

## MAMLUK AND EARLY OTTOMAN POTTERY FROM RAMLA: DEFINING LOCAL AND IMPORTED FABRICS

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### INTRODUCTION

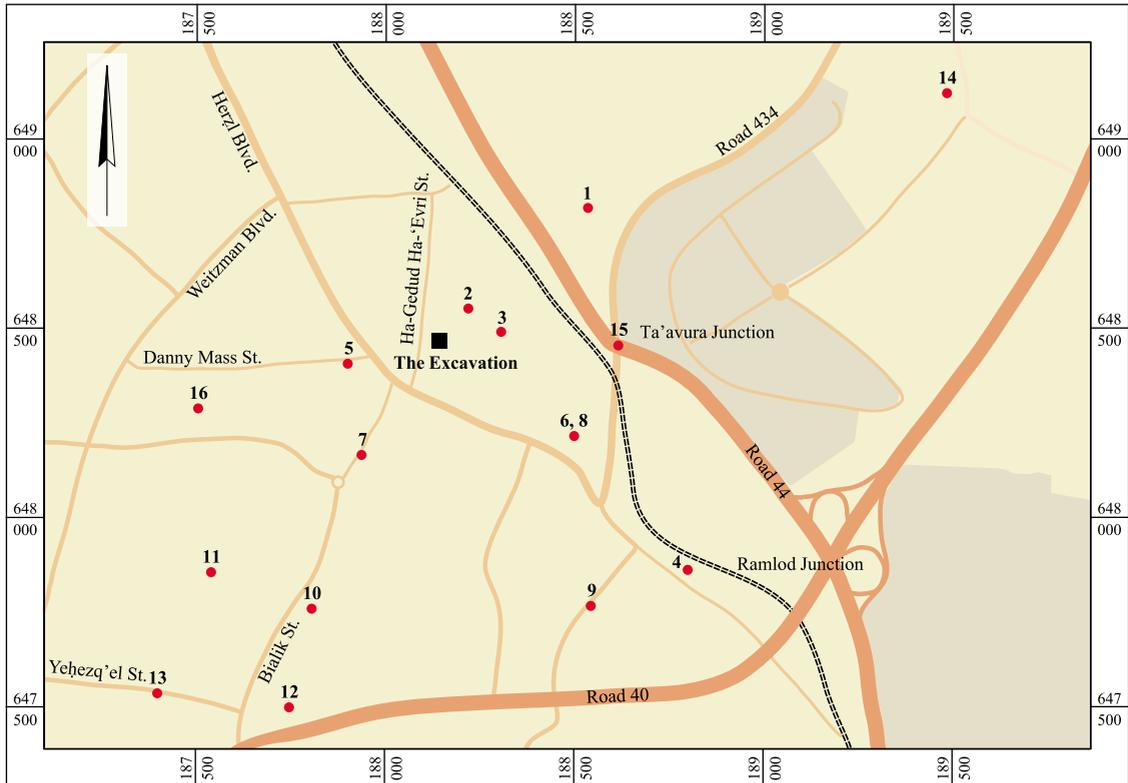
Presented hereby is a study of the ceramic assemblage dating from the Mamluk and early Ottoman periods, which was found in Stratum II of the excavation on Ha-Ezel Street, Ramla (for the final report, see Toueg 2013; Fig. 1).<sup>1</sup> Nineteen squares were opened in two areas (A and B) and four strata were exposed: Stratum IV, dated to the Abbasid period (second half of the eighth–tenth centuries CE); Stratum III, dated to the Fatimid period (tenth–eleventh centuries CE); Stratum II, dated to the Mamluk and the early Ottoman periods (thirteenth–sixteenth centuries CE); and Stratum I, from the days of the British Mandate (1920–1948). At the end of the Fatimid period, the area was abandoned or destroyed, and later the building remains were covered by a thick fill containing a large number of pottery sherds, mostly dated from the Mamluk and the early Ottoman periods. Poor building remains and a cistern from the Mamluk and the early Ottoman periods were exposed. In Area A, the thick fill and the Mamluk building remains were sealed by a pebble-paved surface from the days of the British Mandate.

#### *Methodology*

The authors of this article set out to explore fabrics and forms of local and imported wares, in an attempt to pinpoint the production locale of each. The pottery was examined in the IAA laboratories to determine the geological source of the raw materials. Our goal was to identify production centers according to the geological source of the fabrics, rather than solely rely on the finding of kilns or piles of wasters. It is hoped that this study will serve

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- |                        |                          |
|------------------------|--------------------------|
| 1 Elisha 2010          | 9 Elisha 2005            |
| 2 Glick and Gamil 1999 | 10 Toueg 2011a           |
| 3 Kletter 2009         | 11 Eshed 2011            |
| 4 Toueg 2008           | 12 Parnos and Nagar 2008 |
| 5 Toueg 2012           | 13 Abd Rabu 1999         |
| 6 Toueg 2011b          | 14 Talmi 2010            |
| 7 Korenfeld 2010       | 15 Sion, in prep.        |
| 8 Torgë 2011           | 16 Cytryn-Silverman 2010 |

Fig. 1. Location map of excavations within Ramla that yielded Mamluk–early Ottoman-period pottery.

as a first step toward a reconstruction of the Ramla pottery industry in the Mamluk period. For the imports, the tracing of the fabric composition was based on previously published production centers. In addition, we compared the Ha-Ezel Street pottery assemblage with other ceramic finds from the heretofore published excavations in Ramla and its vicinity (Fig. 1). With the exception of the detailed pottery report from the excavation north of the White Mosque (Cytryn-Silverman 2010; Fig. 1:16), most of those publications only briefly present ceramics from the Mamluk and early Ottoman periods. This study is a pioneer effort to fill the gap regarding the forms and fabrics of the pottery of these periods, whether found in clear architectural contexts, or not.

The research methods used in this study are not the traditional typological ones for classifying pottery from historical periods, but rather, a study of the fabric composition, a

method similar to those used in studying protohistoric assemblages (cf. Arnold 1985:231–236; Rye 1988:4, 5). Due to budget constraints, we could not perform petrographic thin-section analyses; rather, we employed an intermediate solution to distinguish between fabrics. All the selected vessels were examined by the naked eye and the fabric color was described according to the Munsell Soil Chart (2000). Fresh breaks of the sherds were examined under a binocular microscope at magnifications of  $\times 20$ – $\times 40$ . A steel needle and a 5% diluted hydrochloric acid were used for the mineralogical identifications. Description of the mineral composition of the examined vessels is given below in the tables and in the text. Firing temperature was roughly estimated according to the presence of carbonate inclusions and signs of vitrification.

For best results, the findings were subsequently compared with former results of previous petrographic and petrological investigations for contemporary periods and fabrics (e.g., Shapiro 2012; 2013; 2014). Technological aspects and provenance were mentioned when possible. Although the highest possible degree of precision was used in this study, association of pottery types with particular fabric groups should be taken with caution considering the limitations of visual observation with a binocular microscope; nonetheless, this study offers a good starting point for further research (Avshalom-Gorni and Shapiro 2015; Shapiro 2018).

#### *The Geological Environs of the Site*

Ramla is situated on the southern coastal plain (about 20 km wide at this latitude), on the border between the Judean mountains and the Sharon coast. The geology of the region is characterized by Quaternary formations forming calcareous sandstone (*kurkar*) ridges, with layers and lenses of red sand and *hamra* loam, covered with sand dunes, partially overlaid by alluvium (Sneh and Rosensaft 1994). Outcrops of carbonate rocks of Eocene age can be found in a small area c. 4 km to the east–northeast of the site. The hilly terrain of the Samaria region, comprising chalk, limestone and dolomite formations from the Turonian to Eocene ages, is situated c. 6 km to the east. The soils in this region vary from brown-red sandy soils (degrading at the close vicinity of the site) to alluvial and brown alluvial calcareous vertisols (Ravikovitch 1969).

#### *Ramla in the Mamluk and Early Ottoman Periods*

Ramla was conquered from the Crusaders by the Mamluk Sultan Baybars in 1266, following a period of instability that lasted since the fall of Crusader Jerusalem in 1244. To revive the prosperous and well-built city founded by the Muslims in the eighth century, Baybars restored the White Mosque and constructed many new buildings.

During the fourteenth and fifteenth centuries, Ramla underwent several changes.<sup>2</sup> In the early fourteenth century, Abu al-Fida described Ramla as the most densely populated city

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<sup>2</sup> For the historical records pertaining to Ramla during these periods, see Gat 2003:298, 305; Petersen 2005:95–96.

in Palestine. Situated on the important Cairo–Damascus postal route (the *barīd*), Ramla had the status of a commercial center and its economy prospered. Local agricultural goods, such as cotton, were traded, and these attracted Venetian merchants, who established a colony in the city. Christian travelers described large and rich markets in Ramla, although these were reduced in size compared with those of the Early Islamic city. In the fifteenth century, Mujir al-Din described Ramla as a village; at this time, the White Mosque was separated from the main settlement and was surrounded by cemeteries.

During Mamluk rule, the administrative status of Ramla changed several times. In the early fifteenth century, it belonged to the *Mamlaka* of Damascus, reigned by the governor of Jerusalem and Ramla (a joint position). In the late fifteenth century, Ramla was annexed to the *Mamlaka* of Gaza, and then again, the city was reigned by the governor of Jerusalem. As testified by several written sources, the town declined following the Ottoman conquest in 1516.

Today, the Old City of Ramla is located above the area of the Mamluk and early Ottoman town, as attested by a number of buildings that have survived, most of them religious: the Great Mosque, the Abu al-‘Awn Mosque, a large khan of the sixteenth century and a few tombs. In addition, a large number of Arabic inscriptions from mosques, minarets and tombs that did not survive, are evidence of these demolished Mamluk monuments (Petersen 2001:347–351; 2005:96; Cytryn-Silverman 2008).

Archaeological evidence of domestic dwellings from these periods is very scant; it appears that most of them were built of dry mud bricks, as opposed to the public buildings, which were constructed of high-quality chiseled stone. The presence of local and imported pottery in excavations within the Old City (see Fig. 1; and see below) and outside of it (Cytryn-Silverman 2010) testifies to a densely inhabited town during the Mamluk and early Ottoman periods.

Two excavations near our site yielded evidence of local ceramic production during the Mamluk period.<sup>3</sup> In the excavation on Herzl Street (Toueg 2008; Fig. 1:4), rows of empty storage jars were found upside-down in an inclined position, suggesting that they were stacked new jars, stored for sale in a pottery workshop. An additional excavation at the central bus station (Torgë 2011; Fig. 1:8) yielded pits with intact, deformed and unfinished pots, probably the remains of manufacturing debris. The evidence of local ceramic production and the appearance of similar forms in Ramla and in its rural hinterland (see below) triggered the study of their fabrics.

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<sup>3</sup> The excavators dated the pottery from these sites to the Mamluk period. Based on new research, also mentioned here, it is possible that these workshops continued to operate in the early Ottoman period as well.

## THE POTTERY

The pottery assemblage includes characteristic forms of local and imported wares. Most of it originated in fills that accumulated in robber trenches dug above remains from the Fatimid period (see Toueg 2013). The pottery from the Mamluk and early Ottoman periods is treated below as a single group, and its dating is based on parallels from well-dated sites. Typology and citations are based on Avissar and Stern (2005).<sup>4</sup> Parallels are also made to assemblages published after 2005 from Ramla (Elisha 2005; 2010; Parnos and Nagar 2008; Toueg 2008; 2011a; 2011b; 2012; Kletter 2009; Cytryn-Silverman 2010; Korenfeld 2010; Talmi 2010; Eshed 2011; Torgë 2011) and from villages within its rural hinterland, such as Khirbat el-Ni'ana (Vincenz and Sion 2007), Kafr 'Ana (Gophna and Taxel 2007) and Giv'at Dani (Lazar 1999). Other rural sites from which parallels are cited, include Khirbat Ka'kul (Boas 2006) and Khirbat 'Adasa (Khalaily and Avissar 2008) in the Jerusalem area; Khirbat Burin (Kletter and Stern 2006), Khirbat Ibreika (Yannai 2006), Tell Jatt (Yannai 2010) and Khirbat Yamma (Yaḥam; Stern 2017) in the Sharon plain; and further north, Naḥal Ḥaggit (Seligman 2010), Yoqne'am (Avissar 1996; 2005), Nazareth (Alexandre 2012), Khirbat Din'ila (Stern 2014a) and Ḥorbat 'Uza (Stern and Tatcher 2009). Comparable pottery from urban sites was found in Jerusalem (Johns 1950; Tushingham 1985; Avissar 2003; pers. comm.) and Safed (Zefat; Barbé 2014; Cohen 2014; Stern 2014b; forthcoming; Dalali-Amos and Getzov, forthcoming).

The transition from Mamluk to Ottoman rule in this area occurred in 1516. Some pottery types found on Ha-Ezel Street could clearly be assigned to the early Ottoman period, i.e., the sixteenth to the early seventeenth centuries. However, since material culture is not usually affected immediately by a change in regime, a continuation in the forms of most of the local ceramic types was observed. In southern Bilad al-Sham, and perhaps in the entire region, the early Ottoman forms generally continue the late Mamluk types with few innovations (Walker 2009:40–46). The only visible change is the increase in imported glazed wares from the transitional period onward (Milwright 2000). Ceramic assemblages from well-defined stratigraphic layers dating from the fifteenth and sixteenth centuries are relatively scarce in the archeological record, as it is difficult to isolate this transitional period. This is apparently due to a combination of two factors: (1) until recently, remains from these periods were not excavated and studied in the same manner as they are today, and (2) buildings from these periods were often used over long periods of time, making it difficult to separate the various occupation phases, especially since floors were mostly of beaten earth. Later buildings, occasionally with flagstone floors, were in many cases reused with no accumulation of remains (see Walker 2009:38).

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<sup>4</sup> This book was written a decade and a half ago; therefore, the typology used here is slightly different from the one applied there, due to advancements in the research of Mamluk pottery.

The fabrics of the vessels from this excavation were divided into four groups: *Local Fabrics*, originating from a workshop or workshops in Ramla itself, or within a radius of 10–20 km; *Inter-Regional Fabrics*, indicating imports from Syria, Beirut and Egypt; *Mediterranean Fabrics*, comprising imports from Cyprus and Italy; and *Unknown Imported Fabrics*, constituting fabrics whose origin is unknown.

## LOCAL FABRICS

Three main groups of local fabrics were distinguished: handmade wares (Group 1) and two unglazed wheel-made wares (Groups 2 and 3). The handmade ware was further subdivided into Groups 1a and 1b; the clay of both seems to have originated from the same source, while their inclusions are different (straw for 1a and crushed calcite for 1b). This matches the typology, as the fabric of Group 1b was used for manufacturing cooking pots, whereas the fabric of Group 1a was used for basins. Without petrographic or chemical analysis, it is difficult to conclude whether wheel-made Groups 2 and 3 originated from the same source, or were made of similar clay coming from different sources. One jar type (Figs. 5:5; 6:3, 4) was produced from both fabrics, clearly indicating a link between these two groups.

### **Local Fabric Group 1: Handmade Wares**

Medieval handmade vessels made their first appearance in the Levant during the eleventh century CE, but were popular mainly from the twelfth to the fifteenth century CE (Gabrieli, Ben-Shlomo and Walker 2014). They are largely found in rural villages and are quite rare in urban contexts (see Kletter and Stern 2006:180–181), thus explaining the small quantities unearthed in this excavation and in other excavations in Ramla (Cytryn-Silverman 2012:124).

The handmade wares, including basins (Group 1a; Fig. 2:1, 2) and cooking pots (Group 1b; Fig. 2:3–5), are of similar fabric. The fabric is light, calcareous (and slightly silty in the case of Fig. 2:4), with rare quartz, carbonate, and gray (chert?) and reddish brown (grog?) grains. Two types of inclusions (tempers) were used: Group 1a contains numerous hollows, indicating organic additives (straw) that disappeared while firing—perhaps these additives aided in reducing the weight of these heavy vessels; and Group 1b is characterized by crushed calcite used as temper, a tradition known from earlier periods (Porat 1989:175, 177–178; Gopher, Sadeh and Goren 1992:13; Glass et al. 1993:277), intended to improve the thermal-shock resistance. Mamluk-period cooking pots sampled by Gabrieli, Ben-Shlomo and Walker (2014) showed two fabric groups (Fabrics 3d and 4d), both containing large quantities of calcite (Gabrieli, Ben-Shlomo and Walker 2014:201–209). A local provenance for both variants was suggested since the raw materials could have been collected from the carbonate formations of the nearby area.

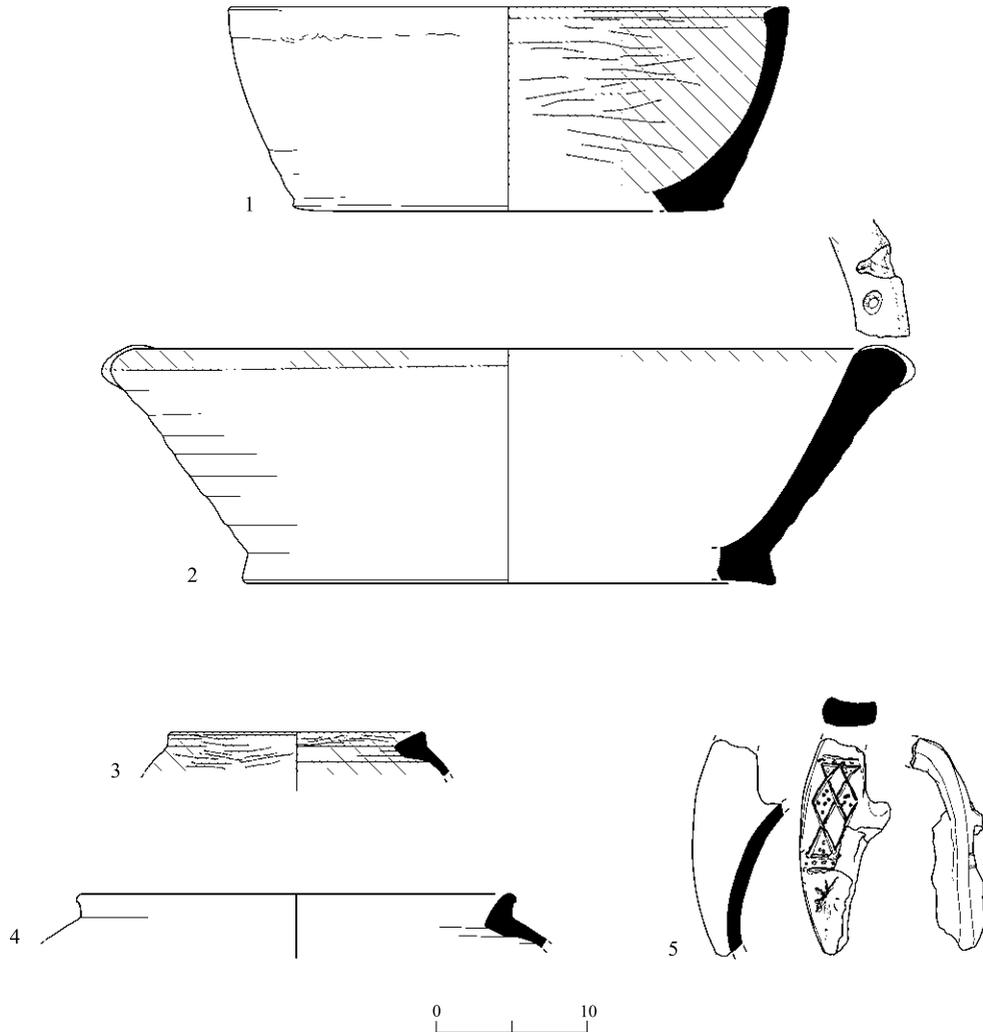


Fig. 2. Local Fabric Group 1, handmade wares.

No.	Vessel	Locus	Reg. No.	Description
1	Basin	115	1032	Pink (7.5YR 7/4) fabric, thick dark gray (7.5YR 4/1) core; calcareous fabric with scarce quartz, carbonate, gray (chert?) and reddish brown grog inclusions; numerous negatives and voids; burnished red slip on rim and int.
2	Basin	119	1100	Reddish yellow (5YR 6/6) fabric, thick pink (7.5YR 7/4) to light yellowish brown (2.5Y 6/4) core; light calcareous fabric with few quartz, carbonate, gray (chert?) and reddish brown grog inclusions; numerous negatives and voids; brown slip on rim; burnished int.
3	Cooking pot	120	1085	Dark gray (7.5YR 4/1) fabric, pink (5YR 7/3) to light reddish brown (5YR 6/3) surface; surface burnished; light calcareous fabric with voids, grog and crushed calcite inclusions; red slip all over the preserved fragment; burnished rim and ext.
4	Cooking pot	118	1045/1	Gray (5YR 5/1) fabric, light red (2.5YR 6/6) to light brown (7.5YR 6/3) burnished surface; calcareous and slightly silted fabric with many crushed calcite inclusions
5	Cooking pot handle	506	2028	Yellowish red (5YR 5/6) fabric, pale brown (10YR 6/3) core and pink (5YR 7/4) ext.; light calcareous and silty fabric; voids and crushed calcite inclusions

*Basins* (Fig. 2:1, 2).— Two types of basins were found. The basin in Fig. 2:1 has a flattened, inward slanted rim, curved walls and a flat base; it is red-slipped, burnished on the rim and on the interior. The basin in Fig. 2:2 has a large diameter, a rounded, thickened rim, straight slanting walls and a flat base; a brown slip appears on the rim, and it is burnished on the interior. This type of vessel was found in Ramla (Cytryn-Silverman 2010:124, Pl. 9.30:4, 6—defined as a cooking bowl) and in its vicinity, e.g., at Khirbat el-Ni‘ana (Vincenz and Sion 2007:45–46, Fig. 14:1, 2) and Kafr ‘Ana (Gophna and Taxel 2007:47, Fig. 3.8:2, 4). Vessel No. 4 from Kafr ‘Ana is similar in form to the basin in Fig. 2:2, but it is red-slipped on both sides. Similar basins or large bowls were common in rural sites, less so in urban sites, throughout the country (see, e.g., Avissar and Stern 2005:88, Type II.1.4.1, Fig. 38:1–5; Kletter and Stern 2006:181–182, Fig. 12; Stern and Tatcher 2009:129–130, Fig. 3.19:3, 5, 6; Barbé 2014:116, 117, Fig. 7:2–4; Cohen 2014:80\*, Fig. 11:2; Dalali-Amos and Getzov, forthcoming).

*Cooking Pots* (Fig. 2:3–5).— These globular cooking pots have no neck and a short, everted rim (Fig. 2:3, 4). The horseshoe-type ear handles with an incised geometric decoration are pulled up (Fig. 2:5; Gabrieli, Ben-Shlomo and Walker 2014:199, Fig. 4). Some vessels are burnished on the exterior, with a red slip coating. These handmade cooking pots are common in Mamluk-period assemblages, mainly in central and southern Israel, whereas in northern Israel, wheel-made cooking pots are more common (Avissar and Stern 2005:94–95, Type II.2.2.1, Fig. 40:2, 7; and see discussion in Stern 2017:13). The handmade cooking pot is the only type reported from Ramla (Elisha 2005: Fig. 2:13; Parnos and Nagar 2008: Fig. 15:17; Kletter 2009: Fig. 10:3; Cytryn-Silverman 2010:124, Pl. 9.30:7; Korenfeld 2010: Fig. 6:11; Toueg 2011b: Fig. 11:10; 2012: Fig. 3:12, 13) and its vicinity (Lazar 1999:130\*, Fig. 5:2–9; Vincenz and Sion 2007:47, Fig. 15:3–9; Gophna and Taxel 2007:49, Fig. 3.9:8, 10–12). It is also the only type found at various rural sites in the Jerusalem area and the Sharon plain (for a complete list of references, see Stern 2017:3, 4). Petrographic analysis by Gabrieli, Ben-Shlomo and Walker (2014) tentatively suggested that the production of the cooking pots was a specialized craft, which was practiced in designated workshops (Gabrieli, Ben-Shlomo and Walker 2014:225).

### **Local Fabric Groups 2 and 3: Unglazed Wheel-Made Wares**

The unglazed, wheel-made wares were divided into two groups, both undecorated. It is difficult to determine with certainty if they were produced in different workshops, and whether within Ramla or on its outskirts.

#### *Local Fabric Group 2*

This group includes simple carinated bowls, a juglet, a flask, a krater and jars (Figs. 3–5). The vessels are characterized by a ferruginous silty fabric, where silt is mostly quartz,

sometimes with less quantities of carbonate. Transparent quartz is present as the main sand-size material. Coarse (3–7 mm) carbonate (chalk or limestone) inclusions are rare or sporadic. Some of the vessels have a grayish core, due to firing conditions (Fig. 4:7). Other vessels exhibit a light-colored surface (Figs. 4:8; 5:1), which may be the result of dipping in salt water before firing (Shapiro 2012:104–105).

The lithology of Local Fabric Group 2 attests that the raw materials originated 3–6 km to the west and southwest of Ramla, where red loam (*hamra*) is to be found (Sneh, Bartov and Rosensaft 1998: map). We suggest that the vessels of Local Fabric Group 2 were produced in Ramla. Mamluk pottery workshops in Ramla (Toueg 2008; Torgë 2011) revealed evidence for the production of jars identical to the one in Fig 5:4 (see below); it seems, therefore, that the same repertoire of vessel forms was made in these workshops.

*Simple Carinated Bowls* (Figs. 3; 4:1–8).— Complete bowls were found *in situ* (Fig. 3), exhibiting all base forms—flat, string-cut and ring (Fig. 4:1–8; Avissar and Stern 2005:82, Type II.1.1.3, Fig. 35:7–10). Their size varies from small (Fig. 4:1–3) to large (Figs. 4:4–8).



Fig. 3. Two intact bowls *in situ*, looking west.

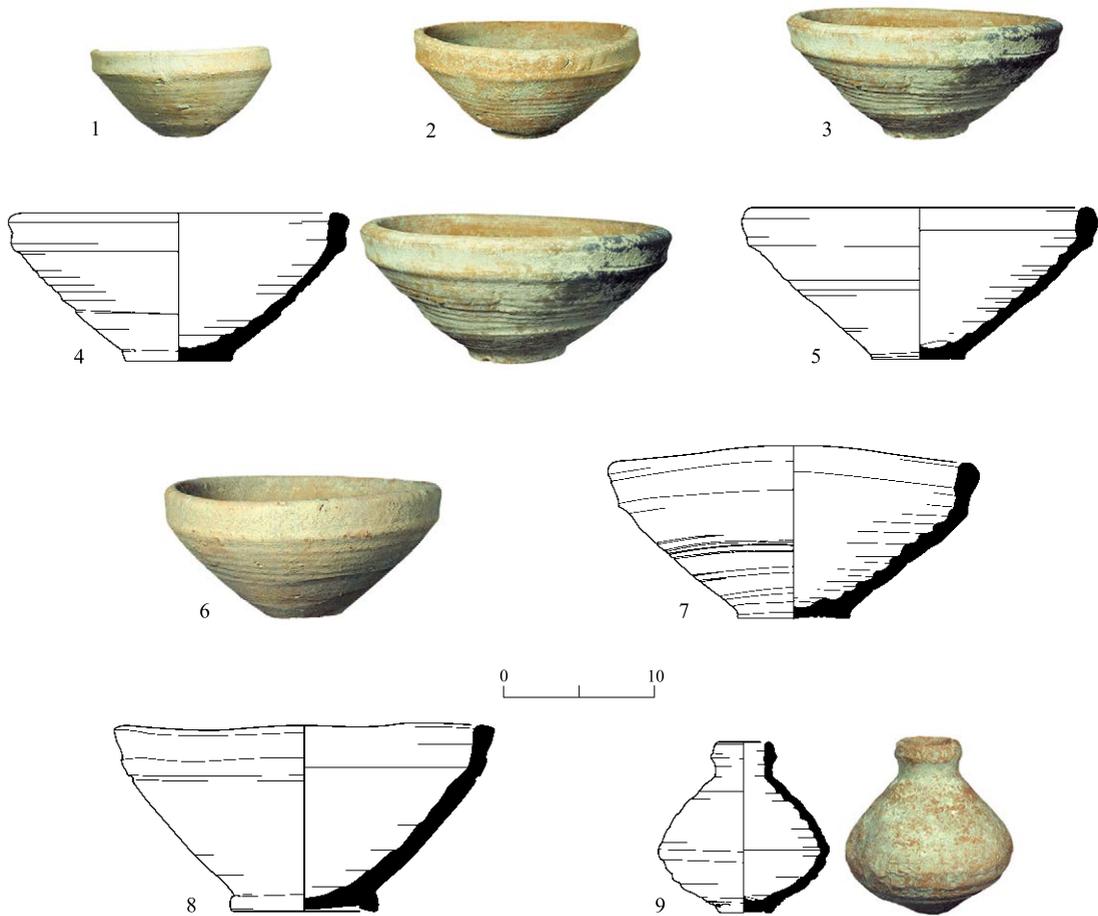


Fig. 4. Local Fabric Group 2, unglazed wheel-made wares.

No.	Vessel	Locus	Reg. No.	Description
1	Bowl <sup>i</sup>	119	1054	Reddish yellow (7.5YR 6/6) ext.; limestone and quartz inclusions
2	Bowl	115	1036	Brown (7.5 YR 5/4) fabric, reddish yellow (7.5YR 6/6) ext.; voids, quartz and carbonate silt; some sand-size inclusions of limestone, and transparent and half-transparent quartz of reddish tan; rare silt-sized grains of some black mineral
3	Bowl <sup>i</sup>	142	1107	Light reddish brown (2.5 YR 6/4) ext.; scarce coarse (3–5 mm) limestone inclusions
4	Bowl <sup>i</sup>	115	1035	Pink (5YR 8/4–7/4) ext., in some places burned to gray tan; some coarse limestone inclusions
5	Bowl <sup>i</sup>	119	1105	Light reddish brown (2.5 YR 6/4) ext.; some coarse limestone inclusions
6	Bowl	119	1051	Light red (2.5YR 6/6) fabric, pink (5YR 7/3) ext.; quartz and carbonate silt; some sand-sized inclusions of transparent quartz; coarse (3–5 mm) limestone inclusions
7	Bowl	118	1059	Pink (5YR 7/4) fabric, grayish brown (2.5Y 5/2) core; quartz and some carbonate silt; some sand-sized inclusions of transparent quartz
8	Bowl	504	2040	Red (2.5YR 5/6) fabric, reddish yellow (5YR 6/6) core, light reddish brown (2.5YR 7/4) ext.; quartz and carbonate silt; some sand-sized inclusions of limestone, and transparent and half-transparent reddish tan quartz; some coarse (3–5 mm) limestone inclusions
9	Juglet <sup>i</sup>	119	1052	Reddish yellow (7.5YR 6/6) ext.; limestone and quartz inclusions

<sup>i</sup> The vessel is intact, and therefore only its surface could be observed.

They were obviously made quickly on the potter's wheel as they were carelessly finished—probably a mass production for a specific use (see *Discussion*, below). Such bowls were unearthed in Ramla in most excavations that yielded Mamluk and early Ottoman pottery (Elisha 2005: Fig. 2:6–9; Parnos and Nagar 2008: Fig. 15:1; Kletter 2009: Fig. 8; Cytryn-Silverman 2010:121–122, Pls. 9.28; 9.34:4; Photographs 9.26–9.29; Korenfeld 2010: Fig. 6:7, 8; Talmi 2010: Fig. 5:1–4; Eshed 2011: Fig. 5:1; Torgë 2011:102, Figs. 9:6–17; 10:1; 19:1; Toueg 2011a: Fig. 5:4). Similar vessels were also found at Mamluk district capitals, such as Banias (Avissar 2008:95, Fig. 6.3:7, 8), Safed (Zefat) and Jerusalem. In the el-Waṭa quarter excavations in Safed (Zefat), the pottery was quantified, and it was found that these simple bowls occurred in much higher numbers than any other type of unglazed wheel-made wares (Barbé 2014:118, Fig. 8:3–5; Dalali-Amos and Getzov, forthcoming). In Cistern E, in the Armenian Garden, Jerusalem (Tushingham 1985:148, Fig. 41:16), similar bowls were retrieved from a clear Mamluk context, dated to the last quarter of the fourteenth century, as in other excavations in Jerusalem (Miriam Avissar, pers. comm.). These bowls were also found in rural villages, however, in noticeably smaller quantities, e.g., near Ramla, at Khirbat el-Ni'ana, in which some of the bowls were warped (Vincenz and Sion 2007:35, Fig. 9), Giv'at Dani (Lazar 1999:130\*, Fig. 4:1–6) and Kafr 'Ana (Gophna and Taxel 2007:47, Fig. 3.8:3). Further to the north, these bowls were retrieved from Khirbat Burin (Kletter and Stern 2006:184–185, Fig. 15:1) and Nazareth, which was merely a village at that time. In the latter, they were found in large quantities, and it seems they were locally produced (Alexandre 2012:69, Fig. 3.7:1–10).

*Juglet* (Fig. 4:9).— The complete juglet has a simple rim with a ridge below it, a straight but fairly narrow, neck, and a squat biconical (or carinated) body, without a handle. The base form is simple, flat and string-cut. Similar juglets were unearthed in Mamluk-period assemblages at Khirbat el-Ni'ana, Jerusalem and Nazareth. Only the upper part of the vessel from Khirbat el-Ni'ana was preserved with a slightly different neck and rim (Vincenz and Sion 2007:43, Fig. 12:23). The forms of the vessels from Jerusalem and Nazareth are similar in general, but not identical (Tushingham 1985:149, Fig. 41:40; Alexandre 2012:79–81, Fig. 3.14:2, 3).

*Flask* (Fig. 5:1).— The almost complete flask has a simple rim, a neck slightly slanting inward and handles that emerge from the base of the neck to the 'drum-shaped' body. This type of flask, found in Mamluk pottery assemblages, was made of a light brown, buff or greenish buff fabric; it is thought to have been imported from Syria (Avissar and Stern 2005:117, Type II.4.5.2, Fig. 49:3, 4). A similar undecorated flask was found in Ramla, on Ha-Palmah Street (Kletter 2009: Fig. 9:6; see Fig. 1:3).<sup>5</sup> Another flask with a similar body

<sup>5</sup> Unfortunately, there is no fabric description in the article, and therefore, a comparison with the fabric of the example from this excavation was not possible.



Fig. 5. Local Fabric Group 2, unglazed wheel-made wares.

◀ Fig. 5

No.	Vessel	Locus	Reg. No.	Description
1	Flask	523	2109	Light brown to reddish yellow (7.5 YR 6/3–6/4) fabric, pink (7.5YR 8/4) ext.; quartz and carbonate silt; some sand-sized inclusions of limestone, and transparent and half-transparent quartz of reddish tan; rare silt-sized grains of some black mineral
2	Krater	119	1093	Yellowish red (5YR 5/6) fabric, reddish brown (5YR 5/4) core, pinkish gray (5YR 7/2) ext.; mostly quartz silt and fine quartz sand; rare silty carbonate and coarse (up to 7 mm) carbonated inclusions; few dark inclusions
3	Jug or krater base	103	1013/2	Red to reddish brown (2.5 YR 5/8–5YR 5/3) fabric, pinkish gray (5YR 7/2) ext.; quartz silt and some sand-sized inclusions of transparent quartz; sporadic carbonate inclusions (0.3–0.4 mm)
4	Jug or krater base	115	1041	Yellowish red (5YR 5/6) fabric, reddish yellow (7.5YR 6/6) ext.; quartz and carbonate silt; some sand-sized inclusions of limestone, and transparent and half-transparent quartz of reddish tan; few silt-sized grains of some black mineral
5	Jar	555	2214	Yellowish red (5YR 5/6) fabric, light brown (7.5YR 6/3) thin core; quartz and carbonate silt; some sand-sized inclusions of limestone, and transparent and half-transparent quartz; few silt-sized grains of some black mineral
6	Jar	555	2214/1	Red (2.5YR 5/6) fabric, light reddish brown (2.5YR 6/4) core, light gray (10YR7/2) ext.; mostly quartz silt and fine quartz sand; few silty carbonate and coarse (up to 7 mm) carbonated inclusions; few dark inclusions
7	Jar	103	1013/1	Light red (2.5Y 6/6) fabric, light reddish brown (2.5Y 6/4) core; quartz and carbonate silt; some sand-sized inclusions of limestone, and transparent and half-transparent quartz

was uncovered in Cistern E in the Armenian Garden in Jerusalem, dated to the last quarter of the fourteenth century (Tushingham 1985:150, Fig. 42:8).

*Krater* (Fig. 5:2).— The upper part of what seems to be a krater has a wide, slightly flaring neck, a thickened rim and a wide mouth. Two handles extend from mid-neck to the body. Similar vessels were found in Mamluk ceramic assemblages in Jerusalem, Safed (Zefat) and Yoqne‘am, but were not common (Avisar and Stern 2005:82, Type II.1.1.4, Fig. 35:11; Dalali-Amos and Getzov, forthcoming). Six or seven similar kraters were unearthed at Nazareth (Alexandre 2012:71, Fig. 3.8:4, 5), where they were found in association with the ‘Mamluk pool wares’ that were probably locally produced. A similar rim and neck fragment of what seems to be a krater was found at Kafr ‘Ana (Gophna and Taxel 2007:49, Fig. 3.10:1), defined there as a jar. The wide neck and the pinched rim imply that it was used for pouring liquids. The subtle pinch on the vessel from Kafr ‘Ana resembles that on similar Crusader-period kraters from ‘Akko (Stern 2012:34–38, Type AC.PL.4, Pl. 4.8; for a pinched rim, see Pl. 4.8:5). A jar with a more pronounced flaring neck, similar to our vessel, but not identical, was found at Yoqne‘am (Avisar 1996:155, Type 17, Fig. XIII.124:2).

*Base* (Figs. 5:3, 4).— A low ring base and globular body sherds of a closed vessel were found. They may belong to either a krater (e.g., Fig. 5:2) or a jug (Avisar and Stern 2005: Fig. 45:4, 6, 9; Cytryn-Silverman 2010: Pl. 9.34).

*Jars* (Figs. 5:5–7).— Several variants of jars made of Local Fabric Group 2 are present in the assemblage. The bag-shaped body of the first two examples is similar. The differences lie in the form of the rim and neck, and in the position of the handles. Due to their similarity in fabric, it seems that they were produced in the same workshop.

The jar in Fig. 5:5 has a simple, inward-slanted rim and a pronounced ridge on a cylindrical neck. Two handles are attached to the base of the neck and extend to the shoulder. An incised combed, horizontal wavy line decorates the lower part of the bag-shaped body. It is not clear whether there were more incised lines or bands, as the lower part of the vessel was not preserved. This type of jar is common in Ramla. Almost identical complete jars were found in the suggested storage area of a pottery workshop (Toueg 2008:70, Fig. 4). Similar jars were found at other excavations in Ramla (Elisha 2005: Fig. 2:16; Cytryn-Silverman 2010:123, Pl. 26:1–4; Toueg 2011a: Fig. 5:7; 2012: Fig. 3:16), in a tomb on the outskirts of the city (Elisha 2010: Fig. 11:2–4), as well as at Khirbat ‘Adasa (Khalaily and Avisar 2008:114, Fig. 16:2) and Yoqne‘am (Avisar 1996:155, Type 17, Fig. XIII.124:1; 2005:71, Fig. 22:3). Jars with a similar rim, neck, body profile and incised decoration were found at Kafr ‘Ana (Gophna and Taxel 2007:49, Fig. 3.9:15, 16).

The jar in Fig. 5:6 is another common type with a wide thickened rim and a ridged neck. The handles are attached to the shoulders (Avisar and Stern 2005:100–102, Type II.3.1.3, Fig. 42:4). Thickened rims also occurred on jars made of Local Fabric Group 3 (see Fig. 6:3, 4). Jars with a similar profile were found at other excavations in Ramla (Elisha 2005: Fig. 2:14; Kletter 2009: Fig. 9:8; Cytryn-Silverman 2010:122–123, Pl. 26:5; Talmi 2010: Fig. 5:10; Toueg 2012:3:15), as well as in its surroundings (Lazar 1999:132\*, Fig. 6:2, 3; Vincenz and Sion 2007:38, Fig. 11:4–11) in the Jerusalem area and in the Sharon plain (for a complete list of references, see Stern 2017:5). Boas (2006:83) named those found at Kh. Ka’kul “Jerusalem Ridge-Neck Jars” and suggested that they were produced in and around Jerusalem, based on the finds from el-Qubeibeh, Jerusalem Damascus Gate and al-Krum. Their neck slightly slants inward in comparison to those from Ramla; hence, it is possible that multiple workshops produced similar storage jars from different local fabrics.

The jar fragment in Fig. 5:7 has a thickened, out-folded rim, a simple, slightly inward-slanting neck and a horizontal incised line on mid-neck. The form of this vessel may be deduced from an intact jar with a similar upper part, but without the incised line at mid-neck, found on Herzl St. in Ramla (Toueg 2008:70, Fig. 5:1). It has a small bag-shaped body and a combed incised decoration of a wavy line between two horizontal straight lines and a small omphalos base. Similar jar profiles were reported from other excavations in Ramla (Cytryn-Silverman 2010:123, Pl. 26:8) and its vicinity (Lazar 1999:132\*, Fig. 6:5; Gophna and Taxel 2007:49, Fig. 3.9:17; Vincenz and Sion 2007:40–41, Fig. 11:31). A jar from Kafr ‘Ana was found intact, and instead of an omphalos base, it has a low, narrow ring base. This

type of rim and neck of a jar was reported from other sites, such as Khirbat Burin (Kletter and Stern 2006:185–186, Fig. 16:2) and Khirbat Ka‘kul, where the upper third of the body was also preserved (Boas 2006:83, Fig. 7:41). The body of the jar from Khirbat Ka‘kul and the position of its handles resemble those of the jar in Fig. 5:5. The jar from Khirbat Ka‘kul was made of a light buff fabric, that was apparently local to the Jerusalem region. All in all, it seems clear that similar forms were produced in different workshops. It is interesting to note that all the above-mentioned variants of storage jars were reused in cemeteries in the southern part of central Israel (Gorzalczany 2009: esp. Fig. 10).

### *Local Fabric Group 3*

This group includes jugs and jars (Fig. 6). The fabric is characterized by ferruginous silty clay with numerous foraminifers. Silt is mostly quartz, sometimes with less quantities of carbonate. It seems that biogenic chalk powder was added to the clay that was used for the vessels of Local Fabric Group 2. Several outcrops of Eocene biogenic chalk can be found in the vicinity of Ramla: a small one on Highway 40, east of modern Lod, about 3 km northeast of the site, and a larger one, c. 8 km to the southeast, at modern Karame Yosef and Huldā (Sneh, Bartov and Rosensaft 1998). Ferruginous oolites, present in one of the samples (Fig. 6:2), are characteristic of the Lower Cretaceous formations only, and could be drained by seasonal streams from the Samarian Hills, on top of which these formations crop.

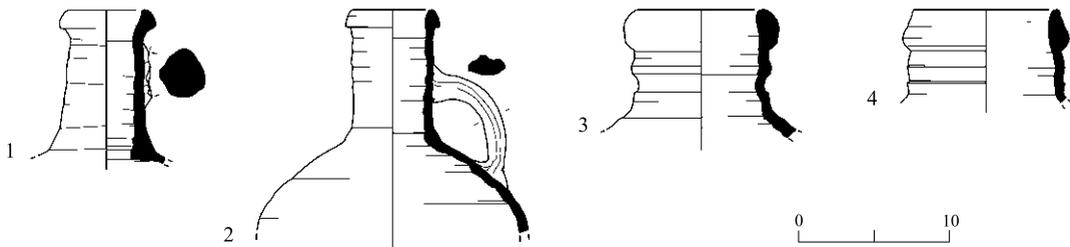


Fig. 6. Local Fabric Group 3, unglazed wheel-made wares.

No.	Vessel	Locus	Reg. No.	Description
1	Jug	139	1101	Red (2.5YR 5/6) fabric, pale brown (10YR 8/2) ext.; quartz silt and fine sand in fabric; numerous white ‘bubbles’, most likely foraminifers; few coarse (0.3–0.6 mm) carbonate inclusions
2	Jug	119	1109	Red (2.5YR 5/6) fabric, pinkish white (7.5YR 8/2) ext.; quartz and carbonate silt; some foraminifers and sand-sized inclusions of limestone, and many grains of transparent quartz; several ferruginous oolites
3	Jar	119	1093/1	Reddish brown (5YR 5/4) to red (2.5YR 5/6) fabric, pinkish white (7.5YR 8/2) ext.; dense silty and foraminiferous fabric; few sand-sized quartz and carbonate inclusions
4	Jar	118	1045	Yellowish red (5YR 5/6) fabric, pinkish gray (5YR 7/2) ext.; quartz silt and numerous foraminifers in fabric; some fine quartz sand and few limestone inclusions

*Jugs* (Fig. 6:1, 2).— Two jugs were found with a straight, narrow neck, an out-turned triangular rim and a handle extending from mid-neck to shoulder (Avisar and Stern 2005:111, Type II.4.2.3, Fig. 45:9). This form of Mamluk jug, although uncommon, was unearthed at other sites in Ramla (Elisha 2005: Fig. 2:17; Cytryn-Silverman 2010: Pl. 9.27:2), as well as at Khirbat el-Ni'ana (Vincenz and Sion 2007:44, Fig. 13), Jerusalem (Avisar and Stern 2005:111, Type II.4.2.3, Fig. 45:9) and Safed (Zefat; Dalali-Amos and Getzov, forthcoming; Stern, forthcoming).

*Jars* (Fig. 6:3, 4).— Two fragments of jars were found, similar in form to the jar in Fig. 5:6, but made of a different fabric (see above).

#### INTER-REGIONAL IMPORTED FABRICS

Five fabric groups were distinguished, probably originating in various centers in Syria and Egypt, all part of the Mamluk Sultanate and Ottoman Empire during the periods under discussion. The production locale for most vessels was based on previously published production centers and typological parallels; the provenances require further analysis.

#### **Inter-Regional Fabric Group 1 (Syria?)**

Five vessels (Fig. 7:1–5) were apparently produced in the same workshop—two unglazed (Fig. 7:1, 2) and three glazed (Fig. 7:3–5)—all made of a similar light-colored, calcareous fabric. The fabric contains quartz silt and some quantities of fine quartz sand, grits and a few inclusions of some soft, reddish brown material, most possibly iron oxides. The samples were fired at a relatively high temperature, which gave a greenish hue to the fabric. In general, the vessels resemble the Buff Ware of the Early Islamic period. The addition of quartz sand to the glazed vessels (Fig. 7:3, 4) seems to be an attempt to imitate the well-known frit or Soft-Paste Monochrome Glazed Wares (Avisar and Stern 2005:25, Type I.2.2.1, Fig. 9:2). The unglazed wares seem to correspond to Cytryn-Silverman's Ware II, found in contexts dating to the late fourteenth and fifteenth centuries (2010:121, 123, 124).

#### *Unglazed Wares*

*Table Jar* (Fig. 7:1).— The two-handled jar has a simple rim, a tall, slightly flaring neck, a strainer and an incised, gouged and pin-pricked decoration on the neck and body. The handles extend from the lower part of the neck (at the same point where the strainer was) to the shoulder (Avisar and Stern 2005:111, Type II.4.3.2, Fig. 46:3–6). Jars and jugs with a similar decoration were reported from other excavations in Ramla (Kletter 2009: Fig. 9:4, 5; Cytryn-Silverman 2010:123–124, Photograph 9.31, Pl. 9.27:5; Toueg 2011a: Fig. 5:8, 9). In the suggested workshop stores (Torgö 2011:112, Fig. 9:25, 26), similar jugs were found in a pit dated to the fourteenth century, thus adding valuable chronological information. They were also consumed in some of the villages around Ramla (Lazar 1999:132\*, Fig. 6:8, 9;

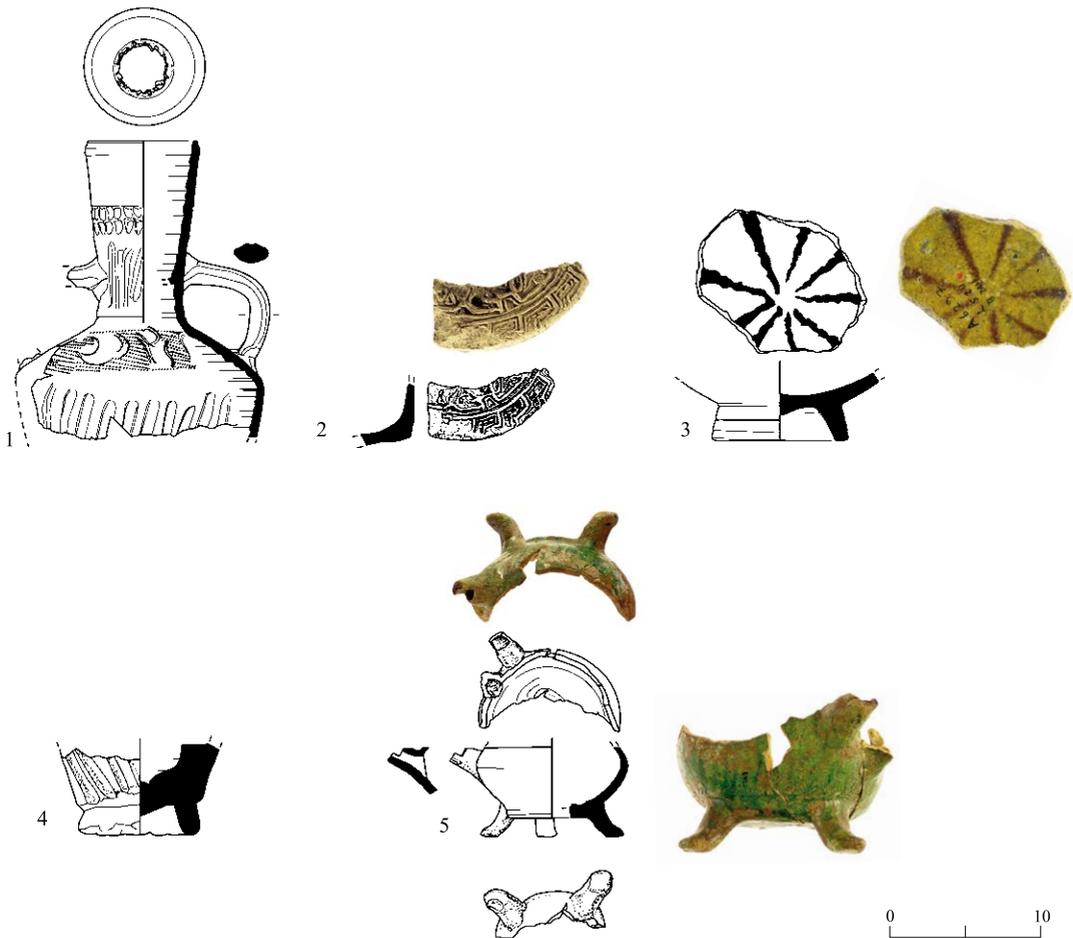


Fig. 7. Inter-Regional Fabric Group 1, unglazed wares (1, 2) and glazed wares (3–5).

No.	Vessel	Locus	Reg. No.	Description
1	Jar with strainer	507	2055	Light gray to pale yellow (2.5Y 7/2–7/3) fabric; over-fired, calcareous fabric; quartz silt; some fine sand-sized inclusions of transparent quartz; few remains of calcareous material and reddish brown grits and inclusions (iron oxides)
2	Flask, body fragment	136	1104	Very pale brown (10YR 8/2); calcareous fabric with few quartz, silt and sporadic sand-sized reddish brown material (iron oxides)
3	Bowl	524	2116	Very pale brown (10YR 7/3) fabric; vitrified fabric; many quartz silt, sand and black inclusions; dark yellow glaze on int. and very thin layer of same glaze on ext.; brown painted radial design on int.
4	Jug base	523	2089	Pale yellow (5Y 8/3) fabric; calcareous fabric with few silt size and sporadic sand-sized reddish brown material (iron oxides) and numerous quartz inclusions; green glaze on ext. and brown glaze on int.
5	Incense burner(?)	524	2151	Pale yellow (2.5Y 8/3) fabric; calcareous fabric with few silt-sized and sporadic sand-sized reddish brown material (iron oxides) and quartz inclusions; green glaze on ext.

Vincenz and Sion 2007:41–44, Figs. 11:39, 12:29, 35), and in other sites, such as Jerusalem, Emmaus, a site near tell Jemma (fourteenth to fifteenth centuries), the Red Tower (postdating c. 1350 CE), Safed (Z̤efat), Banias, Tel Hisbān, Damascus and Ḥama (see Avissar and Stern 2005:111; François 2008:18 400: Nos. 9, 10, 51, 52; Cytryn-Silverman 2010:123–124).

*Flask* (Fig. 7:2).— A body fragment of a flask decorated with a mold-made relief was found. Mold-made flasks are usually decorated with geometric and floral designs, occasionally with figures or inscriptions. They are very common in Mamluk-period assemblages (Avissar and Stern 2005:117, Type II.4.5.2, Fig. 43:4, and see references therein). Due to the unique decoration, the type can be recognized even in a small sherd. Similar vessels, known as ‘pilgrim flasks’, were dated to the thirteenth and fourteenth centuries in and around Ramla (Lazar 1999:132\*, Fig. 6:10; Torgē 2011:102, Fig. 11; Toueg 2011b: Fig. 11:13), as well as at other sites in the region (Kletter and Stern 2005:187, Fig. 17:1, 2; Avissar 2008:100, Fig. 6.7:1, 2; Stern and Tatcher 2009:134–135, Fig. 3.21:14, 15; Damati 2011:148, Fig. 17:12; Dalali-Amos and Getzov, forthcoming).

#### *Glazed Wares*

*Glazed Bowl* (Fig. 7:3).— The high-footed base of a hemispherical bowl is coated with a dark yellow glaze on both surfaces. Radial lines painted in brown divide the interior of the bowl into nine wedges. A similar division, but not on an identical bowl, was found in the outskirts of Ramla, its lines painted in green and brown (Torgē 2011:102, Fig. 9:4). It is possible that the decoration of these bowls is an imitation of the Soft-Paste Wares. Even lacking the more delicate painted designs that appear on the Soft-Paste Wares, the division of the bowl’s interior into wedges is similar to the pattern on Underglaze-Painted Soft-Paste Wares (Avissar and Stern 2005:26–33, Type I.2.3, Figs. 11:1, 2, 5; 12:1, 3, 4). Another possibility is that this type of bowl is an imitation of Egyptian Mamluk Sgraffito Wares (see below), as the base is similar to that of fourteenth-century bowls (Walker 2004: Fig. 11:c), as well as the color scheme, and to some extent, also the radial lines painted on the interior (for an incised example, see Watson 2004:411, 413, No. LNS 657 C n).

*Glazed Jug* (Fig. 7:4).— The base belongs to a closed vessel, apparently a jug, green-glazed on the exterior and brown on the interior. It is made of a fabric similar to the unglazed wares described above. It is decorated with gouged fluting on the exterior, similar to the decoration on the jug in Fig. 7:1. This form is usually found in Soft-Paste Wares (François 2008:19 800: No. 1; Stern 2012:52–54, Type SY.GL.1, Pl. 4.28:1, 4, and see references therein), indicating that it might be an imitation. Monochrome glazed vessels produced from a calcareous fabric were found in Beirut (François et al. 2003:334, Fig. 10:19–21) and dated to the twelfth century. Though slightly earlier, they seem to be the closest equivalent to our jug, which may be a continuation of that tradition.

*Glazed Incense Burner* (Fig. 7:5).— This uncommon vessel has thin walls, apparently supported by four feet, of which only two are preserved. Two projecting spouts are situated above one foot, and the body is hemispherical. The upper part of the vessel was not preserved. It has a green glaze on the exterior only, indicating that it was a closed vessel. Two similar vessels found in the excavation of the citadel at Safed (Zefat; Stern, forthcoming) were made of a different fabric. They have three feet and there are cut openings on the upper part of one of the vessels. Although the function of the vessel is unclear, we suggest that it was used as an incense burner. In Syria, vessels with similar feet were found, made of soft-paste ware. One of them is an incense burner with a different form, and the others are stands (Watson 2004:297–300).

### **Inter-Regional Fabric Group 2 (Syria?)**

#### *Glazed Ware*

*Soft-Paste Ware* (Fig. 8:1–6).— Five fragments of bowls made of frit or soft-paste, called also Syrian Under-Glazed Painted Soft-Paste Wares, were found (Avisar and Stern 2005:25–33, Type I.2.3). Their fabric is white, with quartz sand and hollows, and they were made of a soft paste—a mixture of crushed quartz, lime or white clay, and glass frit. The alkaline glaze did not preserve well, acquiring an iridescent film similar to that found on glass vessels. In some cases, the glaze flaked off, leaving only the painted decoration. The bowls have black and blue painted design under a transparent colorless glaze, a simple rim (Fig. 8:1) and a high ring base (Fig. 8:4, 5), dating from the late twelfth to the fifteenth centuries, with a *floruit* in the fourteenth century (Avisar and Stern 2005:28–29, Type I.2.3.3, Figs. 11, 12:1–4, and see references therein). Soft-Paste bowls painted in black and blue were common in other excavations in Ramla (Kletter 2009: Fig. 10:6, 7; Cytryn-Silverman 2010:125–126, Pl. 9.32:14–20, Photographs 9.32–9.34; Torgë 2011:102, Figs. 9:1, 2; 13:1, 2; Toueg 2011a: Fig. 6:3,4; 2011b), and were quite widespread throughout the Levant (Avisar and Stern 2005:25–33).

The Soft-Paste Wares were produced in various centers in Syria (Damascus—François 2008: Fig. 20 100) and Egypt (Tonghini 1998:51–55, Frit ware 3; Milwright 2008:208–212)—the two main Mamluk centers, and were quite widespread throughout the Levant.

Another fragment (Fig. 8:3), painted in black, blue and red under a transparent colorless glaze (see Avisar and Stern 2005:28, Type I.2.3.2, Fig. 10, and see references therein), was unearthed, dating from the last quarter of the twelfth to the fourteenth century. This type is less widely distributed than the previous type. Soft-paste vessels with a similar color scheme are known from Damascus; François (2008: Fig. 20 300) suggested that they were produced there during the first quarter of the fifteenth century, influenced by fourteenth-century tiles that originated in Mongol Iran and in Central Asia.

A conical bowl (Fig. 8:6) made of a soft-paste ware has a flaring rim and a design painted in blue, turquoise and dark green. The fabric resembles that of the examples presented above, but the form and color scheme are different. The bowl seems to be a product of either

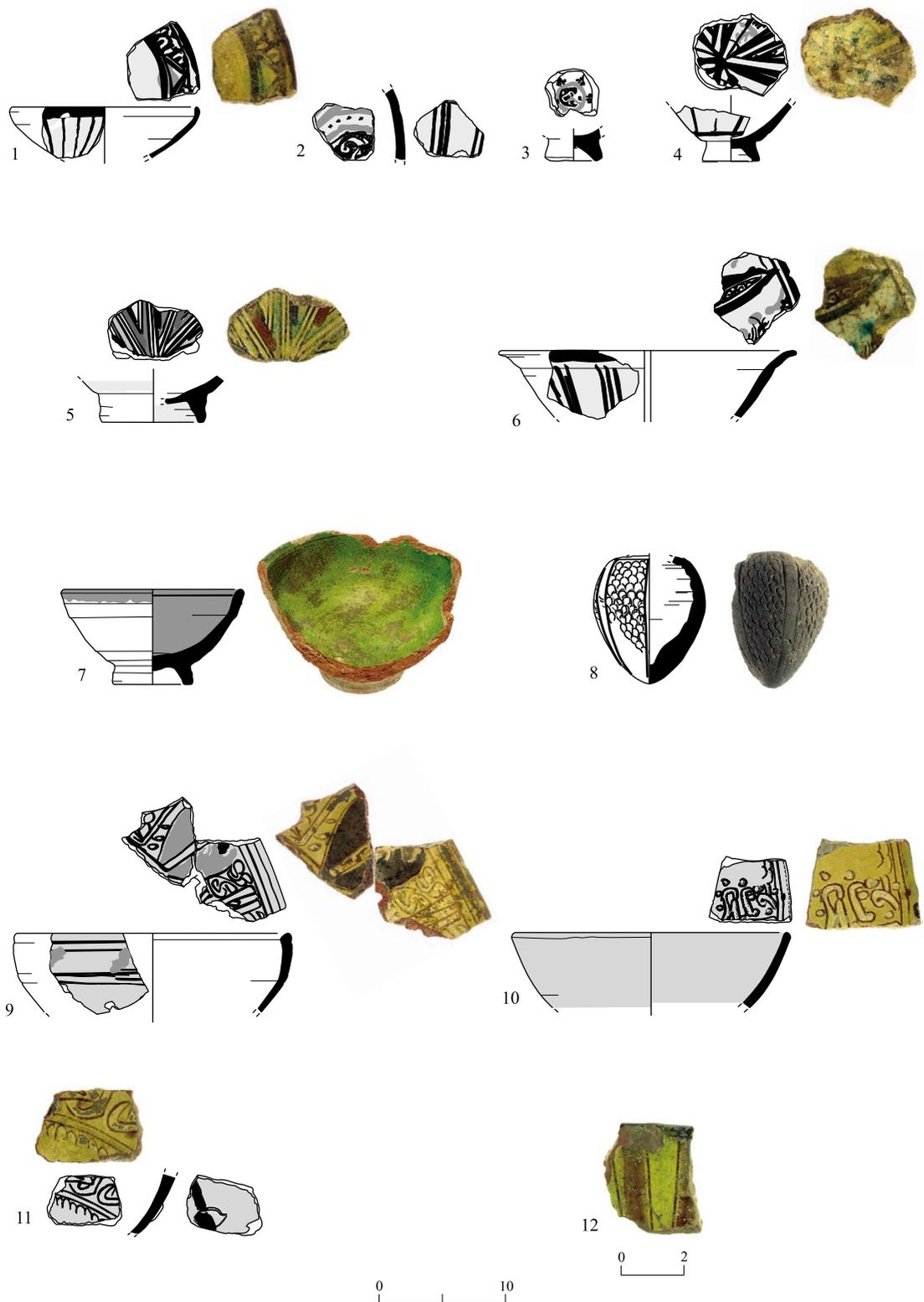


Fig. 8. Inter-Regional Fabrics: Group 2; glazed bowls (1–6); Group 3, glazed bowl (7); Group 4, spherico-conical vessel (8); Group 5, glazed bowls (9–12).

◀ Fig. 8

No.	Vessel	Locus	Reg. No.	Description
1	Bowl	119	1045/2	White (10 YR 8/1) soft-paste fabric; many quartz sand and hollows; blue painted designs under transparent and bluish transparent glaze on int. and ext.
2	Bowl	107	1028/1	White (10 YR 8/1) soft-paste fabric; many quartz sand and hollows; blue painted designs under remains of transparent glaze on int. and ext.
3	Bowl	107	1218	White (10 YR 8/1) soft-paste fabric; many quartz sand and hollows; blue painted designs under remains of transparent glaze on int.
4	Bowl	106	1027N/S	White (10 YR 8/1) soft-paste fabric; many quartz sand and hollows; blue painted designs under transparent glaze on int. and ext., except the base
5	Bowl	133	1069N/S	White (10 YR 8/1) soft-paste fabric; many quartz sand and hollows; blue painted designs under transparent glaze on int.; the painted designs are further enhanced with blue transparent and red glaze; transparent glaze on ext., except the base
6	Bowl	506	2052N/S	White (10 YR 8/1) soft-paste fabric; many quartz sand and hollows; blue, turquoise and dark green painted designs under a thick transparent glaze on int. and ext.
7	Bowl	503	2003	Red (2.5YR 5/6) fabric; ferruginous fabric with quartz, silt and sand; rounded dark brown grits and calcareous inclusions; thin white slip under green glaze on rim and int.
8	Sphero-conical vessel	107	1037	Dark gray clay, extremely vitrified
9	Bowl	107	1028 rim 1039 sherd	Reddish brown (5YR 4/4) fabric; ferruginous fabric with quartz, silt and rare foraminifers; some dark brown grits and carbonate inclusions; white slip under a yellowish glaze on int. with incised designs; white slip under a yellowish brown glaze on ext. with spots of dark brown glaze
10	Bowl	113	1031	Red (2.5YR 4/6) fabric; ferruginous fabric with quartz, silt and rare foraminifers; sporadic dark brown and carbonate grits; pink slip under a light yellowish brown glaze on int. with incised designs on ext.
11	Bowl	108	1047/1	Red (2.5YR 4/6) fabric; ferruginous fabric with quartz, silt and very rare foraminifers; white slip under a light yellowish brown glaze with incised designs on int. and plastic designs on ext.; both designs are further enhanced with brown glaze
12	Bowl	507	2158 N/S	Reddish brown (2.5YR 5/4) fabric; ferruginous fabric with quartz, silt and rare foraminifers; sporadic dark brown grits and carbonate inclusions; white slip under a greenish brown glaze on int. with incised designs; the designs are further enhanced with brown glaze; glaze only on the rim and ext.

an Iznik or Syrian workshop. The type has been found at various sites in Turkey, Cyprus and Greece (Hayes 1992:244–256; Milwright 2000:198; von Wartburg 2001:366; Vroom 2003:175–176), dating from the late fifteenth to the mid-sixteenth century. Similar bowls were unearthed in Jerusalem (Milwright 2000:198) and Safed (Zefat; Stern 2014b:147,

Fig. 1:12–14, 2:1; forthcoming). In Hisbān Jordan, a similar rim profile was found (Walker 2009:51–52, 60, Fig. 15.16:1).

### **Inter-Regional Fabric Group 3 (Beirut?)**

#### *Glazed Ware*

*Monochrome Glazed Bowl* (Fig. 8:7).— The hemispherical bowl has a high ring base, a thin layer of slip and a green glaze on the interior. It was made of a ferruginous, very silty and sandy fabric. Both silt and sand are mostly transparent quartz. There are some coarse (0.5–1.0 mm) carbonate inclusions (most probably chalk) and few ferruginous oololiths. Ferruginous matrix together with ferruginous oololiths is typical of the outcrops of Lower Cretaceous formations. Although these formations crop out at numerous places in Israel, including the Samarian Hills just above the site (Sneh, Bartov and Rosensaft 1998: map), we suggest that this bowl was produced in Beirut, based upon a high degree of similarity between it and petrographically analyzed medieval cooking wares and glazed bowls manufactured in Beirut (Waksman et al. 2008:159–165, 176–180, Figs. 4, 7, 8, 14; Shapiro 2012:107, 115, Figs. 5.7, 5.8).<sup>6</sup> Moreover, the careless application of the slip and its thinness is very similar to the bowls produced in Beirut during the twelfth and thirteenth centuries (Avisar and Stern 2005:8, Type I.1.2, Fig. 2; Stern 2012:44–47, Type BE.GL.7, Pl. 4.23). It is possible that the pottery workshop that functioned during the twelfth and thirteenth centuries, and had widely distributed its products, continued working during the Mamluk period, utilizing the same raw materials. Some profiles from Beirut are identical to our bowl from Ramla (François et al. 2003:329, Fig. 6:2, 3, 5, 8). El Masri (1997–1998:109) reports that toward the mid- and late-fourteenth century the glazed bowls usually have thicker walls and a monochrome glaze, mostly green in color. A bowl, similar in profile and fabric, was found in the al-Waṭa Quarter, Safed (Zefat; Barbé 2014:123, Fig. 11:6).

### **Inter-Regional Fabric Group 4 (Egypt?)**

*Sphero-Conical Vessel* (Fig. 8:8).— The small, pear-shaped body with thick walls, a pointed base and a molded decoration belongs to a ‘grenade’ or a sphero-conical vessel. Similar vessels were found in another excavation in Ramla (Toueg 2011b:14) and in Safed (Zefat; Barbé 2014:129, Fig. 18:3). The function of this form has been much debated, with suggestions ranging from a grenade to, more recently, a container of precious liquids (for further details, see Sharvit 2008 [Baniyas] and Stern 2012:94–95, Type VI.PL.2, Fig. 4.42, Pl. 4.76:8, 91 [‘Akko]). The vessel from Ramla is similar to those from ‘Akko and Baniyas; it can be defined as an Egyptian type, dating from the mid-twelfth to the fourteenth century (see Watson 2004:131).

<sup>6</sup> Since the observation was made under a binocular microscope, the comparison is limited.

### Inter-Regional Fabric Group 5 (Egypt)

*Glazed Bowls* (Fig. 8:9–12).— These fragments belong to Egyptian Mamluk Sgraffito Bowls, a well-known type named after its decoration and fabric appearance (Avisar and Stern 2005:38, Type I.3.5.1, Fig. 14:7). Another such bowl was previously found in Ramla (Toueg 2011b: Fig. 11:7). These bowls were made of a very ferruginous and silty fabric, fired to dark red and reddish brown colors. Small quantities of foraminifers can be seen under the microscope (Fig. 8:11) or by the naked eye (Fig. 8:9, 10). The fabric is fine, lacking any particles coarser than silt. The attribution of the fabric to Egypt is based upon the well-sorted raw materials that originated from the Nubian Desert (*Geologic Map of Egypt* 1981). The bowls are covered with a thick white slip into which calligraphic or geometric designs are incised in a standardized decorative program. These designs are sometimes further enhanced by thicker slip, or glaze of a different color over a yellow-glazed background (Fig. 8:9–11).

The bowl in Fig. 8:12 has incised vertical strips, alternately filled with brown paint. Although the exterior is usually undecorated, the vessel in Fig. 8:9 has incised, parallel horizontal lines and S-shaped designs alternately painted in dark brown and white slip. This type is well-known in Cairo, Egypt—the Mamluk capital, from the mid-thirteenth to the end of the fourteenth century (see Mason and Keall 1990:180–181, Fig. 13; Scanlon 2003; Walker 2004:1–32, Figs. 4, 5, 8, 9, 11; Watson 2004:408–414).

The Egyptian Mamluk Sgraffito Glazed Bowls were most likely produced at Fustat (old Cairo), in which two main forms appeared: a rounded body (Walker 2004:14, Fig. 5, top), similar to our examples, or a conical body with a low carination (Walker 2004:14, Fig. 5, bottom). These vessels seem to imitate metal work of the same period both in form and in decor, executed in shades of yellow and brown. The motifs are unique to the Mamluk rulers: Naskhi inscriptions, heraldic devices and a large range of anthromorphic and zoomorphic representations (Scanlon 2003). These bowls are rare in Israel, and until now have been found only in important Mamluk administrative centers, such as Jerusalem (Avisar 2003:436, Pl. 19.2:7, Photo 19.1) and Safed (Zefat; Barbé 2014:121, Fig. 13:1, 2;<sup>7</sup> Dalali-Amos and Getzov, forthcoming), and in a refuse pit on Yehuda Ha-Yammit Street, Yafo (Jaffa; Stern 2013: Fig. 11:7). Fragments were also unearthed at the Ridwan mills on the outskirts of ‘Akko (Stern 2016:83–84, Fig. 1:2), at Megiddo (Tepper and Stern, forthcoming), at Gan Ha-Darom, to the north of Ashqelon (Permit No. A-8357/2008, personal observation), as well as further north in Ḥama and in the Damascus citadel, in Syria (François 2008:20 620), and to the east at Hisbān, Jordan (Bethany; Walker, pers. comm.).

<sup>7</sup> These sherds were identified as Egyptian Mamluk Sgraffito Glazed Bowls according to fabric description and decoration. Unfortunately, we did not handle them, and therefore, the identification should be taken with caution.

## MEDITERRANEAN FABRICS

This category consists of glazed table wares, mostly bowls, among which five groups of fabric are clustered. The form and fabric of these vessels were the main factors for suggesting their origin. Although some of the suggested provenances require further analysis, these vessels are certainly maritime imports from Cyprus and Italy. They probably arrived with Italian merchants who came to buy local agricultural goods, mainly cotton. Italian Glazed Wares are found throughout Israel, whereas Post-Crusader Cypriot Wares have been identified only in Ramla and Safed (Zefat).

### **Mediterranean Fabric Group 1** (Cyprus, Paphos)

*Glazed Bowl* (Fig. 9:1).— This body fragment belongs to a carinated bowl, yellow-glazed on the interior with splashes of green glaze and an incised decoration of what may have been a guilloche filled with small spirals. On the exterior are two parallel incised lines just above the carination, and the glaze and slip extend slightly below the carination. It has a dense fabric, which appears to have been over-fired. A visual comparison shows a high degree of affinity to the Paphos-Lemba (Cyprus) Glazed Wares, dated to the Crusader period (Stern 2012:60–65, Type CY.GL.3–5). To date, these bowls have rarely been found in Israel, the exception being a few unearthed in ‘Akko, in a context dated prior to 1291 CE (see Stern 2012: Pl. 4.47:11). Our bowl seems to be an early fourteenth-century development of these wares. A few from Fabrika Paphos were found in a clearly dated context, in a well that was deliberately filled following the earthquake of August 8, 1303 CE (Green et al. 2014). This is the earliest evidence of this bowl type, which was nearly absent in the Levant. The production of this form continued and became extremely popular in Cyprus during the fourteenth century. Similar bowls with green and brown sgraffito are quite abundant in collections in Cyprus (for examples, see Papanikola-Bakirtzi 1996:116, Fig. VII:5–7, 9, 10; 2004:107, 137, 141).

### **Mediterranean Fabric Group 2** (Cyprus, Enkomi or Unidentified Workshop)

*Glazed Bowls* (Fig. 9:2, 3).— Presented here are two bases of glazed bowls with sgraffito decoration; on one, only a light green glaze is preserved (Fig. 9:2), and on the other, a light greenish yellow glaze background appears with enhancement of green and brown glaze (Fig. 9:3). The fragmentary design on the former base seems to be part of a guilloche filled with small spirals. On the latter, the upper part of a heraldic shield is decorated with vertical stripes in a central medallion, surrounded by slanting vertical lines, partially filled with spirals. Both fragments have a dense fabric, containing quartz, reddish brown silt and different quantities of golden mica, but the color of their fabric is slightly different; the fabric of the base in Fig. 9:2 is red, darker than the fabric of the base in Fig. 9:3, and is more ferruginous. As mica is absent in geological formations in Ramla and in the whole

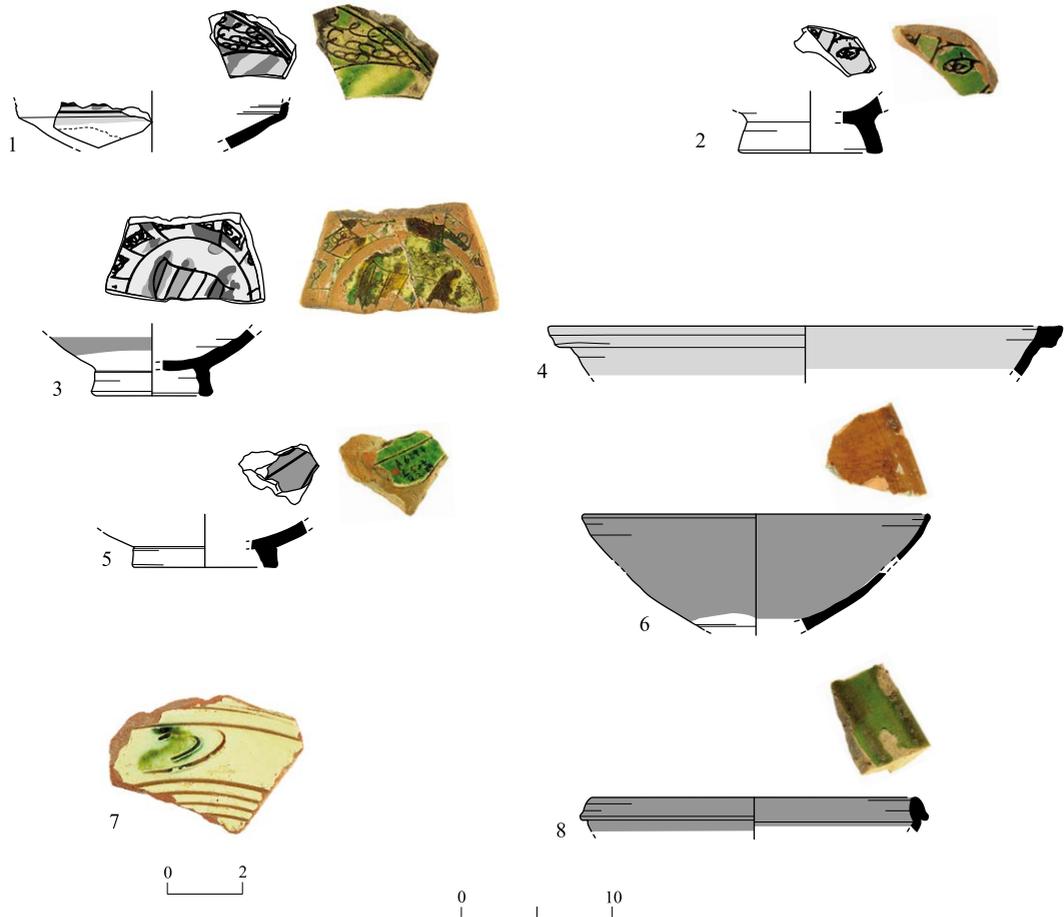


Fig. 9. Mediterranean Sea Fabrics: Group 1 (1), Group 2 (2, 3) and Group 4 (8).

No.	Vessel	Locus	Reg. No.	Description
1	Bowl	108	1047	Reddish brown (5YR 5/3) to dark gray (5YR 4/1) fabric; dense, over-fired material; remains of foraminifers and few calcareous inclusions; white slip under greenish transparent glaze on ext. and int. with incised designs; the incised designs are further enhanced with green glaze
2	Bowl	505	2005	Reddish yellow (5YR 7/6) to pink (7.5YR 7/4) fabric; light calcareous ferruginous and dense fabric; some quartz and reddish brown silt and flakes of golden mica; sporadic limestone grits; thin white slip under the light green transparent glaze on int. with incised designs
3	Bowl	103	1013	Pink to reddish yellow (7.5YR 7/4–7/6) fabric; light calcareous and dense fabric; some quartz and reddish brown silt and flakes of golden mica; sporadic limestone grits; thin white slip under light greenish yellow transparent glaze on int. with incised designs; the designs are further enhanced with green and brown glaze; light red slip on upper ext.
4	Basin	109	1041/1	Reddish yellow (5YR 6/8) fabric, brown (7.5YR 5/3) core; slightly ferruginous and very dense fabric; numerous flakes of light mica (muscovite?) in fabric; some inclusions of possibly tiny (0.2–0.3 mm) fossil shells, rounded and sub-rounded with light gray crust and soft, white filling; sporadic coarse ferruginous inclusions; remains of green glaze all over the preserved fragment

◀ Fig. 9 (cont.)

No.	Vessel	Locus	Reg. No.	Description
5	Bowl	507	2029	Reddish brown (5YR 5/4) fabric; slightly ferruginous and very dense fabric; numerous flakes of light mica (muscovite?); some inclusions of tiny (0.2–0.3 mm) fossil shells, rounded and sub-rounded with gray crust and sometimes soft white filling; sporadic, coarse ferruginous inclusions; thin white slip under green glaze on int. with incised designs
6	Bowl	519	2117 2190	Light red (2.5YR 6/8) fabric; light calcareous and dense fabric; some quartz and dark color silt, and numerous flakes of golden mica; sporadic quartz, fragmentary fossil shells and chert inclusions; transparent glaze on int. and 2/3 of upper ext.
7	Bowl	106	1009	Light red (2.5YR 6/6–6/8) fabric; foraminiferous and micaceous fabric; tiny flakes of golden mica; sporadic limestone, dark brown and black grits; white slip under transparent glaze on int. with incised designs; the designs are further enhanced with green glaze
8	Bowl	503	2003/1 N/S	Pink (5YR 8/4) fabric; light color and dense material; some quartz and reddish brown silt; sporadic quartz and reddish brown grits; light brownish green glaze all over the preserved fragment

region, it seems that these bowls were imported. The fabric of both bases, the form of the base in Fig. 9:3, the presence of red slip on the exterior and the decoration (although not much has remained) suggest that these bowls were produced in Cyprus, dating to the fourteenth century. While the products of the Kato Paphos-Lemba and Lapithos workshops are well-known (Papanikola-Bakirtzis 1993; 1996), complete bowls of other production centers, some similar to our fragments, are known from Cypriot collections (see below). Archaeological evidence attests to the presence of medieval pottery workshops in Enkomi, Nicosia and Soloi (Papanikola-Bakirtzis 1989; von Wartburg 2007:423). The products of the Enkomi workshop are best known; they have a low ring base and a red slip, and are decorated with polychrome sgraffito, like our sherds. Glazed bowls, similar in form and decoration to the Enkomi products, but with a slightly different fabric—lighter and fine grained, were also found in Cyprus, apparently indicating an unknown workshop (Papanikola-Bakirtzis 1989:243; von Wartburg 2007:424). It seems very likely that the two bases from Ramla were produced in Enkomi, possibly the unidentified one mentioned above, or a yet another unidentified one (D. Papanikola-Bakirtzis and M.-L. von Wartburg, pers. comm.).

It has been argued that there is no evidence that the Enkomi fourteenth-century workshop products were traded outside of Cyprus (von Wartburg 2007:423). Nonetheless, some small sherds unearthed in excavations in the Southern Levant seem to indicate that there was some limited maritime distribution of this ware. These include a fourteenth-century Cypriot glazed bowl found in another excavation in Ramla (Toueg 2012: Fig. 3:8), a very small fragment from Safed (Z̤efat; Stern, forthcoming) and some bowl fragments from Hisbān in Jordan (Bethany; Walker, pers. comm.). In addition, examples of fourteenth-century

Cypriot Polychrome Sgraffito Wares, found in many sites along the coast of Lycia and Cilicia (Böhlendorf-Arslan 2014:85–88, Fig. 6), provide evidence of maritime distribution further north. Although their production centers were not identified, some contain mica and have a reddish slip, like our fragments. Similar bowls appear in the von Post collection (Piltz 1996:34–37) and in the Leventis Foundation collection (Papanikola-Bakirtzis 2004:117, 119, 120 and 144). These two collections include bowls with heraldic shields, one of which is filled with a striped design (Piltz 1996:33) and the other, with a checkered design (Papanikola-Bakirtzis 2004:79).

### **Mediterranean Fabric Group 3** (Northern Italy, probably Venice)

*Glazed Basin and Bowl* (Fig. 9:4, 5).— These vessels share a ferruginous and very dense fabric. The basin (Fig. 9:4) has a gray core due to firing conditions, and the bowl (Fig. 9:5) was probably slightly over-fired and secondarily burned. As a result, the fabric received a grayish hue. The clay contains numerous flakes of light mica (muscovite?). There are some rounded and sub-rounded grits of tiny (0.2–0.3 mm) fossil shells with white (Fig. 9:4) or gray (Fig. 9:5) crust, sometimes with soft white filling and sporadic coarse inclusions of very ferruginous material. It seems that some well-sifted biogenic carbonate material was added to the paste. The presence of light mica in the fabric associates these vessels with well-known Italian production centers. Typological parallels suggest that these vessels were imported from North Italy. The basin (Fig. 9:4) has a square rim, straight walls and a dark green glaze on both surfaces. Until now, similar basins have been identified only at Khirbat Burin, Giv'at Yasaf (Avisar and Stern 2005:74, Type I.9.7, Fig. 31:9, 10, see references therein) and Khirbat Din'ila (Stern 2014a:93, Fig.11:4). Their presence in Venice, dating to the late fourteenth and early fifteenth centuries, as well as in the Venetian occupation phase at Split, suggest that they were produced in Venice. The base (Fig. 9:5) with a green glaze and a thinly incised decoration on the interior is recognized as Italian Monochrome Sgraffito bowl. This type has been found at other excavations in Ramla (Elisha 2005: Fig. 2:4; Cytryn-Silverman 2010:129, Pl. 9.25:1–2, Photos 9.38–9.41; Toueg 2011a: Fig. 6:9; 2012: Fig. 3:6) and in its vicinity (Khirbat el-Ni'ana—Vincenz and Sion 2007:32, Fig. 7:5–8). It was also unearthed at various sites in Israel, such as Giv'at Yasaf, St. Mary of Carmel and Jerusalem (Avisar and Stern 2005:73, Type I.9.5, Fig. 31:4–6). In Ramla (Cytryn-Silverman 2010:129), Italian Monochrome Sgraffito Ware was found in a clear context dating from the late fourteenth to the early sixteenth century. Therefore, Cytryn-Silverman proposed a longer time span for their appearance in Israel rather than the previously suggested date, restricted to the fourteenth and fifteenth centuries (Avisar and Stern 2005:73, Type I.9.5).

### **Mediterranean Fabric Group 4** (Northern Italy, probably Pisa)

*Glazed Bowls* (Fig. 9:6, 7).— The bowls are made of similar fabric, with different decorations. The dense fabric contains some quartz and reddish brown silt, and various

quantities of golden mica. The color of the fabric is dark and ferruginous. Occasionally, there are limestone grits, possibly foraminifers (a higher quantity in Fig. 9:7), grains of quartz and dark brown and black grits. Once again, the presence of mica indicates that these bowls were imported.

The monochrome glazed bowl (Fig. 9:6) is covered with transparent glaze on the interior and exterior of the body, until just above the base. It seems to be related to the well-known Marbled Ware (*Ceramica marmorizzata*) that was manufactured at several centers in northern Italy and Provence. Italian Marbled Ware was reported from Nazareth (Bagatti 2002:187–192, Fig. 69:7–10, Pl. 81:1–11), Qula (Avisar 2009:12–13), Safed (Zefat; Stern 2014b:146, Figs. 1:4; 2:4), ‘Akko (unpublished material), Damascus (François 2008:80 620; 2009: Fig. 3:13–15) and Kouklia in Cyprus (von Wartburg 2001:378, Fig. 10:25).

The body fragment in Fig. 9:7 belongs to a bowl with a very light yellow glaze, an incised decoration and a dab of green glaze, which associates it with the well-known Pisan Sgraffito Ware (*Graffita policroma tarda*). Hence, this vessel was presumably imported from Pisa. This ware features a developed style of decoration. It has a standardized central design comprising a border of incised concentric circles and a ladder-type filling, around a flower with a stem in the central medallion. The design is enhanced by green glaze. Pisan Sgraffito Ware had a very wide circulation during the late sixteenth and seventeenth centuries (Blake 1981:103–108, Fig. 8.7; Gutiérrez 2000:82, Fig. 2.57; von Wartburg 2001:376–378; Beltrán de Heredia Bercero and Miró i Alaix 2007:17, Pl. 8:1–4). In Israel, this type was found in Nazareth (Bagatti 2002:187–192, Fig. 69:5, 6; Pls. 79:6, 7; 80:1), Safed (Zefat; Stern 2014b:145–146, Figs. 1:3, 2:3) and ‘Akko (unpublished material); It was also unearthed in Kouklia, Cyprus (von Wartburg 1998:164–165, Fig. 86; 2001:378) and in Damascus (François 2008:80 630; 2009: Fig. 3:16).

Pisa is regarded as the main distributor of glazed wares throughout the Mediterranean. Fabric and glaze of wasters of Marbled Ware discovered in Pisa are identical to those of the Pisan Sgraffito Ware, and are of similar date and distribution (Blake 1981:103–105, Pls. 8.I–8.II; Hayes 1992:265; Gutiérrez 2000:91, Fig. 2.62; Vroom 2003:176–177; Beltrán de Heredia Bercero and Miró i Alaix 2007:15–16, Pls. 4–7).

### **Mediterranean Fabric Group 5** (Northern Italy, Montelupo?)

*Glazed Bowl* (Fig. 9:8).— The monochrome light green glazed bowl has an out-turned folded rim. It is made of a very light color, calcareous and dense fabric with small quantities of quartz silt and tiny reddish brown dots of iron oxides. Fine sand-sized quartz grains, reddish brown grains and voids are rare. According to the color of the fabric and the tin glaze, it might be identified as a monochrome bowl of Maiolica produced in Montelupo (or perhaps another Tuscan Maiolica). Situated on the Arno valley, between Florence and Pisa, Montelupo pottery was produced from the fifteenth to the eighteenth century CE. The polychrome Montelupo Maiolica, with painted stripes and a floral design on the interior, is more frequent and was distributed by sea (Blake 1981:101–103, Figs. 8.2; 8.3;

Gutiérrez 2000:86–90, Fig. 2.59; Beltrán de Heredia Bercero and Miró i Alaix 2007:19–23). Montelupo Maiolica is not common in the eastern Mediterranean. It has been found in ‘Akko (unpublished material; and perhaps Edelstein and Avissar 1997:132, Fig. 1:12), Safed (Zefat), Nazareth, Jerusalem and Damascus, as well as in Kouklia, Cyprus (Johns 1950:189, Pl. 63:4; von Wartburg 2001:378–379, Figs. 7:60–62; 10:26, 27; Bagatti 2002:187–192, Pl. 51:16; François 2009: Figs. 2:8; 3:17; Stern 2014b:147, Fig. 1:9, 10).

#### UNKNOWN IMPORTED FABRICS

Grouped here are all vessels that were not categorized in one of the fabric groups described above. They include simple, monochrome or slip-painted glazed bowls and a cooking dish, usually classified as local wares, as well as a glazed jar and a composite vessel. Careful observation of the fabric enabled us to isolate these vessels and suggest that they were imported. This advances our understanding of the Mamluk assemblage in our region and underlines the need to carefully examine the fabrics. As their fabric composition is slightly different, they were divided into four groups. However, they all share a similar feature, i.e., various dark mineral grains and inclusions within the fabric. Owing to the limitations of this study, at this point it can only be said that these wares were most likely imported. Such dark minerals usually originate in basic metamorphic and/or volcanic rocks. These could be located in various inter-regional areas, as well as Mediterranean Sea regions. Petrographic or chemical analyses of these fabrics will undoubtedly provide further evidence for defining the regions from which these wares were imported.

#### Unknown Imported Fabric Group 1

This group contains glazed bowls (Fig. 10:1–4) and a composite glazed vessel (Fig. 10:5) that have similar, but not identical fabric. The fabric is light colored calcareous matrix, which is either dense or porous, and silty with quantities of quartz silt. There are silt and fine sand-sized black grains, and rare quartz and carbonate grits. The bowl in Fig. 9:11 has several rounded sand-sized concretions of very dark brown to black lustrous material.

*Glazed Vessels* (Fig. 10:1–5).— Presented here are glazed monochrome bowls with different profiles and a composite vessel. A hemispherical bowl with an out-turned, flattened rim and a high footed base (Fig. 10:1), a bowl with a everted rounded rim (Fig. 10:2), a bowl with a carinated profile and a thickened, out-turned flattened rim (Fig. 10:3) and a bowl (Fig. 10:4) with a profile similar to the bowl in Fig. 10:3, but decorated with a slip-painted linear design. The fragment in Fig. 10:5 belongs to a composite glazed vessel, decorated with sgraffito. It was not possible to reconstruct the whole vessel, but it might be some sort of a handle. The profiles of the glazed bowls are somewhat similar to those found in various sites in the region; however, those usually have low ring bases (monochrome: Avissar and Stern 2005:12–15, Types I.1.4.1, I.1.4.2, Figs. 4; 5:1–6; slip painted: Avissar and Stern 2005:19–

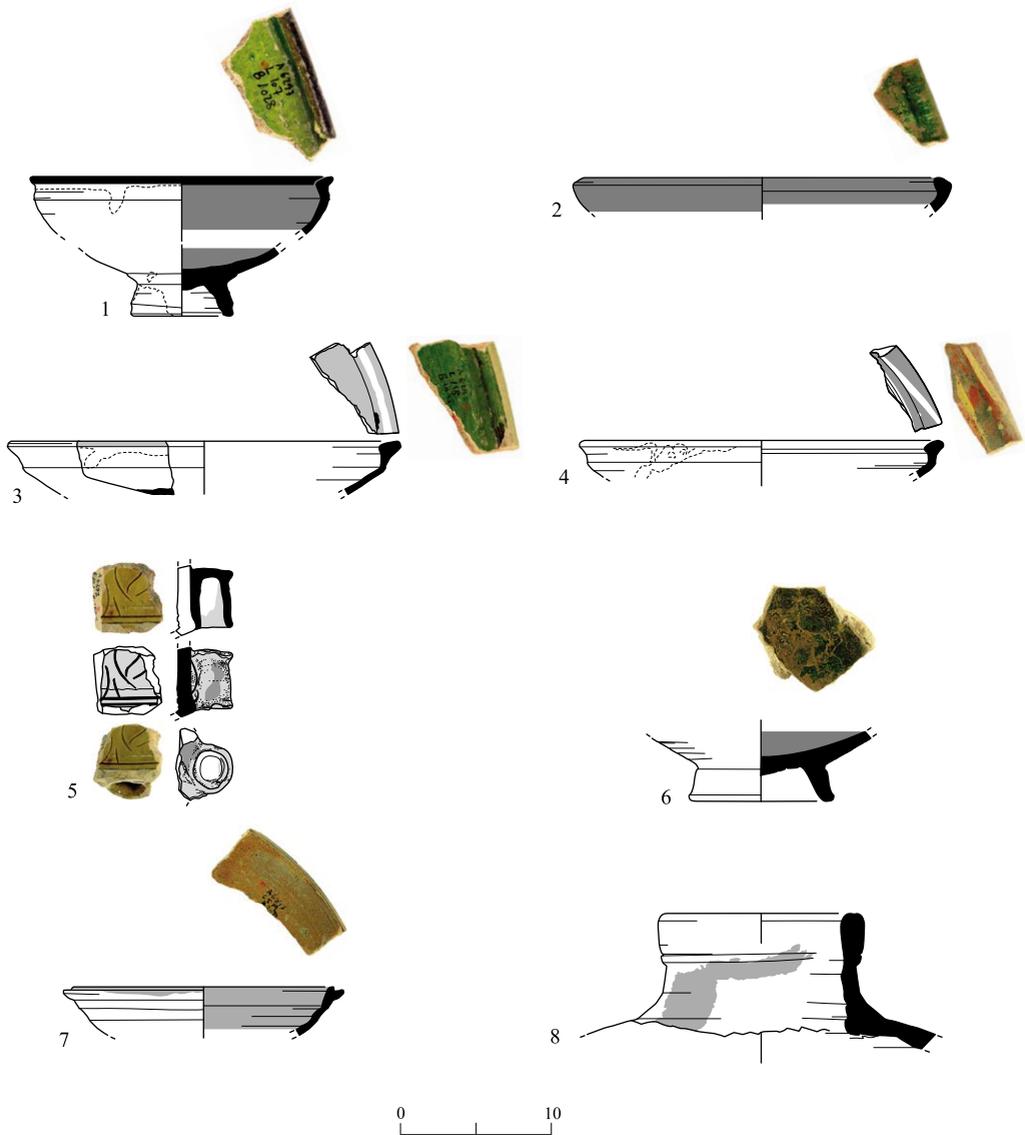


Fig. 10. Unknown Imported Fabrics: Group 1 (1–5), Group 2 (6), Group 3 (7) and Group 4 (8).

No.	Vessel	Locus	Reg. No.	Description
1	Bowl	107	1028/2	Reddish yellow (5YR 6/6) fabric; light color, calcareous, very silty and porous fabric; some silt-sized and fine sand-sized black grains; rare quartz and carbonate inclusions; very pale brown slip all over the bowl; green glaze over the slip on rim and int.
2	Bowl	110	1025	Reddish yellow (5YR 6/6); light color calcareous, very silty and porous fabric; some silt-sized black grains; rare quartz and carbonate inclusions; thin white slip under green glaze on the preserved fragment
3	Bowl	118	1045/3	Reddish yellow (5YR 6/6) fabric; light color calcareous dense fabric with quartz silt; rare quartz and carbonate inclusions and round sand-sized concretions of very dark brown inclusions; thin white slip under green glaze on rim and int.; splashes of slip on ext.

◀ Fig. 10

No.	Vessel	Locus	Reg. No.	Description
4	Bowl	133	1089	Light red (2.5YR 6/8) fabric; light color calcareous, dense and silty fabric with quantities of quartz silt; some silt-sized and fine sand-sized black grains; rare quartz and carbonate grits; white slip-painted design under transparent glaze on int.; splashes of glaze on ext.
5	Composite glazed vessel	121	1056	Light red (2.5YR 6/6) fabric; light color calcareous, very silty and porous fabric; some silt-sized and fine sand-sized black grains; rare quartz and carbonate inclusions; thin white slip under dark yellow glaze on int. and ext. with incised designs
6	Bowl	120	1085	Light yellowish brown (10 YR 6/4) fabric; vitrified fabric, numerous black and brown silt-sized grains; some rounded quartz and black inclusions; dark green glaze on int.
7	Bowl/Lid	519	2190/1	Reddish yellow (5YR 6/6) fabric; quartz and black silt; some grits and rare inclusions of quartz, carbonate and reddish brown material; transparent glaze on rim and int.
8	Jar	519	2090	Reddish yellow (5YR 6/6) fabric; light color calcareous and dense fabric; some silty quartz, foraminifers and dark color silt; inclusions of grog or ferruginous clay, voids and grits of quartz and golden mica; splashes of green glaze on ext.

21, Type I.1.6.1, Fig. 7:3). Mica grits were identified in the fabric of two bowls that were found at Ḥorbat ‘Uza, suggesting that they are imports; however, other characteristics of these bowls categorize them among local slip-painted bowls (Stern and Tatcher 2009:147–149, Fig. 3.26:9, 12).

### Unknown Imported Fabric Group 2

The fabric is porous, showing signs of vitrification, which points to a high firing temperature. There are numerous black and brown silt-sized grains, and some rounded quartz and black inclusions. The presence of dark minerals that are not characteristic of the geology of Israel indicate that this fabric is not local.

*Glazed Bowl* (Fig. 10:6).— This is a high-footed base of a glazed bowl with the beginning of what seems to be a hemispherical body. The profile and the green glaze are similar to the bowl in Fig. 10:1, and it is possible that they were made of a similar fabric. Unfortunately, this could not be confirmed because our example was severely burned. The high-footed base also resembles that of the bowl in Fig. 9:7, although fabric and decoration differ.

### Unknown Imported Fabric Group 3

The fabric is calcareous and dense, containing quartz and some black mineral silt, some grits and rare inclusions of quartz, carbonate and reddish brown material.

*Open Cooking Vessel* (Fig. 10:7).— The vessel has a guttered rim, flaring walls and a very fine fabric. A well-melted and a high-quality brown glaze covers the interior. Similar open cooking vessels were found throughout the southwestern Levant, dating to the end of the thirteenth and the fourteenth centuries, and possibly even later (Avisar and Stern 2005:97, Type II.2.3.5, Fig. 41:8, 9). Comparative open cooking vessels were found at Giv‘at Dani, Khirbat Burin, Ḥorbat ‘Uza and Safed (Zefat), el-Waṭa (Lazar 1999:131\*, Fig. 5:1; Kletter and Stern 2006:188, Fig. 18:8; Stern and Tatcher 2009:142, Fig. 3.23:18; Barbé 2014:127, Fig. 16:2).

### Unknown Imported Fabric Group 4

The fabric is calcareous and dense, and contains some quartz and reddish brown silt and golden mica. There are occasional limestone grits, possibly foraminifers, and grains of quartz. It also contains coarse (0.5–2.0 mm) inclusions of grog or ferruginous clay, and negatives of organic matter burned out while firing.

*Glazed Jar* (Fig. 10:8).— This jar fragment has a cylindrical, folded rim and splashes of green glaze on the exterior. Not much can be said about this jar, but the fabric is somewhat similar to that of Mediterranean Fabric 2, mainly due to the presence of mica.

## DISCUSSION AND CONCLUSIONS

The study of the fabric composition of the Mamluk and early Ottoman-period ceramics from Ha-Ezel Street in Ramla indicates that at least three different local workshops produced pottery in Ramla and its vicinity during this time span. Among the imported wares, five inter-regional fabrics from Greater Syria and Egypt, five Mediterranean fabrics from Cyprus and Italy, and another four fabrics from distant, and thus far unrecognized regions, were identified.

Of the three local workshops, one produced handmade wares and two, wheel-made wares. It has been demonstrated that the two workshops producing wheel-made wares apparently existed simultaneously. Both workshops produced similar jars (Figs. 5:6; 6:3, 4), perhaps for storing liquid foodstuffs, such as olive oil, produced in Ramla and its surroundings. These workshops may have used raw materials originating from a radius up to 10 km from the site. This phenomenon has been observed also in other archaeological and ethnographical studies, for instance, the raw materials of the Umayyad Beysān (Bet She’an) Theater Pottery Workshop were quarried as far as 15 km from the site (Cohen-Weinberger and Goren 2011:223).

Despite the poor stratigraphic data, the pottery from this excavation corroborates the evidence gathered from historical sources regarding Mamluk and early Ottoman Ramla, and from other archaeological excavations. Administratively, Ramla was part of the *Mamlaka* of Damascus. Abu al-Fida mentioned a densely-populated regional market town, at least during the early fourteenth century (Petersen 2005:96). Hence, multiple pottery workshops were required to accommodate the needs of both the local population and that of the surrounding villages.

A long tradition of pottery production existed in Ramla and its vicinity since the Roman and Byzantine periods, evidence of which was found in the southern part of Ramla (Gorzalczany 2006; 2014:76, Fig. 21; Tal and Taxel 2008:63, Figs. 5.24–5.26). Eighth- and ninth-century CE pottery production was documented in an excavation in Shikun Giyora in Ramla (Rosen-Ayalon and Eitan 1969) and in numerous other excavations throughout the city (Gorzalczany 2014:94–96, Fig. 32). This tradition continued in to the Mamluk period, as attested by the excavated remains of at least two pottery workshops (Toueg 2008; Torgë 2011).

An archaeological indication that Ramla was an urban center at this time is the mass production of simple carinated bowls (Fig. 4:1–8), manufactured in and around the city, and found in large quantities here and in other excavations (see above).<sup>8</sup> As these simple bowls were abundantly found mainly in urban centers (e.g., Ramla, Safed [Zefat] and Jerusalem), or in sites settled by a large army garrison (e.g., Banias), they may be connected to urban dining habits. According to Mamluk-period written sources, in the Muslim cities only the wealthy could maintain a kitchen in their homes, due to the high costs and danger of fire, while a population of a lower socioeconomic status bought cooked food in the markets, which was sold in ceramic vessels, either for eating in the cook's shop, or for "take away" (Levanoni 2005:204–207; Lewicka 2011:428; Fig. 11). Therefore, the unglazed simple bowls found in Ramla and elsewhere appear to have been the ceramic vessels mentioned in these written sources, indicating that indeed cooked food was purchased. This might be due to the fact that domestic dwellings in Ramla were made of mud bricks, and perhaps, also other organic materials that could easily catch on fire.<sup>9</sup> The appearance of these bowls in rural settlements may be explained either by the presence of workshops (e.g., Nazareth, and perhaps Khirbat el-Ni'ana), or by a close proximity to an urban site, where food was purchased in such bowls on a market day (e.g., Khirbat el-Ni'ana, Giv'at Dani and Kafr 'Ana).

During the fourteenth century, Ramla was an important commercial center, situated on the Cairo–Damascus postal route. The ceramic evidence for this is abundant. Wares from

<sup>8</sup> A rim count applied to ceramic finds from a small salvage excavation in Ramla (Toueg 2017) showed that 239 rims of simple bowls were found in comparison to 83 rims of other vessels (including jars, jugs, glazed bowls, coking vessels and oil lamps).

<sup>9</sup> We would like to thank Nimrod Getzov for this suggestion.



Fig 11. Food sold in ceramic disposable vessels in Khari Baoli, Delhi, India, September 2018 (Photography: Edna J. Stern)

Egypt to the south, Syria and Lebanon to the north, Italy (mostly from Venice), Cyprus and other unidentified Mediterranean provenances from the west, all reflect this status of the city.

The presence of at least three Egyptian Mamluk Sgraffito bowls (Fig. 8:10–12) indicates some form of contact between Ramla and the Mamluk capital of Cairo. We suggest with caution, that these bowls may have been the property of Mamluk officials who were stationed in Ramla.

Worthy of mention are bowls of Glazed Relief Ware decorated with formulaic inscriptions and symbols, which were found at other excavations in Ramla (Kletter 2009: Fig. 10:9–11; Cytryn-Silverman 2010:127, Photograph 9.35; Torgë 2011:102, Fig. 12:1, 2). It has been suggested that such bowls are also connected to the Mamluk ruling class. However, since they are found only in the region of Greater Syria, they seem to be linked to the local rather than the central Mamluk government. This is clearly demonstrated by a large quantity of such bowls found in a storeroom in the citadel of Hisbān, which is dated to the fourteenth century and identified as the residence of the governor of the Balqā' (Walker and LaBianca 2003:464–466; Walker 2010:122, 123, 127, 143; Walker, pers. comm.). Glazed Relief Ware bowls were found throughout Greater Syria, for example in Jerusalem, Giv'at Dani, Khirbat Burin, Nazareth, Yoqn'eam, Safed (Zefat) and Ḥama (Avisar and Stern 2005:22–24, Type I.1.7, Fig. 8:8–11; Kapitaikin 2006; Amos Dalali and Getzov, forthcoming). Some of these sites were urban centers, possibly seats of local Mamluk governors, and some were rural.

Cotton grown in the hinterland of Ramla attracted Venetian merchants, who were very active in the trade network during the Mamluk period, to settle in the city (Amar 2003:155). They established a colony in Ramla, where they owned houses, as evidenced by a treaty signed in 1415 between the Mamluk Sultan and Venice (Ashtor 1983:254). It is assumed that the Venetian merchants arrived at Ramla through the port of Yafo (Jaffa). Yafo ceased to exist as a city after the mid-fourteenth century, when it became an unfortified village that suffered from Christian pirates. Nonetheless, historical sources indicate that the harbor of Yafo continued to function as a port of call for ships transporting pilgrims, as well as various goods (Ashtor 1983:390; Arbel 2013). Western merchants settled in Ramla to be close to the villages from which they purchased agricultural goods and as a consequence of the unsafe conditions at Yafo during that period. Based on eighteenth-century written sources that mention French merchants who traded through the harbor of Yafo, but actually lived in Ramla and conducted their affairs from there (Cohen 1985:165–166), one can assume that other foreign merchants resided in Ramla centuries before for the same reason.

At least seven sources of imported pottery were identified—Cyprus (two workshops), Venice, Pisa and Montelupo, Spain (Valencian Luster Ware; Cytryn-Silverman 2010:127–128, Pl. 9.32:6–7, Photographs 9.36, 9.37) and China (Celadon: Toueg 2012: Fig. 3:11; Toueg and Stern 2016: Fig. 3:2, Ming Ware)—and four unidentified sources (see above). This indicates international contacts and possibly, the actual presence of foreign merchants residing in or frequenting Ramla during the Mamluk and early Ottoman periods. The variety of imports highlights Ramla's economic importance during this period, as, for example, was observed in Safed (Zefat; Stern 2014b; forthcoming; Dalali-Amos and Getzov, forthcoming), a major commercial and administrative center in the Galilee.

The evidence from this excavation also contributes to the study of Cypriot ceramic distribution, as this is one of the first excavations in the Levant in which fourteenth-century Cypriot Glazed Bowls were found. Thirteenth-century glazed ware from western Cyprus (Paphos region) was largely imported to this region (Stern 2012:60–65, Figs. 4.41–4.47), but with the fall of the Latin Kingdom and principalities in the east, the eastern Mediterranean maritime commercial sailing routes changed, and a smaller number of merchant ships frequented the Levantine ports. Simultaneously, there was a clear shift in most of the Cypriot maritime trade from Limassol and Paphos in the thirteenth century to Famagusta in the fourteenth century (Jacoby 1989). As fewer ships sailed from Cyprus to the Levant, apparently less ceramics arrived from Cyprus.

The concrete ceramic evidence from Ramla fills a lacuna in the archaeological record of Mamluk-period Yafo, which is meager, consisting of burials, very few coins and ceramics (Arbel 2013; Stern, in prep.). The scenario of abundant ceramics from Ramla and very little from the port of Yafo, is identical to the situation between Safed (Zefat) and the port of 'Akko in the Mamluk and early Ottoman periods (Stern 2014b; forthcoming). The ceramic materials from both Ramla and Safed (Zefat) thus shed light upon maritime activity at a time of minimal historical and archaeological evidence at the harbors of Yafo and 'Akko.

A comparison of the urban assemblage from Ramla with that of nearby rural assemblages demonstrates that, for the most part, similar types of wares was found in all the sites. Hence, it implies that kitchen ware from Ramla and nearby villages was produced in the same pottery workshops. Similar jars, jugs and bowls (see *Local Fabric Group 2*, above) were produced in Jerusalem, as well as in villages in the Jerusalem region and in the Sharon. The finding of the “Jerusalem Ridge-Neck Jars” in Khirbat Ka‘kul, with a slightly different neck form, may indicate that they were made in a different local workshop. Also in the Galilee, e.g., in Safed (Zefat), jars (which have a different profile), jugs and some of the glazed bowls were made of a local red fabric (Shapiro 2014; Stern 2014; forthcoming). Surprisingly, Italian imports are present at rural sites, although in smaller quantities. This seems to imply an activity of Italian merchants who came to buy cotton from the villagers (see above), as can also be traced in other regions, for instance in the north, at Khirbat Din‘ila, Giv‘at Yasaf and Ḥorbat ‘Uza (Stern 1999; 2014a; Stern and Tatcher 2009).

In conclusion, this study clearly demonstrates the relevance of ceramic evidence as a supplemental source in assessing the economy of Ramla during the Mamluk and early Ottoman periods. Much more work is still required in this field, but nonetheless, the study highlights the valuable data that can be gleaned from the ceramic finds and their potential in the research of other sites and periods.

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