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The Pottery from the IAA Excavations at Tel Mikhal (Tel Michal)

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Introduction

This report on the pottery from the 1996 IAA excavations at Tel Mikhal is divided into three sections. The first deals with the Persian coarse wares, the second with imported pottery, and the third with pottery from the three kilns in Area B1.

The assemblage of the Persian coarse wares from Tel Mikhal adds new type-forms to the ceramic repertoire known from previous excavations at the site, as well as from nearby sites. This new evidence shows that the Tel Mikhal assemblage is more varied and richer than previously thought.[1]

In all the areas of the IAA excavations along the northern hill, the architecture is mostly confined to silos or pits and wall sections. Adjacent to the walls were large open spaces covered with packed layers of dark brown *ḥamra* soil, mixed mainly with large amounts of Persian-period pottery. In some cases the soil layers and the pottery in them were burnt, with ashes.[2] Most of the fragments were neither found associated with architectural features, nor were they found in clearly-defined contexts. The most common types are jars and mortaria.

Layers of dark *ḥamra* soil seemed at first to represent different phases of accumulation. Yet, close inspection showed the recovered pottery was homogeneous throughout. Moreover, since some of the fragments found in the lower layers proved to belong with other fragments found in the upper levels, we concluded that the layers cannot be used as a chronological guide, and that this part of the site was probably an industrial or storage area. Sections of walls and fragments of jars probably were used as storage facilities, while the open spaces were utilized for industrial activity. This hypothesis explains, in part, the presence of large amounts of mortaria, which might have been used for grinding (Blakely and Bennett 1989:54–55). An alternative interpretation might be that parts of the area were used as a garbage dump, which might explain the accumulation of burnt pottery and soil layers.

Most of the pottery presented in this study comes from these *ḥamra* layers. As a basis for comparison we used the Tel Aviv University report on the excavations at the site (Singer-Avitz 1989a). The pottery from two other coastal sites, nearby Apollonia-Arsuf to the south (Tal 1996) and Tel Dor to the north (Stern 1995b), was utilized. In the Dor report, Stern summarized the main ceramic types of the period (Stern 1995a). For this study, Stern's typology is used.

Area A1

This area was divided into northern and southern sections. Building 270 with a silo (L118) is situated in the southern section, along with two nearby pits (L133 and L206). The Persian pottery associated with the building was contaminated by small amounts of Hellenistic pottery, as well as by the later pits and silo. For this reason, the pottery from there was not included in our study except for a Hellenistic lamp (second century BCE; Fig. 11:11) from the silo, and a nearby contemporary Rhodian amphora handle (Ariel, this volume [b]; Cat. No. C2) that was found near two coins of Antiochus III (223–187 BCE; Ariel, this volume [a]; Cat. Nos. A13, A14).

The northern section of Area A1 mainly had accumulated layers of pottery and *ḥamra*. The

thickest layer (L250) consisted of a dark brown *ḥamra* mixed with large amounts of pottery, with some ash and animal bones (Figs. 1:10; 3:18; 4:7; 5:5; 6:3, 6; 7:18, 19, 23, 25; 8:9; 9:5, 9; 10:6, 8–10; 11:7).

The single restorable jar from the excavation came from the western part of Area A1. This flat-shouldered jar (Fig. 7:20) was found stuck into the cobble floor (L166) associated with a wall (W124).[3] The jar's position indicates that it probably had been used for storage.

Area B1

Area B1 probably had an industrial function as well, but here only fragments of walls were found. A large circular kiln (L461), probably used for pottery production, occupies its western part. The pottery associated with this kiln is treated below. Three additional kilns were also found in this area (L410, L483, L484). Most of the pottery from Area B1 in this study (Figs. 2:1, 3, 4, 7, 9; 4:3, 4, 8; 6:1, 2, 4, 5, 9–13; 9:6) comes from the dark *ḥamra* layer to the southeast (L464, L473, L489 and L485). This layer, or some part of it (L473), apparently served as a floor. Within it and the fill above it (L464) were found eleven Athenian-style silver tetradrachms, from the late fifth to fourth centuries BCE. According to Ariel, these belong to a single hoard, deposited around 350 BCE. This fact is useful for dating the ceramics (see Ariel, this volume [a]).

In the eastern part of Area B1, a pit (L512) was dug into the natural *kurkar*. Its sides were lined with bricks (W516, W518, W519). This pit was full of pottery fragments from the Middle Bronze period mixed with Persian finds. The pit was certainly used in the later period, as several Persian-period objects, including a posthumous coin of Alexander the Great, dated 323–317 (see Ariel, this volume [a]: Cat. No. A10), and an exceptional type of a cooking pot (Fig. 5:1), testify.[4] It seems likely that the MB IIC pottery fell into the pit when the brick walls collapsed.

Area C1

The main structure in this area is the corner of a building (W802/W803). In the foundation trenches were layers of dark ashy *ḥamra* soil mixed with large amounts of pottery (Figs. 1:1, 11, 16; 2:2, 6, 8; 3:17, 21; 5:2; 6:7, 14; 7:17, 22, 24; 9:3; 10:2; 11:5), including two complete juglets (Fig. 10:4, 7). A fragment of an Attic lekythos dated to c. 425 BCE (Fig. 14:39) was found north of the building (L726) and a possibly posthumous coin of Alexander the Great was found adjoining the eastern wall (see Ariel, this volume [a]: Cat. No. A12). These two finds provide upper and lower limits for dating activity in the area. The abundance of small finds concentrated near the corner of this building might indicate that it functioned as a dwelling. Six pits were also found in Area C1 (L719, L756, L728, L756, L772, L774), but they have produced only a small amount of pottery (Fig. 9:2).

PERSIAN COARSE WARE

Bowls (Fig. 1)

Four carinated bowls were found (Fig. 1:1–4). This type is known from various sites throughout the Persian period (Stern 1982:95, Fig. 116, Type A5). One hemispherical bowl (Fig. 1:5) with a thickened rim has parallels at Tell el-Ḥesi in substrata Vd and Va dated to 500–400 BCE (Bennett and Blakely 1989: Figs. 144:21, 160:4). A small bowl (Fig 1:6) with convex, thin sides and an everted rim has parallels at Dor (Stern 1982:94–95, Fig. 115, Type A4). Three projecting rim bowls (Fig. 1:7–10) probably imitate a known Attic type (see Fig. 13:7–10). The incurved rim bowls (Fig. 1:11–13, 15, 16) are also a local imitation of the well-known Attic type. Incurved rim bowls with carination below (Fig. 1:15, 16) are rare. The local imitation often has a grayish or a red slip. The fishplate (Fig. 1:14) is another local imitation of Attic pottery.

All the types of bowls that imitate Attic shapes (Fig. 1:7–16) continue into the third century, while some of the types continue with minor variations into the first half of the second century. For example, the fishplate (Fig. 1:14) has a strong Hellenistic 'flavor' (See Fischer

1989:177–179, Fig. 13.1:1–9; Guz-Zilberstein 1995:289–293, Figs. 6.1–6.4).

Mortaria

The Persian heavy bowl (Figs. 2, 3), probably used as a grinding vessel, constitutes one of the predominant types in the Tel Mikhal assemblage. The ubiquitous Persian mortaria has been the subject of several detailed studies, which have attempted to determine its chronology, provenience and function. Most scholars agree that the mortarium was not a locally produced vessel, but imported. Cyprus, Eastern Greece, Anatolia, Syria and Lebanon were all suggested as possible places of origin (Stern 1982:96–98; Blakely and Bennett 1989; Stern 1995b:53–55).

The Tel Aviv University excavators noted two basic types of mortaria. The 'earlier' form is a heavy large vessel with a thickened rim, rippled or smooth outer surface and a thick ring base. It is made usually of a coarse, poorly levigated clay, ranging in color from grayish buff to light orange-reddish clay, sometimes covered with a greenish-whitish slip. The clay is tempered with a great amount of large white and black (volcanic) grits. This form dates from 525 to 490 BCE (Stratum XI; Singer-Avitz 1989a:116, 119, 124, 130, 135, 143; Figs. 9.1:1, 2, 16–18; 9.2:1, 2; 9.7:1, 2; 9.8:1; 9.13:1, 2; 9.15:8; 9.16:1).

Several new variations of this type were found in the IAA excavations, in addition to complimentary forms from the earlier Tel Aviv University excavations (Fig. 2:1–9). Two are thinner versions of the large heavy type (Fig. 2:8, 9). Several have slightly different-shaped rims: projecting rims (Fig. 3:12–15) and an overhanging ledge-rim (Fig. 2:10). They were grouped with the 'earlier' type on the basis of their similarity in matrix.

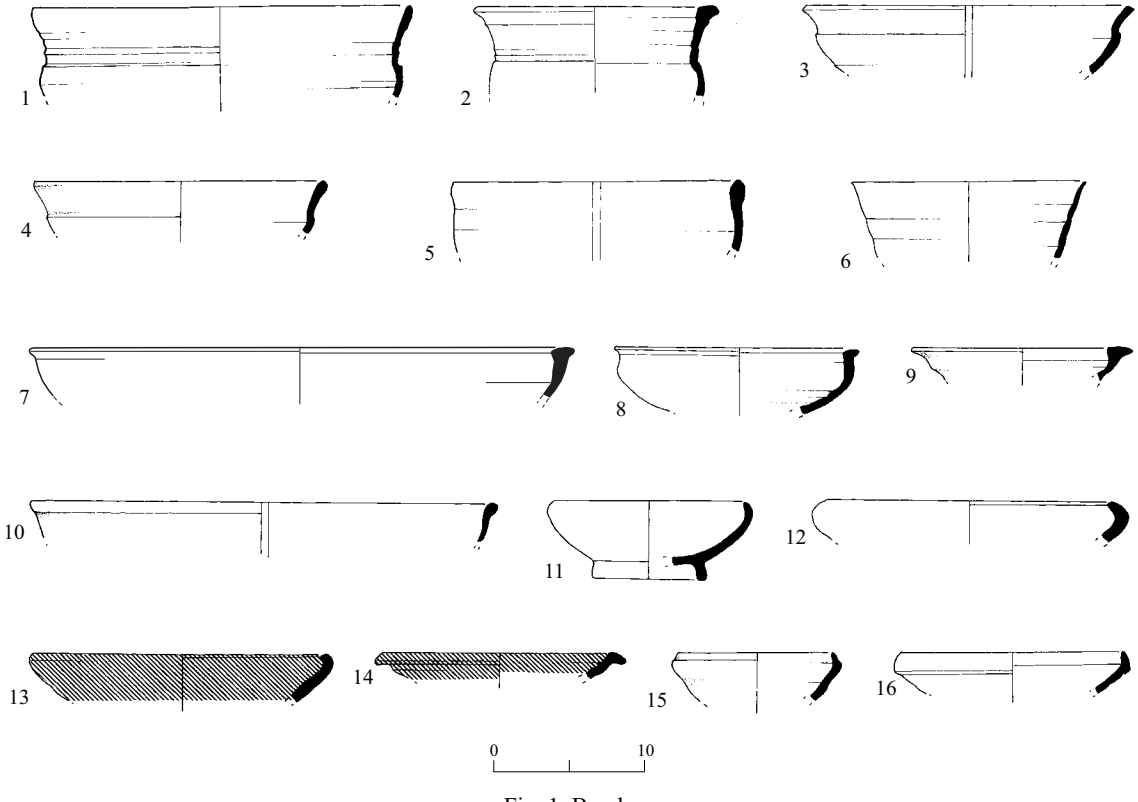

Fig. 1. Bowls.

◂ **Fig. 1**

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Carinated bowl	726	7172	Buff clay, black and brown grits	
2	Carinated bowl	447	4197	Buff to gray clay, brown grits, burnt	
3	Carinated bowl	402	4019	Buff clay, gray core	Tel Qiri (Avissar 1987:18, Fig. 2:26); Qadum (2nd half of 5th c. BCE; Stern and Magen 1982:187, Fig. 2:4–7; Pls. 21:5–7; 22:1); Tell el-Ḥesi, Substrata Vd (c. 500–450 BCE; Bennett and Blakely 1989: Fig. 144:26, 28)
4	Carinated bowl	422	4128	Buff clay, brown grits	Tel Qiri (Avissar 1987:18, Fig. 2:26)
5	Hemispherical bowl	468	4275	Buff to grayish clay, brown and orange grits	Tell el-Ḥesi, Str. Vd and Va (500–400 BCE; Bennett and Blakely 1989: Figs. 144:21, 160:4)
6	Small bowl	468	4275		Qadum (2nd half of 5th c. BCE; Stern and Magen 1982:187, Fig. 2:2, 3, Pl. 21:2, 3)
7	Bowl with projecting rim	139	1033	Orange clay, gray core, white and orange grits	Dor (5th–4th c. BCE; Stern 1995b: Fig. 2.37:4); Apollonia-Arsuf (Tal 1996:30, Fig. 3.8:2); Tell el-Ḥesi (Bennett and Blakely 1989: Figs. 139:29; 158:5, 6)
8	Bowl with projecting rim	744	7158	Whitish-green clay, black and white grits	
9	Bowl with projecting rim	187	1254	Buff clay, red grits	
10	Bowl with projecting rim	250	1537	Brown clay, brown and white grits	
11	Bowl with incurved rim	714	7064	Buff clay, dull gray to black slip inside and outside	Tel Mikhal, Stratum VI (c. 350–300 BCE; Singer-Avitz 1989a:130–135, 139, Figs. 9.10:8; 9.12:1; 9.13:3–6; 9.16:4)
12	Bowl with incurved rim	468	4275	Same as No. 10	
13	Bowl with incurved rim	481	4339	Buff to orange clay, red slip inside and outside	
14	Fishplate	257	1319	Buff clay, worn red slip	Tel Mikhal, Str. VI (Singer-Avitz 1989a:130, 139, Figs. 9.10:7; 9.16:3; Fischer 1989:177–179, Fig. 13.1:1–9); Dor (Stern 1995b:52, 53, Fig. 2.1:6; Guz-Zilberstein 1995:289–293, Figs. 6.1–6.4)
15	Bowl with incurved rim and carination	243	1447	Buff clay, gray core, white and gray grits	Nahariyya (5th–3rd c. BCE; Ovadiah 1993:23*, Fig. 2:7)
16	Bowl with incurved rim and carination	714	7108	Buff clay, brown grits	

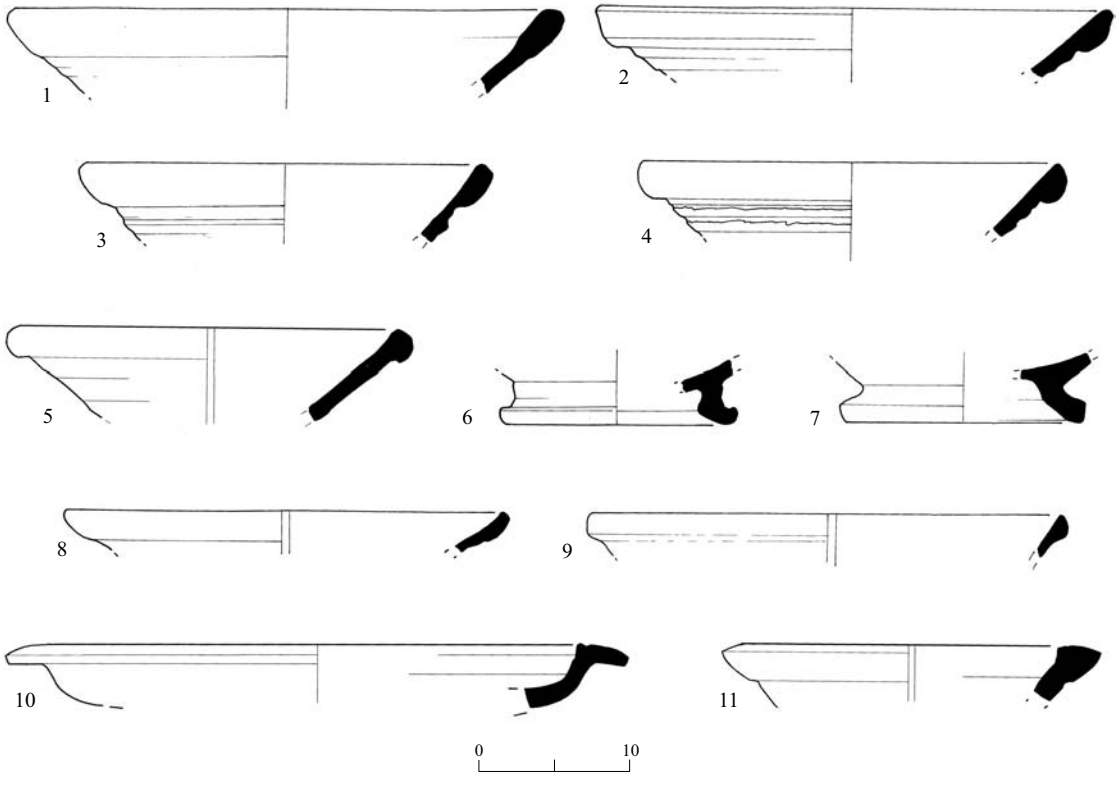

Fig. 2. Mortaria bowls.

No.	Locus	Reg. No.	Description	Parallels and Date
1	473	4333	Light brown clay	Dor (Stern 1995b:53–55, Fig. 2.2; Guz-Zilberstein 1995:295, Fig. 6.9:1–5, 8, 11)
2	726	7141	Coarse clay, large white and black grits	
3	473	4315	Greenish-buff, coarse clay, large white and black grits	
4	489	4379	Reddish coarse clay, small white and black grits	
5	404	4015	Reddish, very coarse clay, large white grits	
6	726	7163	Buff coarse clay, small white and black grits	
7	464	4292/2	Reddish buff coarse clay, large white and black grits	
8	726	7096/2	Greenish buff coarse clay, large black and white grits	
9	464	4292/1	Reddish coarse clay, large white and black grits	
10	422	4119	Buff coarse clay, large white and black grits	
11	450	4212	Buff to gray coarse clay, greenish-white slip outside, grits	

The 'later' type starts to appear in the mid-fifth century BCE (Stratum VII; Singer-Avitz 1989a:130, 133, Figs. 9.9:1; 9.11:1; 9.16:2). This type (Fig. 3:17–21) has a thickened out-curved rim with a split (Fig. 3:17) or a slightly concave profile (Fig. 3:19) and a peculiar knob handle (Fig. 3:17, 18). However, its main distinctions are the flat base (Fig. 3:21) and the well-levigated clay without large tempera. These characterisitcs differ greatly from the coarse material of the 'earlier' type. The surfaces of this type seem to be also much smoother than the 'earlier' type.

The best parallels for the Tel Mikhal mortaria come from Dor. Both the 'earlier' and the 'later' types appear there along with their rim variations. Furthermore, some of the Dor specimens are nearly identical to those found in the IAA

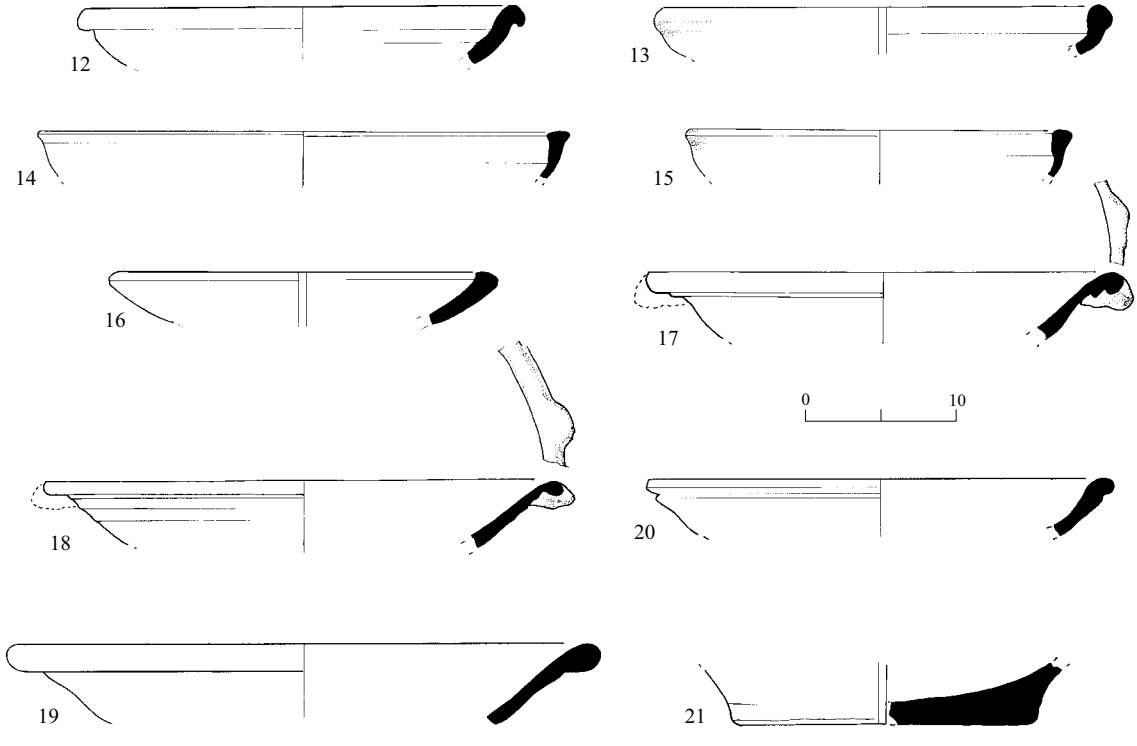

Fig. 3. Mortaria bowls.

No.	Locus	Reg. No.	Description	Parallels and Date
12	229	1381	Reddish buff clay, small red and white grits	
13	422	4079	Coarse reddish clay, large red, white and black grits	
14	139	1033	Greenish buff, small white grits	
15	766	7279	Similar to Fig. 13	
16	231	1443	Greenish buff	
17	718/726	7141/7062	Brown buff, small white grits, mica	Dor (440–400 BCE; Stern 1985:422, 423, Fig. 3:top)
18	250	1550	Greenish-white clay, small white and black grits	
19	742	7162	Gray-buff, well-levigated clay, burnt inside	
20	231	1358	Reddish well-levigated clay, greenish-white slip	
21	726	7096/1	Brown well-levigated clay. Might be the base of Fig. 19	

excavation (Stern 1995b:53–55, Fig. 2.2; Guz-Zilberstein 1995:295, Fig. 6.9:1–5, 8, 11). A 'later' type mortarium, almost identical to our Fig. 3:17 was found in a temple *favissa* at Dor together with imported Attic pottery dating to 440–400 BCE (Stern 1995a:422, 423, Fig. 3:top).

According to the Tel Aviv University report, both the 'earlier' and the 'later' types of the mortaria cease to appear from 350–300 BCE (Stratum VI; Singer-Avitz 1989a:135, 143; Fig. 9.16:1, 2). This conclusion was challenged recently by Stern who argued, relying on Dor evidence, that the situation described by the Tel Mikhal excavators is a mere coincidence, and the ubiquitous Persian mortarium continued throughout the fourth century. He had also pointed out that mortaria, of a slightly different form, persist at Dor until the early Hellenistic strata (Stern 1995b: 53–55; Guz-Zilberstein 1995:295).

The evidence of the IAA excavations in Tel Mikhal corroborates Stern's conclusion, as our assemblage is dated to c. 450–300 BCE. It is worth mentioning that in the IAA excavation the 'earlier' and the 'later' types were found together in the same locus (Fig. 2:2 and Fig. 3:17 from L726), as in the excavations on the tell (Singer-Avitz 1989a:130, Figs. 9.8:2; 9.9:1). This fact probably indicates that these two forms are contemporaneous rather than sequential.

Stands and Kraters (Fig. 4)

Stands are relatively rare in the IAA excavations at Tel Mikhal. Two stands have a tall cylindrical body and a thick rim. Similar stands were found at Dor (Stern 1995b:68, Fig. 2.15:1). This type of stand seems to continue a form from the Iron Age.

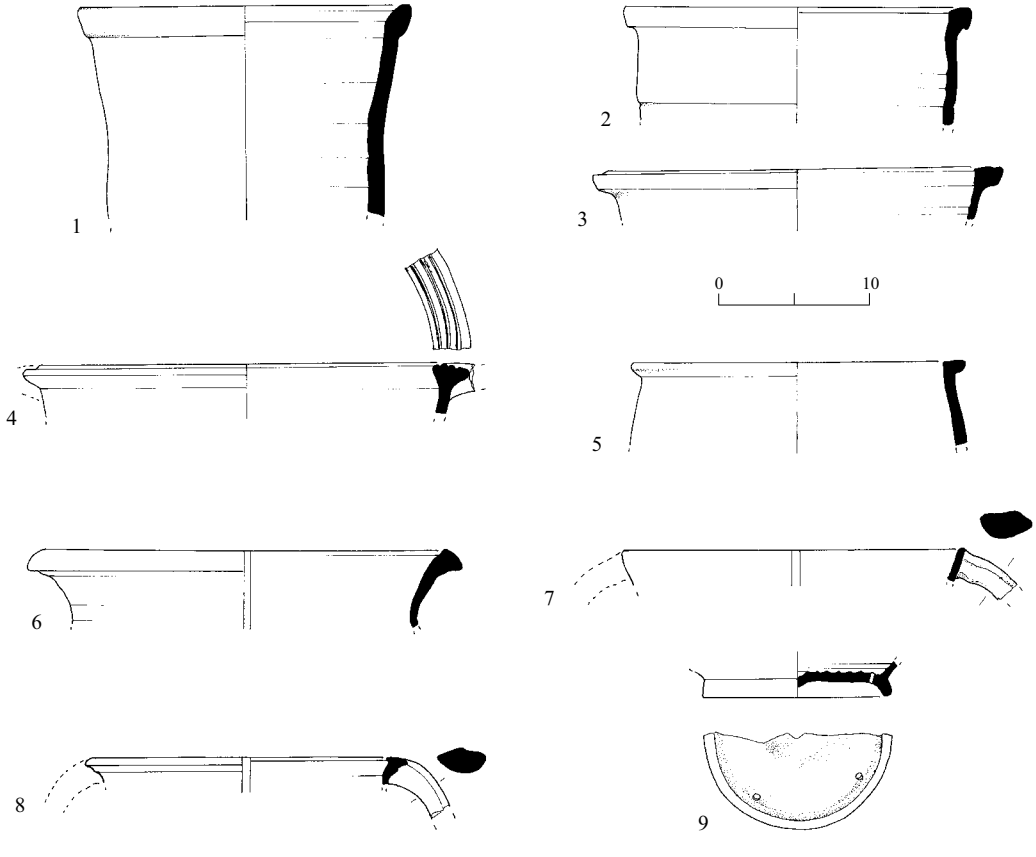

Fig. 4. Stands and kraters.

◂ **Fig. 4**

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Stand	263	1569	Greenish-white clay, gray core	Dor (Stern 1995b:68, Fig. 2.15:1)
2	Stand	182	1229	Buff clay, gray core, burnt	
3	Krater with everted rim	485	4445	Buff clay, gray slip	Tel Mikhal, Str. XI, 525–490 BCE and Str. VII, 400–350 BCE (Singer-Avitz 1989a:120, 130, Figs. 9.2:3; 9.8:1); Dor (Stern 1995b:55, Fig. 2.3:1, 2); Qadum (Stern and Magen 1982:190, Fig. 3:1, 2, Pl. 22:4, 5); Apollonia-Arsuf (Tal 1996:32, Fig. 3.10:4–8); Tell el-Ḥesi (Bennet and Blakely 1989: Fig. 141:1; 181); Tel Qiri (Avissar 1987:18, 24–26, Fig. 3:14, 15)
4	Holemouth krater	485	4403	Buff clay, gray core, black and white grits	Qadum (mid-5th c. BCE; Stern and Magen 1982:190, Fig. 3:5)
5	Krater with inverted rim	156	1145	Orange to buff clay, white and red grits	
6	Krater with everted rim	402	?	Orange clay, gray core, white and red grits	
7	Krater with everted rim	250	1537	Orange to buff clay, white and dark grits, gray core	
8	Krater with everted rim	473	4333	Buff clay, gray core	
9	Krater	402	4008	Buff to gray clay, white grits	

Several types of kraters were found in the IAA excavations (Fig. 4:3, 6–8). All were in small fragments, a fact that makes the identification of the exact type difficult. The most common type has a wide mouth, everted thickened rim that is sometimes triangular in section (Fig. 4:6, 7), and handles that extend from rim to shoulder. Similar kraters were already found in the Tel Aviv University excavations at Tel Mikhal in both Stratum XI, dated 525–490 BCE, and Stratum VII, dated 400–350 BCE (Singer-Avitz 1989a:120, 130, Figs. 9.2:3; 9.8:1). This type is also common in other sites, such as Dor (Stern 1995b:55, Fig. 2.3:1, 2), Qadum (Stern and Magen 1982:190, Fig. 3:1, 2, Pl. 22:4, 5), Apollonia-Arsuf (Tal 1996:32, Fig. 3.10:4–8), Tell el-Ḥesi (Bennet and Blakely 1989: Figs. 141:1; 181) and Tel Qiri (Avissar 1987:18, 24–26, Fig. 3:14, 15). In all these sites this type appears in contexts dated to the second half of the fifth century and in the fourth century BCE.

A much rarer type of krater has an inverted, thickened rim (Fig. 4:5). This type, which might be related to the holemouth krater, is known from Tell Keisan (Briend and Humbert 1980:122, Pl. 20:22, dated 450–380 BCE) and Dor (Stern 1995b: Fig. 2.36:7, dated 400–350 BCE). Another rare type is a holemouth krater or a jar with a grooved rim (Fig. 4:4). This type is dated to the fifth–fourth centuries BCE (Stern 1982:99, Type 2b; Stern 1995b:58, Fig. 2.5:2, 3). In Qadum it was found in a mid-fifth century BCE context (Stern and Magen 1982:190, Fig. 3:5). Figure 4:9 depicts a ring base of a krater that has two holes pierced in it.

Cooking Vessels (Fig. 5)

The cooking pot with a tall neck (Fig. 5:1, 2) is a rare type of a large cooking pot with an exceptionally upright tall neck, slightly projecting rim and probably a globular body. I found no parallels for this shape. It was found in quite a problematic stratigraphical

context (L512, see above) and its fabric differs slightly from the other cooking vessels found at Tel Mikhal. Nevertheless, its shape clearly indicates that it should date from the Persian period. Figure 5:2 is another rare type of a cooking pot distinguished by its thick sides, a very tall neck and a heavy triangular rim.

The globular cooking pot is common at Tel Mikhal, with a short neck, a ridge at the bottom and a triangular everted rim (Fig. 5:3). According to the Tel Aviv University report, this type in Tel Mikhal is especially common in strata XI–IX dated to 525–430 BCE (Singer-Avitz 1989a:116, Figs. 9.1:3, 4; 9.2:4). According to the Tel Aviv University excavators, cooking pots with straight rims (e.g., Fig. 5:4, 5) are replaced in Stratum VIII (c. 430–400 BCE) by a slightly different type distinguished by thinner walls and a straighter rim (Singer-Avitz 1989a:130, 139, Figs. 9.7:3; 9.8:3, 6, 7). Good parallels for this type occur at Dor, though according to Stern the development of the shape, which was traced by the Tel Mikhal excavators, does not occur there (Stern 1995b:55; Fig. 2.4:10–14). Figure 5:6 is a globular cooking pot distinguished by a concave neck for a fitting lid. This type is more 'at home' in the Hellenistic assemblages, as attested by the Dor report, where it was found in third–second centuries BCE contexts (Guz-Zilberstein 1995:299, Fig. 6.19:9–13). Another rare type is the closed vessel in Fig. 5:7. It possibly belongs to a cooking pot, though I know of no parallels for this type in the Persian period. Casseroles have an everted ledge-rim, with (or without) a groove for fitting a lid (Fig. 5:8, 9). Similar examples were found in Dor

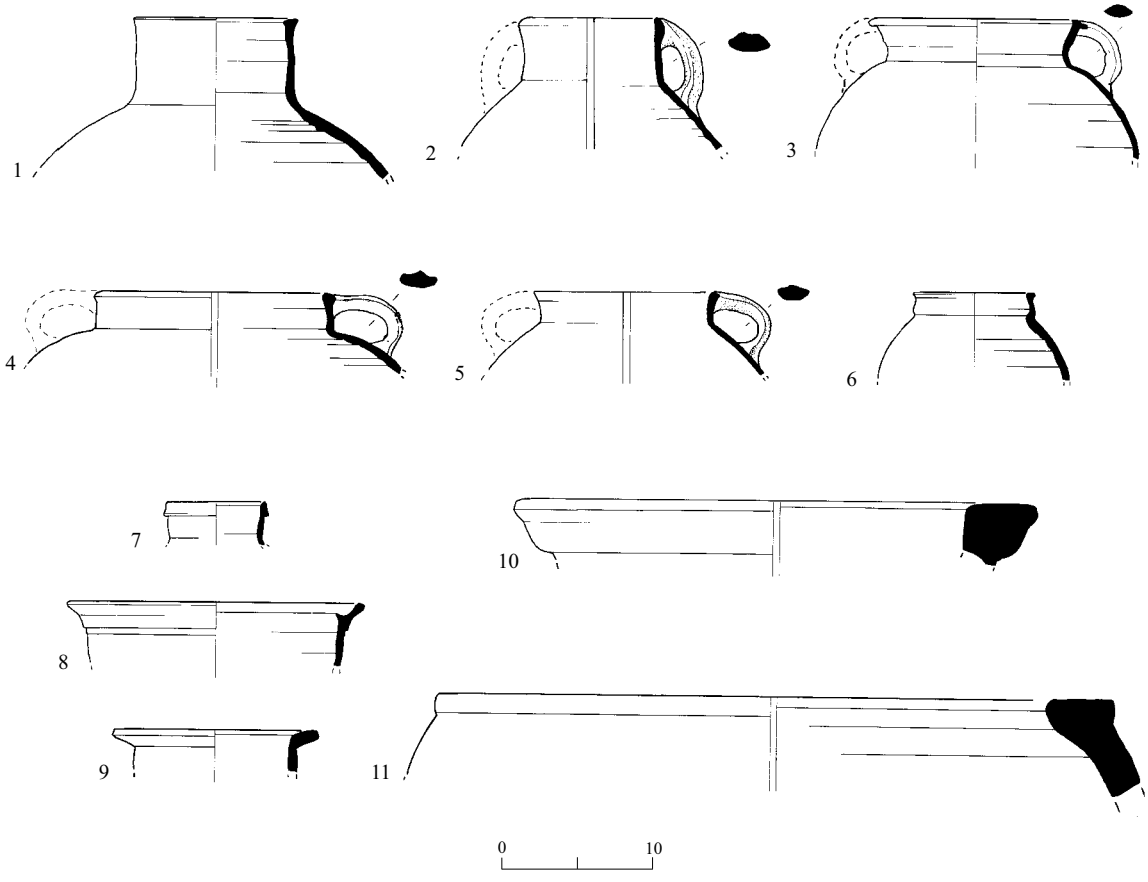

Fig. 5. Cooking pots, cooking jug, casseroles, basin and *ṭabun*.

◂ **Fig. 5**

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Cooking pot with tall neck	512	4500	Brick-red clay, gray core, quartz and white grits	Tell Keisan (end of 4th–2nd c. BCE; Briend and Humbert 1980:107, Pl. 2:1b–f)
2	Cooking pot with tall neck	726	7106	Brown clay, blackened on the outside	
3	Globular cooking pot	161	1321	Brick-red clay, small white grits	Tel Mikhal, Str. XI–IX (525–430 BCE; Singer-Avitz 1989a:116, Figs. 9.1:3, 4; 9.2:4); Dor (Stern 1995b:55, Fig. 2.4:5–8); Qadum (Stern and Magen 1982:190, Fig. 4:1, 3, Pl. 22:9); Tell el-Ḥesi (5th–4th c. BCE; Bennett and Blakely 1989:203, Fig. 168)
4	Cooking pot with straight rim	210	1334	Brick-red clay, minute white and black grits	Dor (Stern 1995b:55; Fig. 2.4:10–14)
5	Cooking pot with straight rim	250	1516	Brown clay, large white grits	
6	Cooking pot with concave neck	139	1033	Orange clay, pink core	Dor (3rd–2nd centuries BCE; Guz-Zilberstein 1995:299, Fig. 6.19:9–13.)
7	Cooking jug(?)	172	1264	Brown clay, gray core	
8	Casserole	493	4434	Brown clay, minute white grits	Dor (mid-4th–3rd c. BCE; Guz-Zilberstein 1995:300, 301, Figs. 6.20:6, 6.21:10, 11)
9	Casserole	254	1529	Brown clay, small white grits	
10	Basin	146	1099	Very coarse, brick-red clay, gray core, large black grits	Tel Mikhal, Str. VIII, (430–400 BCE; Singer-Avitz 1989a:129, Fig. 9.7:8); Dor (Stern 1995b:66, 67, Fig. 2.13:1)
11	*Ṭabun*/kiln	468	4272	Black earthen clay, straw and large white grits	

mostly in mid-fourth to third century BCE contexts (Guz-Zilberstein 1995:300–301, Figs. 6.20:6; 6.21:10, 11). Figure 5:10 is a basin and Fig. 5:11 is a kiln rim made of very coarse clay with organic material. A large basin was found in the Tel Aviv University excavations at Tel Mikhal Stratum VIII, 430–400 BCE (Singer-Avitz 1989a:129, Fig. 9.7:8) and a somewhat different type of a basin was found at Dor (Stern 1995b:66–67, Fig. 2.13:1). These types of large cooking vessels are usually rare in the Persian assemblages.

Jars (Figs. 6, 7)

Most of the jars found in the IAA excavation (Fig. 6:1–12) belong to Types 1 and 2, according to the Tel Aviv University report classification. These jars have a relatively short neck with an externally thickened rim, and an elongated (Type 1) or a bag-shaped (Type 2) body. They are usually made of greenish-white to buff material (Singer-Avitz 1989a:139–141, Fig. 17:1, 2). It seems that most of the jars from the IAA excavation belong to Type 1, though the distinction between the two types is difficult, as no complete specimen was uncovered. Only Fig. 6:2 can be identified with much certainty as belonging to Type 2, characterized by a very short neck with a groove in its base (Singer-Avitz 1989a:122, Fig. 9.3:2). Since another assemblage of these jars was uncovered in the pottery kilns of area D in the Tel Aviv

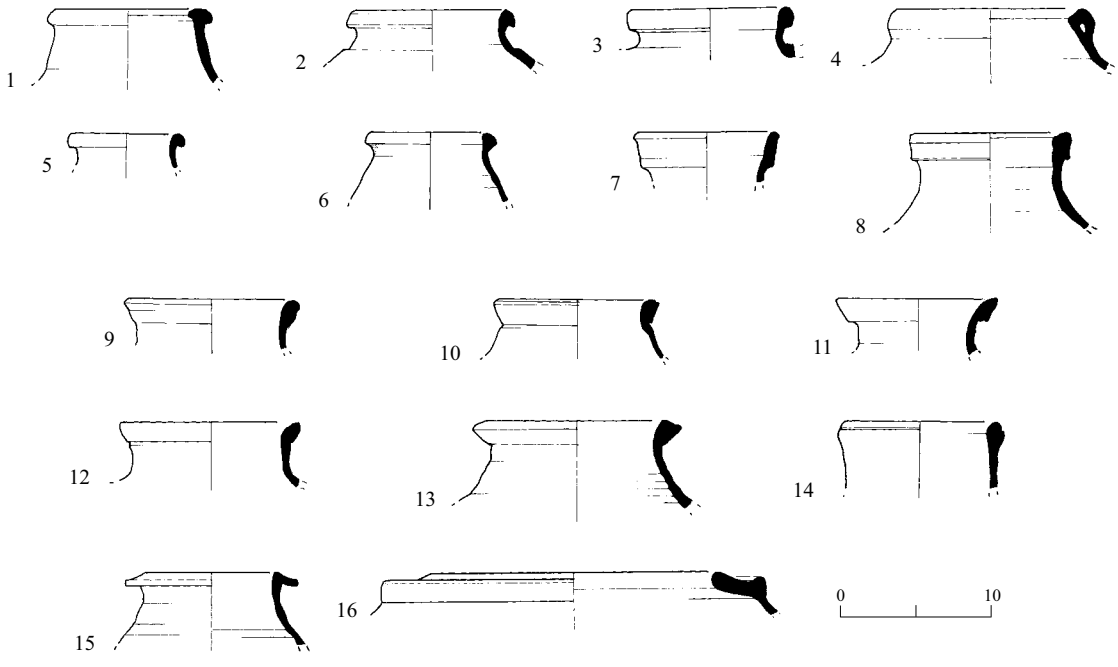

Fig. 6. Jars.

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Jar	489	4402	Light brown clay, gray core, buff slip	Tel Mikhal, Str. VIII and Str. VI (c. 430–400 BCE; and c. 350–300 BCE respectively; Singer-Avitz 1989a:124, 133–135, Figs. 9.4:1–12; 9.5:1–8; 9.6:1–7)
2	Jar (Type 2)	473	4358	Buff clay, gray core, large white grits	Tel Mikhal (Singer-Avitz 1989a:122, Fig. 9.3:2)
3	Jar	250	1516	Reddish outside, buff inside, gray core, large white grits	
4	Jar	473	4333/1	Buff to gray clay, large white and black grits	Dor, Persian period (Stern 1995a:58, Figs. 2.5:1; 2.16:15; 2.17:11)
5	Small jar	473	4333/2	Buff clay, gray core, white grits	
6	Small jar	250	1573	Buff to light reddish clay, large white and red grits	
7	Jar	726	7163	Light reddish clay, reddish grits	
8	Jar	736	7204	Chocolate-brown porous clay	
9	Jar	464	4292	Greenish-white clay	
10	Jar	473	4333/3	Cream buff, gray core, many small, white grits, grooved rim	
11	Jar	473	4333/4	Same as No. 9	
12	Jar	473	4333/5	Similar to No. 9	
13	Jar	473	4315	Cream buff, greenish-white slip	
14	Jar	726	7141	Light reddish clay, small white grits grooved rim	
15	Jar	427	4084	Brown porous clay, similar to No. 8	
16	Holemouth jar	448	4210	Cream buff, gray core, greenish-white slip	Tel Nahariyya, 5th–3rd c. BCE (Ovadiah 1983:21*, Fig. 3:2)

University excavation, dated to Stratum VI, c. 350–300 BCE, this shows that they were produced locally. Singer-Avitz noted variations in the shapes of necks and rims (also apparent in the IAA excavations): some rounded rims (Fig. 6:1–6), and others squared (Fig. 6:7–12). These shapes are reminiscent of the later Hellenistic types (Singer-Avitz 1989a:124, 133–135, Figs. 9.4:1–12; 9.5:1–8; 9.6:1–7). Small-sized variations (Fig. 6:5, 6) of the above mentioned types were also found. Figure 6:13–15 are much rarer types.

The next most-frequent type of jar found in the IAA excavations is the flat-shouldered jar (Fig. 7:17–20). Most of these jars uncovered in our excavations were found only in small fragments, but one restorable jar (Fig. 7:20) was found in the cobble floor (L166). The flat-shouldered jar has either a horizontal (Fig. 7:18–20) or a diagonally slanted shoulder (Fig. 7:17). It has almost no neck and is usually made of an orange material. Its handles are usually twisted (Fig. 7:17, 20) in order to make them easier to transport. According to the Tel Aviv University excavators, who designated these jars as Type 3, they were probably produced in the Carmel coastal plain. The type persisted throughout the whole Persian strata sequence at Tel Mikhal, and had a very wide distribution, especially along the Phoenician coast. It was used as one of the main types of containers for the transportation of goods in the Mediterranean, a fact that attests well the importance of Tel Mikhal as a merchandise and trade port (Singer-Avitz 1989a:122, 141, Figs. 9.1:12; 9.3:7, 8; 9.10:5, 6; 9.11:2; 9.17:3). Large quantities of these jars were uncovered also at Dor (Stern 1995a:58–62, Figs. 2.7–2.8). Two jars are a variation of the flat-shouldered jar (Fig. 7:21, 22), distinguished by a sharply slanted shoulder and by a whitish-greenish matrix, which is very different from the orange clay of the previous type. According to the Tel Aviv University excavators, this jar (designated as Subtype 3a jar) appears in Tel Mikhal in Stratum VIII, dated c. 430–400 BCE (Singer-Avitz 1989a:124, 141, Figs. 9.5:9; 9.17:3a).

Basket-handle jars have a rounded shoulder and ovoid body with two attached basket handles that rise above the rim (Fig. 7:26, 27). Their base is usually pointed or truncated (Fig. 7:28). According to Stern, they were used mostly in marine trade, an explanation for their wide distribution along the whole eastern shore of the Mediterranean, including the coastal plain and Galilee, in general, and their presence at Tel Mikhal in particular. The origin of the basket-handle jar is in Cyprus or in Eastern-Greece, but local imitations existed also (Stern 1982:110–112; Stern 1995a:62, 63, Fig. 2.10; Singer-Avitz 1989a:116–118). The Tel Aviv University excavators at Tel Mikhal designated this jar as Type 5. They have noted its appearance throughout the Persian strata in the site. However, they had also noted that the complete specimens of the basket-handle jars are confined to the earlier strata XI–IX, whereas only sherds of this type appear in the later strata VIII–VI.

The Tel Aviv University excavation report, relying on the Tell Keisan excavators, distinguished three variants of the type: (A) with a relatively long neck ridged at the base and a rounded rim; (B) with a shorter ridged neck and an everted rim; and (C) neckless unridged with an everted rim. Type A, being the earliest, starts already in the seventh century BCE. Its appearance is confined from the seventh to fifth centuries BCE (Singer-Avitz 1989a: 116–118, 143, Figs. 9.1:14, 15; 9.3:9; 9.13:18, 19; 9.15:1–6; 9.17:8; Briend and Humbert 1980:139–141).

In the IAA excavations the basket-handle jars were much less frequent in the assemblage than the bag-shaped and the flat-shouldered jars, but they were still present in quite large numbers. This frequency ratio is paralleled in the Tel Aviv University excavations of Tel Mikhal and also at Dor. The three Types—A (Fig. 7:24), B (Fig. 7:23, 25) and C (Fig. 7:26)—seem to appear in our excavation also, although many were mere fragments. Figure 7:27 deserves a special mentioning, though it was found in a mixed stratum. It seems to be a handle of a diminutive

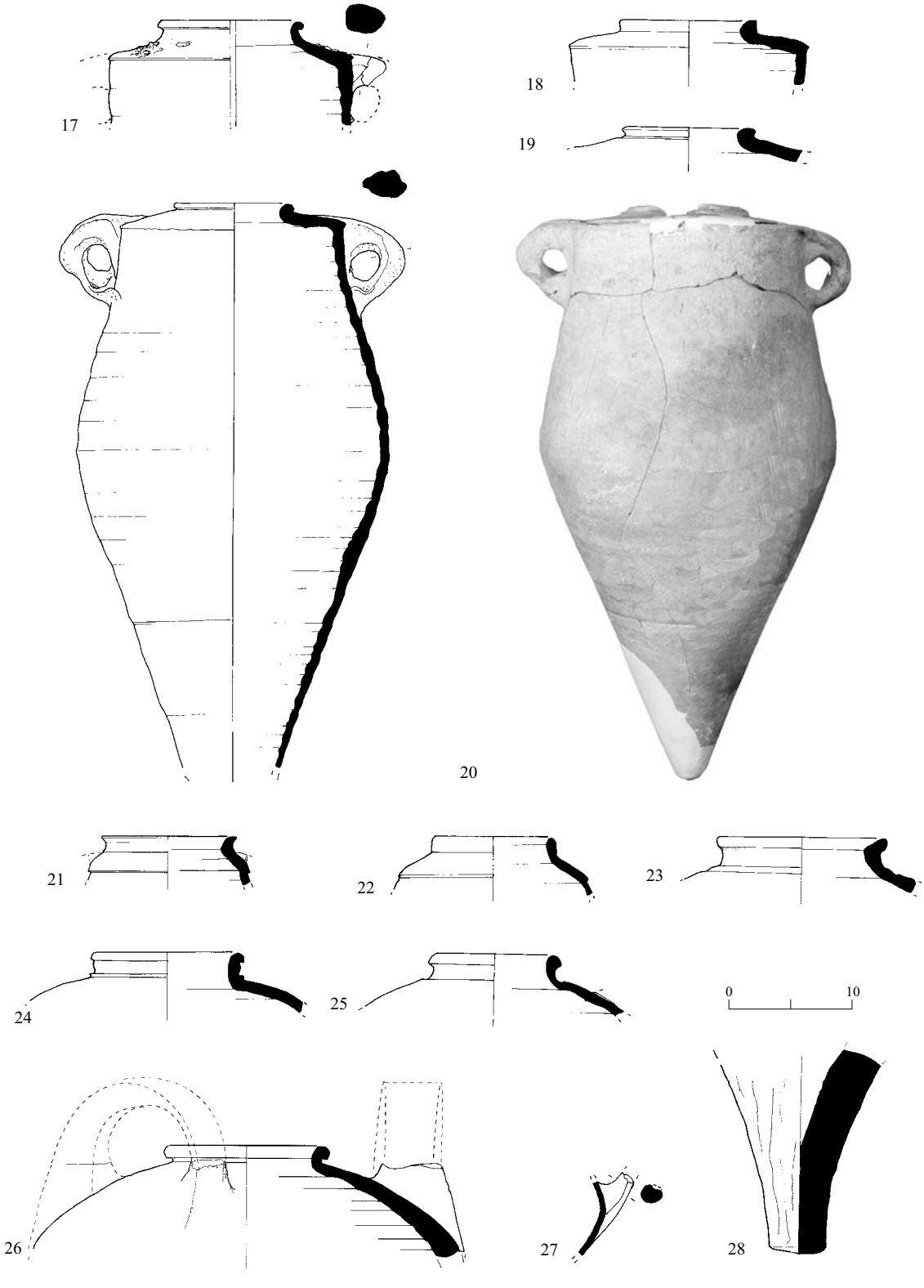

Fig. 7. Flat-shouldered and basket-handle jars.

◂ **Fig. 7**

No.	Type	Locus	Reg. No.	Description	Parallels and Date
17	Flat-shouldered jar	726	7203	Pale brown clay	Dor (Stern 1995a:58–62, Figs. 2.7–2.8)
18	Flat-shouldered jar	250	1537/1	Reddish-brown clay, white grits	
19	Flat-shouldered jar	250	1537/2	Orange clay	
20	Flat-shouldered jar	166	1198	Pale brown clay, reddish, whitish and black grits	
21	Flat-shouldered jar	444	4187	Buff clay, large white grits	Tel Mikhal, Str. VIII (c. 430–400 BCE; Singer-Avitz 1989a:124, 141, Figs. 9.5:9; 9.17:3a)
22	Flat-shouldered jar	726	7186	Greenish-white to buff clay, large white grits	
23	Basket-handle jar	250	1537/3	Reddish-brown clay, large white grits	
24	Basket-handle jar	726	7172	Light brown clay, many small white and black grits	
25	Basket-handle jar	250	1537/4	Reddish-brown clay, large white grits	
26	Basket-handle jar	200	1302	Light brown clay, many small white and black grits, gray core, green buff slip	
27	Small basket-handle jar(?)	451	4289	Buff clay, black and white grits	
28	Basket-handle jar	165	1169	Reddish-brown clay, many white and black grits, brown core	

basket-handle votive jar, which might be related to the miniature votive vessels, produced in the Persian kiln of area B1 (see below, Fig. 15). Judging by its shape and material, it belongs to the Persian period.

Amphorae (Fig. 8)

Several types of amphorae were found in the IAA excavations at Tel Mikhal. In most cases only the rims were preserved and no complete vessels of this type were found. Because of this fact, only a few of the amphorae could be assigned to a specific place of origin and even those should be regarded only as tentative proposals. Most are probably of Eastern-Greek origin (Stern 1982:112–114), except Fig. 8:8, whose light greenish clay suggests a Cypriot origin.

The most common type of amphora represented in the IAA excavations appears in Fig. 8:1–4. These have an everted or cylindrical neck and a distinctive triangular overhanging rim (so-called 'mushroom rim'). This type is found mainly in fourth-century assemblages. Figure 8:5, 6 might belong to Chian amphorae, dated in Dor to the third quarter of the fifth century BCE (Mook and Coulson 1995:98, Fig. 3.13:2, 3). A similar amphora in Salamis is dated to 280–220 BCE (Calvet 1972: Pl. III: 38, 51). Figure 8:13–16 are amphorae toes: truncated or onion-shaped. Similar bases were uncovered at Apollonia-Arsuf (Tal 1996:60, Fig. 3.23:2), Dor (Mook and Coulson 1995:98, Fig. 3.13:27, 30) and Tell Keisan (Briend and Humbert 1980 Pl. 15:17, 21, 22).

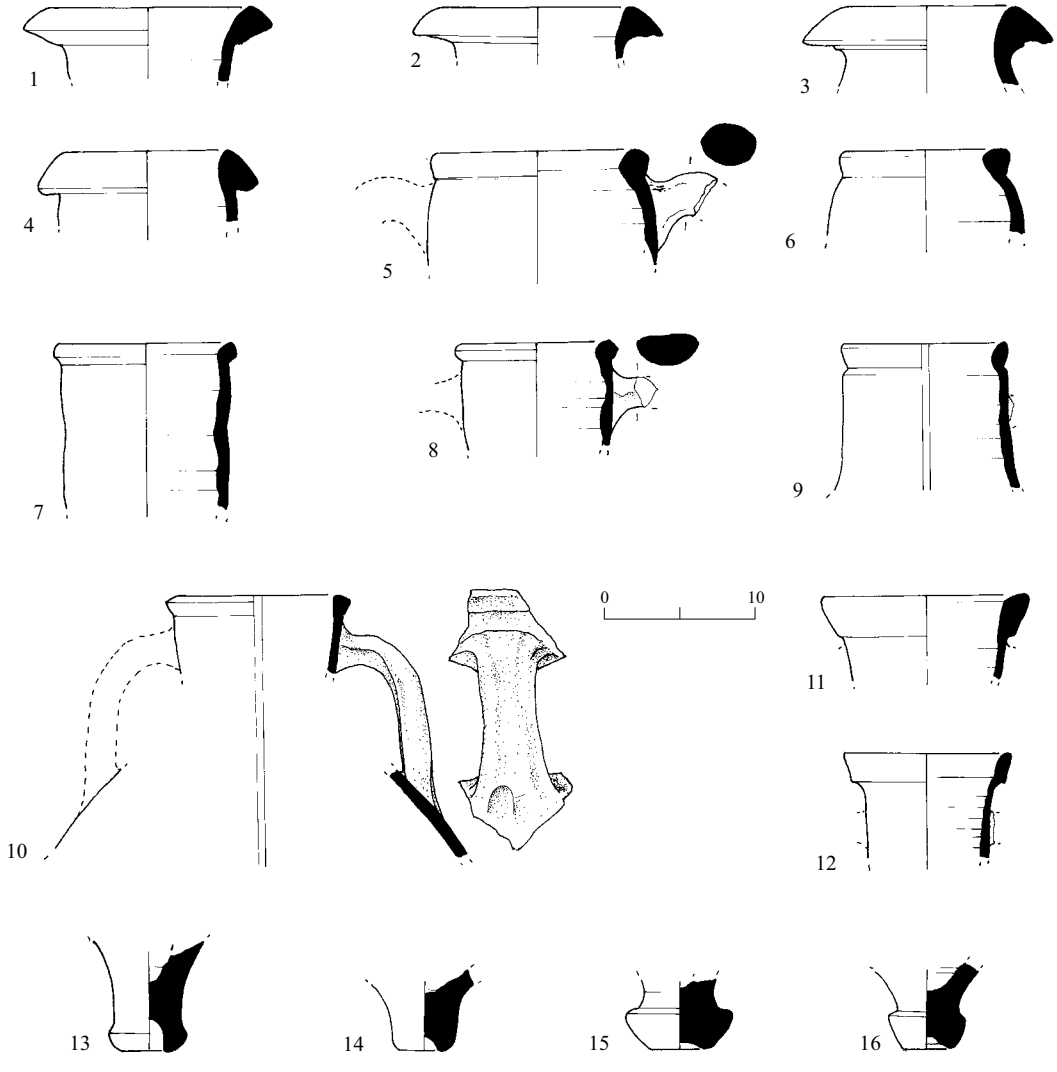

Fig. 8. Amphorae.

Jugs and Flask (Fig. 9)

The form of three jugs (Fig. 9:1–3) belongs to the most common type at Tel Mikhal, according to the Tel Aviv University report. This type has a wide cylindrical neck and rounded rim. It is present throughout the whole Strata XI–VI, but is most common in Stratum VI, dating to 350–300 BCE (Singer-Avitz 1989a:143, Fig. 9.16:6). The type is especially common along the northern coast and in the Samaria region from the end of the fifth and especially during the fourth centuries BCE (Stern 1995b:63). The best parallels come from the Qadum assemblage (Stern and Magen 1982:192, Fig. 5:5–9, Pl. 22:10–12). One jug (Fig. 9:4) is rare, with a double handle. It is made of the same clay as the ubiquitous Persian mortaria. I am not aware of parallels. Three jugs (Fig. 9:5–7) have a flaring rim, and have parallels at Dor, in contexts dated to fifth–fourth centuries BCE (Stern 1995b:63, Fig. 2.11:8–10). The jug in Fig. 9:7 might be a variation of an imported amphoriskos found in the Tel Aviv University excavations, and dates to 430–400 BCE (Stratum VIII; Singer-

◂ **Fig. 8**

No.	Locus	Reg. No.	Description	Parallels and Date
1	422	4072	Orange buff clay, mica	Apollonia-Arsuf (Tal 1996:60, Fig. 3.24:5, 6, dated 445–345 BCE); Dor (1st half of the 4th c. BCE; Stern 1995b: Fig. 2.35:12, 13; Mook and Coulson 1995:98, Fig. 3.13:15–17, 19); Shiqmona (end of 6th–end of 4th c. BCE; Elgavish 1968: Pls. 35:31–32; 61:147–149); Tell Keisan (end of 4th–beginning of 3rd c. BCE; Briend and Humbert 1980:112, Pl. 15:14–14a)
2	448	4203	Brown buff clay, mica, small dark grits	
3	450, 422	4204/ 4119	Orange to brown buff, red and black grits	
4	181	1305	Orange to brown buff, white and dark grits	
5	492	4448	Yellow to brown buff, mica, white and dark grits	Dor (Mook and Coulson 1995:98, Fig. 3.13:2, 3)
6	164	1149	Yellow to brown buff, mica, large white and dark grits	
7	170	1198/1	Orange to brown buff, mica dark grits, burnt	Salamis (280–220 BCE; Calvet 1972: Pl. III: 38, 51)
8	165	1179	Greenish-white clay, volcanic particles	
9	250	1550	Buff clay, yellowish surface, many mica bits, red grits	
10	447	4192	Orange to brown buff, mica, white and dark grits	
11	739	7189	Brown clay, many mica bits	Dor (Stern 1995b: Fig. 2.26a: 49; 538–350 BCE; Mook and Coulson 1995:98, Type V, Fig. 3.13:14); Tel Qiri (600–475 BCE; Avissar 1987:19, Fig. 5:1)
12	225	1372	Orange clay, red and large white grits	
13	427	4115	Brown buff clay, mica, white and dark grits	Apollonia-Arsuf (Tal 1996:60, Fig. 3.23:2); Dor (Mook and Coulson 1995:98, Fig. 3.13:27, 30); Tell Keisan (Briend and Humbert 1980: Pl. 15:17, 21, 22)
14	468	4275	Brown clay, burnt(?)	
15	254	1500	Yellow buff, mica	
16	422	4072	Buff to brown clay	

Avitz 1989a:124, Fig. 9.7:4; Goldberg, Singer-Avitz and Horowitz 1989:265, Sample 8). Figure 9:8–10 exhibits various jugs with a narrow neck. Figure 9:8 is best paralleled in the Qadum assemblage dated from the mid-fifth to the fourth centuries BCE (Stern and Magen 1982:192, Fig. 4:10). Figure 9:10 might be a debased variation of the vessel designated as a 'decanter' in the Tel Aviv University report and dated to 350–300 BCE (Singer-Avitz 1989: Fig. 9.13:9). The thin, well-levigated material and the omphalos base of Fig. 9:11 points to a later date than the rest of the assemblage. This vessel might be intrusive and could date from the Hellenistic period. The narrow neck of Fig. 9:12 might be a part of a flask. According to Stern, flasks are common throughout the Persian period (Stern 1995b:66, Fig. 2.12:3).

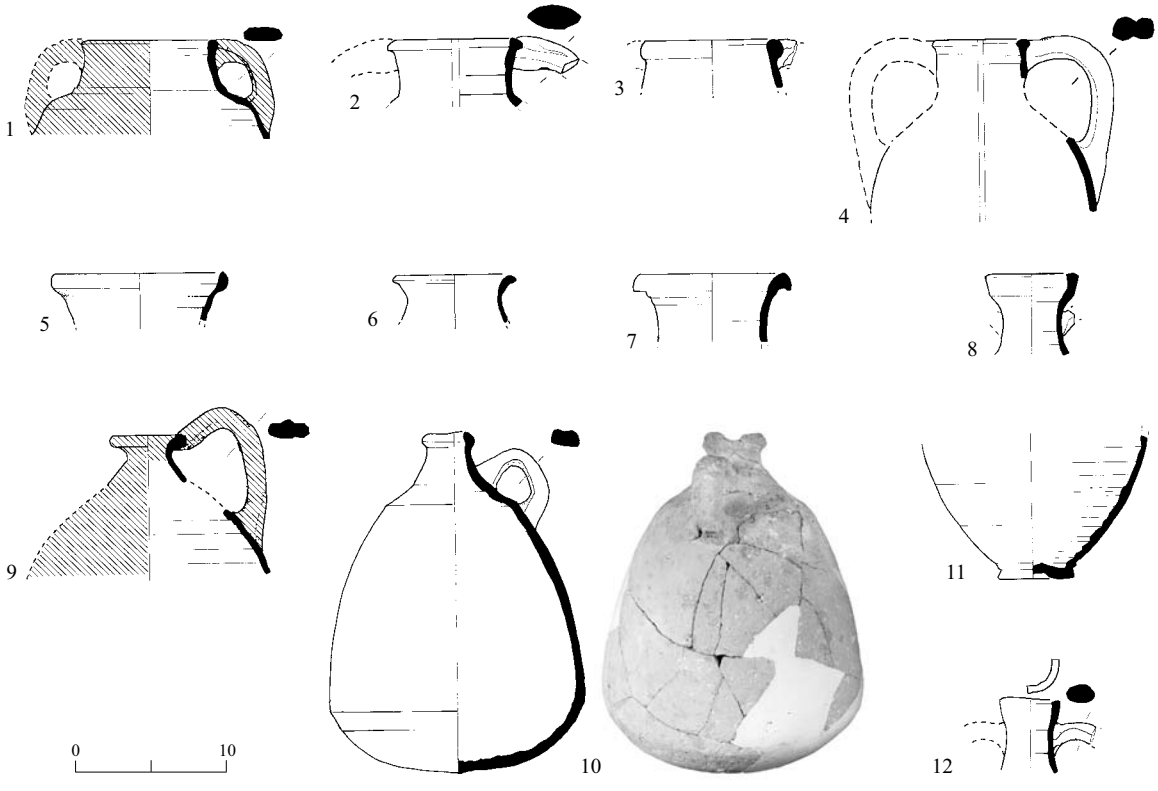

Fig. 9. Jugs and a flask.

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Jug	455	4229	Brown clay, white grits, buff slip	Tel Mikhal, Str. VI (350–300 BCE; Singer-Avitz 1989a:143, Fig. 9.16:6); Qadum (Stern and Magen 1982:192, Fig. 5:5–9, Pl. 22:10–12)
2	Jug	774	7300	Greenish-gray clay, large white and black grits, quartz volcanic(?) grits	
3	Jug	726	7163	Buff clay, white and gray grits	
4	Jug	754	7237	Greenish-white clay, large white and black grits (volcanic particles?)	
5	Jug	250	1574	Buff to orange clay, reddish grits	Dor (5th to 4th c. BCE; Stern 1995b:63, Fig. 2.11:8–10)
6	Jug	464	4292	Brick red clay, white grits	
7	Jug	716	7050	Buff well-levigated clay, pale greenish slip	
8	Jug	412	4036	Buff well-levigated clay	
9	Jug	250	1550	Clay same as No. 4, dull brown to gray slip	Apollonia (445–345 BCE; Tal 1995:56, Fig. 20.3:13, designated a ‘juglet’)
10	Jug	759	7247	Gray to buff coarse clay, large white and black grits	
11	Jug	500	4481	Reddish-buff clay, buff slip, small red grits	
12	Flask(?)	185	1278	Buff clay	Dor (Persian period; Stern 1995b:66, Fig. 2.12:3)

Juglets and Cups (Fig. 10)

Most of the vessels of these classes found at IAA excavations at Tel Mikhal are perfume juglets, distinguished by their globular or piriform body, thick ring rim and high-truncated base. This type shown in Fig. 10:1, 2 is most common in coastal sites during the later part of the Persian period.

The heavy-walled unguentarium in Fig. 10:3 is typical of the fourth–beginning of the third centuries BCE. The jugs in Fig. 10:4–7 were a common type of juglet in the IAA excavation, with an elongated body, narrow neck and a thickened rim. The bases of these juglets are usually string-cut. Figure 10:4, 5 have a more pronounced shoulder. The wide base in Fig. 10:8 might belong to an imported vessel, as attested by the high quality if its clay.

Two small cups were found (Fig. 10:9, 10). Small cups were common in the Persian period,

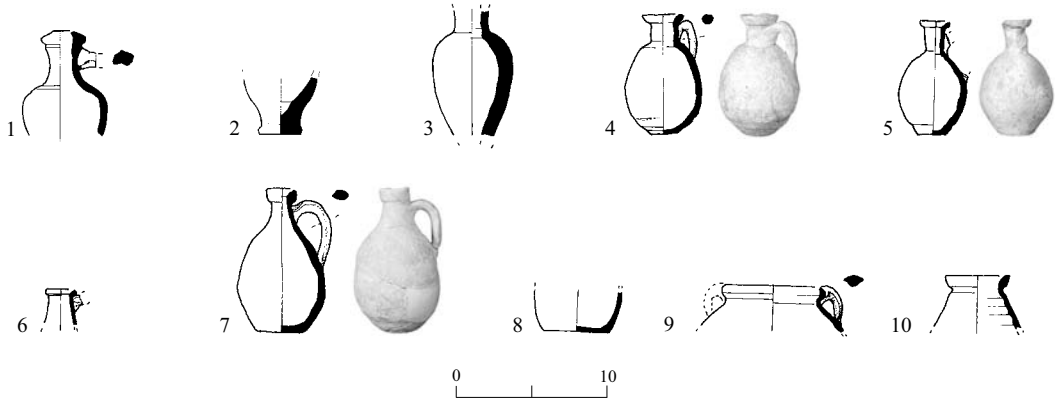

Fig. 10. Juglets and cups.

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Juglet	258	1580	Reddish clay, white slip, red grits	Tel Mikhal, Str. IX (450–430 BCE; Singer-Avitz 1989a:122, 124–130, 135, 143, Figs. 9.2:7, 11, 12; 9.7:5; 9.8:11; 9.9:2; 9.13:12; 9.15:10); Dor (Stern 1995b:65, 66, Fig. 2.11:5)
2	Juglet	733	7121	Cream buff clay, small dark grits	
3	Unguentarium	732	7135	Buff clay, small dark grits	Tel Mikhal, Str. VI (350–300 BCE; Singer-Avitz 1989a:135, Fig. 9.13:12, 13); Dor (Guz-Zilberstein 1995:304, Fig. 6.26:7, 8)
4	Juglet	714	7095	Brick red clay, buff slip	Tel Mikhal, Str. VI (350–300 BCE; Singer-Avitz 1989a: Fig. 9.15:9); Dor (Stern 1982:122, perfume juglet types 3–5, Figs. 186–188; Stern 1995b:65, Fig. 2.11:4)
5	Juglet	243	1456	Same as No. 5, burnt rim	
6	Juglet	250	1516	Buff to greenish clay	
7	Juglet	733	7120	Buff to cream buff clay	
8	Juglet	250	1573	Well levigated orange clay	
9	Juglet/cup	250	1537	Buff to orange well levigated clay	
10	Juglet/cup	250	1550	Same as No. 9	Dor (end of the 4th beginning of the 3rd c. BCE; Guz-Zilberstein 1995:307, Fig. 6.28:8)

especially along the southern Levant Coast (Stern 1982). I have not found any parallel for Fig. 10:9 in the Persian period, but it is worth mentioning that it has the shape of a miniature cooking pot of the period, though its material is different (Stern 1995b:55, Fig. 2.4:16).

Vessels with Wedge-Shaped Impressions (Fig. 11:1–5)

According to Stern, this class of vessels decorated with wedge-shaped impressions (Fig. 11:1–5) is most common in hillside areas, and are rarely found on the coast. It is interesting to note that no vessels of this kind are reported from the Tel Aviv University excavations at Tel Mikhal, and only few were found in the IAA excavations. This style of decoration is usually dated to the sixth–fifth centuries BCE (Stern 1982:133–136). In one case in our excavation a vessel of this kind (Fig. 11:5) was found in the same locus with an incurved rim bowl (Fig. 1:11). This might imply that the wedge-shaped decoration continued into the fourth century BCE.

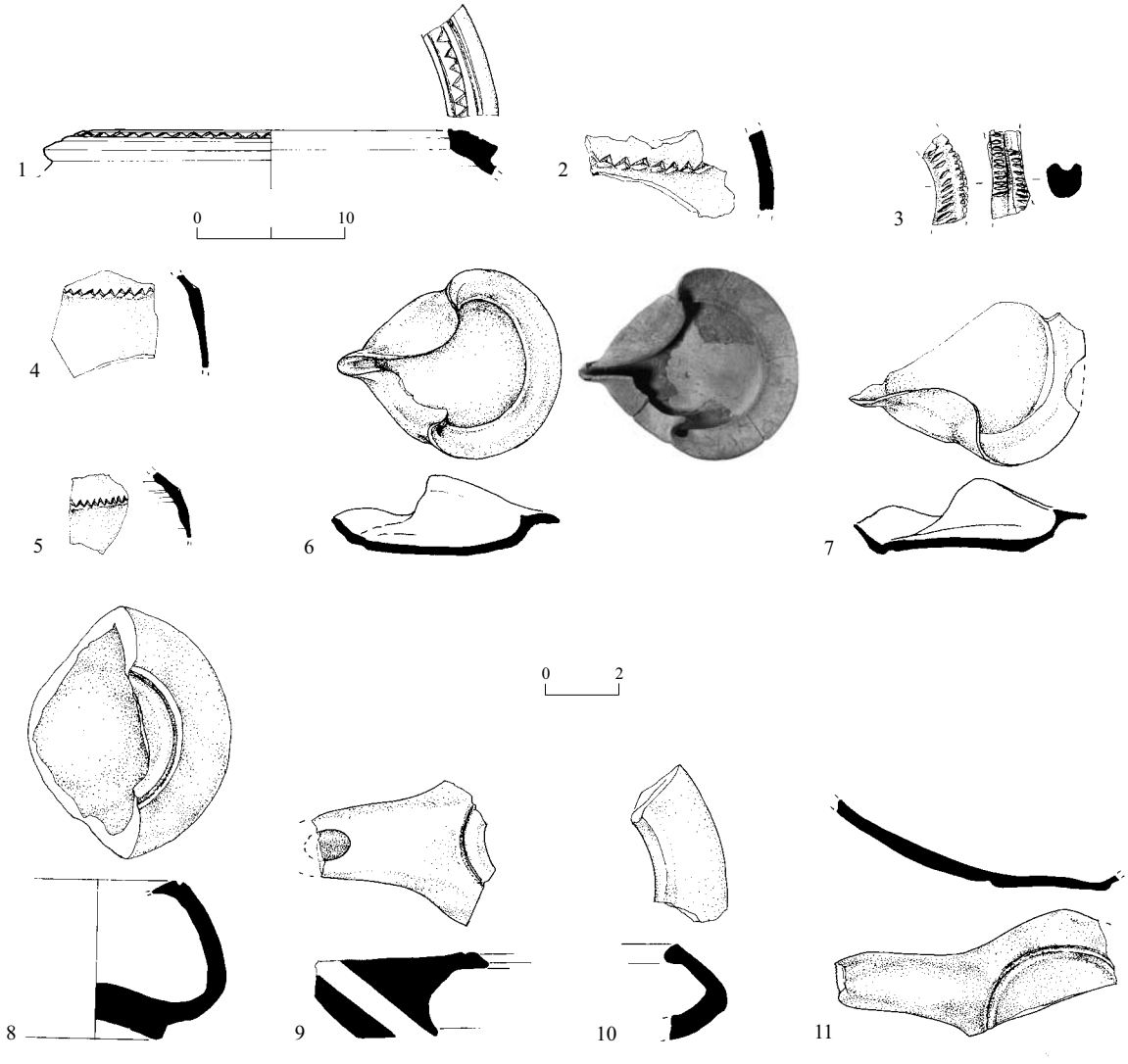

Fig. 11. Vessels decorated with wedge-shaped impressions and lamps.

◂ **Fig. 11**

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Krater	756	7278	Pale reddish clay, buff slip, white and dark large grits	Qadum (2nd half of the 5th c. BCE; Stern and Magen 1982:182, 183, Fig. 1, Pl. 20); Shekhem, Stratum V (end of the 6th–beginning of the 5th c. BCE; Lapp 1985:23, Fig. 6:1–3).
2	Krater(?)	725	7091	Buff clay, gray core, dark grits	
3	Handle	739	7184	Pale-red sandy clay, white slip	
4	Jug	144	1100	Greenish whitish clay	
5	Jug	714	7043	Buff to reddish buff clay, white grits	
6	Lamp	781	7311	Orange clay, red and white grits blackened nozzle	Tel Mikhal (throughout the Persian strata; Singer-Avitz 1989a:143, Figs. 9.10:12; 9.11:8–10; 9.16:8, 9)
7	Lamp	250	1560	Buff clay, white and brown grits	
8	Lamp	734	7116	Reddish buff clay	
9	Lamp	472	4332	Buff clay, red grits, traces of red slip outside, blackened nozzle	
10	Lamp	493	4418	Greenish-grayish clay, gray grits	Dor (250–150 BCE for the Attic imports and 200–100 BCE for their local imitations; Rosenthal-Heginbottom 1995:236, 237, Types 9–10, Figs. 5.14:13; 5.15; 5.17:1, 2)
11	Lamp	118	1156	Gray clay, traces of black slip outside and inside on nozzle	

A holemouth krater is shown in Fig 11:1. Similar kraters were found in Qadum, dated to the second half of the fifth century BCE (Stern and Magen 1982:182, 183, Fig. 1, Pl. 20) and in Shekhem Stratum V, dated to the end of the sixth beginning of the fifth centuries BCE (Lapp 1985:23, Fig. 6:1–3). The fragments depicted in Fig. 11:4, 5 belong to a type of jug with a carinated shoulder. I know of no parallels for this specific type.

Lamps (Fig. 11:6–11)

Both the open pinched type, which continues the Iron Age tradition (Fig. 11:6, 7) and the closed, wheel-made type (a local imitation of the Attic type) were found (Fig. 11:8, 9). Similarly, both of these types were already found in the Tel Aviv University excavations at the site. As regards the open type, according to the Tel Aviv University report, it is present throughout the Persian strata in Tel Mikhal and it ceases to appear only in Stratum VI, dated 350–300 BCE. The closed Attic imitation type, according to the Tel Aviv University excavators, starts to appear only in Stratum VII, dated 400–350 BCE (Singer-Avitz 1989a:143, Figs. 9.16:8, 9; 9.10:12; 9.11:8–10).

A rare lamp, also imitating an Attic prototype, is depicted in Fig. 11:10. This lamp has a double conical body and a small rim. The closest parallels for this type come from Dor, though the material and the shape there are slightly different. The dates given at Dor are 250–150 BCE for the Attic imports and 200–100 BCE for their local imitations (Rosenthal-Heginbottom 1995:236–237, Types 9–10, Figs. 5.14:13; 5.15; 5.17:1, 2). As our example comes from a clear Persian context, with coins nearby, this lamp can be solidly dated to the first half of the third century BCE.

A Hellenistic mold-made lamp is illustrated in Fig. 11:11. It should probably date to the second century BCE (Rosenthal-Heginbottom 1995:237–238, Types 11–12). This lamp comes

from Silo 118, near Building 270. As mentioned above, small amounts of Hellenistic material seem to have disturbed the contexts of Building 270.

Discussion

The pottery assemblage found in the IAA excavations should be dated to the later part of the Persian period (c. 450–300 BCE), corresponding to Strata VIII–VI on the tell. These dates were further corroborated by the dates of the imported Attic and Eastern-Greek pottery, and by the coins found in Area B1 (see Ariel, this volume [a]). The lower limit of these dates, however, is not conclusive. This assemblage might continue well into the first half of the third century BCE.

The Persian coarse ware pottery assemblage of the IAA excavations at Tel Mikhal shows a striking similarity to those from Dor and Apollonia. Furthermore, the material from the IAA excavations demonstrates a much richer ceramic assemblage of the Persian period at Tel Mikhal than previously thought. It also corroborates evidence from other sites that certain ceramic types, such as the mortaria, continue well into the Hellenistic period.

IMPORTED PERSIAN-PERIOD WARE

Decorated Eastern-Greek and Cypriot Pottery

Thirty-one decorated sherds included in this study were identified as having a Cypriot/Eastern-Greek origin. Owing to the rarity and importance of this material, we chose to include in this study those sherds found in disturbed or unstratified contexts (Strata 0–I). The undecorated imported wares (such as amphorae and mortaria) are treated together with the locally produced pottery assemblage (see above).

Eastern-Greek/Cypriot pottery was also found in the Tel Aviv University excavations at Tel Mikhal. This pottery was studied by Marchese, who described the general characteristics of this group, and particularly its fabric and decoration (Marchese 1989:145–147, 150, Fig. 10.1). Eastern-Greek/Cypriot pottery is known from relatively few recently-excavated sites. Although a large quantity of this pottery was uncovered at Tell el-Ḥesi (Bennet and Blakely 1989:69–137), Mook and Coulson (1995:93–125) were the first to carry out a typological study on a large assemblage from Dor, where vessels similar to those from Tel Mikhal were found. At Apollonia-Arsuf too, more Eastern-Greek/Cypriot pottery was found (Tal 1996:25–28, 47–50, 65–66; Figs. 3.5:12–15; 3.6:1–16; 3.17:1–17; 3.28:1–10).

The small amount of Eastern-Greek/Cypriot pottery uncovered at Tel Mikhal contrasts with the much larger amount of Attic imports (see below). This phenomenon has been already noted in the Tel Aviv University excavations, as well as at other coastal sites in Syria-Palestine (Marchese 1989:145, 150–151; 1995; Mook and Coulson 1995; Tal 1996:14, 23, 45). Such a comparative proportion between imports indicates a relatively late date for the whole IAA pottery assemblage. The comparative amounts in our excavations are similar to strata IX–VI at Tel Mikhal dating to c. 450–300 BCE. This chronology is further strengthened by the relatively late dates for most parallels and especially by the table amphora fragment of Cypriot Bichrome II Ware dated to 400–325 BCE (Fig. 12:22). Nevertheless, some vessels, such as the banded bowl fragment, might be earlier (Fig. 12:1).

Banded Bowls (Fig. 12:1–13).— Banded bowls have an open shape, hemispherical or shallow bodies and a ring base (Fig. 12:12). Often, one or two horizontal handles were attached to the rim. The bowls were decorated with a varying number of brown and red painted bands of different widths on the inside, outside and rim. Banded bowls were found previously at the Tel Aviv University excavations (Marchese 1989:146, Fig. 10.1:6, 7, Pl. 65:6).

A large number of these bowls from Tel Dor have recently been a subject of a thorough study by Mook and Coulson (1995; see also Stern 1995c:438, Fig. 7.2:19–22). Five types

of bowls were distinguished based on rim shape. These range in date from the end of the seventh century to the fourth century BCE. Yet, the minor differences between types renders identification extremely difficult.

The latest examples of these bowls come from Tel Mevorakh (Mook and Coulson 1995:93–95, Fig. 3.1–3.7; Stern 1978:41, Fig. 10:6–9, Pl. 30:1–4). Banded bowls were found also in Apollonia-Arsuf. Most of the examples

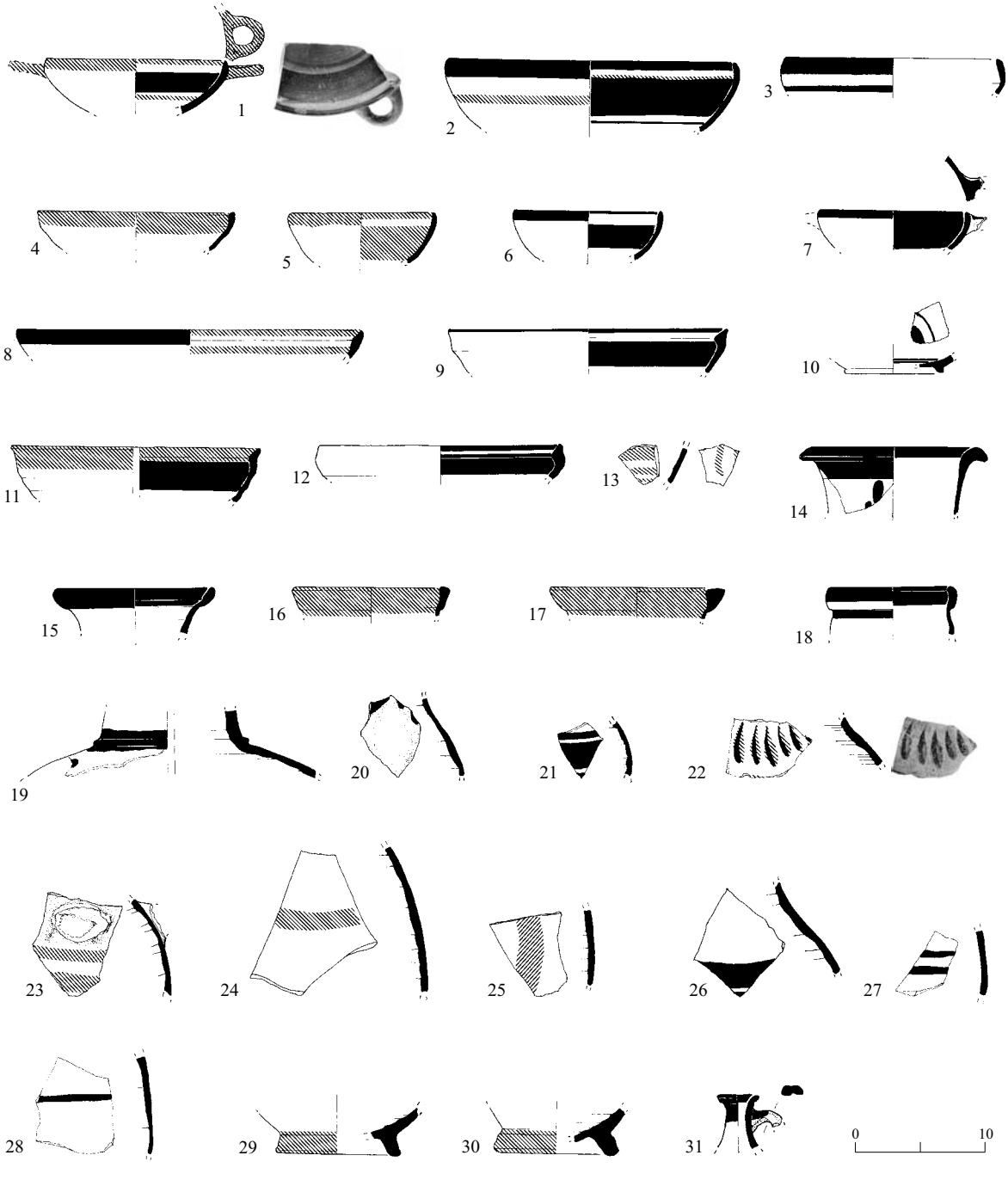

Fig. 12. Decorated Eastern-Greek/Cypriot pottery.

◂ **Fig. 12**

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Bowl	462	4255	Orange clay, burnished on the inside, decorated with brown and red bands on inside, outside and handle	Sukas (late 7th c. to the 1st half of the 6th c. BCE; Ploug 1973:40, No. 136a, Fig. c, Pl. VII); Apollonia-Arsuf (end of 6th to the mid-5th c. BCE; Tal 1996:26; Fig. 3.6:5); Tel Mevorakh (4th c. BCE; Stern 1978:41; Fig. 10:9, Pl. 30:4)
2	Bowl	172	1264	Pale-red clay, decorated with brown and red bands on the inside and outside	
3	Bowl	150	1359	Buff clay, traces of worn decoration in brown bands on outside	
4	Bowl	429	4116	Orange to pale-red clay with mica, decorated with brown and red bands on inside and outside	
5	Bowl	164	1149	Orange clay, decorated with red bands on inside and outside	
6	Bowl	765	7277	Burnt(?), grayish to buff clay, decorated with brown bands on inside and outside	
7	Bowl	246	1469	Orange clay, decorated on the rim with dull peeling gray to reddish slip, inside and outside	
8	Bowl	492	4414	Buff to orange clay, decorated with brown to red bands inside and outside	Tel Mikhal (Marchese 1989: Fig. 10.1:6, Pl. 65:5); Dor (Mook and Coulson 1995: Fig. 3.3:2); Apollonia-Arsuf (Tal 1996:52; Fig. 3.19:2)
9	Bowl	149	1088	Orange clay, burnished inside, decorated with brown and red bands on inside and outside	Dor (Mook and Coulson 1995: Fig. 3.4:1, 2); Apollonia-Arsuf (Tal 1996:52; Fig. 3.19:2)
10	Bowl	442	4156	Burnt(?), buff to grayish clay, decorated with brown bands on inside and outside	Dor (Mook and Coulson 1995: Fig. 3.4:1, 2); Apollonia-Arsuf (Tal 1996:52; Fig. 3.19:2)
11	Bowl	444	4195	Buff clay, decorated with brown bands on inside	Dor (Mook and Coulson 1995: Fig. 3.4:1, 2); Apollonia-Arsuf (Tal 1996:52; Fig. 3.19:2)
12	Bowl	117	1040	Buff clay, decorated with brown bands on the inside	
13	Bowl(?)	117	1034	Buff clay, decorated with brown bands on inside, brown dripping decoration on outside	
14	Table amphora/ jug	754	7243	Pale red clay, buff slipped inside and outside, rim decorated with brown paint, leaf(?)/stroke decoration outside	Athenian Agora (Sparkes and Talcott 1970:204, No. 1613, Fig. 14, Pl. 73)
15	Table amphora/ jug	412	4036	Pale red clay, brown paint on rim	Tel Mikhal, Str. XI, (c. 525–490 BCE; Marchese 1995:146; Fig. 10.1:1, Pl. 65:1); Apollonia-Arsuf (Tal 1996:24, Fig. 3.5:10); Dor (Mook and Coulson 1995:96, Fig. 3.10:7–10)

◂ **Fig. 12** (cont.)

No.	Type	Locus	Reg. No.	Description	Parallels and Date
16	Table amphora/ jug	741	7146	Red clay, buff slip(?) inside and outside, brown to red paint on rim	Tel Mikhal, Str. XI (c. 525–490 BCE; Marchese 1995:146; Fig. 10.1:1, Pl. 65:1); Apollonia-Arsuf (Tal 1996:24, Fig. 3.5: 10); Dor (Mook and Coulson 1995:96, Fig. 3.10:7–10)
17	Table amphora/ jug	468	4275	Worn, buff clay, traces of brown paint on rim	Tel Mikhal, Str. XI (c. 525–490 BCE; Marchese 1995:146; Fig. 10.1:1, Pl. 65:1); Apollonia-Arsuf (Tal 1996:24, Fig. 3.5:10); Dor (Mook and Coulson 1995:96, Fig. 3.10:7–10)
18	Table amphora/ jug	739, 747	7165, 7219	Buff clay, decorated with brown bands inside and outside	Tel Mikhal, Stratum XI (c. 525–490 BCE; Marchese 1995:146; Fig. 10.1:1, Pl. 65:1); Apollonia-Arsuf (Tal 1996:24, Fig. 3.5:10); Dor (Mook and Coulson 1995:96, Fig. 3.10:7–10); Dor (440–400 BCE; Stern 1995c:438–439, Fig. 7.2:24); Apollonia-Arsuf (mid-5th or mid-4th c. BCE; Tal 1996:49, Fig. 3.17:8)
19	Table amphora/ jug	754	7242	Grayish-greenish coarse clay with large black grits, decorated with black paint on outside	Dor (Mook and Coulson 1995:97–98, Figs. 3.11–3.12)
20	Closed vessel	228	1397	Orange clay, decorated with dripping brown paint on outside	Dor (Mook and Coulson 1995:97–98, Figs. 3.11–3.12)
21	Closed vessel	223	1364/2	Greenish-buff clay, decorated with black bands	
22	Table amphora	450	4250	Pale red clay, leaf decoration in brown-red paint above buff slip on outside	Dor (Mook and Coulson 1995:97–98; Fig. 3.12:3)
23	Closed vessel	223	1364/1	Pale red clay with red grits, red band decoration above buff slip on the outside	
24	Closed vessel	249	1455	Pale red clay with white grits, brown band decoration outside	
25	Closed vessel	754	7251	Pale red clay, red band decoration over buff slip on the outside	
26	Closed vessel	250	1537	Burnt, grayish-buff clay, black band decoration outside	
27	Closed vessel	154	1120	Orange to red clay with white grits, a band decoration outside	
28	Closed vessel	489	4402	Burnt(?), brick-red clay with white grits and mica, decorated with brown wash and band on outside	
29	Table amphora/ jug	150	1359	Brown clay, red painted outside	Dor (7th–5th c. BCE; Mook and Coulson 1995:97, Fig. 3.10:16–20)
30	Table amphora/ jug	228	1477	Pale-red clay, red painted outside	Dor (7th–5th c. BCE; Mook and Coulson 1995:97, Fig. 3.10:16–20)
31	Juglet	726	7163	Black to gray clay (burnt?), dull gray-black slip on rim, inside and outside	Tell el-Ḫesi (500–400 BCE; Bennett and Blakely 1989:95–96; Figs. 66:19; 68:21; 75:22; 77:23; 89)

there appear in the early Persian stratum dated from the end of the sixth to the middle of the fifth century BCE. Only few examples appear in later contexts (Tal 1996:25–26, 48–49, 65, Figs. 3.6:1–5; 3.17:6; 3.28:6).

Exceptionally fine in execution is the bowl with interior burnish (Fig. 12:1). Three bowls, similar to this fragment, were found at Sukas, dated to the late seventh century till the first half of the sixth century BCE (Ploug 1973:40, No. 136a, Fig. c, Pl. VII); Apollonia-Arsuf, in the early Persian stratum, dated from the end of the sixth till the middle of the fifth century BCE (Tal 1996:26, Fig. 3.6:5); and the last one at Tel Mevorakh in a late Persian context, dating from the fourth century BCE (Stern 1978:41; Fig. 10:9, Pl. 30:4). Four fragments (Fig. 12:8–11) belong to an interesting type of bowl, regarded as a local imitation of Eastern-Greek types in Apollonia-Arsuf (Tal 1996:52, Fig. 3.19:2).

Closed Vessels (Fig. 12:14–31).— The closed vessels, though difficult to identify, probably belong to table amphorae or jugs (Mook and Coulson 1995:96–97). Several rims have brown- or red-painted bands (Fig. 12:14–18). The neck of Fig. 12:14 was possibly decorated with stroke/tree decoration. Its rim resembles that of a mid-fifth century BCE jug found in the Athenian Agora (Sparkes and Talcott 1970:204, No. 1613, Fig. 14, Pl. 73). The second type of jug illustrated in Fig. 12:15–18 has a thickened, offset rim. This type was found at Tel Mikhal in Stratum XI (c. 525–490 BCE; Marchese 1995:146, Fig. 10.1:1, Pl. 65:1) and at nearby Apollonia-Arsuf (Tal 1996:24, Fig. 3.5:10). In Dor it is classified as Type J (Mook and Coulson 1995:96, Fig. 3.10:7–10). Almost identical rims to the jug-rim represented in Fig. 12:18 were found at Dor in a later context dating to 440–400 BCE (Stern 1995c:438–439, Fig. 7.2:24) and the late Persian stratum at nearby Apollonia-Arsuf, dated to the mid-fifth or mid-fourth centuries BCE (Tal 1996:49, Fig. 3.17:8).

Figure 12:19–28 illustrates shoulder fragments. All but one (Fig. 12:20) are decorated with bands in red or brown/black paint, several over buff slip (Fig. 12:23, 24). Two (Fig. 12:19, 20) are decorated with dripping paint or splashing (Mook and Coulson 1995:97, 98, Fig. 3.11, 12). The amphora or jug in Fig. 12:19 differs considerably from the others. It is made of a grayish-greenish, coarse, poorly-levigated material, containing a large number of black, possibly volcanic particles. Figure 12:22 is decorated with a red leaf, having a dark brown line in its center, over buff slip. It probably belongs to a Cypriot table amphora of Bichrome VII Ware, dated to Cypro-Classic II period (400–325 BCE). A similar fragment was found at Dor (Mook and Coulson 1995:97, 98, Fig. 3.12:3).

Two bases, probably from table amphorae or jugs, were decorated with a red band (Fig. 12:29, 30). Similar bases were classified at Dor as Type L, dating from the seventh to fifth century BCE (Mook and Coulson 1995:97, Fig. 3.10:16–20). The rare juglet (Fig. 12:31), whose upper section is painted dull gray, was first recognized as an Eastern-Greek import at all four Persian substrata of Tell el-Ḥesi (500–400 BCE; Bennett and Blakely 1989:95, 96, Figs. 66:19; 68:21; 75:22; 77:23; Fig. 89).

Attic Pottery

Of the 84 Attic fragments uncovered in the excavations, 42 are published here. Most are small and poorly preserved, making exact identification difficult. As in the case of the Eastern-Greek pottery, fragments from unstratified/disturbed contexts were also included in this study. The distribution of the fragments according to type is summarized in Table 1. The fishplate, stamped bowl and the kantharos (Figs. 13:12, 13:17 and 14:36 respectively) were found next to the tetradrachm coin hoard from c. 350 BCE (see Ariel, this volume [a]).

The Attic pottery found in the Tel Aviv University excavations at Tel Mikhal was discussed by Marchese and most of his remarks regarding this group of imports are valid also for this assemblage (Marchese 1989:147–151,

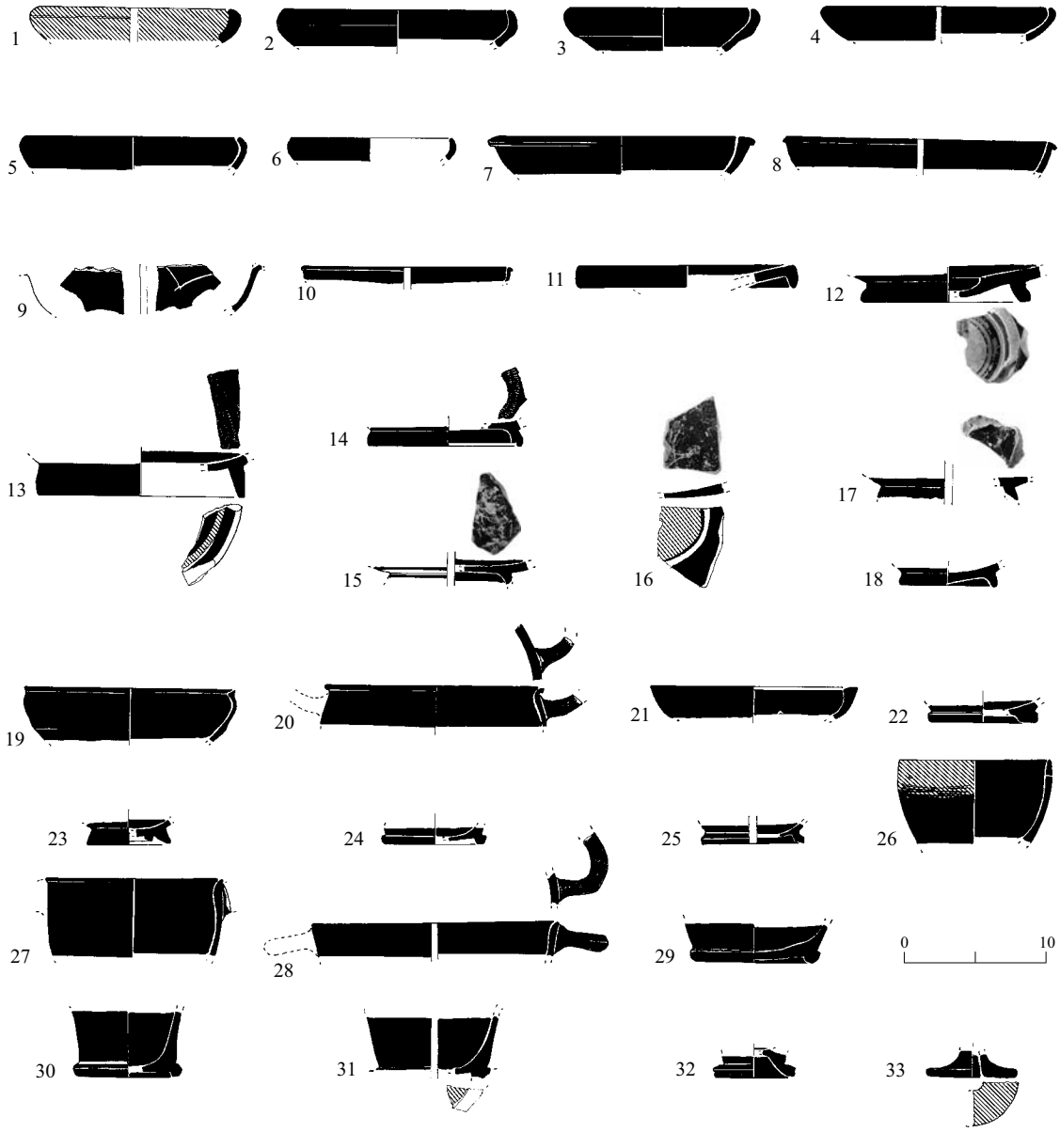

Fig. 13. Attic pottery.

No.	Type	Locus	Reg. No.	Description	Parallels and Date
1	Incurved-rim bowl	235	1396	Brown to gray lustrous glaze interior and exterior	Sparkes and Talcott 1970:295, n. 828, Fig. 8, Pl. 33, c. 375–350 BCE
2	Incurved-rim bowl	251	1478	Black lustrous to matte glaze, interior and exterior	Sparkes and Talcott 1970:295–296, Nos. 830–842, Fig. 8, Pl. 33, c. 350–325 BCE
3	Incurved-rim bowl	422	4149	Worn gray to black matte glaze inside and outside	Same as No. 2
4	Incurved-rim bowl	221	1363	Worn black matte glaze inside and outside	Same as No. 2

◂ **Fig. 13** (cont.)

No.	Type	Locus	Reg. No.	Description	Parallels and Date
5	Incurved-rim bowl	701	7001	Black dull peeling glaze, mottled red, inside and outside	Same as No. 2
6	Incurved-rim bowl	110	1022	Dull gray glaze outside, brown to red dull glaze inside	Same as No. 2
7	Projecting-rim bowl	101	1018	Worn lustrous black glaze inside and outside	Sparkes and Talcott 1970:293, Nos. 802, 803, Fig. 8, Pl. 32, c. 380 BCE
8	Projecting-rim bowl	101	1009	Lustrous black glaze inside and outside	Same as No. 7
9	Projecting-rim bowl	226	1379	Matte black glaze inside and outside, a Greek letter(?) inscribed inside	Same as No. 7
10	Rolled-rim plate(?)	400	4013	Lustrous black glaze outside, lustrous brown to black inside, very thin	Similar vessels were found at Dor (Marchese 1995:158, Fig. 4.7:12, 13)—No. 13 "c. slightly before 350 BCE"
11	Fish plate	444	4209	Peeling lustrous black glaze on underside, dull black inside and on rim	Sparkes and Talcott 1970:311, Nos. 1072, 1074, Fig. 10, c. 350–325 BCE
12	Fish plate	485	4446/2	Lustrous black glaze on the inside, outside and foot, the resting surface of the foot reserved matte glazed bands on reserved surface of the base	Same as No. 11
13	Bowl/plate	231	1358	Matte black glaze inside and foot; the resting surface of the foot reserved; band painted coral/ intentional red on underside of base; six rows of rouletting	Sparkes and Talcott 1970:30–31, after 390 BCE
14	Incurved bowl	185	1278	Lustrous black glaze inside and foot; bottom of base glazed; two rows of rouletting; the resting surface of the foot reserved and deeply grooved	Sparkes and Talcott 1970:295, No. 828, Fig. 8, Pl. 33, c. 375–350 BCE; Marchese 1995:149, Fig. 4.1:4.
15	Bowl/plate(?)	402	4029	Lustrous black glaze inside, and outside bottom of base totally glazed; reserved groove on joint of wall and foot; stamped interlinked palmettes around concentric circle, bordered by rouletting	Sparkes and Talcott 1970:271, No. 517, Pl. 52, 275, No. 560, Pl. 53, 309, No. 1052, Pl. 59, 380–350 BCE
16	Bowl/plate(?)	251	1548	Matte black glaze, reserved circles on underside of base with traces of intentional/coral red; stamped interlinked palmettes around concentric circle	Same as No. 15
17	Bowl(?)	464	4292	Lustrous black glaze inside, outside and foot, bottom of base reserved; reserved groove on joint of wall and foot, stamped interlined palmettes, around concentric circle	For similar stamps: Sparkes and Talcott 1970:270, No. 503, Pl. 51, 277, No. 591, Pl. 54, 295, No. 826, Fig. 8, Pl. 59, c. 430–380 BCE
18	Bowl(?)	510	4513	Lustrous black glaze inside and foot, bottom of base with central nipple glazed; resting surface of foot reserved and grooved; tight palmate cross-stamped inside	For stamps: Sparkes and Talcott 1970, No. 611, Pl. 55. Shape: Sparkes and Talcott 1970:295, No. 828, Fig. 8, Pl. 33, c. 375–350 BCE

◂ **Fig. 13** (cont.)

No.	Type	Locus	Reg. No.	Description	Parallels and Date
19	One handled jar	248	1475	Peeling metallic black glaze inside and outside	Sparkes and Talcott 1970:290, No. 754, Fig. 8, c. 420–400 BCE
20	Bolsal(?)	412	4036	Matte black to gray glaze inside and outside	Sparkes and Talcott 1970:275, No. 558, Fig. 6, Pl. 24, c. 380–350 BCE
21	Small bowl(?)	500	4465	High lustrous black glaze inside and outside	Sparkes and Talcott 1970:297, No. 850, Fig. 9, Pl. 33, c. 430–420 BCE; Marchese 1989: Fig. 10.2:5, found in Str. X, c. 490–450 BCE
22	Small bowl	422	4072	Lustrous black glaze on inside and foot; resting surface of foot reserved; underside of base painted red	Sparkes and Talcott 1970:299, No. 887, Fig. 9, c. 350–325 BCE
23	Salt-cellar	510	4513	Lustrous black glaze inside; foot and base painted dull black to brown glaze	Closed shape: Sparkes and Talcott 1970:302, No. 946, Fig. 9, c. 350 BCE
24	Salt-cellar	781	7310	Lustrous black to brown glaze inside and outside; reserved base; reserved groove at junction of foot and wall	Sparkes and Talcott 1970:302, No. 931, Fig. 9, Pl. 34, c. 450 BCE
25	Bolsal(?)	710	7035	Matte black glaze inside and foot; reserved base	Sparkes and Talcott 1970:275, No. 557, Fig. 6, early fourth century
26	Corinthian-type skyphos	443	4201	Lustrous black glaze inside and outside; a fired-red zone on the outside, below the rim; pierced hole just below the rim	Sparkes and Talcott 1970:258, No. 333, Fig. 4, Pl. 15, c. 480–450 BCE
27	Attic Type A skyphos	248	1475	Lustrous black glaze inside and outside	Sparkes and Talcott 1970:260, No. 349, Fig. 4, Pl. 16, c. 400–375 BCE
28	Attic Type A skyphos	462	4253	Matte black to gray glaze inside and outside	Sparkes and Talcott 1970:259, No. 347–348, Pl. 16, c. 420–400 BCE
29	Attic Type A skyphos	746	7216	Almost totally worn black glaze	Sparkes and Talcott 1970:259, No. 342, Fig. 4, Pl. 16, c. 470–460 BCE
30	Attic Type A skyphos	706	7010	Lustrous black glaze inside and outside; underside of the base reserved with traces of red paint; reserved groove at junction of foot and wall	Same as No. 27
31	Attic Type A skyphos(?)	250	1537	Lustrous black glaze outside, dull black to brown glaze inside; underside of base painted coral/intentional red	Same as No. 27
32	Goblet-kantharos(?)	733	7156	Lustrous black glaze inside, outside and foot, except a small reserved portion on the underside of foot; molded grooved foot, with an underside groove	Closed shape; Sparkes and Talcott 1970:287, No. 723, Fig. 7, Pl. 29, c. 325–310 BCE
33	Stemmed-dish/acrocup base	181	1310	Lustrous black glaze outside and inside of the foot; reserved resting surface of foot painted coral/intentional red	Sparkes and Talcott 1970:266, No. 440, Figs. 1, 5; Pl. 20, 304, No. 978, Pl. 35, c. 500–460 BCE

Fig. 14. Attic pottery.

No.	Type	Locus	Reg. No.	Description	Parallels and Date
34	Base of open vessel	218	1355	Lustrous black glaze inside and outside; inside of the foot totally glazed	
35	Mug (“Pheidias Type”?)	472	4332/2	Lustrous to matte black inside and outside; ribbed	Sparkes and Talcott 1970: No. 212, Pl. 47; Marchese 1995: Fig. 4.5:1, 2
36	Kantharos (Sessile Type)	485	4370	Lustrous black glaze inside and outside; stamped palmettes and half-circle decoration	Sparkes and Talcott 1970:281, Nos. 633, 637, Fig. 7, Pls. 27, 47, c. 450–420 BCE
37	Psykter(?)	206	1315	Matte to metallic black glaze; mottled red on the outside, totally glazed base	Might belong to a psykter, though the shape of the foot is different; Sparkes and Talcott 1970:52, 238, No. 38, Fig. 2, Pl. 2, c. 525–450 BCE
38	Squat lekythos	448	4208	Matte to lustrous black glaze outside; reserved band on the shoulder with a ‘running dog’ motif between two glazed lines; reserved base and foot	Sparkes and Talcott 1970:315, Nos. 1123–1124, Fig. 11, Pl. 38, c. 425 BCE; Marchese 1989:151, Fig. 10.2:18, 19, Pl. 66:4, 5
39	Squat lekythos	726	7217	Peeling lustrous black on the outside, decorated	Same as No. 38
40	Squat lekythos	745	7213	Reserved body decorated with black matte glazed crossing lines in a net-pattern with white dots, black dots on base, white ‘tongues’ on neck	Sparkes and Talcott 1970:316, Nos. 1138–1139, Pl. 38; Beazley 1940–45: 17–21, Pl. 4:17, c. 400–350 BCE
41	Lamp	704	7009	Totally glazed lustrous to metallic black inside, outside and base; mottled red on the outside; broken handle	Howland 1958:60, Nos. 229–230, Pls. 8, 36, Type 23C, second quarter of 4th century BCE
42	Lamp	739	7183	Matte black glaze inside, dull gray to red on the outside; broken handle	Howland 1958:56–62, Pls. 7–8, 36–37, Type 23, c. 425–300 BCE

Table 1. Distribution of Pottery Fragments according to Type

Type	N	%
Bowls/plates, base	13	15
Incurved-rim bowl	9	11
Projecting-rim bowl	3	4
Rolled-rim plate(?)	1	1
Fishplate	4	5
Small bowl	2	2
One handler(?)	1	1
Bolsal	2 (3)	3
Salt-cellar(?)	2	2
Corinthian-type skyphos(?)	2	2
Attic Type A skyphos	9	11
Mug	1	1
Stemmed dish/acrocup	1	1
Kantharos	1	1
Goblet-kantharos(?)	1	1
Psykter(?)	1	1
Squat lekythos	5 (6)	7
Lamp	6	7
Body sherds: open shapes	10	12
Body sherds: closed shapes	2	2
Rouletting	4	5
Stamped palmettes	4	5
Total	*84*	*100*

Fig. 10.2). Most of the types found in the previous excavations also appeared in ours, though some new types were also identified. These include: a Corinthian-type skyphos(?), dated to the second quarter of the fifth century BCE (Fig. 13:26); a much rarer goblet-kantharos (Fig. 13:32); stemmed dish or an acrocup (Fig. 13:33); a ribbed-wall mug (Fig. 14:35); and a sessile-type kantharos (Fig. 14:36). A large cylindrical base of an unidentified vessel was also found (Fig. 14:37). It might belong to a very rare psykter, used to cool wine, though I am not aware of an exact parallel. Some fragments of bowls and plates had stamped palmettes or rouletting (Fig. 13:13–18; 14:36; Table 1).

Discussion

Most of the catalogued vessels have dated parallels in the Athenian Agora excavations (Sparkes and Talcott 1970; Howland 1958). The recently-published Attic pottery assemblages from Tel Dor and Apollonia-Arsuf provide good parallels for the Attic pottery from Tel Mikhal (Marchese 1995; Tal 1996:23–25, 45–47, 61–65, Figs. 3.5:1–9; 3.15:1–20; 3.16; 3.25:1–16; 3.26:1–15; 3.27:1–6). A comparison between these three sites shows that the common types were: incurving and projecting rim bowls and plates (Fig. 13:1–10, 13–18), fishplates (Fig. 13:11, 12), various kinds of small bowls (Fig. 13: 21, 22), salt-cellars (Fig. 13:23, 24) and bolsals (Fig. 13:25), Attic Type A skyphoi (Fig. 13:27–31) and lamps (Fig. 14:41, 42). Most of these vessels date after 450 BCE, with the majority confined to the last three quarters of the fourth century BCE. This dating corresponds to Strata IX–VI of the Tel Aviv University excavations at Tel Mikhal. Only four residual fragments can be dated earlier (Figs. 13:26, 29, 33; 14:37), to the first half of the fifth century BCE.

POTTERY FROM THE KILNS IN AREA B1

Three kilns in a single excavation square were uncovered in Area B1. The northern and southern kilns (L466 and L481 respectively) are similar both in size and shape. Both are large, have an oval form and a central combustion chamber. This chamber is encircled and connected to vertical shafts. The central kiln (L461) differs considerably. It is small, and rounded in form and lacks vertical shafts. This study discusses the stratigraphic disposition of these kilns, their associated pottery, and proposes a tentative dating.

Kiln 461 (Fig. 15)

The central kiln (L461) was constructed atop of the other two (L466 and L481). The upper kiln was built on top of the point where the two lower kilns meet, and its construction destroyed the southern part of Kiln 466 and the northern section of Kiln 481. The construction method of Kiln 461 differs from that of the two other kilns: its round wall was built mostly of small fieldstones, while the lower kilns were cut

directly into the *kurkar* bedrock. Between these small fieldstones were pieces of baked clay, which probably originated from the collapsed walls of the southern and the northern Kilns 466 and 481. Therefore, Kiln 461 is clearly later than Kilns 466 and 481.

A thick, gray- to brown-colored burnt layer abuts Kiln 461 on its northern, western and eastern sides (Loci 406, 407, 429, 438 and 490). This burnt layer was not found inside Kiln 461, yet it covers the northern Kiln 481. The burnt layer contained a small group of distorted vessels and should be interpreted as a disposal accumulation from Kiln 461. Our dating of Kiln 461 is based on the vessels recovered from this layer. Since the remains from this layer were meagre owing to the position of Kiln 461 near the edge of the cliff, most of the accumulation certainly was washed down to the sea. To the southwest of Kiln 461, the burnt layer is mixed with small stones (L480). These stones probably came from the wall of Kiln 461, after it collapsed.

Most of the vessels published here come from the burnt layer (L406, L407, L429). All the vessels share a distinct and recognizable fabric, allowing easy association with this assemblage. Some could be partly reconstructed. The fabric is coarse, brittle and porous, ranging in color between reddish-brown and gray, mixed with white grits. Thicker fragments often have a gray core. Several vessels were found distorted by intense fire. Only small and probably intrusive fragments of this distinctive fabric were occasionally found in the deeper levels associated with Kilns 466 and 481.

The vessels associated with Kiln 461 fall into two groups. The first consists of typical forms of Persian bowls, lids, jars and jugs (Fig. 15:1, 6–8, 11); the second includes miniature-sized Persian vessels (Fig. 15:2–5, 9, 10, 12–15). Their size suggests that they might have

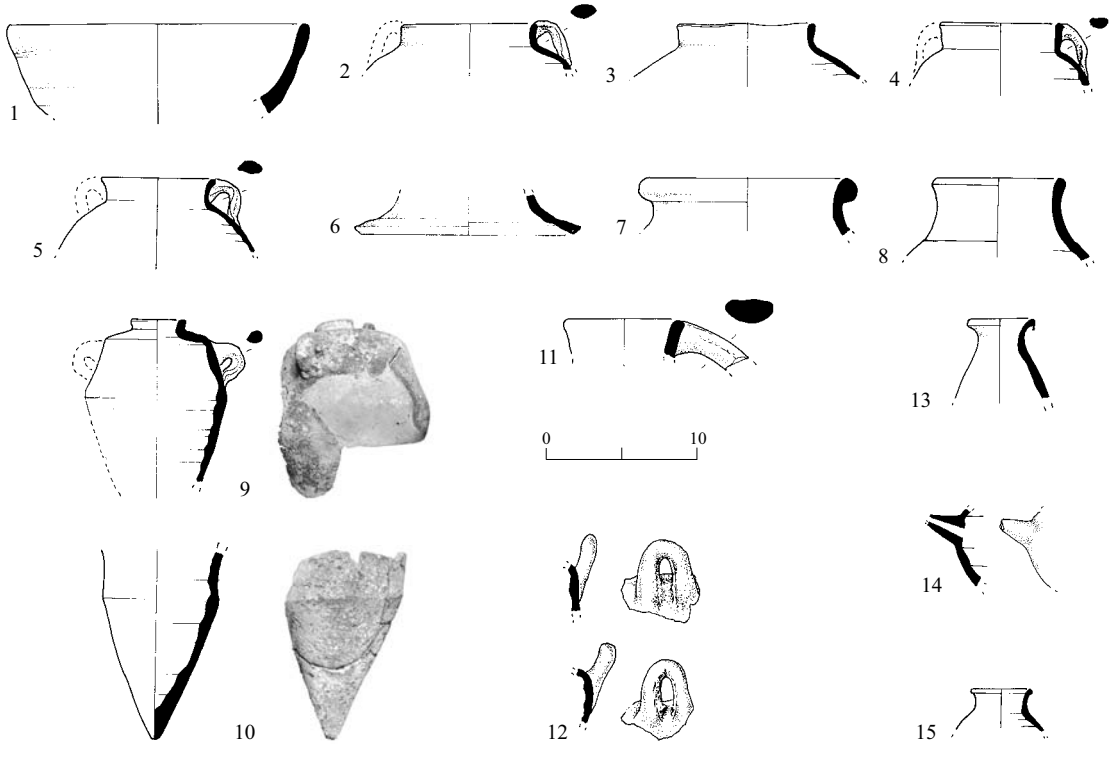

Fig. 15. Pottery from Kiln 461.

◂ **Fig. 15**

No.	Type	Locus	Basket	Description	Parallels and Date
1	Deep bowl	407	4095	Rounded, thick sides, coarse fabric	Persian period (Stern 1982:94–95, Type A4, Fig. 115)
2	Cooking pot	406	4081	Small, thin sides, wide mouth, relatively short neck	Tel Mikhal, Str. VIII (430–400 BCE; Singer-Avitz 1989:139, Fig. 9.5:11, 12; 9.8:6, 7; 9.16:5); Dor (5th–4th c. BCE; Stern 1995b:55, Fig. 2.4:10–111, 3–141, 6; 2.26:15)
3	Cooking pot	406	4064	Same as No. 2	
4	Cooking pot	406	4081	Same as No. 2	
5	Cooking pot	429	4099	Same as No. 2	
6	Lid(?)	467, 481	4270, 4362	Triangular cut rim	Dor (4th c. BCE; Stern 1995b:55–58, Fig. 2.4:3)
7	Jar	407	4095	Elongated or sack-shaped body and a thickened rim	Tel Mikhal, Persian period (Singer-Avitz 1989a:139–141, Fig. 9.3:1; 9.17:1, 2; 133, Fig. 9.12:6–10, pl. 63:1–5); Tel Mikhal (see above, Fig. 6:2, 3)
8	'Torpedo'(?) jar	406, 438	4082, 4217	Elongated or sack-shaped body and thickened rim	Tel Qiri, Stratum IV (2nd half of 5th to 4th c. BCE; Avissar 1987:161, Fig. 4:6)
9	Small jar	429	4109	Miniature straight-shouldered jar	Large size: Tel Mikhal, Persian period (Singer-Avitz 1989a:141, Fig. 9.17:3); Dor (Stern 1995b:58–62, Fig. 2.7–2.8)
10	Small jar	429	4109	Miniature straight-shouldered jar	Same as No. 9
11	Jug	461	4247		
12	Amphoriskos	429	4109	Imported Eastern-Greek type	Tel Mikhal, Str. VIII (c. 430–400 BCE; Singer-Avitz 1989:124, Fig. 9.7:4; Goldberg, Singer-Avitz and Horowitz 1989:265, Sample 8)
13	Juglet	407	4089		Persian period (Stern 1982:119, Fig. 178, Type 2a)
14	Juglet	429	4099	Spout of a globular juglet	Dor (5th–4th c. BCE; Stern 1982:120, Fig. 183, Type B3)
15	Juglet/cup	429	4099		Dor, Stratum VB (400–350 BCE; Stern 1995b: Fig. 2.37:11)

had a votive function. These vessels could be associated with the nearby Persian-period sanctuary excavated by Avigad (1960; 1961). Parallels for these typical vessels from the Tel Aviv University excavations and from other sites indicate the date of this kiln's use from 450 to 300 BCE.

Along with the vessels in the kiln, those typical of a Late Persian assemblage (c. 450–300 BCE) were found nearby (not illustrated). The most common were mortaria and jars with thickened rims. Jars with basket handles and flat-shouldered jars are less common. A base of plate/bowl, with a dull grayish slip was found in L429. At Tel Mikhal, these bowls date to the end of the Persian period or the beginning of the Hellenistic period, i.e., 350–300 BCE (Singer-Avitz 1989a:139, Fig. 9.16:3, 4). Fragments of this type of bowl and of Attic fishplates were uncovered in adjacent loci. This might imply that the kiln went out of use in the period corresponding to Tel Mikhal Stratum VI.

Kilns 466 and 481 (Fig. 16)

Of the two lower kilns, Kiln 466 might be earlier than Kiln 481. Nonetheless, there probably was no great time lapse between the use of the two kilns, as the pottery in both was similar. For this reason, we have treated the pottery from both as one assemblage.

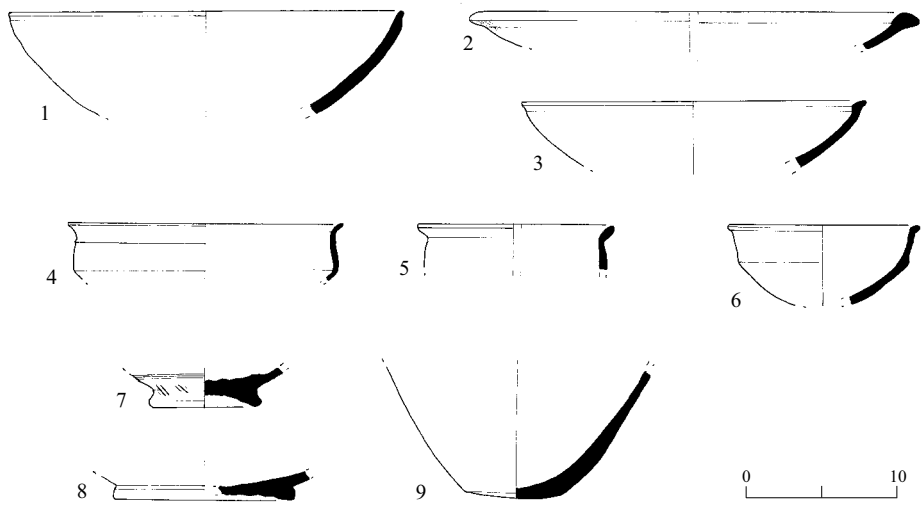

Fig. 16. Pottery from Kilns 466 and 481.

No.	Type	Locus	Basket	Description	Parallels and Date
1	Bowl	466, 468	4271, 4276	Orange clay, buff core	Shekhem (Seger 1974: Fig. 5:10; Toombs and Wright 1963: Fig. 25:10; Dever 1974: Fig. 13:14–16); Ashdod (Dothan and Porath 1993:20, Fig. 1:1)
2	Everted rim bowl	440	4133	Grayish-brown to brick-red coarse clay, large white grits, white greenish surface (waster?)	Tel Mikhal (Negbi 1989:43, Fig. 5.1:7, 8)
3	Everted rim Bowl	431	4241	Brown clay, gray core, white grits	Same as No. 2
4	Carinated bowl with everted rim	481	4416	Buff to brick-red clay, gray core	Tel Mikhal (Negbi 1989:43–44, Fig. 5.2:3–58); Ashdod (Dothan and Porath 1993:24, Fig. 2:4–5); Shekhem (Toombs and Wright 1963: Fig. 25:10; Dever 1974: Fig. 13:14–16; Seger 1974: Fig. 5:10)
5	Carinated bowl with everted rim	432	4238	Greenish clay, white grits (waster?)	Same as No. 4
6	Carinated bowl with everted rim	466	4294	Brown clay, gray core	Same as No. 4
7	Bowl (disc base)	466	4381	Brown clay, gray core	Shekhem (Dever 1974: Fig. 13:25; Seger 1974: Figs. 3:15; 4:232, 6; 5:16–18)
8	Bowl (disc base)	481	4362	Brown clay, gray core	Same as No. 7
9	Jar (pointed base)	481	4383	Brown clay, gray core	Ashdod (Dothan and Porath 1993: Fig.1:16, 17); Shekhem (Dever 1974: Fig. 13:26; Seger 1974: Fig. 5:15)

The combustion chambers of both kilns were filled with reddish-brown earth mixed with pottery and pieces of baked burnt clay, which had collapsed from the walls of the two kilns. Almost all the pottery retrieved from the combustion chambers, and especially from the lower fill in the chambers (northern: L466, L495; southern: L481) of the kilns and from their shafts (northern: L431, L432, L439, L440; southern: L465), can be dated to MB IIB–C. A few intrusive sherds

from later periods were also found; most of them in the shafts. Some of the piers, which encircled the two kilns, were excavated, but no diagnostic pottery was retrieved.

No Persian material was found in the lower parts of the combustion chambers of both Kilns 466 and 481. This fact precludes their dating to an earlier phase in the Persian period. The character of the pottery retrieved from the two kilns differs considerably from that of the burnt Persian material associated with Kiln 461. These sherds were neither burnt nor distorted, while only two could be identified with reasonable certainty as wasters (Fig. 16:2, 5). They both have greenish-gray distinctive color, probably resulting from the high temperatures in the kiln. Several body sherds of jars were found in the two kilns. Of these, some were distorted and had the same greenish-gray color as the two pieces mentioned above.

Consequently, most of the pottery published here, apart from the wasters, cannot be associated with the first use of the kilns. Here again the paucity of the material recovered poses a difficult problem of interpretation and dating. We cannot be sure that the pottery recovered from the kilns did not fall there from the side sections (as happened in L512), when the walls of the kilns collapsed inside at some later date, or as the kilns were dug into earlier strata.

The pottery from the two kilns finds its best parallels in assemblages dated to the transitional phase MB IIB–C (seventeenth century BCE) from the previous excavations at the site (Negbi 1989), at Shekhem (Toombs and Wright 1963; Dever 1974; Seger 1974) and Ashdod (Dothan and Porath 1993). The types represented include bowls of the simple and the carinated type (Fig. 16:1–8) and a jar (Fig. 16:9).

NOTES

[1] The basic chronological framework of the Persian strata in Tel Mikhal, developed by the Tel Aviv University excavators (Negbi 1989; Singer-Avitz 1989a:115–116), is also employed throughout this study. Studies that appeared since this article was submitted for publication in 2000 are not mentioned in the references. Besides the Persian-period pottery, small amounts of MB II–LB and Iron Age pottery were found. This material neither differs significantly from that published in the Tel Aviv University report of the excavations at Tel Mikhal (Negbi 1989; Singer-Avitz 1989b) nor does it originate from stratified or architecture-related contexts. For these reasons, the MB IIC group associated with the two kilns in area B is the only early pottery published here. I would like to thank David Milson for his perceptive corrections and extensive editing of the text.

[2] A somewhat different picture appeared in the southern part of Area A1, which will be discussed below.

[3] The jar is registered in the upper locus and not under the cobble floor.

[4] The alabaster vessel 4506 (Gorzalzany, this volume: Fig. 4); Persian jar rim 4500/2.

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