Ricci, "The Küçükaly ArkeoPark (Istanbul), 2014-2015", *Kazi Sonuçları Toplantısı* 40/1 (Ankara 2019), 79-102.

<sup>5</sup> For the ArkeoPark activities, A. Ricci – A. Yilmaz, "Urban Archaeology and Community Engagement: the Küçükaly ArkeoPark", M. D. Alvarez – F. M. Go – A. Yüksel (eds), *Heritage Tourism Destinations: Preservation, Communication and Development*, Oxon 2016, 41-62.

<sup>6</sup> Ricci, "Rediscovery of the Patriarchal Monastery", op.cit. (n. 2), 368-376.

<sup>7</sup> Ibid.



Fig. 1. Küçükyalı Excavation, 2016 season. General aerial view of the site.

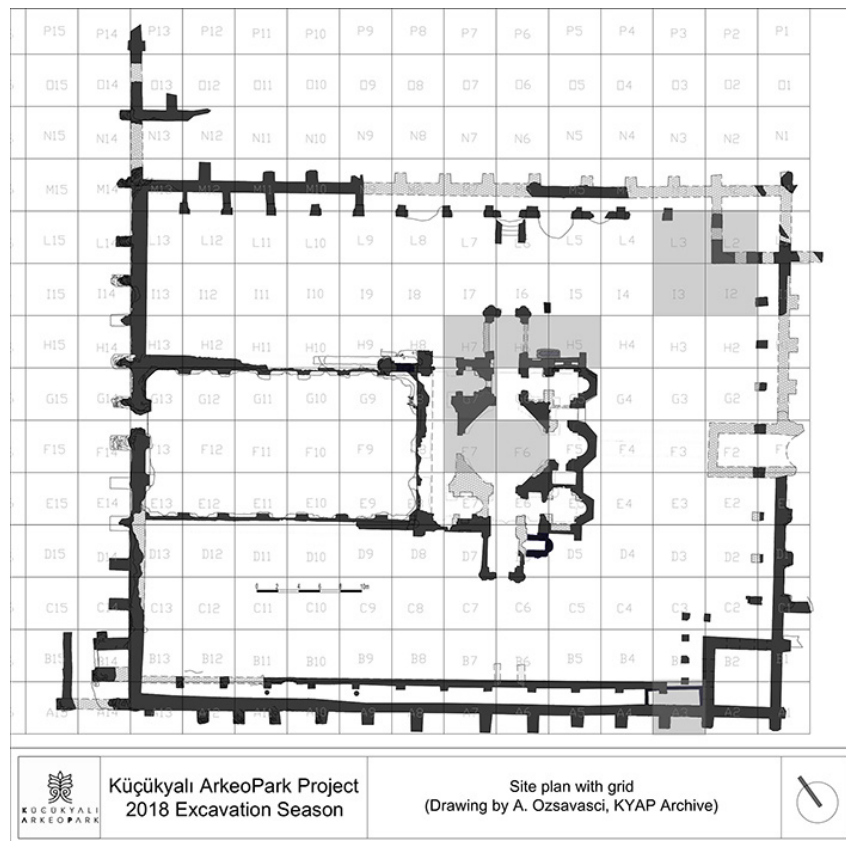


Fig. 2. Küçükyalı Excavation, 2018 season. Site plan.

the building, along with a vanished and more articulated western entrance. It is recorded that when patriarch Ignatios died, he was interred in his monastery, outside the katholikon and “to the right of the main apse” in October 877<sup>8</sup>. In the course of the excavation, a single-body masonry tomb was revealed on the exterior of the church. It had been built along the south-eastern wall of the building between its southern lateral entrance and the southern apse<sup>9</sup>. The masonry tomb is significant in the identification of the church as the katholikon of the Satyros monastery because of the exact reference made to it in the Vita Ignatii and the visual rendering of the monastery dated to the early decades of the 11th century, just over a hundred years after the patriarch had been interred there, contained in the Menologion of Basil II<sup>10</sup>. In it, the left of the composition is dominated by a circular building with a dome resting on a windowed drum and a smaller structure adjoining it. Other buildings portrayed in the miniature include a long, arcaded structure with the elongated body of the patriarch reclining in front and a rectangular court whose short end is marked by a tall building. The recently ascertained monumental size of the church’s dome, the physical layout of what appears to be an arcaded court or portico, the presence of one if not two taller tower-like buildings and the existence of a courtyard are all elements identified both archaeologically and in the miniature.

It is known that the Satyros monastery was still operating in the 12th century when it was recorded as a *metochion* of the imperial Pantokrator monastery in Constantinople<sup>11</sup>. Numismatic evidence tells us the site

was still functioning in the early decades of the 14th century, after which it seems to have been abandoned<sup>12</sup>. Hence, current research sees the final abandonment of the complex at around the middle of the 14th century. No signs of violence have been detected in the area or material finds dating to the Ottoman periods (Fig. 3).

In 1988, construction work for a mosque (Çınar Camii) on the edge of the monastic site revealed the southern perimeter wall of the rectangular-in-plan platform. The double-tiered, buttressed southern side of the platform’s retaining wall was brought to light during construction works for the mosque by means of a bulldozer, with no records of the activities. However, the south-eastern corner of the platform was the focus of archaeological explorations, which revealed, together with a square-in-plan tower, a sealed “chamber” to its west. This space is rather small in size and rectangular-in-plan, measuring ca. 1.3×5 m with a SW-NE orientation. Here, excavations allowed the documentation of a stratigraphical sequence of four major phases, with glass finds retrieved in several of the phases<sup>13</sup>. The top layer of the “chamber” was represented by an extremely well-preserved roof collapse (Stratigraphical Unit/US 1074) with a high density of roof tiles and some glass vessels, bowl lamps (A.1.IIa,b) and window panes (B). Underneath the roof collapse was noted what has been interpreted as a discard or refuse action (US 1202-1204) with predominantly Glazed White Wares IV, many of which were restored with their complete profiles; amphorae pieces; bronze and lead objects; glass fragments including vessels [lamps, stemmed (A.1.I) and bowls (A.1.II), beakers and bowls (A.2) and flasks (A.3.IV)] and window panes (B); and, marble *sectilia* and small-sized polychrome fresco fragments. These layers are dated to the 12th-13th century on the basis of pottery finds. As for the interpretation of the space, it

<sup>8</sup> Smithies, *Nicetae Davidis*, op.cit. (n. 1), 76, 19-27.

<sup>9</sup> Ricci, “Rediscovery of the Patriarchal Monastery”, op.cit. (n. 2), 375.

<sup>10</sup> For the miniature of the monastery of Satyros, see *El “Menologio de Basilio II”, Emperado de Bizancio. Città del Vaticano, Biblioteca apostolica vaticana, Vat. Gr. 1613 : libro de estudios con ocasión de la edición facsimil*, ed. by F. D’Aiuto, Vatican City 2005, 134. For the manuscript’s on-line facsimile, [https://digi.vatlib.it/view/MSS\\_Vat.gr.1613](https://digi.vatlib.it/view/MSS_Vat.gr.1613). On the interpretation of the miniature, Ricci, “Rediscovery of the Patriarchal Monastery”, op.cit. (n. 2), 375, with earlier bibliography.

<sup>11</sup> “28. Pantokrator: Typikon of Emperor John II Komnenos for the Monastery of Christ 725 Pantokrator in Constantinople”, transl. by R. Jordan, J. Thomas – A. Constantinides Hero (eds), *Byzantine Monastic Foundation Documents: A Complete Translation of the Surviving Founders’ Typika and Testaments* (Dumbarton Oaks Studies 35), 2, Washington, D. C. 2000, 725-780, in part. 771.

<sup>12</sup> Two well-preserved silver coins (Andronikos II, 1282-1328, and Andronikos III, 1328-1341) above the “chamber” in the platform, A. Ricci, “Left behind: Small Sized Objects from the Middle Byzantine Monastic Complex of Satyros (Küçükyalı, Istanbul)”, B. Böhlendorf-Aslan – A. Ricci (eds), *Byzantine Small Finds in Archaeological Contexts*, BYZAS 15 (2012), 147-162, in part. 157-158, figs 11, 12.

<sup>13</sup> A. Ricci – R. Wohmann, “Constantinopolitan Contexts: preliminary remarks on the ceramics and archaeology at the Küçükyalı ArkeoPark Project”, F. Yenişehirlioğlu (ed.), *XI Congress AIECM3 on Medieval and Modern Period Mediterranean Ceramics Proceedings*, 1, Ankara 2018, 453-458.



Fig. 3. Küçükyalı Excavation. Glass, pottery, metal finds and amphorae stoppers from the area around the *katholikon*'s northern lateral entrance (US2627).

is possible it may have functioned as a storage/deposit room in its initial phases of use. After the roof collapse (US 1074), the space was likely used to conceal material originating from the nearby monastic church, such as the *opus sectile* floors, architectural sculpture and other objects that can now be associated with the ecclesiastical building, with most of them dating to the construction phase of the *katholikon*<sup>14</sup>.

On the opposite side, the north-eastern side of the platform was excavated and yielded a Late Byzantine phase of the complex. This centered around a porous calcareous floor with a wall made of irregularly cut stones and mortar. The floor had embedded in it, in a secondary use, an unusually large Günsenin IV amphora<sup>15</sup>. Above portions of the floor, a thick tiled roof collapse with a posthole indicated the presence of a roofing system, which took advantage of the earlier Middle Byzantine platform's eastern portico. The underlying stratum next to the calcareous floor contained a refusal deposit filled (US 1510 and 1515) with large quantities

of discarded material such as animal bones, shells, glass fragments of bowls (A.1.II), and domestic pottery and tableware of the 12th-13th centuries. A dating for this domestic context as late as the mid-14th century seems possible.

Another area of the monastic platform which yielded glass finds is the area on the exterior of the *katholikon*, to the north and north-east, by the northern lateral entrance to the church, which was built concurrently with the ecclesiastical building. There, excavations came to the following conclusions: it is likely that in the Middle Byzantine period, and as the ecclesiastical building was functioning, the area between the northern apse of the monastic church and the lateral entrance may have served as a burial space. At the moment, one masonry burial and possibly two or more very disturbed burials in wooden coffins have been detected. In later Byzantine times, likely from the 12th – early 13th century, the area in question was used for production and/or storage purposes. The stratigraphical sequence can be summarized as follows: a widespread layer of abandonment in this area (US 2602) showed high percentages of Byzantine amphorae (Günsenin IV) and lesser quantities of roof tiles and brick fragments. Underneath this layer is a distinctively Late Byzantine layer (US 2627) with amphorae fragments (Fig. 3); Late Byzantine pottery; small metal

<sup>14</sup> Ricci, "The Küçükyalı ArkeoPark (Istanbul), 2016-2018", op.cit. (n. 3), 260-262.

<sup>15</sup> N. Günsenin – A. Ricci, "Les amphores Günsenin IV a Küçükyalı: Un voyage entre monastères?", *Anatolia Antiqua* XXVI (2018), 125-139.

finds (lead seals; lead wickers holders; and copper buttons and dress accessories). Underneath this layer and partly disrupted by it, the earlier use phase of the area revealed the presence of at least two human skeletons (US 2612); other scattered human remains; sets of metal nails likely originating from wooden coffin(s); and, vast quantities of glass fragments: circular window panes (B); several lamps (A.1.I), bowls (A.IIa,b,c,d) and beakers. The layer appears to be contemporaneous with the Middle Byzantine period of life of the church<sup>16</sup>.

The fourth and final area with glass finds discussed in this contribution is the *katholikon*, where two areas were excavated, portions of the naos and a chapel that was discovered in the north-western corner of the building. The naos, revealed in part during the excavation campaigns, is confirmed as the largest space of the building with no surviving traces of the dome structure. The second area inside the *katholikon* corresponds roughly to a newly revealed lateral apsidal chapel. The chapel preserves traces of marble flooring and, on the lower level of the walls, traces of marble slab revetments. In the center of the space, a rectangular-in-plan floor opening (circa 160×0.80 m) contained a marble slab with a circular hole in its fill. The fill also yielded a decorated marble corner cornice with the Greek inscription “λεψ” (might be read as: “λεψανον” [relics]). The spade-shaped leaves pattern observed on the inscribed piece recurs on twenty-three more fragments discovered in the chapel, some of which showed traces of cobalt blue color pigments. This small chapel may have contained relics, and this possibility should not be excluded<sup>17</sup>. The stratigraphy of the *katholikon* showed intense spoliation, which likely took place in the Late Byzantine period and in early Modern times, a low percentage of ceramic materials and small sporadic presence of loose mosaic tesserae. On the other hand, work inside the chapel showed a slightly different composition, with high percentages of mosaic tesserae. Some of them were on their mortar support. In general, the mosaic tesserae and their supports appear heavily corroded and poorly preserved, with small fragments of wall mosaics that

emerged in the lower level of the chapel’s fill. One of the retrieved mosaic fragments showed the representation of a human eye executed in micro-mosaic technique<sup>18</sup>.

The following are preliminary considerations resulting from a three-day visit to the site in September 2016 at the formal invitation of the Project’s scientific coordinator and an additional week-long visit in September 2017, funded by the National Centre of Scientific Research “Demokritos”. During the two visits, it was possible to study some materials from the 2010 excavations, with a focus on the 2016 and 2017 seasons.

### The Glass Finds

Glass finds have been sporadically unearthed from the very beginning of the excavations on the site, including fragments of window panes, stemmed beakers and mosaic tesserae.

Form	Stratigraphical Unit (US)	Find Area
<b>A. Vessels</b>	US 1204, 2612,	Tower Area,
A1. Lamps	2626	Church Area
I. Stemmed Lamps		
A1. Lamps	US 1074, 1200,	Tower Area,
II. Handled Bowls	1201, 1202, 1203,	Church Area
	2408, 2612, 2616	
A.2. Beakers and Bowls	US 1074, 1200, 1201, 1202, 1203, 1502, 1504, 1510, 1515	Tower Area, Church Area, Platform
A.3. Flasks	US 1073, 1204, 2626	Tower Area, Church Area
<b>B. Window Panes</b>	US 1074, 1200, 1201, 1202, 1203, 2626, Q.H6	Tower Area, Church Area
<b>C. Miscellanea</b>	US 1515	Platform

During the 2016 and 2017 excavation seasons, glass was unearthed both inside the church as well as outside it on the monastic platform. In total, glass was recovered from four areas: Church Area (H5, H6, H7), Church (F7, G7), Tower Area (A3) and Platform Area (I2-I3), deposited within 37 ‘lots’/plastic bags. 748 fragments have

<sup>16</sup> Ricci, “The Küçükaly ArkeoPark (Istanbul), 2016-2018”, op.cit. (n. 3), 257-260.

<sup>17</sup> Ricci, “The Küçükaly ArkeoPark (Istanbul), 2014-2015”, op.cit. (n. 4), 85-87.

<sup>18</sup> Ibid., 88.

been counted, of which at least 260 (i.e. more than 1/3) belong to circular window panes, which were part of approximately ten windows. It has been estimated that 161 glass objects comprised the total of the findings: ca. 150 vessels, 10 window panes and one 'tile'.

The finds comprise almost exclusively free-blown objects. Only one fragment seems to be optic-blown, bearing some faint oblique ribbing. The finds can be divided into four main groups: vessels, window panes, decorative tiles and mosaic tesserae.

### A. Vessels

The following types of vessels have been identified: 1. Lamps; 2. Beakers and Bowls; and 3. Flasks.

#### 1. Lamps (Figs 4-7)

I. Stemmed lamps: Plain cylindrical, twisted and beaded solid stems, mostly bluish ones that can be associated with fire-polished vertical rim fragments (Figs 4, 7). Only one of them is preserved enough to be graphically reconstructed. Stemmed lamps appear in the 6th century, and they remained in use throughout the Byzantine era. The earlier examples have hollow, cylindrical lower parts, and solid stems are known from at least the middle of the 7th century onwards<sup>19</sup>. At Satyros monastery

<sup>19</sup> M. Ubaldi, "Diffusione delle lampade vitree in età tardoantica e altomedievale e spunti per una tipologia", *Archeologia Medievale* 22 (1995), 93-145, in part. 120-124, forms IV.1, 2. A. Antonaras, "Glass Lamps of the Roman and Early Christian Periods: Evidence from the Thessaloniki Area", by C.-A. Roman – N. Gudea (eds), *Lychnological Acts 2: Trade and Local Production of Lamps from the Prehistory until the Middle Age. Acts of the 2nd International Congress on Ancient and Middle Age Lighting Devices (Zalău-Cluj-Napoca, 13th-18th of May 2006)*, Cluj-Napoca 2008, 23-30, in part. 26, form 5. Idem, *Glassware and Glassworking in Thessaloniki 1st Century BC – 6th Century AD*, Oxford 2017, 87-89, form 38a, b, with bibliography. B. Y. Olcay, "Lighting Methods in the Byzantine Period and Findings of Glass Lamps in Anatolia", *JGS* 43 (2001), 77-88, in part. 80-83, figs 1-3. Ü. Özgümüş "Byzantine Glass Finds in the Roma Theater at Iznik (Nicaea)", *BZ* 101 (2004), 727-735, in part. 731, type 5. R. Pirling, "Die römischen und byzantinischen Glasfunde von Apamea in Syrien", *AnnAIHV* 7 (1977), 137-147, in part. 146, fig. 5. S. Jennings, *Archaeology of the Beirut Souks 2: Vessel Glass from Beirut: BEY 006, 007 and 045, Berytus Archaeological Studies XLVIII-XLIX* (Beirut, Lebanon 2004-2005), 142-144, 276-277, fig. 6.16:1-11, 11.26:4-5.

they have been found in layers dated to the 10th – 13th centuries A.D. More specifically, the archaeological context in the tower area represents a deposit with chronologically mixed materials. The finds from the church area come from Middle and Late Byzantine periods layers.

II. Handled Bowls (Figs 6-9): Among the finds, the following are identified: (a) Smaller greenish and bluish handles of probably conical bowls; (b) part of a larger bowl with a seemingly globular body and small handles with long wavy endings which extend towards the bottom; and, (c) an almost fully preserved bluish lamp with a wide conical body, flat bottom, a possibly outturned rim and three handles around the upper body; recovered to the north of the church, along with many fragments of window panes. Three-handled hemispherical and truncated conical bowls are known from the 4th century through the Middle and Late Byzantine period<sup>20</sup>. (d) Finally, a hollow, bead-like fragment probably represents part of the stem of a stemmed beaker, possibly a lamp. Stemmed beakers appear from the 5th century and they are occasionally equipped with three small handles and used as hanging lamps<sup>21</sup>. At Satyros monastery handled bowls have been found in a wide range of layers dated from the 10th- mid-14th centuries A.D.

D. Foy, "Un atelier de verrier à Beyrouth au début de la conquête islamique", *Syria* 77 (2000), 239-290, in part. 244-245, figs 4:1-10, 5, 6:1-18, 7. G. R. Davidson, *The Minor Objects (Corinth XII: Results of Excavations Conducted by the American School of Classical Studies at Athens)* Princeton, N. J. 1952, 121, no. 802, pl. 60. <sup>20</sup> C. Isings, *Roman Glass from Dated Finds* (Archaeologica traiectina 2), Groningen 1957, 162, form 134. M. Sternini, "Il vetro in Italia tra V-IX secolo", D. Foy (ed.), *Le verre de l'Antiquité tardive et du haut Moyen Age : typologie – chronologie – diffusion*, Association française pour l'archéologie du verre, VIIIe rencontres (Guiry-en-Vexin, 18-19 novembre 1993), Guiry-en-Vexin 1995, 243-290, in part. 259, 261-262, fig. 17:19-22. Ead., "Le verre de la fin du IVe au VIIe siècle en France méditerranéenne : Premier essai de typo-chronologie", *ibid.*, 187-242, 197, 206-207, 211. Ubaldi, "Diffusione delle lampade", *op.cit.* (n. 19). Antonaras, "Glass Lamps of the Roman", *op.cit.* (n. 19). Davidson *The Minor Objects*, *op.cit.* (n. 19), 111-112, nos 724, 726, 733, 734, fig. 14, dated there from the 11th to the mid-12th century A.D.

<sup>21</sup> Ubaldi, "Diffusione delle lampade", *op.cit.* (n. 19), 124-125, form V. Antonaras, *Glassware and Glassworking in Thessaloniki*, *op.cit.* (n. 19), 167-169, form 36 = 2017, p. 84, with exhaustive bibliography.

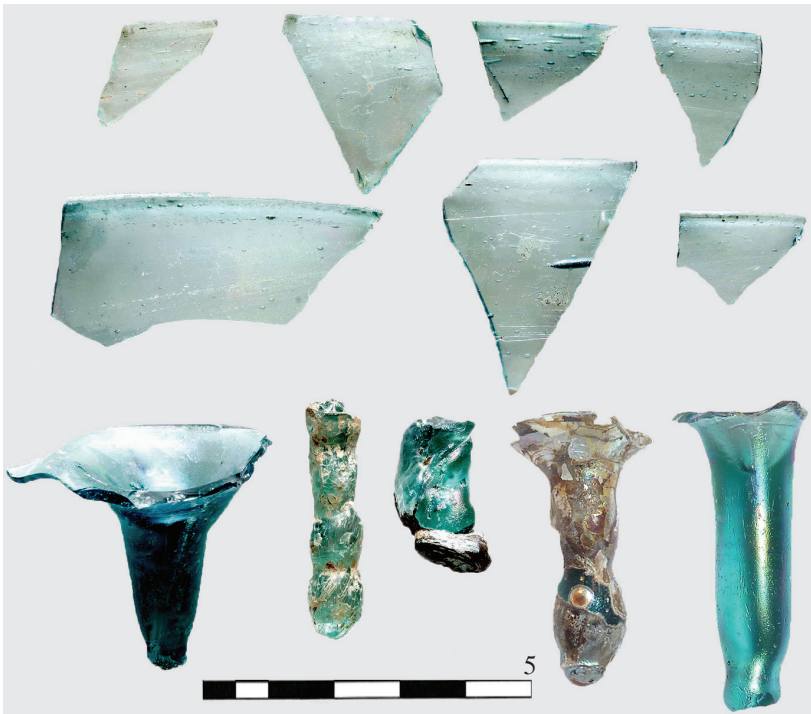


Fig. 4. Küçükyalı Excavation. Glass finds. Stemmed lamps, fragments, 12th-13th and mid-14th centuries A.D.

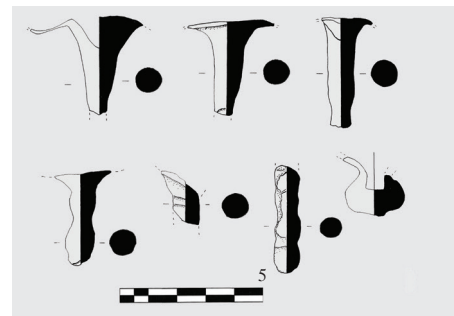


Fig. 5. Küçükyalı Excavation. Glass finds. Stems of stemmed lamps, drawings (cf. Fig. 4).



Fig. 6. Küçükyalı Excavation. Glass finds. Handled lamps and handled bowls, fragments, 12th-13th and mid-14th centuries A.D.



Fig. 7. Küçükyalı Excavation. Glass finds. Upper bodies of stemmed lamps and stemmed beakers, drawings (cf. Figs 4, 6).

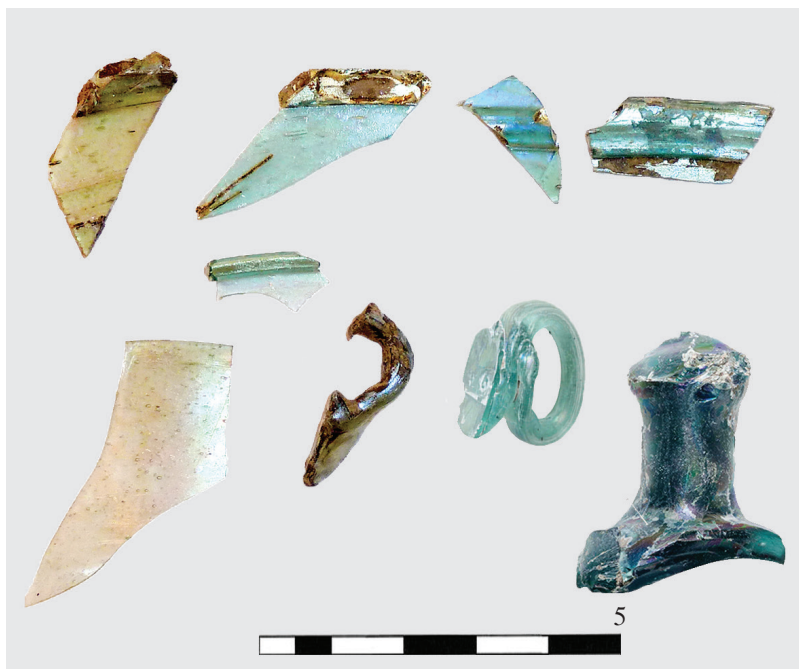


Fig. 8. Küçükyalı Excavation. Glass finds. Beakers and bowls, fragments, 12th-13th century A.D.

## 2. Beakers and Bowls (Figs 7, 8)

Among the fragments ascribed to beakers and/or bowls, the largest group comprises fire-polished rims of various conical vessels whose rim diameters range from 5 to 11 cm. In addition, a bottom fragment of a wide vessel, probably a bowl standing on a flattened ring base, has been identified. Furthermore, stemmed beakers are represented by a few solid stems on conical bases. One conical base might present a Late-Antique intrusion, or it could belong to a lamp of an earlier form. Stemmed beakers appear from the 5th century, and from the 6th century onwards they are made either of one or two masses of glass; over the centuries, the shape of the stem varies considerably<sup>22</sup>. The finds fit well with other Middle Byzantine finds. Hemispherical bowls are equally widely distributed in Late Antiquity<sup>23</sup>, and both forms

<sup>22</sup> Isings, *Roman Glass from Dated Finds*, op.cit. (n. 20), 139-140, form 111. Antonaras, *Glassware and Glassworking in Thessaloniki*, op.cit. (n. 19), 82-83, 85-87 forms 35, 37. Idem, *Fire and Sand: Ancient Glass in the Princeton University Art Museum*, Princeton 2012, 139, nos 192, 193.

<sup>23</sup> Isings, *Roman Glass from Dated Finds*, op.cit. (n. 20), 113-116,

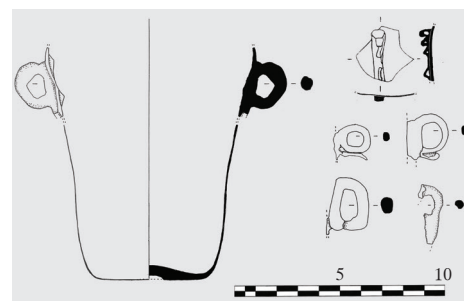


Fig. 9. Küçükyalı Excavation. Glass finds. Handled lamps, 12th-13th and mid-14th centuries A.D., drawings. (cf. Fig. 6).

are well-represented among Middle Byzantine contexts and depictions<sup>24</sup>. At Satyros monastery they have been found in all excavation areas discussed here with layers dated to the 10th – mid-14th century A.D.

## 3. Flasks (Fig. 10)

A few flask fragments have been identified.

(a) A cylindrical blue flask with white thread marvered spirally around it. This marvered decoration appears predominantly on flasks and bowls between the 11th and 14th centuries, mostly ascribed to Syrian 11th–13th-century workshops<sup>25</sup>. (b) A slightly greenish,

forms 96a-b. Antonaras, *Glassware and Glassworking in Thessaloniki*, op.cit. (n. 19), 118-124, forms 12i, 12ii.

<sup>24</sup> A. Antonaras, “Early Christian and Byzantine glass vessels: forms and uses”, F. Daim – J. Drauschke (eds), *Byzanz- das Römerreich im Mittelalter*, 1. *Welt der Ideen, Welt der Dinge*, Darmstadt 2010, 383-430, in part. 402, 413-416.

<sup>25</sup> S. Carboni – D. Whitehouse, *Glass of the Sultans* (exhibition catalogue), New York 2001, 142-144, nos 58, 59, ascribed to 13th century Syria. S. Carboni, *Glass from Islamic Lands. The Al-Sabah Collection*, New York 2001, 310-313, 319, cat. nos 83a-c,

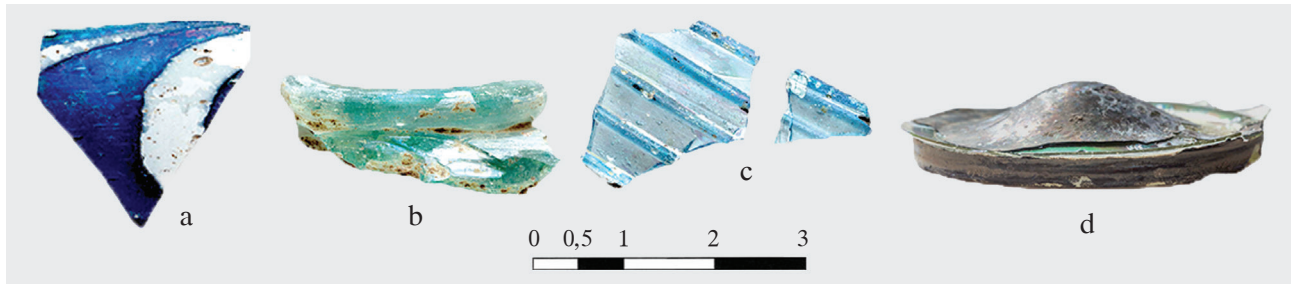


Fig. 10. Küçükaly Excavation. Glass finds. Flasks, fragments, middle and late Byzantine period.

transparent vessel with a fine cobalt blue thread wound spirally around it; no Middle or Late Byzantine parallels have been found, but these blue threads are quite characteristic of 7th- and 8th-century Syro-Palestinian production<sup>26</sup>. (c) A transparent colorless, bluish body fragment with faint ribbing. (d) One pushed-in ring base and the rims of two flasks. Barrel-shaped body, pushed-in ring base and slightly concave bottom. Probably a flask from a layer dated to the 12th- mid-14th century A.D.

## B. Window panes (Fig. 11)

Fine, mostly bluish, and rarely greenish, free blown discs have been unearthed. Their diameter ranges between 19 and 23 cm. The perimeter of the panes is either plain, fire-polished, slightly upturned, forming a vertical rim, or folded and flattened. In addition, three fragments of a thicker, olive-green pane have been recovered, and in one of them, the center of the disc was preserved, as indicated by the pontil scar, i.e. “bull’s eye”. Circular window panes of various diameters were already in use in the 6th century<sup>27</sup>, used together with rectilinear pieces in the

6th and 7th centuries as in Saraçhane, Istanbul<sup>28</sup>. In the Middle and Late Byzantine period, circular window panes were widely used, covering the series of circular openings created on stone or plaster frames<sup>29</sup>. Published glass finds of that period include Amorium<sup>30</sup>, Corinth<sup>31</sup>, Myra<sup>32</sup>, Sardis<sup>33</sup>, Anaia<sup>34</sup>, Kubadabad<sup>35</sup>, Hagios Panteleimon

*en liaison avec les 20èmes Rencontres de l’AFAV sur le thème du verre plat (Musée-site archéologique, Bavay-Bagacum, 01-10-2005 au 31-12-2005)* (exhibition catalogue), Bavay: Musée-site d’archéologie 2005, 112.

<sup>28</sup> R. M. Harrison – M. V. Gill, “The window glass”, R. M. Harrison (ed.), *Excavations at Saraçhane in Istanbul*, I. *The excavations, Structures, architectural decoration, small finds, coins, bones and mollusques*, Princeton 1986, 204-206.

<sup>29</sup> R. Ousterhout, *Master Builders of Byzantium*, Princeton, N. J. 1999, 151-154.

<sup>30</sup> M. A. V. Gill, *Amorium reports. Finds I*, Oxford 2002, 112, 827-839, 841-842, fig. 1/32 597-611, fig. 2/43. The Amorium findings date back to A.D. 850-950 when the church in the settlement was rebuilt, *ibid.*, 263.

<sup>31</sup> Davidson, *The Minor Objects*, *op.cit.* (n. 19), 143-145, pls 73: 1061-1065 (11th and middle of the 12th centuries).

<sup>32</sup> B. Y. Olcay, *Antalya’nın Demre (Kale) İlçesindeki Aziz Nikolaos Kilisesi Kazısı 1989-1995 Yılları Cam Buluntuları* (Hacettepe Üniversitesi Yayınlanmamış Doktora Tezi), 1997, pls XVII:165-177, XXVIII:178-184, XXIX:185-192, 11th-13th century.

<sup>33</sup> A. von Saldern, *Ancient and Byzantine Glass from Sardis*, Cambridge, MA – London 1980, 98-102, in part. 101, 13th-century finds.

<sup>34</sup> Z. O. Çakmakçı, “Anaia Camcılığının Geç Bizans Dünyasındaki Yer / The Place of the Anaian Glass Production in the Late Byzantine Glassworld”, Z. Mercangöz (ed.), *Byzantine Craftsmen – Latin Patrons. Reflections from the Anaian Commercial Production in the Light of the Excavations at Kadikalesi near Kuşadası*, Istanbul 2013, 135-152, in part. 148-149, fig. VIII-11, 12. Crown glass, 13th century. Greenish, bluish, and reddish circular panes from a variety of churches.

<sup>35</sup> A 13th-century Seljuk palace. See Z. Uysal, *Kubad-Abad Sarayında Selçuklu Cam Sanatı (1981-2004)* (Ph.D. diss.), Ege Üniversite-

84, 3.66-3.67. For a recent overview of this decoration in Islamic glassware, see N. Brosh, “Mamluk Glass Workshops in Jerusalem – Marvered Glass”, R. A. Stucky – O. Kaelin – H.P. Mathys (eds), *Proceedings of 9th ICAANE*, Basel 2016, 909-920. S. Hadad *Excavations at Bet Shean, 2. Islamic Glass Vessels from the Hebrew University at Bet Shean (Qedem Reports 8)*, Jerusalem 2005, 123, pl. 17, wherein many Ummayyad examples.

<sup>26</sup> Foy, “Un atelier de verrier”, *op.cit.* (n. 19), 263-268, figs 18, 19. O. Dussart, *Le verre en Jordanie et en Syrie du Sud*, IFAPO, Beyrouth 1998, form BX. 3241b, dated on p. 146.

<sup>27</sup> D. Foy (ed.), *De transparentes spéculations : vitres de l’Antiquité et du haut Moyen âge, Occident-Orient : exposition temporaire*



Fig. 11. Küçükyalı Excavation. Window panes, late 9th century A.D.

in Thessaloniki<sup>36</sup>, the Chilandar Monastery at Mount Athos<sup>37</sup>, Gračanica<sup>38</sup>, Kosmosoteira at Pheres<sup>39</sup>, Prangi at Evros<sup>40</sup>, Pammakaristos<sup>41</sup> and the Pantokrator Monastery in Istanbul<sup>42</sup>.

At Satyros monastery they have been found in layers dated to the 12th – mid-14th centuries A.D., their production date though should be connected to the foundation date of the monastery in the late 9th century. It is interesting to note that the window panes are predominantly found either in deposit layers or in layers associated with the early phases of the life of the monastic complex.

### C. Other finds / Miscellanea

#### 1. Decorative tiles

One rectangular, flat piece of dark bluish green glass, trimmed all around, is the only find at Küçükyalı which attests to some other use of this material on the site (Fig. 12). This piece of glass, which originally might have belonged to either a window pane or to the flat bottom of a wide vessel, e.g. a plate or a disc, was probably used secondarily as an intarsia tile in the decoration of some unspecified object<sup>43</sup>. The glass finds conclude with one

si, Sosyal Bilimler Enstitüsü, Izmir 2008, 275-332, cat. nos 191-249.

<sup>36</sup> A. Antonaras, *Works from the collection of the Museum of Byzantine Culture. The Art of Glass*, Thessaloniki 2019, 281-283, no. 442.

<sup>37</sup> A. Antonaras, "Old and Recent Finds of Byzantine Glass from Northern Greece", *Glasnik Srpskog Arheološkog Društva* 25 (2009), 83-101, in part. 91, pl. IV:6,7.

<sup>38</sup> S. Čurčić, *Gračanica: King Milutin's Church audits Place in Late Byzantine Architecture*, Pennsylvania State University Press, University Park, PA 1979, 61-62, figs 64, 77, 78, early 14th century.

<sup>39</sup> R. G. Ousterhout – C. Bakirtzis, *The Byzantine Monuments of the Evros/Meriç River Valley*, Thessaloniki 2007, 59, 60, dated to A.D. 1152.

<sup>40</sup> *Ibid.*, 156-58, dated to the second half of the 13th century.

<sup>41</sup> H. Hallensleben, "Untersuchungen zur Baugeschichte der ehemaligen Pammakaristoskirche, der heutigen Fethiye Camii in Istanbul", *IstMitt* 13-14 (1963-1964), 128-93, in part. 180-81 and fig. 11, dated to the Palaiologan period.

<sup>42</sup> Ü. Canav-Özgümüş – S. Kanyak, "Recent Glass Finds from Pantokrator Church in Istanbul", I. Lazar (ed.), *Annales du 19e Congrès dell'Association pour l'Histoire du verre*, Koper 2012, 350-356, in part. 350-353, figs 1-3, wherein older bibliography. Dated to the early 12th century.

<sup>43</sup> For Middle Byzantine glass intarsia from Constantinople, see M. Mundell Mango, "Polychrome tiles found at Istanbul: typology, chronology, and function", Sh. E. J. Gerstel – J. A. Lauffenburger

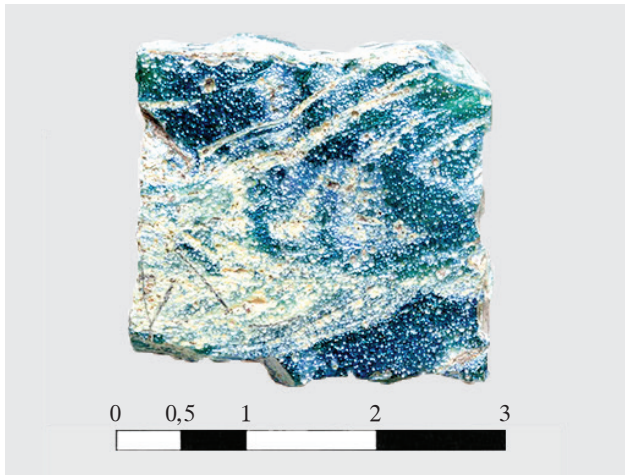


Fig. 12. Intarsia “tile”, mid-14th century A.D.

opaque dark green, oval, planoconvex gem, circa 1.7×1.2 cm<sup>44</sup>. It was found in a mid-14th-century layer.

## 2. Mosaic tesserae

Thousands of loose glass tesserae were unearthed in the area under the central dome of the church in 2017. Almost equal quantities of tesserae were collected from the church area during the 2016 campaign and a smaller quantity in 2015. The following colors were identified: opaque green, green-yellow, yellow, turquoise, dark blue, “black” and red glass. In addition, a number of gold glass tesserae and a few white, marble ones were recovered<sup>45</sup> (Fig. 13).



Fig. 13. Küçükyalı Excavation. Glass tesserae from the interior of the katholikon.

(eds), *Lost Art Rediscovered: The Architectural Ceramics of Byzantium*, Pennsylvania University Park Press, University Park, PA 2001, 24-25, figs 6-8, and some others from Thessaloniki. A. Antonaras, *Arts, Crafts and Trades in Ancient and Byzantine Thessaloniki. Archaeological, Literary and Epigraphic Evidence*, Mainz 2016, 49, fig. 26.

<sup>44</sup> For an overview of large-sized glass gems, see A. Antonaras, “A Special Group of Early Christian Glass ‘Gems’ from Greece”, D. Rosenow – M. Phelps – A. Meek – I. Freestone (eds), *Things that travelled – Mediterranean glass in the first millennium AD*, London 2018, 1-21.

<sup>45</sup> Samples from vessels and tesserae from the excavation of the church and of the church area are currently under chemical examination, and the preliminary results were presented in detail at the 22nd International Congress of the International Association for the History of Glass in September 2021.

The mosaic finds of 2017 have been extensively analyzed: a total of 3767.5 g of tesserae were recovered. 98% are opaque glass tesserae, and only 2% are gold glass ones. After calculating the average weight of each group, the number of tesserae per m<sup>2</sup> and extracting the surface covered by the seams among them, we have come up with the result that they represent a 9.13 m<sup>2</sup> surface of opaque colored tesserae and 0.483 m<sup>2</sup> of golden ones. In addition, the well-known practice of painting the plaster red under the gold-glass tesserae was established in several fragments.

Special note should be made of three fragments which

were composed of tiny tesserae. There is a fragment preserved on the plaster, which is made of tiny tesserae, each 0.1×0.3 cm, probably rendering the rectangular corner of five parallel bands, alternating between white and black.

Also, part of the eye of a human face is preserved, which is made with slightly smaller tesserae. There is a third fragment with an indiscernible motif, probably consisting of a row of parallel ovals.

## Conclusions

The importance of the glass finds presented here does not concern their rarity or good state of preservation. On the contrary, almost all of them are small fragments of common, plain, undecorated utilitarian vessels and of window panes. Almost all of them fit within the operation period of the complex, i.e. between the late 9th and 10th centuries of the first phase of the complex and the second half of the 12th to the first half of

the 14th centuries during the complex's final phase. The finds discussed here, although not numerous at the moment, are extremely important, because they document the nature of glass circulation in the Constantinopolitan region during the Middle and early Late Byzantine periods. Furthermore, several of the finds are part of well-preserved archaeological contexts, a rare instance for Byzantine Constantinople. Finally, this is one of the first instances in which all of the glass finds originate from a cohesive architectural context with firm chronologies and from systematic excavations taking place in the wider Constantinopolitan area. Study of the materials sheds light on the otherwise unknown variety of glass objects used in a monastic complex in the area of the Byzantine capital.

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### Illustration credits

© Küçükyalı ArkeoPark Project (KYAP Archive). Fig. 1: Drone image by Tuğrul Oktaş. Fig. 2: Plan by Arzu Özsvaşıcı and Alessandra Ricci. Figs 3, 4, 7, 9-11: Photographs by Domenico Ventura. Figs 5, 6, 8: Drawings by Rahman Üske and Anastassios Antonaras.

## Η ΠΑΤΡΙΑΡΧΙΚΗ ΜΟΝΗ ΣΑΤΥΡΟΥ ΣΤΑ ΠΑΡΑΛΙΑ ΤΗΣ ΒΙΘΥΝΙΑΣ. ΜΙΑ ΒΥΖΑΝΤΙΝΗ ΘΕΣΗ ΣΤΑ ΠΕΡΙΧΩΡΑ ΤΗΣ ΚΩΝΣΤΑΝΤΙΝΟΥΠΟΛΗΣ: ΠΡΟΚΑΤΑΡΚΤΙΚΗ ΑΝΑΦΟΡΑ ΓΙΑ ΤΑ ΓΥΑΛΙΝΑ ΕΥΡΗΜΑΤΑ

Το μοναστηριακό συγκρότημα στην ασιατική ακτή του ευρύτερου Δήμου Κωνσταντινουπόλεως, στην περιοχή Kūzūkyalı, έχει ταυτιστεί με τη μονή Σατύρου ή Ανατέλλοντος, αφιερωμένη στον αρχάγγελο Μιχαήλ, που ιδρύθηκε από τον πατριάρχη Ιγνάτιο το 873/74. Έχουν αποκαλυφθεί τμήματα του καθολικού και άλλα αρχιτεκτονικά στοιχεία του συγκροτήματος. Το καθολικό ήταν ένας οκταγωνικός ναός με τριμερές ιερό που κτίστηκε σε υπερυψωμένο ορθογώνιο χωμάτινο πλάτωμα, το οποίο περιβάλλει μνημειακός τοίχος ενισχυμένος με αντηρίδες. Το κατώτερο τμήμα του πλατώματος καταλαμβάνει μεγάλη κινστέρινα (Εικ. 1, 2). Η μονή, σύμφωνα με τα αρχαιολογικά ευρήματα, εγκαταλείφθηκε ειρηνικά γύρω στα μέσα του 14ου αιώνα (Εικ. 3).

Στην παρούσα μελέτη παρουσιάζονται τα γυάλινα ευρήματα που εντοπίστηκαν στις ανασκαφές του χώρου σποραδικά σε παλαιότερα έτη και κυρίως το 2016 και 2017, όταν εντοπίστηκαν 748 θραύσματα στο εσωτερικό του καθολικού και στον περιβάλλοντα χώρο του. Τουλάχιστον τα 260 ανήκουν σε περίπου δέκα κυκλικούς υαλοπίνακες (Εικ. 11). Τα υπόλοιπα ανήκουν σε περίπου 150 αγγεία, τα οποία, με την εξαίρεση ενός, είναι κατασκευασμένα με ελεύθερη εμφύσηση. Επίσης, εντοπίστηκαν διακοσμητικά στοιχεία και ψηφίδες. Τα αγγεία είναι καντήλες (με μακρύ κυλινδρικό στέλεχος (Εικ. 4, 5, 7) ή με επίπεδη βάση και τρεις λαβές (Εικ. 6, 8), ποτήρια και κούπες, μπουκάλια (ορισμένα διακοσμημένα με επίθετες έγχρωμες ίνες) (Εικ. 6, 9, 10). Οι υαλοπίνακες είναι λεπτοί γαλαξοποί ή σπάνια πρασινωποί δίσκοι με διάμετρο 19-23 εκ., κατασκευασμένοι με ελεύθερη εμφύσηση και περιχέλωμα αναδιπλωμένο ή σπάνια στιλβωμένο με πυράκτωση (Εικ. 11).

Ακόμη, εντοπίστηκε ένα επίπεδο τμήμα πρασινωπού αγγείου που περικόπησε σε ορθογώνιο σχήμα και επαναχρησιμοποιήθηκε ως ένθετο διακοσμητικό σε κινητό αντικείμενο (Εικ. 12). Τέλος, χιλιάδες ψηφίδες αποκαλύφθηκαν το 2017 στον χώρο του κεντρικού τρούλου, ενώ μεγάλες ποσότητες συνελέγησαν και το 2015 και

2016 (Εικ. 13). Διακρίνονται οι παρακάτω αποχρώσεις: πράσινες, κιτρινοπράσινες, κίτρινες, τυρκουάζ, κυανές, αμαυρόχρωμες και κόκκινες, σχετικά λίγες χρυσές και πολύ λίγες από λευκό μάρμαρο. Οι ψηφίδες του 2017 ζυγίζουν 3.767,5 κ. Το 98% είναι έγχρωμες αδιαφανείς και το 2% είναι χρυσές γυάλινες. Υπολογίστηκε ότι αντιπροσωπεύουν μια επιφάνεια 9,13 μ.<sup>2</sup> αδιαφανών έγχρωμων ψηφίδων και 0,483 μ.<sup>2</sup> χρυσών. Δείγμα από κάθε απόχρωση έχει δοθεί για χημικές αναλύσεις.

Σχεδόν όλα τα ευρήματα είναι μικρά θραύσματα κοινών, απλών, ακόσμητων χρηστικών αγγείων και υαλοπινάκων. Σχεδόν όλα εντάσσονται στην περίοδο λειτουργίας του συγκροτήματος, δηλαδή η πρώτη φάση στον 9ο-10ο αιώνα και η τελική φάση στο δεύτερο μισό του 12ου – πρώτο μισό του 14ου αιώνα. Τα ευρήματα είναι εξαιρετικά σημαντικά, παρότι είναι ακόμη ολιγάριθμα, καθώς αποκαλύπτουν τους τύπους γυάλινων αντικειμένων σε χρήση στην περιοχή της Κωνσταντινούπολης τους αιώνες αυτούς. Επιπλέον, αρκετά από τα ευρήματα διαθέτουν σαφή ανασκαφικά συμφοραζόμενα, γεγονός αρκετά σπάνιο για τη βυζαντινή Κωνσταντινούπολη. Τέλος, πρόκειται για μια από τις πρώτες συστηματικές ανασκαφές, όπου όλα τα γυάλινα ευρήματα ενός σταθερά χρονολογημένου συγκροτήματος της ευρύτερης περιοχής της Κωνσταντινούπολης μελετώνται συμβάλλοντας στον προσδιορισμό των –άγνωστων κατά τα άλλα– γυάλινων αντικειμένων που χρησιμοποιούνταν σε μονή, στην περιοχή της βυζαντινής πρωτεύουσας.

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