The Phoenician neck-amphora: adaptation and innovation in overseas ceramic production

Abstract: This article examines the dynamics of Phoenician ceramic production across the Mediterranean in the first half of the 1st millennium BC, with a focus on the so-called neck-amphora (Urna Cruz del Negro). This form, well represented in both Phoenician and indigenous contexts of the southern Iberian Peninsula, derives from jars with neck ridges and one or two handles attested in Levantine contexts of the late 2nd and early 1st millennium BC. By the 9th century BC, such jars had become an established, though not widely recognized, component of the Levantine ceramic repertoire. The prototype —probably a one-handled variant— was introduced into overseas workshops, where it was adapted to local demands and underwent morphological innovations, most notably the addition of a second handle. In this process, the neck-amphora emerged as a hallmark of Phoenician pottery in the western Mediterranean. Its trajectory illustrates how Levantine prototypes were transformed through regional workshop practices, and how the adoption of new vessel forms reflected changing social contexts of wine consumption and ritual use.

Keywords: Phoenician pottery, Cruz del Negro urns, Phoenician ceramic sequence and chronology, Phoenician overseas pottery, pottery function

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INTRODUCTION[1]

The ceramic production of Phoenician overseas centers represents a clear example of adaptive processes within ancient craft industries. This economic activity generated a repertoire that reflected broader Mediterranean trends in typology, morphology, technology, and decoration, while at the same time displaying distinct regional particularities.

Two factors were central to this phenomenon. The first was regional demand, shaped by specific social, economic, and cultural requirements. The second was the technical expertise of the potters who responded to those demands. This article examines one of the most illustrative cases of such adaptation: the neck-amphora, also known as the *Cruz del Negro* urn [*Fig. 1:a*]. This form occurs in both Phoenician and indigenous contexts, in funerary as well as domestic settings, from the 8th century BC onward.

The origin, chronology, function, and evolution of the neck-amphora have long been subjects of scholarly debate (Aubet 1979; Maass-Lindemann 1982: 29–31; 1985: 235–237; 2006: 296–297; Belén and Pereira 1985: 316–323; Maier 1992; Torres Ortiz 2002: 149–150; 2008; González Prats 2011). Building on this body of work, the present article explores the Levantine prototypes, the chronology of their emergence, and the multiple roles these amphoras may have fulfilled. While their design suggests primary functions linked to storage and serving, their use may have extended to other cultural contexts, particularly funerary rituals where wine-related practices played an important role (Núñez 2017).

The article is organized into four parts: (1) presentation of the analytical approach; (2) discussion of Levantine prototypes, typological variants, and their evolutionary trajectory; (3) analysis of the earliest examples from central and western Mediterranean contexts; and (4) overall conclusions.

ANALYTICAL APPROACH

A neck-amphora [see *Fig. 1:a*] can be defined as "a closed vessel with a globular or ovoid body and a cylindrical or truncated conical neck marked by a ridge, from which two handles rise to the shoulder" (Torres Ortiz 2002: 146; 2008: 631). Decoration is usually applied to the belly, consisting of painted bands of varying thickness, often in red and sometimes combined with black fillets; concentric motifs may also occur (Belén and Pereira 1985: 346, Fig. 6:7). Linear designs are sometimes present on the upper neck, although in many examples only red paint is used.

1 This English version is a corrected, expanded, and updated adaptation of the original article in Spanish, titled "El origen levantino de las ánforas de cuello fenicias ultramarinas: un análisis de su trasfondo tipológico, contexto secuencial y escenarios funcionales," published in SPAL 32.1 (2023), pp. 43–76 (https://dx.doi.org/10.12795/spal.2023.i32.02). The author wishes to extend his gratitude, especially, to S. Gitin and D. Ilan for allowing the reproduction of some examples from the southern Levant.

This study focuses on four main issues: (1) the Levantine prototypes that influenced overseas production; (2) the chronological moment when production began abroad; (3) the locations where such workshops emerged; and (4) the cultural background of the potters and the intended functions of the vessels. Addressing these questions requires attention to typology, morphology, decoration, chronology, and contexts of use.

While the precise origins of neck-amphora production outside the Levant remain uncertain, it is reasonable to expect that the earliest examples shared morphological and decorative traits with their eastern prototypes. Such traits may therefore help to establish chronological and regional connections (Núñez 2020a). At the same time, it is possible that what spread westward was not the form itself but the concept of the vessel, which was then interpreted according to the traditions and technical capacities of local workshops. Consequently, as the bibliography indicates, overseas neck-amphoras did not necessarily follow the same evolutionary pathways as those of the Levant.

The question of function is closely tied to the contexts in which these vessels appear. Neck-amphoras occur in both funerary and domestic assemblages, and their roles may have encompassed storage, serving, and ritual use. Rather than assuming a single, fixed function, the present analysis considers the underlying concept of the vessel, its possible reinterpretations in new cultural settings, and the types it may

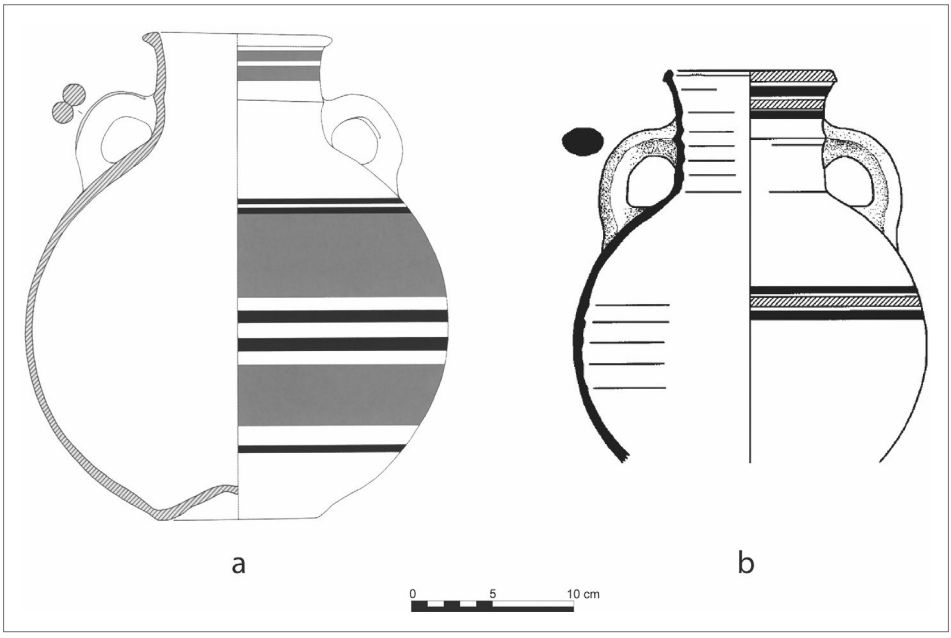


Fig. 1. a – Neck-amphora from the necropolis of Ayamonte (Marzoli and García Teyssandier 2018: 169, Fig. 143:b, Tomb 8); b – Neck-ridged jar from Tel Abou Hawam (Herrera and Gómez 2004: 317, lam. XXXIII:277, Stratum III)

have replaced. By examining how the form was adapted to local practices, it becomes possible to identify the distinctive features of its morphological and decorative evolution.

The following sections place particular emphasis on contextualization. [*Tables 1 and 2*] provide a sequential and chronological framework for the analysis of Levantine and overseas examples.

Table 1. The chronological framework used in this study is shown in the left column and extends across the following four columns. For Sarepta, the extent of the arrows indicates the estimated correspondence with Tyre's stratigraphy. The next four columns present additional sequential and chronological frameworks referenced in the text, with their respective "official" chronologies noted in the lower left corner

Absolute chronology	Sarepta	Tyre	al - Bass	Phoenician sequence	Biblical conv. (Stern 1993)	Biblical conv. (Mazar 2005a)	Biblical rev. (Finkelstein 2013)	Cypriot chronology (Karageorghis 1982)
before 1200 BC	G 2	XV	absent?	Late Bronze III	Late Bronze 1200	Late Bronze 1200	Late Bronze III ca. 1130	Late Cypriot IIB 1190
after 1100 BC	G 1 F	XIV		Transition LB / EI	Iron 1a 1150	Iron 1a 1140/1130	Early Iron 1 1050	Late Cypriot IIIC 1050
1070 / 1030 BC		XIII	Period I	Early Iron A	Iron 1b	Iron 1b	Late Iron 1	Cypro Geometric I 950
after 950 BC	E	XII		Early Iron B				Cypro Geometric II
925 / 900 BC		XI			1000	980	c. 930	900
c. 873 BC?		X	Period II	Middle Iron A	Iron 2a	Iron 2a	Early Iron 2a c. 870	Cypro Geometric III
after 840 BC		IX						
		VIII						
		VII		Middle Iron B			Late Iron 2a	750
825 / 800 BC	D 2	VI			900	840/830	c. 760	
		V	Period III	Late Iron A	Iron 2b	Iron 2b	Late Iron 2b	
before 760 BC	D 1	IV						
738 BC			Period IV	Late Iron B				
c. 701 BC?	C 2	III			700	732/701	c. 670	Cypro Archaic I
		hiatus	Period V	Late Iron C	Iron 2c	Iron 2c		
c.675 BC?	C 1	II						
		I						
after 600 BC					586	605/586		600
	B			Transition LI / Persian Per.	Babylonian and Persian Pers.	Iron 3 520		Cypro Archaic II 475
ca. 550 BC				Persian Period	332	Persian Period 332		Cypro Classical I - II 325

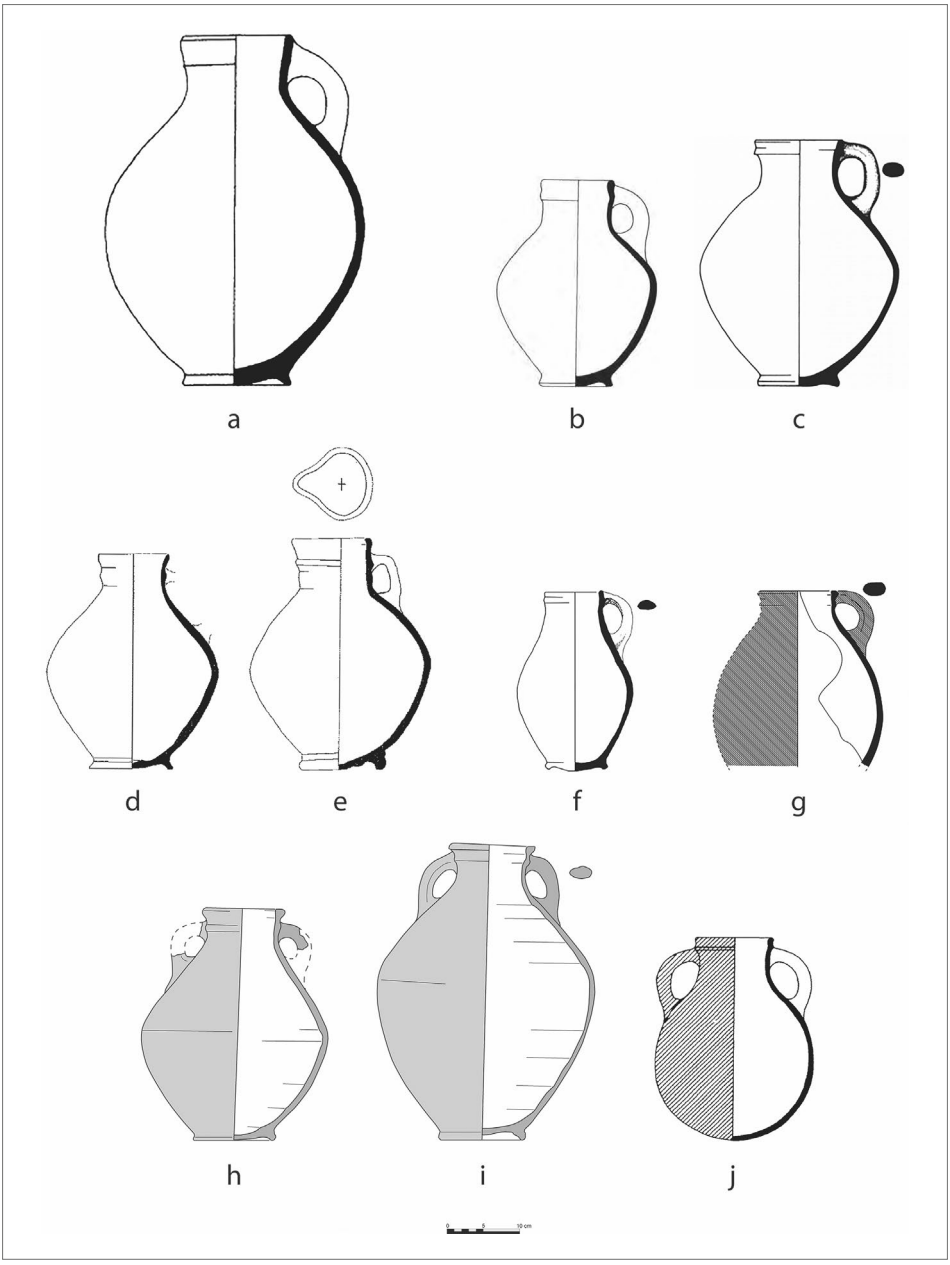


Fig. 2. Late Bronze and Early Iron Age neck-ridged jars: a – Loud 1948: Pl. 12:24, Megiddo Tomb 877A1; b – Loud 1948: Pl. 72:12, Megiddo Tomb 237; c – Zarzecki-Peleg 2016: 31, Fig. 5:15, Megiddo Stratum VIA; d – Finkelstein, Bunimovitz, and Lederman 1993: 165, Fig. 6.47:7, Shiloh Stratum V; e – Finkelstein, Bunimovitz, and Lederman 1993: 165, Fig. 6.47:8, Shiloh Stratum V; f – Gilboa 2018: 221, Pl. 20.18:6, Tel Dor Phase G-9; g – Arie 2006: 203 and 256, Fig. 13.5:7, Megiddo Level K-4; h – after Ilan 1999: Pl. 3:6, Tel Dan Stratum IVB; i – after Ilan 1999: Pl. 5:6, Tel Dan Stratum IVB; j – Loud 1948: Pl. 74:15, Megiddo Stratum VIA

EVIDENCE FROM THE SOUTHERN LEVANT

The precursors of the neck-amphora are jars found in Late Bronze Age III and Early Iron Age contexts [*Fig. 2*]. These jars, documented mainly in the southern Levant, typically have oval bodies, sometimes with pronounced shoulders, short cylindrical necks with a horizontal ridge, and direct or slightly everted rims, occasionally thickened externally. They carry one or two vertical handles connecting the ridge to the shoulder. Decoration is rare, though some examples were treated with a red slip.

Late Bronze Age III examples include the jar from Megiddo Tomb 877A [*Fig. 2:a*], contemporary with Stratum VIIA (12th century BC), and a comparable vessel from Phase G-11a at Tel Dor (Stidsing and Salmon 2018: Pl. 17.5:36). Early Iron Age 1 contexts yield further parallels, such as those from Megiddo Tomb 237 [*Fig. 2:b*] and Stratum VIA [*Fig. 2:c*], and a jar from Stratum V at Shiloh [*Fig. 2:d*], which also produced a pinched-rim variant [*Fig. 2:e*]. These contexts date to the central decades of the 11th century BC (Finkelstein and Piasetzky 2010: 378; Finkelstein 2013: 7). Comparable material appears at Tel Dor (Phase G-9, [*Fig. 2:f*]; Gilboa 2018: 221), in Stratum VIA of the University of Chicago excavations at Megiddo, and in Level K-4 of the Tel Aviv University excavations, which produced a jar with red slip [*Fig. 2:g*]. Collectively, these vessels demonstrate the persistence of the type from the 12th to the 10th centuries BC (Toffolo et al. 2014: 226, Table 2; Kleiman, Fantalkin, Mommsen, and Finkelstein 2019: 235, Tables 1–2).

Other parallels come from slightly later Iron 1 contexts. Two jars with opposed vertical handles were recovered in Stratum IVB at Tel Dan [*Fig. 2:h–i*]. This level is broadly contemporary with Shiloh Stratum V, but its absolute dating is debated: in the conventional chronology it belongs to the first half of the 11th century BC (Ilan 1999: 140; Ilan 2019: 20, Table 2.3), whereas the revised chronology places its end in the second quarter of the 10th century BC (Arie 2008: 33).

The most significant prototypes for later overseas neck-amphoras derive from Iron 2a contexts. The jar from Stratum III at Tel Abou Hawam is especially important [*Fig. 1:b*]. It combines a spherical body, a cylindrical neck divided by a ridge, an everted rim with a concave interior forming a "T"-shaped lip, and two opposed handles. Its decoration consists of a thin red band flanked by two black fillets, applied to both the body and the neck (Belén and Pereira 1985; Herrera and Gómez 2004; González Prats 2011).

Two main Iron 2a types can be distinguished [*Figs 3–4*]. The first, usually with two handles, has spherical or oval bodies, often with ring bases but occasionally flat or rounded ones. Necks may be cylindrical or conical, marked by horizontal ridges of rounded or sharp profile. Rims occur in three principal variants: (1) direct or open with a rounded or flattened lip [*Fig. 3:a*]; (2) open with an external thickening, sometimes projecting into a "T"-shaped lip [*Fig. 3:b, f, g, i*]; and (3) upright, plain, or decorated with two or three exterior moldings [*Fig. 3:c–d, h*]. Interior concavities or steps are also common, probably to hold lids.

The second type is characterized by a single vertical handle [*Fig. 4*]. Its morphology largely parallels the two-handled version: large globular or oval bodies, ring bases, short cylindrical or conical necks, and rims corresponding to the same four

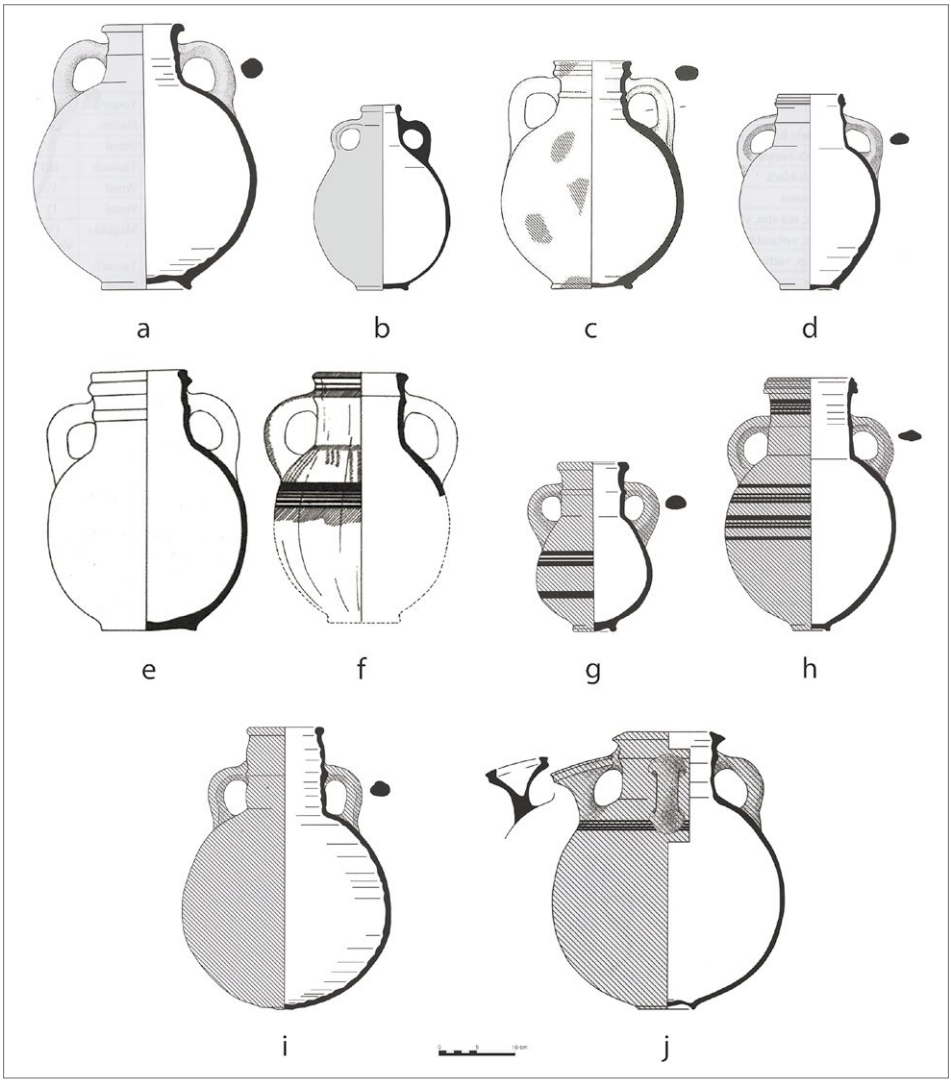


Fig. 3. Iron Age 2 double- and triple-handled neck-ridged jars from the southern Levant: a – Ben-Tor and Zarzecki-Peleg 2015: 177, Fig. 2.2.14:10, Tel Rehov Stratum IV; b – after Grant 1932: 69, Pl. XLII:14, Beth-Shemesh; c – A. Mazar et al. 2005: 240, Fig. 13.36:2, Tel Rehov Stratum IV; d – Finkelstein, Bunimovitz, and Lederman 1993: 165, Fig. 6.47:7, Shiloh Stratum V; e – Loud 1948: Pl. 89:1, Megiddo Stratum VA/IVB; f – Loud 1948: Pl. 89:2, Megiddo Stratum VA/IVB; g – Shai and Maeir 2012: Pl. 14.11:9, Tel es-Safi/Gath Stratum A3; h – Shai and Maeir 2012: Pl. 14.1:5, Tel es-Safi/Gath Stratum A3; i – Shai and Maeir 2012: Pl. 14.19:6, Tel es-Safi/Gath Stratum A3; j – Chambon 1984: 195, Pl. 46:9, Tel el-Far`ah Level VIId

variants (simple, widened lip, exterior thickening with projection, or upright). Surfaces are usually plain, but red slip, often burnished, appears occasionally. Decoration, when present, consists of simple linear motifs in red and black, placed on the belly or shoulder and sometimes extending to the neck.

Chronologically, three key contexts anchor these Iron 2a forms. The first is Pottery Period I/II at Samaria, which provides a *terminus ante quem* of 789 BC, the date of the city's foundation (Kenyon 1957; Núñez 2018b: 169–170). A tall jar with an oval body and single handle [*Fig. 4:a*] belongs here, closely paralleled at Taanach Stratum IIA (Rast 1978: Fig. 37:1; Ben-Tor and Zarzecki-Peleg 2015: 180, Pl. 2.2.16:4). The Iron 2a stage represents a direct continuation but differs from its Late Bronze/Iron 1 predecessors by smoother body profiles and, especially, by the downward shift of the neck ridge.

The second key context is Stratum IV at Tell Rehov, which produced two two-handled jars with distinct rim types [see *Fig. 3:a, c*]. This level ended with the campaigns of Hazael of Aram (approximately 840–830 BC), a date supported by radiocarbon evidence (A. Mazar 2005; Finkelstein and Piasetzky 2007). The third context is Stratum VA/IVB at Megiddo, broadly contemporary with Tell Rehov Stratum IV. Among its jars, one bears horizontal bands and fillets combined with triglyphs on the shoulder [see *Fig. 3:f*]; another has a single handle [*Fig. 4:f*]; and a further vessel displays a rounded base (Lamon and Shipton 1939: Pl. 22:129, similar to [*Fig. 3:i*]).

Additional parallels include Pottery Period III at Samaria, which produced a one-handled vessel with bichrome decoration [*Fig. 4:e*], and Stratum A3 at Tel es-Safi/Gath, which yielded amphoras with two handles and Late Philistine Decorated Ware (LPDW) associations (Shai and Maeir 2012: Pls 14.6:8, 14.9:5). A rounded-based example from the same site [see *Fig. 3:i*] illustrates variation within the type. The latest examples may be represented by Mount Carmel Tomb II, where a jar with a globular body, conical neck, and bichrome decoration was found (Guy 1924: 50, Pl. II:11).

Other finds have limited typological or chronological value. A fragmentary jar from Tel Qasile (Maisler 1950–1951: Pl. 34) suffers from poor preservation, while two vessels from Beth-Shemesh are problematic: one with red burnished slip (see *Fig. 3:b*; Amiran 1970: 233, photo 240) resembles single-handled jars from the same site (for example, Grant 1932: 71, Pl. XLIII:7), while the other appears to be an LPDW import or imitation (Grant 1934: 21, Fig. 2:10, Pl. XXI).

LATE PHILISTINE DECORATED WARE GLOBULAR AMPHORAS

A related question concerns the connections between the neck-amphora prototypes and the globular amphoras of the Late Philistine Decorated Ware (LPDW; see Ben-Shlomo, Shai, and Maeir 2004; Ben-Shlomo 2014: 724–725; Gitin 2015a; Maeir and Shai 2015). This Iron 2a ware was produced in the southern coastal plain and the Shephelah. While rooted in the Iron 1 Philistine ceramic repertoire, it abandoned earlier Aegean and Cypriot traits in favor of ornamental and typological features often attributed to central Levantine influence (Ben-Shlomo,

Shai, and Maeir 2004: 20; Shai 2011: 122; Shai and Maeir 2012: 347–350; Gitin 2018). Among these are the use of polished red slip and linear black designs, sometimes applied over a white background.

The LPDW "globular amphoras" are morphological and probably functional counterparts to the Levantine neck-amphoras (see *Fig. 3:g–h*; Ben-Shlomo, Shai, and Maeir 2004: 5; Gitin 2015a: 264–265, 276–277, Pl. 2.5.8:1–4, 6–7). They share many traits with other Levantine examples but also exhibit their own variation: cylindrical or conical necks with molded (Ben-Shlomo, Shai, and Maeir 2004: 6, Fig. 2:3; Gitin 2015a: 277, Fig. 2.5.8:1–3) or rounded rims (Gitin 2015a: 277, Fig. 2.5.8:4, 6); jars without neck ridges

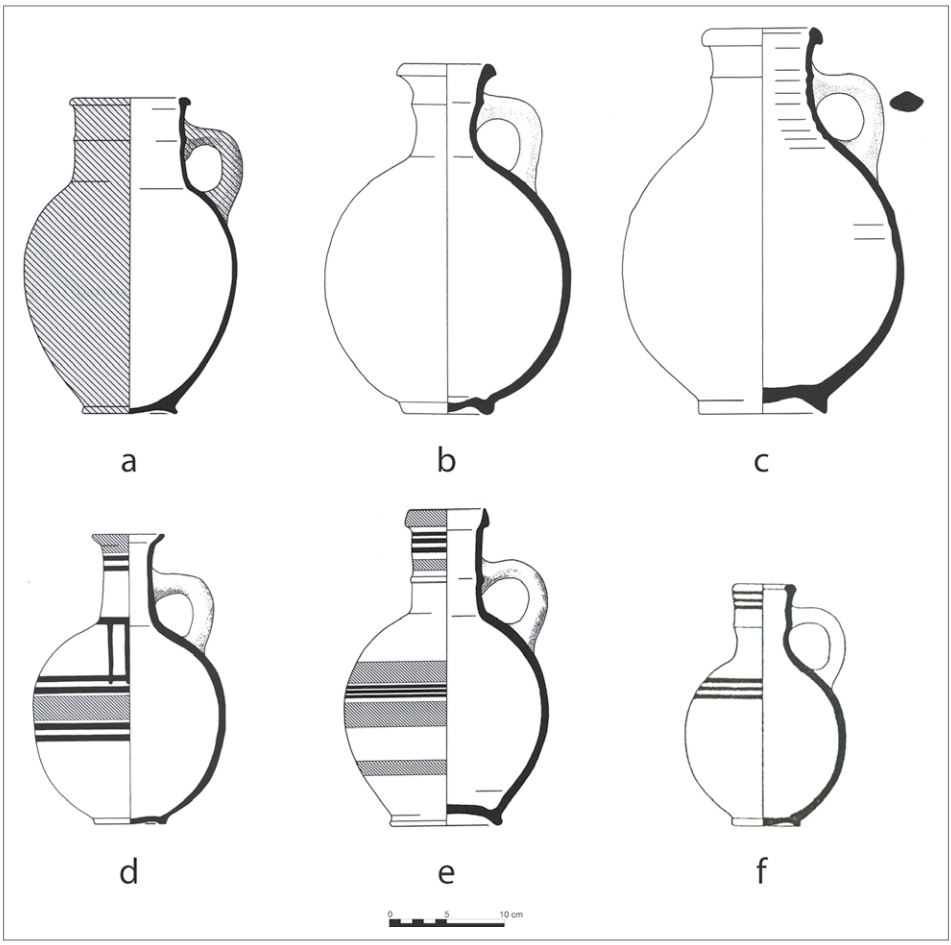


Fig. 4. Iron Age 2 single-handled jars and jugs from the southern Levant: a – Kenyon 1957: 103, Fig. 2:4, Samaria Pottery Period I/II; b – Lamon and Shipton 1939: Pl. 7:174, Megiddo Stratum VA/IVB; c – Rast 1978: Fig. 37:1, Taanach Stratum IIB; d – Guy 1924: 50, Pl. II:11, Mount Carmel tomb II; e – Kenyon 1957: 111, Fig. 5:1, Samaria Pottery Period III; f – Lamon and Shipton 1939: Pl. 7:172, Megiddo Stratum VA/IVB

(Gitin 2015a: 277, Fig. 2.5.8:6); rounded bases (Ben-Shlomo, Shai, and Maeir 2004: 6, Fig. 2:4; Shai and Maeir 2012: 337–339, type JG 8, Fig. 14.17: JG8, Pl. 14.9:6; Arie 2013: 708, type AM33; Gitin 2015a: 277, Fig. 2.5.8:7); and shorter, single-handled variants (Ben-Shlomo, Shai, and Maeir 2004: 8, Fig. 3:6; Shai and Maeir 2012: 336, type JG4.1, Pl. 14.12:5).

The dating of this ware has been much debated. It was traditionally thought to have begun in the 10th century BC and, in some cases, to have continued into the 8th (Gitin 2015a: 257, Table 2.5.1). More recent chronological revisions, however, place its origin at the very end of the 10th century (Finkelstein and Singer-Avitz 2001; 2004; contra Ben-Shlomo 2003), with its peak in the 9th century BC (Shai and Maeir 2012: 348).

The suggestion of central Levantine influence on LPDW requires reconsideration for several reasons. First, jars with ridged necks and articulated rims are rare in the central Levant, where comparable one-handled forms appear only in the later 9th century (Núñez 2018b: 114–117, 146–156). Second, LPDW amphoras share more morphological features with jars from Iron 2a contexts in northern Palestine. Third, the combination of red slip and black decoration is uncommon in the central Levant. In fact, the characteristic LPDW design of two red bands flanking black fillets (Ben-Shlomo, Shai, and Maeir 2004: 6, Fig. 2:1, 3; Gitin 2015a: 277, Fig. 2.5.8:1–3) finds closer parallels in Cypriot Bichrome Red Ware (Gjerstad 1948: Pls XXX:1–5, XXXV:14–15, XXXVIII:4, 24; Shai and Maeir 2012: 348).

Bichrome Red Ware, characterized by red surfaces with black decoration on a white background, appears in the Cypro-Archaic I period, which has been variously dated to the mid-8th century BC (Karageorghis 1982), the transition from the 9th to the 8th century BC (Smith 2009: xviii, Table 4), or even the later 9th century BC (Núñez 2022). By contrast, the few central Levantine examples with this combination are limited to neck-ridged jugs of the late 8th and 7th centuries BC (Aubet, Núñez, and Trellisó 2014: 239, Fig. 2.70: U.162.3). This evidence points to Cyprus, rather than the central Levant, as the more likely source of influence on LPDW, at least in terms of decoration (contra Ben-Shlomo, Shai, and Maeir 2004: 20).

LATER MANIFESTATIONS

The two-handled variant of the neck-ridged jars declined in popularity during Iron 2b. The last known examples come from Level 5 at Tel Keisan (Briend and Humbert 1980: Pl. 44:2) and probably from late manifestations of the LPDW amphoras at Tel er-Reqeish (Culican 1973: 75, Fig. 3:R13, R14, R17), Ekron (Gitin 2015b: 411, Fig. 3.5.9:1–2), and Timnah (Gitin 2015b: 411, Fig. 3.5.9:3). These contexts belong to Iron 2c and date to the 7th century BC.

From this time onward, these jars appear to have been replaced by three-handled vessels [see *Fig. 3:j*]. These forms are characterized by spherical bodies and short cylindrical or conical necks with a ridge at the top, as well as robust rims often thickened externally and sometimes internally, with concave interiors. A common feature is the funnel-shaped appliqué on the upper shoulder ([see *Fig. 3:j*]; Yadin et al. 1960: Pl. LXXIV:3; Chambon 1984:

195, Pl. 49:9–10; Ben-Tor and Zarzecki-Peleg 2015: 179, Pl. 2.2.15:6–7). In some cases, this appliqué was perforated to allow pouring (Yadin et al. 1960: Pl. LXXIV:4; Chambon 1984: 195, Pl. 49:11–12), while in others it may have served as a socket for a dipper (as in Amiran 1970: 243, Photo 250). Occasionally, the appliqué is absent altogether (Singer-Avitz 2002: 121, Fig. 7:12, from Arad Stratum XI).

Examples with spouts are attested at Hazor (Strata VII–V: Yadin et al. 1960: Pls LXXIV:3–4, XCVI:3; 1961: Pls CLXXXV:11, XXXV:23, CCXXVI-II:24–25), at Tel Far'ah Levels VIId–e (see *Fig. 3:j*; Chambon 1984: 195, Pl. 46:10–13; for revised chronology see Finkelstein 2013: 69, Table 2), at Beth-Shean Stratum P-7 (A. Mazar 2006: 459, Pl. 38:1–2), and at Megiddo Strata IVB–I (Lamon and Shipton 1939: Pl. 12:61–62; Loud 1948: Pl. 91:5). The non-spouted variant is well represented in tombs at Tel er-Reqeish (Culican 1973: 69–82, Figs 1:R2, 2:R8, 3:R13–14, R17, 4:R19, 6:455, 476, 499, 7:494).

Iron 2b contexts have also yielded single-handled examples. Two important cases come from Hazor Strata VI [*Fig. 5:a*] and V [*Fig. 5:b*], dating to the central decades of the 8th century BC. Both are spherical in body but differ in detail: [*Fig. 5:a*] has a short cylindrical neck and a rounded or tapered rim, with plain surfaces except for red paint on the neck; [*Fig. 5:b*] has a conical neck and square rim, its surface covered with red slip.

SOME CONCLUSIONS FROM THE SOUTHERN LEVANT

The evidence from Iron 2a contexts in the southern Levant demonstrates the persistence of a group of jars that can be traced back to Late Bronze Age prototypes. Their defining feature is the ridge

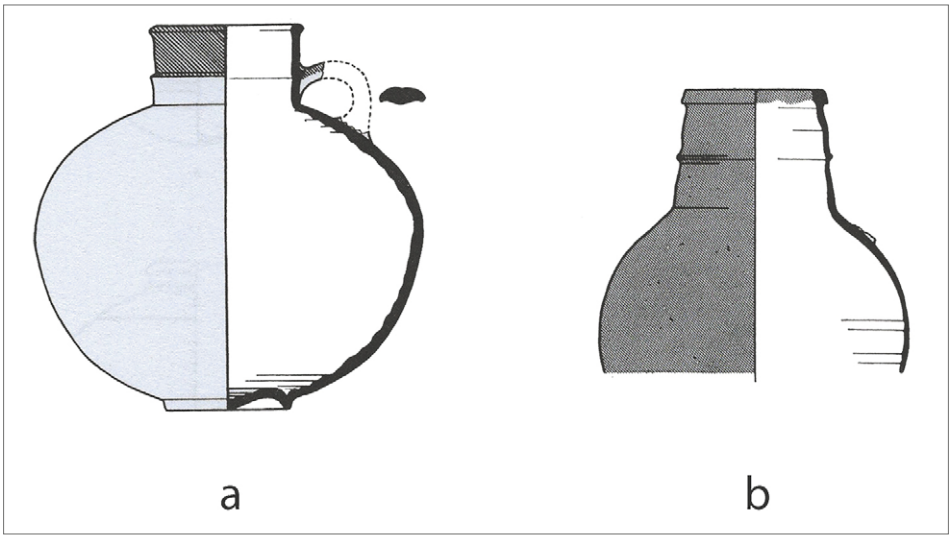


Fig. 5. Neck-ridged jars from Hazor: a – Yadin et al. 1961: Pl. CXC:5, Stratum VI; b – Yadin et al. 1960: Pl. LXX:16, Stratum V. Not to scale

on the neck, combined with a variety of rim shapes, one or two handles linking the shoulder to the ridge, and either stable or rounded bases. Surfaces are usually plain or covered with red slip, and occasional decoration consists of simple linear motifs applied to the belly and the upper neck.

The variation observed among these forms reflects regional workshop traditions and consumer preferences, as illustrated by the LPDW amphoras. During Iron 2b, the single-handled variant continued to evolve, while three-handled jars increasingly replaced the earlier two-handled type. By Iron 2c, late two-handled examples with elongated bodies still occur, but they are rare survivals within assemblages otherwise dominated by newer forms.

EVIDENCE FROM THE CENTRAL LEVANT

The apparent absence of neck-ridged jars (*Jd*) in the central Levant is intriguing, especially given the strong ceramic connections with neighboring regions to the south. The only possible examples are two fragments from the Bey 032 site in Beirut (Jamieson 2011: 196–197, Fig. 5:1–2), probably dating to the 9th century BC. This absence may reflect regional variation or simply the relatively limited number of excavated Iron Age contexts in the central Levant. The latter seems plausible, since several unpublished neck and rim fragments have recently been recovered, for example, in new excavation campaigns at Tyre.

It is important, however, to distinguish neck-ridged jars (*Jd*) from neck-ridged jugs (*Ja*). The latter are well attested, and their origin and evolution can be traced across much of the Iron Age sequence in the central Levant and adjacent southern regions (Núñez 2008; 2008–2009; 2018b: 114–117).

THE LATE BRONZE AND EARLY IRON AGE

Neck-ridged jugs evolved from the Late Bronze Age lenticular flask rather than from the pilgrim flask [*Fig. 6:a*]. Early examples consist of two vertically joined halves, producing a lentoid body. Their necks usually lack a ridge but may carry a horizontal fillet in its place, and a single handle connects the neck to one side of the body. Decoration consists of irregular monochrome or bichrome concentric fillets on both faces. In the transitional phase to the Iron Age, bodies became asymmetrically bulkier, but handles remained in the same position and decoration unchanged [*Fig. 6:b*].

Significant changes occurred in the Early Iron Age. The bodies began to be wheel-thrown in one piece and became globular. Necks shortened, and the handle shifted to the shoulder, set between the concentric circles. Bases were initially unstable [*Fig. 6:c*] but became stable in later phases [*Fig. 6:d*]. By the final stages of the Early Iron Age, necks lengthened, and bodies sometimes became squatter, creating the variants typical of the Middle Iron Age [*Fig. 6:e*].

Decoration also evolved during this period. The concentric scheme was standardized as two red bands flanked by two or three black fillets [see *Fig. 6:c*], with the inner red band occasionally rendered

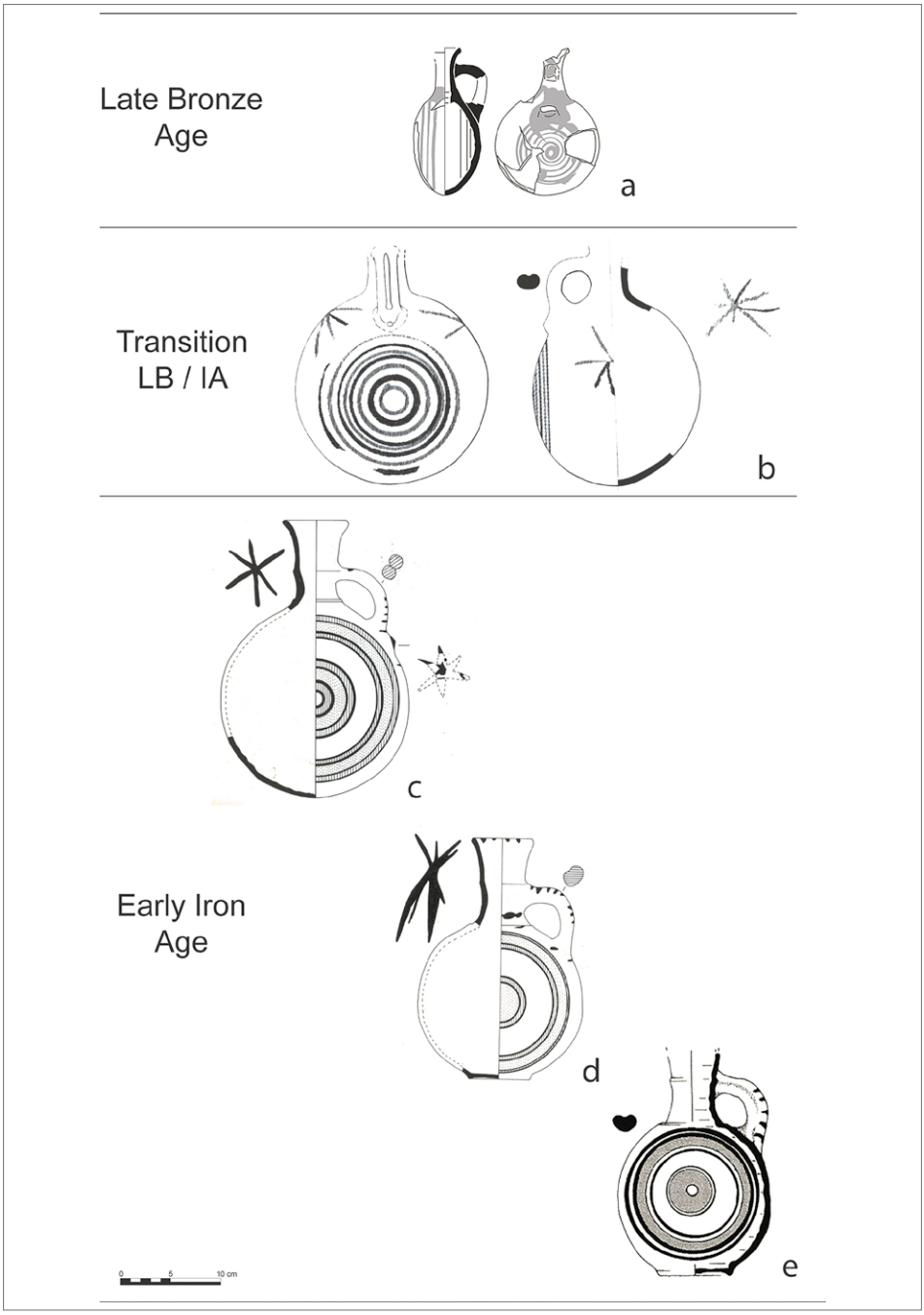


Fig. 6. Evolution of the neck-ridged jugs in the Levant and Cyprus through the Late Bronze to the Early Iron Age: a – Badre and Capet 2018: 127, Pl. XXXIV:388, Tel Kazel Phase K3-K2; b – Chapman 1972: 69, Fig. 4:50, Khirbet Slim; c – Bikai 1987: Pl. IV:40, Kaloriziki, Tomb 7; d – Bikai 1987: Pl. V:72, G. Assiotis Collection, Cyprus; e – Gilboa and Sharon 2003: 22, Fig. 11:6, Tel Dor Iron I/II horizon

as a disc [see *Fig. 6:d*]. Although linear motifs on the upper neck remained rare, decoration on the lips and backs of handles became more frequent [see *Fig. 6:c–e*]. Geometric and figurative motifs, such as inverted bundles, asterisks, and lozenges, also appeared on the shoulders [see *Fig. 6:b–d].*

THE MIDDLE IRON AGE

During the Middle Iron Age, the *Ja* neck-ridged jugs continued the evolutionary trajectory established in the Early Iron Age, with no major breaks in development. A notable feature of this period, however, was the emergence of an alternative evolutionary line.

Morphologically, these jugs became smaller than their predecessors, while retaining globular bodies and ring bases [*Fig. 7*]. In some cases, the necks were elongated, forming tall cylindrical lower halves [*Fig. 7:a–b*]. The upper halves of the necks remained open around the ridge, and the rims developed into three main variants:

- Simple rounded or tapered lips [see *Fig. 7:a–b*].
- Transversely cut or beveled lips, sometimes with projections on one or both sides [*Fig. 7:c–d* and *f*]. Although the precise relationship with earlier forms is unclear, Early Iron Age jugs may already have displayed rounded or flattened lips [see below, *Fig. 10:1–2*].
- Upright rims with convex exterior and concave interior profiles, ending in a tapered lip [*Fig. 7:e*]. This third variant probably represents an evolution of, or hybrid between, the previous types.

The surfaces of these jugs show two main treatments:

- Plain surfaces with decoration. Some vessels were left unslipped and carried the same decorative patterns as in the preceding period [see *Fig. 7:a–d*]. These designs could be complemented by a band and fillets on the upper half of the neck (Bikai 1987: Pl. IX:168, 169, 173; Aubet, Núñez, and Trellisó 2014: 193, Fig. 2.24: U.94–6; 196, Fig. 2.27: U.98–1).
- Red-slipped surfaces. Other vessels were covered with a thick, homogeneous red slip, usually without decoration [see *Fig. 7:d*]. Occasional decorated examples also occur [*Fig. 7:f*]; (see also Chapman 1972: 140, Fig. 29:157; 141, Fig. 30:264).

In both groups, longitudinal burnishing was a consistent feature, applied to both the body and the neck.

In contrast, the appearance of a second variant marks a departure from the evolutionary trajectory observed so far. Morphologically and decoratively, these jugs display features closer to the *Jd* neck-ridged jars of the southern Levant. Morphology:

- Necks: proportionally shorter, either conical [*Fig. 8:d–g*] or cylindrical [*Fig. 8:a–c*].
- Rims: direct [see *Fig. 8:a–b*], upright [see *Fig. 8:c, f–g*], or open [see *Fig. 8:d–e*].
- Profiles: lips are flattened [see *Fig. 8:a, d, f*], rounded/tapered [see *Fig. 8:c, g*], or thickened internally [see *Fig. 8:e*] or externally [see *Fig. 8:b*].

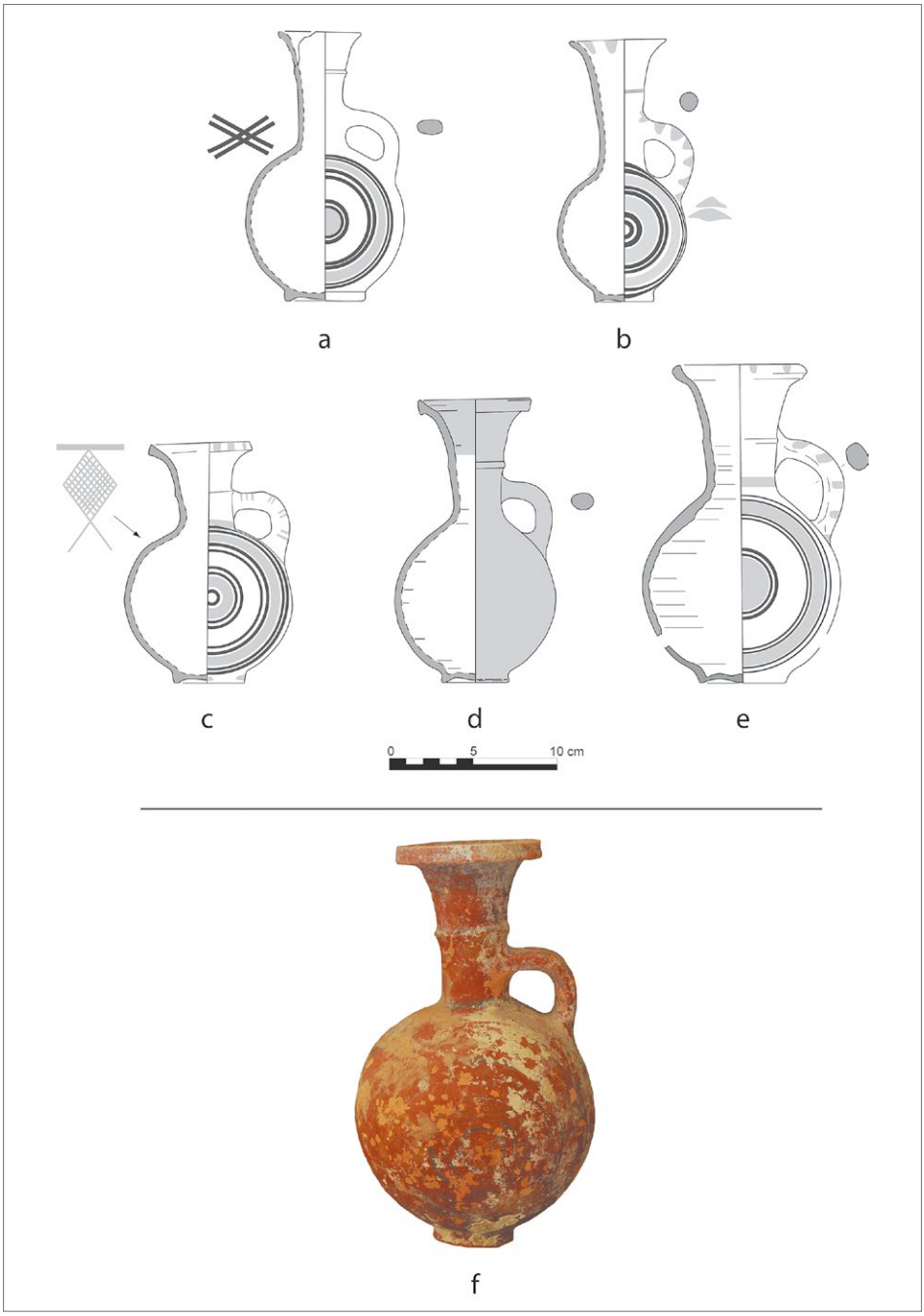


Fig. 7. Middle Iron Age neck-ridged jugs from the central Levant: a–c – Núñez 2004: 185, Fig. 100:4–6, al-Bass Tomb TT49; d – Aubet, Núñez, and Trellisó 2014: 185, Fig. 2.16: U.74-3, al-Bass Tomb TT73/74; e – Aubet, Núñez, and Trellisó 2014: 205, Fig. 2.36: U.110:2-2, al-Bass Tomb TT110/111; f – origin unknown, Beit ed-Dine Collection, Lebanon (Photo F. J. Núñez)

- Bodies: usually globular, resting on ring bases of variable height.
- Size: oversized jugs also occur within this group [*Fig. 8:f*].

Decoration:

The decorative scheme also parallels that of the neck-ridged jars:

- Plain surfaces or simple linear designs on the belly [see *Fig. 8:a, f–g*].
- Triglyphs on the shoulder [*Fig. 8:d*], sometimes with additional geometric motifs [see e.g. *Fig. 8:a*].
- Frequent decoration on the upper neck [*Fig. 8:d, f–g*], occasionally the only ornament [*Fig. 8:b, e*].
- Typical design: a red band below the rim, sometimes extending to the interior, flanked by black fillets. This scheme also appears on the necks of spouted jugs (Chapman 1972: 64, Fig. 2:4; Bikai 1987: Pl. VIII:115, 117; Aubet, Núñez, and Trellisó 2014: 195, Fig. 2.26: U.97–2).

The introduction of new morphological and decorative features has long complicated the understanding of neck-ridged jug evolution (Núñez 2008: 46; 2008–2009; 2020b: 34–35). The situation became even more complex in the later

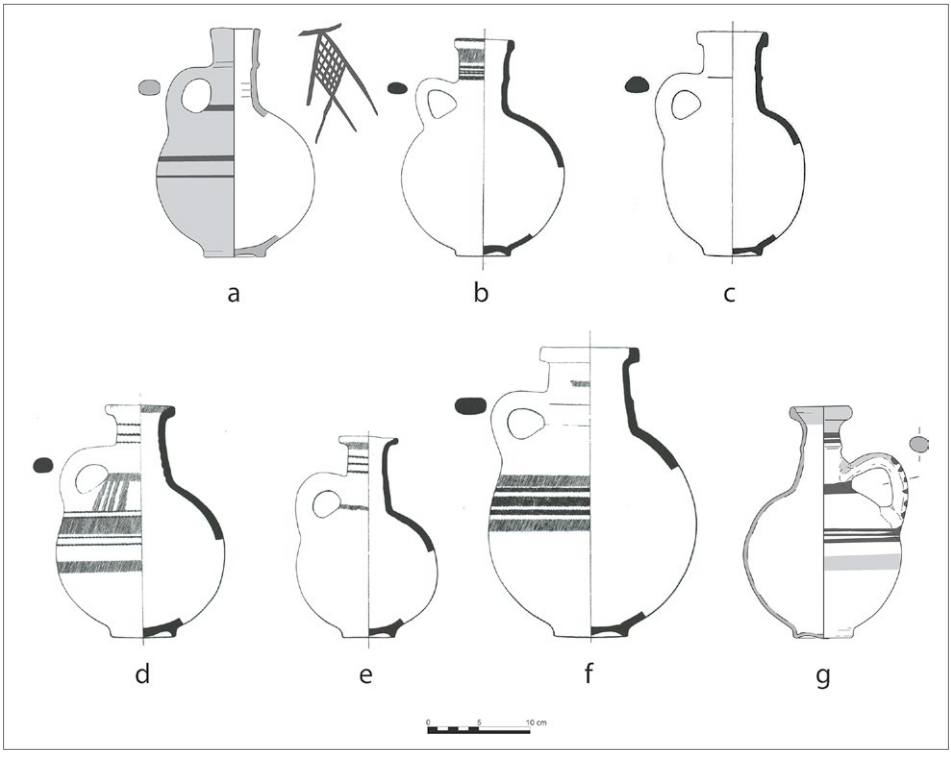


Fig. 8. Late Middle Iron Age neck-ridged jugs from the central Levant: a – after Chapman 1972: 140, Fig. 29:157, Khirbet Slim; b – Chapman 1972: 74, Fig. 6:186, Jouwaya; c – Chapman 1972: 79, Fig. 7:32, Khirbet Slim; d – Chapman 1972: 82, Fig. 8:43, Khirbet Slim; e – Chapman 1972: 74, Fig. 6:42, Khirbet Slim; f – Chapman 1972: 82, Fig. 8:189, Jouwaya; g – Núñez 2008–2009: 49, Fig. 1, Tel el-Ghassil

Middle Iron Age, with the appearance of morphologically "orthodox" neck-ridged jugs decorated with horizontal bands on the belly and triglyphs on the shoulders ([*Fig. 9*]; see also Chapman 1972: 82, Fig. 9:44–45; Shawamra and Cappella 2020: 49, Fig. 8, from a tomb at Khirbet el-Kharayib in the southern Levant). Similar decorative schemes were also employed on other forms such as decanters (Chapman 1972: 87, Fig. 10:18; 88, Fig. 11). Another innovation of this period was the production of oversized jugs [see *Fig. 4:b*; see also below].

A possible explanation for these developments is that the central Levantine repertoire adopted features of the neck-ridged jars at an advanced stage of the Middle Iron Age. Their incorporation into regional ceramic traditions would have generated a new evolutionary line (*Jd*), which included Bikai's so-called "stilted jugs" (Bikai 1978b: 33–35). This interpretation is supported by contemporary finds in southern Levantine sites, where similar jugs appear as "Phoenician" imports (see e.g. *Fig. 4:d, e*; Stern 2015: 467, Pl. 4.1.16:2; 468, Pl. 4.1.17:1), some even decorated with triglyphs (*Fig. 9:b* Stern 2015: 467, Pl. 4.1.16:2–3).

THE LATE IRON AGE

During the Late Iron Age, *Ja* and *Jd* neck-ridged jugs continued their evolution along several parallel lines, each maintaining characteristic morphological and decorative traits inherited from the Middle Iron Age.

The *Ja* group:

- Bodies: shifted from spherical to pyriform outlines [*Fig. 10:8–12*], with carinated shoulders appearing in later stages [*Fig. 10:9, 10, 17*]. Oversized examples also occur, especially in the earlier phases [*Fig. 10:4, 14, 19*].

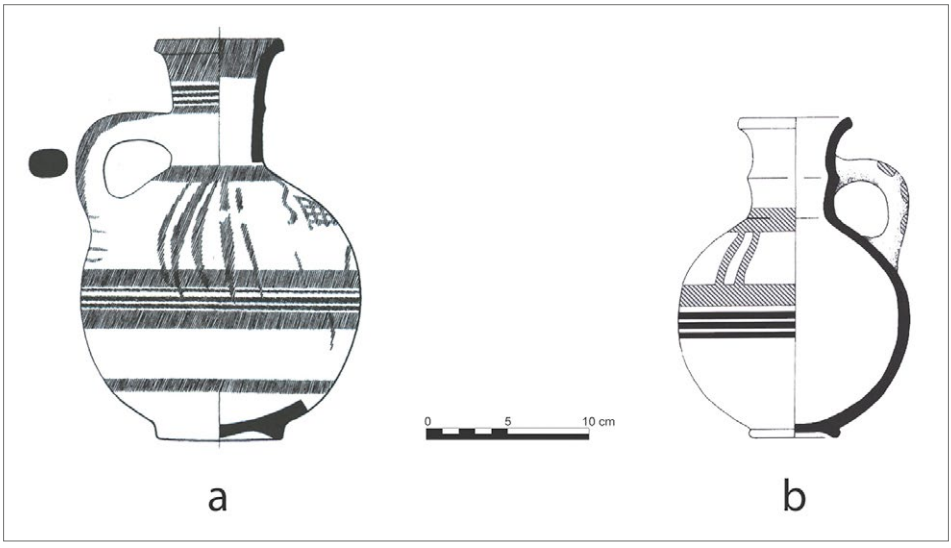


Fig. 9. Decorative patterns on Late Middle Iron Age neck-ridged jugs from Jouwaya (a: Chapman 1972: 82, Fig. 8:190) and Megiddo (b: Stern 2015: 467, Pl. 4.1.16:3, from Stratum VA/IVB)

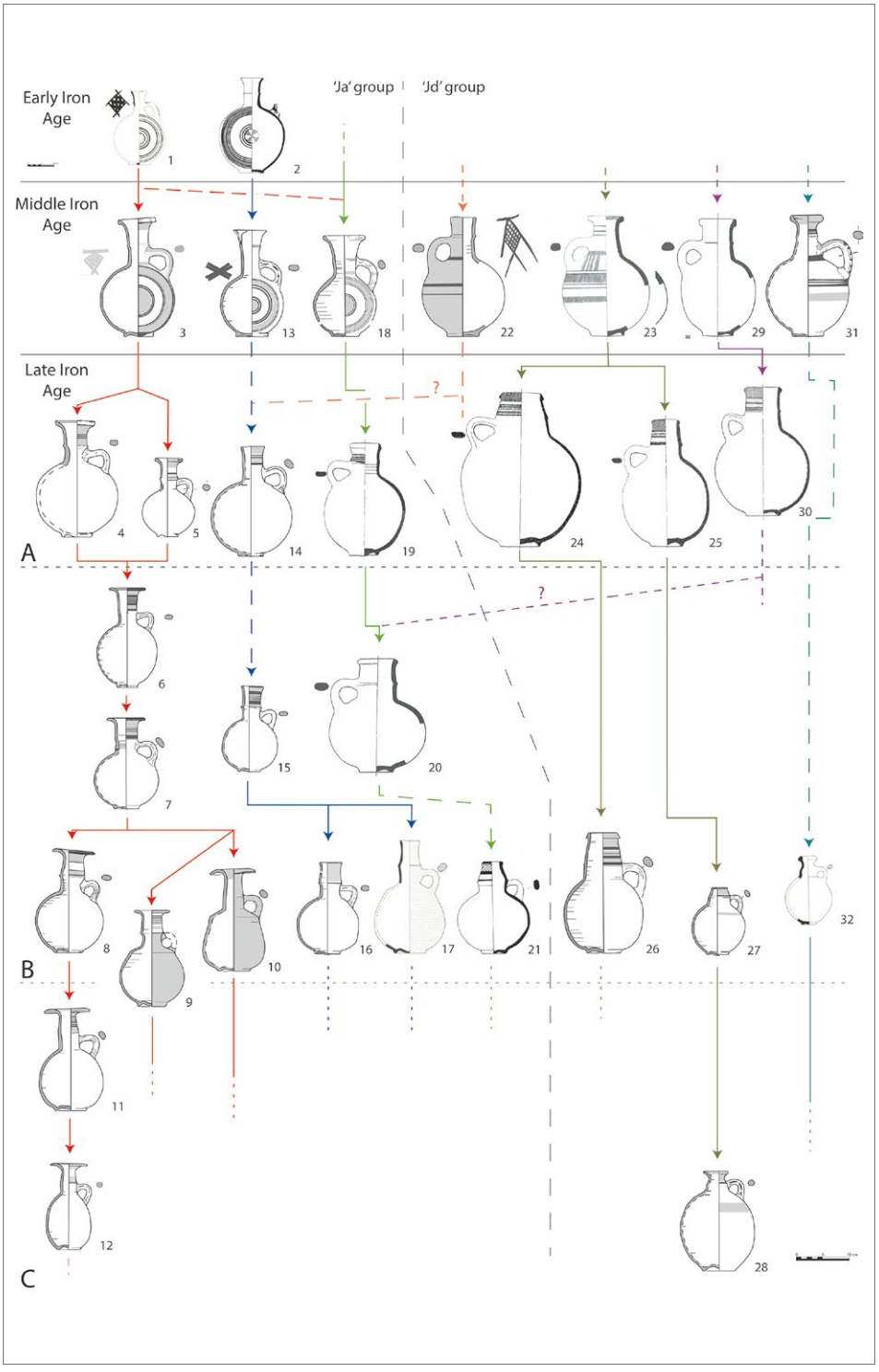
- Rims: three principal types developed. The first continued the open-rimmed jugs with flattened lips, which eventually gave rise to the so-called mushroom-rimmed jugs [*Fig. 10:1, 3–12*, red arrows]. The second comprised simple direct or slightly open rims [*Fig. 10:2, 13–17*, blue arrows]. The third line is more complex: its representatives [*Fig. 10:18–21*, green arrows] resemble the successors of *Jd* neck-ridged jars from the Middle Iron Age [*Fig. 10:20, 30*].
- Necks: across the group, the upper neck evolved synchronically, shifting from an open stance in the early Late Iron Age to cylindrical, and finally to conical forms by the end of Late Iron B — a profile that continued thereafter [see *Fig. 10*, red, blue, and green arrows].
- Decoration: belly painting disappeared; decoration was instead confined to the upper neck. The basic design consists of a band in red in the upper part of the neck, flanked in its lower part by a variable number of fillets in black.

The *Jd* group:

- **Necks/rims:** three main trajectories are visible. One line retained cylindrical necks and externally thickened rims [*Fig. 10:29–30*, purple arrow]. A second developed conical necks, splitting into two sublines: direct rims with beveled lips or triangular external thickenings [*Fig. 10:23–28*, dark green arrow], and direct vertical rims with simple lips [*Fig. 10:22*, orange arrow]. A third line favored conical necks topped by erect rims with convex exterior and concave interior profiles [*Fig. 10:31–32*, dark blue arrow]. This last type evolved into the so-called "oil bottles," widely attested overseas, typically with undecorated surfaces (Culican 1970; Ramón 1982; Orsingher 2010).

Surface treatment and decoration.

- Most vessels had plain surfaces, but red slip became more frequent in advanced stages [see e.g. *Fig. 10:9–10*].
- Two decorative arrangements developed from earlier patterns:
  1. Addition of a red band immediately above the ridge, below the linear decoration, producing a symmetrical scheme [see *Fig. 10:6–7, 9, 11, 15, 26*]. This appears early in the Late Iron Age and occurs on both *Ja* jugs (red, blue, green arrows) and *Jd* jugs with cylindrical or conical necks and external rim thickenings [see *Fig. 10:24–26, 30*].
  2. Complete coating of the upper half of the neck in red, combined with a painted horizontal band on the shoulder [see *Fig. 10:27–28*]. This arrangement is typical of *Jd* jugs with conical necks and direct or short open rims, but occurs only occasionally on *Ja* examples [see *Fig. 10:16*].
- The oil bottles generally remained undecorated [see *Fig. 10:32*].


Early Iron Age
Middle Iron Age
Late Iron Age
'Ja' group
'Jd' group
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CONCLUSIONS FROM THE CENTRAL LEVANT

Although two-handled neck-ridged jars remain elusive in the central Levant, clear connections exist between the single-handled *Jd* variants and southern Levantine examples. These forms appear from the second half of the 9th century BC, contemporaneous with the LPDW amphoras and related types from sites such as Tel Abou Hawam, Megiddo, Tel Rehov, and Tel es-Safi/Gath. Together, the material north and south of Naqoura Cape can be understood as regional variants of a shared ceramic tradition.

Despite the typological complexity of these jugs, all variants of the neck-ridged jars and jugs evolved autonomously during the Middle and Late Iron Ages. Influences between the *Ja* and *Jd* lines are nevertheless evident — for example, the gradual disappearance of concentric decoration in the later 9th century BC, or in the affinities between *Ja* jugs with simple rims and the successors of the *Jd* jars. These developments correspond broadly to Bikai's jug types 1 and 2, differentiated mainly by vessel size (Bikai 1978a: 51; 1978b: 33).

Systematizing the changes and interrelations of these forms remains challenging. The heterogeneity of the sample may reflect our incomplete understanding and the activity of multiple workshops. Interpretive difficulties are further compounded by the cultural labels applied to populations north and south of Naqoura Cape, which can obscure the shared Canaanite background of these regions. The observed differences seem to reflect regional traditions rather than the introduction of new cultural groups.

◀ Fig. 10. Evolutive lines of the neck-ridged jugs throughout the Iron Age in the Levant and Cyprus (1 – Bikai 1987: Pl. V:66, Amathus Tomb 333; 2 – Bikai 1978b: Pl. XXXI:15, Tyre Stratum XII; 3 – Aubet, Núñez, and Trellisó 2014: 196, Fig. 2.27: U.98-4, al-Bass Tomb TT98; 4 – Aubet, Núñez, and Trellisó 2014: 178, Fig. 2.9: U.67-2, al-Bass Tomb TT67/P.23; 5 – Aubet, Núñez, and Trellisó 2014: 227, Fig. 2.58: U.142-4, al-Bass Tomb TT141/142; 6 – Aubet, Núñez, and Trellisó 2014: 175, Fig. 2.6: U.78-4, al-Bass Tomb TT64/78; 7 – Aubet, Núñez, and Trellisó 2014: 182, Fig. 2.13: U.71-3, al-Bass Tomb TT70/71; 8 – Aubet, Núñez, and Trellisó 2014: 191, Fig. 2.22: U.90-4, al-Bass Tomb TT90; 9 – Aubet, Núñez, and Trellisó 2014: 239, Fig. 2.70: U.161-3, al-Bass Tomb TT161/162; 10 – Aubet, Núñez, and Trellisó 2014: 254, Fig. 2.86: Dep.11-3, al-Bass Deposit 11; 11 – Aubet, Núñez, and Trellisó 2014: 229, Fig. 2.60: U.146-3, al-Bass Tomb TT145/146; 12 – Núñez 2004: 143, Fig. 58:2, al-Bass Tomb TT8; 13 – Núñez 2004: 185, Fig. 100:4, al-Bass Tomb TT49; 14 – Núñez 2004: 155, Fig. 70:2, al-Bass Tomb 19; 15 – Aubet, Núñez, and Trellisó 2014: 174, Fig. 2.5: U.62-3, al-Bass Tomb TT62/63; 16 – Núñez 2004: 145, Fig. 60:3-4, al-Bass Tomb TT 9; 17 – Bikai 1987: Pl. XIII:324, Ayia Irini Tomb 33 (in the catalogue Tomb 7 appears by mistake); 18 – Aubet, Núñez, and Trellisó 2014: 205, Fig. 2.36: U.110-2:2, al-Bass Tomb TT110/111; 19 – Saidah 1977: 139, No. 7, Tambourit; 20 – Chapman 1972: 79, Fig. 7:176; 21 – Bikai 1978b: Pl. V:18, Tyre Stratum III; 22 – after Chapman 1972: 140, Fig. 29:157, Khirbet Slim; 23 – Chapman 1972: 82, Fig. 8:43; 24 – Saidah 1977: 140, No. 9, Tambourit; 25 – Saidah 1977: 140, No. 8, Tambourit; 26 – Aubet, Núñez, and Trellisó 2014: 230, Fig.2.61: U.147-3, al-Bass Tomb TT147; 27 – Aubet, Núñez, and Trellisó 2014: 237, Fig. 2.68: U.157-3, al-Bass Tomb TT157/158; 28 – Núñez 2004: 190, Fig. 105:3, al-Bass Tomb TT54; 29 – Chapman 1972: 78, Fig. 7:32; 30 – Saidah 1966: 69, No. 24, Khalde Tomb 121; 31 – Núñez 2008–2009: 49, Fig. 1, Tel el-Ghassil; 32 – Bikai 1987: Pl. X:344, Ayia Irini Tomb 8

These observations open the way to reconsidering the possible origins of Levantine influences on overseas ceramic production. Yet the precise role of communities from the northern Levant, or from other Mediterranean regions such as Cyprus, Egypt, or the Aegean, remains difficult to define. With these questions in mind, it is now necessary to examine the situation in the wider Mediterranean.

EVIDENCE FROM THE CENTRAL AND WESTERN MEDITERRANEAN

As noted above, this article does not attempt an exhaustive treatment of overseas neck-amphoras, their typological variations, or their decorative characteristics. Such analyses have already been undertaken for specific regions — Briese (2007) for Carthage, Bartoloni (1988: 168–169; 2014: 13–15) for Sardinia, and Torres Ortiz (2008) and González Prats (2011) for the Iberian Peninsula. Instead, the present discussion focuses on their earliest connections with Levantine prototypes in order to establish the chronological and sequential framework for their appearance overseas.

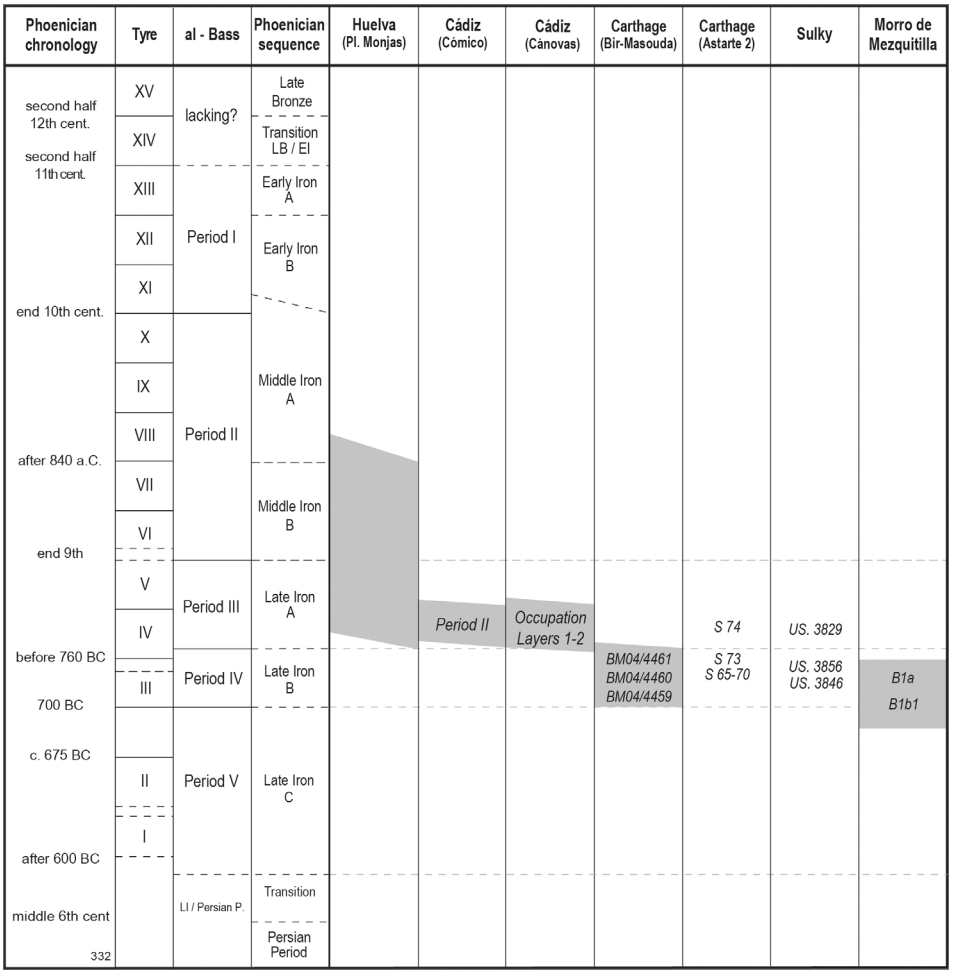
Several factors complicate this task. First, both the chronology and sequence of the earliest Levantine presence overseas have been subjects of debate in recent years (Núñez 2015a; 2018a). Second, most surviving examples already represent fully developed regional variants, the product of decades of activity in independent workshops. Third, many classifications of overseas material rest on assumptions about the evolution of morphological and decorative features rather than on secure stratigraphic evidence. Fourth, the typological and chronological implications of Levantine parallels require careful clarification and contextualization. Finally, in many cases, it remains difficult to distinguish imported vessels from locally produced imitations.

In the following discussion, each sequential stage is illustrated by its most representative site.

HUELVA

In sequential terms [*Table 2*], Huelva provides the earliest evidence of Levantine activity overseas. The site has yielded a complex stratigraphy containing materials that span a broad chronological range (González de Canales, Serrano Pichardo, and Llompart Gómez 2004; González de Canales et al. 2017; González de Canales and Llompart Gómez 2023). The earliest occupation has been variously dated to the first half of the 9th century BC, or possibly even to the 10th century BC (González de Canales, Serrano Pichardo, and Llompart Gómez 2004; González de Canales and Llompart Gómez 2020). In my view, the ceramic assemblage extends from an advanced stage of the Middle Iron Age to the early phases of the Late Iron Age B — that is, from the mid-9th to the first third of the 8th century BC (Núñez 2018a; 2018b: 145–174).

Table 2. Sequential and chronological arrangement of relevant central and western Mediterranean sites discussed in the text



No neck-amphoras have been recovered among these materials. However, the morphological and decorative features of the neck-ridged jugs are consistent with Levantine examples from the Middle and early Late Iron Ages (González de Canales 2004: 61, Pl. XI; Núñez 2018b: 114–117). The *Ja* types include open or slightly everted rims, often elongated, with lips that are flattened [*Fig. 11:14, 16–22*; see *Fig. 10:3–5*], rounded [*Fig. 11:29*; see *Fig. 10:18*], or erect [*Fig. 11:30–33*; see *Fig. 10:18*] (González de Canales, Serrano Pichardo, and Llompart Gómez 2004: Pl. XI:14–33). Decoration appears on the upper neck of some examples, in the form of horizontal fillets [*Fig. 11:14–15*], a broad band above the ridge [*Fig. 11:17*], or a painted line on the lip [*Fig. 11:18*]. As noted earlier, they are also compatible with concentric decoration on the belly [*Fig. 11:47–49*].

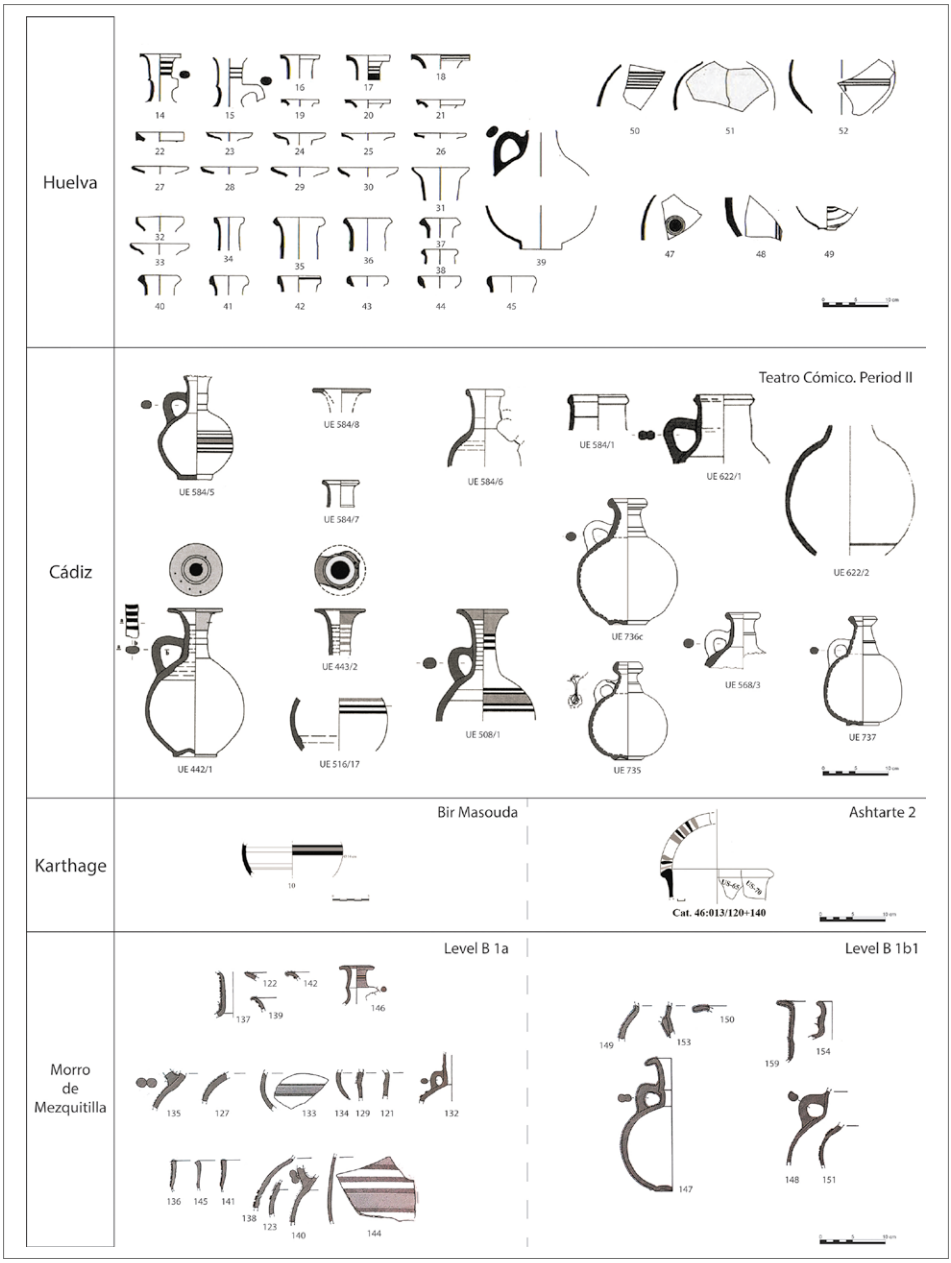


Fig. 11. Neck-ridged jugs and jars from sequentially and chronologically relevant central and western Mediterranean contexts: Huelva (after González de Canales, Serrano Pichardo, and Llompart Gómez 2004: 61, Pl. XI: numbers as on the original); Cádiz (after Torres Ortiz et al. 2014: 59 and 61, Figs 5 and 6: each instance named after its context number as on original); Bir Massouda in Carthage (Núñez 2014: 16, 27–32, Fig. 4:10); Astarte 2 site in Carthage (after Maraoui Telmini and Schön 2020: 89–90, Fig. 8: Cat. 47:013/120+140); Morro de Mezquitilla (after Schubart and Maass-Lindemann 2017: Pl. 46: numbers as on the original)

Among the *Jd* neck-ridged jars and smaller variants, examples occur with conical [*Fig. 11:34, 36–38, 41*] and cylindrical necks [*Fig. 11:35, 40, 42, 45*]; González de Canales, Serrano Pichardo, and Llompart Gómez 2004: 61, Pl. XI:34–45). Four rim varieties are represented: open with flat lips [see *Fig. 11:36* and compare it with *Fig. 10:23*]; erect with tapered lips and internal concavity [*Fig. 11:35, 37–38, 40–41*; see *Fig. 10:23, 31*]; direct rims with exterior thickening and flattened interior [see *Fig. 11:34, 42, 45*, probably *43*; see *Fig. 10:25, 19, 30*]; and open rims with double thickening, both internal and external [*Fig. 11:44*].

Other finds include a body fragment of a large jug with a vertical handle [*Fig. 11:39*] while some rim fragments are associated with simple oval-section handles [*Fig. 11:14–15, 39*]. Except for one rim fragment with painted decoration on the lip [*Fig. 11:42*], all rim fragments are plain. Two belly sherds show painted bands [*Fig. 11:50, 52*], consistent with the decorative practices observed in Levantine neck-ridged jars.

When compared with other Mediterranean sites showing features of similar chronological sequence to those from Huelva, the earliest evidence of Levantine presence at Sant'Imbenia —contrary to earlier views (Oggiano 2000)— appears to coincide with that at Huelva (Núñez 2025). A similar situation is observed in Tombs 2, 5, and most probably 11 in the necropolis of Cortijo de San Isidro, in Málaga (Sánchez Sánchez-Moreno et al. 2025: 203–204, 207–209, 214–216). By contrast, Utica (López Castro et al. 2016; 2020) corresponds to a slightly later stage. Apparently, neither site has yielded neck-amphoras or neck-ridged jars.

CÁDIZ

On the Iberian Peninsula, no neck-amphoras are known from the early levels of Cádiz (Teatro Cómico, Calle Ancha and Cánovas del Castillo; respectively, Torres Ortiz et al. 2014; Ruiz Mata, Pérez, and Gómez Fernández 2020; Córdoba Alonso and Ruiz Mata 2005) or from the neighboring Castillo de Doña Blanca (Ruiz Mata and Pérez 2020).

The earliest significant assemblage among them comes from Period II at Teatro Cómico [see *Fig. 11*], broadly contemporary with the later phases of Huelva and probably predating the earliest levels at Castillo de Doña Blanca (Torres Ortiz et al. 2014: 51). It also corresponds to most of the sequential stages represented at the Cánovas del Castillo site.

Among the *Ja* forms, mushroom-rimmed jugs are especially notable [*Fig. 11: UE 584/8, UE 442/1, UE 443/2*]. Their sequential importance lies in the open stance of the upper neck [e.g. *Fig. 11: UE 584/5*], paralleled by al-Bass Tomb TT64/78 [see *Fig. 10:6*], where a neck-ridged jug, a conical-neck decanter, and a flat-based cup with concentric grooves were associated. The Cádiz examples show decoration on the upper neck, with interesting variations. One jug combines the standard band-and-fillets scheme but painted in red [*Fig. 11: UE 443/2*]. Another has red paint on the upper neck but no fillets, and transversal black strokes on the handle — an archaic feature uncommon in the Levant at this date [*Fig. 11: UE 442/1*]. A third fragment shows red paint on the lip [*Fig. 11: UE 584/8*].

Another jug from the same stratum lacks a neck ridge [*Fig. 11: UE 508/1*]. Its morphology —straight unridged neck,

open rim, and single handle from neck to shoulder— recalls a form present in the Levant from the beginning of the Iron Age (Bikai 1978b: Pl. XXXVII:2; Dayagi-Mendels 2002: Fig. 3.9:28; Ben-Tor and Zarzecki-Peleg 2015: 181, Fig. 2.2.16:8,15; A. Mazar 2015: 57, Fig. 1.1.23:6–10; Gilboa 2018: 128, Fig. 20:41). Decoration consists of linear motifs on the body and neck, paralleling Levantine examples and a body fragment from Calle Ancha (Ruiz Mata, Pérez, and Gómez Fernández 2014: 99, Fig. 15:5). These jugs are best understood as Levantine adaptations of the lekythos, a Mycenaean form originating in Late Helladic IIIA2 (Mountjoy 1986: Fig. 275: FS120–124), continuing in the Aegean during the Proto-Geometric and Geometric periods (Lemos 2002: 72–74; Coldstream 2008: Pls 41:f,

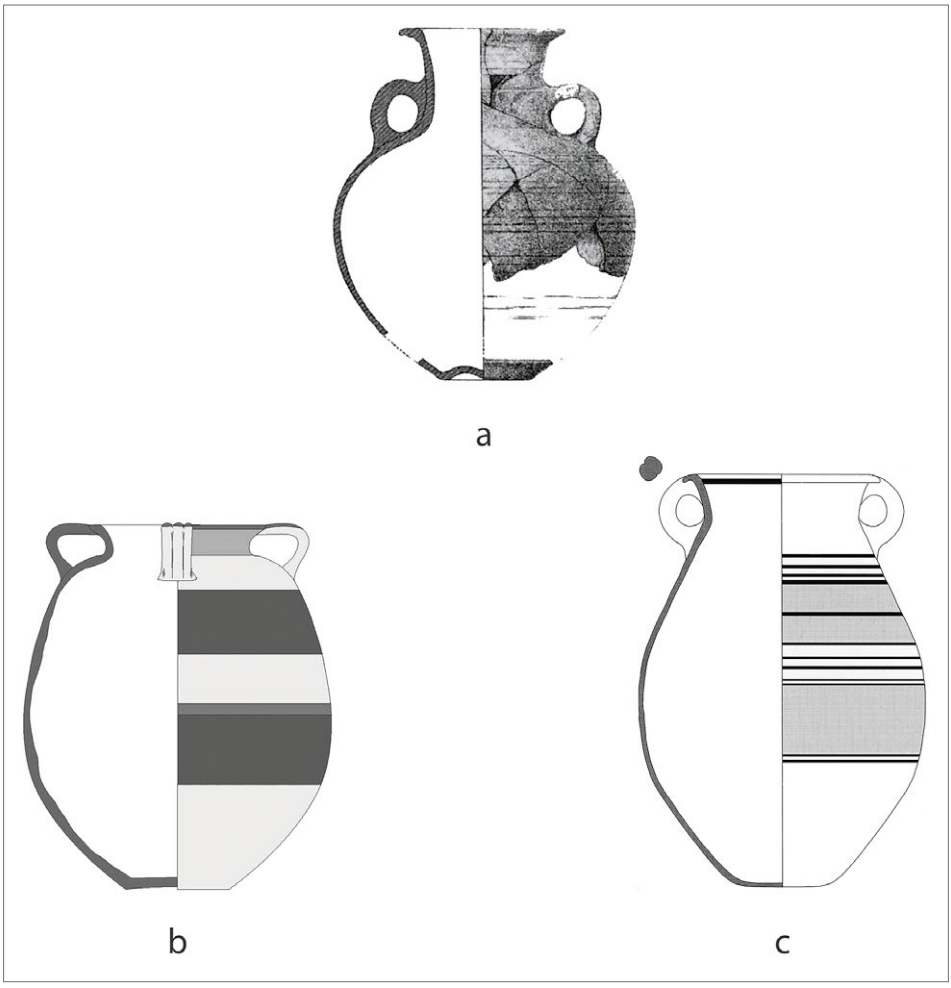


Fig. 12. a – neck-amphora from Toscanos (Maass-Lindemann 1982: Pl. 1:1); b – early pithoid-jar from the Cortijo de San Isidro Tomb 1 (Juzgado Navarro, Sánchez Sánchez-Moreno, and Galindo San José 2016: 114, Fig. 10); c – pithoid-jar from the Cerro del Villar (Curià et al. 1999: 223, Fig.141:c)

53:f, 59:f, 61:a), and also attested in Cypro-Geometric contexts (Gjerstad 1948: Pls IV:3–5, XI:5–10, XIII:11–12, XVI:6, XVII:18–20, 22–23, XIX:3, XXII:9–10, XXVII:16). A close parallel comes from a tomb in Achziv (Dayagi-Mendels 2002: Fig. 3.16:52).

Although no neck-amphoras are present, several *Jd* neck-ridged jugs with vertical rims occur [*Fig. 11: UE 584/1, 584/6, 584/7, 622/1*]. These belong to two variants already attested in the late Middle and early Late Iron Ages in the Levant and at Huelva [see *Fig. 10*]. The first has cylindrical necks and direct rims with external thickening and erect tapered lips [*Fig. 11: UE 584/6*; see *Fig. 10:19, 30*], sometimes with an inner concavity [*Fig. 11: UE 584/1, 622/1*; see *Fig. 10:31*]. A red-slipped version appeared at Calle Ancha (Ruiz Mata, Pérez, and Gómez Fernández 2014: 99, Fig. 15:7). The second has conical necks and open rims with flattened lips [*Fig. 11: UE 684/7*; see *Fig. 10:23*]. One fragment shows a geminated handle [*Fig. 11: UE 622/1*], absent from Huelva. None of these jugs show decoration.

Period II also produced four jugs with spherical bodies, compact conical necks, and undecorated rims [*Fig. 11: UE 568/3, UE 736b-d*]. Their rims fall into three profiles: (1) erect, slightly inverted with tapered lip [*Fig. 11: UE 735*]; (2) open with rounded exterior thickening, sometimes with slight inner concavity [*Fig. 11: UE 736, 568/3*]; and (3) open with broad flat lip and rounded interior thickening [***F**ig. 11:737*]. These types derive from Levantine prototypes of the late Middle Iron Age [see *Fig. 11:31*] and, as the excavators note, represent early examples of the so-called "oil bottles" [see *Fig. 10:32*].

CARTHAGE

In the Central Mediterranean, broadly overlapping with or slightly later than the earliest Gaditanian material, Carthage provides important evidence. At Bir Massouda, a body fragment of a spherical vessel with horizontal bichrome decoration may belong to a neck-ridged jar or jug [see *Fig. 11*]. The associated stratum produced a radiocarbon date in the second quarter of the 8th century BC (GrA-29281: 2520±25 BP = 780–550 cal BC at 1σ; 800–510 cal BC at 2σ; Docter et al. 2008: 415, Fig. 12; Núñez 2014: 9, Fig. 1). Comparable results were obtained from Stratum S73 of the "Astarte 2" site (Maraoui Telmini and Schön 2020: 79–86, Fig. 5), which yielded no neck-ridged material but provided an identical radiocarbon determination (US 73 #26859: 2520±25 BP=781–567 cal BC at 1σ; 792–544 cal BC at 2σ; Maraoui Telmini and Schön 2020: 96–98, Tab. 4.2, Fig. 10).

From the subsequent unit (US70–US65), a rim fragment has been published that could belong to a stilted-rim jug [see *Fig. 11*]. Initially described as a Cypriot import, its fabric was not conclusively identified (Maraoui Telmini and Schön 2020: 90). Morphologically, the vertical neck and triangular rim profile suggest a neck-amphora or a *Jd* neck-ridged jar [*Fig. 13:b*], as the authors also acknowledge. The transverse decoration above the lip was interpreted as supporting a Cypriot origin, but similar motifs are well known in Levantine repertoires of the Bronze and Iron Ages (see [*Fig. 7:b–c, e*]; Núñez 2004: 185, Fig. 100:6–7; Aubet, Núñez, and Trellisó 2014: 196, Fig. 2.27: U.98-4; 205, Fig. 2.36: U.110-2:2) and are also attested in overseas contexts (Blázquez et al. 1979: Fig. 59:618).

The radiocarbon date from US70–US65 (US 65 #26858) is slightly earlier than that of US73 (2575±24 BP = 798–777 cal BC at 1σ; 808–598 cal BC at 2σ; Maraoui Telmini and Schön 2020: 96–98, Table 4, Fig. 9). Considering the material associations and stratigraphic sequence, the most coherent range is 808–756 cal BC (2σ, 14.8%).

MORRO DE MEZQUITILLA

Back on the Iberian Peninsula, and following the same sequential order, Level B1 of Morro de Mezquitilla (Málaga; Schubart and Maass-Lindemann 2017) overlaps stratigraphically with Stratum US70-US65 of "Astarte 2" at Carthage. Within this level, two sub-levels are of particular interest —B1a and B1b1— considered broadly contemporary by the excavators (Schubart and Maass-Lindemann 2017: 119, Fig. 10). As will be argued below, this conclusion is open to question.

Level B1a

This sub-level has produced the earliest fragments of neck-ridged jars at the site [*Fig. 11:121, 123, 127, 129, 132, 133, 135–138, 140–141, 144–145*]. One fragment [see *Fig. 11:132*] probably belonged to a larger *Jd* jug: it has a cylindrical neck with a central ridge, a single vertical oval-section handle, and shoulder decoration consisting of two black horizontal fillets. The same decorative scheme occurs on several wall fragments from the same sub-level [*Fig. 11:123, 133, 138, 144*].

Five additional neck fragments [see *Fig. 11:121, 129, 136, 141, 145*] clearly belong to this type, three with preserved rims [see *Fig. 11:136, 141, 145*]. They have angular ridges, erect upper stances, and direct rims with triangular exterior thickenings, closely paralleled at Toscanos (Maass-Lindemann 1982: Pl. 13:413), Cádiz (Ruiz Mata, Pérez, and Gómez Fernández 2020: 372, Fig. 8:7), and in Levantine contexts [see *Figs 5:a, 10:20, 24–26, 30*]. Decoration includes a central red band flanked either by black fillets [see *Fig. 11:136*] or by another red band [see *Fig. 11:141*]. This scheme is rare in Levantine *Jd* jugs but known on some jar types (Núñez 2021: 146–147, Fig. 8). Other fragments include a conical-neck jug with open rim [see *Fig. 11:121*], a jug with cylindrical-conical neck [*Fig. 11:129*], and a smaller piece [*Fig. 11:137*] possibly from a mushroom-rim jug, though its decoration suggests instead a simple-rimmed form.

Several rims could belong to *Ja* variants [*Fig. 11:122, 139, 142*], similar to Levantine Late Iron B examples [see *Fig. 10:9, 16*] or overseas finds such as Sardinia (Bartoloni 1988: 176, Fig. 4:K). Two rims show red paint on both sides of the lip and linear neck decoration [*Fig. 11:139, 142*], paralleled at Toscanos (Maass-Lindemann 1982: Fig. 2:39–40) and Trayamar (Schubart and Niemeyer 1976: Pl. 8:181).

Body fragments reveal two decorative schemes: (1) linear designs with red bands and black fillets [see *Fig. 11:123, 133, 138, 144*], some closely resembling Bir Massouda [see *Fig. 11:133*], others like Trayamar *Jd* jugs (Schubart and Niemeyer 1976: Pl. 8:181); (2) plain red slip [see *Fig. 11:135, 140*], attested in Ayamonte (Marzoli and García Teyssandier 2018: 81, Fig. 81:52a), La Joya (Echevarría Sánchez et al. 2021), and late 8th-century Sulcis (Bartoloni 2014: 13, Fig. 2; Bernardini 2018: 57, Fig. 37:g).

Two shoulder fragments with vertical geminated handles [see *Fig. 11:135, 140*] are significant. Though rare in Levantine jugs —except in certain decant-

er variants (Aubet, Núñez, and Trellisó 2014: 227, Fig. 2.58: U.142-3; 233, Fig. 2.64: U.154-3; 229, Fig. 2.60: U.145-3)— they are common in overseas types such as neck-amphoras [see *Fig. 1:a*], single-handled *Jd* jars [*Fig. 13:a, c–d*], pithoid jars ([*Fig. 12:c*]; Maass-Lindemann 1982: 31–34; Plà Orquín 2014), stable storage jars (Schubart and Niemeyer 1976: Pl. 16:606), amphoroid-kraters (Harden 1937: 65, Fig. 3:j; Bartoloni 1988: 173, Fig. 1:D), and amphoras (Spagnoli 2019: 30, Fig. 3:17).

Level B1b1

Placed by the excavators in the first half of the 8th century BC (Schubart and Maass-Lindemann 2017: 119–120, Figs 45–46:146), B1a in fact yielded a mushroom-rim jug typical of the early Late Iron B, contemporary with the al-Bass Period IV in Tyre and Sarepta Substratum D-1 (Aubet, Núñez, and Trellisó 2014; Núñez 2021–2022: 117–118). Another diagnostic vessel is a decanter with slightly strangled conical neck (Schubart and Maass-Lindemann 2017: Figs 45–46:131), paralleled in Tyre tombs TT70/71, TT93/94, TT117/118, and TT121/122 (Aubet, Núñez, and Trellisó 2014), dated to the mid-8th century BC.

B1b1 instead seems later, toward the end of the 8th or the beginning of the 7th century BC. Its assemblage includes a mushroom-rim jug with cylindrical-conical neck, step-like ridge, unusually open tapered rim, and red slip [*Fig. 11:159*], paralleled by examples from Laurita (Almuñécar/Sexi) dating to the early 7th century BC (Núñez 2013: 47–58; see [*Fig. 10:9*]). Another rim [*Fig. 11:150*] has the standard mushroom-rim profile, rounded lip, and red slip.

A distinctive local product is a jug with a "goblet-shaped" rim [*Fig. 11:147*], which diverges from standard mushroom-rimmed examples. It has a short open neck and a pendant tapered rim, resembling neck-amphoras and pithoid jars [*Fig. 12*], known from later contexts at Cerro del Villar, Toscanos, Trayamar, Cádiz, and La Fonteta.

Chronological implications

The absence of "goblet-shaped" rims in B1a is significant. Sequentially, this level is set apart from Period I at Teatro Cómico (Torres Ortiz et al. 2014), which is earlier yet already shows neck-ridged jars and simple-rimmed jugs with double-strap handles, direct thickened rims, and bichrome decoration. Thus, B1a provides a *terminus post quem*, dated to the mid-8th century BC, for the emergence of classic neck-amphoras on the southern Iberian coast.

This interpretation is reinforced by Tomb 1 of the Cortijo de San Isidro necropolis at Málaga (Juzgado Navarro, Sánchez Sánchez-Moreno, and Galindo San José 2016; Sánchez Sánchez-Moreno et al. 2025: 200–203), broadly contemporary with Mezquitilla B1a. Its assemblage includes a strangled-neck decanter (cf. Schubart and Maass-Lindemann 2017: Figs 45–46:131; Aubet, Núñez, and Trellisó 2014: 213, Fig. 2.44: U.121-3), a hemispherical grooved-base cup, and a mushroom-rim jug [see *Fig. 10:6–7*], all consistent with early Late Iron B. Of particular importance is a pithoid jar used as a cinerary urn, with a horizontal rim, short neck, and quadruple strap handles ([*Fig. 12:b*]; Juzgado Navarro, Sánchez Sánchez-Moreno, and Galindo San José

2016: 114, Fig. 10), which are morphological features that would indicate an early manifestation of this ceramic form.

Together, Mezquitilla B1a and Cortijo de San Isidro suggest that true neck-amphoras and pithoid jars in their classic forms —characterized by distinctive handles, rims, and decoration— emerged only after these contexts, in the later 8th century BC, most likely in Iberian workshops. Their absence from contemporary Central Mediterranean sites supports this conclusion.

CONCLUSIONS FROM THE CENTRAL AND WESTERN MEDITERRANEAN CONTEXTS

On current evidence, neck-amphoras first appear in the second half of the 8th century BC. This creates an apparent gap with the two-handled neck-ridged jars known in 9th-century BC Levantine contexts, and three points help to explain it.

First, 8th-century BC Mediterranean contexts rarely yield either true neck-amphoras or two-handled neck-ridged jars. In the Levant the two-handled form lost ground during Iron 2b, making it un-

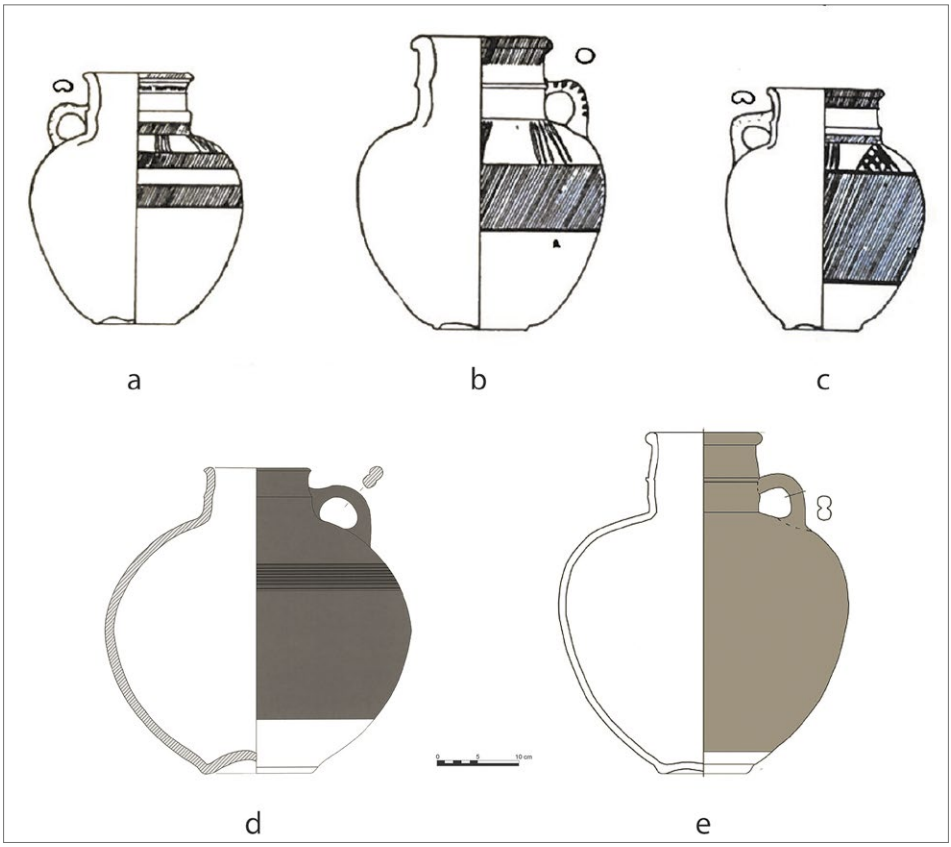


Fig. 13. Single-handled neck-ridged jars from the central and western Mediterranean: a–c – Salambó cemetery in Carthage (Harden 1937: 65, Fig. 3:m, n, p, respectively); d – Necropolis of Ayamonte, Tomb 2 (Marzoli and García Teyssandier 2018: 70, Fig. 52:a); e – Collezione Biggio, Sardinia (Bartoloni 2014: 13, Fig. 2). Jars a–c not to scale

likely that this vessel —or its conceptual model— was transmitted westward at an early stage. Instead, large one-handled jugs and jars dominate the record, both in the Levant and in the earliest overseas contexts, such as Huelva.

Second, the morphological and decorative features of the overseas neck-amphoras and neck-ridged jars show that they are not simple copies but products of local workshops. Their archaic or archaizing elements mark the moment when these workshops began operating within a broader Phoenician ceramic *koine*.

Third, two-handled jars are rare in the Levant during the 8th and 7th centuries BC, replaced in the south by three-handled forms, while one-handled variants continued to develop in both the Levant and the west. It is therefore plausible that the southern Iberian coast provided the setting for the transformation of these one-handled jars into the first neck-amphoras, which later spread to the Atlantic façade and northwestern Africa, while central Mediterranean centers continued to favor the one-handled type.

A relevant example comes from Salambó in Carthage, where three jars with a single vertical handle were found in the Tanit I level [*Fig. 13:a–c*]. Although their precise findspots are unknown, their morphology shows both Levantine parallels and regional adaptations. Their inverted pyriform bodies recall central Mediterranean jars rather than Levantine prototypes (see, for example, Bartoloni 2014: 13–14, Fig. 2), while their cylindrical necks carry either ring-shaped ridges [see *Fig. 13:b–c*] or a step-like ridge [see *Fig. 13:a*], the latter suggesting a later 8th or early 7th century date. The rims fall into three closely related types: open or everted lips (see *Fig. 13:c*; compare, for example, with Chapman 1972: 79, Fig. 7:175); beveled outlines (see *Fig. 13:a*; compare with Chapman 1972: 79, Fig. 7:176, or with Bikai 1987: Pl. X:331 or Pl. XIII:326); and triangular sections comparable to those from Astarte 2 and Levantine examples (see *Fig. 13:b*; see, for instance, Saidah 1966: 69, Nos 23 and 24; 1977: 140, 9, associated with a conical neck; Bikai 1978b: Pl. XIV:8, from Stratum IV of Tyre; 1987: Pl. X:332, from Cyprus). Annular bases with omphalos are consistent with Levantine parallels. The handles are either rounded or geminated, the latter being unusual in the Levant after the Early Iron Age. Their decoration combines linear motifs with black triglyphs on the shoulder and occasional interwoven triangles, while the handles bear archaistic transverse strokes. Although their dating remains uncertain, one specimen [see *Fig. 13:a*] could belong to the very end of the 8th or early 7th century BC, while the others are consistent with Levantine forms of the mid- to late 8th century, even if their overseas manufacture cautions against direct typological comparisons.

Two questions arise from this evidence. The first concerns the prototype of the neck-amphora. Clear early examples are lacking, and later specimens share features with other shapes, such as the pithoid jar. A plausible prototype may be the one-handled jar with triangular outer thickenings on the rim (compare *Fig. 1:a* with *Fig. 11: UE 584/1, 622/1*, from Cádiz, *Fig. 11:145*, from Morro de Mezquitilla, and some Levantine prototypes in *Fig. 10:24–27, 30*), which

could naturally evolve into the pendant, tapered rim of later neck-amphoras. The second question concerns the reason an additional handle was adopted. The functional explanation is straightforward: it made filled jars easier to carry and pour. Yet cultural influences from other Mediterranean regions may have altered the customs related to wine consumption and the vessels employed in this activity. A comparable shift occurred in the central Levant, where the stable amphora itself emerged in the 8th century BC, both in Tyre and in contemporary central Mediterranean contexts ([*Fig. 14*]; Núñez 2021).

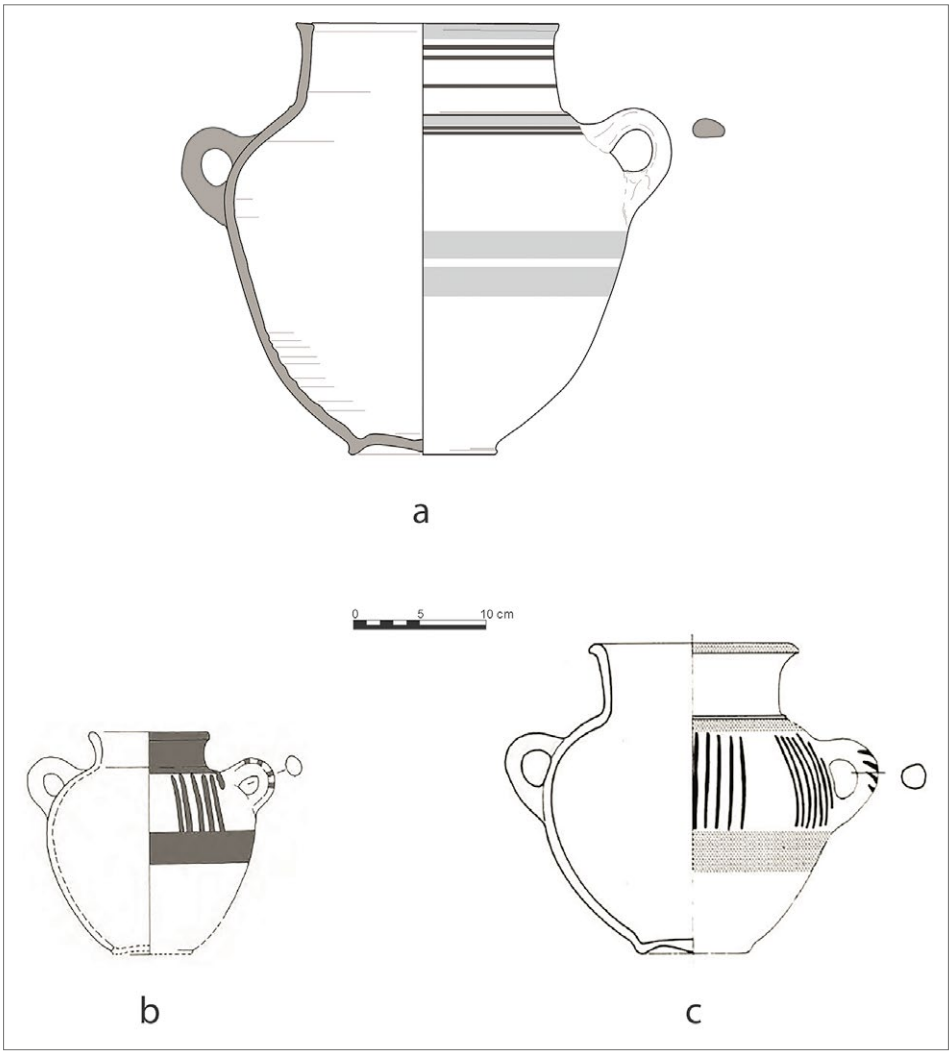


Fig. 14. Phoenician amphoras: a – al-Bass cemetery in Tyre (Aubet, Núñez, and Trellisó 2014: 193, Fig. 2.24: U.93-1, Tomb TT93/94); b – Mozia (Spagnoli 2019: 105, Pl. 7:1); c – Tophet of Sulci (Bartoloni 1988: 174, Fig. 2:g)

The development of overseas ceramic production in the late 9th century BC does not, therefore, imply the simultaneous creation of the neck-amphora. The various western workshops worked autonomously, grounded in their own traditions but operating within a shared Phoenician horizon. Influences from other regions were absorbed into their repertoires, as seen in central Mediterranean amphoras [see *Fig. 14*], which combined Levantine inspiration with local traits. Within this dynamic, the southern Iberian workshops of the later 8th century BC appear to have been the most likely cradle of the classic neck-amphora, from which the form subsequently spread to other parts of the Mediterranean.

THE NECK-AMPHORA IN CONTEXT: FINAL CONSIDERATIONS

The production of every vessel followed a purpose, defined by its function and by the cultural expectations of those who made and used it. Technical attributes such as fabric, morphology, surface finish, and firing ensured performance, while morphology and decoration reflected cultural tastes and habits (Malafouris 2014). Objects thus mediated between producers and consumers, changing over time as new hands entered production and as local needs or foreign influences reshaped the *chaîne opératoire*. Vessels introduced into different cultural environments could also acquire functions not foreseen by their makers (Knapp 2018), adapting to new contexts while retaining recognizable forms and meanings.

This dynamic is visible in the *Ja* and *Jd* neck-ridged jugs from the 9th century BC onward, which split into distinct rim variants but often coexisted within the same funerary sets, as in al-Bass Tomb TT49 [see *Fig. 7:a, b, c*]. Such variation is unlikely to be accidental, suggesting differentiated functions within the same ritual assemblage, though their precise roles in funerary banquets remain unclear. A comparable situation applies to the neck-amphoras. In Phoenician tombs, their presence signaled a close connection with wine consumption within the funerary ritual (Núñez 2021: 133), while their occasional use as cinerary urns abroad places them alongside amphoroid kraters, amphoras, cauldrons, and storage jars as large containers serving complementary roles in transport, preparation, and deposition (Núñez 2021: 154–156).

In Levantine contexts the *Jd* jugs rarely served as urns. More often, their smaller variants functioned as jugs accompanying larger containers, sometimes substituting for or complementing *Ja* jugs, as shown by examples from Tambourit and Khalde (Saidah 1966; 1977). At al-Bass, only 4.5% of tombs yielded *Jd* jugs, usually of the conical-neck variant, while Achziv produced comparable evidence (Dayagi-Mendels 2002; E. Mazar 2004; 2009–2010). Three aspects follow from this pattern: the functional differences between cylindrical- and conical-necked variants, the existence of different size classes, and the divergent role of these jugs overseas. Their origins in large storage-like containers suggest that smaller versions, appearing in the late 9th century BC, served complementary roles, perhaps holding additives for wine

preparation. Associations of *Ja* and *Jd* jugs in the same tomb may indicate that each contained different substances. Definitive answers will depend on residue analysis.

Other morphological experiments, such as spouted rims or added handles [*Fig. 15*], show the flexibility of these forms and their integration into broader sets of wine-related equipment. This background helps to explain the divergent trajectories overseas, where neck-amphoras appeared and spread in the west, while in the cen-

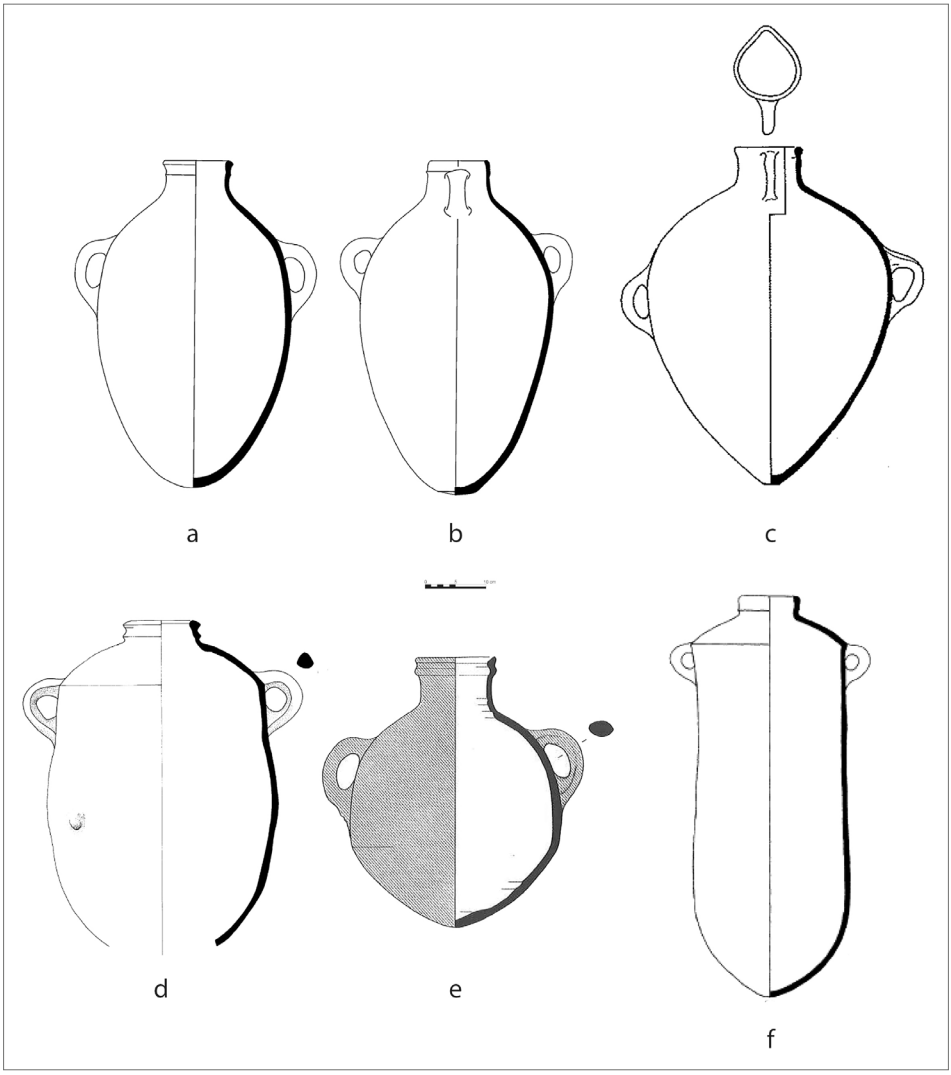


Fig. 15. Iron Age neck-ridged storage jars from the Levant: a – Loud 1948: Pl. 82:8, Megiddo Stratum VI, Early Iron Age; b – Loud 1948: Pl. 83:6, Megiddo Stratum VI, Early Iron Age; c – Finkelstein, Bunimovitz, and Lederman 1993: 172, Fig. 6.53:10, Shiloh Stratum V, Early Iron Age; d – A. Mazar 2006: 457, Pl. 37:3, Beth-Shean Stratum P-7; e – A. Mazar et al. 2005: 240, Fig. 1.36:3, Tel Rehov Stratum IV, Middle Iron Age; f – Loud 1948: Pl. 89:72, Megiddo Strata IVB and III, Late Iron Age

tral Mediterranean the one-handled variant remained dominant (Orsingher 2015). Such regional differences reflect not only typological preferences but also varying social practices of wine consumption.

Finally, given the chronological gap between 9th-century BC Levantine double-handled jars and their western descendants, direct derivation is unlikely. Instead, the adoption of new wine containers in the 8th century BC would reflect broader Mediterranean trends. In the southern Levant, the three-handled jar emerged [see *Fig. 3:j*]; in Tyre, the amphora [*Fig. 14:a*], echoed in central Mediterranean productions [*Fig. 14:b–c*]; while in the west, the neck-amphora took shape [see *Figs 1:a; 12:a*]. Contemporary local manufacture of *kotylai* and *skyphoi* inspired by Aegean models (Briese and Docter 1992; Docter 2014) further underlines this shared horizon of innovation.

In sum, Phoenician workshops across the Mediterranean developed their own ceramic traditions while responding to common trends. Neck-amphoras appeared in the second half of the 8th century BC, derived from earlier one-handled jars but shaped by regional conditions. Their morphology and decoration point to local production, yet their role quickly extended beyond Phoenician settlements into indigenous contexts. That new phase, however, lies beyond the scope of this paper.

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