

GLASS FINDS FROM KETEF HINNOM, JERUSALEM

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Two salvage excavations at the site of Ketef Hinnom (see Avner and Zelinger, this volume) yielded 347 glass fragments, the majority of which were non-diagnostic body fragments, including a large amount of Ottoman and modern glass.¹ Fifteen fragments associated with the Roman (Figs. 1, 2) and Byzantine (Fig. 3) periods were chosen for discussion and illustration, and appear in the order of their catalogue numbers; others are mentioned in the text. Two glass stoppers from the late nineteenth–early twentieth centuries CE are also illustrated (Fig. 4).

ROMAN PERIOD (Figs. 1, 2)

The Roman-period glass fragments comprise a small, but interesting group of blown vessels dated to the first–early third centuries CE, including two bowls (Fig. 1:1, 2), a beaker (Fig. 1:3), a jug (Fig. 1:4) and a small cosmetic bottle (Fig. 1:5). A significant find is a rare, mold-blown ‘Sidonian’ juglet, unfortunately lacking a secure provenance (Fig. 1:6). It is the earliest fragment at the site, unearthed in a construction fill believed to be a tomb that was possibly destroyed by an Early Roman quarry (see Avner and Zelinger, this volume). Also recovered were twelve candlestick bottles, of which seven are illustrated (Fig. 2:7–13). As many of the vessels discussed here originate in unclear stratigraphic contexts, they are presented in chronological and typological order.

The bowl and beaker (Nos. 2, 3), and most of the candlestick bottles (Nos. 7, 8, 11–3), originated in graves of the second–third centuries CE. A very similar group of

candlestick bottles, dated to the first–second centuries CE, was previously excavated in the northern part of the site (Barkay 1984:99, top photo). Such bottles are very common finds in burial contexts of the first–early third centuries CE throughout the country, and particularly in Jerusalem. However, this is the first appearance of a ‘Sidonian’ juglet in a burial context in Jerusalem.

Bowl with Two Handles (Fig. 1:1).— This is a fragment of a folded-out rim bearing remains of a volute-shaped trail, possibly used as a handle. A similar trail was probably applied on the opposite side as well. This type is dated from the late first to the third centuries CE (Dussart 1998:59, Pl. 3:33, Type BI. 1322b). It is a rarer variation of another bowl type with a ‘crimped trail’ at the rim, one of the most common types in Israel during the period between the two Jewish revolts (Katsnelson 2009:164, Fig. 3: 5, 6).

Bowl with Upright, Rounded Rim (Fig. 1:2).— The fabric of this fragment suggests it belonged to a Roman bowl. It was found in a shaft grave dated to the second–third centuries CE (see Avner and Zelinger, this volume) and resembles a bowl recovered from a contemporary tomb at Gesher Ha-Ziv (Mazar 1994:79, Fig. 4, bottom photograph, left).

Beaker with Flaring Rounded Rim (Fig. 1:3).— This fragment belongs to a beaker or small bowl with a thickened, flaring rim and thin walls tapering downward. It is difficult to determine the exact vessel type. It was found in a cooking pot next to a cremation burial, dated to the

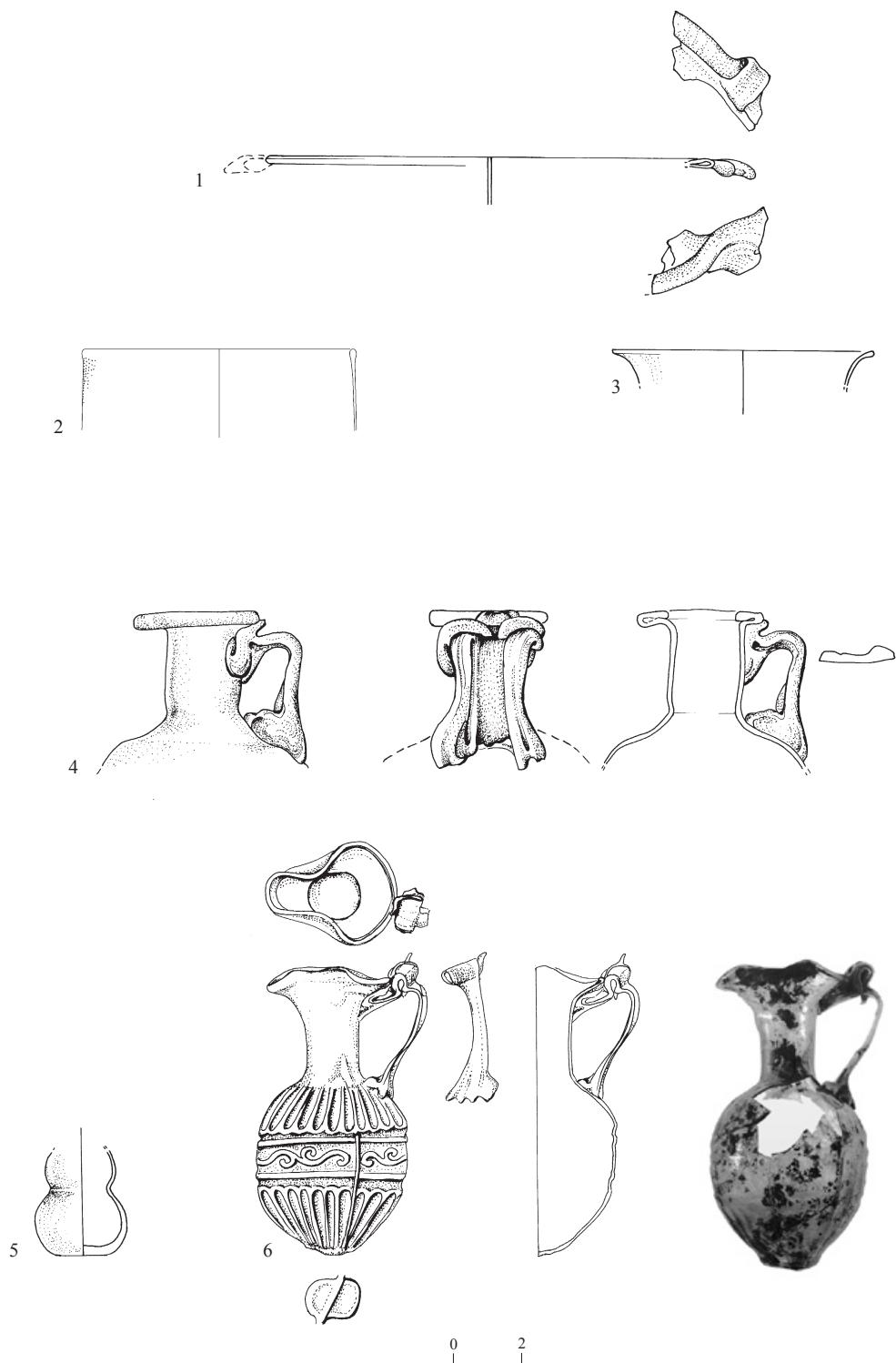


Fig. 1. Open and closed vessels from the Roman period.

◀ Fig. 1

No.	Type	Locus	Basket	Context	Fragment	Color	Weathering
1	Bowl	501	6001	Surface	Rim	Light bluish green	Black-silver, severe pitting
2	Bowl	535	6141	Shaft grave	Rim and wall	Greenish blue	Silver iridescence, pitting
3	Beaker	527	6098	Cremation burial	Rim and body part	Almost colorless with greenish tinge	Iridescence, severe pitting
4	Jug	518	6130	Disturbed fill near W2	Upper part	Greenish blue	Black-silver, pitting
5	Small bottle	304	4013	Destroyed tomb	Body part	Colorless	Black-silver, iridescent film, severe pitting
6	Juglet	904	9009	Disturbed fill near W2	Complete, mended, missing body part, base and handle	Colorless with purple tinge; handle colorless with greenish tinge	Black and rusty, iridescence, pitting

second–early third centuries CE (see Avner and Zelinger, this volume). A close parallel comes from the *miqveh* near Alon Shevut, dated no later than 135 CE (Gorin-Rosen 1999:87, Fig. 2:8).

Jug with Short Handle (Fig. 1:4).— This is the upper part of what appears to have been a square jug with the characteristic thick rim that was folded out, down and up again, a short cylindrical neck and a strap handle tooled with two ribs on the edges. The handle is short, extending upward from the shoulder and adjoining the fold just beneath the rim at a right angle. This vessel belongs to a large family of jugs in use throughout the Roman Empire from the mid-first to the fourth centuries CE. Specimens with two-ribbed handles were prevalent from the Flavian period onward (Isings 1957:63–67, Form 50), for example, a square jug from Khirbat al-Karak (Delougaz and Haines 1960: Pl. 50:13) and a globular one from Ha-Gosherim (Ovadiah 1999: Fig. 4:1). A recently published parallel is a globular juglet from a tomb at Regavim, near the Roman Caesarea–Legio road, found together with several candlestick bottles (Winter 2012: Fig. 9:1–5).

Cosmetic Bottle with Constricted Body (Fig. 1:5).— This small bottle was found out of

context together with human bones and small remnants of a candlestick bottle (not illustrated), suggesting a disturbed cremation burial (see Avner and Zelinger, this volume). Its pear-shaped body has a waist-like constriction in the middle. A similar fragment was recently found in the Western Wall plaza excavations, together with a coin of the First Jewish Revolt, 78/68 CE (Gorin-Rosen, forthcoming). Bottles of this type occur in local burials from the first century CE onward, as in a Jewish tomb at Jericho (Hachlili and Killebrew 1999:134, Fig. III.71:3, 5), as well as at Ha-Gosherim, dated to the late first century CE (Ovadiah 1999: Fig. 3:13, 14) and Gesher Ha-Ziv, assigned to the second–third centuries CE (Mazar 1994:79, Fig. 3, four bottles from left).

Mold-Blown Juglet (Fig. 1:6).— This small, complete cosmetic container, used to store tiny quantities of perfume or precious oil, was found in the remains of what may be a destroyed tomb. It was reconstructed from many fragments, and parts of the body, base and handle are missing. It has a trefoil rim, folded inward and pinched, a cylindrical neck, and a thin-walled, ovoid body tapering toward the small, flattened base. A thin handle with three shallow, vertical ribs extends from the shoulder to the rim, with a thumb-rest fold above. Decoration on the body

is divided into three horizontal bands: the relief design at mid-body depicts a band of tendril scrolls bordered by two horizontal ridges, and framed above and below by bands of vertical flutes. The body was blown in a two-part mold, and a continuous seam runs around the body and across the base. The neck was free blown, but is slightly deformed at its base, disturbed by an extension of the seam from the mold.

Series of mold-blown vessels with this design exist in many museum collections, including the Israel Museum, Jerusalem (Israeli 2003:138, Cat. Nos. 164–166), although most published examples have two handles. This type of vessel was produced in the eastern Mediterranean, possibly in Sidon, and also in Italy. Examples excavated in Greece and the Crimea have been dated to the first century CE (Stern 1995:152–153, Cat. Nos. 55, 58, and see further references therein). Parallel from the Syro-Palestinian region are extremely rare, and the few published examples from Israel include several Sidonian bottles, although of types different from this juglet, which were unearthed in a late first-century CE burial cave at Geva, in the Jezreel Valley, in an area that may have been a Roman army settlement (Israeli and Katsnelson, forthcoming). Upper vessel parts with flutes similar to those on No. 6 were excavated in the first-century CE Jewish town of Gamla (Jackson-Tal 2009: Fig. 4.66:1, 2). However, small cosmetic vessels of the Sidonian series do not seem to have been popular among the first-century CE population of Judea, although larger and better-quality mold-blown vessels, such as jugs and beakers, do occur at Judean sites (Israeli 2011:14, 19, 27, 91, 95).

From the above comparison, it appears that the juglet from Ketef Hinnom is a unique subtype, perhaps a lower-quality local imitation of a Sidonian prototype. It is slightly taller with a pinched rim and a pointed base, and its tendril-scroll design is more elongated and blurred than on other Sidonian vessels. These characteristics suggest that the piece was blown by a local master who created a new mold by

either copying an original stone or clay mold, or making a clay mold directly from the surface of a glass vessel (for discussion of techniques, see Stern 1995:48). A few other examples of local imitations of Sidonian glass vessels of the first–second centuries CE are known from a Samarian tomb at Kh. Farawa (Reich 1991: Photo 7:2) and Tomb 16 at Regavim, which was possibly used by a Jewish population (Winter 2012: Fig. 9:6).

Candlestick Bottles (Fig. 2)

Twelve vessels of this type were uncovered: one intact (No. 13), two restored to a complete profile (Nos. 7, 10), four others partially preserved (Nos. 8, 9, 11, 12), and small rim, neck, body and base fragments of at least five additional bottles (Loci 304, 532, 533, 552, 594). All these bottles are made of natural colored, bluish or greenish glass covered with typical black-silver weathering. Three variations of candlestick bottles were discerned: medium-sized bottles with low, hemispherical bodies (Nos. 7–10), a tall bottle with a high, trapezoidal body (No. 11, and possibly No. 12), and a short bottle with a triangular body (No. 13). The cremation burial in L533 yielded a poorly preserved bottle with a small bell-shaped body (not illustrated). Most of these vessels are similar in the upper part, with unevenly folded, flaring rims and tall cylindrical necks, constricted at the base.

Four pieces originate in cremation burials (Nos. 7, 8, two not illustrated), four in shaft graves (Nos. 11–13, one not illustrated), and four bottles in unclear contexts (Nos. 9, 10, two not illustrated). It is noteworthy that the forms appearing in the well-stratified cremation burials resemble those from the shaft graves, both dated by the excavators to the second–third centuries CE. Therefore, this date should probably be applied to the entire group of candlestick bottles.

Medium-Sized Candlestick Bottles (Fig. 2:7–10).—These vessels form a homogenous group of similar height, the two complete examples, Nos. 7 and 10, being 15.5 cm and 16.3 cm high,

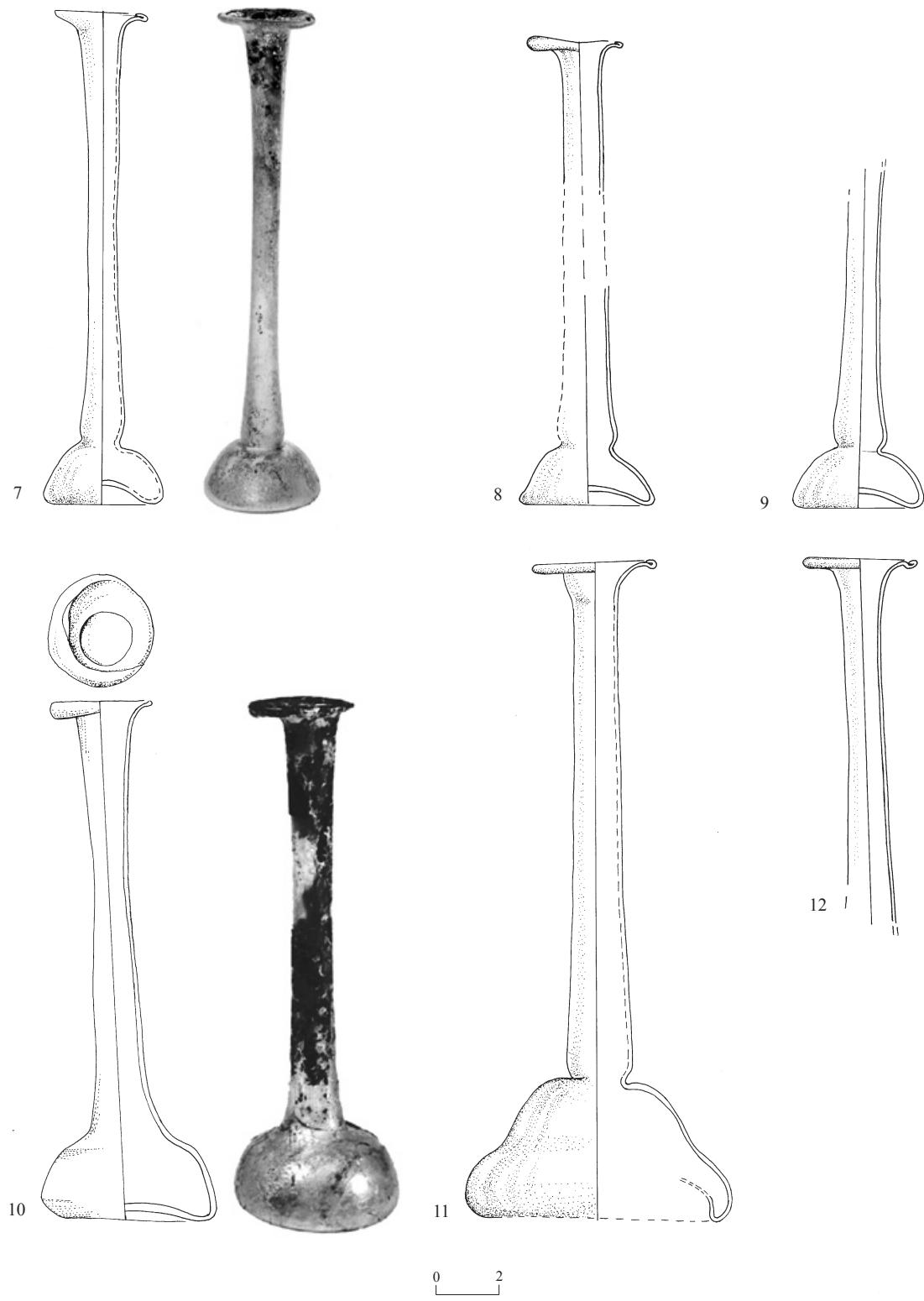


Fig. 2. Candlestick bottles from the Roman period.

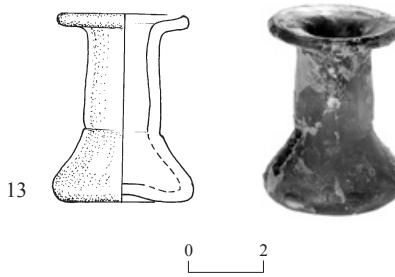


Fig. 2. (cont.)

No.	Locus	Basket	Context	Fragment	Color	Weathering
7	523	6075	Cremation burial	Complete, mended	Greenish blue	Black-silver, severe pitting
8	523	6075	Cremation burial	Upper and lower parts	Greenish blue	Black-silver, pitting, lime deposits
9	518	6074	Disturbed fill near W2	Top missing	Greenish blue	Silver iridescence, severe pitting
10	916	9036	Disturbed fill near W2	Complete, mended	Almost colorless with greenish blue tinge	Black-silver, iridescent film, severe pitting
11	595	6379	Shaft grave	Base missing, mended	Greenish blue	Black-silver iridescence, severe pitting
12	594	6359	Shaft grave	Rim and neck	Colorless with greenish blue tinge	Black-bronze, pitting
13	619	6478	Shaft grave	Intact	Greenish blue	Black-silver, pitting, large bubbles

respectively. The bottles are characterized by hemispherical bodies with concave bases and no pontil mark. This subtype appeared in the last quarter of the first century CE and continued in use up to the early third century CE. Numerous parallels are found in burial complexes from Jerusalem and its surroundings, for example at Ramat Rahel (Aharoni 1964:78–79, Fig. 33:1–3) and Akeldama (Winter 1996: Fig. 5.4:3–5, and see further references therein).

Although No. 10 has a partly folded rim, a non-constricted neck, and an irregular body, it should be attributed to the same date as the other vessels of this subtype. A very similar bottle was found in a tomb at Wa‘r Abu es-Safa, northwest of Jerusalem, dating later than 70 CE (Baramki 1935: Pl. LXXX:15).

Tall Candlestick Bottles (Fig. 2:11, 12).—Vessel No. 11 has a large trapezoidal body and a high

concave base (partly preserved). It represents one of the latest variations of candlestick bottles, assigned to the late second–first half of the third centuries CE (Barag 1970:214, Type 21, Fig. 46:7, see further references therein, including Jerusalem and Samaria). A similar upper part of another bottle (No. 12), which was found in a nearby tomb, probably belongs to the same subtype.

Short Candlestick Bottle (Fig. 2:13).—This small, intact vessel (height 5 cm) has a rounded rim, flattened on the top, which is equal in diameter to the width of the body. The cylindrical neck has a pronounced constriction at its base. The walls are thick and the body is triangular. A similar bottle was found in Tomb K23 at Jericho, dated by Barag to the second half of the first century or early second century CE (Barag 1970:217, Type 21, Fig. 47:16-1).



Fig. 3. Glass finds from the Byzantine period.

No.	Type	Locus	Basket	Context	Fragment	Color	Weathering
14	Wineglass	539	6165	Church	Base	Greenish blue	Silver iridescence, pitting
15	Oil lamp	105	2028	Disturbed fill below surface	Base and wick tube	Greenish blue	Yellow crust, iridescence

Variations of short triangular bottles, dated from the late first to the mid-third centuries CE, were excavated in the Akeldama tombs, Jerusalem (Winter 1996:98, Fig. 5.5:1–3).

BYZANTINE PERIOD (Fig. 3)

The few glass finds from the site that can be associated with the Byzantine period comprise a wineglass (No. 14), an oil lamp (No. 15), two small glass tesserae (Loci 103, 106) and several windowpane fragments (Loci 109, 509, 539). The wineglass was recovered in a Byzantine church, the others originated in disturbed fills below surface.

Wineglass (Fig. 3:14).— This base fragment of a footed beaker or wineglass was found within a church wall (see Avner and Zelinger, this volume). The pushed-in base forms a ring with a large hollow and the beginning of a hollow stem is preserved. Many variations of similar bases have been discovered in the Jerusalem area, mainly in contexts of the sixth–seventh centuries CE (Gorin-Rosen 2005:203–204, Fig. 2:27, see further references to Ras Abu Ma‘aruf and Khirbat Tabaliya).

Bowl/Oil Lamp (Fig. 3:15).— This is the lower part of a small lamp characterized by a narrow cylindrical body and a high concave base with remains of a wick-tube. This type of lighting vessel, usually with a folded rim

and three small handles, was very common in the Byzantine period at many sites in Israel, including the Jerusalem area (Gorin-Rosen 2005:205, Fig. 2:32–35, see further references to Khirbat Tabaliya). Additional rim and handle fragments of similar lamps were found at the site in unstratified loci (L504, L611).

Glass Tesserae.— Two mosaic glass cubes in green opaque and yellowish green glass originated in unstratified loci. It is tempting to associate these cubes with a Byzantine mosaic that was excavated in the southeastern part of a church at the site (Barkay 1984:97, top photograph), although their location is quite distant from that area.

OTTOMAN AND BRITISH MANDATE PERIODS

The site yielded a large quantity of glass from these periods (Loci 101–106, 300, 302, 503–506, 515, 516, 518, 542). The few diagnostic fragments include two bracelets (not illustrated) and two bottle stoppers.

Such bracelets were a very common product of Palestine during the Mamluk–Ottoman periods, possibly produced in Hebron up to the beginning of the twentieth century (Alexandre 2012: Figs. 4.10:14, 15; 4.11:11). One is monochrome of uncertain color, thin and unevenly twisted (L302), the other is colorless with two applied trails in opaque red and white, evenly spaced and slightly twisted (L106).



Fig. 4. Glass bottle stoppers from the late Ottoman or British Mandate period.

No.	Locus	Basket	Context	Fragment	Color	Weathering
16	102	2013	Unclear	Complete, except for small chip	Light bluish green	Milky patches, iridescence
17	503	6005	Unclear; found near rim and neck fragment of small bottle of similar glass	Partly preserved at the top, chipped	Light greenish blue	Iridescent film

The stoppers (Fig. 4), belonging to modern apothecary and condiment bottles of greenish and bluish green glass, are curious finds.² Both are embossed with letters (identification of the product brand) on the flat, circular top (finial), and were possibly used in combination with a cork (for discussion, see *Historical Bottle Website III*).

The larger stopper (length 2.2 cm, outer diam. 3.4 cm, inner diam. 2.6 cm), with a short, thick cylindrical attachment (shank) on the underside, was designed to close a bottle with a wide mouth. Its top is embossed with the words, PATENT PREPARED BY ENO'S (Fig. 4:16). This stopper belonged to a disposable bottle that contained Eno's 'Fruit Salt', which was invented in the 1850s by James Crossley Eno of Newcastle, Great Britain (see *Quackdoctor*). The bottles themselves (18–23 cm in height) were embossed on the body with the words, ENO'S FRUIT SALT. They continued to be produced into the early twentieth century (for examples, see *Bidorbuy: Vintage Eno's*).

The smaller stopper, with a broken top, was designed with an elongated tapering shank (length 3.2 cm, outer diam. 2.6 cm, max. inner

diam. 1.2 cm). Stoppers of this form belonged to 'club-sauce' style bottles characterized by tall, narrow, cylindrical necks. The stopper's fragmentary embossed lettering, L...PERRI... (Fig. 4:17), may be reconstructed as Lea & Perrins (see *Bing Images: Lea & Perrins glass stoppers*). This trademark was used for the famous Worcestershire sauce, developed by the chemists John Lea and William Perrins in the early 1800s (see *Lea & Perrins®: History*). Lea & Perrins glass bottles were manufactured in at least three sizes in Great Britain as well as in the United States. They are one of the most commonly found embossed bottles at mid-nineteenth to early twentieth-century historic sites (see *Historical Bottle Website: Food Bottles & Canning Jars*).

CONCLUSIONS

Despite a general lack of stratified contexts, the glass assemblages from Ketef Hinnom, which date to the first–early third centuries CE, the Byzantine period, the Late Islamic period and the time of the British Mandate, demonstrate that even after the destruction of the Second

Temple in Jerusalem, this site continued to be occupied over a long period.

The glass finds from the necropolis, which was in use during the second–third centuries CE, include a number of candlestick bottles, one of the most common local burial goods at the time, which were widespread throughout the country from the late first to the early third centuries CE. In general, the Ketef Hinnom corpus can be compared with the much richer glass finds from contemporary burials in Jerusalem, such as Akeldama (Winter 1996).

Unfortunately, our knowledge of the ethnic identification of the deceased to whom the glass funeral vessels were offered during the first–early third centuries CE in Jerusalem, is limited. Similar subtypes of candlestick bottles are found in various types of burials, and their original context in multi-period burials is often unclear. Moreover, it may

not be relevant to attempt associating certain forms of these bottles with particular burial rituals, since the form of the candlestick bottles—designed for convenient holding and pouring of ‘perfumes for the dead’—was secondary to their contents. It seems that in all the contemporary burial customs of the period, these perfumes played a central role in the mourning ceremony, regardless of the form of the glass container.³

The site also yielded an extraordinary and rare, mold-blown juglet of the first century CE (No. 6), whose presence may indicate a burial practice of the late Second Temple period, a period not well-attested by other excavated material at the site. It is unclear where this juglet was produced; it may have been imported, or made locally in imitation of Sidonian form and technique, integrating influences of imported wares into local styles.

NOTES

¹ I wish to thank the excavators, Rina Avner and Yehiel Zelinger, for enabling me to study the glass finds. The vessels were restored by Olga Shorr, and drawings of the finds were made by Alina Pikovsky and Carmen Hersch.

² My thanks to Aviva Schwarzfeld for identification of the product inscriptions.

³ I am grateful to Yael Israeli for drawing my attention to this point.

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