

UNIVERSITY COLLEGE LONDON

**The socio-economic implications of the distribution of juglets in the eastern
Mediterranean during the Middle and Late Bronze Age**

PhD thesis submitted 2013

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Declaration

I, Lesley Bushnell, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Abstract

The distribution of ceramic wares in the eastern Mediterranean of the Middle to Late Bronze Age has been the subject of intensive study for many decades. In particular, the movement of Cypriot and Mycenaean wares to Egypt and the Levant has been used to elucidate trading mechanisms and/or synchronise the chronology of the region. During the course of these studies, passing comment has been made about the circulation of small narrow-necked ceramic vessels and the commodities they might have contained. Such vessels included Cypriot Base Ring juglets and Mycenaean stirrup jars that probably contained a valued commodity such as perfumed oil. The widespread distribution of these products has become linked to the production of low-cost, value-added goods to sub- and lower elite portions of society. Most observations on juglets to date have come from studies of single wares and/or high profile imports. This PhD research represents the first systematic investigation of the circulation of juglets as a functionally-distinct form rather than as a ware. Juglets offer a fine-grained dataset for examining wider issues related to commodity production, distribution and consumption. The circulation of juglet commodities can thereby be viewed against a background of local consumption practices. The chronological depth and spatial breadth of this study offer an opportunity to trace developments in the social and economic significance in the intra- and inter-regional distribution of this form, contributing also to an understanding of changing inter-regional contacts throughout the eastern Mediterranean. This analysis presented here addresses patterns of production (including evidence for regionalism and specialist manufacture), consumption strategies within and between societies and over time, as well as producer-consumer dynamics such as bilateral trade links, selective marketing and branding.

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Chapter 1 Introducing Bronze Age juglets

The interregional movement of ceramics within the eastern Mediterranean during the Bronze Age has been the subject of intense study for decades. Distinctive, decorated fine wares have been particularly useful for elucidating social interaction, with high rates of stylistic turnover providing good chronological indicators. Some studies have examined the movement of particular ceramic styles, or wares, during a specific period, with approaches frequently grounded in concepts of production and distribution, centred on the exporter. Other studies have been directed to the opposite side of the cultural coin, i.e. reception, consumption and social implications of the imported pots in the receiving communities. Such works have produced some fascinating insights into both the wares and the forms that were selected. In particular, some intriguing observations have been made on some special forms referred to as 'juglets', which were small closed vessels including jugs, flasks and bottles. These ubiquitous forms were widely spread in the eastern Mediterranean during the Middle (MBA) and Late Bronze Ages (LBA), but had received little attention, until they became conspicuous by being recognised as imports in foreign contexts.

The term 'juglet' has been applied to a range of small closed ceramic containers that have narrow necks to restrict the flow of the liquids they contained. Their very form implies that their contents were somewhat treasured, a 'precious commodity'. The liquid inside was not necessarily rare or expensive in terms of value or access (the very ubiquity of ceramic juglets militates against this), but definitely to be used sparingly, dispensed in controllable quantities. The most obvious modern analogy is perfume in diminutive, but well formed bottles, a little luxury widely consumed by large swathes of the population in very small amounts. In the spirit of 'good things come in small packages', perfume is not unique. Food and drink additives such as vanilla essence, tabasco sauce or angostura bitters are all dispensed drop by drop from small bottles with special caps designed for that purpose. On a darker note, a small ribbed glass bottle containing the patent medicine called Dr Collis Brown's mixture, ostensibly used to treat coughs, colds and stomach disorders, was so frequently abused for its opium content, that it had to be withdrawn from the market. In all these cases, the packaging forms a link between the contents and their consumers. The perfume industry, today, dedicate much ingenuity into designing perfume bottles to evoke consumer response,

and in some case the shapes of the bottles have been the subject of copyright, because of their important role in consumption (Holmes 2012).

In the Bronze Age, ceramic juglets formed the packaging to some, as yet unidentified 'precious commodity', a term coined to express the nature of the contents in terms of their sparing use. This thesis is only partly concerned with the nature of actual product inside the juglets (which may have been perfumed oil, a psychoactive substance or as an additive for drinks, possibly alcoholic). Whatever the nature of the commodities, it is the exploration of the relationships between their production, distribution and consumption that is the central theme here. This study looks at why consumers wanted these goods and how producers responded to these needs. In the MBA and the LBA, textual evidence has documented the burgeoning international trade moving important commodities such as metals between the great powers of the eastern Mediterranean and supplying luxury goods to the elites of these transactions. Increasingly, archaeological artefact distribution has indicated how the desire for foreign goods spread to a wider consumer base. The circulation of juglets throughout the eastern Mediterranean during this period is a case in point.

This thesis represents the first systematic investigation of the circulation of juglets as a distinct form rather than as one component of a ware. Juglets have been found in high numbers and can provide a fine-grained data set for examining wider issues related to commodity distribution and consumption. The chronological depth (*c.* 1900- 1200 BC) and spatial breadth of this study offer an opportunity to trace developments in the social and economic significance of the inter-regional distribution of this form, contributing also to the understanding of changing processes within the different regions and dynamics of inter-regional contacts throughout the eastern Mediterranean. This study also examines local and intra-regional consumption of juglets, elucidating the standard social norms against which the consumption of imports can be compared and which is largely undocumented.

1.1 Critique of previous observations on juglets

1.1.1 Studies focusing on origin and production

Most information that is available on juglets has been gleaned from broader ceramic studies. Very few studies have been dedicated to juglets, except coincidentally when a ware was represented almost exclusively by that form, as in the case of Tell el-Yahudiyeh (TEY) ware juglets studied by Kaplan (1980) or Red Lustrous Wheel-made (RLWM) ware investigated by Eriksson (1993). The former study was one of the earliest analyses of single ware distribution throughout the eastern Mediterranean. It was found that TEY juglets could be classified according to form and decorative elements and that typological variations could be related to both chronological and geographical variables, the latter being confirmed by Neutron Activation Analysis (NAA) studies (Kaplan 1980, 47-66). They were widely circulated throughout Egypt and as far south as Nubia, in the Levant from Syria to southern Palestine and on Cyprus. They belong to the MBA, originating in the latter phases of MBIIA and lasting not much later than the end of MBIIC. There would appear to have been two distinct production regions for TEY, one in the Levant and the other in Egypt, both with their own developmental phases (Aston 2009; Kopetzky 2008).

It would seem that TEY juglets first appeared in Palestine since the primeval forms have been discovered at Afula in the remains of a workshop (Sukenik 1948). However, it was Egyptian TEY juglets that were exported to other regions such as Cyprus and Syria, whilst Palestinian manufactured juglets were restricted to local circulation. The development and distribution patterns implied that juglets were not introduced to Egypt from the southern Levant. This is part of the enigma of TEY juglets since they definitely owe their form to Levantine styles. The firing techniques, however, were alien to the Levant and the incised decoration was more at home in Nubia. Kaplan suggested that the form, decoration and firing techniques were brought together in Egypt, with the Delta as a likely source, a view which would seem to be confirmed by subsequent excavations at Tell el-Dab'a. Whilst the studies of TEY ware have often been concerned with type and origin, they also inform us of the popularity of the juglet form in the eastern Mediterranean, and that it was amongst the earliest juglet forms to have such a widespread circulation.

Other circulation studies covering the MBA have included the catalogue of Cypriot pottery in Palestine by Johnson (1982) and the subsequent more detailed research of Maguire on White Painted exports from Cyprus to the Levant and Egypt, especially Tell Dab'a (Maguire 1990; Maguire 2009). Whilst Johnson's study briefly discussed the role of exchange, it did not differentiate the juglet form from other closed vessels. It was Maguire who singled out the importance of the MC Cypriot juglet form as a carrier for a precious commodity. By contextualising the deposition of the imported Cypriot juglets, she made a crucial observation that local Levantine juglets were important in funerary contexts, something that had gone largely overlooked previously, somewhat ironically given the very high prevalence of these forms.

The circulation of pottery around the eastern Mediterranean increased dramatically during the LBA and this is reflected in the number of studies covering this period. The distribution of RLWM in the eastern Mediterranean has been extensively researched by Eriksson (1991; 1993; 2007b). Originally thought to have originated in North Syria or Cilicia, she argued very convincingly for a Cypriot origin for this ware. Not only has the RLWM ware the longest chronological range on Cyprus, from Late Cypriot IA (LCIA) to LCIIIB (Eriksson 1991, 83 and Table 10.2), Cyprus also has the greatest quantity and the widest range of shapes compared with any other eastern Mediterranean region. Provenance studies involving NAA were originally interpreted in favour of a Syrian or Anatolian origin (Knappett 2000), even though the same data could justifiably support Cypriot manufacture in the area of the Kyrenia mountain range. More recent petrographic studies have led the same author to revise his opinion in favour of a Cypriot origin (Knappett *et al.* 2005). The problem lies with the strong, hand-made ceramic tradition on Cyprus and the belief that the fabric and technique of RLWM were too advanced for Cyprus at this period. The argument that wheel-made and hand-made pottery did not co-exist on Cyprus is now largely dismissed following work by Crewe (2007b; 2007c) on wheel-made techniques in LBA Cyprus. Results of provenance studies have enabled other wheel-made wares to be added to the list of pottery made on Cyprus. Bichrome ware has also been shown to have been manufactured both on Cyprus and in Palestine (Artzy 2001). Petrographic analysis supports a Cypriot manufacture for Black Lustrous Wheelmade (BLWM) ware, although this was not exclusive; some BLWM was made in Palestine (Yannai and Gorzalczy 2007).

The term BLWM is a relatively new term for the black juglets recognised by Gjerstad and Sjöqvist (Gjerstad 1926; Sjöqvist 1940, 201, 206). Although mostly encountered as juglets, BLWM ware did appear in other forms, including bowls and jugs (Åström 1972c, 217-20). Their origins were unclear for a long period of time. The first catalogue of BLWM (Oren 1969) was rather unclear on their place of production. More recently, there has been a surge in interest in BLWM juglets, which update the distribution studies for Syro-Palestine and Egypt (Hörburger 2007; Yannai 2007). Also analysis of typology in conjunction with chronological and petrographic data has clarified the origins of this ware. It would seem that BLWM was first produced in Cyprus and exported to the Levant and Egypt during LBI. However, it was later imitated in Syria and Palestine (Yannai 2007, 314-19), possibly after the import of the Cypriot juglets had ceased.

The circulation of Mycenaean pottery in the eastern Mediterranean has long been recognised and was often used as a dating tool. Analytical examination of the typological variants of Mycenaean ware exports has contributed to understanding of the nature of trade in the LBA. The high frequency of closed vessels in comparison to open shapes leaves little doubt that high proportions of ceramic imports were traded for their contents, specialty oils being suggested by Leonard (1981a, 94-100). He compared the forms of the stirrup jar and alabastron and drew conclusions on their respective suitability for carrying and dispensing oils and unguents. Certainly, the small Mycenaean stirrup jar with its restricted neck and low volume, could be considered as an equivalent of the Cypriot and Levantine juglet. Leonard's catalogue of Mycenaean exports in the Levant has provided comprehensive information of the various types of small closed forms and their distribution (Leonard 1994).

1.1.2 Observations on juglet imports from consumption-based studies

The studies discussed above were mainly ware-based, with their typological and origin-led research questions, but there has also been much interest in the consumption of foreign imports in different regions of the Mediterranean. Merrillees (1968) not only catalogued the Cypriot Bronze Age pottery found in Egypt, he also carefully contextualised the details of the (mainly) funerary deposits and their chronology. Yet the work remained narrative rather than quantitative in its analysis, which I believe is to

its detriment. He noted that most BR juglets were found in tombs rather than habitation contexts and that there was a lack of uniformity in their placement in relation to the body. He reported “an overwhelming impression” that their deposition occurred mainly in “professional or middle class” tombs, i.e. those less elaborately furnished than those of high officials. He did observe the high percentages of juglets amongst the repertoire of imported ceramics, which were 80% for BR I and 73% for BR II, but overall, Merrillees avoided quantitative documentation leading him to over-emphasise some ideas.

Firstly, Merrillees presumed throughout that BR juglets contained an opium product, based largely on the morphology of the vessels being similar to that of an opium poppy capsule, an observation he had presented previously (Merrillees 1962). Evidence from chemical analysis is scanty (See Chapter 5). Furthermore, the number of times he reported that the alkaloid was definitely not found, exceeds the number of times it was recorded (Merrillees 1968, *passim*). Secondly, based on the contention that the juglets contained opium, Merrillees overemphasised the idea that juglets were refilled before placing in the tomb. His spurious argument was that since the juglet was taking up space in the tomb (for its magical potential), it may as well be refilled. This entire argument is based on evidence from just seven juglets. Certainly some juglets had been refilled, as was evidenced by the presence of cloth residues in the sealing or the nature of fatty residues, entirely unsuitable for pouring (Merrillees 1968, 180), but the number was too small to extrapolate to the entire corpus. Yet this idea is very frequently quoted and re-quoted.

Merrillees also ignored the obvious ubiquity of other types of juglets all over the eastern Mediterranean and during the previous MB period. The opiate-containing juglet theory did not acknowledge other forms and what they may have contained, so there was no context within which to place the use of opium versus specialty oil. Nevertheless, he did justifiably observe the standardisation in size, form and decoration over time of BR juglets, noting the desirability to trader and receiving market of consistency as an aid to recognition of the commodity. He was the first to suggest the notion of branding in this context (Merrillees 1968, 156-57). Also based on morphology, he noted the different proportions of forms between BR vessels and RLWM, which perhaps suggested different regions of manufacture and possible competition between traders (Merrillees

1968, 164). Although he argued that the region of manufacture of the latter was Syria, this does not negate the notion of regional producer or trader competition.

Gittlen's rigorous analyses of the importation of Cypriot pottery in Syro-Palestine revealed insights into this LBA trade (Gittlen 1977; Gittlen 1981). They also identified some interesting cultural patterns in consumption. Imported jugs and juglets were found to be far more common in funerary contexts than open shapes such as bowls and kraters, with the reverse being true in habitation contexts. The former were almost all made in Base-Ring (BR) pottery whilst the latter were mainly of White Slip (WS) ware. He noted this was counter to deposition of local products where bowls outnumbered juglets. Not only did Gittlen note that jugs and juglets dominated the imports but he made the suggestion that White Shaved (WSh) juglets had been specifically produced for the Palestinian market.

His chronological observations were also noteworthy in that he distinguished two important time periods. Following the modest MB ceramic trade, LBIA saw an increased flow of Cypriot pottery, consequent upon the introduction of the new styles, namely Proto Base-Ring, Base-Ring I, Proto White Slip and White Slip I. It was LBIIA, however, which witnessed the highest demand for Cypriot ware, with BR I, BR II, WS II, WSh and Bucchero reaching their peak levels of importation.

With the distribution of imported Cypriot pottery in Egypt and Syro-Palestine documented by Merrillees and Gittlen, respectively, Bergoffen's study set out to compare regional patterns of trade (Bergoffen 1990). By reviewing the contextual distributions of the different forms, she was able to compare consumption practices and value placed on the Cypriot vessels in the different regions and throughout different time periods. She confirmed the high prevalence of Cypriot closed vessels, with their high proportion of BR juglets, reported in the two previous studies. However, whereas Merrillees had contrasted the variants of closed vessels in BR and RLWM, and proposed a special purpose for the BR juglets as a carrier of opium commodities, Bergoffen lumped together BR juglets, bottles and flasks, comparing them functionally with Mycenaean imported small stirrup jars and flasks. She believed they all had similar functions, probably as carriers of perfumed oil (Bergoffen 1990, 283-90).

Differences in importation rates of BR I and BR II juglets in Palestine and Egypt, she explained as due to differences in modes of transport. She suggested that BR I juglets and RLWM bottles reached Egypt via the Levant with soldiers returning after the military campaigns (Bergoffen 1990, 299-314), and that this could explain the spread of the juglets during the first half of the 18th dynasty, consistent with the large scale military operations of Tuthmosis III and the subsequent decline in the relatively peaceful Amarna period. There is, however, a problem with this explanation in that RLWM vessels were not widely disseminated in Palestine. The quantity of RLWM was much greater in Egypt (Eriksson 1993) so that the expected 'down-the-line' pattern is not in evidence.

Hulin (2006) sought to explain the markedly different consumption patterns of Cypriot wares in Egypt and the Levant by differing social attitudes to the imports. Juglets, as perfume containers, could for example, have been related to an Egyptian love of perfume and to bodily display. In contrast, elite emulation may have given value to the imports to Palestine.

Many aspects of Mycenaean and Mycenaean-inspired pottery have been studied for decades. The distribution of Aegean pottery in the eastern and western Mediterranean has been the subject of many individual studies and conferences (e.g. 1973; Leonard 1994; van Wijngaarden 2002; Zerner *et al.* 1993), considering trade, and also other cultural transmission processes of the 'Mycenaeanization' of Crete, the east Aegean, Cyprus and the Levant, such as acculturation and colonisation (Gitin *et al.* 1998; Laffineur and Greco 2005; Mountjoy 1998; Ward and Joukowsky 1992). In addition, the use of the different forms, the fine and plain wares, and the variations in choices between the places of production and their export destinations have been widely debated (Laffineur and Greco 2005; Leonard 1981a; Mountjoy 1993, 119-162 ; Sherratt 1980; Steel 2002; Steel 2004; Tournavitou 1992; van Wijngaarden 2002). The work of van Wijngaarden (2002) noted a total of 260 sites across the Levant, Cyprus and Egypt with imported Mycenaean wares and new excavations continue to add to this total. Detailed studies of the regional imports have shown distinctions and variability related to time periods, geographic location and cultural choices. It is well known that the repertoire of Mycenaean pottery found in the eastern Mediterranean was more limited than that found

in Mainland Greece. The standard import range included ritual vessels (rhyta, figurines, and askoi), open vessels for drinking, pouring and serving (kraters, cups, jugs and bowls) and closed, storage vessels (piriform jars, alabastra, large and small stirrup jars and flasks). Although over 60 of the shapes defined by Furumark have been identified amongst imports to Cyprus, Syria and Palestine, by far the most numerous were closed vessels such as piriform jars, alabastra, stirrup jars and flasks (Leonard 1981, 87-101). Of these, small stirrup jars and flasks were the forms which can be regarded as the functional equivalent of eastern Mediterranean juglets (Leonard 1981a). They originated in the LHIIIA:2 period, a time when pottery arrived in such large quantities and with such specialised forms that it is difficult to escape the conclusion that they were part of planned trading missions. In Cyprus and the Levant, imports of the narrow-necked containers continued until the end of LHIIIB, with increasing quantities of popular shapes including stirrup jars and flasks being locally made, mostly on Cyprus for export to Palestine (Artzy 2005, 358). In Egypt, the major concentrations of LHIIIA:2 pottery were at Amarna, the new seat of government, built by Akhenaten, with far fewer vessels found at other sites. A more limited range of Mycenaean ceramic shapes has been identified in Egypt, where vertical flasks (FS 189) were the most numerous (Hankey 1973, 123). There was also a sharp fall-off in Mycenaean pottery trade somewhat earlier in Egypt than in the rest of the eastern Mediterranean, linked with the end of the Amarna period (Hankey 1993a, 112).

1.1.3 Neglected areas and further avenues for research

Studies have focused on the consumption of ceramics as imports, their value being discussed in terms of the prestige resulting from access to such goods. Whilst this is a perfectly valid approach, it forms only one consideration. The value of imports in relation to local practice has been neglected and this is due to the approach which considers the ware above the form. In relation to juglet forms, the use of imported juglets needs to be compared with consumption of local juglets. Information on local consumption practice is sparse in some regions. For Bronze Age Cyprus, documentation is relatively plentiful. For information on pottery and its uses, the Swedish Cyprus Expedition (SCE) volumes are always an excellent starting point. In addition, there have been two major studies on funerary ritual (Keswani 2004; Webb 1992). Webb found that the vast majority of ceramic vessels found in tombs were juglets, jugs and bowls,

with around 50% being juglets up until LCIIIC, when it declined. However, Keswani's very detailed analysis of funerary ritual did not single out ceramic forms for special study.

For Palestine and Syria, there have been very few overarching reviews on pottery forms later than some MBIIA period vessels (Cohen 2002b; Kochavi and Yadin 2002). The chronological range of Amiran's work on Palestinian pottery (Amiran 1969) is too wide to give a detailed account of MB-LB ceramic usage and it is in need of updating. A more recent publication (Baker 2006) has looked at the funerary deposits in MB and LB burials at Ashkelon and this, in conjunction with individual excavation reports for other Canaanite sites, has provided a good insight into ceramic consumption associated with burial. Importantly, it singled out the juglet and the bowl as important items of the funerary kit for all burials regardless of social status.

A stark contrast in the use of local juglets in burials is noted for Egypt. Although TEY juglets appeared in some Egyptian tombs in the SIP, narrow-necked pouring vessels, particularly those with handles i.e. comparable to Cypriot and Palestinian juglets, were not a common Egyptian pottery shape (Kelley 1976). Those that did exist were more often small handleless jars. The understanding of the consumption of specialty oils from small, narrow-necked containers is further complicated by the use of similarly shaped stone vessels with narrow necks and the relative abundance of alabastra with wider necks, which indicate a different type of product consumption.

Variations in the use of local juglets in the different regions of the eastern Mediterranean have social implications for the circulation and consumption of imported juglets. Chronological developments in juglet use over the entire eastern Mediterranean need to be investigated systematically and comparatively. Whilst the production and use of juglets can be documented from major ceramic studies of the MBIIA period (Cohen 2002b; Czerny 2002; Forstner-Müller 2002; Kochavi and Yadin 2002), the MBIIB-C period is less well documented than the LBA. Though Gittlen (1977) has thoroughly examined the differences in Levantine consumption of Cypriot ceramics over time, and van Wijngaarden (2002) has analysed chronological variations in the movement of Mycenaean ware, further work is needed to look at more general juglet production, distribution and consumption during crucial formative junctions such as the MCIII-

LCIA period on Cyprus when new styles appear, the end of the Amarna period in the eastern Mediterranean when Cypriot juglets cease being traded in Egypt, and the LBIIB period when many local imitations of Mycenaean forms were being circulated.

1.2 The classifications and descriptions of Bronze Age juglets

The juglet was a container which represented a small luxury commodity, which was once manufactured, distributed and consumed. The forms of these containers were extremely important for carrying and for pouring and were, in effect, the packaging for a valued commodity. Throughout most of this study the term 'juglet' is used as a shorthand for the totality of container and contents. Nevertheless, it is an underlying precept of this thesis that juglet design was fundamental to identification of its contents and, ultimately, for promoting trade in these precious commodities. At the start of this study, it was crucial to have in place a typology for the many and varied types and sub-types of juglets. It has been reproduced here as critical to the understanding of this research. As it is necessarily highly detailed, this classification forms a rather long section for an introductory chapter.

When an archaeologist describes or classifies ceramic vessels, it is through a combination of features related to shape, decoration, technology or fabric often with one of these assigned primary importance. This is well exemplified in the varied typologies of BA eastern Mediterranean pottery. The well known Furumark system for classifying LBA Aegean pottery (Furumark 1941) considers shape first (Furumark shapes with FS numbers) and then decoration, through a system of motifs (Furumark motives or FM numbers). Finish and fabric are outside the system. This is fine for standardised Mycenaean vessels originating and consumed in the Argolid, but it has proved more problematic for studying the wider koine of Mycenaean-style pottery in the Aegean, and particularly for identifying locally made imitations in the eastern Mediterranean.

The Swedish Cyprus Expedition classification for Cypriot pottery prioritises finish, with pottery sorted into categories such as Red Polished, Black Slip, White Painted, Red Lustrous or White Shaved (Åström 1972b; 1972c). Although fabric, clay preparation and firing techniques are important components of these classes, some variation is allowable and the SCE system may often, for example, describe more than one fabric

for a given ware. Whether the vessel is hand-made or wheel-made is also an important consideration in this classification. The SCE classification is divided hierarchically by ware, chronological sequence, shape and decorative motif. The forms are probably overly split into too many categories for present requirements, but it has proven adaptable for this study. Despite this splitting, there is no specific 'juglet' classification, these vessels being categorised under 'jugs', so each of the categories with its subdivisions needed to be searched for vessels which matched the properties of small narrow-necked containers. There have been some reservations over the chronological sequencing of some wares and these are discussed as appropriate.

Levantine pottery has not had such a formal typology as Cypriot and Mycenaean wares. The Corpus of Palestinian pottery (CCP) by Duncan and Petrie was compiled on the basis of shape, but there are so many 'types' that it is unwieldy and fails to distinguish plain from decorated or local from imported wares (Duncan 1930). In contrast, the later pottery review by Amiran (1969) has rather too few typological categories, with jugs and juglets lumped together within MBA or LBA sequences. Some juglets have been further categorised by finish or decoration, especially those in well known wares such as Bichrome or TEY, but most of the typology is reliant on longer, descriptive names. As with the Duncan classification, the imported and local juglets are considered within the same sections. Furthermore, the classification is in urgent need of updating to incorporate the evidence now available on provenance.

With Egyptian pottery, fabric i.e. Marl clay or Nile silt clay, has usually been given precedence in defining ceramic types. Form has historically been a secondary consideration in terms of typology, although recently introduced classification systems used and described by Aston (1998) and Wodzinska (2009) have addressed this, and are discussed below in section A.5. Furthermore, ceramic juglets were not a traditional Egyptian shape and consequently had not been considered as separate classes.

Despite the different regional typologies, it has been possible to make meaningful comparisons amongst juglets across the regions of the eastern Mediterranean, by making amendments to the existing classifications. In this study, form and decoration have been designated as the critical elements which define a vessel as a juglet (Figure 1-1), and these have been prioritised in the modified typologies. Probably the most

important feature was the narrow neck of the vessel which limited and controlled the amount of the liquid dispensed. Size is also highly relevant, with capacity limiting the amount of the luxury product. Height is an imperfect indicator of capacity but it has been used as it is the parameter most often recorded. Most juglets fall within the range of 10 to 15.5 cm in height. Other definitive parameters for juglets are the bases, the rims and the handles which often identify the style being classified. Decoration, too, is recognised as a crucial identifier.

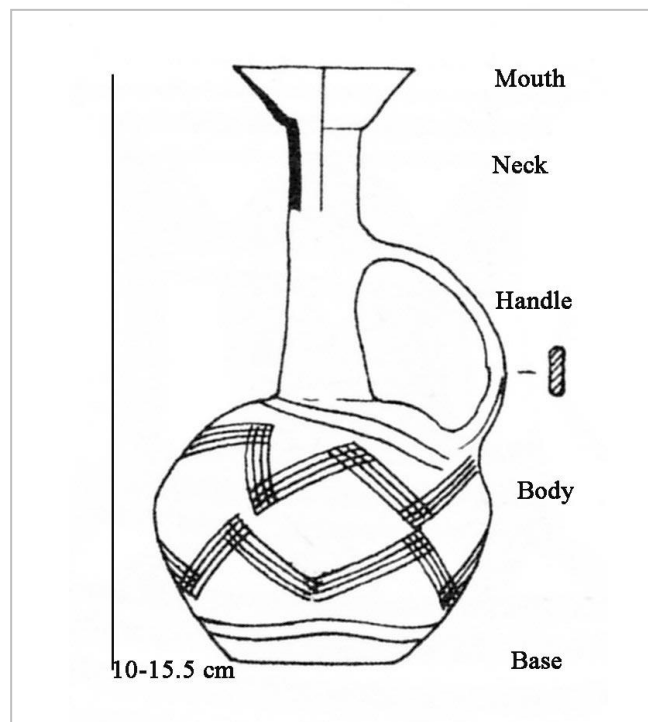


Figure 1-1 *Generic juglet shape*

Juglet terms and abbreviations are presented by region in Table 1-1. Cypriot juglets are described according to the SCE classification system, although fewer hierarchical categories are used. The Furumark system has been used for Mycenaean juglet forms, with modifications by Leonard (1994) introduced for locally-made Aegean-style vessels. A largely descriptive terminology has been used for Levantine juglets based on form and finish. For Egyptian narrow-necked vessels in this study an adapted classification system has been used, in which form was given primary consideration over other features such as fabric. The complete typology is presented in its own subsection following the chapter summary (section 1.3).

typology	Full description	Standard abbreviation	Chronology
	<i>Cypriot juglets</i>		
	Black Lustrous Wheel-made juglet	BLWM juglet	LCIA-B1
	Base Ring I double juglet	BR I double	LCIA:2-IIA
	Base Ring I flask	BR I flask	LCIA:2-IIA
	Base Ring I juglet	BR I juglet	LCIA:2-IIA
	Base Ring I spindle bottle	BR I spindle bottle	LCIA:2-IIA
	Base Ring II double juglet	BR II double	LCIB:2-IIC
	Base Ring II flask	BR II flask	LCIB:2-IIC
	Base Ring II juglet	BR II juglet	LCIB:2-IIC
	Base Ring II spindle bottle	BR II spindle bottle	LCIB:2-IIC
	Black Slip II	BS II juglet	MCII-III
	Black Slip III juglet	BS III juglet	MCIII-LCIA
	Black Slip IV juglet	BS IV juglet	LCI-IIA1
	Black Slip V juglet	BS V juglet	LCI
	Bucchero juglet	Bucchero juglet	LCII
	Coarse ware juglet	Coa juglet	LCII
	Proto Base Ring juglet	PBR juglet	LCIA
	Plain White Hand-made juglet	PWHM juglet	LCIA-IIC
	Proto White Slip juglet	PWS juglet	LCIA
	Plain White Wheel-made juglet	PWWM juglet	LCIA-IIC
	Red Lustrous Wheel-made arm vessel	RLWM arm	LBII
	Red Lustrous Wheel-made flask	RLWM flask	LBII
	Red Lustrous Wheel-made juglet	RLWM juglet	LCIA:2-IIC
	Red Lustrous Wheel-made spindle bottle	RLWM spindle bottle	LCIA:2-IIC
	Red-on-Black juglet	RoB juglet	MCII-LCIA
	Red Polished IV juglet	RP IV juglet	MCIII-LCIA
	White Painted Cross Line Style juglet	WP CLS juglet	MCIII-LCIA:1
	White Painted V Fine Line Style	WP FLS	LCIA-B
	White Painted III juglet	WP III juglet	MCI-II
	White Painted IV	WP IV juglet	MCII-III
	White Painted Lattice Diamond Style	WP LDS juglet	MCII-III
	White Painted III-IV Pendent Line Style	WP PLS juglet	MCIII-LCIA
	White Painted III-IV String-hole	WP SH juglet	MCII-LCIA
	White Painted V Tangent Line Style	WP TLS	LCIA-B
	WP Unclassified juglet	WP Un juglet	
	White Painted V Eyelet juglet	WP V Eyelet	MCIII-LCIA:1
	White Painted V juglet	WP V juglet	MCIII-LCIA:1
	White Painted VI juglet	WP VI juglet	LCIA-B
	White Painted VI Other juglet	WP VI other	LCIA-B
	White Painted VI Spouted juglet	WP VI Spouted	LCIA-B
	White Painted VI Soft Triglyphic Style	WP VI STS juglet	LCIA-B
	White Painted Wheel-made III spouted juglet	WPWM III spouted	LCIIC-IIIB1
	White Painted Wheel-made juglet	WPWM juglet	LCI
	White Slip I juglet	WS I juglet	LCIA:2-B
	White Slip II juglet	WS II juglet	LCIIA2-B
	White Shaved juglet	WSh juglet	LCIB:1-IIB

Levantine juglets		
Bichrome biconical	BI Bic juglet	LCI
Bichrome cylindrical	BI Cyl juglet	LCI
Bichrome ovoid or globular	BI Ov/glob juglet	LCI
Chocolate-on-White juglet	CW juglet	LBI
Dipper juglet	Dip juglet	MBII-LBII
Painted biconical juglet	PAI Bic juglet	MBIIA-B
Painted cylindrical juglet	PAI Cyl juglet	MBIIA-B
Painted dipper juglet	PAI Dip juglet	MBIIA-B
Painted ovoid or globular juglet	PAI Ov juglet	MBIIA-B
Painted piriform juglet	PAI Pir juglet	MBIIA-B
Pilgrim flask	Pil flask	LBI-II
Pilgrim painted flask	Pil PAI flask	LBI-II
Pilgrim ring vessel	Pil ring	LBI-II
RSB/BSB Biconical juglet	RSB/BSB Bic juglet	MBIIB-C
RSB/BSB Cutaway juglet	RSB/BSB Cut juglet	MBIIB-C
RSB/BSB Cylindrical juglet	RSB/BSB Cyl juglet	MBIIB-C
RSB/BSB Ovoid or globular	RSB/BSB Ov/glob juglet	MBIIA
RSB/BSB Piriform juglet	RSB/BSB Pir juglet	MBIIB-C
RSB/BSB Syrian style juglet	RSB/BSB Syr juglet	MBIIC
RSB/BSB Trefoil juglet	RSB/BSB Tre juglet	MBIIC
RSB/BSB Unclassified juglet	RSB/BSB Un juglet	MBIIA-C
Egyptian juglets		
Cylindrical flat-based shouldered jarlet	CylFlatSh jarlet	12 th - 18 th dynasty
Cylindrical round-based simple jarlet	CylRouSimp jarlet	12 th - 18 th dynasty
Cylindrical round-based simple juglet	CylRouSimp juglet	12 th - 18 th dynasty
Drop-shaped alabastron	DropAlabastron	12 th - 18 th dynasty
Mini-amphora	Mini-amph	12 th - 18 th dynasty
Ovoid flat-based simple jarlet	OvFlatSimp jarlet	12 th - 18 th dynasty
Ovoid round-based shouldered jarlet	OvRouSh jarlet	12 th - 18 th dynasty
Ovoid round-based shouldered juglet	OvRouSh juglet	12 th - 18 th dynasty
Ovoid round-based simple jarlet	OvRouSimp jarlet	12 th - 18 th dynasty
Piriform round-based shouldered jarlet	PirRouSh jarlet	12 th - 18 th dynasty
Piriform round-based shouldered juglet	PirRouSh juglet	12 th - 18 th dynasty
Piriform round-based simple jarlet	PirRouSimp jarlet	12 th - 18 th dynasty
Wavy jar	Wavy jarlet	12 th - 18 th dynasty
Mycenaean juglets		
Mycenaean flask	Myc flask	LHIIIA:2-B
Mycenaean juglet	Myc juglet	LHIIIA:2-B
Mycenaean stirrup jar	Myc stirrup	LHIIIA:2-B
Other juglets		
Tell el-Yahudiyeh juglets	TEY juglets	MBIIA-C
Unclassified juglet	Un juglet	

Table 1-1 Juglet names and abbreviations used in the text, with approximate chronological ranges

1.3 Chapter summary

In a study of this breadth, following the circulation of different types of goods over long time periods and wide geographical areas, it has been necessary to make pragmatic choices in structuring analyses. I have found it helpful to adopt a primarily chronological approach. The problems and justifications of such an approach are discussed in Chapter 2, which also sets the scene for this study by outlining its spatial and temporal scope and defining the regional, chronological and socioeconomic boundaries. Terminology is defined and socio-political frameworks are reviewed to provide the appropriate background to the understanding of ceramic developments and inter-regional trade. It seems appropriate to consider the ways that were available for juglets to circulate within these frameworks. Chapter 3 reviews the theoretical models of commodity production, exchange and consumption in the local and inter-regional arenas to assess their relevance to the specific case of juglet circulation. In particular, possible roles of modern marketing theory within Bronze Age trade contexts are explored. The application of such theoretical models as a framework for tackling the research questions is considered. Chapter 4 describes the methods employed to address the research questions. Chapter 5 discusses juglets as commodities, exploring possibilities for their contents based on archaeological, textual, pictorial and chemical evidence. It examines the relationship between the physical ceramic forms, their functional attributes as carriers of specialty products, and whether these could have influenced distribution and consumption. Due consideration is given to the whole product, discussing the contents and the carriers and their interrelationships in evoking human responses such as recognition, desire or imitation.

Chapters 6-8 represent the major analytical findings of this research, dividing the chapters chronologically using ceramic changes as the major dividing lines. Whilst the ceramic changes usually approximate to socio-political changes, with the wide inter-regional scope of this study, some overlap has been inevitable. These chapters are further divided, each with its own historical and socio-political background, results and discussion. Chapter 6 examines juglet usage during the later part of the MBA. Since at this time juglet exports were minimal, the data provide a picture of local production and consumption practices within the different regions. This is the foundation to enabling comparisons and to understanding the spread of foreign juglet commodities in relation

to theoretical views on consumption. Chapter 7 looks at a crucial period of socio-political change at the end of the MBA and the start of LBA, when Cypriot ceramics started to make an impact in the Levant and Egypt. Juglet production, distribution and consumption are analysed against a background of increasing urbanisation, international contact and regional competition on Cyprus. Chapter 8 concentrates on the height of the juglet trade from around 1450 to 1200 BC, a very active trading period in the eastern Mediterranean when both Cypriot and Mycenaean ceramics were circulating. This chapter examines the regional and diachronic variations of the trade in juglet commodities, exploring the impact of the introduction of Mycenaean juglet commodities had on juglet consumption patterns in the eastern Mediterranean. The possible role of Cyprus in the Mycenaean trade is discussed. Finally, possible trade routes and mechanisms are considered, incorporating some marketing ideas. Finally, Chapter 9 discusses the wider socio-economic implications of juglet distribution for the entire time period, proposing potential mechanisms relating to the theoretical perspectives discussed in Chapter 3.

Section A: Typological guide to Bronze Age juglets

The juglet typologies are presented by region and, where appropriate and available, standard pottery classification systems have been used, as discussed above. When modifications or new classifications have been used, these are described.

A.1 Classification of Cypriot juglets based on SCE

The juglet types are presented in alphabetical order rather than chronologically, as in SCE, in order that all juglets within the same ware can be presented together.

A.1.1. Base-Ring (BR) Ware

BR ware was a signifier of the start of the LC period and was manufactured for 400 years. A hand-made ceramic, probably finished on a turntable (Vaughan 1991, 77), BR ware is distinguished by fine, hard-baked clay, thin walls and a highly lustrous finish. The SCE classification (Åström 1972c, 126-198) sub-divides the ware into Proto-Base-Ring (PBR), BR I and BR II on the basis of fabric, shape, surface treatment, decoration and chronology. However, these subdivisions implying chronological development can be misleading since the changes in style occur at different times in different regions, resulting in overlap. An attempt at re-classification has been made by Vaughan (1991) according to fabric and finish, but this has not been universally accepted and the SCE system is still in use though with greater understanding and caution.

PBR

PBR juglets first appeared in LCIA:1 with fabrics and firing techniques rooted in the traditions of BS/RS from *Toumba tou Skourou*, the Myrtou group of sites and from Drab Polished Ware from Episkopi *Phaneromeni* district. PBR juglets are defined by their globular to piriform bodies, funnel necks, strap handle and flat bases with either relief decoration or incised patterns (Figure 1-2a). They were relatively widespread in the north-west, especially at Stephania, Ayia Irini and *Toumba tou Skourou*. They lasted until LCIB:2, but they often overlapped with BS V juglets and with BR I juglets (Eames 1994, 138; Eriksson 2001, 51-52).

A.1.1.1 BR I

BR I ware includes several types of small narrow-necked vessels i.e., juglets, flasks and bottles, which first appeared in LCIA:2 and lasted until LCIIA:2. These have been classified by variations in the form and decoration (Åström 1972c, 137-173).

Decoration was usually as applied relief decoration on the body and often as a ridge or double ridge midway along the neck. Earlier vessels carried incised instead of relief decoration.

BR I juglets

In the SCE these juglets are classified hierarchically by various features; only the first few levels, which pertain to shape, are used in this study.

- VID Those with handle from neck to shoulder
 - VID1 With circular mouth
 - VID1a With globular or piriform body, funnel mouth, trumpet base
 - VID1b With depressed globular body, funnel mouth, ring base
 - VID1c With carinated body, funnel mouth, ring base
 - VID2 With pinched mouth
 - VID2a With piriform body, trumpet base
 - VID2b With globular or depressed body, low ring base

Various types are shown in Figure 1-2b-d.

In the reports that pre-date the SCE classification, other classifications were used. For example in the Corpus of Palestinian Pottery (CPP) by Duncan and Petrie (Duncan 1930), VID1 juglets were classified as 89J, K, L and the VID2 as 89D.

BR I double juglets

- XIIA

These are composite vases formed from two joined piriform BR I juglets. The double juglet had trumpet bases and funnel mouths, vertical flat handle from the rim to the shoulder and forked at both ends (Figure 1-3b).

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a. PBR juglet

b. BR I juglet VID1b



c. BR I juglet VID1a



d. BR I juglet VID2a

Figure 1-2 *PBR and BR I juglets*

- a. Severis Collection, unprovenanced, Inv. no. LS 647 (from Karageorghis 2010a, 77).
- b. Enkomi, tomb 69, © The Trustees of the British Museum, Inv. no. 1897,0401.1102
- c. Enkomi, tomb 88, © The Trustees of the British Museum, Inv. no. 1897,0401.1229
- d. Klavdhia, tomb A8, © The Trustees of the British Museum, Inv. no. 1899,1229.106

BR I spindle bottles

- IX

BR I spindle bottles have a conical, spindle shaped body, a narrow everted foot or base-ring and a handle from neck to shoulder. These are classified type IX, (Figure 1-3a).

In the CPP, BR I spindle bottles are classified as 74K.

BR I lentoid flasks

- X

Flask with a lentoid body and a narrow tapering neck, sometimes with a horizontal ridge and a handle from mid-neck to shoulder. SCE classification is X. In the CPP, lentoid flasks are classified as 85Q3, 4, 5 or 7.



Figure 1-3 *BR I spindle bottle and double juglet*

- a. Klavdhia, tomb B4, © The Trustees of the British Museum, Inv. no. 1899,1229.105
- b. Enkomi, tomb 50 © The Trustees of the British Museum, Inv. no. 1897,0401.976

BR II vessels

BR II vessels are often coarser with less detail than BR I. They usually have a thin, matt or slightly glossy slip and white painted decoration. They overlapped with BR I, first appearing in LCIB:2 and lasting until LCIIc. Like BR I narrow-necked containers, the range of BR II shapes includes juglets, spindle bottles, lentoid flasks and double juglets (Figure 1-4). Their SCE classifications (Åström 1972c, 173-197) are as follows:

A.1.1.2 BR II juglets

- IXB Juglets with handle from neck to shoulder (see Figure 1-4).
 - IXB1 With round mouth
 - IXB1a With ovoid, globular or piriform body, funnel mouth, trumpet base
 - IXB1b With ovoid, globular or piriform body, funnel mouth, ring base
 - IXB2 With pinched mouth
 - IXB2a With ovoid body, trumpet base
 - IXB2b With ovoid body, ring base

BR II spindle bottles

- IXA Spindle bottles have conical bodies, handle from neck to shoulder, a flat or everted rim and a solid everted base.

BR II lentoid flask

- XIII Lentoid shaped body with narrow neck (see Figure 1-4)
 - XIIIa With handle from middle of neck to shoulder, usually painted
 - XIIIb As above and with string-hole projections on either shoulder



Figure 1-4 *BR II juglets*

- Cyprus unprovenanced, © The Trustees of the British Museum, Inv. no. 1981,1218.53
- Enkomi, uncertain tomb, © The Trustees of the British Museum, Inv. no. 1897,0401.1311,

BR II double juglet

- XVIIIa

These are composite vases formed from two joined piriform BR II juglets with trumpet bases and funnel mouths. The double juglet has a vertical flat handle from the rim to the shoulder and forked at both ends. In CPP, BR II containers share the same classification as BR I, i.e. based on shape.

A.1.2 Black Lustrous Wheel-made (BLWM)

Even though BLWM juglets were wheel-made ceramics made with a ceramic technology new to Cyprus, they almost certainly originated there. Petrographic analyses by Yannai and Gorzalczy (2007) have shown Cyprus as a very likely clay source, and these data, supported by typological comparisons, favour a Cypriot origin. The globular

body finds a closer precedent in Cypriot WP juglets rather than the cylindrical or piriform shapes of the Palestinian RSB forms (Figure 1-5).



Figure 1-5 *BLWM juglet*
Ashkelon, grid 50, Leon Levy Expedition gallery, A98_10009 (Picasaweb.google.com)

Although the fully developed form of BLWM juglet has a flat base in common with most LBA juglets, round-based 'proto' BLWM juglets (Type 1) dating to MBIIB have been identified (Yannai and Gorzalczy 2007). Yet despite some possible inspiration from existing forms, the BLWM juglets developed very distinctive shapes with their very long necks and flared rolled tops. They are easily recognisable from line drawings from older excavation reports, compiled long before BLWM juglets were formally defined. The most common types are Type 2, which were made in Cyprus. They had a limited life span of LCIA:1 to LCIB. Yannai (2007, 300) subdivided this group into 2a and 2b but the differences are subtle and I have therefore decide to lump these two groups together for analysis. Type 5 and 6 were made in the Levant and these tend to be of a later date (Figure 1-6). In the CCP, the Cypriot types were designated 68A3 and the Levantine types 68A4 and 5. In older reports they were sometimes referred to as Black Burnished juglets, although this term was used rather indiscriminately and did not always take shape into account.

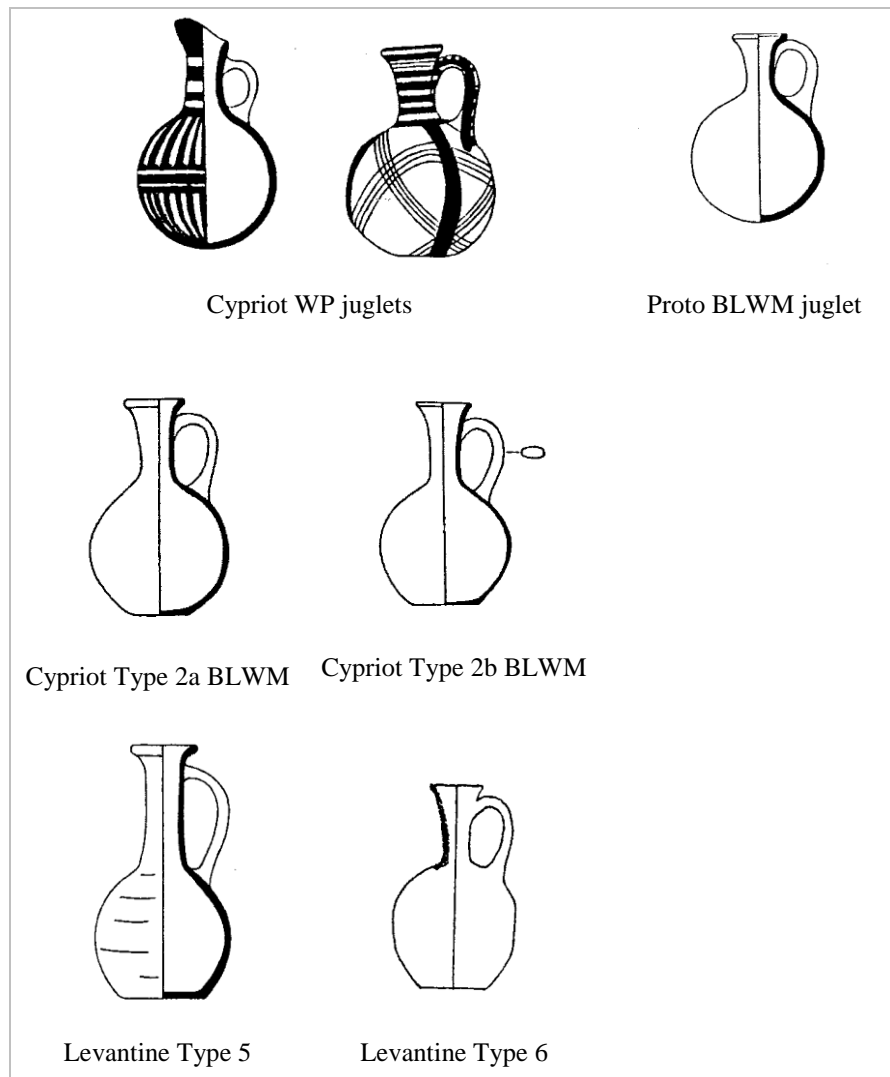


Figure 1-6 *Types of BLWM juglets (After Yannai 2007, 297, figure 1)*

BLWM juglets are sometimes distinguished from Grey Lustrous Wheel-made, taking into account variations in colour. In this study, all are referred to as BLWM. They should not be confused with vessels known as White Lustrous Wheel-made. These have different forms and are usually classified with RLWM vessels.

A.1.4 Black Slip (BS) and Red Slip (RS)

BS and RS juglets are hand-made in light brown, buff or pinkish buff clay and have a thin, matt or lustrous, reddish or black slip. The Roman numerals imply chronological development, but stylistic variants may have been part of a continuum. The differences between BS and RS may be solely due to firing conditions. In this study, RS and BS have been amalgamated into one classification group which I have labelled BS.

A.1.4.1 BS II

BS II juglets originated in the north-west around Lapithos and Stephania. They belong to a Middle Cypriot (MC) style with a date range of MCI/II to MCIII. BS II juglets are usually globular or depressed globular in the body, with round bases. They have narrow necks, often rather short, and round or beaked mouths. They often have incised decoration of straight, wavy or zigzag lines filled with punctate dots (Figure 1-7a).

A.1.4.2 BS III

BS III juglets were mainly dated to MCIII. They have globular or depressed globular bodies with round bases. Mouths are funnel-shaped or pinched and handles are string-holes on the shoulder or strap handles from mid-neck to shoulder (Figure 1-7b). When the ware was used to imitate Tell Yahudiyeh juglets, they adopted the range of shapes and decorations of TEY juglets, sometimes with button bases (Figure 1-7c). There are also some uniquely Cypriot style TEY juglets with globular bodies and combed decoration of horizontal circles. For further details on TEY juglet forms and decoration, see below.

A.1.4.3 BS V

BS V is the LC version of BS III. BS V juglets are usually ovoid, globular or biconical in shape with long narrow necks and flat bases (Figure 1-7e). They often have funnel mouths and handles from mid-neck to shoulder, although sometimes they have string holes at the shoulder. They have incised decoration often using zigzag or hatched motifs. They are made of fine clay, hard-baked and thin-walled. Although fairly widely distributed, BS V juglets seem to have originated in the north-west of Cyprus. There has been some confusion in distinguishing between the numerical divisions, especially as the BS V form was a development of BS III and even Åström had to re-classify some (Åström 1972b, 105-7, fig. XXX; Åström 1972c, 79-83, fig. XLIII). For this reason and for the sake of consistency, in this study BS juglets with flat bases in LC contexts have been classified as BS V, even if they have not been classified as such in the original report.

A.1.4.4 BS IV

BS IV juglets are also LC vessels, but they are made of soft clay and were quite different in form from the BS II, III and V sequence (Figure 1-7d). This south-eastern Cypriot form is squatter with slightly wider neck and a high handle.

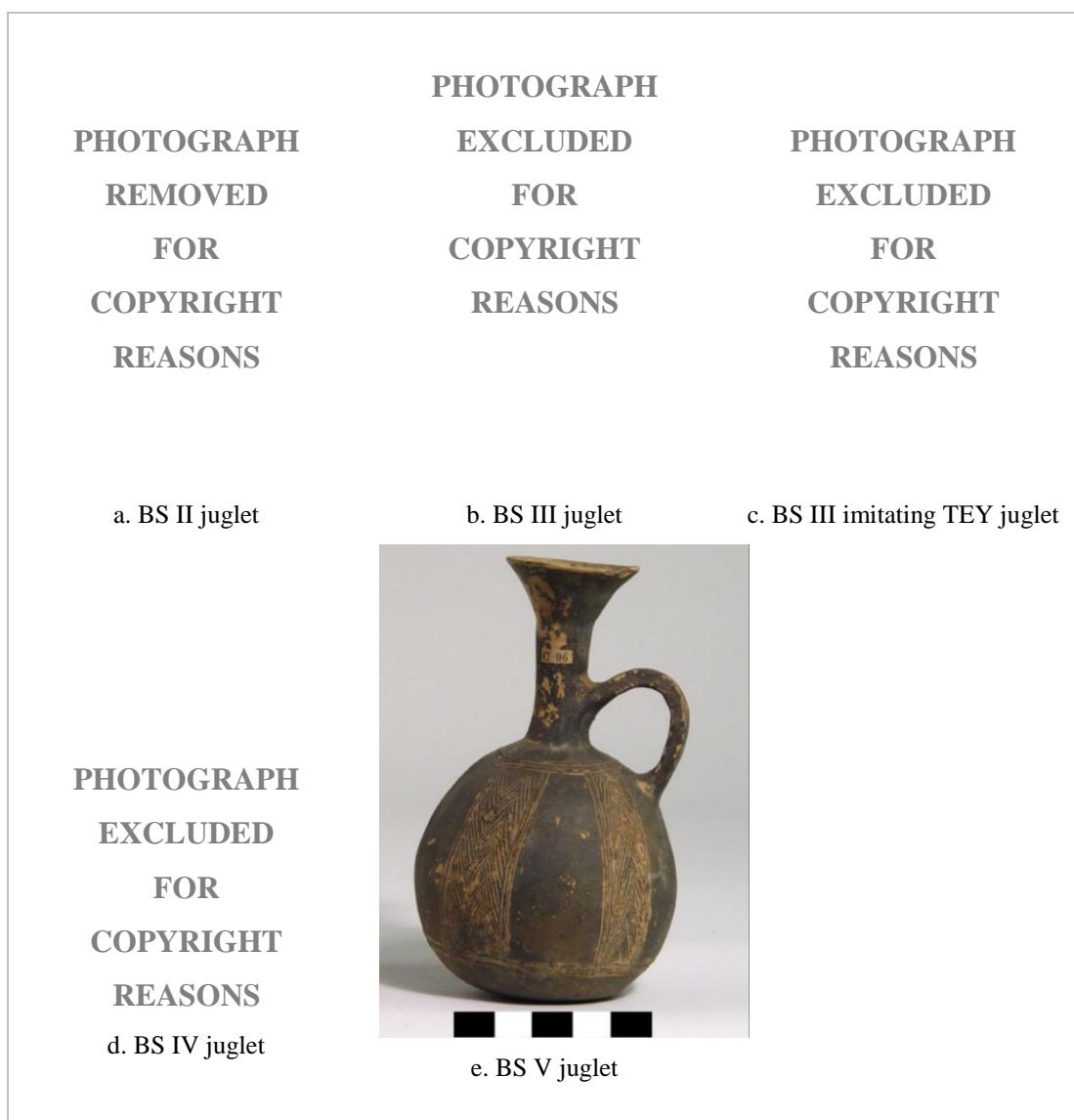


Figure 1-7 *BS juglets*

- a. Pitt Rivers Collection, Inv no. 1884.38.17 (from Karageorghis 2009, 40)
- b. Phylactou collection, Cat no. 43 (from Karageorghis 2009, 51)
- c. Stephania, tomb 10, no 6 (from Hennessy 1966, plate XI)
- d. Enkomi, tomb 3, Medelhavet Museum, Stockholm, Inv. No E.003:123
- e. Enkomi tomb 19, © The Trustees of the British Museum, Inv. no. 1897,0401.1309

A.1.5 Cypriot Bichrome Wheel-made ware

Originally this was thought to be an imported ware, but provenance studies have shown that Cypriot Bichrome (BI ware) was made on Cyprus (Artzy 2001, 61). However, this ware was also manufactured in the Levant, and it is considered that some of the technological and stylistic influences were imported (Crewe 2007b, 34). The bulk of the

ware was used for tankards. It is seen as an indicator of LCIA on Cyprus, but Cypriot juglets in this ware are few and far between.

A.1.6 Monochrome ware

The fabric of Monochrome ware is hard, almost metallic and difficult to distinguish from RP ware. It is important as a signifier of LCIA, mainly used for bowls with very few juglets.

A.1.7 Red Lustrous Wheel-made ware

RLWM ware is a fine ware made of well mixed clay, homogeneously fired red or orange-red and covered with a red slip. It is mainly restricted to closed forms including spindle bottles, lentoid flasks and arm-shaped vessels as well as a number of smaller juglets (Figure 1-8). Decoration is usually burnishing. There were often pot-marks incised before firing on the bases of spindle bottles or the handles of pilgrim flasks. Though clearly very different in shape and capacity from most juglets, they are included in this study since they were narrow-necked containers thought to have contained a precious commodity. They first appeared on Cyprus in LCIA:2 and reached a peak in LCIB-LCIIA, although they were still being produced in LCIIC-III A:1. Although their origin has been debated in the past, Eriksson concluded that RLWM ware originated in Cyprus and was manufactured there (Eriksson 1993, 149), based on evidence from the large quantity found there, the representative range of shapes and its continuous chronological span. This evidence has recently received corroborative evidence from petrographic work which found northern Cyprus a likely clay source (Knappett *et al.* 2005).



Figure 1-8 *RLWM vessel types*

- a. Enkomi, tomb 84, © The Trustees of the British Museum, no. 1897,1401.1194
- b. Klavdhia, tomb B4, © The Trustees of the British Museum, Inv. no. 1899,1229.102
- c. Enkomi, tomb 57, © The Trustees of the British Museum, Inv. no. 1897, 0401.1301
- d. Enkomi, tomb 69, © The Trustees of the British Museum, Inv. no. 1897,0401.1108

A.1.7 Red-on-Black and Red-on-Red ware

Red-on-black (RoB) and Red-on-Red (RoR) ware was hand-made from light clay with a slipped or painted surface. The slipped variety, rather rare, is polished and has a warmish black colour. The painted variety is lustrous with red or lilac matt paint, which is fugitive in later examples. RoR ware is hand-made from brownish or buff clay with red-brown or bright pink, polished slip or red-brown or purple matt paint. RoR is probably the same ware as RoB, with colour variations and differences being due to firing technique (Merrillees 1979, 118). In this study they have been considered as one ware and all designated RoB. RoB juglets have globular shaped bodies and usually rounded bases, although some are flat. Handles are from rim to shoulder (Figure 1-9a), although in a few cases they extend above the rim (Figure 1-9b) or are from neck-to-shoulder. The decoration in red on a dark ground consists of wavy or straight parallel lines, often executed with a comb-like device. They originated in the Karpas peninsula and were prevalent in MCIII, although they were as frequent in LCIA (Åström 1965) and they extended into LCIB (al-Radi 1983, 38-39).

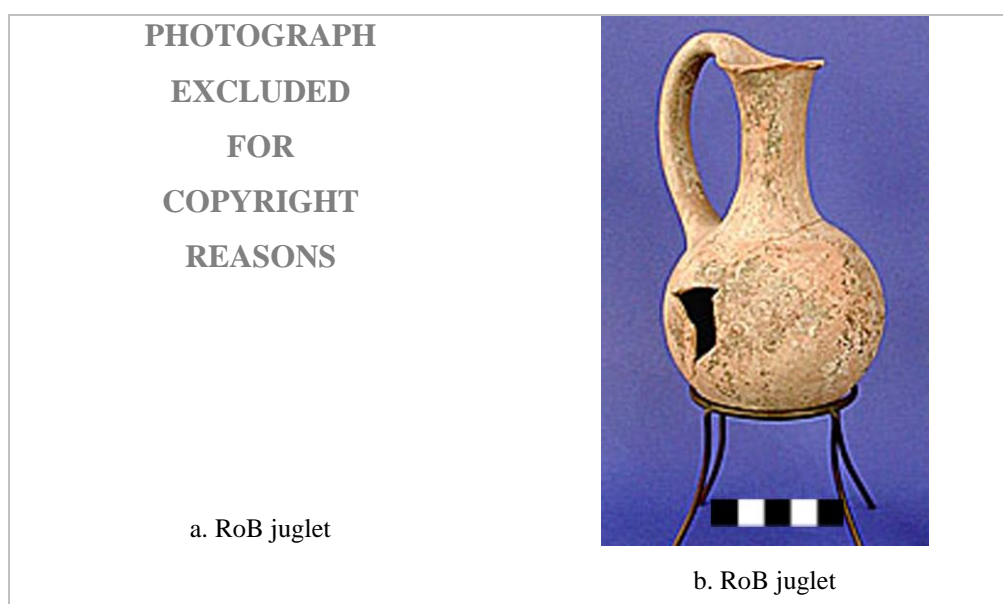


Figure 1-9 *A juglet of RoB ware*

- a. Galinoporni tomb from Medelhavet Museum, Stockholm Inv. no. MM Acc 0247i
- b. Unprovenanced, from the Cesnola collection Inv. no. 1995.10.245, courtesy Semitic Museum, Harvard University

A.1.8 Red Polished Ware

Red Polished (RP) ware was first identified at *Philia-Laksia tou Kasinou* (Åström 1972a, Fig. 80-83), and hence also termed *Philia* ware. For some decades it was regarded as the signal for the start of the Bronze Age on Cyprus (Barlow 1991, 51).

Though classified into numerical divisions typical of the SCE, based on morphological differences, RP pottery is actually made in a variety of fabrics (Åström 1972a, 212, 223-229). RP I and II wares appeared early and only in the north of the island, whereas RP III was ubiquitous and lasted from early in the EC period through to the end of MCIII (Barlow 1991, 52). RP IV appeared in the MC period and lasted into the LC (Åström 1972b, 198). RP ware has a red slipped surface which is frequently, but not always, polished. It is sometimes black-topped and frequently decorated with finely incised patterns infilled with white lime.

RP III and IV juglets

A full classification of RP juglets has published by Stewart (1988). Most RP ware juglets occurred during the early periods, from ECIII until MCI-II and had a variety of forms, but some RP III and most RP IV juglets were prevalent in MCIII and continued into LCI (Figure 1-10). Most of those dated to this later period have globular or depressed globular bodies and rounded bases with long, narrow, cylindrical necks ending in funnel rims. Handles vary, some being from the rim or the neck to the shoulder, whilst others are little more than string-hole projections and some are bottles with no handles.

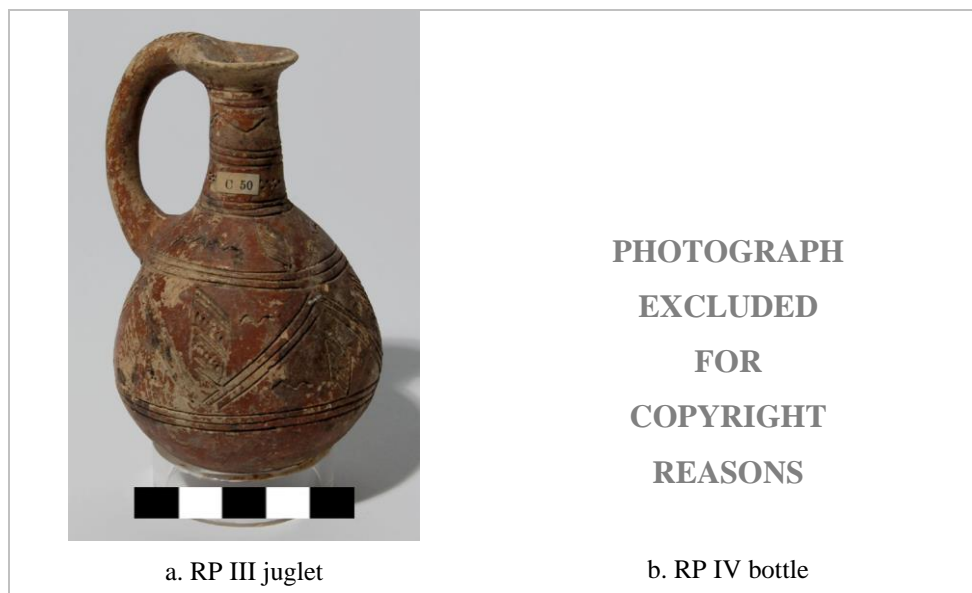


Figure 1-10 *RP III and RP IV juglets*

- a. From Phoenikias © The Trustees of the British Museum, Inv. no. 1884,1210.22
- b. Unprovenanced from the Severis collection, Inv. no. LS 1570 (Karageorghis 2010a, 39)

A.1.9 White Painted (WP) Ware

White Painted (WP) ware is used for a range of ceramics with geometric or linear patterns painted on a pale background, usually buff, orange or brown rather than white. The first WP wares were handmade, but the term is also used for later wheel-made types. It has been long recognised that the numerical classification of WP ware, i.e. WP II-VI, originally proposed by Åström (1972b) implies chronological sequencing. It was, however, based on ceramics found in the north and centre of the island during Gjerstad's excavations. Subsequently, regional variations have been found to be important differentiators. Various solutions have been sought through studying geographical variations (Eriksson 2009; Frankel 1974; Maguire 1991) and compromises have been reached in retaining the old classification system, but with modifications which acknowledge the importance of regional and functional groupings. Some distinctive south-eastern forms amongst the WP III-IV, IV-VI and V divisions have been allotted their own denominations, notably WP III-IV Pendent Line Style (WP PLS), WP IV-VI Cross Line Style (WP CLS), WP V Broad Band Style (WP BBS) and WP VI Soft Triglyphic Style (WP VI STS). These, amongst others, have been described and widely accepted as the Eastern Cypriot sequence (Åström 1966, 90-93; Åström 1972b, 11; Maguire 1991).

A.1.9 1 WP III

WP III juglets have their origins in northern and central sites (e.g. Lapithos, Ayia Paraskevi and Dhenia). They were prevalent in MCI-II (Åström and Wright 1962, 241). Bases are round, spouts round, slightly pinched or cutaway and handles often high. Decoration includes lattice patterns inside vertical bands or triangles (Figure 1-11a).

WP III-IV PLS Style

There were a number of styles originally classified as WP III-IV in SCE:IV:IB, e.g. WP III-IV PLS. The III-IV division is now frequently dropped, as in this study where it is referred to as WP PLS. WP PLS juglets originated in eastern Cyprus (e.g. Kalopsidha) and were prevalent in MCII-III and possibly into LCIA. They have round bases, usually round mouths and handles from rim to shoulder. The decoration consists of pendent straight or wavy lines, starting at the encircling line at the shoulder (Figure 1-11e).

WP III-IV Lattice Diamond Style

WP III-IV Lattice Diamond Style (WP LDS) was a northern style, which had a few juglets and bottles in this class (Figure 1-11c).

WP III-V String-hole Style

Originally classified as WP III-V juglets, this form and decoration are referred to here as WP SHS juglets. They originated in northern and central Cyprus and were prevalent in MCII-LCI (Åström and Wright 1962, 241). The narrow necked vessel forms include juglets, bottles and flasks. The decorative elements are mainly latticed or checkerboard triangles and lozenges, but the defining features are the string-hole lugs, usually in pairs on both sides of the vessel (Figure 1-11d).

A.1.9 2 WP IV juglets

These juglets were from northern Cyprus, mainly from Lapithos, and in use from MCII to MCIII. They have round bases and round, spouted or cutaway mouths. The handle is sometimes high. Decorative schemes include latticed diamonds or triangles and checkerboard patterns (Figure 1-11c).



Figure 1-11 *Some WP juglets of the MC period*

- a. Cyprus, unprovenanced, © The Trustees of the British Museum, Inv. no. 1982,0721.62,
- b. Klavdhia, tomb A15, © The Trustees of the British Museum, Inv. no. 1899,1229.115,
- c. Klavdhia, tomb A15, © The Trustees of the British Museum, Inv. no. 1899,1289.114,
- d. Cyprus, unprovenanced, Athens Museum Inv. no. 1473 (from Karageorghis 2003, 33)
- e. Phoenikias, unprovenanced, © The Trustees of the British Museum, Inv. no. 1884,1210.10,

WP IV-VI Cross Line Style

One of the styles of the Eastern Cypriot sequence, WP IV-VI Cross Line Style (WP CLS) juglets were made from MCII until LCIA. The manufacturing site was thought to be Kalopsidha where 21,000 sherds were found (Åström 1966). They have round bases and mostly round mouths with handles usually rim to shoulder. They are decorated with groups of lines which crossed each other diagonally (Figure 1-12).

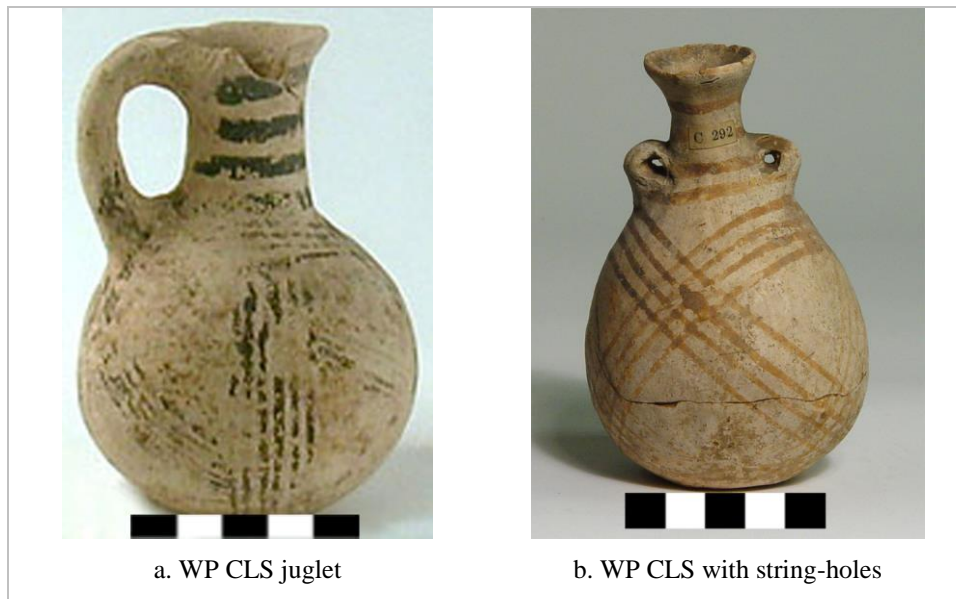


Figure 1-12 *WP CLS juglets*

- a. Cesnola collection Inv. no. 1995.10.381, courtesy Semitic Museum, Harvard University
- b. Enkomi, tomb 10, © The Trustees of the British Museum, no. 1897,0401.827

A.1.9.3 WP V style juglets

In terms of technique, WP V is a fairly cohesive group (Maguire 1991, 61). Over the entire island the ware is consistently fired to higher temperatures than WP PLS and CLS. The decorative styles, however, displayed regional diversity (Figure 1-13). The juglets from the south and east, are painted, whereas the north and central styles are decorated in thin lines and geometric shapes (Maguire 2009, 30). These juglets were being made from the middle of MCII until the end of LCIA but the highest prevalence was in MCIII (Maguire 2009, 31).

WP V Broad Band Style juglets

These juglets are decorated with broad linear bands of paint, sometimes flanked with thin lines, sometimes with vertical decoration in zigzags or lattice patterns. Bases are round. WP V Broad Band Style (WP V BBS) includes the WP V Eyelet style (Figure 1-13a). The latter has been given a special classification in this study since this form was copied from a Syrian type. This juglet type also has a marked shoulder, a narrow pedestal foot and a pinched mouth, often with a painted eyelet on each side.

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a. WP V BBS as Eyelet style

b. WP V TLS juglet



c. WP V bottle



d. WP V FLS juglet

Figure 1-13 *WP V juglet styles*

- a. Severis collection, Inv. no. LS 521, (from Karageorghis 2010a, 69)
- b. Phoenikias, unprovenanced, © The Trustees of the British Museum, no. 1884,0401.193,
- c. Lapithos, tomb 316, Medelhavet Museum, Stockholm Inv. no L316:064
- d. Klavdhia, tomb 31A, © The Trustees of the British Museum, Inv. no. 1899,1229.116,

WP V Tangent Line Style

Another Eastern Sequence style is the WP V Tangent Line Style (WP TLS) which was particularly common at Kalopsidha (Åström 1972b, 78). Juglets in this form have a circular line at the shoulder with groups of vertical or oblique parallel lines at a tangent to it. Sometimes the tangential lines consist of a framed caduceus (Figure 1-13b).

WP V Fine Line Style

In northern and central Cyprus, Fine Line Style juglets are prevalent amongst WP juglets (WP FLS). Decorative motifs, often in highly geometric shapes of hatched triangles or intricate lattices are applied with thin lines of purplish paint (Figure 1-13d). In some instances, the work of individual artists or potters has been recognised, suggesting the presence of a workshop style (Maguire 1991, 61).

A.1.9.4 WP VI style juglets

WP VI juglets are the styles that persisted into the LCI period. Like other juglets of the LCI period, WP VI juglets have flat bases but most decorative elements were inherited from WP V with similar regional variations (Åström 1972b, 65; Åström 1972c, 65). Different styles persisted into the LCI period (Figure 1-14).

WP VI Soft Triglyphic Style

WP VI Soft Triglyphic Style (WP VI STS) juglets are made of soft-baked clay. They have globular bodies, usually flat but sometimes rounded bases, and handles from neck to shoulder. They have cylindrical or tapering necks and the mouth of the juglet is frequently pinched. They are decorated with three to six groups of three to eight parallel lines ('triglyphs') on the body and encircling lines on the neck (Figure 1-14a). These were found mainly in the south-eastern areas.

WP VI Spouted

These juglets, made of soft baked clay, have depressed globular shapes usually with a high handle and a side pouring spout (Figure 1-14b). They are sometimes known as 'teapots'. One group are rather squat and decorated with triglyphs as the juglets described above.

Another form of spouted juglets are thought to be derived from the WP PLS style and sometimes referred to as WP VI Coarse Linear Style. They have thick painted lines with an encircling line at the shoulder and pendent lines from the circle. These juglets were also found in the south-eastern regions. The SCE classification is VII.

WP VI Other

There are some WP VI juglets, derived from the north-west (Eriksson 2009,60-61; Vermeule and Wolsky 1990, 192-3), which differ from the STS and Coarse Line styles of the south-east. Juglets in this ware are made of hard-baked clay and exhibit a variety of form and decoration. One form includes flat-based juglets with globular bodies, round or beaked mouths and handles from upper neck to shoulder (SCE classifications VID1b-c, VID2a). The decorations differ from the STS style by having lattice, zigzag or wavy line decoration (Figure 1-14c). Often they have animal or bird figurines on the shoulder (SCE VID2e). There are also some bottle forms (SCE IX).

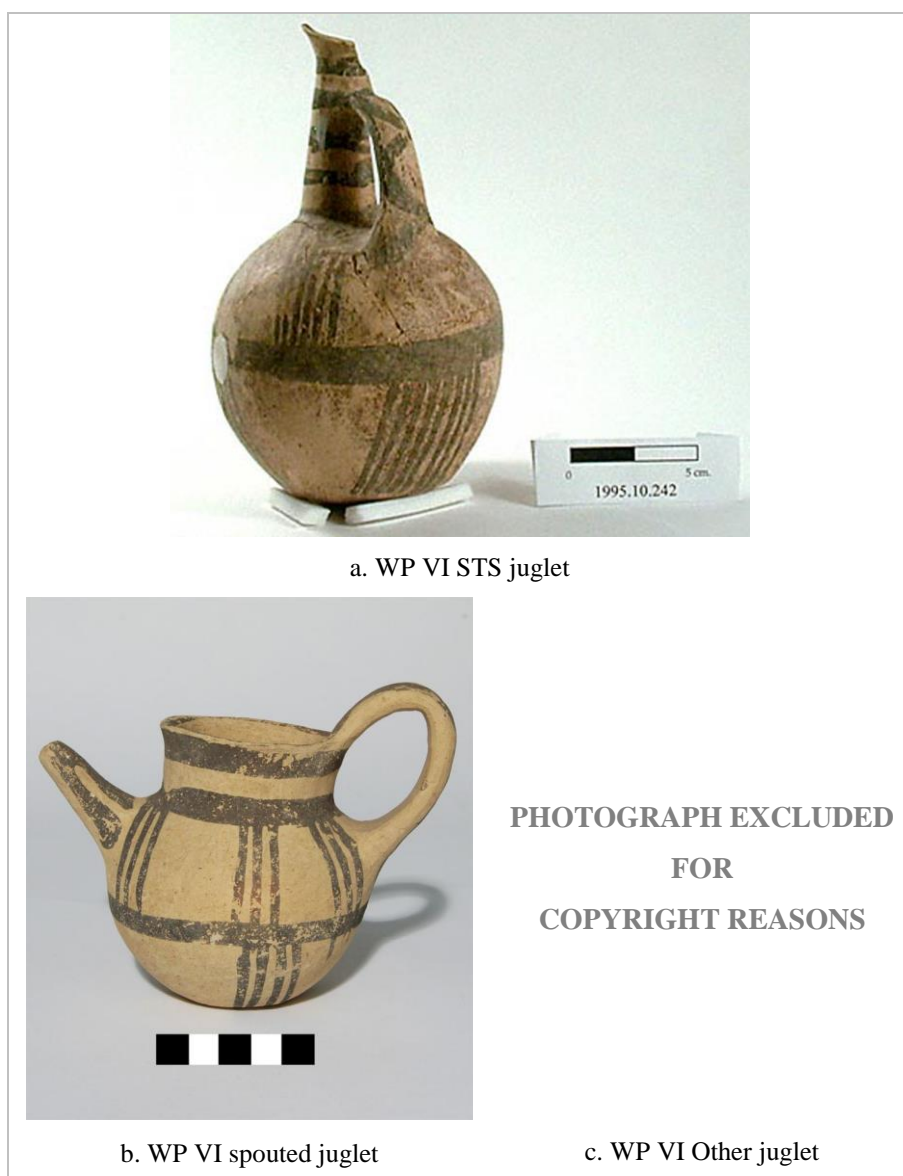


Figure 1-14 *WP VI juglet styles*

- a. Cesnola collection, Inv no. 1995,10.242, courtesy Semitic Museum, Harvard University
- b. Maroni, tomb 10, © The Trustees of the British Museum, Inv. no. 1898,1201.125
- c. Phylactou collection, cat no 44 (from Karageorghis 2010b, 51)

A.1.9.5 White Painted Wheel-Made (WPWM) juglets

This ware first appears in LCI and is described by Åström as the monochrome variety of Bichrome (Åström 1972d, 748). There were very few juglets in WPWM I or II.

WPWM III

This is the term now used for the earlier 'Decorated Late Cypriot III Ware'. It has also largely replaced the term 'Levanto-Helladic Ware' which had been used to describe Cypriot copies of Mycenaean Ware. The Cypriot style juglets are in the form of teapots with side spouts. This term is only used in this study for these juglets. The local copies of Mycenaean stirrup jars, flasks and juglets are classified by the Furumark system (see below) together with an indication of the vessel being a local imitation. This ware was common from LCIIC to LCIIIB (Åström 1972d, 700-701).

A.1.10 White Shaved juglets

White Shaved (WSh) ware is made of a pale buff or greenish soft to medium clay and its name comes from the practice of trimming or shaving the clay when leather hard to produce a carved appearance. WSh ware consists almost exclusively of juglets. The form is spindle-shaped with a pointed base and a short, narrow neck with a pinched mouth (Figure 1-15a), and it is somewhat alien to Cyprus with the exception of the handle, which was pushed through the vessel wall as with most Cypriot juglets. The juglet shape is similar to that of Palestinian dipper juglets and may have been inspired directly from the ceramic form (Amiran 1969, 173; Gittlen 1981, 53-54). However, based on the whitish colour and carved appearance, its design is likely to have derived from gypsum vessels (Bevan 2007, 152, no. 15), which themselves were modelled after the dipper shape (e.g. Style Es2 Bevan 2007, p213) as can be seen in Figure 1-15b-c.

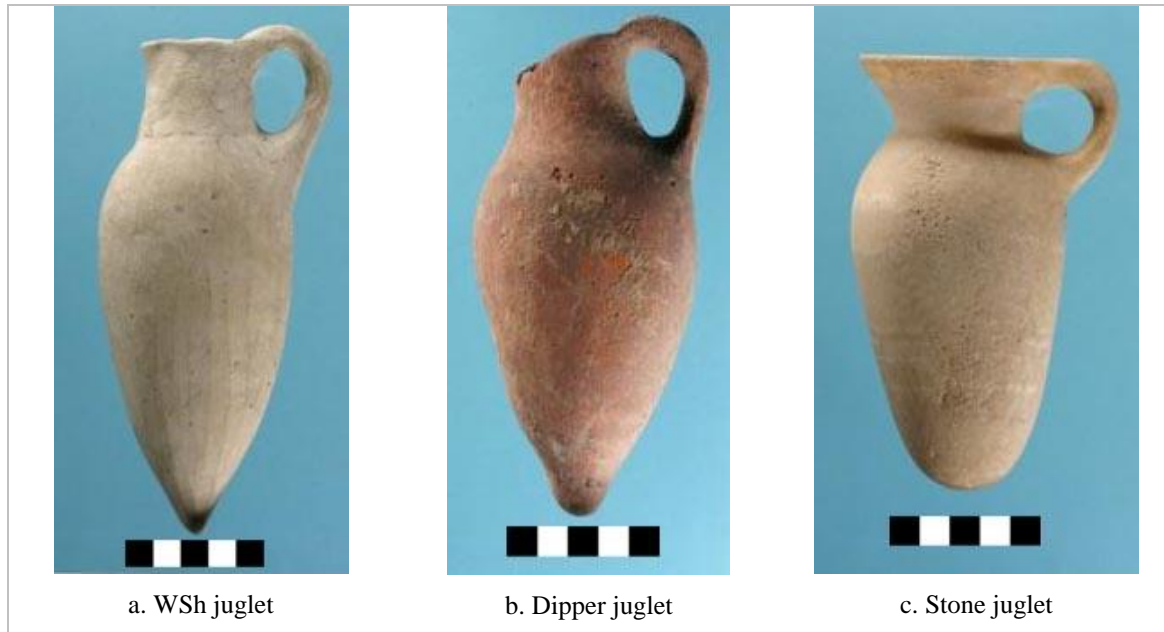


Figure 1-15 *WSh modelled on the dipper shape*

a. Tell el-'Ajjul, tomb 1097, UCL Inv. no. EXIII.40/1

b. Tell el-'Ajjul, tomb 1514, UCL Inv. no. EXIII.59/3

c. Tell el-'Ajjul, tomb 2007, UCL Inv. no. EXIII.28/1

(Photographs courtesy of UCL Institute of Archaeology)

A.1.11 White Slip Ware

White Slip (WS) ware is thought to have developed from the northern WP tradition, since it used similar painted decorative motifs. Recognised by its thick light coloured slip, it was made from distinctive clays different from other wares, and it needed firing temperatures of around 900-1100°C in order for the slip to adhere to the clay (Aloupi *et al.* 2001, 23). Technological advances of this ceramic manufacture have been linked to pyrotechnical methods associated with the copper industry (Eriksson 2001, 52-53). The ware classification is subdivided into a chronological sequence of Proto White Slip (PWS), WS I and WS II. Unlike the relationship of PBR to BR, it is more certain that PWS was a formative stage of WS (Eriksson 2001, 53). Although Eriksson believed that PWS started in MCIII, it is now generally thought to have been introduced in LCIA:1, correlating with the end of MBIIC in the Levant. WS I was introduced in LCIA:2 and WS II at the end of LCIB (Åström 1972d, 748; Manning 2001, 50). WS ware was very popular for bowls which were widely distributed on Cyprus and exported to the Levant. Since there were few WS juglets (Figure 1-16), its main interest for this study is as a chronological indicator of interactions between Cyprus and the eastern Mediterranean.



Figure 1-16 *WS I juglet*
Maroni, tomb 1, © The Trustees of the British Museum, Inv. no. 1898,1201.99

A.2 Classification of Palestinian juglets

Bronze Age Palestinian pottery has traditionally been typed primarily by form. This may have arisen historically following the early Petrie-Duncan classification of Palestinian pottery devised in the 1930s (Duncan 1930; Petrie 1931; 1932; 1933; 1934) or it may be due to the fact that most indigenous ceramic assemblages of the period were plain. Hence, unlike the situation with Cypriot pottery, individual ware types, such as Bichrome or Tell Yahudiyeh, are the exception. Pottery is described and classified here by ware, form and shape. The following categories are in common use.

A.2.1 Slipped and burnished juglets

Slipped and burnished juglets were the most common juglets of the MBII period. They are small wheel-made vessels with narrow necks. They have round or slightly flared mouths with flat, rolled or candlestick rims, and handles from rim to shoulder. They have flat, disc or button bases. For such juglets I have followed Aston (2002), who adapted the basic shape typology for TEY juglets devised by Kaplan (Kaplan 1980). As discussed by Aston (2002, 49-50), this system has been criticised for inconsistency, but I feel that it is useful in that the distinctions are familiar and can readily be identified across sites as well as across different wares. The four basic

shapes are ovoid, piriform, biconical and cylindrical. Juglets are plain except for the slip and burnishing (usually vertically on the body). The slip was most commonly red, but brown, black and grey slips were also used. These juglets are most commonly therefore called Red or Black Slipped Burnished juglets. However they have also been described as Red, Black and Grey Polished. Occasionally juglets were unslipped and only burnished. As with the Cypriot red and black slipped, these RSB/BSB juglets have been amalgamated into the same groups. Despite the similarity of name, it is important to differentiate Cypriot BS juglets and the Palestinian RSB/BSB juglets.

RSB/BSB Ovoid juglets

Ovoid juglets seem to be the earliest types of juglet. These have a rounded shape with the maximum diameter in the middle third of the body. The earliest versions of the ovoid juglet have flat bases and a collared rim (the collarette rim), with double stranded oval-section handles. Later juglets developed candlestick rims and disc bases (Cohen 2002b, Fig 4-7). These juglets were prevalent in the first three phases of MBIIA. Ovoid juglets with cutaway necks are also associated with MBIIA, but these may have been Syrian rather than Palestinian.

RSB/BSB Piriform juglets

These types seem to have developed from the ovoid juglets. Piriform juglets have a distinct shoulder and the maximum diameter is in the upper third of the body (Figure 1-17a). Aston further divides these types into Piriform 1, 2 and 3 according to the different type of handle, tripartite, bipartite and round or strap handles, respectively. I will not be using these further divisions. However, other features have been used as the basis of dating. The candlestick and collarette rims disappeared after MBIIA, and MBIIB-C juglets had everted funnel shaped rims instead. Another characteristic is the button base which replaced the disc base, possibly as early as the last phase of MBIIA (Baker 2006, 8; Cohen 2002b; Gerstenblith 1980, 72). These juglets conform to some of the sub-types of CPP class 60. Piriform juglets were at their height in MBIIB and thereafter they were less frequent.

RSB/BSB Biconical juglets

Biconical juglets have squat forms with the maximum diameter in the central third of the body. Other characteristics follow the piriform juglet typology. These first appeared in MBIIA, but were also found in MBIIB-C contexts, but they were not as prevalent as the piriform and cylindrical types. The handle of these types is often on the shoulder.



Figure 1-17 *RSB/BSB juglets*

- a. Unprovenanced (Harvard Art Museum/Sackler Museum Inv. no. 1985.167)
- b. Tell el-'Ajjul Stratum Palace I, Area MV, UCL EXII.19/1 (Photograph courtesy of UCL Institute of Archaeology)
- c. Ugarit, Niveau II tomb (Schaeffer 1962, *Ugaritica* IV, pl. XVI.10)
- d. Ugarit Niveau II tomb (Schaeffer 1949, pl. XXXVIII)

RSB/BSB Cylindrical juglets

Cylindrical juglets have straight bodies and flat or flattened bases (Figure 1-17b).

Like the piriform juglets, they made their first appearance in MBIIA, but only became common in MBIIB and were most prolific in MBIIC (Baker 2006; Cole 1984; Tufnell 1958). The CPP classification of these forms is 74O.

RSB/BSB Syrian/Trefoil

These juglets seem to have originated in Syria where the highest numbers were found (Maguire 1990; Schaeffer 1939b; Schaeffer 1949). They were wheel-made and had an elongated body with a beaked or trefoil pinched mouth and a flat, disc base or conical base (Figure 1-17c-d). Like the Palestinian forms they are red or black and slipped and burnished.

A.2.2 Dipper juglets

Dipper juglets which were common in the MB period in Palestine, include burnished juglets with pointed bases. They continued into the LB period with changes in shape. Some developed more rounded bases, longer necks or more obvious shoulders. There were also squat baggy versions in the LB period (Tufnell 1958, 192). CPP has many classes for the variants of the dipper, but most are in the range of 51F-G.



Figure 1-18 *Dipper juglets*

- a. Tell el-'Ajjul, tomb 1417, UCL Inv. no. EXII 3/2. Tell el-'Ajjul, tomb 1001, UCL Inv. no. EXIII 50/1 (Photographs courtesy of UCL Institute of Archaeology).

A.2.3 Pilgrim flasks

Pilgrim flasks were characteristic of the LBA in Palestine. They were made from two wheel-made bowls joined together, to which the wheel-made neck was added and also the handles. They first appeared in LBI. In the LBIIA forms the handles are attached first and neck inserted between, resulting in the characteristic appearance of this period. Plain pilgrim flasks are red or buff and slipped and burnished (Figure 1-19a). One variation has an open cup at the mouth. The CPP classifications for such flasks are in the 85D to 85N range. There is another form of pilgrim flask with a single handle from the neck to the back.

A.2.4 Painted juglets

Though much rarer, these juglets have a similar range of forms to slipped and burnished juglets. On piriform and ovoid juglets, decorations include horizontal circular lines, concentric circles and lattice triangles and diamonds. On painted pilgrim flasks, the decorations is usually in concentric circles on the body surfaces (Figure 1-19b).



Figure 1-19 *Pilgrim flasks*

a. Tell el-'Ajjul, tomb 1514, UCL Inv. no. EXIII.59/4b

b. Tell Farah, tomb 933, UCL Inv. no. EVI 18/2

(Photographs courtesy of UCL Institute of Archaeology)

A.2.5 Bichrome juglets

Bichrome jugs and juglets were common in the LBA, although they were introduced in MBIIC. They seem to have their own repertoire of shapes. Juglet forms are mainly biconical or globular, but occasionally cylindrical. They have flat or low ring bases and relatively short cylindrical necks with everted rims. The thick oval handles are from rim to shoulder. They have painted geometric decoration, often with zigzag patterns in the top register with some motifs exhibit Cypriot influences. Jugs seem to have been more common than juglets.

A.3 The classification of small Mycenaean narrow-necked containers

Mycenaean narrow-necked containers which were the functional equivalent of Cypriot and Palestinian juglets are best known as stirrup jars and flasks, although there were also a few small jugs. These are referred to and classified here under the standard Furumark system (Furumark 1972, 610-616). Where there has been any ambiguity over types, I have used the slight modifications devised by Leonard (1994), an important reference in this study. Most of the information on shapes, decoration and dating has been taken from Leonard (1994, 49-89).

A.3.1 Mycenaean stirrup jars

These false-necked jars came in two main sizes, the large storage or transport vessels and smaller fine ware vessels. The false neck on the top of the jar was adapted as a handle whilst the side-spout was used for pouring. Both the balance provided by handle and the narrow opening were designed for fine control of pouring. The Furumark shape numbers define the relative dimensions (Furumark 1941). The commonest types are shown below (Figure 1-20).

- FS 171 has a depressed globular body with the height of the vessel about the same as the diameter. The average height is around 10 cm. Most commonly occurred in LHIIIA:2 but extended into LHIIIB.
- FS 173 has a depressed globular body but the height is always greater than the diameter. Dated LHIIIA:2-B.
- FS 178 has a squat globular body where the diameter is greater than the height. The height is usually around 6-11 cm. Considered to be LHIIIA:2.

- FS 179 is similar to FS 178, but with a more biconical body. Usually LHIIIB.
- FS 180 has squat globular body with a slightly flattened shoulder and a relatively high handle. Height is 6-12 cm. Mostly dated to LHIIIB, but some LHIIIA:2-B.
- FS 182 is relatively tall and has a conical body with a rounded shoulder and an almost flat top. The foot is higher and more concave than other types. Height is 10-12 cm. Usually LHIIIB.
- FS 183 has a squat biconical body with an angular shoulder. Height is 6-9 cm. Usually LHIIIB.



a. Mycenaean stirrup jar FS 171



b. Mycenaean stirrup jar FS 173



c. Mycenaean stirrup jar FS 178



d. Mycenaean stirrup jar FS 182

Figure 1-20 *Mycenaean stirrup jars*

- a. Enkomi, tomb 83, © The Trustees of the British Museum, Inv. no. 1897,0401.1161
 b. Hala Sultan Tekké, tomb 4, © The Trustees of the British Museum, no. 1898,1231.23
 c. Enkomi, tomb 88, © The Trustees of the British Museum, Inv. no. 1897,0401.1220
 d. Pothia, unprovenanced, © The Trustees of the British Museum, Inv. no. 1886,0415.17

A.3.2 Mycenaean flasks

There are two main types of Mycenaean flasks that were exported, the vertical type and the horizontal type.

- FS 186 has a lentoid body with concentric circular decoration in the vertical plane. It has two variants, one with two handles from mid-neck to shoulder and the other a single handle from the neck to one of the faces. The shape, which was well known in the Levant and Cyprus, was rare in Mainland Greece. Dated to LHIIIA-B.
- FS 189 is a globular vertical flask with two handles, of around 9-19 cm in height, and decorated with concentric rings in the vertical plane (Figure 1-21a). Mostly dated to LHIIIA:2.
- FS 191 has a globular or biconical body with two handles from neck to shoulder (Figure 1-21b). It is also decorated with horizontal encircling bands. Height is around 9-12 cm. Dated to LHIIIA:2.

A.3.3 Mycenaean juglets

- FS 114 has a globular body and a fairly wide neck. Height is around 10 cm. Dated to LHIIIA:2-B. (Figure 1-21d)
- FS 144 has a depressed globular or slightly biconical shape, with a flat base and trefoil mouth. Dated to LHIIIA:2-B (Figure 1-21c).

A.3.4 Simple Style (SS)

This term, coined by Furumark, has been applied to some Mycenaean vessels, particularly containers, such as flasks and stirrup jars. The vessels were almost certainly local imitations, usually made with a coarser fabric and with a simple decoration of broad horizontal bands (without the interpolated thin lines). They were mostly LHIIIB (Leonard 1994, 7-8).



Figure 1-21 *Mycenaean flasks and juglets*

- a. Enkomi, tomb 45, © The Trustees of the British Museum, Inv. no. 1897,0401.948.
- b. Enkomi, tomb 88, © The Trustees of the British Museum, Inv. no. 1897,0401.1246.
- c. Maroni, tomb 14, © The Trustees of the British Museum, Inv. no. 1898,1201,130.
- d. Kourion tomb 89, © The Trustees of the British Museum, Inv. no. 1896,0201.386.

A.4 Classification of Tell el-Yahudiyeh (TEY) juglets

TEY juglets are black polished vessels with incised decoration which have been filled with a white paste. They had a widespread distribution throughout the eastern Mediterranean, but most juglets were manufactured locally and developments in form and decoration were regionally distinct, so their origin has been difficult to determine. The range of shapes was similar to that of the Palestinian slipped and burnished juglets but incised decoration was alien to this region. Conversely, Nubia had a tradition of incised pottery but juglets were not a local form. However, since the

primeval forms were discovered at Afula in the remains of a workshop (Kaplan 1980; Sukenik 1948), it seems probable that they were first produced in Palestine, in contrast to the conclusions of Kaplan, who suggested they may have originated in Egypt. The typology of TEY juglets has had a long history (reviewed by Aston 2009), which extends back almost a century including classifications from excavators in Egypt, Nubia and Palestine. The comprehensive survey of TEY ware by Kaplan in 1980 remains the standard work, and her systematic classification is most suited to this study since it is based primarily on body shapes. A more recent classification has added chronology, decorative schema and technology to produce a revised typology based on the current knowledge of the ware (Aston 2009, 188-91). This added several new classes including the Cypriot handmade globular juglets and combed juglets which are discussed in Chapters 6 and 7.

TEY Ovoid juglets

These were the earliest forms of TEY juglets (MBIIA-B), mainly from the Levant. They have large ovoid bodies distinguished from piriform juglets by a wider, more rounded form. The rim is straight up or everted, not rolled as in the later forms (Figure 1-22a). The decoration is limited to two or three narrow horizontal areas of the body surface (Kaplan 1980, 26-28).

TEY Globular juglets

These have globular bodies, rounded bases and a rolled-over rim (Figure 1-22b). They are decorated with herringbone patterns, usually in vertical gores. This form includes the handmade globular forms on Cyprus (MCII-III) and at Tell el-Dab'a (Maguire 2009, 24-25). Decoration on these include the zigzag patterns common on Cypriot BS II and BS III wares suggesting an early influence from Cyprus.

TEY Piriform juglets

These juglets have piriform bodies. There are three main types. Type 1 was the earliest of these, and has ring or button bases, commonly double handles and the decoration is usually three or four bands filled with triangles or rectangles. They were also known from earlier classifications as el-Lisht ware (Figure 1-23a). Type 2 has ring or button bases with a rolled-over rim. The decorative scheme is three or four vertical gores, filled with incised herringbone patterns (Figure 1-23b). Type 3 has

only one or two delineated horizontal bands or decoration on the body surface, filled with incised geometric patterns (Kaplan 1980, 19-24). Piriform 2 juglets were mainly Egyptian whereas Piriform 3 juglets were made in Palestine. Both types were later (MBIIC) than Piriform 1 (MBIIB).

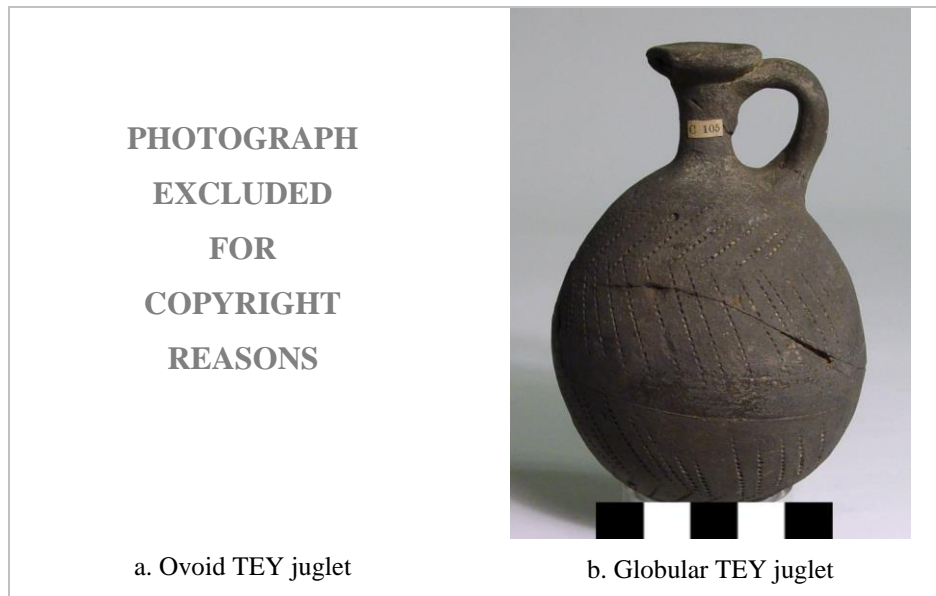


Figure 1-22 *Ovoid and globular TEY juglets*

- a. Unprovenanced Levant, Harvard Art Museum/Sackler Museum, Inv. no. 1953, 2000.330
- b. Enkomi, tomb 66, © The Trustees of the British Museum, Inv. no. 1897,0401.1304

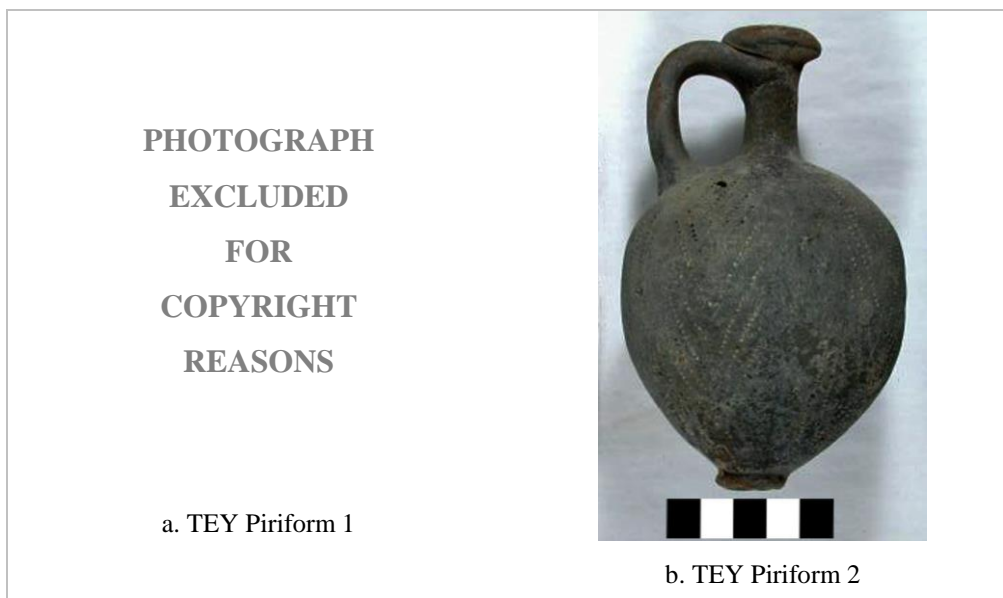


Figure 1-23 *Piriform TEY juglets*

- a. El Lisht house, from Metropolitan Museum N.Y. Inv. no. 34.1.17
- b. Egypt, The Petrie Museum of Egyptian Archaeology UCL, No, UC 13472

TEY Biconical juglets

This type has biconical body shapes with rolled-over rims, button bases and single handles. The decoration covers most of the body, but a burnished band is left around the middle (Figure 1-24a). These juglets were prevalent in Egypt in the 15-17th dynasties and many were found at Tell el-Dab'a in levels E/3-D/1.

TEY Cylindrical juglets

These have cylindrical body shapes with rolled-over or everted rims. Type 1 juglets are smaller and often have a rounded base with decoration over most of the body surface (Figure 1-24b). They were mainly found in Egypt, especially the Delta during the 15-17th dynasties. Type 2 has more angular transitions from shoulder to body and the decoration has one or two bands of chevrons over only a fraction of the surface area (Kaplan, 1980, 16-17) . This type was found in the Levant throughout MBIIB.



Figure 1-24 *Biconical and cylindrical TEY juglets*

a. Lachish, tomb 1552, © The Trustees of the British Museum, Inv. no. 1980,1214.10881

b. Petrie Museum of Egyptian Archaeology Museum, UCL Inv. no. 13455

TEY grooved juglets

Grooved juglets were a relatively rare type of TEY juglets which were only found at Tell el-Dab'a and in Cyprus. They had ovoid bodies which are decorated with incised or grooved horizontal circles rather than the more usual punctated decoration (Figure 1-25). The handle was pushed through the body wall in the Cypriot style. The origin of the juglets is consequently difficult to interpret.



Figure 1-25 *TEY grooved juglet*
Enkomi tomb, © The Trustees of the British Museum, Inv. no. 1921,0617.1

A.5 Classification of Egyptian juglets

As mentioned above, the form of TEY juglets cannot be related to any Egyptian ceramic styles. This was true of juglets in general and indeed, until the end of the Middle Kingdom, the narrow-necked juglet types common in Cyprus and the Levant were not features of the Egyptian ceramic tradition. Egyptian style narrow-necked vessels suitable for containing oil had existed in the Old Kingdom, mostly in stone, but ceramic jarlets and juglets did not appear until the 12th and 13th dynasties, after the first imports had arrived. Most of these forms were small handleless jars which were seemingly modelled on stone vessels with cylindrical, ovoid, or globular bodies with flat, pointed or rounded bases (Aston 1994, 144, 154-155; Bevan 2007, 206-208).

Until recently, there has been no standard terminology for Egyptian ceramics, and typology has been problematic. One of the problems in studying ceramics in terms of form and function is that Egyptian pottery is usually classified primarily by fabric. The Vienna system classifies pots by subdivisions of Nile silt wares (NA-NE) and Marl wares (MA-MF). Shape terminology has lacked coherence and only relatively recently has there been a move towards standardisation of typology (Bourriau *et al.* 2005; Rose 2007; Wodzinska 2009). An objective system devised by Aston (1998),

and derived from the relative dimensions of the vessel, was used by Rose (2007, 33-35). It is a hierarchical system based on the following levels:

1. Fabric, decoration and technology
2. Aperture index (open vs. closed vessels)
3. Vessel index i.e., the ratio of maximum vessel diameter to height
4. Form class based on body shape
5. Type based on features such as rim, base and handle

Egyptian pottery is usually described, in the first instance, by fabric i.e. by Marl or Nile Silt clays. These may be subdivided into various categories as referred to above. Rose used only two broad classifications of Silt Wares (S) and Marl Wares (M), which seems a reasonable approach when analysis is not readily available, as these two types can be distinguished by visual examination. Decoration is also often related to clay type. The general rule seems to have been Silt wares were often Red or Black Slipped, although Blue Painted decoration was often used in the New Kingdom. Marl wares were usually red and sometimes had a heavy cream slip. They are often used to make imitations of imported wares. However, it is not possible to distinguish fabric from drawings, and since some older excavation reports did not distinguish between fabrics, I have decided not to make this a major division of my typology. The aperture index for distinguishing open from closed vessels is irrelevant here since juglets are always closed vessels.

For the purposes of this study, form and function of the vessels is more significant. The first important level for juglet typology is the vessel index, which defines body shape by relating the maximum diameter of the vessel to its height. In the Rose typology, the shape groups for closed vessels are slender jars, tall jars, globular jars, pilgrim flasks and miniature pots. Some of these, classed as small (i.e. under 20cm), might define a juglet. However, in general the categories are not useful for juglet typology and I have used the last two categories of the hierarchical scheme and have defined the body shapes following Aston (1998, 43). Consequently, juglet body shapes will be defined as:

Ovoid juglets: where the maximum diameter of the vessel falls in the middle third of the height of the body (Figure 1-26).

Piriform juglets: where the maximum diameter of the vessel falls in the upper third of the height of the body (Figure 1-27).

Drop-shaped juglets: where the maximum diameter of the vessel falls in the lower third of the height of the body (Figure 1-28).

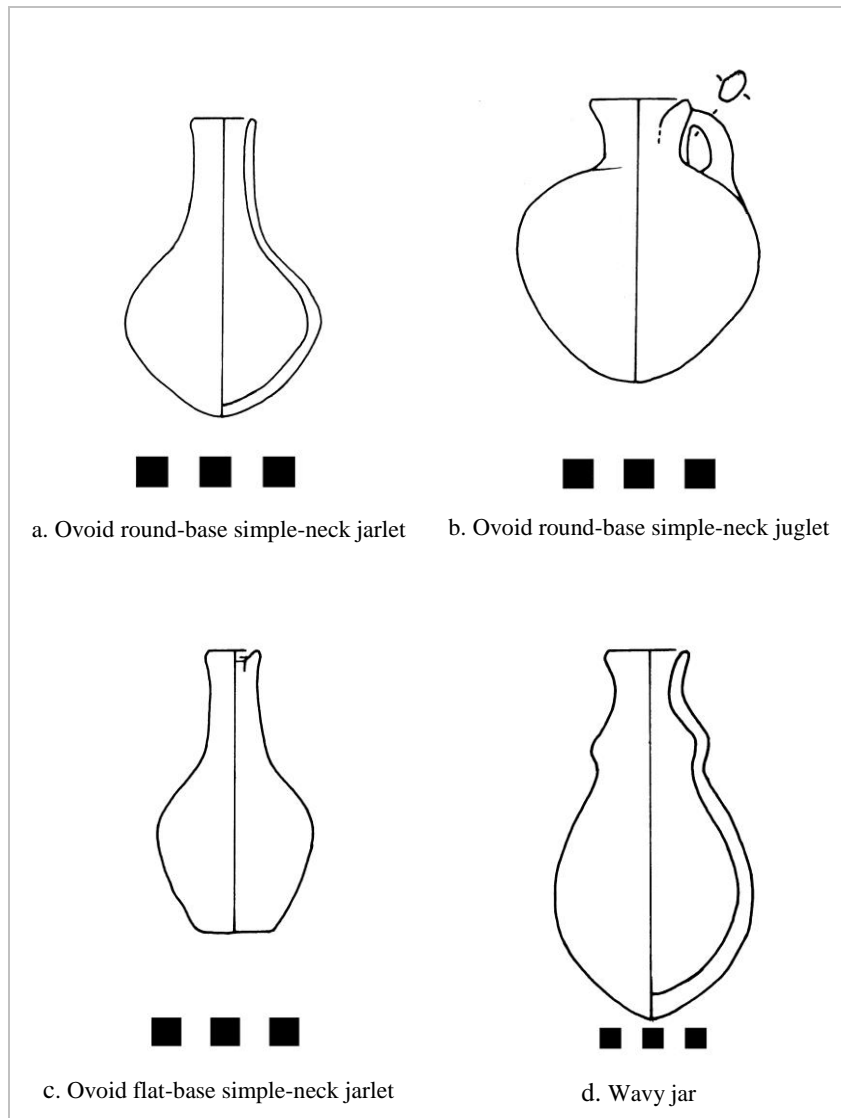
Cylindrical juglets: where the diameter of the body does not vary much although gentle tapering or some concavity may occur (Figure 1-28).

Further typing is derived by the modelling of the neck, rim and base. Hence, rounded, flat or ring bases distinguish types. In terms of neck and rim, I have limited the types to simple where the neck follows the line of the body or to shouldered where there is inflection or complexity. The former can qualify as a juglet when there is long narrow neck with no rim or a simple flared rim. The latter type could restrict the flow of liquid with an abrupt narrowing of the neck as with a definite shoulder. Finally, the presence or absence of a handle distinguishes a juglet from a jarlet. The following levels therefore describe the Egyptian tradition juglets and jarlets (Table 1-2).

Level 1 Body shape	Level 2 Base	Level 3 Shoulder	Level 4 Presence of handle
Ovoid			
Piriform	round-base	simple-neck	juglet
Drop-shaped	flat-base	shouldered	jarlet
Cylindrical	ring-base		

Table 1-2 *Typological classification based on form*

In a few cases, where some very common names or shapes are better identified with that terminology, I have kept the traditional name. For example, Wavy jars are also ovoid round-based simple jarlets but with a specialised form. Some drop-shaped flat-based shouldered jarlets might be better recognised by the terms alabastra. Likewise, Mini-amphora provides a better description of a specialised piriform rounded shouldered juglet. An advantage of this system is that it can also be compared against standard classifications of stone vessels.



a. Ovoid round-base simple-neck jarlet

b. Ovoid round-base simple-neck juglet

c. Ovoid flat-base simple-neck jarlet

d. Wavy jar

Figure 1-26 *Egyptian ovoid jarlets and juglets*

a. Amarna (adapted from Rose 2007, p.277 Cat no. 604)

b. Amarna (adapted from Rose 2007, p.279, Cat no. 612)

c. Lisht (adapted from Wodzinska 2009, 177, Cat. no. Middle Kingdom 31)

d. Amarna (adapted from Rose 2007, p.258, Cat no. 477)

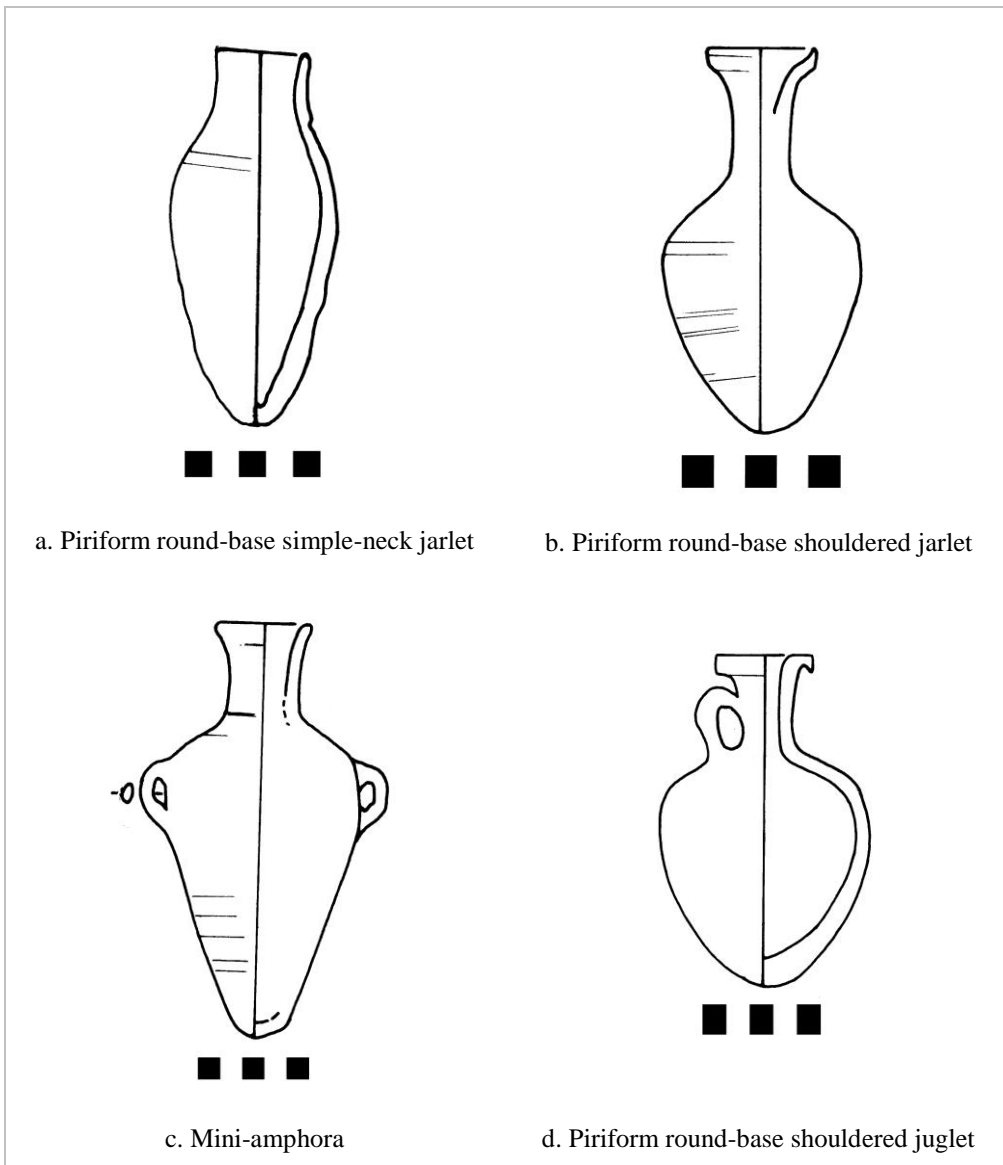


Figure 1-27 *Egyptian piriform juglets and jarlets*

- a. Beni Hassan (adapted from Wodzinska 2009, 177, Cat. no. Middle Kingdom 31)
- b. Amarna (adapted from Rose 2007, p.268, Cat no. 568)
- c. Amarna (adapted from Rose 2007, p.270, Cat no. 576)
- d. Amarna (adapted from Rose 2007, p.279, Cat no. 611)

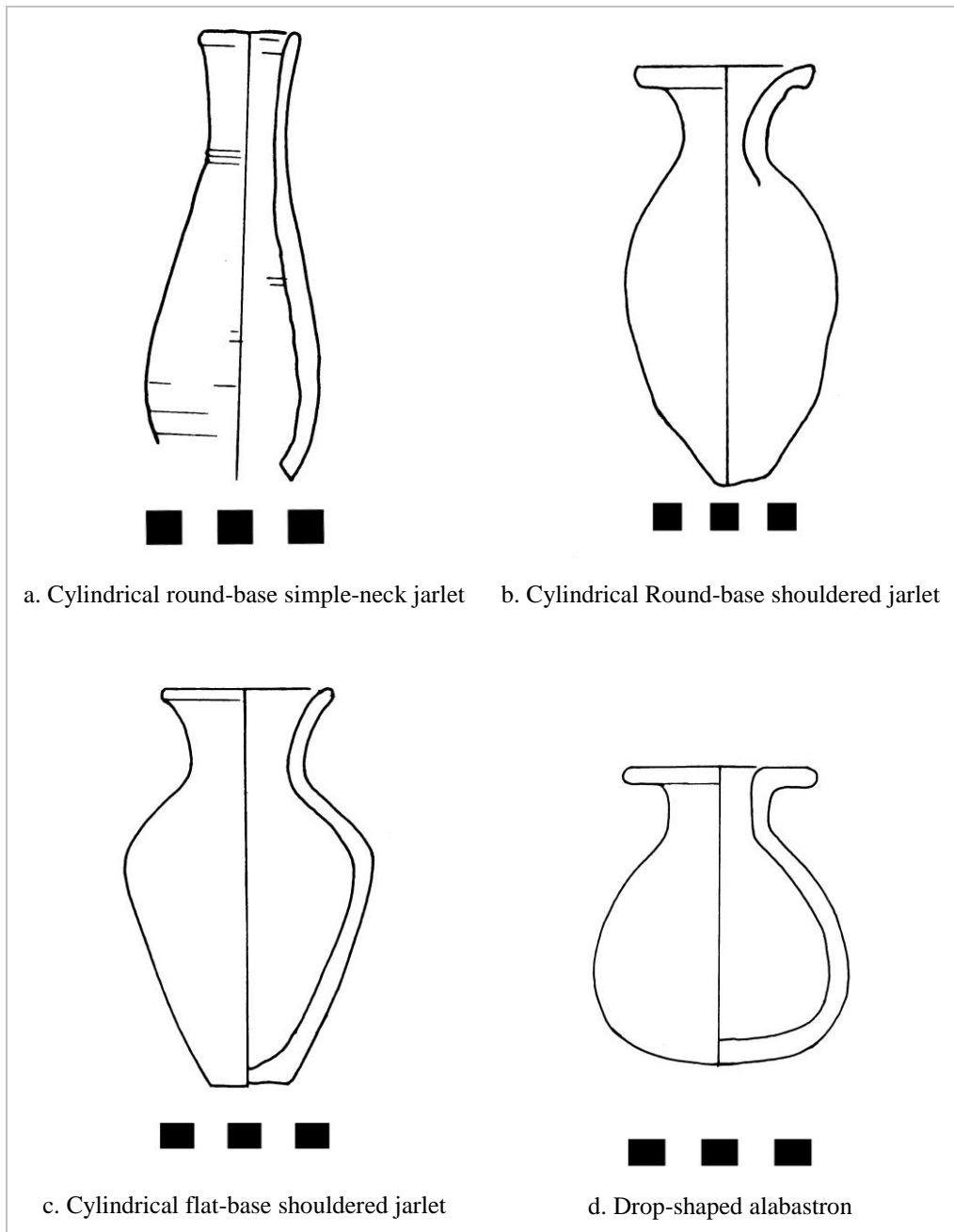


Figure 1-28 *Egyptian cylindrical and drop-shaped jarlets*

- a. Amarna (adapted from Rose 2007, p.231, Cat no. 358)
- b. Amarna (adapted from Rose 2007, p.257, Cat no. 473)
- c. Amarna (adapted from Rose 2007, p.257, Cat no. 474)
- d. Amarna (adapted from Rose 2007, p.277, Cat no. 605)

Chapter 2 The Bronze Age world of juglet circulation: Cultures, chronology and commerce considered

The *Bronze Age eastern Mediterranean* of the title of this thesis is not a clear-cut entity neatly packaged for analytical use but inter-linked and shifting sets of spatial, cultural and temporal frameworks. The term embodies apparent contradictions, such as the combination of insularity and connectivity often exhibited by the regions surrounding the Mediterranean Sea. It necessitates using the material records of diverse cultures alongside each other (and indeed considering the often uneven narratives of varying research techniques). The resulting evidence then needs to be split up chronologically according to specific social, economic and/or political considerations. The task presents further difficulties relating to local archaeological terminologies, chronological uncertainties and to contested modern political perspectives. A final problem relates to need to assign manageable limits to the present study. Nevertheless, in order to examine interrelationships between communities of the eastern Mediterranean during the MBA and LBA, it is crucial to delineate geographical boundaries, clarify cultural frameworks and seek to synchronise chronologies. Whilst the approach taken here provides a somewhat simplified view of these criteria, it seeks to provide the broader context for comparisons.

2.1 Cultural frameworks

2.1.1 Spatial boundaries based on topographical and cultural divisions

Having just outlined the difficulty of defining the *eastern Mediterranean*, I have restricted my definition here to delimiting the regions of this study to Cyprus, the Levant, Egypt and Nubia. These regions are discussed fully below. Anatolia has been omitted to restrict the size of the study since this region was (probably) the least important to juglet circulation, with poorly published and patchy evidence. Areas of the Aegean have not been fully studied but are considered in their roles as juglet exporters. On occasion, the Mediterranean Sea needs to be taken into account, both as a boundary and as a means of access. Other boundaries of the regions around the eastern Mediterranean were generally delimited by topographical markers, such as mountains, plains and rivers, but cultural similarities and differences often transcended geo-

physical barriers and socio-political borders shifted during the long time period under study, as the result of war, migration or acculturation processes. Modern political boundaries and situations have had, and continue to have, profound effects on the way archaeological work is undertaken. Furthermore, it is often difficult to disentangle ethnicity, identity and geographical place at various times. Add to this the growing acknowledgement of the importance of regionalism within defined units, and it can be seen that modern classification of spatial divisions, relevant to any point in the past, is fraught with difficulty. Even basic terminology is controversial. Some scholars use modern nomenclature such as Cyprus, Egypt, Syria, etc., in an attempt to avoid issues of cultural identity, but there is then a danger of misconstruing differing political situations that existed in the Bronze Age. Whilst the use of northern or southern Levant is frequently too loose to define the regions under discussion, more precise phrases such as Palestine and Land of Israel may be politically loaded today. At the other extreme, use of ethnic terms such as Mycenaeans or Canaanites may carry with them certain assumptions and cultural baggage. For the purposes of this research, I have chosen to use the following regional nomenclature.

2.1.1.1 Cyprus

Cyprus will be used to refer to the entire island for much of this study because it is relatively small when making comparisons with the Levant and Egypt. Nevertheless, reference needs to be made to the different regions when considering the island alone since regionalism was apparent in its prehistory, at least until the end of LCI, and possibly into LCIIA (Crewe 2009a; Frankel 2009; Herscher 1984; Keswani 1996; Keswani and Knapp 2003; Manning 2001). In the Early Cypriot (EC) and early MC periods, settlements along the northern coast of Cyprus were the most prominent in the archaeological record. But by the end of the MC period, major sites had developed to the west of the older settlements, including *Toumba tou Skourou* and Ayia Irini on the edge of Morphou Bay. This area, often referred to as north-west Cyprus, is here considered with other, northern coastal sites as far east as Kazaphani, and designated northern Cyprus. The other important area from MCIII onwards was the south-east, including the important urban and trading centre, Enkomi and later, Hala Sultan Tekke and other sites around Larnaca Bay. It also incorporated the Mesaoria plain with its huge agricultural potential. The central region of Cyprus has been variously viewed as a network of fortified inland sites, involved in the exploitation of copper resources

(Peltenburg 1996) and isolated within a four-tiered settlement hierarchy (Knapp 1997, 56-61), or as a bridge for inter-regional communication (Georgiou 2011). Other regions considered in this study are the relatively isolated north-eastern peninsula. From LCI onwards, the southern coastal settlements including Maroni and Kalavassos *Ayios Dhimitrios* became important trading centres (Figure 2-1).

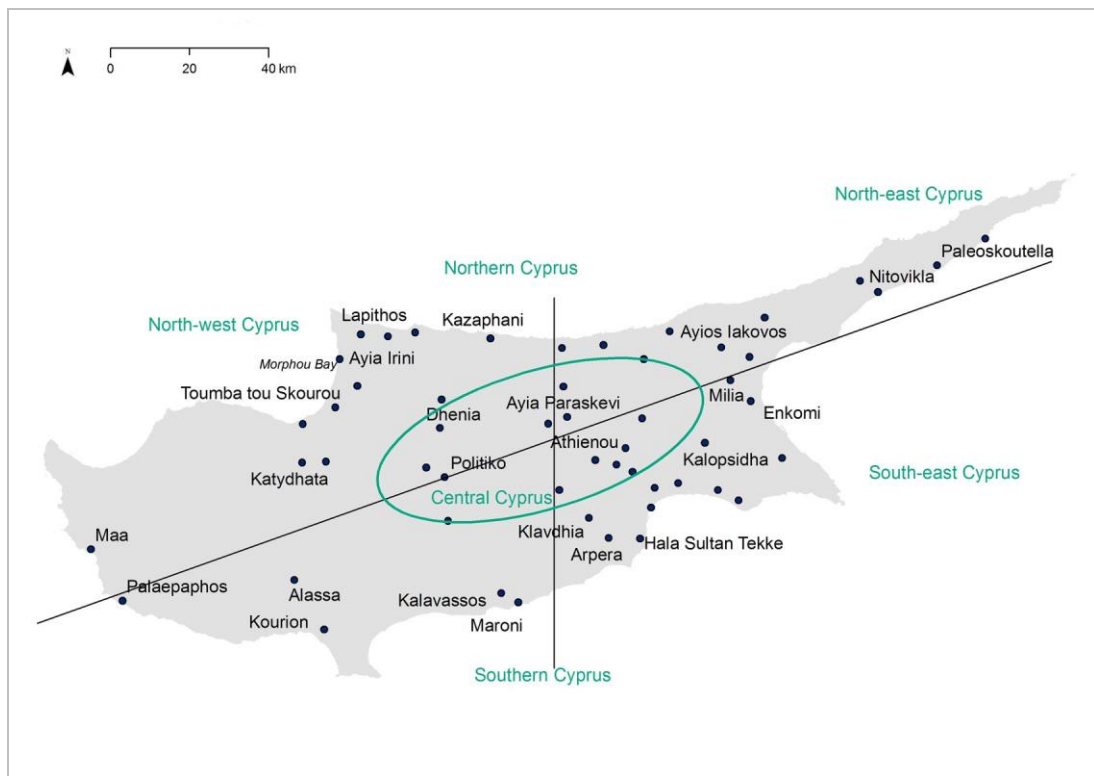


Figure 2-1 Regions of Cyprus, and main sites considered in this study

2.1.1.2 Palestine

The term Palestine will be used to describe a geographical area encompassing most of modern Israel, the Palestinian Authority and some of Jordan (Figure 2-2). It is delimited by the site of Tel Dan in the north, Tell Farah South in the south, and several sites east of the River Jordan and the Dead Sea. The topographical structure of Palestine, with its north-south hills and plains, and west-east wadi systems, certainly played a role in dividing this region, but there were also cultural divisions. The divide between northern and southern Palestine can also be linked to episodic cultural and economic alignments with Syria and Egypt, respectively (Dever 1985; Kempinski 1997, 328). Northern Palestine had important MBII centres in the north. Hazor and Kabri dominated overland trade routes between southern Syria and northern Palestine and may have exerted a

degree of hegemony. Ports for overseas trade were at Akko from MBIIA, with evidence of contact with Cyprus as early as MBIIA (Artzy and Marcus 1992), and later, especially in LBII, at Tell Abu Hawam and Tel Nami (Artzy 2005), which imported goods from the Aegean and Cyprus. West-east interconnections led through the wadi systems to the inland plains, one such being through the Jezreel Valley, via Megiddo and Beth Shan and across the River Jordan into eastern Palestine.

In the east of Palestine, the Jordan Valley has often been considered as one cultural entity (e.g. Sparks 2007, 227-36). However, the River Jordan had steep banks and limited crossings. Whilst it was fordable through the Jezreel Valley, making Pella an important hub linked with Megiddo via Beth Shan, other towns of Transjordan may not have been so culturally connected with those on the western bank. On the other hand, two main north-south routes linking Egypt and Syria ran east of the Jordan, facilitating contact with these regions at various points in time. In this study, eastern Palestine is the area known as Transjordan. The strongly dendritic pattern of west-east communications evident in the north was less obvious in the southern Palestine and this may be because they were less important to the southern coastal towns which were well connected with Egypt. In southern Palestine, there was a cluster of fortified towns, the most important of which were Sharuhem (Tell el-'Ajjul), Ashkelon, Tell Beit Mirsim and Tell Farah South, all of which had cultural ties with Egypt, and most especially with the eastern Delta during the SIP. The exact nature of the relationship is debated with arguments varying from direct Hyksos rule to ethnic ties and economic interactions (Dever 1985; Kempinski 1997; Oren 1997a; Tubb 1983). Important entrepôts were Ashkelon, as early as MBIIA (Stager 2002) and later Tell el-'Ajjul.

2.1.1.3 Syria

Syria is the term used in this study for the region that encompasses coastal areas including the Amuq Plain, coastal Syria, west of the Orontes, and the area that is now modern Lebanon (Figure 2-2). Ugarit, with its port Minet el-Beida, was a rich independent city, whereas Alalakh was a vassal state of Aleppo (Kempinski 1997). Byblos had important links with 13th dynasty Egypt but the ties were not apparently maintained in later times. In the south of this region, Sarepta was a port which became important towards the end of the LB period (Bell 2005).

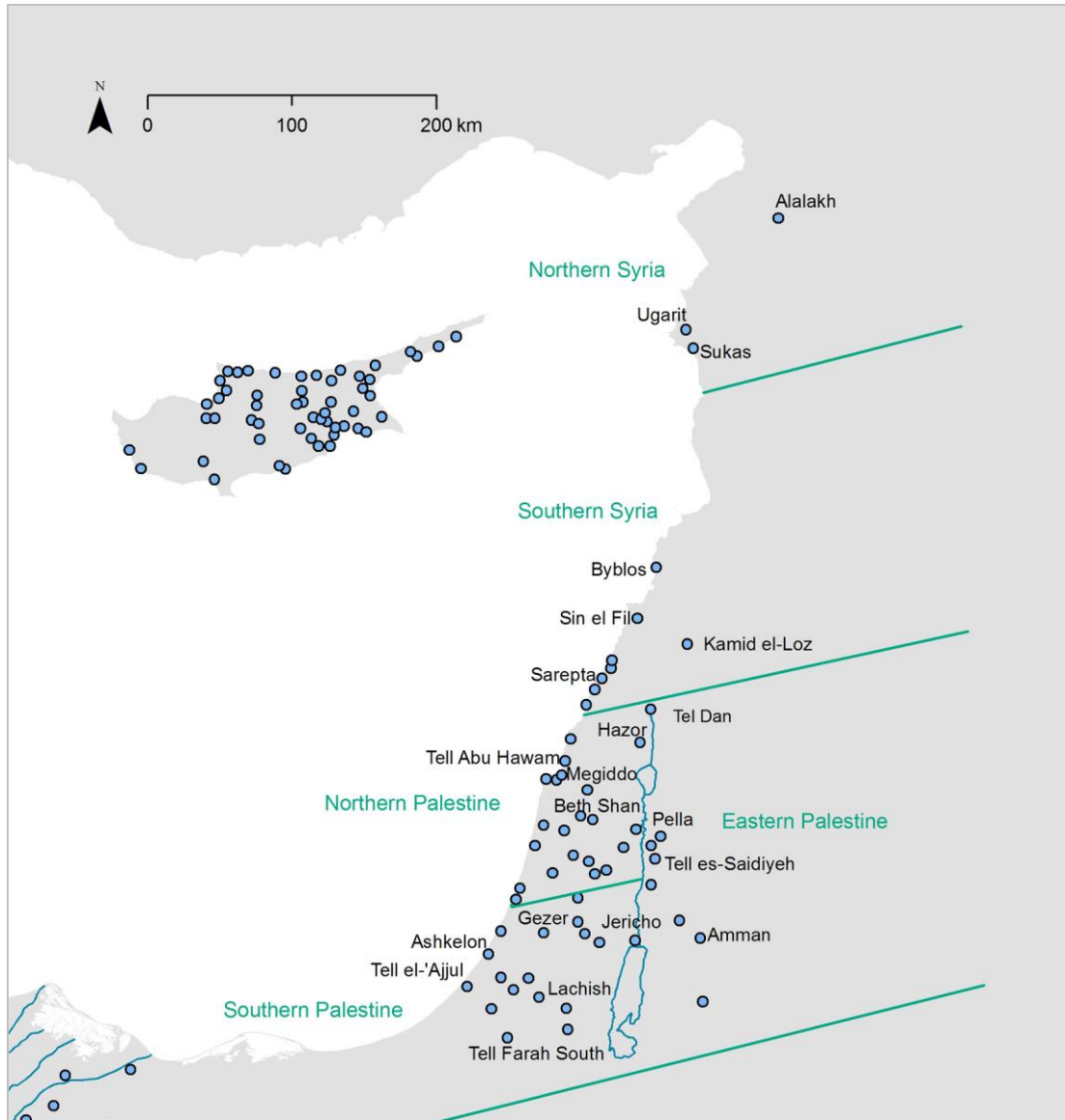


Figure 2-2 *Regions of Palestine and Syria, and main sites considered in the text*

2.1.1.4 Egypt

Egypt is a well accepted designation and will be used for periods when there was a united kingdom, i.e., during the Middle and New Kingdoms, with the proviso that its borders with Nubia were frequently in flux. The capitals which had been at el-Lisht in the 12th and 13th dynasty, moved to Thebes during the Second Intermediate Period (SIP) and to Abydos and Amarna at periods during the New Kingdom. It was during the SIP that Egypt can be considered as regionalised with identifiable cultural differences in the eastern Delta, the Memphis-Faiyum area, Middle Egypt and Upper Egypt. Tell el-Dab'a, on the Pelusiac branch of the Nile, in the Hyksos-controlled eastern Delta and ideally situated at the crossroads of sea and overland routes to southern Palestine (Figure 2-3).

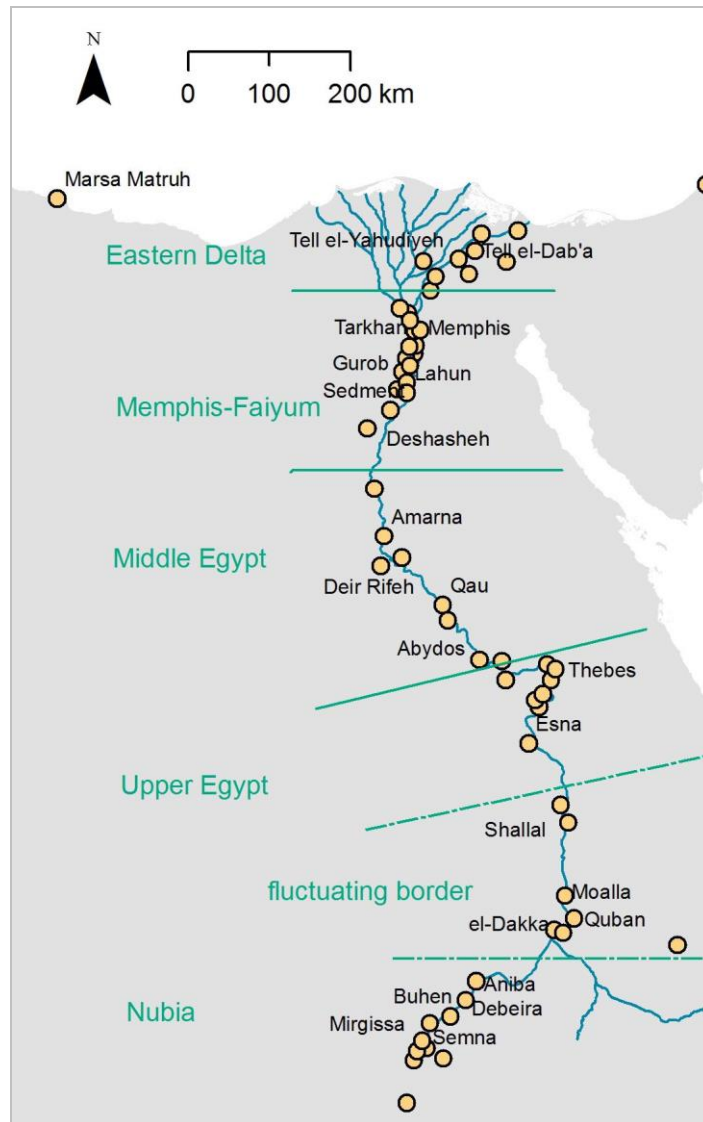


Figure 2-3 *Regions of Egypt and Nubia, and main sites considered in the text*

2.1.1.5 Nubia

Nubia covers the region along the Nile from as far north as Aswan (during the SIP) to around Kerma in the south. However, during the reign of Senusret III, the northern border had been pushed 400 km further south to Semna (Bourriau 2000, 206). Nubia can be divided into two regions: Lower Nubia in the north and Upper Nubia in the south. Since the former sub-region was so often in contention, the major settlements such as Buhen had fortresses which were for the most part under Egyptian control. Kerma, which was the capital under Kushite rule, was in Upper Nubia.

2.1.1.7 Groupings of regions

Occasionally in the text it has been convenient to group regions, so the term Syro-Palestine or the Levant is used in discussions when there are similarities between Syria and Palestine. Similarly, Egypt and Nubia are sometimes considered together. The Aegean is a term used for referring to Mainland Greece (mainly the Peloponnese), Crete and the islands of the Aegean. This region has only been studied as a producer/exporter of juglets and not as a consumer.

2.1.2 Cultural identities and social constructs

Terminologies referring to cultural concepts can cause problems, particularly when related to the people living in or moving between regions. In general, terms such as Mycenaean, Minoan, Palestinian, Cypriot, etc. are reserved for pottery, but in some cases it has been necessary to use terminology when referring to cultural identity. One such example is the term *Hyksos*. This term is not pejorative *per se*. It is the Greek derivation of *heqau-khasut*, which is an Egyptian term meaning 'rulers of foreign countries'. It seems to have been used not only by the Egyptians but also by the Hyksos kings in reference to themselves (Bourriau 2000, 207). Problems which have arisen over the way in which the term is applied to ethnic origin, a material culture or a period of foreign rule have been well reviewed by Oren (1997b). The archaeological evidence points to a regional, political-economic system in the Delta over a specific period, so *Hyksos* can be applied to the political system, its period and its rulers. The term applied to ethnicity or material culture has been a problem in the past because of the lack of archaeological evidence in the Delta for a foreign cultural phase (Oren 1997b, xxi). However, the excavations at Tell el-Dab'a have greatly added to the understanding of the material culture of the SIP in the eastern Delta (Bietak 1991a; 1997). The stratigraphic levels at this site have made it possible to trace the development of a hybrid Egyptianised/Levantine culture, one that acculturated imported goods and customs with indigenous traditions. In this thesis the term *Hyksos* is therefore applied to kings, periods and material culture.

In discussions on distribution and consumption in this study, it has been necessary to consider levels of access to goods, and consequently terms such as 'elite', 'sub-elite' and 'elite substitution' as defined by Susan Sherratt (1999, 185), are used. These are now frequently employed in the literature to refer to status, mostly in relation to access to goods and their symbolic meanings. One way of defining 'elites' is in relation to prestige

goods such as jewellery, gold and silver, significant quantities of bronze weaponry or rare imported exotica deposited in funerary contexts, (e.g. in Keswani 2004). Elites would certainly include rulers such as the 'Great Kings' of Egypt, Hatti, Babylon, etc., as addressed in the Amarna letters and probably the lesser princes of the vassal states. There would also have been senior officials, governors, ambassadors and administrators. Terms from written texts such as *sārru* in Akkadian texts or *wa-na-ka* in Linear B for ruler or *rābisu* or *ko-re-te*, respectively for a senior official, provide evidence for such hierarchical roles. Below the societal elites were the middling classes, the *sub-elites* also referred to as 'middle class' (Merrillees 1968). These groups had access either to 'elite-substitution' goods (i.e. mass-produced imitations of prestige goods), or to imported low-cost, added-value goods. An example of the former would be mass-produced paste seals like the Common-style Mitannian seals, instead of engraved seals in semi-precious stones (Collon 1987, 62-65; Parker 1949, 3-4). An example of the latter would be a Mycenaean stirrup jar containing perfumed oil.

2.2 Chronological frameworks

2.2.1 Relative and absolute chronologies and an attempt at synchronisation

Constructing a chronological framework within which to make comparisons faces considerable problems. Timelines across the different regions do not always have the clear-cut correspondences which would be necessary for employing only relative chronology. Affixing absolute dates to relative chronologies offers a pragmatic approach to inter-regional comparisons, and should not materially affect analytical results if applied consistently. Even this is not necessarily a straightforward task since there is a great deal of scholarly dispute centred on synchronisation, relative chronology and terminology. Such problems are well recognised and have been the subject of the large 10-year international project, named Synchronization of Civilizations in the Eastern Mediterranean (SCIEM), hoping to resolve some of these debates, based on well stratified sites including Tell el-Dab'a and Ashkelon (Cichocki *et al.* 2004).

The first problems concern the issues of relative internal chronologies. Debates and arguments most often arise when there is no clear-cut horizon to mark a transition from one period to another. Cyprus offers a good example. The co-existence of older and

newer ceramic styles have created difficulties delineating the end of MCIII and start of LCI (Åström 1987). Similarly, dating the start of the LBI in Palestine has been dogged by the absence of a clear ceramic horizon (Dever 1992, 16). Another problem and area of confusion is the use of different terminologies. Notably, MBA Palestine has multifarious dating schema. These seem to have arisen when Albright's MBI period was re-classified as Early Bronze IV (EB IV), coeval with the First Intermediate Period in Egypt, leaving the MBA with an illogical MBIIA starting date. Subsequent attempts to rectify the problem have only exacerbated the situation, as shown in Table 2-1 (Dever 1992, 3). Despite Dever's commendable efforts to use a more logical tripartite system with MBI defining its start, I shall be using the MBIIA, MBIIB and MBIIC terminology, since this has been in use for many years especially in older publications. I shall not, however, be using Albright's absolute chronology (see below).

Dever	Albright	Kenyon	Israeli consensus	Bietak
MBI	MBIIA	MBI	MBIIA	MBIIA
MBI/II				MBIIA/B
MBII	MBIIB	MBII	MBIIB	MBIIB
MBIII	MBIIC			MBIIC

Table 2-1 *MBA dating classification schemes*

Cypriot archaeology has also tried to revise its older, tripartite system. The revised scheme by Knapp (1994) cut across the traditional tripartite scheme, solving one unhappy problem of the apparent overlap between the MCIII period and LCIA. However, this system has not been widely taken up and though I am essentially using the Protohistoric I period as one of my periods, I do not find the Protohistoric II period of LCIIA-C fine-grained enough for the present work, so I will be staying with the more traditional tripartite system (Table 2-2).

Tripartite scheme	Revised scheme (Knapp 1994)
Middle Cypriot I	Prehistoric Bronze Age II
Middle Cypriot II	
Middle Cypriot III	Protohistoric Bronze Age I
Late Cypriot IA-B	
Late Cypriot II A-C	Protohistoric Bronze Age II
Late Cypriot IIIA-B	Protohistoric Bronze Age III

Table 2-2 *Cypriot chronological schemes*

In constructing an absolute chronology, Egypt and the Near East, with their historic records, have tended to provide the lynchpins for dating the region. When the Egyptian

chronology problems were reviewed (Kitchen 1987; Ward 1992), the high chronology was thought to be more probable (Ward 1992, 63) and has been relied on here (Table 2-3).

	High	Low
12 th dynasty	1979-1801	1937-1759
SIP	1801-1550	1759-1539
18 th dynasty	1550-1295	1539-1295
19 th dynasty	1295-1186	1295-1186
20 th dynasty	1186-1070	1186-1070

Table 2-3 *High and low absolute chronology in Egypt*

More recent radiocarbon (carbon-14) dating studies such as Manning's radiocarbon data for the Aegean LBA (Manning 2006) have provided robust evidence of an early date for the Thera eruption, supporting a high chronology. The data from ongoing excavations at Tell el-Dab'a is also strong in that it provides important evidence linking Syro-Palestine and Egypt during the Middle Kingdom, SIP and the start of the LBA (Bietak 1997; Bietak 2002). Unfortunately, Bietak uses an 'ultra-low' dating which is at odds with the scientific data. Furthermore, some of his synchronisations have not been widely accepted by scholars of MBA Palestine (e.g. Dever 1992, 10). More seriously, his stratigraphic sequences have been heavily criticised because they are based on arbitrary excavation spits of fixed thickness. Even so, his Palestinian synchronisations and Dever's middle chronology are only 25-50 years different at many points, though they differ by around 75 years for the beginning of MBIIC. With due consideration of some of these problems and pitfalls, and the final results of SCIEM yet to come, I have based my construction on high chronologies (Table 2-4).

2.2.2 Chronological periods of the study and their socio-political backgrounds

The nature of the interactions between neighbouring regions of the eastern Mediterranean over the 700 year period of this study evolved with changes in political boundaries, technology, trade routes and cultural practices, all of which influenced the flow of goods. An outline of major influences relevant to ceramic circulation is presented here. A more detailed review will be presented at the start of each chapter dedicated to each of three periods which reflect the major changes: MB periods (1850-

1550 BC), MB/LB transitions (1650-1450 BC), the mid-late LB middle period (1450-1300 BC) and LB end period (1300-1200 BC). For reasons explained above, there are not always clear-cut dateline correspondences between regions; hence there is some overlap in these periods. The terminal LB period of 1200-1050 BC is not covered in this study.

	Egyptian dynasties (Kitchen 1987)	Egyptian kings (Kitchen 1987)	Palestine (Dever 1992)	Cyprus (Manning 2006; 2013)	Crete (Manning 2006; Merrillees 1992)	Greece (Manning 2006)
MBA 1850-1550	12 th dynasty 1979-18001	Sesotris III 1878-1859	MBIIA 1950-1750	MCI 1950-1850 MCII 1850-1750 MCIII 1750-1650	MMIII 1750-1710 LMIA 1710-1600	LHIII 1750-1710 LHIA 1710-1600
	13 th dynasty 1801-1648		MBIIB 1750-1650	LCIA 1650-1550		
	15 th dynasty 1648-1540		MBIIC 1650-1550			
MBA/LBA 1650-1450	Early 18 th dynasty 1540-1475	Ahmose I 1550-1525	LBIA 1550-1450	LCIB 1550-1450	LMIB 1600-1450	LHIIA 1600-1450
Mid-late LBA 1450-1200	Mid-late 18 th dynasty 1475-1295	Tuthmosis III 1479-1425	LBIB 1450-1400	LCIIA 1450-1375	LMII 1450-1400 LMIIIA:1 1400-1375 LMIIIA:2 1375-1300	LHIIB 1450-1400 LHIIA:1 1400-1375 LHIIA:2 1375-1300
		Amenophis III 1390-1352	LBIIA 1400-1300	LCIIB 1375-1340/25		
	19 th dynasty 1295-1186	Rameses II 1279-1213	LBIIIB 1300-1200	LCIIC 1340/25-1200	LMIIIB 1300-1200	LHIIB 1300-1190
Terminal LBA 1200-1050	20 th dynasty 1186-1070		IA1 1200-1000	LCIIIA 1200-1100 LCIIIB 1100-1050	LMIIIC 1200-1050	LHIIC 1190-1030

Table 2-4 *Approximate absolute dates for regions of the eastern Mediterranean for the periods used in this study*

2.2.2.1 *The Middle Bronze Age (1850-1550 BC)*

This period refers to the approximate absolute range of 1850 to 1550 BC, which itself can be organised into three sub-divisions (Table 2-5).

Regions	1850-1750 BC	1750-1650 BC	1650-1550 BC
Egypt	12/13 th dynasty	SIP 14 th dynasty (pre-Hyksos) 13 th dynasty (Theban)	SIP 15 th dynasty (Hyksos) 17 th dynasty (Theban)
Nubia	Middle Kerma Group C IB-IIA	Classic Kerma Group C IIB-III	Classic Kerma Group C IIB-III
Palestine	MBIIA (Phases 3-4)	MBIIA-B	MBIIB-C
Syria	MBIIA	MBIIB	MBIIB
Cyprus	MCII	MCIII	LCIA

Table 2-5 *Inter-regional chronological divisions of the MB period*

The early part of the MBA period

In Egypt, the MK had seen political unity during the 12th and 13th dynasties, with a centralised hierarchical system of government situated at el-Lisht in the Faiyum (Callender 2000, 172-76). The textual evidence of the relationship between Egypt and the Levant is full of hyperbole, nevertheless, it does show that the Egyptians regarded Palestine as a foreign land to exploit, whereas dealings with Syria were conducted with diplomacy and gift-giving. Trade was strongly unidirectional with many goods and possibly people flowing into Egypt from the Levant. From the end of the 12th dynasty, archaeological data suggest a pre-Hyksos culture started to develop in the eastern Delta, with a transition from purely Egyptian material culture to one described by Bietak (1991, 38-40) as Egyptianised Canaanite. There is still debate over the origins of the culture which became characteristic of the Nile Delta in MBIIB-C or the Hyksos period (Aston 2002; Ben-Tor 2007; Bietak 1997; Cohen-Weinberger and Goren 2004; McGovern 2000), but it has been argued that the 13th dynasty rulers actually supported the development of the maritime port at Tell el-Dab'a to the extent of encouraging the immigration of Levantine people and the import of goods (Aston 2002, 56-57).

At this time the relationship between Egypt and Nubia underwent several reverses. During the 12th dynasty Lower Nubia had been conquered by Egypt and a number of permanent garrisons set up at Ikkur, Qubban, Aniba, Buhen and Kor, and large forts constructed at Semna, Buhen and Uronarti (Edwards 2004, 91-93; Williams 1992, 1), to

protect gold mining operations and other interests. However, from the absence of names of later 13th dynasty kings in Nubia and from signs of conflagration at the fortresses, it has been assumed that Egyptian control was lost this time and was not regained until the start of the 18th dynasty.

In Syria by the late 19th century BC, urbanisation had been re-established after the decline in the third millennium and regional states with bureaucracies had emerged. In general, urban societies were multi-tiered settlement hierarchies of cities, towns and villages. That there were wide-ranging economic connections is attested by the Mari texts, as well as by archaeological evidence. Byblos was a major trading port in the MB period for the export of timber, resin and wine, particularly to 13th dynasty Egypt.

In Palestine, there was a rapid expansion of urbanisation in MBIIB; the population increased, cities were enlarged and fortifications were introduced. This period appears to have been culturally diverse with differences between the north and south associated with cultural alignments and economic links with Syria and Egypt, respectively, a pattern that was to be repeated in the LBA. However, at this period, Cyprus was an agrarian village-based society, as it had been throughout the preceding EC period, although technological innovations particularly in metallurgy were evident. Although not urbanised, new burial practices with a high consumption of copper indicated an emerging social hierarchy. The first evidence of Cyprus (as *Alašiya*) exporting copper is recorded from this time in letters from Mari dating to the 19th century BC (ARM 25:483, 691, 718), even though it is debatable that the social organisation of the period was capable of organising a copper export trade (Keswani 2004, 153).

The Hyksos period

In the period from 1650 to 1550 BC, the population of the Egyptian eastern Delta changed from being accepted and Egyptianised, transhumant inhabitants to established residents with their own sovereignty over the region. How this occurred and to what extent is debated. One proposal argues for a military invasion and also for Hyksos sovereignty over Egypt (Redford 1992, 98-115). Another suggestion is for a gradual, possibly peaceful, Hyksos takeover following the weakening of Egyptian authority in the north during the 13th dynasty (O'Connor 1997, 48; Oren 1997b, xxii), perhaps an unforeseen consequence of Egyptian socio-economic aims of promoting Avaris (Tell el-

Dab'a) as major port-of-trade with Hyksos rulers in charge. The Hyksos rulers (the 15th dynasty) were contemporaneous with the Theban kings who now ruled Upper Egypt from Thebes and who are thought to correspond to the 17th dynasty. Coevally with loss of control in the Delta, the evidence points to loss of Egyptian control over the fortresses of Lower Nubia. These political and chronological relationships are supported by archaeological evidence taken from the well stratified site of Tell el-Dab'a, other Delta sites (Bietak 1991, 1997; Holladay 1997), and from Memphis-Faiyum sites (Bourriau 1997, 168). Regional divisions within Egypt are crucial to the understanding of the Hyksos period and the circulation of consumer goods needs to be viewed regionally at this time.

2.2.2.2 The end of the MBA and the beginning of the LBA

The end of the MBA in Palestine and Egypt is marked by regime change, consequent upon campaigns by Ahmose I which took back control of the Delta and re-unified Egypt and subsequently influenced the political socio-economic and political climate of the neighbouring areas of southern Palestine and Nubia. For both Syria and Cyprus, the end of the MBA has been defined earlier than in Egypt and Palestine, i.e. before the end of the Hyksos era. In Syria this has been dated to around 1620 BC and is marked by real political events, ending with the Hittite destruction of Aleppo, Alalakh and Ebla. In Cyprus the LB phase has been designated less drastically and rather earlier (around 1650 BC) by the appearance of the new pottery styles, BR and WS wares. Increasingly centralised social organisation and the development of new coastal settlement sites signalled continuing involvement in the international arena. Consequently, by c. 1550 BC, some regions had already embarked on a new LBA culture, whilst for others the new era had just begun.

In Egypt, the early part of the 18th dynasty covered the reigns of Ahmose I, Amenhotep I, Tuthmosis I and II, and Hatshepsut. Extensive building programmes were carried out at Memphis, Heliopolis and Karnak. In southern Palestine, the end of the MBIIC and the start of the LBIA periods are marked by destructions and abandonments. It is tempting to see these as causally linked with the Egyptian textual references to the expulsion of the Hyksos. However, close examination of the archaeological data from Egypt and from southern Palestine does not necessarily provide patterns that would be

expected from Egyptian campaigns against the Hyksos by Ahmose or later 18th dynasty rulers. Lower Nubia was again under Egyptian domination.

In Cyprus, the LCIB period corresponded to LBIA in Palestine and the early part of the 18th dynasty in Egypt (Manning 2001; Merrillees 2002). At least four urban polities had become established by this phase: Enkomi, *Toumba tou Skourou*, Hala Sultan Tekké and Episkopi *Bamboula*, also known as, and hereafter referred to as, Kourion (Crewe 2007b, 41-44). These port cities, referred to by Knapp as gateway communities (1994, 283), became emporia for the eastern Mediterranean. If we accept the settlement hierarchy model of Catling, Knapp, Keswani and others (Keswani 1996; Knapp 1992), these primary, elite centres were supported by smaller mining settlements such as Apliki *Karamallos* or production centres such as Athienou and agricultural villages like *Myrtou Pighades*.

The major interactions of the early part of this period were influenced by military activity, by shifting borders and alliances and by socio-political upheavals, but trading continued and heralded a flourishing long-distance exchange network, in place by the end of this period.

2.2.2.3 *The mid-late LBA*

This period covers 1450-1200 BC, with relative chronologies of the various regions fairly closely synchronised. It was an active period for the inter-regional exchange of ceramics and other goods, when LBA juglet circulation reached its zenith. Politically, it began with Egyptian military campaigns in the Levant and Nubia by Tuthmosis III which are discussed further in Chapter 8.

In the early 14th century, Egypt ruled over Palestine and Mitanni retained the north-western sector of Syria. Both regions were governed by local dynasts who paid tribute to their Egyptian and Mitannian overlords (Akkerman and Schwartz 2003, 329) but by the mid-14th century this power balance was shifted by the Hittite defeat of the Mitanni.

This was a period of international contact, and as recorded in the Amarna letters, there were transactions between the major rulers of the regions including the Egyptian,

Babylonian, Mitannian and Hittite 'Great Kings'. It is interesting that the Alašiyān king is amongst them since in socio-political terms Cyprus was a peripheral region without the elaborate trappings of state and kingship. However, it has been suggested that some peripheral groups could have negotiated their diplomatic links into expanding networks. An Alašiyān representative with prized goods, such as copper or timber to trade, might have been accorded a status that allowed him “to punch above his own weight” (Peltenburg 2012, 15).

This period also represents an important expansion in international trade to the Levant, Cyprus and Egypt from Crete and Greece. The Argolid emerged as the key producer and distributor of Mycenaean ceramics, where at this time there was increasing centralisation, with Mycenaean palaces exerting at least some socio-economic control over local territories (Galaty and Parkinson 1999).

During the latter part of this period from 1300 to around 1200 BC, corresponding to the early 19th dynasty, through the reigns of Rameses I, Seti I and Rameses II, Egypt was again involved in disputes over territory in Syria. These took place against the Hittites early in the reign of Rameses II, but any ground gained during the several confrontations was lost once the Egyptian army returned home and the vassal states returned to their Hittite alliances (van Dijk 2000, 298). A peace treaty was finally settled in Rameses II's sixteenth regnal year which lasted until the end of the Hittite empire, and this treaty initiated a period of peace and prosperity during which commodities such as copper, oil, grain and luxury goods were moving in large scale around the extended trading networks of the eastern Mediterranean.

However, in the closing decades of the century, it was not only goods that were on the move. There would appear to have been a significant migration of displaced people. These have been recorded in a variety of written and iconographic sources including Akkadian, Ugaritic, Hittite, Hebrew and Egyptian documents as well as Egyptian wall reliefs. Invasions are suggested by archaeological evidence of destructions and subsequent intrusive culture along the Levantine coast and Cyprus. The ethnic, cultural and geographic origins of these migrants, known collectively by modern scholars as 'Sea Peoples', have been debated for decades, and a common view is that one group, at least, may have been from the Aegean. More recent attention has focussed less on their

origins and more on their pivotal role in upheavals associated with the end of the Late Bronze Age in the eastern Mediterranean (Gitin *et al.* 1998; Oren 2000; Ward and Joukowsky 1992). Indeed, there are now some views which differ from mass migration and invasion theories, notably that presented by Susan Sherratt (2000, 292-313), who argues that subversion and eventual collapse of economic and cultural systems was more likely to be the result of the rapid expansion in international trade. Whatever, the truth behind the 'Sea Peoples' phenomenon, it marks an end to this era of international trade.

2.3 Trade, traders and trade routes

In advance of discussing the theories behind the mechanisms of commodity exchange in prehistoric cultures and before visiting the relative substantivist *vs* formalist positions of gift exchange and market trade, it is pertinent to review some of the evidence available on economic interactions between the regions of the eastern Mediterranean.

2.3.1 Trade in the second millennium

There is ample evidence of trade between the regions of the eastern Mediterranean in the second millennium from documents of the time and from archaeological remains, including the contents of several shipwrecks. The evidence, well reviewed by Sherratt and Sherratt (1991), Knapp (1991) and Bevan (2007), amongst others, indicates that a high quantity and wide range of commodities were circulated. The bulk trade in base metals, such as copper and tin, was fundamental to organised exchanges at state level. Precious metals such as gold and silver and other luxury items such as ivory and lapis lazuli (of the genuine sort) were destined for elite circulation. There were also a wider repertoire of trade items like textiles, specialty oils, wine and timber, which were increasingly reaching and being consumed by emerging elites (Bevan 2010, 42-43; Knapp 1991, 22-23). Raw materials, such as pistacia resin used in the production of manufactured goods such as perfumed oil, or blue glass for making imitation lapis lazuli ornaments, also had currency as traded items (Pulak 1997). Uncertainties exist over whether the LBA transactions are to be viewed as gift exchange, entrepreneurial trade or official business in tandem with side-line traffic. Certainly, the long lists of goods (including large quantities of bulk commodities), sent between the 'Great Kings' of the Amarna period were couched in term gift exchange. However, these have been interpreted as diplomatic language for essentially commercial enterprises rather than

reciprocal gifting; the rulers not only had a very clear understanding of the equivalent value of their 'gifts', they did occasionally voice them as in the Amarna letter EA 40 (Moran 1992, 113).

The position may be clarified by examining the varying roles of merchants in this period as reviewed by Knapp (1991, 48-50) and Bevan (2007, 29). There were several different terms which referred to personnel who engaged in trade. These included the *mkrm* (an Ugaritic term for a West Semitic merchant), *bdlm* (a trader), *kn'ny* (foreign business merchant) or *dam-gàr* (Sumerian for merchant). The term most often used was *tamkār*, who were official agents of exchange, but whose exact roles and level in the social hierarchy were variable and remain difficult to interpret. Some were official traders involved in state-controlled exchanges and these have been listed as palatial dependents though usually in high status or elite capacity. Certainly some had also been conferred with an additional title of *mar šipri* meaning 'ambassador' or 'messenger' (Zaccagnini 1977, 171-72). The status of such merchants enabled them to get involved in business dealings at a high level within and between states (Bevan 2007, 29). This would accord with the suggestion by Peltenburg (2012, 11), that persons on Alašiya in charge of trade in copper and other high level gift exchange (EA 35 and 40) were conferred with the high diplomatic status of *rābisu* ('great' or 'senior' governor). It has also been noted that a reasonable degree of commercial authority would have been needed to mobilise production of manufactured goods (such as specialty oils in juglets) from different regions in a loosely organised society such as LCI Cyprus (Manning and De Mita 1997, 108-112).

It is usually clear from the letters passing between rulers that a high level ambassadorial *tamkāru* was involved in the 'gift-exchange' transactions. There were, however, some mentions of a 'private merchant' (*tamkāru ša šepišu*) (Knapp 1991, 48; Zaccagnini 1977, 180-83). These may have been traders, outside the state apparatus, who were underwritten by private guarantors, or they may have represented a side activity of the royal merchants. It is conceivable that this private sector may have been involved with an increasing range of goods, notably oil, wine, textiles and ceramics, which moving alongside the bulk metals, were finding a wider consumer base (Bevan 2007, 36-37).

To substantiate the idea of co-existing official and side-line trade, movement of mixed cargo would need to be demonstrated in the archaeological or historical record. Of the three Bronze Age ship wrecks one, the Ulu Burun, did have a mixed cargo with vast amounts of copper and tin alongside gold, ivory and ebony as well as Cypriot ceramics (Pulak 1997). The Cape Gelidonya wreck had a virtually single type of cargo of bulk and scrap metals (Bass *et al.* 1967). Although the assumption is made that low value items such as ceramics would always have been transported alongside more precious goods, examination of the of the slightly later Point Iria wreck indicates that this small craft carried only pottery (Lolos 1999). So this sample of three wrecks demonstrates all the possibilities and shows that sea transport enabled an efficient way of transporting even low-cost goods.

The trade routes would have been dependent on the currents, winds and landfall. Most seafaring in the Bronze Age would have been restricted to the summer period. The best conditions for sailing would have been from May to September, with the possibility of stretching out from April to October (Broodbank 2000, 92-94; Wachsmann 1998, 295). For much of the eastern Mediterranean, maritime intervisibility would suggest that island hopping and coast hugging would have been the easiest way to journey (Figure 2-4). This does not mean to say that routes could not have been destination-specific. From the east and much of the south of Cyprus, almost any harbour in the Levant and Egypt could have been accessed without losing sight of land.

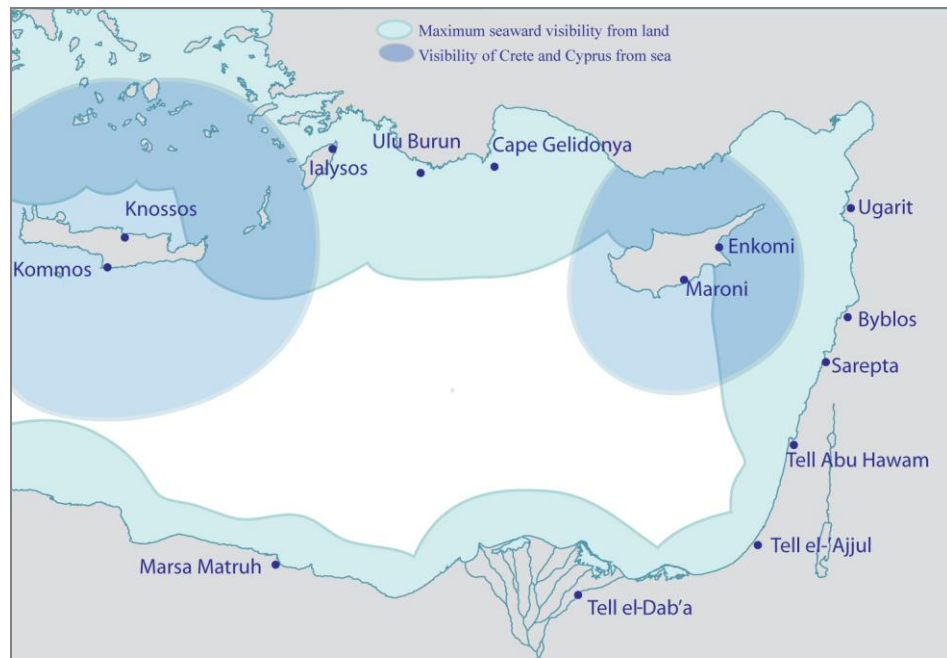


Figure 2-4 Maximum seaward visibility from the land in the eastern Mediterranean. (After Broodbank 2000, Fig 4; also Manning and Hulin 2005, Fig 11.1)

Although Braudel (1992, 107) suggested *ad hoc* trading along the coast, or 'tramping', was a more obvious alternative during the Bronze Age, this model does not fit the empirical data. As pointed out by Manning and Hulin (2005, 280), core-periphery flow of goods would have needed to have been more direct. It would have been virtually impossible to fulfil the specific requests of the Amarna letters and other documents had destinations been that haphazard. Positive support for specific destination shipping has come from recent work which has detected some distinctive trading patterns, particularly at the end of the LBA (Artzy 2005; Bell 2005; Hulin 2009; Watrous 1992). Fabric analyses on transport amphorae and stone anchors have also provided further supporting evidence of more precise directionality in commodity exchange (Ben-Shlomo *et al.* 2011; Goren 2008; Serpico *et al.* 2003).

Finally, when the merchants and their ships had reached their destinations, there were perhaps encounters with further agents at the ports with duties to be paid to various gate-keepers *akîl kâri* ('harbour masters') or the *b'l mšlm* ('master of payments') as discussed by Knapp (1991, 29) and deals to be struck with local merchants using one or other of international sets of weights kept on board (Pulak 1997, 246-47).

Chapter 3 How juglets circulated in the eastern Mediterranean Bronze Age: theoretical considerations

This chapter is devoted to reviewing the various theoretical perspectives which might be applied in analysing the archaeological data to answer questions on the social and economic implications of juglet circulation. The first two sections examine theories as applied to local economies (Section 3.1) and to long distance exchange (Section 3.2), both aspects being important to the understanding of how juglet commodities were used and appreciated within and between different communities. Section 3.3 then outlines how these theories may be applied in constructing a framework for studying juglet distribution.

Such considerations must necessarily encompass theories for all processes of production, distribution and consumption both *within* and *between* different societies. In finding a way to present the many, sometimes complex theoretical arguments necessary, I have started with a diagram, and although this is to some extent, putting the cart before the horse, it provides a scaffold for the following discussions. Figure 3-1 shows a number of social units representing local political economies, and how they might interact with each other in the process of trade relations. The term 'cultural area' is used, with some reservations, since this has in the past been over-used and abused in some extreme culture-historical approaches. Here, it is used as a theoretical concept, to express any, single societal framework with its own spatial, temporal and cultural boundaries, so it could equate to a region or sub-region at any given time, or it might relate to a cultural division within a region or period (such as the Egyptianised-Levantine culture within Egypt during the Hyksos period), as delineated in the section on cultural frameworks in Chapter 2.

The diagram acts as a guide through the various economic theories reviewed in this section. The top part of the diagram represents the local economy of one cultural area. It shows the relationships between commodity production (A), distribution (B) and consumption (C), and where theoretical concepts (in italics) might apply. These concepts are expanded upon in section 3.1.1 dealing with the theory of commodity production, 3.1.2 reviewing theoretical aspects of consumption of goods, and 3.1.3

examining the reflexive nature of production and consumption. The lower section symbolises other areas which may be culturally diverse from the first. The middle section signifies the boundaries to be crossed by interactions with other cultural areas. These interactions, which might involve long-distance trade or exchange of knowledge or ideology, require a different set of theoretical modelling to be applied, and these are the subject of section 3.2.

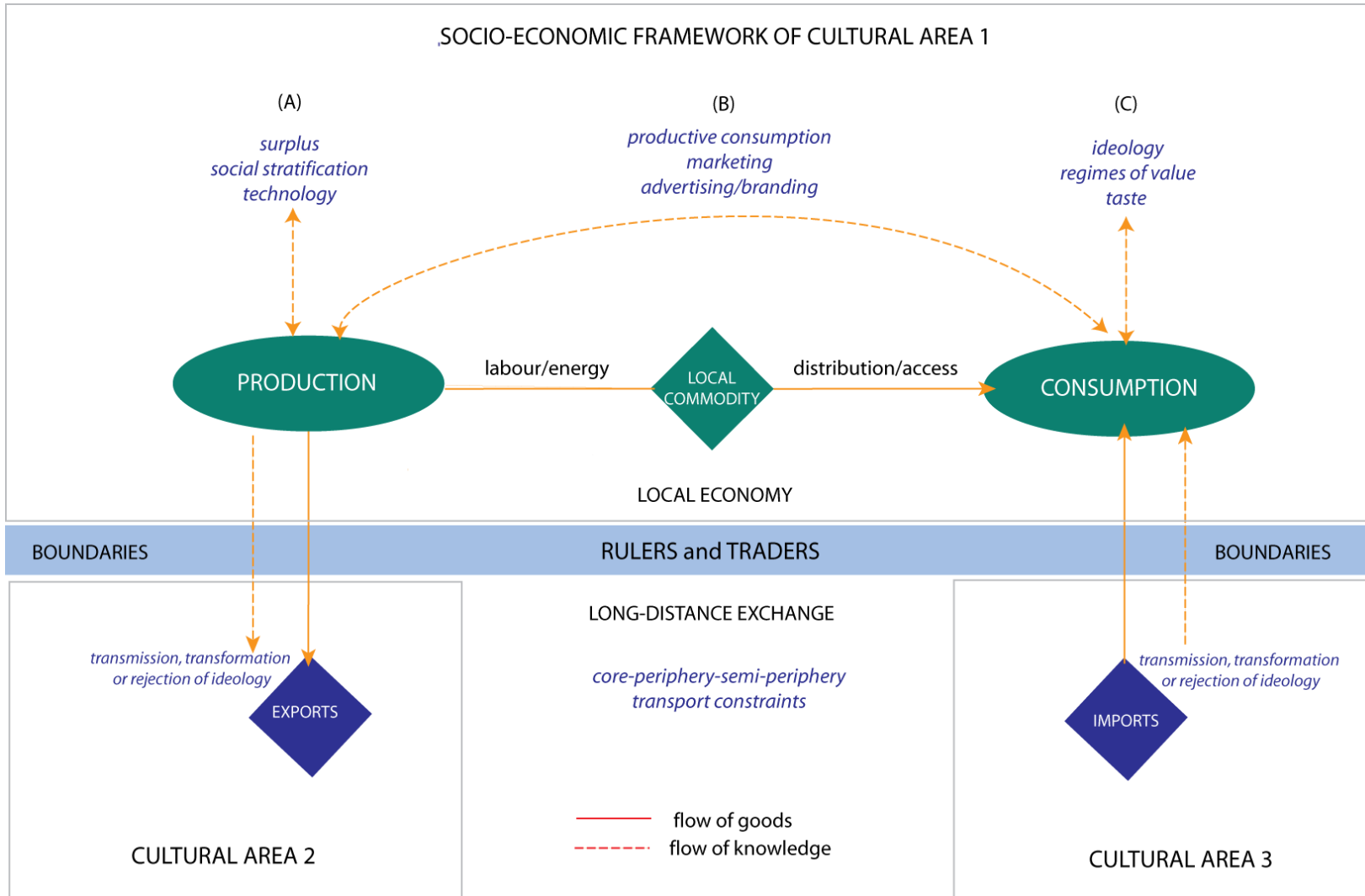


Figure 3-1 *Interrelationships of production, distribution and consumption*

3.1. Critique of economic theories for local economies

This discussion starts by theoretically isolating the local commodity environment from its wider trading network. This means considering a single cultural area with a uniform set of cultural values or 'regime of values'. For any given area, the production, distribution and exchange of commodities rely primarily on the accumulation of surplus. The mode of accumulation is the varying institutionalised process that is embedded in the societal structure of the area and could be, for example, a kin-based collection and storage, tribute extraction or capitalist profit.

Commodities are consumed for their practical and/or symbolic meanings, but their meanings, and the access to them, are also determined by the institutional mechanism of that societal structure. These instituted processes of production and consumption of commodities within a society can be said to represent the local political economy. The economy, like any other activity, can be changed or socially reproduced within a social matrix. Structural approaches allow different social arenas to be considered from egalitarian societies to capitalist economies or from non-urbanised, kin-based societies to hierarchical states. This provides flexibility in reviewing different economic theories, some of which involve different modes of accumulation or have restricted views on consumption. The theories reviewed below can be broadly divided into production-oriented or consumption-oriented models.

3.1.1 Production-oriented economic theories

Production-oriented economic models emphasise accumulation of surplus as the means for commodity production. The organisational structure of a society can assume control of the raw material used for the commodities, the labour to manufacture them and the political or social process for distributing them. Extraction of surplus may take place through kin-based, tributary or capitalist modes of accumulation (Chase-Dunn and Hall 1997). The mechanisms of circulation of commodities from producer to consumer are also diverse and dependent on the structural logic of the cultural unit, as for example with reciprocity, redistribution or market exchange. In all but the most egalitarian societies, circulation of some goods would be controlled by someone. Contemporary

thought would seem to include distribution as part of the production process (Ardivissov 2005, 240; Lash and Urry 1994). Hirth (1996, 207), for the prehistoric case, saw production and exchange as

“..two sides of the same political coin and used together by elites to accumulate resources and exercise control over their respective populations”.

The blurring of the lines between production and circulation domains means that most production-oriented models are more strictly speaking production-distribution models of classical political economic theories.

Modern economic theory has its roots in a treatise written by Adam Smith in the late 18th century. According to Smith (1776) all societies have organisational structures capable of extracting surplus and controlling resources for the production and distribution of commodities. He was the first to reject the idea that the value of a commodity resided only in its utility. Ahead of Marx, then, he made the distinction between 'use-value' and 'exchange-value' and connected the value of a commodity to the labour needed to produce it. He also anticipated modern supply and demand theory by insisting that a free market in a competitive economy was the most efficient control over resources.

Economic concepts of free markets and capitalism have been difficult to apply in prehistory, so Weber's approach was welcomed for its relevance to pre-monetary societies. His economic model, based on the idea of maximising efficiency and productivity was not confined to capitalism but could be applied to pre-capitalist societies. For the latter, he stressed an agrarian mode of accumulation where an increased scale of production could result in social stratification. Commodities could be distributed through socially or politically controlled mechanisms such as redistribution, and where market exchange, associated later with the development of capitalist societies, was minimal (Weber 1958). Weberian theory strongly influenced archaeological thought on prehistoric economy well into the 1980s and even later (Sherratt and Sherratt 1991). Like Weberian theory, and also solving problems of pre-monetary societies, the staple and wealth finance systems described by D'Altroy and Earle (1985) are based on the relationship between social stratification and the

accumulation of surplus. Staple finance is the system where collection, storage and redistribution of staples can be managed locally in small agrarian societies or with the support of regional mobilisations in larger empires. Wealth finance involving the manufacture or procurement of special goods that can be used, through exchange, for conversion into staples, overcomes the problems of storage and transportation of these bulk commodities. But as argued by Brumfiel and Earle (1987), conversion on a large scale would still require a market economy.

Because production-exchange models cover the accumulation, production and distribution of commodities, they are frequently viewed as functionalist models. But these activities take place within a social structure, such as Bourdieu's *habitus* (Bourdieu 1977, 78-87). They are part of the social practice, and the value of commodities is culturally constructed. Prestige, symbolic meanings, magic, etc., are also currency in human affairs. Access to luxury goods is part of the production-exchange process, controlled by elites but the value of luxury goods can be viewed as more than mere wealth storage. The craft production of such goods is not merely a measure of the labour that gives the materials added value. Control over such goods means access to their symbolic meanings, meanings that define status and reproduce the social structure that supports that status.

3.1.2 Consumption-oriented theories

During two hundred years of economic theory, production and distribution have been seen as the prime movers. Consumption had been relegated to a passive role reliant only on the capabilities of production, a process during which the value of the goods is used up or destroyed. In the early 20th century, Werner Sombart was in the vanguard of new consumption-oriented models which looked at the desire to acquire goods for their social significance. He explained the development of trade, industry and finance during the 14th to 19th centuries as the result of demand for luxury goods from the aristocracy, the courts and the *nouveaux riches* (Sombart 1967). His theories, however, left consumption vaguely associated with elite emulation.

Consumption was not even clearly defined by theorists, though it had long been measured and analysed as market research. The rational choice of individuals had always been the assumed basis of consumption practices. Materialistic views differentiated subsistence and luxury commodities and allowed for distinctions between categories of goods that met either physical needs or spiritual needs. However, luxury and spiritual needs were viewed as slightly suspect and artificial. Relativists such as Veblen (1899) had introduced the concept of real or perceived needs, with envy and emulation as driving forces of consumption, given that need or poverty are relative human situations. From the close of the 1970s, the appearance of major works on consumption radically changed thinking on consumption. These included *The world of goods: Towards an anthropology of consumption* by Douglas and Isherwood (Douglas and Isherwood 1979), Bourdieu's *Distinction: A social critique on the judgement of taste* (1984) and an edited volume *The social life of things. Commodities in cultural perspective* (Appadurai 1986b). These innovative works underlined the paucity of coherent theory on why people want goods and set out to address this question.

Douglas and Isherwood wanted to question the assumptions that consumption behaviour can be related to “*two or three restricted purposes of material welfare, psychic welfare, and display*” (1979, xxii), and asked the fundamental question *why do people want goods?* What they did was to take the rational individual, which they saw as an impossible abstraction, and re-inserted the person and the commodities he or she consumed back into the social process. They argued that within a social structure, goods are coded for communication; their meanings and value are agreed by fellow consumers. With goods, consumers engage with each other through a series of exchanges (Douglas and Isherwood 1979, 50-52).

It was Douglas and Isherwood (1979, xxii) who essentially redefined use-value by ascribing goods a social use within an organisational structure; they determined that it is consumer judgement that assigns value. They underlined the importance of consumption periodicity as a mark of relative rank and value (1979, 88). The use periodicity, i.e. the frequency of use, of luxuries identifies not just the high value goods but also the social status of their consumers. If consumption frequency signals social

status, then controlling access to goods creates bounded consumption; mechanisms include the restriction of circulation of commodities, standardisation of consumption within certain social groups and also rejection or refusal to consume. Any of these mechanisms can ultimately affect the broader social structures themselves.

“Consumption is an active process in which all the social categories are being continually defined” (Douglas and Isherwood 1979, 51). Their approach can be applied to any type of society, industrial or non-industrial, modern or prehistoric, and is thereby highly applicable to archaeological study. Van Wijngaarden (1999, 3), quoting Bourdieu (1984, 208-225), emphasised that it is not only the elite, but all levels of society, who construct their identities through consumption of material goods, and he noted that this has not been given due attention in archaeology.

Appadurai (1986a) also viewed consumption as a function of social practice, rather than need, desire or response to manipulative practices such as advertising. He believed that the demand for goods provided a focus for giving and receiving social messages, *“...consumption is eminently social, relational and active rather than private, atomic or passive”* (Appadurai 1986a, 31). Further, he argued that consumption of those goods that are most closely linked to critical social messages, is the least likely to be affected by changes in supply or price. I would dispute some of these views in that marketing, advertising or other image building influences, can and do change consumption by changing social practice or social identity, *because* they can be linked to social messages.

Appadurai emphasised the role of traders as agents of articulation of demand for commodities. In his view they were as important as rulers. This critical insight is central to the discussion of state-controlled gift-exchange versus market exchange in ancient trade. Whereas rulers had tendencies to keep certain goods out of circulation or to highly restricted spheres, traders subverted restriction of access to commodities, causing a trickle down of commodities from elite to sub-elite populations. *“... merchants tend to be the social representatives of unfettered equivalence, new commodities, and strange tastes, political elites tend to be the custodians of restricted exchange, fixed commodity systems, and especially tastes and sumptuary customs”* (Appadurai 1986a, 33).

Consumption-oriented approaches are in accord with the fundamental structuralist principles such as Bourdieu's social theory which places economic interest within societies' regimes of value (Bourdieu 1977, 177-78). This is a useful approach since it allows for a broader view, whatever the type of society or economy being analysed. Baudrillard (1975) applied semiotic analysis to structuralism in which he viewed consumption as an active appropriation of signs. It is the appropriation of signs that has been pushed to extremes in post-modern, post-industrial economies. The designation of *sign-value* can be applied to a wide range of aesthetic or informational goods emanating from contemporary political economies, such as films, music or designer labels. For such commodities, it is signs or images rather than material objects that are increasingly produced, as for example with designer label clothes, where the design, the name of the brand and the image are sometimes more important than the quality of material or the work invested in them (Lash and Urry 1994, 14-15).

Post-modern theories of consumption seek to modify the structuralist approaches. It is claimed that social structures have been “emptied out”, that is to say the traditional social groupings of families, workplaces, religious groups, etc., have diminished in importance; they have been replaced by information and communication structures of the mass media. So goods no longer create *social* identities but now create *personal* identities (Lash and Urry 1994). For this reason they see post-modern capitalism as fundamentally different from pre-modern societies with their symbol systems “*full of meanings, contents, peopled with gods and demons*” (Lash and Urry 1994, 16). I certainly disagree with them on this point; their view of pre-modern society is restricted. Furthermore, for the very reason that their theories step back from the traditional views of industrialist and capitalist processes, I believe that they could be useful in for examining some aspects of pre-monetary, prehistoric society.

3.1.3 The reflexive nature of production and consumption

The strength of structuralism as applied to the economy is that the means of production, the mechanisms of exchange and the consumption practices can all be viewed as culturally constructed and reproduced. Production and consumption are both active processes and need to be viewed within a dialectical relationship. The circular process of production and consumption is not a new idea. It was fundamental to Sraffa's theory *Production of Commodities by Means of Commodities* (Sraffa, 1972) and Baudrillard's *Mirror of Production* (Baudrillard 1975). Even the *supply and demand model* of modern

Western capitalism, by its very name acknowledges reflexive relations between producers and consumers.

The tendency to focus on production has meant that the circular process of the economy has sometimes been lost from view. If the consumption of goods results in the production of persons, then production becomes dependent on the ideology of consumption. This is referred to as *productive consumption* or *reflexive accumulation* (Jansson 2002). Perhaps ironically, it is modern marketers not anthropologists who, in recent decades, have made huge contributions to the understanding (and exploitation) of the dialectical processes of production and consumption. In the contemporary era, economic processes and social hermeneutics have become interlocked.

“...industrial production is increasingly a matter of symbolic circulation – a matter of responding to, or creating semiotic rather than functional needs. On the one hand, this means that profit-making demands a greater sensitivity to the hermeneutics of everyday life. On the other hand it means expressivity of social actors is increasingly entwined, with economic activity embedded in consumption” (Jansson 2002, 5-6).

For modern marketing and advertising, Douglas' *active consumer*, Lash and Urry's *sign-value* and Baudrillard's *signification and communication structures* are vital components of the process (Baudrillard 1975; Douglas and Isherwood 1979; Lash and Urry 1994). The need to understand productive consumption has given rise to a whole branch of marketing, i.e. market research. With this knowledge producers can react to consumption practices with niche marketing and targeted selling. Knowledge of the way commodities are used in constructing meaning or identity can be exploited by producers in designing products which help to create or reinforce social meanings. Examples of this in the modern world might be the production of certain types of sports shoes to reinforce a particular youth culture. In the ancient world, the manufacture of particular styles of drinking sets helped to create and then reproduce lifestyle messages amongst certain consumer elites of the eastern Mediterranean Bronze Age. Productive consumption is thus a positive feedback loop.

3.1.4 Commodity branding

Productive consumption is central to the process of modern commodity branding. (Ardvisson 2006; Mukerji 1983). Brands help to construct social identities which help to generate demand for the product.

“With consumer goods it has become possible to fantasize realistically, to produce new social identities and forms of community that have a more or less enduring material foundation. In fact much of the use-value of consumer goods lies (and has lain) in their function as means of production that permit the creation of identities and forms of community that can acquire independent reality” (Ardvisson 2006, 78).

In a seminal article by Wengrow (2008), the role of commodity branding in prehistoric economic systems is discussed. He has explored the concept that modern branding, with its signification processes was comparable in form and structure to prehistoric methods of identification and quality assurance. He argued that branding then as now was productive, i.e. that sealing practices in ancient Mesopotamia were not only practical and symbolic but could be held to drive economic processes. Until then, reference to ancient branding practices had been restricted to vague references, (e.g. Herscher 1991; Merrillees 1968), so the application of modern marketing perspectives to view methods of commodity marking in the ancient world is really welcome. Following a recent conference on commodity branding (Bevan and Wengrow 2010), interest is growing and further publications have become available. In particular, Bevan (2010) has demonstrated the concept of branding in four Bronze Age commodities – metals, oil, wine and textiles – which were distinguished in terms of quality and type through a range of standardised marks and packaging. He has suggested that *“the concept of commodity branding is better decoupled from any automatic associations with postindustrial, Western capitalism”*. I am wholeheartedly in favour of this. Modern branding *theory* has much to offer in understanding the signification systems applied to Bronze Age commodities, yet there has been a danger of it being viewed with suspicion and dismissed for uncritical parallels with modern branded products.

I would like to see more widespread investigation of the ideas behind branding in Bronze Age economies. I believe that the visual character of exported goods and exotica (for example, Mycenaean chariot kraters in LBA Cyprus) not only created a brand with

the pragmatic values of identification and quality assurance, but also created cultural codes or sign values. Parallels can be drawn with modern branding theory, in which consumers are seen to construct their identities and self-image in collaboration with brands (Holt 2002) and in particular the importance of visual design in the construction of brand imagery (Schroeder 2005).

3.2 Critique of economic theories as applied to long-distance exchange

So far the discussion has been restricted to theory applied to commodity production, consumption and exchange within a single cultural area, corresponding to parts A-C in Figure 3-1. As argued above, exchange of commodities within a local economy can reproduce and/or change aspects of the social structure. This section considers connectivity between cultural areas where the boundaries might be spatial or social, and which delimit the cultural structures within (See Figure 1). Boundedness is relative; some boundaries are clear-cut, others blurred. An example of the latter may be when different cultural units share some symbolic meanings; the pre-Hyksos period in the eastern Delta of the Nile had a blurring of cultural boundaries between southern Levantine groups and Egyptians. Boundedness may also be multiple as described by Chase-Dunn and Hall (1997, 52), e.g. related to distance and to different types of social organisation. Connectivity can then involve crossing both spatial and social boundaries i.e. the relatively local movement of bulk goods, the wider exchange of prestige goods, intermarriage, political and military ties and information and ideology transfer.

One approach to the analysis of inter-societal interaction has been the application of a World-Systems theory developed by Wallerstein (1974). This theoretical perspective with its systems of 'core' states and 'peripheral' regions can be used to help understand interrelationships and the influences they have on the social structures of the participants. The strengths of the world-systems approach seem to lie in the dynamic nature of the modelling of interregional interaction and its applicability to available archaeological data. The approach has been criticised for its preoccupation with economic systems which excludes other types of social interaction, and also for its rigid hierarchy which treats peripheral regions as passive recipients of the socio-economic changes resulting from the exchange (Schortman and Urban 1987). World Systems

theory was adapted for the Bronze Age eastern Mediterranean by Andrew Sherratt (Sherratt 1993) with the introduction of 'marginal' regions and has been used to interpret interregional trade in bulk and luxury goods between core states of the Near East and Egypt and their peripheries and margins such as Cyprus and the Aegean. As pointed out by Bevan (2007, 27-28), many trading situations in this area at this time were so complex and diverse that they did not meet the conditions of core and periphery. Cyprus, for example, lacked the social complexity of the 'core' states like Egypt at the beginning of the LBA, yet its status as a 'periphery' or even 'margin' is unclear. He has also criticised the more radical adaptations which have so altered the theory as to reduce it to a diffusionist narrative with little analytical power.

Nevertheless, the world-systems perspectives in the eastern Mediterranean world have recently enjoyed a resurgence of enthusiasm with a recent conference in honour of Andrew Sherratt's *Bronze Age World System* (Wilkinson *et al.* 2011). The latest, optimistic views presented there would seem to be that whilst world-systems analysis cannot provide a complete theoretical analysis for the early Mediterranean Bronze Age as summed up by Broodbank (2011, 28), it still it can provide useful interpretative insights. One contribution offered the proposition that harbours and sea-lanes could have functioned as semi-peripheries between core consumers and peripheral producers, an idea which it was argued could also be extended to maritime traders (Monroe 2011). This liminal lens can help in the interpretation of the flow of goods from one region to another (see Section 3.3.3 and Figure 3-2). Another recent paper (Kardulias 2007), though not from this conference, had an interesting solution to troublesome peripheries such as Cyprus. The concept of “negotiated peripherality” is where peripheral groups actively negotiate the terms of their interactions with the cores, as was touched upon briefly in Chapter 2.

3.2.1 Ideological exchange and commodity trade in tandem

Figure 3-1 shows interrelationships between different cultural units. This could be, as described above, a trade relationship between a core region and a peripheral region. In such a case, the export of manufactured commodities would be tied to production in one region, whilst the import of commodities is linked with consumption. Different

knowledge is also linked to production and consumption. Technical, social and aesthetic knowledge goes into the production of commodities and this is different from the knowledge related to the appropriate consumption of the goods. As discussed above, producers can use knowledge of the consumer, the destination and their market potential when manufacturing their goods (Appadurai 1986a, 42-43). In capitalist societies, knowledge of consumers is used in advertising to create a mood or a feeling or invoke a lifestyle. However, there is also ethnographic evidence that in non-industrial situations, knowledge is an intangible asset to be exploited politically or ideologically in tandem with the circulation of commodities (Appadurai 1986a,43-48; Helms 1988, 4).

In archaeology, the study of the movement of material culture can sometimes reveal the transmission of ideas and practices that accompanied the goods. Consumers may have accepted or even encouraged the transmission of new regimes of value, particularly if this increased their social status. A defined group of consumers, e.g. elites, may have sought to restrict access to the imported goods and ideas. Sometimes the ideology accompanying commodities was misunderstood or deliberately transformed so that use-values were adapted to meet local social needs. The possibility of rejection must also be considered such as when the ideology was so alien that the commodity has no use-value to the intended recipient.

One way of reducing the complexity of the models such as world systems core-periphery is to view the systems through one commodity or sets of commodities. Appadurai (1986a, 15) referred to this as a 'commodity context' or 'ecumene'. It allows for variability from commodity to commodity. All the producers, distributors and consumers, whether core or periphery, are linked by a single network with a common goal of circulating that commodity, and which cuts across other, unimportant spatial or cultural boundaries. An example of such as ecumene for the trade of qat, a semi legal soft drug, is described by Cassanelli (1986). He examined the production, circulation and consumption of qat within a network that linked hillside farmers in Kenya and Ethiopia with nomadic pastoralists of the Somali plains to street vendors in the coastal towns of Somali, under conditions of changing social and political conditions. When studying the consumption and circulation patterns of single commodities and their

effects on communities, the ecumene model would seem to have advantages over more general core-periphery models.

Another modern marketing theory described by Muniz and O'Guinn (2001) contains similar ideas to the commodity ecumene. The difference is that in their model of a 'brand community', the protagonists are more concerned with consumption than circulation. The brand community is essentially a group of consumers who are not bound by geographical or social characteristics, but by virtue of their brand consumption and loyalty. In archaeological research this concept may have a role in explaining the consumption of specific commodities that have wide geographical distributions, particularly if they also crossed social boundaries.

3.2.2 Formalist versus substantivist arguments: unresolved or outdated?

So far I have reviewed and discussed commodity exchange from the viewpoints of production and consumption. This has encompassed a wide range of theories suited to ancient and capitalist economies in modern and 'primitive' societies. The review of these theories should perhaps be crosscut with *formalist* versus *substantivist* arguments. The debate between the two positions has been around for decades and even now there is debate over whether it has been resolved. I do not intend to review these theories in depth. However, I will briefly review the justification for and role of formal theory as applied to commodity exchange in pre-monetary societies.

After early formalist assumptions which permeated early writings on the ancient economy had been challenged (Polanyi 1957), substantivist models had tended to dominate ideas on trade. Ideas by Adams (1974), based on contemporary documentation of ancient Near East markets, allowed for entrepreneurial elements in the development of ancient exchange mechanisms to be re-considered. Since then, other views on market economy in the ancient world have been proposed, notably by Algaze (1993), Sherratt (1993), Rowlands *et al* (1987), Larsen and Kristianssen (1987) and Frank and Gills (1993). Furthermore, modern marketing concepts and terminology have been applied to Bronze Age Aegean and eastern Mediterranean long-distance trade by Sherratt and Sherratt (2001), Sjöberg (1995) and van Wijngaarden (1999). In contrast, some still argue that ethnographic studies from non-capitalist or pre-modern contexts are better analogies for at least some Bronze Age economies (Voutsaki 1995).

Based on increasing evidence such as contemporary documents and shipwrecks, and their increasingly sophisticated interpretations (Liverani 2001; Peltenburg 2012; Schloen 2013), it seems highly plausible that independent traders and entrepreneurial activity existed alongside state-controlled exchange. I think, if the debate between substantivism and formalism still exists, it is because it has been viewed as a total dichotomy. There has been a call for a middle ground between materialistic and ideational views (Hirth 1996). I believe we can accommodate an even wider perspective and that some post-modern theories may also be helpful, since they are strongly linked with creation of image and identity. As long as relevant aspects of commodity contexts are duly considered, use of modern marketing ideas and terminology can aid the understanding of ancient economies.

3.3 Specific theoretical framework for juglet distribution

Having reviewed the applicability of general theoretical arguments for production, distribution and consumption of goods to prehistoric situations, this section attempts to draw together various theoretical strands into a framework for viewing the more specific case of juglet circulation in the eastern Mediterranean from the mid-to-late MBA until the end of the LBA. As with the earlier, more general diagram, Figure 3-2 represents two different regions with their own local economies. They could relate to core and periphery or to neighbouring sub-regions of similar social development. The central band represents liminal regions which affect trading relations between them. This could be physical, such as the sea or trade routes or notional, such as the influence of traders. Each of these is considered in turn for viewing various aspects of this research.

3.3.1 Juglet commodities as part of the local economy

Juglets were designed to hold and dispense small quantities of liquid, indicating their contents were highly valued or of limited supply, i.e. a *precious commodity*, but their very ubiquity would seem to exclude restriction to elite use only. The archaeological record shows that juglet consumption occurred in some regions of the eastern Mediterranean for a long period of time, from the Early Bronze Age (EBA) to the Early Iron Age (EIA). Long-term and widespread usage in these regions suggests that juglet

consumption was generally reproducing social practice and identity. This is in contrast to other regions where juglet consumption was more limited and periodic, possibly indicating some transfer of consumption practices and symbolic meanings across neighbouring areas. Now, employing structuralist principles, with consumption seen as active and relational, then the use of a juglet commodity, particularly one with an identifiable design, placed the consumer as belonging to a particular social category. The manner in which precious juglet commodities could have affected social identities within a region can be explored through various research questions:

- How were the local juglets consumed?
 - What were the consumption patterns within a local region and how did they compare with other regions at different periods?
 - What were the relative usage patterns in domestic, funerary and ritual situations?
 - Was differential access apparent in terms of social identity markers?

The relationship between production and consumption can be dynamic and reflexive and it is not always clear which process initiates an outcome. For example, were regional usage patterns in types of juglets related to consumer preferences or to their availability from a regional production centre? Productive consumption can either reproduce social identity or trigger change. Using juglets in a certain way, for example in a highly traditional funerary ritual, group social identity was confirmed and reproduced. A negative feedback loop would have confirmed the *status quo* so that juglets would have continued to be produced to the same or similar blue-print. This can be checked in the archaeological record by tracking changing juglet styles and aspects of their deposition.

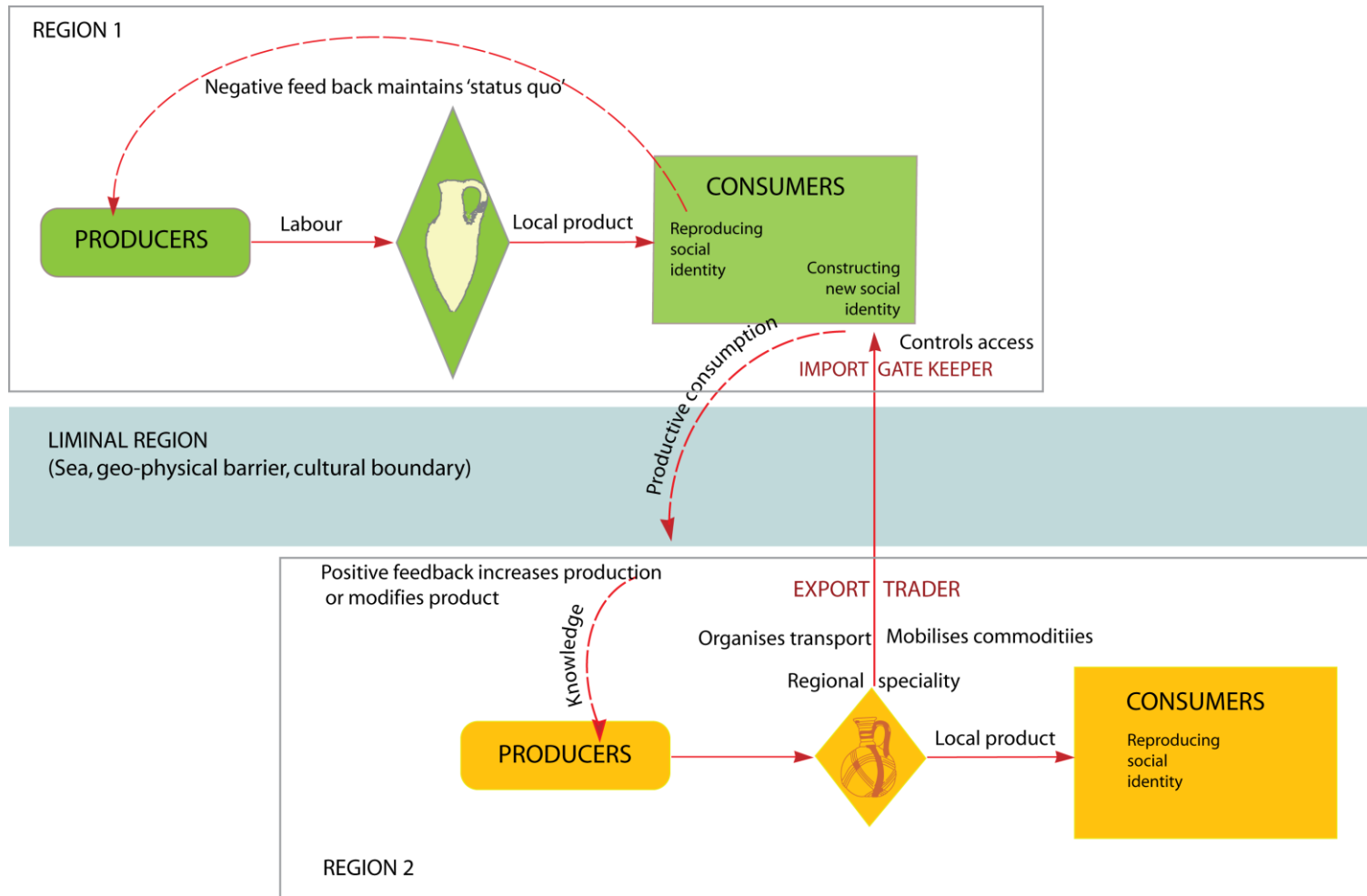


Figure 3-2 Model for the circulation of local and imported juglets

3.3.2 Imported juglets and the role of productive consumption

Interpreting the consumption of imported juglets may involve different theoretical views. Imported juglets may have contained similar contents to their local counterparts, say perfumed oil, but the perception of their value was not the same. It may have been that the imported products were more desirable in some way (e.g. of better quality), or merely something unattainable locally (e.g. a regional speciality). The attraction may have been in the visual styling, the sign-value, of the juglets and quite independent of the contents. Alternatively, they could have contained very different products introducing innovative sets of ideas and practices, as suggested by A. and S. Sherratt . BR juglets, for example, may have contained opium products, which would have very different meaningful consumption values relating to the use of psychotropic substances, compared with the use of perfumed oil.

So consumers of foreign juglets were perhaps constructing personal identities by marking their access to foreign imports and/or by being innovative in using different commodities within that setting. It was an opportunity to re-negotiate social standing over those who could only acquire locally made juglets. Productive consumption may have created a positive feedback loop whereby demand for imports in the first instance might have translated into increased production for export. We would therefore expect a growth in juglet export/import trade. It is in the arena of productive consumption that some of the modern marketing ideas such as commodity branding and niche marketing have been applied in archaeological examples (Bevan 2010; Sherratt and Sherratt 2001; Wengrow 2008). The producers' understanding of the way the consumers used their products to construct identity could have been behind new product development, regional competition and directed marketing.

Research to test the theoretical modelling could look at distribution patterns of imported juglets.

- How were imported juglets consumed?
 - What differences in consumption of imported compared with local products are apparent in the archaeological record?
 - Were imported juglets associated with prestige goods or contexts?

- What evidence is there that juglet commodities were designed or modified to suit consumer preferences of certain regions?
- And are there data to demonstrate the ability to target products to specific destinations?

There is also a case for the distinctive shapes and decoration of juglets acting as branding and here it is worth considering the deeper emotional appeal of the branded commodity (its *brand image*) over mere product recognition or quality assurance (*brand recognition*) as based on modern branding work (Holt 1997; Holt 2002; Schroeder 2005). If consumers had been exploiting the distinctive visual imagery of exotic juglet for display as part of their personal identity, then the products needed to be standardised. The concept of branding would be difficult to prove but it is circumstantially supported by the appearance of imitations. Questions to settle would be:

- Were juglets types recognisable with standardised style and quality and did consumer groups show preferences for particular styles?
- What was the distribution of imitations, compared with the originals?

3.3.3 The inter-regional liminal zone and the juglet trading network

The next part of this model considers the mechanism by which juglets were distributed from producers to consumers of different regions, for which it is necessary to return briefly to core-periphery systems. Cyprus should have been a typical periphery to an Egyptian core polity, and incorporated into the wider eastern Mediterranean trading system. However, it did not comply with the theoretical requirements of a periphery because besides supplying bulk copper (though hardly of low value), it was also manufacturing luxury (though only sub-elite) commodities. It is conceivable that juglet commodities and other manufactured goods travelled alongside copper to reach their destinations, although the production systems were probably divorced from one another, making this less likely. Copper needed a vertically integrated production system in order to mine, refine and distribute the bulk raw material resources has been suggested (Manning and De Mita 1997). Juglets however, at least in LCI, were produced regionally, quite possibly in small operations. Though these may have been capable of making the quantities of juglets needed for their markets, it seems less likely that they

were able to organise the shipping or make strategic responses to export markets. It has been suggested that independent entrepreneurial traders may have emerged from such a situation (Manning and De Mita 1997, 112-115; Sherratt and Sherratt 1998, 337). They may well have been foreigners rather than indigenous people, who thrived where trade was 'trans-zonal' i.e. between regions at different levels of social organisation. These ideas work well with Monroe's concept discussed above on the liminality of the sea, the harbours and maritime traders. Someone or some agency (an export trade facilitator) needed to make strategic choices about the goods to be exported, to communicate on the reception of the juglets and finally to organise the production responses to this knowledge.

The counterpart at the other liminal zone, i.e. the importing harbour, would be an official taking control of the inflow of goods possibly by a levy imposed by import/export merchants or 'gatekeepers' (Bergoffen 1991; Stager 2001, 60). They may also have influenced the way goods moved onwards from these ports to subsequent destinations. The existence of such roles has been suggested by contemporary textual and pictorial information, but is difficult to establish archaeologically. However, high concentrations of juglets at harbour towns could support the notion of direct destinations rather than tramping and high numbers of juglets at large inland sites suggest specific orders were being met.

The existence of such roles has been suggested on the basis of contemporary textual and pictorial sources. Support might come from answering questions:

- What were the distribution mechanisms in the eastern Mediterranean and how did they change over time?
 - Could circulation patterns support the existence of regional competition?
 - Can special inter-regional trading links be detected and could these indicate the role of agents for the producers/distributors?
 - Do import circulation patterns provide any evidence for specific entry ports and for onward distribution routes?

Chapter 4 Methods

The previous chapter formulated the research questions, based around a series of theoretical considerations for understanding the socio-economic implications of juglet circulation. This chapter now outlines a methodological approach, designed to investigate these questions and considerations. Essentially, the first step of the process, which is based almost entirely on published material, involved the collection of recorded data on juglets found at a range of sites in the eastern Mediterranean. The second stage was to analyse the records against various parameters such as geographic regions, juglet type, date of deposition and contextual information etc. to detect patterns of distribution. The final process was to interpret any patterns and to assess their value against existing wider evidence on ceramic consumption and circulation.

The chapter is structured to provide more detailed accounts of these steps. Section 4.1 describes the types of data sources and the selection of sites used in the study. The next section (4.2) describes the juglet database used for recording. The next two sections (4.3 and 4.4) relate to the analyses, including the important subject of recovery bias and how to minimise its effects. A major section in this chapter deals with managing the problems of the chronological synchronisations and chronological uncertainty. Finally there are brief notes on the presentation of distribution data using GIS maps (4.6) and on the interpretation of results (4.7).

4.1 The data sources

The data sources used were of two types, the primary sources which were mainly the original excavation reports, and secondary sources which were generally catalogues or analytical volumes. They are presented in reverse order, here, since it was often secondary publications that were referred to first during this research.

4.1.1 Secondary sources: ceramic catalogues

The most important secondary sources of data used in this research were catalogues of pottery, compiled as part of analytical studies on specific ceramic subjects. They vary in scale and level of detail. At one extreme would be the work of Åström, based around the Swedish Cyprus Expedition, which has a complete classification system as well as a catalogue for the MC and LC Cypriot pottery corpus on Cyprus and the eastern

Mediterranean up to 1972 (Åström 1972b; 1972c). At the other end of the spectrum would be the highly detailed analysis of a single ware at one site, such as a review of the lustrous wares found at Tell el-Dab'a (Hein 2007), or the report of the Aegean pottery found at Amarna (Hankey 1973). The detail of these catalogues varies, but most offer information on the vessel typology and dimensions, contextual information, if any, museum/collection inventory numbers and further references. Some have enough contextual information to be treated as primary sources, in the absence or non-availability of full published reports, as with Merrillees' study of Cypriot pottery in Egypt (Merrillees 1968).

Special archaeological interest in Cypriot and Mycenaean pottery circulating in the eastern Mediterranean has resulted in a wealth of literature on these wares from these regions (e.g. Bergoffen 2005; Gittlen 1977; Leonard 1994; Merrillees 1968; van Wijngaarden 2002). There are, however, some notable gaps. The documentation of Palestinian, Syrian and Egyptian wares is much thinner than for Cypriot and Mycenaean pottery. Kaplan (1980) studied the distribution of TEY ware around the eastern Mediterranean, and Kelley (1976) published a general catalogue of Egyptian pottery. Apart from Cyprus, most regions are under-represented in terms of analytical studies and catalogues of *local* pottery (Table 4-1).

Secondary sources provide a good starting point for further investigation. Compiled by specialists, they are also useful information sources for confirming typology or supplementing data gleaned from primary reports especially some early, cursory documents.

Ware type	Palestine	Egypt	Syria	Cyprus
<i>Base Ring</i>	(Gittlen 1977)	(Merrillees 1968)	(Åström 1972d)	(Åström 1972c)
<i>White Shaved</i>	(Gittlen 1977)	(Åström 1972b)	(Åström 1972c) (Bergoffen 2005)	(Åström 1972b)
<i>Black Lustrous Wheel-made</i>	(Yannai 2007)	(Oren 1969) (Hörburger 2007)	(Yannai 2007) (Åström 1972c)	(Åström 1972b)
<i>White Painted</i>	(Johnson 1982) (Maguire 2009)	(Maguire 2009)	(Åström 1972c)	(Åström 1972b)
<i>Red Lustrous Wheel-made</i>	(Eriksson 1993)	(Eriksson 1993) (Hein 2007)	(Eriksson 1993)	(Eriksson 1993)
<i>Tell el-Yahudiyeh</i>	(Kaplan 1980)	(Kaplan 1980)	(Kaplan 1980)	(Kaplan 1980)
<i>Mycenaean</i>	(Leonard 1994)	(van Wijngaarden 2002)	(Leonard 1994) (Hankey 1993)	(van Wijngaarden 2002) (Åström 1972b)

Table 4-1 *Secondary sources for specific ceramic types*

They were also valuable for recording juglet details, when the primary source was not available for some reason, most usually related to limitation on recording primary sources (referred to below). The data provided a fuller, though less detailed account of the distribution, and the use and restrictions of secondary source data are discussed, in greater detail, in the section on analysis (4.3).

4.1.2 Primary excavation reports

Primary excavation reports provide a more detailed resource compared with secondary catalogues, and allow more in depth understanding of juglet depositional contexts. Such reports exhibit a huge variation in the standard of excavations, the collection rates of material culture and in the way the finds are reported. The pottery cataloguing in the reports was usually done in one of two ways: (a) the pottery was listed by individual contexts or (b) as often the case in older reports, ceramic “types” were defined, and the contexts in which they were found then listed. Another, less common form of site-based publication is the presenting of only a few examples of the ceramic finds, leaving the remainder cursorily described or merely numerically counted. In the Palestinian excavations, the dating systems used often varied as outlined above in Chapter 2, so whilst the excavators' or specialists' dating was largely accepted, care was taken to standardise the dating systems. Most reports have provided indicators of synchronisation usually by comparing finds with levels at other, well known sites.

4.1.3 Sample selection and criteria for data set inclusion

Many hundreds of archaeological sites and contexts have been investigated over many decades in the eastern Mediterranean. The time constraints of this study imposed some restriction on the number of primary publications that could be recorded, so some selection was necessary. The foremost selection criterion used in this study was a good chronological and geographical spread of sampled sites to provide a reasonable basis for comparison across all the major regions for all the major time periods. At the next level of choice, it was important to include a range of site locations and sizes. The large coastal towns were obviously important choices, but inland hubs and smaller inland sites were included to form a representative range. Another criterion was to choose excavation reports with large ceramic assemblages and reasonable or good stratigraphy, such as Megiddo or Lachish. The secondary sources provided good introductory leads

to the most useful sources for study. Some reports, such as those of Tell el-Dab'a, had good contextualised information. Other sources, like the UCL collection of Petrie tombs cards for Tell el-'Ajjul, to which I was fortunate enough to have access, gave individual tomb data. However, the selection process was not all favourable. Sometimes, there was little choice with some of the older reports varying from unusable to at best cursory. Many of the Nubian site reports fell into this latter category. Once subject to intensive surveys, there was a vast coverage of this region, though most was rather superficial. It did, however, reach the acceptable minimum of information for this study (defined below).

Sampling, however, can introduce its own sets of problems relating to representative coverage as discussed by Keswani in her study of Cypriot Bronze Age mortuary practice (Keswani 2004, 27-31). For example, she debates to what extent small sites or narrow time periods can be considered more broadly representative of greater regions or wider timespans. It is therefore important to develop inclusion criteria which take into account some of the archaeological issues. In this study effort was made to include both narrow and wide dates, in order to elucidate long-term changes in juglet consumption and distribution. As far as was possible a range of context types was also chosen. So although most of the data came from tombs, settlement areas and some specialist sites, such as putative workshops or cult sites, were also chosen.

Table 4-2 provides a list of the sites selected with an indication of their date ranges.

Site	Date range	References
Excavation reports for Cyprus		
Akhera	LCI	(Karageorghis 1965a)
Arpera	MCIII-LCIA	(Bailey 1972)
Athienou	LCI-II	(Dothan and Ben-Tor 1983)
Ayia Irini	LCI	(Pecorella 1977; Quilici 1990)
Ayia Paraskevi	MCII-LCII	(Åström 2007; Georgiou 2009; Krumholz 1982)
Ayios Iakovos	MCIII-LCII	(Gjerstad <i>et al.</i> 1934)
Dhenia	MCIII	(Åström and Wright 1962; Frankel and Webb 2007; Nicolau and Nicolau 1988)
Enkomi	MCIII-LCIII A	(Åström 2007; Courtois 1981; Crewe 2011; Dikaios 1969-71; Gjerstad <i>et al.</i> 1934; Lagarce and Lagarce 1985; Piliides 2012; Schaeffer 1952; Schaeffer 1971)
Galinoporni	MCIII-LCI	(Crewe 2009b)

Hala Sultan Tekké	LCI-III A	(Åström and Nys 2007; Bailey 1972; Frankel and Catling 1976; Karageorghis 1972; Öbrink 1979)
Kalavassos	LCI-II	(Pearlman 1985; South and Steel 2007)
Kalopsidha	MCIII-LCI	(Åström 1966)
Katydhata	LCI-II	(Åström 1989)
Kazaphani	LCI-II	(Nicolau and Nicolau 1989)
Kition	LCIIB-III	(Karageorghis 1974; Yon and Caubet 1987)
Klavdhia	LCI-II	(Malmgren 2003)
Kourion	LCI-II	(Benson 1972; Manning <i>et al.</i> 2002)
Lapithos	MCII	(Gjerstad <i>et al.</i> 1934)
Maroni	LCI-II	(Herscher 1984; Johnson 1980; Manning <i>et al.</i> 2002; Manning <i>et al.</i> 2006; Sewell 2009)
Milia	LCI-II A	(Westholm 1939)
Nitovikla	MCIII-LCIA	(Gjerstad <i>et al.</i> 1934)
Palaepaphos	LCI-III A	(Karageorghis and Michaelides 1990)
Paleoskoutella	MCIII	(Gjerstad <i>et al.</i> 1934)
Pendayia	LCIA	(Karageorghis 1965b)
Stephania	LCI-II	(Hennessy 1966)
<i>Toumba tou Skourou</i>	MCIII-LCIIB	(Vermeule and Wolsky 1990)
Excavation reports for Egypt and Nubia		
Abydos	SIP-mid 18 th dyn	(Ayrton 1904; Boulos 1937; Garstang 1901; Peet and Loat 1914; Randall-Maclver and Mace 1902)
Amarna	Late 18 th dyn	(Hankey 1973; Hankey 1995; Rose 2007)
Deir Rifeh	SIP	(Firth 1915)
el-Dakka	18 th dyn	(Firth 1915)
el-Riqqa	12 th dyn & early-mid 1 st dyn	(Engelbach 1915)
Gurob	SIP-18 th dyn	(Brunton 1927)
Harageh	18 th dyn	(Engelbach 1923)
Memphis	SIP-early 19 th dyn	(Bourriau <i>et al.</i> 2005; Bourriau 2010)
Qau	SIP-mid 18 th dyn	(Brunton 1926)
Sedment	SIP-mid 18 th dyn	(Petrie 1905; Petrie and Brunton 1924)
Tell el-Dab'a	13 th dyn-early 18 th dyn	(Aston 2004; Bietak 1991b; Fuscaldo 2000; Hein and Jánosi 2004; Kopetzky 2002; Maguire 2009)
Tell el-Yahudiyeh	13 th dyn-early 18 th dyn	(Neville and Griffith 1890; Petrie and Duncan 1906)
Thebes	18-19 th dyn	(Nagel 1938)
Aman Daud	mid-18 th dyn	(Firth 1912)
Aniba	15-18 th dyn	(Steindorf 1937)
Buhen	12-18 th dyn	(Randall-Maclver 1911)
Debeira	SIP-18 th dyn	(Säve-Söderbergh 1989; Säve-Söderbergh and Troy 1991a; 1991c)
Metardul	early 18 th dyn	(Firth 1912)

Mirgissa	12 th dyn-SIP	(Vercoutter 1975)
Moalla	SIP	(Firth 1912)
Quban	13 th dyn	(Firth 1927)
Qustul	18 th dyn	(Williams 1992)
Semna	12 th -18 th dyn	(Dunham and Janssen 1960-1967)
Shallal	early 18 th dyn	(Reisner 1910)
Siali	SIP-18 th dyn	(Reisner 1910)
Uronarti	13 th dyn	(Dunham and Janssen 1960-1967)
Excavation reports for Palestine and Syria		
Afula	MBIIA-IA1	(Dothan 1955; Sukenik 1948; Zevulun 1990)
Ain Shems	MBIIB-IA1	222, 405, 504, 505, 507
Amman	LBIIB	(Hankey 1974; Hankey 1995; Herr 1983)
Ara	MBIIB-LBIIB	(Ilan <i>et al.</i> 2011)
Ashkelon	MBII-LBII	(Baker 2006)
Beth Shan	MBIIC-IA1	(Callender 2000; Fitzgerald 1930; James and McGovern 1993; Mazar and Mullins 2007; Panitz-Cohen and Mazar 2009; Rowe 1940; Yadin 1960)
Deir Alla	LBIIB	(Franken 1992)
Dhahrat el-Humraiya	MBIIA-LBI	(Ory 1948)
Gezer	MBIIB-IA1	(Dever <i>et al.</i> 1970; Dever 1974; Macalister 1912; Seger and Lance 1988)
Hazor	MBI-LBII	(Yadin 1958; Yadin 1960; Yadin <i>et al.</i> 1961)
Jericho	MBIIA-LBIB	(Garstang 1932; 1934; Kenyon 1960; 1965; Kenyon and Holland 1982; Marchetti and Nigro 2000)
Lachish	MBIIB-LBIIB	(Tufnell <i>et al.</i> 1940; Tufnell 1958)
Megiddo	MBII-LBII	(Guy 1938; Lambert <i>et al.</i> 1978; Loud 1948)
Mevorakh	MBII-LBII	(Stern 1984)
Pella	MBIIB-LBIIB	(Bourke <i>et al.</i> 1994; Bourke and Sparks 1995; McNicoll <i>et al.</i> 1982; 1992; Smith 1973; Walmsley <i>et al.</i> 1993)
Sarepta	MBIIC-IA1	(Anderson 1988; Baramki 1958; Khalifeh 1988; Koehl 1985)
Shechem	MBIIB	(Cole 1984)
Tell Abu al-Kharaz	MBIIC-LBIIA	(Fischer 2006)
Tell Abu Hawam	MBIIC-LBIIB	(Balensi 1980)
Tell Beit Mirsim	MBIIB-LBII	(Albright 1932; Albright 1933; Ben-Arieh 2004),
Tel Dan	MBIIA-LBIIA	(Biran <i>et al.</i> 1996; Biran and Ben-Dov 2002)
Tell el-'Ajjul	MBII-LBII	(Petrie 1931; 1933; 1934; 1952)
Tell es-Saidiyeh	LBIIB-IA1	(Pritchard 1980; Tubb 1988)
Tell Farah South	MBIIC-IA1	(Braunstein 1998; Price-Williams 1977; Starkey and Harding 1932)
Umm ad-Dananir	LBI-II	(McGovern 1986)
Ugarit	MBIIC-LBIIB	(Al-Maqdissi and Matoian 2008; Bounni and Lagarce 1998; Courtois 1969; Monchambert 2004; Schaeffer 1932; 1933; 1936a; 1937; 1938; 1939a; 1939b; 1949; 1978; Yon 1987; Yon <i>et al.</i> 2000; Yon and Arnaud 2001)

Table 4-2 Primary sites sampled, with their chronology and site report references

4.2 Data recording

To answer questions on distribution, I have recorded the name of the site, the type of juglet found there, its quantity, its origin (whether local, imported, imitation or unclear) and whether it had a recorded finds context. This information, which was common to both primary and secondary sources, constituted the minimum needed for distribution studies. Juglets were assigned descriptive terms based on standard terminology e.g. BR I juglet, BR II flask, Dipper juglet, TEY juglet, RLWM spindle bottle. Names in common use are described in detail in Chapter 1, as are any other designated types and groupings. The quantity of juglets has been based on counts of whole vessels or part vessels. In general, sherd material was deemed unsuitable for inclusion. In studies related to ceramic *wares* sherd material can be weighed or counted for analytical purposes. However, in studies on ceramic *forms*, sherds cannot always identify a vessel form, especially body sherds. In this study only identifiable sherds, e.g. a rim or base, were included, and only when they were presented within a closed context in numbers low enough to distinguish separate vessels.

In order to answer questions relating to consumption practices, I have recorded some limited contextual information. This included information on the context i.e. the place, the levels, the type of context, its date etc. As well as taking details of each juglet present in each context, records were made of other ceramic material including the total number of pots, the number of large storage jars and the total number of imported pots. A note was also made on the presence, abundance or absence of certain personal and status markers.

4.2.1 Juglet database

Data recording was done using an Access database. One table recorded contextual information by site and context (the 'findspot'), whilst another recorded juglet data for each findspot. There was a 'one-to-many relationship' between the two tables. A form was designed for data entry into the two tables (see Figure 4-1).

Microsoft Access - [DataEntry3]

File Edit View Insert Format Records Tools Window Help

Type a question for help

Arial Narrow 11 B I U

Site	Ugarit	Total no pots	66
Place	Maison A	Total imported pots	12
Sub-area	Ras Shamra	Other imports:	0
Level	Centre Ville	Bulk storage jars:	13
Findspot code	UGARS/CV/MA	Jewellery:	
Findspot period	1250-1200 BC	Luxury containers:	
Context state:	Detailed	Seals/scarabs:	present
Context type:	Settlement	Grooming items:	present
		Weapons:	present

Maison A had rooms 1040, 1041, 1043, 1046 and 1047.
The pottery and other items will be counted together.
Unusual BR rhyton

Artefact ID	3449	See source	<input type="checkbox"/>
Findspot code	UGARS/CV/MA	Reference	704
Juglet descripto	Myc stirrup	Page Number	55
Style code	FS 171-173 SS	Other detail	fig. 36
Inventory	79/473	see also refs 222, 680 Rm 1041	
Quantity	1		
Whole juglet	Complete		
Height accuracy	measured		
Height (mm)	100		
Origin	imitation	Artefact desi	
Provenance	<input checked="" type="checkbox"/>	Pot descripto	
Artefact date	LHIIB	Material	

Record: 3 of 7

Record: 1026 of 2398

To cover any additional information

NUM

Figure 4-1 Juglet database form and sub-form

The main findspot form includes the name of the site and three other spatial indicators. The site name can be linked to another table accessing information on regions and sub-regions in order to facilitate geographic analysis. Another important record was the context type which was split into four coarse-grained distinctions: funerary, settlement, cult or palatial. The term 'settlement' covered domestic, industrial or defensive contexts, whilst 'palatial' also included large administrative buildings. The context state was also recorded as intact, disturbed, looted etc. but this information was not subsequently used in analysis. The findspot period box recorded relative dates, usually that provided by the excavator, which could be related to a supplementary table converting these into absolute dates (see Appendix I).

The sub-form with its table contained all the recorded data on the juglets. There was usually one entry per juglet unless there were several juglets with similar information. The style code referred to the classification system, such as the SCE system, the FS types etc. If available the inventory number of the collection or museum was recorded. This enabled a check against duplicates, such as when the same juglet was recorded in primary and secondary sources. A tick box was used for secondary sources, so records of items could be distinguished from those in detailed primary reports. Whether or not the juglet was complete was recorded. If there was sufficient to record the juglet's height it was considered and entered as 'complete'. Note was also made of whether the height was actually measured, assessed from a scale drawing or given as an average (which was often the case when exemplar forms were illustrated in older excavation reports). If the juglet was not complete then it was assigned to a category of 'most', 'some' or 'sherd' (the latter finds only being recorded for diagnostic sherds, not all body sherds).

The origin and stylistic affinities of a juglet are important. The database records whether a juglet was 'local', 'imported', an 'imitation', 'formative' or 'unclear/unknown'.

'Formative' was a term used when it was deemed possible that one juglet may have influenced the development of another, as with BS V juglets in the shape of BR I juglets. Imitation was used for juglets that were *copies* of imports, but vessels that were deemed to have originally been foreign but have since become acculturated (such as Palestinian-style RSB/BSB juglets in the Delta), are categorised as 'local'.

'Unclear/unknown' was used when the category was unknown or difficult to distinguish. These categories are sometimes included in analyses, as for example when the total

numbers of juglets of certain specifications are being calculated. References used were numbered and linked to a separate bibliographic database (in Reference Manager). Further notes were added for special points of interest and to aid in retrieval of non-indexed data.

4.2.2 Summary of juglet database statistics

A summary of some statistics for the database is shown below. A CD of the juglet database is provided (See Appendix II).

Total number of sites	195
Number of primary source sites	95
Total number of contexts	2375
funerary	1819
settlement	280
cult	101
palatial	20
unknown/unclear	155
Number of contexts from primary source contexts	1924
Total number of juglets	16,382
local	10,688
imported	4,125
imitations	1,176
formative	130
unknown/unclear	492
Number of juglets from primary source sites	13,769

4.3 Analysing the data

4.3.1 Stage 1

The analysis of the above datasets employed a two-stage approach. The first examined the broader picture of commodity production, distribution and consumption. Juglet counts were examined on a site basis and across sub-regions and regions to detect trends in inter-regional exchange, and to compare consumption patterns in the producing and importing regions. Chronological divisions were employed to detect changes over time, particularly in areas where the overall numbers of juglets were high and/or where they

remained in circulation for a long time. Once identified such trends could also be linked to historical events, influential geographical locations or other specific circumstances. Whilst pottery counts on their own are not ideal, because they do not take into account the size or degree of investigation of a given site, they do become more reliable when used as ratios or proportions, as detailed below. They also allow an initial exploration that combines data from both primary and secondary sources

4.3.2 Stage 2

Where patterns were detected in the first stage analysis, a second stage analysis was initiated using the more detailed information from the primary sites. Contextual data were used to determine variations in consumption practices, in funerary, domestic or other arenas. Queries relating to regional variations, cultural preferences or differential access to juglets, especially imported commodities, were constructed. Specific sites were examined for special roles such as production and/or distribution centres or cult activity. Potential trade links were investigated by looking at sites with high levels of imports. The results have been presented in three chapters, each representing a major time span, as defined in Chapter 2. Each chapter followed the two-stage approach, so each discusses slightly different aspects of juglet production, distribution and consumption, depending on the results of the first stage of analysis.

4.4 *Minimising recovery bias in distribution studies*

A distribution study such as this has to balance the advantages of the wide coverage of material against the variability of its sources. Pottery recovery for the data sets must be considered carefully since bias can be introduced at a number of levels. Probably the most important parameter is the extent of excavation at any site, since this significantly affects the amount of pottery recovered with a danger of skewing the results of any inter-site comparisons. Some recorded sites might consist of one or two tombs, such as at Kazaphani, or they might be intensively excavated such as Tell el-Dab'a. Size alone may not necessarily introduce recovery bias but a very small sample might recover only a limited range of material and that might affect results.

Excavation methods and quality of the reporting are highly variable and have tended to change over the decades, mostly for the better, but this can make comparisons unequal, especially when analysing for detail. For example, the site of Beth Shan has been

meticulously excavated with modern techniques and the pottery has been scrupulously catalogued and reported (Mazar and Mullins 2007; Panitz-Cohen and Mazar 2009). In contrast much of the local pottery from the much older Ugarit excavations was discarded without recording. The type of context, too, makes a big difference to pottery recovery; funerary contexts generally have a greater number of pots with a higher proportion of complete vessels, because often they were deposited permanently and thereafter sealed. This contrasts with counts from settlement sites where much of the pottery survival could have been affected by abandonment, destruction, later erosion, and re-working of deposits etc. In this study, it is worth stressing at the outset that settlement contexts may be under-represented, and that much of the material has come from funerary contexts. There are two reasons for this; the first is that many of the excavations were of cemeteries, particularly in the case of Cypriot sites, and the second is because the data from some settlement sites have not been usable because of the difficulty of working with sherd material (as explained in 4.2 above), which so often comprises the bulk of ceramic material from settlements.

Recovery bias can be minimised in a number of ways which all involve relative rather than absolute comparisons. For example, comparison of juglet counts at different sites would not give an accurate representation of distribution because of the disparity in the extent of excavation at different sites, whereas relative numbers of different types of juglets in the same data sets would be valid, as any bias would apply across the data. A standard method to make the data comparable is to work with pottery density rather than counts. This can involve standardising pottery counts against the volume of the deposit excavated. In practice, particularly with older excavations, volume was rarely recorded, so the excavated area is used as an approximation. Another measure, one I have adopted in some instances, is to calculate pottery density by relating juglet counts to counts of other pottery on the site, i.e. total pottery counts, total juglet counts or total imported pottery counts, as appropriate for the question. The 'total number of pots' is a useful parameter for monitoring the relative importance of juglet consumption. The proportion of specific juglet types to total juglets is a good indicator of consumption preferences. Imported juglets as a percentage of 'total imported pottery' also provides useful information on the relative importance of the imported commodity inside the juglet compared with other imported ceramics.

Variability in the detail of recording within excavation reports has been handled here by stipulating minimum essential information (confirmed site, a specific period, a juglet type and a quantity). This means that the briefest reports and secondary catalogues could be analysed to provide broad distribution patterns in the first stage analysis, whilst the more detailed data was reserved for addressing more specific questions.

Bias due to contextual variation in pottery recovery is dealt with here by considering contexts against their own standards, their own pottery densities. For example, it would not be meaningful to state that 75% of all juglets in a data set were found in funerary contexts and only 15% in settlements, if 85% of the contexts recorded were funerary. A more valid comparison would be that 1 in 3 pots found in funerary contexts were juglets compared with only 1 in 10 pots in domestic contexts. In the latter case, assumptions were being made i.e., that the survival rate was the same for juglets as other pots, nevertheless, it did introduce one level of control for relative comparisons.

4.5 Time slicing and chronological uncertainty

The period dates assigned by excavators and other specialists for each context where juglets were found, have been recorded and subsequently accorded absolute time ranges (based on the high chronology as noted in Chapter 2). There were over 250 of these context dates reflecting the high number of individual excavation stratigraphies, each assigned an absolute “date from” and a “date to” value, and this is best illustrated by reproducing all of them in Appendix I. The aim was to use these dates when analysing data for any specified time interval such as LCIA, or MBIIC-LBIA or early-mid 18th dynasty. In theory, data for any chronological band could be easily extracted from the database, using a numerical query. In practice, chronological divisions were not completely straightforward. Firstly, some overlapping date ranges made synchronisation of chronological schema a little problematic at times. The second difficulty was that a significant proportion of contexts had wide period ranges introducing chronological uncertainty. Methods used to resolve these problems are discussed below.

4.5.1 Allocating time slices

Different regions may have varying dating systems as discussed in Chapter 2. For example, the Cypriot date for the start of the LBA is earlier than the LBA elsewhere.

Dates for Egyptian dynasties can be very precise where the dates of the pharaonic reigns are known. These situations create difficulties when trying to group context dates. One solution was to allow a certain amount of overlap (and hence repetition) of some data analyses, by grouping time periods from specific viewpoints (Appendix I, Columns 4-6). Hence, the first MBIIA-C period up to 1550 BC covered the MBA from the viewpoint of the Levant and Egypt and examined a mainly local consumption of juglets. The next period looking at juglet circulation from a Cypriot perspective during LCI (1650-1450 BC) included MBIIC data again, when the first exports from Cyprus arrived on the mainland. The third period, which was synchronised across the regions at around 1450 BC, looked at the height of juglet circulation from 1450 to 1200 BC, during which time Mycenaean pottery was imported in large quantities. Some date ranges were very close to inclusion within a time slice and I have allowed rounding up or down of dates by up to 50 years to accommodate inclusion of date ranges into a particular time slice.

4.5.2 Dealing with chronological uncertainty

Many contexts (especially tombs) were not closely stratified and fell outside the three time slices. These context periods are shown as blank boxes in the table, and they represent the chronological uncertainty of some contexts. This is a common problem with distribution studies and there are a number of ways to cope with it when analysing the data. One way is to use only those contexts which fall completely within the designated time slices as used by Gittlen (1977) in his study on Cypriot pottery in Palestine. The disadvantage of this approach for this study, is that one-third to one-half of the data would be lost (see blank spaces in the table, as relevant). Furthermore, this approach can itself introduce bias through omissions of data. Another archaeological method is to employ dating based on *terminus ante quem* or *terminus post quem* which involves less data loss than the previous approach, since some wider date ranges could be included. Another alternative for examining diachronic parameters in distribution studies is based on recognised dates for ceramic types, as used by van Wijngaarden's 2002 study on Mycenaean ware. For this study, I have chosen to use the latter two methods, as appropriate to the data, as I think they provide a good compromise between data inclusion and accuracy of dating.

Recently new, aoristic analytical methods have been introduced which allows for inclusion of *all* the data, even where there is chronological uncertainty, which smoothes out inaccuracies, and which I believe, provides a more representative overview. This method uses a probabilistic framework for assessing spatio-temporal patterns (Bevan *et al.* 2012; Crema *et al.* 2010; Ratcliffe 2000) and I have applied aoristic analysis to the instances of chronological uncertainty, where the other methods have not been able to provide a fine-grained approach. I have also used it in a few instances to corroborate other methods. In all cases, the approach used is clearly flagged in the legend of the resulting figure or table.

The core concept behind the aoristic method used here is to sub-divide existing period-based relative dates into smaller absolute time spans of, in this case, 50 year periods each, and then to assess the probability of a specific juglet appearing within a context during a given period of time. The probability that a juglet was deposited within a context during that 50 year period varies between 0 (could not have been deposited at that time) to 1 (definitely deposited at that time). For contexts with wide time spans, there is a lower probability of deposition within each 50-year period. Since most juglets have a well defined life span, I have also applied a simple weighting based on style duration. When calculations are performed for all contextual periods involved, the probabilities can be summed for sites or regions to give a broad picture of spatio-temporal distributions.

A simplified hypothetical example using BR I juglets, which were made between 1600 and 1350 BC approximately, is shown in Figure 4-2. When examining a context dated to 1550-1500 BC there is a probability of 1 that a given BR I juglet was deposited in this period. For contexts dated 1600-1400 BC, the probability is 0.25 for each 50 year period, and for 1550-1400 BC, it is 0.33 for each 50 year period. But for the date range 1700-1550, periods before the life span of the vessel take a probability of 0 and so on. The sum of the probabilities then provides a distribution profile for this group of contexts.

50 year periods	1700-1650	1650-1600	1600-1550	1550-1500	1500-1450	1450-1400	1400-1350	1350-1300
Context dates								
1550-1500 BC				1				
1600-1400 BC			0.25	0.25	0.25	0.25		
1550-1400 BC				0.33	0.33	0.33		
1600-1300 BC			0.2	0.2	0.2	0.2	0.2	0
1700-1500 BC	0	0	0.5	0.5				
1450-1300 BC						0.5	0.5	0
Total	0	0	0.95	2.58	0.88	1.28	0.7	0

Figure 4-2 Example of aoristic analysis calculation, based on six different contexts

A further, real example based on actual data, is shown below, comparing the first appearance and peaks of BR I juglets in different regions of the eastern Mediterranean as discussed in Chapter 7. Since the calculations are based on averages, resulting graphs tend to flatten rather than accentuate distribution patterns, so that they are unlikely to overemphasise any relationships.

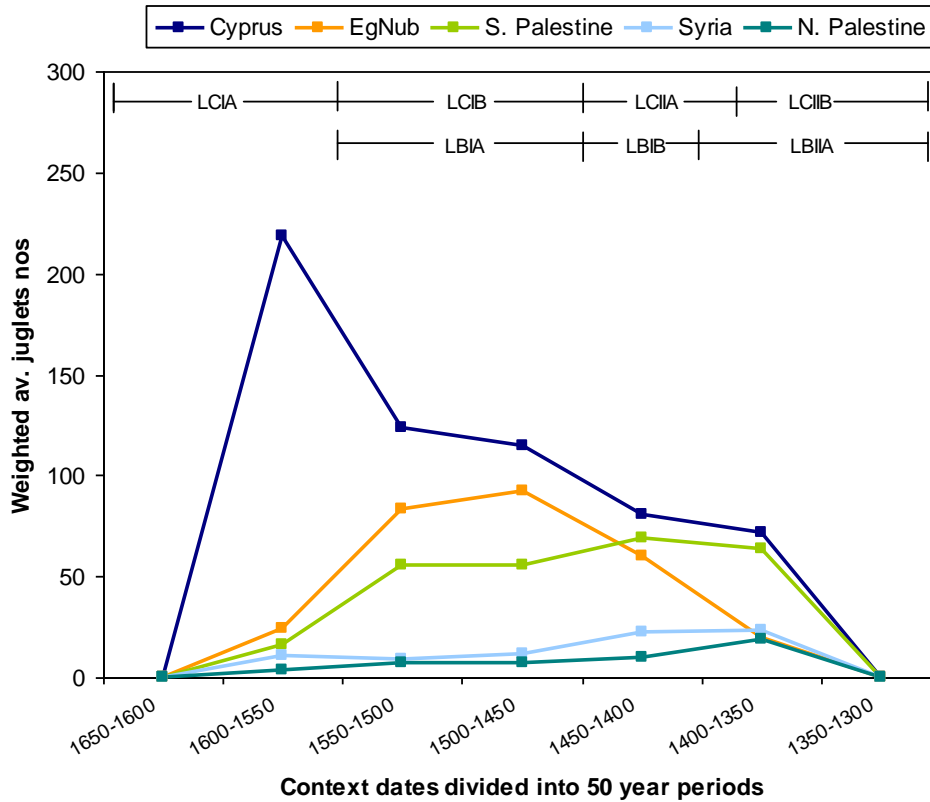


Figure 4-3 Example of graph based on aoristic analysis for BR I juglets distribution

4.6 Mapping distribution data

GIS maps (in ArcGis) have been used for displaying geographical distributions by site or by region. Some information was directly imported from standard queries of the juglet database and these tend to be distributions involving raw numbers or percentages of total pots, total juglets etc. In the case of aoristic analyses, the data was first manipulated in a spreadsheet (Microsoft Excel), and this treatment is always indicated in the legend. It will be noticed that in the calculation for total juglet numbers, aoristic analysis usually results in numbers with fractional values. In the maps in this study these values have been rounded to the nearest whole numbers.

Most maps indicate the sites at which no juglets of a specific type were recorded. They are shown by grey circles.

4.6 Data integration and interpretation

Once the data has been collected and analysed, it needs to be integrated with the substantial body of evidence already published on the wider aspects of ceramic production and consumption for this period and region. Some of this information has already been covered in Chapters 1, 2 and 5. However, in order to assess the relevance of findings within a given chronological and geographical context, background information has been reviewed in further detail chapter by chapter. Summary conclusions and discussions are made in this way at the end of each chapter, with the aim of setting new findings within, or sometimes in contrast to, established knowledge. Consequently, the three main results chapters (6-8) each have four parts, an introductory review, a data analysis section, a summary and a preliminary discussion.

Chapter 5 The precious commodities inside juglets: clues to the contents

The ceramic juglet contained a small luxury commodity that was once manufactured, traded and consumed. Whilst the forms and decorations of these containers were important features of the product, it should not be forgotten that it was ultimately the commodities inside the juglets that were valued. This chapter examines the evidence for clues to the nature of the juglet contents. This information is then utilised in discussions on the form and function of the various juglets. The final section examines the human response to these commodities and how juglet style evokes recognition, desire, even imitation.

5.1 The different types of evidence available

Because of the narrow openings of juglets, the contents are usually assumed to have been liquid and by general consensus this liquid is thought to have been a thin, 'specialty oil', i.e. an oil which has been treated in some way with perfume or flavourings etc. or one has been chosen for special properties, such as emollient qualities. However, the possibility that juglet contents may have been water-soluble liquids, such as wine, should be considered. Various contenders for this liquid have included perfume, additives for food or drink, medicinal products or psychoactive substances, particularly opium. It is beyond the scope of this study to provide a comprehensive examination of all available evidence on the contents of Bronze Age juglets, so this section briefly outlines a range of material in an attempt to assess the probabilities. Chemical analytical data form the most direct scientific evidence for the contents of these vessels. Contemporary texts and depictions provide some insights into the production and consumption of precious commodities whilst contextual data for the ways these commodities were produced and consumed provide corroborative evidence.

5.1.1 Chemical analysis

The most direct type of evidence for identifying the contents of juglets is unfortunately the sparsest. Organic residue analysis uses a variety of chemical analytical techniques, commonly infrared spectroscopy, high-performance liquid chromatography, gas chromatography and gas chromatography/mass spectrometry. All identifications rely on matching the unique chemical property of the residue component with that of a modern

reference compound (Heron and Evershed 1993, pl.II). One of the major limitations of these analytical techniques relates to the preservation of the organic materials. The techniques and their problems have been well reviewed by Heron and Evershed (1993, 251-59) and by Knapp (1991, 23-25). Current research is examining techniques which simulate the post-depositional degradation of material in an attempt to understand and overcome these problems (Chovanec *et al.* 2012), especially with reference to detecting alkaloids, such as opium constituents, which are notably difficult to detect.

Chemical analysis has been used most commonly and most successfully to investigate residues on cooking pots, and very few juglet or juglet sherds have been analysed to detect their contents. The scanty evidence available includes the organic residue analysis performed on three Middle Minoan (MM) vessels from the site of Chamalevri (c.2160-2000 B.C.) in an area designated the Bolanis workshop. Preliminary results indicated the presence of iris oil in three of these vessels (Tzedakis and Martlew 1999, 50-51). This would have been of significance since some LM stirrup jars have depictions of iris on them. However, subsequent tests to detect 3,4-dimethoxyacetophenone, a component highly specific to iris, confirmed its presence in only one vessel (Beck *et al.* 2008, 24). Nevertheless, markers with lower specificity were found in other pottery sherds from the same context and these included dehydroabietic acid, a constituent of pine resin, and methyl benzoate, a component of tree resins and of essential oils of other plants including iris, carnation, anise and cinnamon (Beck *et al.* 2008, 24-25). Other early organic residue analyses on LM vessels reviewed by Knapp (1991, 26) have indicated contents of pure olive oil or wine. One jug (probably larger than a juglet) had contained a vegetable oil suspension probably made from seeds of sesame, linseed or poppy. The last is of particular interest and will be discussed again below.

Organic residue analysis has been used to investigate the contents of RLWM spindle bottles (Knappett *et al.* 2005). The results suggest that they contained an unidentified plant oil. The authors suggested perfumed oil was a possible contender for the contents of these vessels. Somewhat surprisingly, the residues taken from vessels recovered from different areas of Cyprus and Anatolia had different chemical profiles, indicative of contact with beeswax or bitumen, which may have been applied to seal the container.

This regional variation in the treatment of the vessels is intriguing, with implications for directed marketing of these commodities, which will be discussed further in Chapter 8.

BR juglets have been associated with opium for decades, since Merrillees' proposal that they may have contained this narcotic (1962). This paper was based on an insightful observation that the shape, and in some cases the decoration, of the BR juglet bears a resemblance to a poppy seed head. This argument is pursued below and is quite convincing, as far as it is able to go on stylistic observation alone. However, scientific evidence to support this claim has not been forthcoming, half a century later. Merrillees did undertake some analyses on Bucchero ware juglets (Merrillees and Evans 1989, 149-154). Traces of opium alkaloids and indications of olive oil were detected on two sherds of Bucchero ware, but a sample of the contents of an intact and sealed juglet yielded only olive oil. The choice of Bucchero juglets was strange since the major interest was in BR juglets, but they were presumably selected because they too, resembled poppy seed heads. Since then Koschel *et al.* (1995, 161) were able to confirm the presence of opium alkaloids and oxidation products, including morphine, apomorphine and traces of codeine, in an unprovenanced Base Ring I juglet found in Egypt. The alkaloid levels were low, around 0.1%, of which 0.05% was morphine. Preliminary results of more recent experiments at the British Museum also indicate around 0.1% opium alkaloid content in the residue of a BR I juglet (Stacey 2010). These analyses, which have been made public in a very preliminary form via television, are as yet unpublished and further research is awaited to confirm the results. They should yield good data since the juglets had intact seals and contents were visible from X-rays. The investigations currently on-going at the University of Albany, N.Y. (Chovanec *et al.* 2012) have found morphine to be the least stable alkaloid of opium degradation products, and so it is unsurprising that it has not been detected previously in relevant amounts. They suggest that papaverine and thebaine should be targeted in future analyses. However, their as yet unpublished investigation of several BR juglets from Kourion, has indicated that these juglets did not contain opium but did contain another, as yet unidentified aromatic compound (Chovanec *Pers comm*).

5.1.2 Textual information

The ingredients and recipes of ancient perfumed oils and unguents are available to us from Roman period texts such as *De Materia Medica* by Dioscorides, *Natural History*

by Pliny the Elder and *De causis plantarum* by Theophrastus, reviewed with full references by Manniche (1999). Armed with the names and illustrations of these natural, mainly plant ingredients, it has been possible to trace the use of some of these back to the MBA and LBA. There are significant numbers of Bronze Age texts which refer to the production, use and trade of oils which have been flavoured or scented with perfumes, spices, herbs and other aromatics (Duhoux and Morpurgo Davies 2008; Knapp 1991, 32-46; Leonard 1981a, 94-100; Manniche 1999; Melena 1983; Shelmerdine 1985; Watson 2004; 2007). Some commonly occurring names are shown in Table 5-2, though it should be noted that some of the interpretations of the meanings are still debated.

Modern name	Language/text	Bronze Age name	Reference
moringa oil	Egyptian	<i>b3k, behen</i>	Papyrus Anastasi IV.15:1-5
elder oil	Akkadian	<i>zu'ati</i>	EA 25 IV 51, EA 22 III 29-35
myrtle oil	Akkadian Egyptian	<i>iarruttu oil</i> <i>htds</i>	EA 25 IV 51, EA 22 III 29-35 Papyrus Ebers 471
myrrh oil	Akkadian pre-Greek Ugaritic	<i>murru</i> <i>MU</i> <i>šmn mr</i>	EA 22 III 29, EA 25 IV 51 Linear B, PY Fh series, KTU 4.14 and 4.158
sesame oil	pre-Greek Hittite Ugaritic Akkadian Egyptian	<i>sa-sa-ma</i> <i>SÍ.KÍL,</i> <i>ššmn</i> <i>ellu/ullu</i> <i>ikw, nhh?</i>	Linear B, MY Ge 602, 605, 606 EA 25 IV 52, EA 22 III 29-35 KTU 4.14: CDA 70 (Serpico and White 2000, 397)
sweet oil	Hittite	<i>I.DUG.GA</i>	EA 31 27-38, EA 34, EA 35
perfumed oil	Ugaritic	<i>rqh</i>	KTU 4.158
unknown oil	Akkadian	<i>persantu oil</i>	EA 25 IV 51, EA 22 III 29-35
unknown oil	Egyptian	<i>'dft', 'inb', 'kdwr' etc</i>	Papyrus Anastasi IV.15:1-5
unknown oil	Akkadian	<i>kanatku oil</i>	EA 25 IV 51
rose-scented oil	pre-Greek	<i>wo-do-we</i>	Linear B, PY Fr series
sage-scented oil	pre-Greek	<i>pa-ko-we</i>	Linear B, PY Fr 1240, 1217, 1223
safflower	pre-Greek Egyptian	<i>ka-na-ko</i> <i>k3f3</i>	Linear B, MY Ge 602 Manniche 2006, 89
coriander	pre-Greek	<i>ko-ri-ja-do-no (AROM*)</i>	Linear B, KN Ga series set 1
terebinth	pre-Greek Ugaritic Egyptian	<i>ki-ta-no</i> <i>ktn</i> <i>sntr</i>	Linear B, KN Ga series 5 KTU 4.402:4 Knapp 1991, 35
cyperus (henna?)	pre-greek Ugaritic	<i>ku-pa-ro (AROM)</i> <i>kpr</i>	Linear B, PY Un 267 KTU 1.3. ii:2
styrax	Hittite Ugaritic	<i>SIM.BÚLUG, nenib</i> <i>dprn</i>	EA 22 III 29-35 KTU 4.148
fragrance/ aromatic plant oil	Ugaritic Akkadian	<i>šmn</i> <i>sammūtu</i>	KTU 1.16. 3:10; KTU 4.158: 3 CAD S, 120a

Table 5-1 Textual references to oils and their ingredients

Most of the references are in the form of standard abbreviations of catalogue numbers of the contemporary documents: EA refers to the Amarna letters (Moran 1992); KTU to the cuneiform texts from Ugarit (Dietrich *et al.* 1995); Linear B to documents from Pylos (PY), Knossos (KN) and Mycenae (MY) with their series numbers (Duhoux and Morpurgo Davies 2008); CAD refers to the volumes A-T of *The Assyrian dictionary of the Oriental Institute of the University of Chicago*; Papyrus Anastasi (Caminos 1954).

Base oils which seem to have been available in the Bronze Age included olive oil, sesame oil, castor oil and almond oil. Olive oil was not native to Egypt, although there was an attempt by Rameses III to plant an olive grove, so this oil and its perfumed derivatives were probably imported. Moringa oil (*behen* oil) did grow in Egypt, but was also imported from Syria and Cyprus (Manniche 1999, 30-31). These oils were known from Egyptian texts to have been used in the manufacture of perfume and cosmetics. Ingredients used in the manufacture of specialty oils have also been gleaned from the texts. These included floral fragrances such as rose, iris, lotus or spicy and herbal additives such as sage, coriander and cinnamon. Terebinth resin was used in ancient perfumes according to Theophrastus, so it is of interest to see that *ki-ta-no*, most probably indicating *Pistacia terebinthus*, was mentioned in Linear B texts (Melena 1983, 91). Around a ton of this substance was also found inside the very many Canaanite jars on the Uluburun shipwreck (Ward 1990, 55-60).

The texts can indicate whether oils might have been perfumes, medicaments or possibly comestibles. Evidence from the Linear B tablets of Pylos and Knossos is strongly indicative of palatial interest in the manufacture of perfume in the Aegean. On Pylos tablet Un 267, the *unguent boiler* is interpreted as a perfume maker and the ingredients destined for making an aromatic unguent. It is interesting that in this case, coriander and Cyperus seemed to have been used for perfume rather than medicines or food flavourings.

- .1 Thus Alxoitias gave
- .2 to Thyestes the unguent-boiler
- .3 aromatics for unguent
- .4 destined for boiling
- .5 coriander AROMATIC 576 l.
- .6 cyperus AROMATIC 576 l. 16 units
- .7 FRUITS 240 l. WINE 576 l. HONEY 58 l.
- .8 WOOL 6 kg MUST 58 l.

Linear B, PY Un 267 (Shelmerdine 1985, 19)

Some of the names or the ingredients of the oils in texts recording perfume production or disbursement are also mentioned in Egyptian medical papyri for their medicinal properties, in particular oil containing cumin, coriander and *Cyperus*. This introduces a

note of ambiguity over the use of some oils. Whilst some surviving Egyptian medical texts inform on their medical uses, these preparations were not widely circulated. In contrast, oils for anointing, rather than for imbibing or for therapy, were widely distributed, gaining international acclaim. Examples are mentioned in the *Papyrus Anastasi*, which referred to specialty oils for anointing the army and chariotry of Seti II.

“Apply yourself with extreme zeal, firmness and efficiency to have things ready before (the arrival of) Pharaoh (l.p.h.)...dft-oil of Alashiya, the finest kdwr-oil of Khatti, inb-oil of Alashiya, nkftr-oil of Snagar, knni-oil of Amor, gt-oil of Takhsy, and moringa-oil of Naharin; namely the many oils of the Port to anoint his army and chariotry.”

(Papyrus Anastasi IV, 15:1-5; Caminos 1954, 200)

Rameses II presented *H-rw* (Oil of Syria) to the god Amon. This same papyrus also mentions a social use of oil on festival days

“sweet oil upon their heads, on their new coiffures” (Papyrus Harris III, 3, 2).

A ceremonial use is suggested by several Amarna letters which refer to “sweet oil” to be poured on the head of the royal person (EA 31, 11-16; EA 34, 50-53, Moran 1984, 101,106). Linear B mentions oils as religious offerings for Potnia (PY Fr 1231, 1235), for Poseiden (Fr 343, 1219, 1224) and for general unnamed festivals (PY Fr 343, 1217, 1222, Shelmerdine 1985, 124). The texts by their nature were usually addressed to elite persons, as in the Amarna letters. Few texts are available which relate to non-elite populations; none of the texts from the workers’ village of Deir el-Medina mention perfumed oils.

There are a few references to fragrant oils being used in burials. One text (KTU 1.19 iii:41) has been interpreted (Watson 2004, 136) as:

“he buried him in a grave, with aromatics”

Supporting this interpretation is the reference in an Ugaritic docket (KTU 6.44:2), referring to *mrrt qbr*, i.e. *“burial myrrh”* or *“myrrh of the grave”*.

Excluding references to obviously large storage jars, there are some texts which mention containers for oils, usually perfumed oils (Table 5-2).

Container description	Language/text	Interpretation	Reference
scent containers	Akkadian	generic scent containers described by their oil contents	EA 22 III 29-35, EA 25 IV 51-54
<i>kirru</i> pot <i>krln</i>	Akkadian Ugaritic	perfume jar, small jar or measure	EA 22 III 36; EA 25 IV 55; CAD K, 408
<i>kukkubu</i> container <i>kkpt</i> <i>kiss</i>	Akkadian Ugaritic	flasks for sweet oil	EA 31 27-38; CAD K,499-500 KTU 1.82:17
<i>habannatu</i> jar	Akkadian		EA 34 50-53
<i>a-ra-re-we</i>	pre-Greek	stirrup jar	Linear B, KN K 778, K 700
<i>ppt</i> <i>piššatum</i>	Ugaritic Akkadian	oil or lotion casket, ointment container	KTU 4.247:22 CAD P, 433
<i>trq</i>	Ugaritic	perfumed oil bottle or stoppered bottle	KTU 4.123:20

Table 5-2 Textual references to perfume containers (For a list of abbreviations see Table 5-1)

The Amarna letters and other documents often qualify and describe their containers by the oil inside. Hence, in the inventory of gifts sent to Tušratta (Amarna letter EA 22 III 29-35), seven different perfumed oils in 'scent containers' are mentioned. Other vessels, such as flasks or kirru pots were also qualified by their use for carrying 'sweet oil'. In one case the *trq* has been interpreted as a perfumed oil bottle (Watson 2012, 94). It is unlikely that at the level of royal gift exchange that the containers were ceramic. Certainly, flasks and ointment receptacles were made of different types of stone, some decorated with gold and lapis lazuli (EA 25 II 43-51, III 16-25). An abundance of stone vessels full of 'sweet oil' are mentioned in Amarna letter, EA 14, and many of these oils are mentioned by name. However, Watson (2012), in his article on container names, covers pottery vessels as well as other material, and it is noted that in some cases the small size is indicated.

Two important points emerge from examining the textual references to container names. Firstly, the vessel is usually described by its contents, which could imply the perfume or other contents were recognised by their containers. Secondly, many of the texts suggest a small capacity for these containers, sometimes as part of the textual descriptions. However, even as Royal gifts, it is apparent from the small size and low numbers specified, that perfumed oil was dispensed in parsimonious amounts, especially when compared to extravagant quantities or value of other gifts listed.

5.1.3 Contextual evidence

Direct archaeological evidence for the contents of juglets is minimal. Olive oil production is attested at numerous sites all over Cyprus during the LBA (Hadjisavvas 1992), but production of specialty oils is less easy to document from archaeological remains. On Cyprus, two early sites dating from the end of the EC to the start of MC period, Alambra *Mouttes* and Pyrgos *Mavrorachi*, may have been production centres for specialty oils. Both have contexts with equipment which might have been used in the manufacture of perfumed oil. At Alambra in Building IV Room 8, the equipment included a hearth, with cooking pots and the remnant of a large, spouted bowl and a coarse-ware trap funnel which could have been used in the preparation process. There were rubbers and pounders, small bowls and an axe, but most convincingly there were lots of juglets in RP and WP wares, 14 intact and 15 fragmentary (Coleman 1996, 86-91; pl. 40-41). Some similar finds were also found at Pyrgos *Mavrorachi* including bowls, jugs, side-spouted vases and another ceramic funnel but apparently without juglets (Figure 5-1).

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Figure 5-1 *Vases purported to be from a perfume workshop at Pyrgos Mavrorachi (Belgiorno et al. 2010, 53, fig 31)*

The ceramic funnel was quite a rare implement in the BA and Belgiorno has pointed out that the high capacity of the funnels and the large size of the spout mitigated against them being used simply for decanting liquid into juglets (Belgiorno *et al.* 2010, 79-83). Instead, interpretations have been based on general perfumery methods used in Classical, Roman and Byzantine times. The contextual evidence is supported by experimental archaeology with similar vessels which purports to show that distillation

techniques were in use many hundreds of years before they are thought to have existed. This would be exciting if it were so, but unfortunately, none of this material is yet published in detail.

Evidence which falls within the later time-frame of this study is also limited. Indirect evidence of the manufacture of juglet commodities comes from the vast numbers of WP juglets, jugs and amphorae found in Trench 9 at Kalopsidha, (Åström 1966) indicative of a packaging centre, where containers were filled with a liquid commodity. This will be discussed more fully in Chapter 7. Unfortunately, the archaeological evidence did not extend to a manufacturing process, so no information is available on contents. The Uluburun shipwreck provides some indirect evidence of perfume manufacture in that it was transporting large quantities of terebinth residue in Canaanite jars (Ward 1990, 55-60). This may have been an ingredient for perfumed oil, although resinated wine is another possibility.

Contextual evidence of the deposition of juglets allows certain inferences to be made on the type of commodities consumed. Perfumed oil may have been used in funerary rites and cultic rituals as well as in the home, whereas it seems less likely that food flavourings or medicinal products were consumed during funerary rites. Psychoactive agents such as opium may have been used in cult rituals or during ceremonial gatherings and possibly during funerary rites. However, such information can only be circumstantial in supporting other more direct evidence. Contextual usage will be discussed as part of the consumption patterns analysed and discussed in Chapter 6.

5.1.4 Pictorial evidence

As contemporary witness statements, pictorial representations provide useful evidence of the uses of juglets and their contents. Good sources are Egyptian tomb decorations, glyptic imagery and vase paintings. However, some notes of caution on interpretation are necessary. Firstly, though Egyptian imagery is the most prevalent, ceramic juglets were not a traditional form and were much less common in this region as will be discussed in Chapters 6 and 7. Secondly, it is not possible to distinguish between ceramic and stone juglets in this imagery, though the painting of a potter's workshop shown in Figure 5-2 does show these forms were made by Egyptian potters.

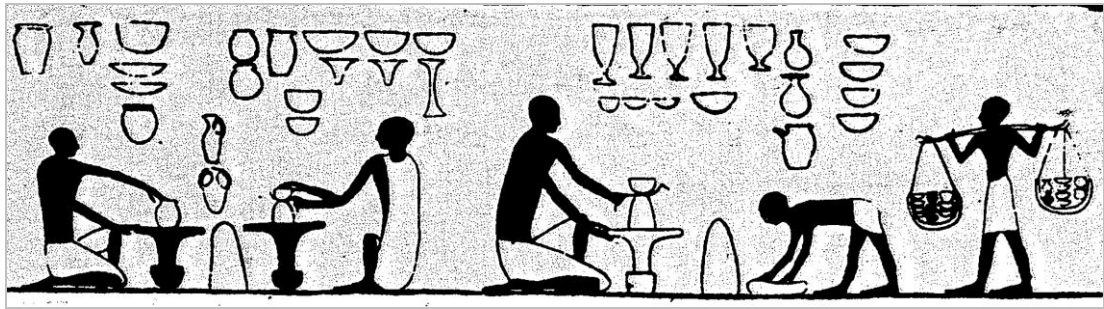


Figure 5-2 *Potter's workshop showing production of some small jarlets from the Tomb of Amenehet (from Newberry 1893, pl II)*

Images showing the production of perfume is also be found within the Egyptian repertoire, as in a wall painting from an 18th dynasty Theban tomb 175 (Figure 5-3), but unfortunately small containers do not appear in the same imagery.

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Figure 5-3 *Perfume manufacture from a wall painting in Theban tomb 175 (Manniche 2006, 56-57)*

Pictures of juglet commodities being consumed are, in contrast, quite frequent. The following images depict liquids being applied externally to the skin, hair or personal objects. Several Egyptian tomb paintings leave little doubt that at least some of the juglets contained perfumed oil for pouring onto the skin (e.g. Figure 5-4) and that they were used on special occasions. Note the association with lotus flowers.

There was also an association between juglets and the cones worn on the head at feasts. It has been suggested that these were perfumed cones made of animal fat which slowly melted, releasing the scent. A different interpretation, one rather pleasanter to modern sensibilities, was that the cones were made of an absorbent material onto which perfume oil was poured (Erman 1894b, 231) as in Figure 5-6.

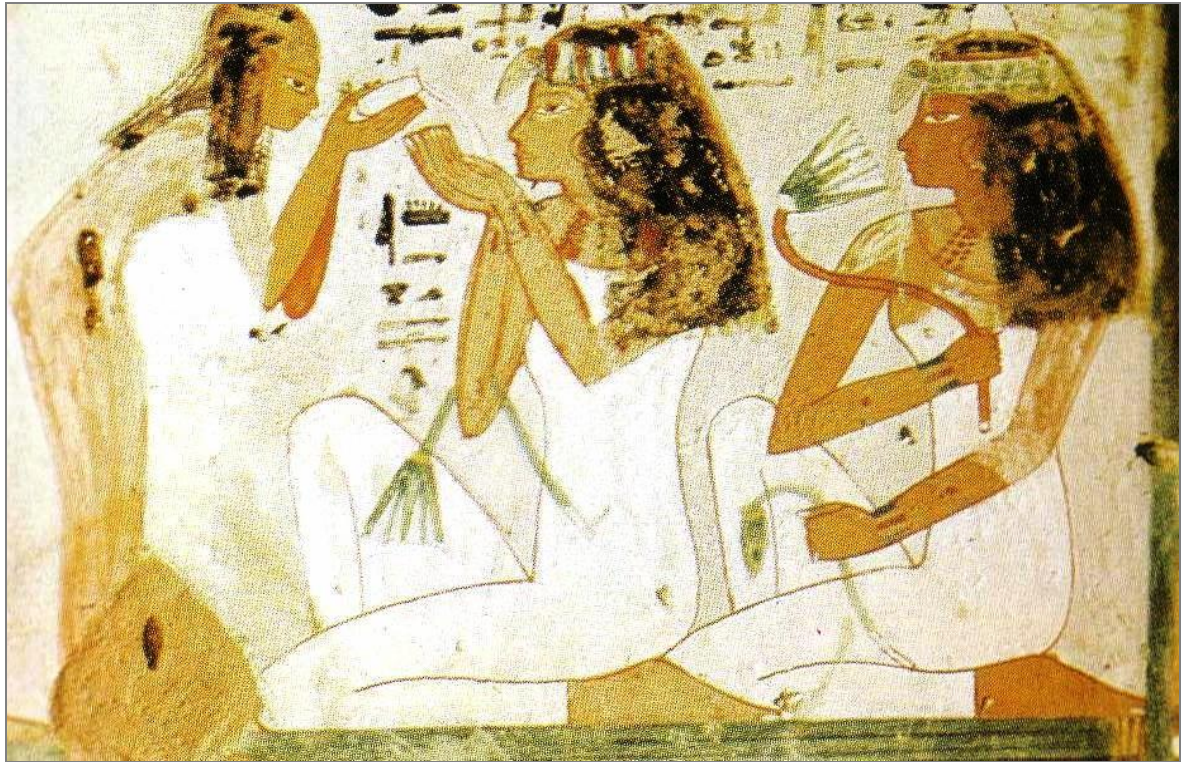


Figure 5-4 *Painting from the Tomb of Dhout (from Davies and Gardiner 1948)*

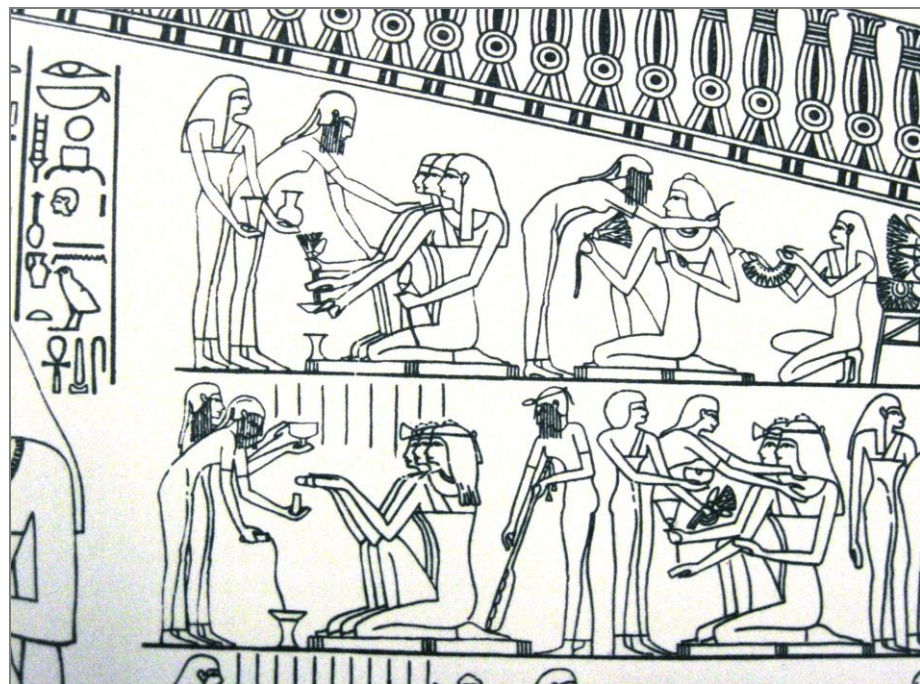


Figure 5-5 *Male banquet guests being anointed with oil: Scene from the tomb of Rekmire (from Davies 1935).*

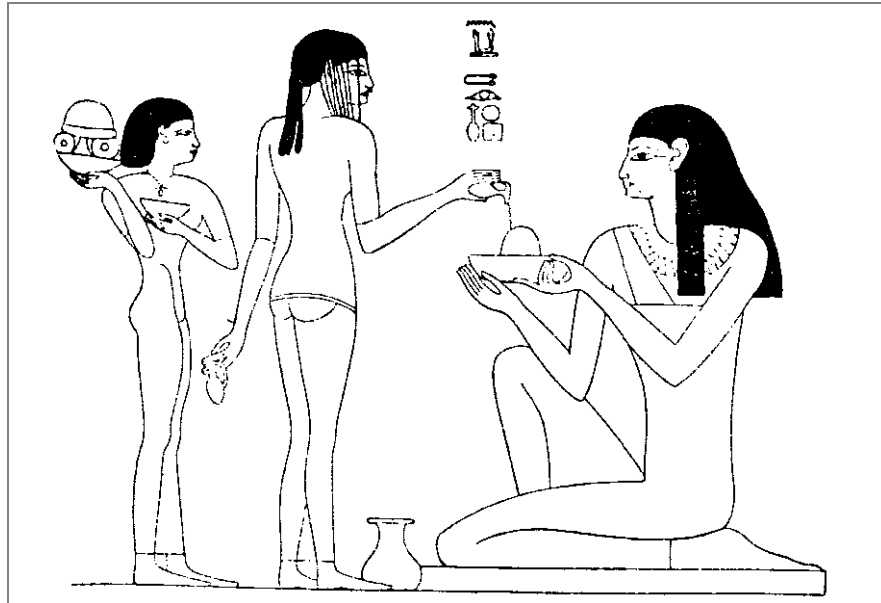


Figure 5-6 This scene possibly shows perfume cones being loaded with oil from the banquet scene in the Tomb of Rekmire (Adapted from Davies 1935)

The next two figures (Figure 5-7 and Figure 5-8) again feature cones, but these scenes seem to be showing them perfumed indirectly, by hand, after decanting from the juglets or jarlets.

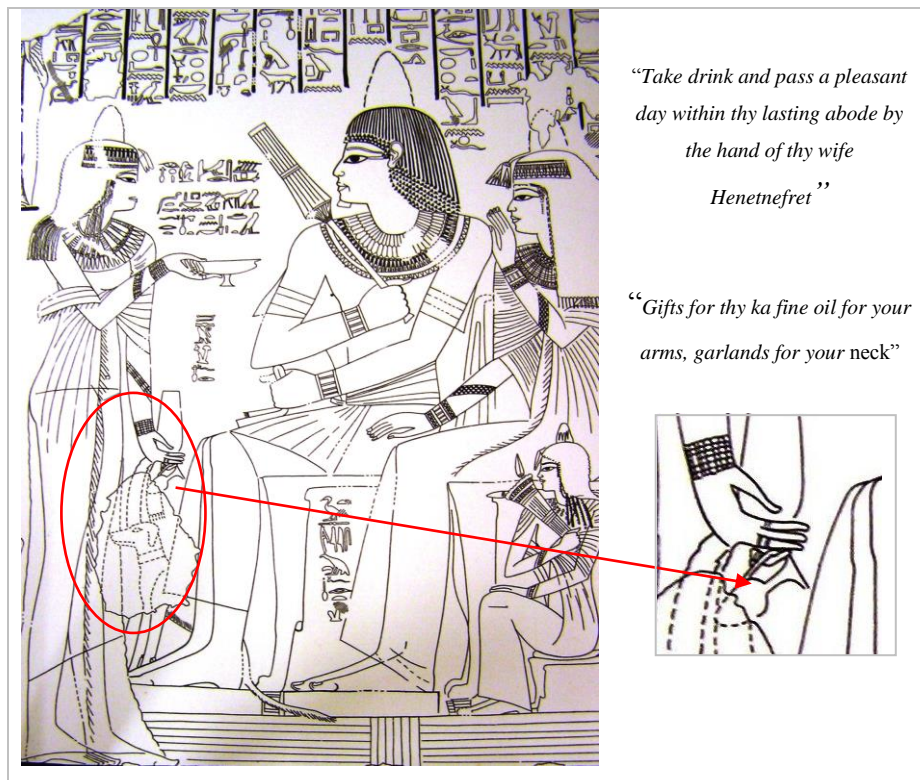


Figure 5-7 Tomb of Nebamun (Davies 1925, pl. VIIa)



Figure 5-8 Scene from the tomb of Rekmire, (from Davies 1935)

Other pictorial representations have shown that oil was also used in anointing the dead Figure 5-9. One such painting, which is accompanied by explanatory text to confirm such a use of perfumed oil, also shows the juglet being offered.



“Take drink and pass a pleasant day within thy lasting abode by the hand of thy wife Henetnefret”

“Gifts for thy ka fine oil for your arms, garlands for your neck”

Figure 5-9 Scene from the tomb of Nebamun (Davies 1925, pl. V and p.53)

In other pictorial representations, including those on cylinder seals (Figures 5-10 to 5-12), commodities were clearly for imbibing, the contents of the juglets being shown added first to a larger vessel. In several of these, the recipient is drinking the final preparation through a straw, a Near Eastern custom often associated with alcohol consumption in a cultic ceremony, and apparently introduced to Egypt from Syria. In these scenes various cult objects form part of the glyptic image. In Figure 5-10, a Syrian style juglet is positioned between two of the figures.

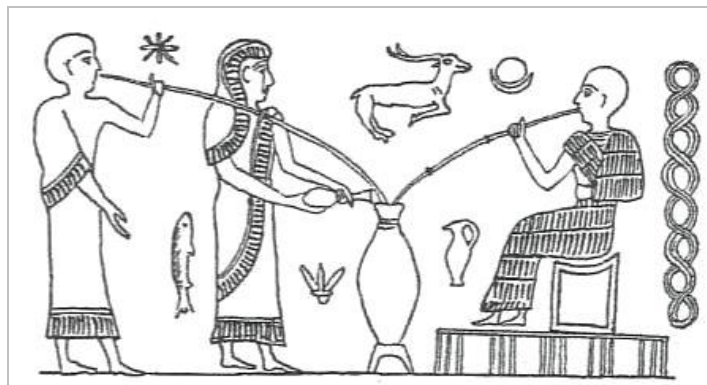


Figure 5-10 Drawing of an impression from a Syrian cylinder seal Berlin VA 522 (from Erman 1894b, 129)

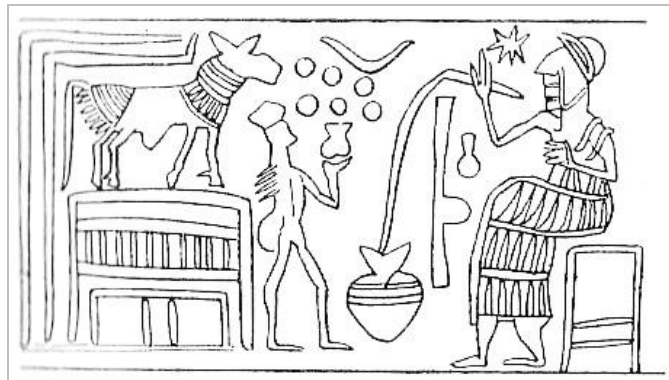


Figure 5-11 Drawing of an impression from a Syro-Hittite cylinder seal (from Contenau 1922, fig. 193)

Given the associations with cult and alcohol, I would suggest that an intoxicant or psychoactive agent is being added, rather than say, a flavouring. An Egyptian stela from the reign of Akhenaten shows a Syrian soldier sipping his drink through a straw. The detail shows a servant boy helping him and in his hand is a juglet. Has something just been added to the drink Figure 5-13?

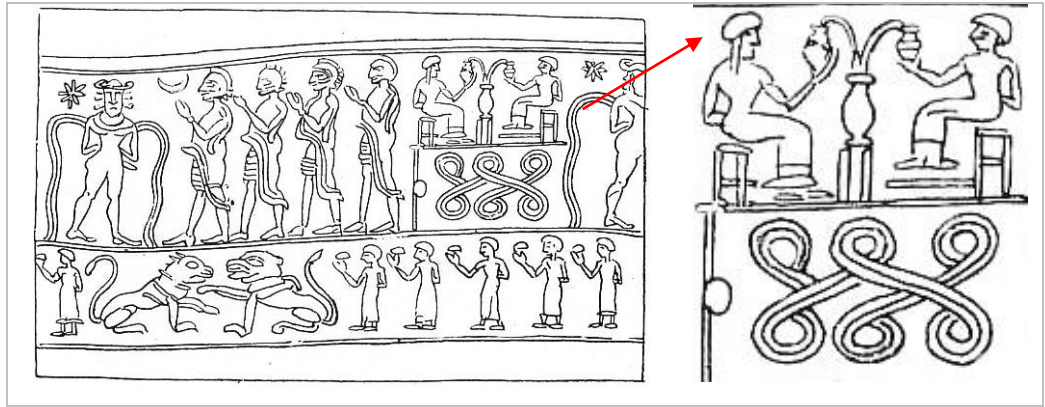


Figure 5-12 Drawing of an impression from a Syro-Hittite cylinder seal (after Contenau 1922, figure 187)

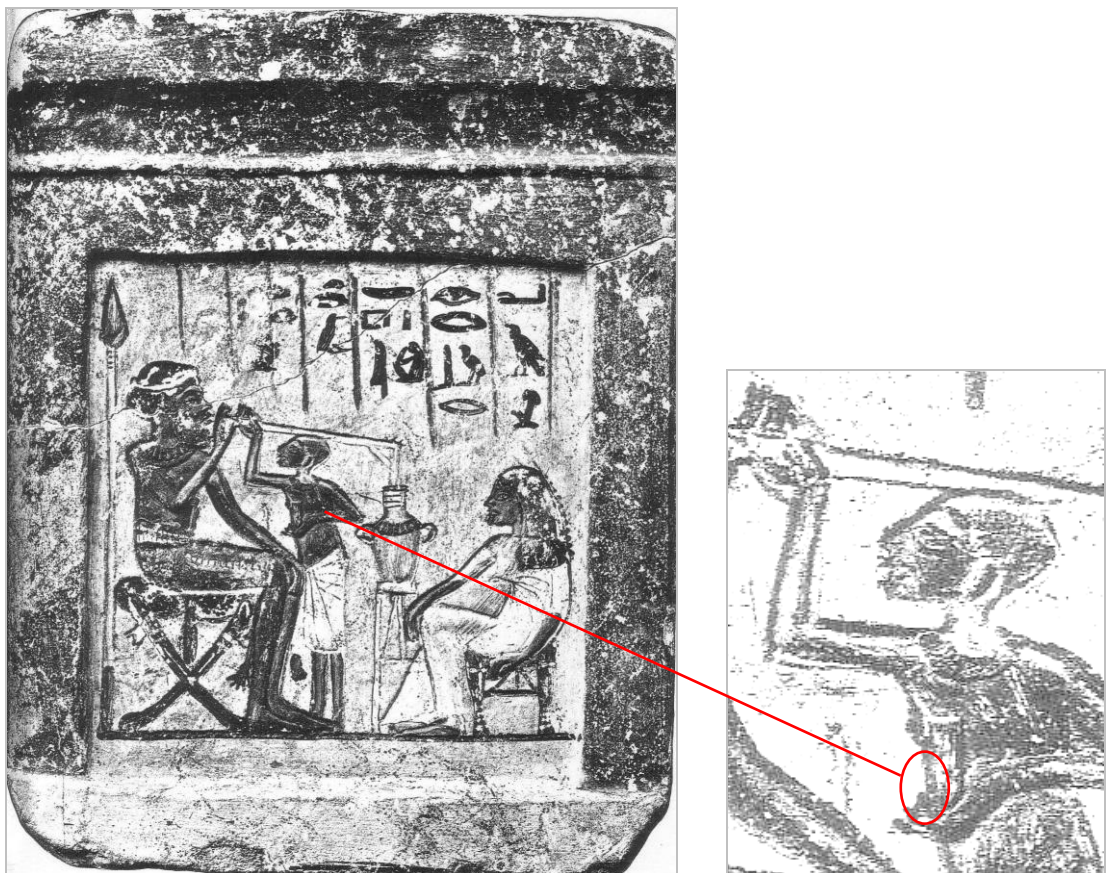


Figure 5-13 Stela from Tell el-Amarna British Museum No 14122 (von Spiegelberg 1898, pl. XVIII)

Later Iron Age imagery from Cyprus continued to depict similar drinking scene themes with juglets contents being added to alcoholic beverages. The image on the Kaloriziki vase has no straws and is more reminiscent of Mycenaean-style drinking sets. In this depiction, there is ambiguity of size making vessel identification difficult, but the relative neck size make it more likely that the smaller vessel was a juglet for adding something to the larger vessel, rather than a jug for extracting a liquid.

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Figure 5-14 *Scene from the Iron Age Kaloriziki vase (Karageorghis and Des Gagniers 1974, 97)*

The image on the 'Hubbard amphora' leaves no doubt that juglet commodities could be added to drinks. The angle at which the juglet is held over the large vessel and the use of a drinking tube clearly show this (Figure 5-15).



Figure 5-15 *Detail from the Hubbard amphora (from Dikaios 1936, pl. 8)*

There are many cultic elements to the scene somewhat reminiscent of LBA Aegean cult scenes, including the throne, the ceremonial dress and a bull's head, though not perhaps the lotus-sniffing sphinx. The reverse of the vase also shows a probable cult ceremony with music, dancing and more lotuses (Figure 5-16).

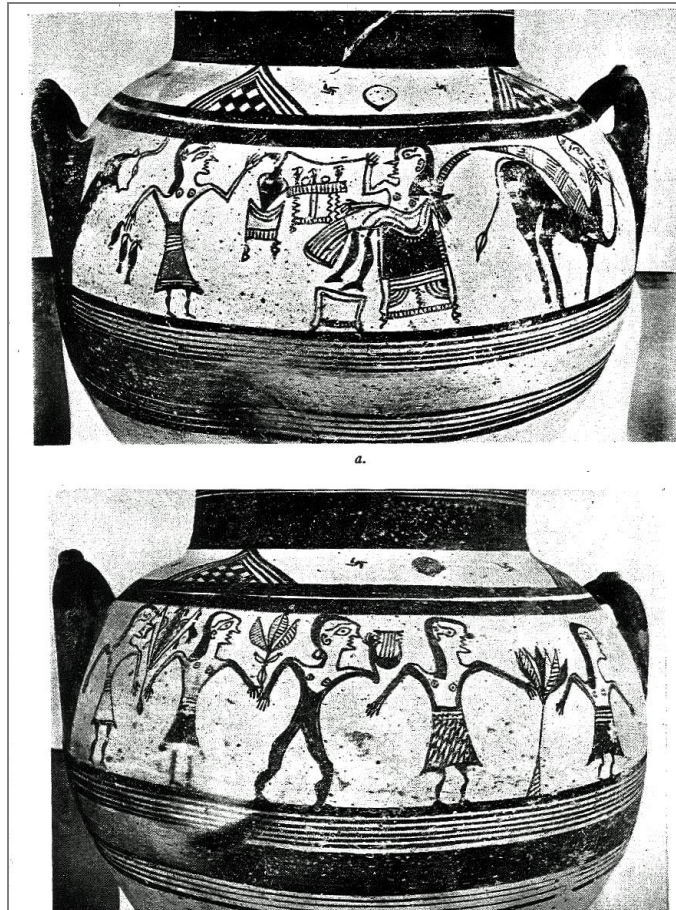


Figure 5-16 *Ceremonial scenes on the Hubbard amphora (Dikaios 1936, pl. 8)*

The cultic or ceremonial feel seems to have prevailed in some other Archaic illustrations, where bearers of juglets were shown sniffing flowers (Figure 5-17 and Figure 5-18). Here the association could be either with perfume or psychoactive substances. The Egyptian lotus or *Lotus lotophagorum* has cathartic properties and was supposed to offer forgetfulness as in Homer's lotus eaters. This type of lotus has tendril-producing foliage, which could possibly have been represented in Figure 5-17, rather than the perfumed lotus, *Nymphae caerulea*, although even this type of lotus was known to have some psychoactive properties (Manniche 2006, 134). Some Etruscan art certainly made this misinterpretation of these Egyptian lotus flowers (Jannot 2009), so perhaps the Cypriot painters did too, although with this cursory style of painting, it could be said that the plant intended could have been poppy, cornflower or even mandrake, all of which have sedative, analgesic or soporific effects. Interestingly, mandrake was added to wine in Bacchanalian orgies to increase its euphoric effect. Is it too fanciful to interpret the figures in some of these Archaic vase paintings as intoxicated?



Figure 5-17 *Scenes from the Cypro-Archaic Akanthou vase (Karageorghis and Des Gagniers 1974, 73)*

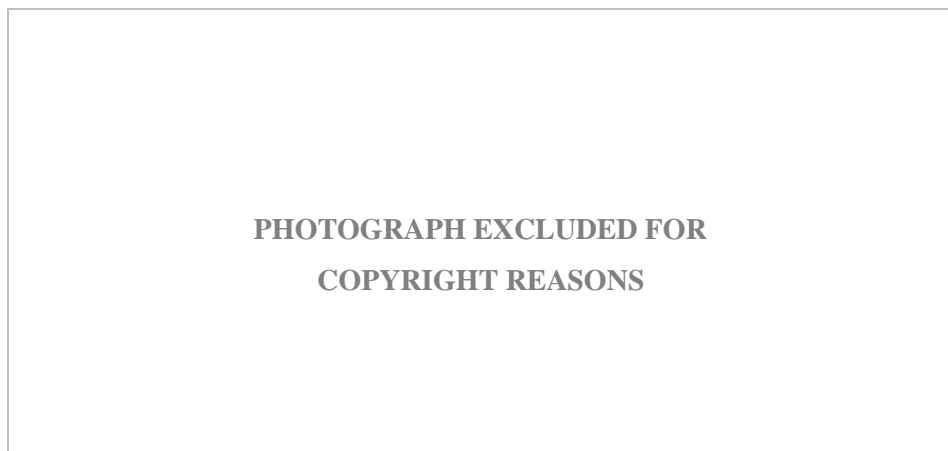


Figure 5-18 *Scene from a Cypriot Bichrome Vase (Karageorghis and Des Gagniers 1974, 77)*

Since the last few examples featured Iron Age imagery, caution must be exercised in projecting backwards, because although juglet commodity consumption did continue for many centuries, the contents may have changed over time. That said, some of the imagery does show a degree of continuity with past periods, and in the case of the Hubbard amphora, seems to conjure an archaic memory.

5.2 Oils for anointing or intoxicants for imbibing?

Assessing the available evidence for the nature of the commodity in the juglets, I think the balance is in favour of perfumed oil. Almost all the textual and many pictorial references apply to perfumed oil, although a few have enough ambiguity to suggest medicinal or spice/herbal use. Contextual find of juglets in burials would be compatible with consumption of perfumed oil, probably more than of opium. There is plentiful evidence for anointing the body with perfumed oil, most often for ceremonial occasions or as offerings to the gods. However, there are very few references to its use for anointing the dead that would tie in with the archaeological evidence of deposition of juglets in burials. Such direct chemical evidence as is available, particularly the later research, points to specialty, aromatic oils in juglets, whilst the evidence for opium looks weak.

On the other side of the argument, a psychoactive substance is supported by some of the illustrations showing juglet contents being imbibed after being added to what is presumably beer or wine. Some drinking scenes were highly suggestive of mood-altered states which would fit ceremonial consumption during rituals involving music, dancing and euphoria. However, drinking sets were very much part of the end of the LBA and EIA so much of the evidence relies on extrapolation back to earlier times. Furthermore, the importation and use of Mycenaean kraters in Cyprus was at its height as consumption of juglet commodities was declining. If they were added to drinks, then an oil carrier would seem unlikely, since this would be an unpleasant addition to a drink. A drinks additive would be better in a water soluble carrier.

Psychoactive substances and perfume may not have been compartmentalised in the Bronze Age world and possibly absolute distinctions between narcotics and perfumes did not exist, just as today lines are blurred in the use of essential oils in aromatherapy for their supposed relaxing or stimulant properties. Lotus seems to have been associated with stimulatory effects over and above its olfactory properties, and mandrake too, may have been perceived by ancient Egyptians in a number of ways. There even seems to have been a symbolic association between lotus and mandrake as in illustrations from the tomb of Tutankhamun and from the Tomb of Nebamun (Figure 5-19). However, in the illustration in which the mandrake and lotus appeared in the hand of Tutankhamun,

the other hand was pouring a liquid from a small vessel to anoint the hand of his queen. In Nebamun banqueting scenes women are seen sniffing a fruit which resembles mandrake (though it could possibly have been the fruit perseae). Of course, some narcotics are recognised by their sweet odour. One interesting point is that during the British Museum's analysis for *opium*, at the moment of drilling the juglet to access the contents, a *perfume* was released (unfortunately not capturable for publication).

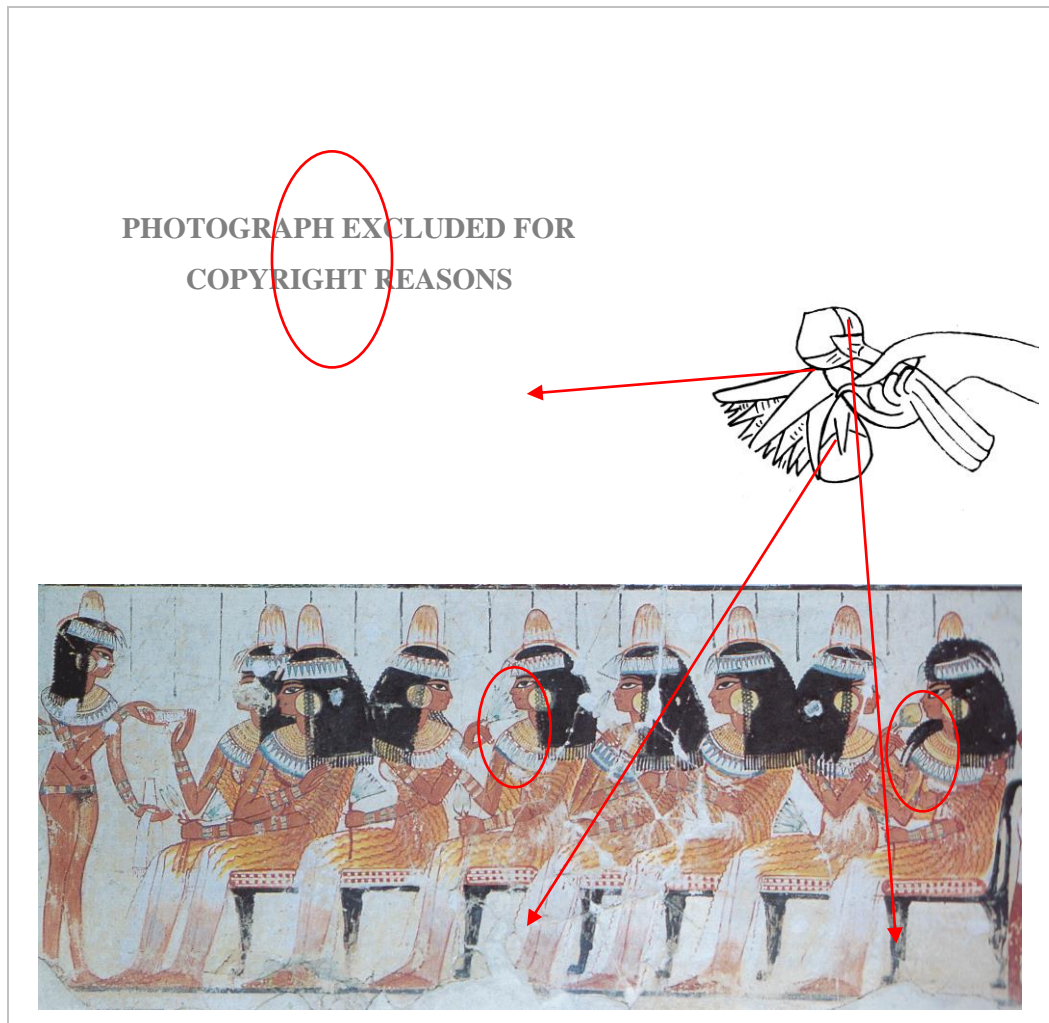


Figure 5-19 Illustrations from two different scenes: from the gilded shrine in the Tomb of Tutankhamun (Manniche 1999, frontispiece) and from the tomb of Nebamun (Inv. no EA 37986 ©Trustess of the British Museum)

Until more chemical analyses becomes available or further translations from texts of the unknown oils, it seems reasonable to suppose that juglets contained more than one type of commodity i.e., different specialties including perfumed oil, aromatic oils and narcotic potions for a range of social and religious occasions. The important proviso is

that they were precious enough to value, use in small amounts and transport in decorative vessels over considerable distances.

5.3 Juglet form followed function

The juglet form was devised for its function as a carrier of specialty oils (and perhaps other liquids). As introduced in Chapter 1, a juglet was a container for a small amount of a precious commodity so capacity was limited. Height gives a rough indicator of that capacity and most juglets were within the range of 10-15 cm, but body shape was also important. Globular shapes such as stirrup jars had a greater capacity, height for height, than thin cylindrical or pointed vessels. RLWM spindle bottles were much taller and had a much larger capacity than other juglets, but they were included in this study because they had narrow necks clearly intended to restrict the flow of the contents. This particular feature was probably the most important, designed to allow the contents to be dispensed carefully, drop by drop, limiting the quantities used and any accidental spillage. The mouth or the rim of the juglets aided in the pouring of the contents. These varied with the style, including everted, rolled and pinched. Dipper juglets had a less restricted opening than the standard juglets and there has been some debate as to whether they had a different function. They were also taller, but since they had a pointed base and thick walls, the capacity was unlikely to have been much greater. The name they have been given suggests they have been regarded as decanters used for dispensing liquid from larger storage jars. This is fully discussed in Chapter 6.

Restricted pouring, however, has the corollary that filling the juglets with liquid would have been difficult. Funnels did exist but they were rare. One example was claimed to have been found at el-Dakka (Figure 5-20).



Figure 5-20 *Small ceramic funnel amongst other ceramics at el-Dakka, cemetery 96, tomb 107 (Firth 1915, 159)*

It is difficult to tell from the photograph whether this was actually a funnel, since it also looks like the top of a container. The two others discussed above were rather too large for filling juglets. LHIII B ceramic funnels came to light at Tell Abu Hawam, which is interesting in view of the high number of Mycenaean stirrup jars found there (Balensi 1980, 44, pls 39.19, 42.15). Any connection with perfumed oil manufacture seems unlikely, however, since most of the stirrup jars were genuine imports rather than imitations, unless the jars were only filled locally. However, Belgiorno has suggested that side-spouted vessels may have been used in this way (Figure 5-21).



Figure 5-21 *Juglet filling using a side-spouted vessels (Belgiorno et al. 2010, 78, Figure 53)*

At the beginning of the LC, juglets in different wares began to develop funnel shaped or trefoil mouths which must have made filling much simpler. At the same time, rounded bases disappeared and either became flat or acquired base forms such as rings, discs or buttons enabling them to stand alone. Most juglets had handles and these would have helped as a counterbalance in the act of pouring.

Though the narrow neck was supposedly easily stoppered for transport or storage, there is very little extant evidence of stoppers. For this reason, it is assumed that stoppers would usually have been of perishable material. One method was with a clay stopper and a few have been found in Egyptian vessels. At Mycenae large stirrup jars discovered at the 'House of the Oil Merchant' had been sealed with a mushroom shaped lump of clay secured with cord (Wace 1950, 7). Three vertical flasks (FS 189, 191) found in an LBIIB context at Pella had conical chalk stoppers still intact (Hankey 1967, 128). Another way was with a cloth plug covered with a mud pellet, as reported by Merrillees (1974, 38, Figures 22 & 26) on a BR juglet and pilgrim flask (Figure 5-22). Several stoppers have also been found, not *in situ* but in association with juglets, at a LBA sanctuary at Tell Deir 'Alla (Franken 1992, 67, 74). This is itself of interest since discard of the stopper implies consumption of the commodity in the vicinity of the juglets.

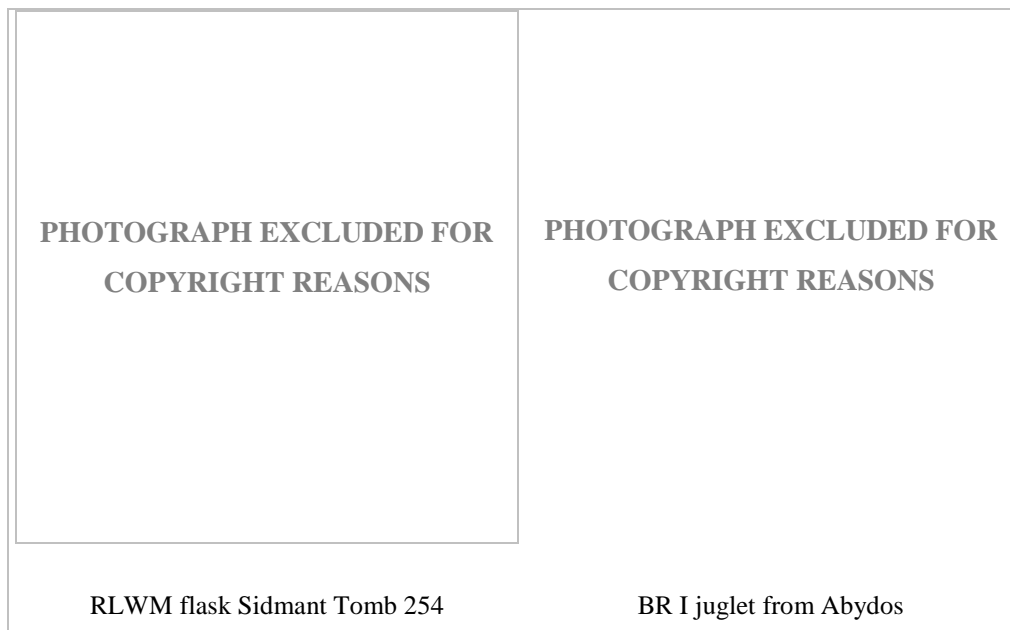


Figure 5-22 *Two juglets sealed with cloth and clay plugs*

The intact seals on two unprovenanced Base Ring juglets from Egypt have been investigated by the British Museum. The plugs, which can be seen in the radiographs (Figure 5-23), were found to be made from organic substances, one based on animal fat and the other of plant origin (Stacey 2010).



Figure 5-23 Radiographs showing seals in BR juglets (Registration nos BM 1999,0802.1 and 1976,1901.1; courtesy of the British Museum)

In contemporary records a distinction was made between narrow-necked vessels, best suited to thin pourable liquids, and other types of small closed vessels with wider openings, designed for more viscous contents such as unguents. The forms with narrow necks reached their most efficient morphology in the small stirrup jar, where the false spout and stirrup handles provided good control for handling during pouring. The wide-necked vessels required an altogether different mode of dispensing, the thicker material being extracted using the fingers or a hand-held implement (Leonard 1981, 92). As interpreted by Leonard (1981a, 96), using translations of Ventris and Chadwick (1973, 477, 573, 590), these different types of vessels correspond well with the different types of products made by the 'perfume makers' (*a-re-pa-zo-o*) recorded in Linear B on the Pylos tablets, i.e. the perfumes 'for outpouring' (*po-ro-ko-wa*) or 'for smearing on' (*we-a-re-pe*).

The Egyptians made a similar distinction. In Egyptian texts, the determinative for many liquids, including beer, and for words related to fluids and pouring, was a narrow-

necked jar, while the determinative for ointment or unguent or smearing on was a wider-necked vessel (Figure 5-24).



 beer-jug	Ideo. or det. in $\text{𓏏} \text{𓏏}$ var. 𓏏 <i>hnkt</i> 'beer'. Det. pot, measure, exx. $\text{𓏏} \text{𓏏}^1$ <i>krht</i> 'vessel'; 𓏏 <i>ds</i> (O.K. <i>ds</i>) 'des-measure' (§ 266, I, end); offerings generally, in $\text{𓏏} \text{𓏏}^2$ <i>inw</i> 'tribute'; notions connected with fluids, ex. $\text{𓏏} \text{𓏏}$ <i>thi</i> 'be drunken'. As det. in the group $\text{𓏏} \text{𓏏}$ 'food and drink', see on 𓏏 X 2.
 sealed oil-jar	Det. oil, unguent, exx. $\text{𓏏} \text{𓏏}$ var. 𓏏^1 <i>mrht</i> 'unguent'; $\text{𓏏} \text{𓏏}$ <i>mdt</i> 'ointment'.

Figure 5-24 Extract from sign lists (Erman 1894a, 527, 529)

This does not, however, appear to have been a sacrosanct rule and the determinatives were sometimes interchanged (Erman 1894a, 520-30; Hearst and Reisner 1905, 16-45; Nunn 1996, 218-26). The differences were also clear in the Amarna letters where distinctions were made between ointment receptacles (EA 25 II 42-51) and oil containers (as discussed above). These distinctions are important for discussions on the later introduction of the juglet forms and their liquid contents in the Aegean compared with Cyprus and the Levant (see Chapter 9).

5.4 Small objects of desire. Juglet style and meaning

In her book on Cypriot art and society, Joanna Smith has discussed how the scale of art objects can affect perception and meaning conveyed to the viewer (Smith 2009, 19-21). She has noted that form broadcast its social information in ways that decoration did not, namely at a distance and at a greater level of generality. The grammar of shape has a robustness and, applied to juglets, the meaning of these small containers was first conveyed by their form; they were expected to contain certain commodities and quite possibly their smallness was associated with luxury contents for applying to the skin or for drinking, for offering to deities or for anointing the dead. The scale was small but proportion and detail were apparent and important.

Shape not only identified the different types of juglets, it dictated fashions and preferences. Minor morphological changes dictated the gradual movement from one type to another: the disappearance of button bases, the replacement of bipartite handles with round handles etc. Major innovations occurring at chronological boundaries were mostly based on form rather than ware or decorative schemes. The funnel-mouthed, flat-based, strap-handled juglets of BS V ware were produced and experimented with in a

range of wares before BR juglets claimed the shape on a more permanent basis (see Chapter 7). Form was frequently mimicked in different materials. These juglets were not true imitations and they were clearly never intended to deceive. They seemed to be a tribute to the desirability of the commodity as they were made in more expensive material, such as alabaster or faience (Figure 5-25).



Figure 5-25 Juglets mimicked in gypsum (from Klavdhia tomb A4; 1899,1229.93 photo © Trustees of the British Museum) and faience (UC 16630 photo from Petrie Museum of Egyptian Archaeology)

The imitative process seems to have been layered by several degrees in the following case, when gypsum was the medium chosen for copying the shape of dipper juglets, and then those gypsum juglets were mimicked in White Shaved ware (Figure 5-26 as has been suggested by Bevan, who pointed out that the act of shaving the surface of the juglet when leather hard created a carved finish (Bevan 2007, 256, n. 15).

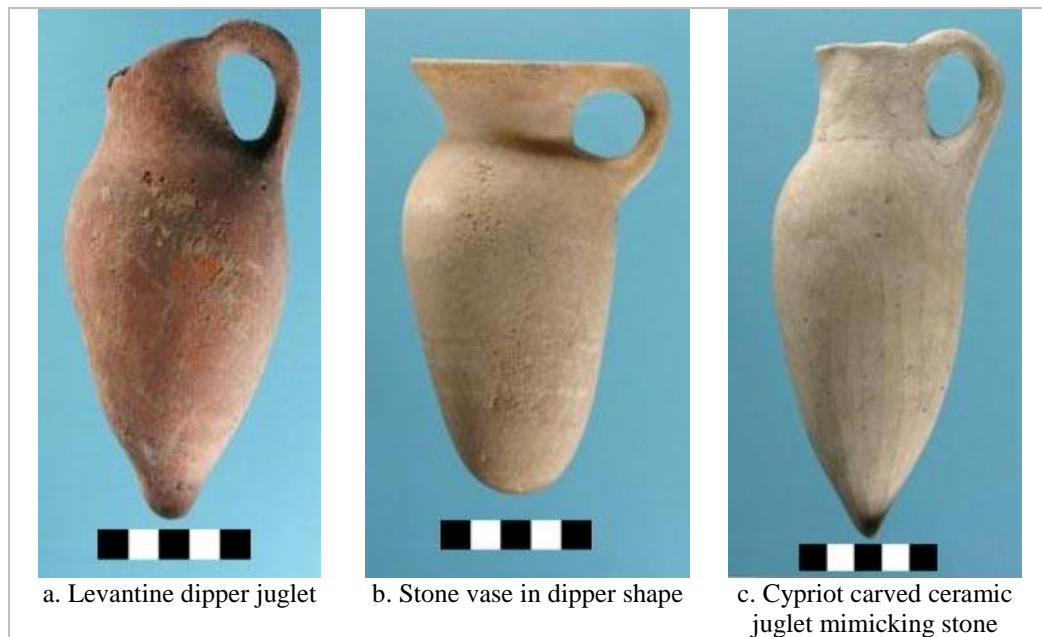
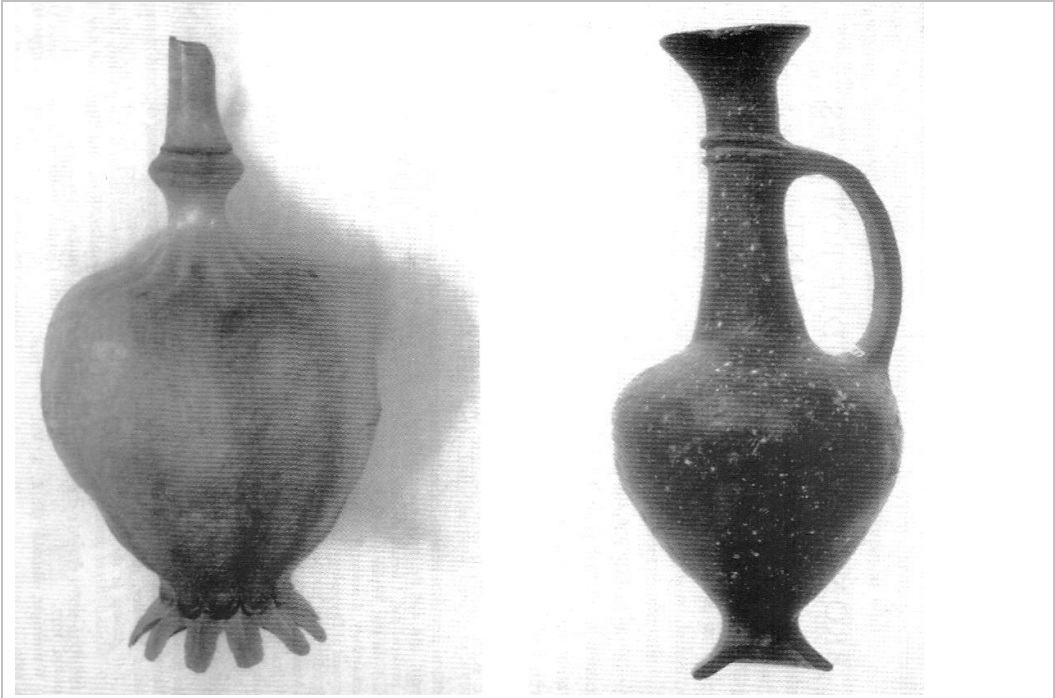


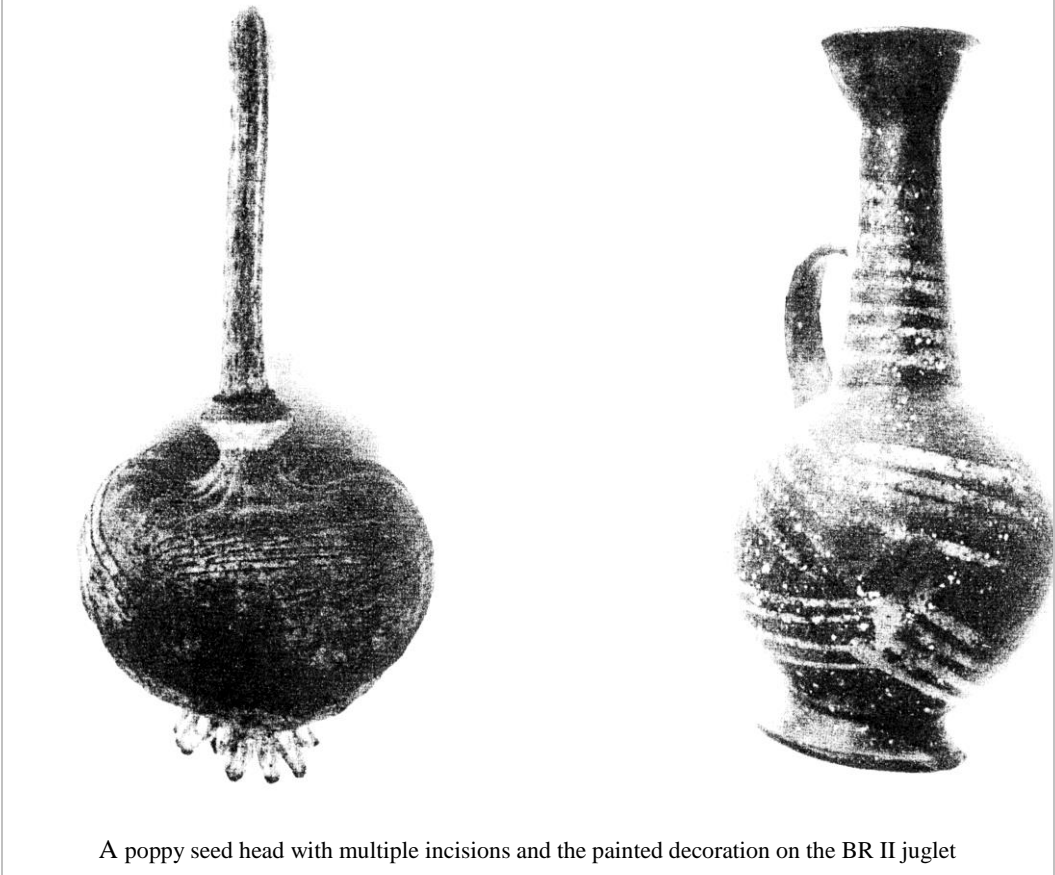
Figure 5-26 *Juglet shapes mimicked in stone and re-modeled in ceramic*

- a. Tell el-'Ajjul, tomb 1514, UCL Inv. no. EXIII.59/3
 - b. Tell el-'Ajjul, tomb 2007, UCL Inv. no. EXIII.28/1
 - c. Tell el-'Ajjul, tomb 1097, UCL Inv no. EXIII.40/1
- (Photographs courtesy of UCL Institute of Archaeology)

If size and shape of juglet forms conveyed meaning to consumers of these commodities, the overlaying decoration will have facilitated the recognition of the juglet and by inference the specific commodity it contained. As discussed above BR juglets were thought to have contained opium because of their resemblance to poppy seed heads (Figure 5-27).



A poppy seed head and the shape and features on a BR I juglet



A poppy seed head with multiple incisions and the painted decoration on the BR II juglet

Figure 5-27 *The resemblance of BR juglets to opium poppy seed heads (Merrillees 1962, Plates XLII-XLIII)*

The body shape, the base and the decorative detail on the neck of the juglets can be traced to similar features on the poppy capsules. The most striking resemblance, as pointed out by Merrilles (1962, 290), was the the painted decoration on BR II juglets and the scarifications used to collect opium latex. The argument is compelling, except there are a few problems with this explanation. The BR I juglets, i.e the earlier commodity, did not feature the decorative cuts. The plastic decoration was often a snake. Secondly, the collection cuts for opium are usually vertical rather than horizontal, making best use of gravity for harvesting the oozing latex (Figure 5-28).



Figure 5-28 *Opium collection using vertical incisions (www.images.google.com)*

The resemblance of the BR juglet to the poppy seed capsule could equally well have advertised poppy seed oil as its contents, since this was used as an emollient, and may have been a prized commodity.

Since fig oil has been used as perfume in modern as well as ancient times, I wonder whether some TEY juglets might have some resemblance to figs,. The shapes of ovoid and piriform juglets could resemble figs shown either right way up or upside-down, and the decoration could represent the cut fig showing the seeds. An illustration of figs in a bowl from an 19-20th dynasty ostrakon highlights this resemblance. Figure 5-29 shows images of whole and cut figs (from www.google.com), compared with drawings of TEY juglets (from Kaplan 1980, figs 20, 46) and Egyptian drawings (1843,0507.120; © The Trustees of the British Museum).

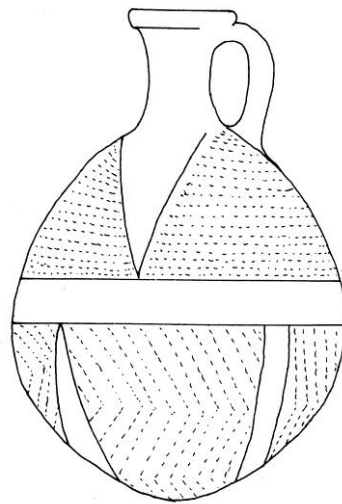
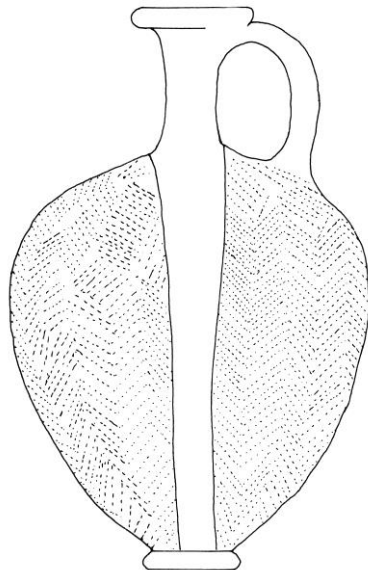


Figure 5-29 Possible resemblance between TEY juglets and figs

It has been suggested previously by Robert Merrillees and Ellen Herscher that the distinctive forms and decorations of the juglets acted as identification and branding for the commodity, in an age when most consumers were illiterate (Herscher 1991, 48; Merrillees 1968, 156-57). I believe this may have been the case and would push this modern analogy further. In modern marketing, the brand image is designed to achieve more than recognition. It is a symbol which appropriates indexical and iconic elements of something else to communicate or even create meaning. A visual style is particularly significant in transcending language and even cultural barriers. Brands are inherently visual and many juglets fulfilled this requirement. Judging by the popularity of imported juglets, they created desire. The question of visual branding of juglet commodities is visited further in Chapter 8.

Juglets were also imitated and they would not have been imitated if they had not been desirable. Unlike the reference above to visual forms in different materials, imitation almost certainly tried to re-create the cachet of the originals as with Egyptian copies of White Painted juglets, with Levantine local manufacture of Cypriot BLWM juglets or with Cypriot and Levantine imitations of Mycenaean stirrup jars.

Chapter 6 Middle Bronze Age traditions in juglet production and consumption

The beginnings of the international trade in juglets can be traced back to the MBA, with a limited export of juglets to the Levant from Cyprus, as previously reported by Maguire (1990). This chapter examines the local juglet consumption practices in the various regions of the eastern Mediterranean that existed prior to the more widespread inter-regional circulation, and explores how foreign exports, influences and ideology may have effected changes. Section 6.1 sets the scene with a review of the socio-economic climate of the eastern Mediterranean in the MBA. Section 6.2 sets out the main analytical results on juglet consumption and production, presented region by region. This covers the differential contextual distribution patterns and the regional preferences for types and styles. The next section (6.3) examines the circulation of foreign juglet commodities. It traces not only the imports of juglet products, but also the distribution of imitations and the spread of ideas. There then follows a summary of results (6.4) and a final discussion (6.5).

6.1 Cultural comparisons and contrasts of the MBA

The beginning of the MBA in the eastern Mediterranean may be considered as a period of contrasting cultures between the established complex societies of Egypt and central Syria and the developing societies of Palestine, coastal Syria and Cyprus. For these latter regions, the early MBA period heralded a rapid catch-up, characterised by intensive urbanisation, increasing social complexity, technological advances and burgeoning interregional contact. Though much of Syria had complex urbanised societies, little is known of the coastal regions of Syria for this period (Akkermans and Schwartz 2003, 291-97) . However, within the north-western area of interest to this study, Aleppo was regarded as a 'Great Kingship' and Alalakh was one of its vassal states with strong commercial and political ties with Ugarit. Further south Kamid el-Loz was an important centre with ties to Hazor in northern Palestine.

Palestine had emerged from the non-urban, economic recession of EBIV with a rapid rise in urbanisation (e.g. Ilan 1998, 227-36; Tubb 1983). MBA towns developed first along the coastal plain and then into the interior, along inland valleys communicating with the coast. Various theoretical models have been used in attempts to explain this

rapid rise, most of which involve the pre-eminence of coastal sites in exchange networks, with a system of primary and secondary gateway communities (Cohen 2002a; Falconer 1994; Ilan 1998; Stager 2001).

In northern Palestine, from MBIIA, Hazor and Tel Dan became important centres for trading with Mari and Aleppo and beyond, as attested by the Mari texts (Kempinski 1983, 107). Access to tin for bronze is evidenced by the appearance of bronze weapons. Hazor reached a large size of 80 ha. With evidence of palatial buildings and elite architecture, the influence of the more advanced urbanism of the Near East can be detected. In MBIIB, Megiddo was the important town for this area. Pottery styles in coastal Syria and Palestine were similar. In both regions, the undecorated vessels had a plain red slip and a burnished finish, whilst the decorated wares were known as Levantine Painted Ware. However, attempts to find a common ancestor in central Syrian pottery remain tentative and claims of single Syro-Palestinian style or of cultural unity cannot be justified (Kempinski 1997, 327; Tubb 1983). In the south, there was a cluster of fortified towns, the most important of which were Tell el-'Ajjul, Ashkelon, Tell Beit Mirsim and Tell Farah. These southern Palestinian sites were well connected with each other and with Egypt. During MBIIA, Ashkelon was a significant harbour for trade (Stager 2001), although towards the end of the period, Tell el-'Ajjul became pre-eminent (Tufnell 1975). Situated at the junctions of both sea and land routes, it became an important hub for the flow of goods and ideas and developed into a wealthy urban society.

In Egypt, rulers of the 12th and 13th dynasties governed a unified Egypt, but during this period the culture in the Delta underwent a gradual change from a pure Egyptian to an Egyptianised Canaanite material culture. This infiltration of Levantine culture whether through immigration, trade or acculturation, included Syrian style houses, Levantine weapons including duckbill and socketed javelins, burial practices, etc., but by far the most visible transformation was that of the pottery. Increasing amounts of Palestinian MBIIA-B style pottery (up to 40%), first as imports and later as local versions of the Palestinian styles, made their way into the repertoire. Some time during the 13th dynasty, direct Egyptian rule over the eastern Delta was lost, and during the 15th dynasty the Hyksos kings took charge of the region including the port of Tell el-Dab'a.

The region became politically and culturally fragmented, and the main Egyptian government moved to Thebes (hereafter referred to as Theban Egypt).

There has been some debate over whether the Hyksos cultural influences originated in the northern or southern Levant. It was once assumed that there was a strong link with southern Palestine and even a cultural continuum (Dever 1985; Kempinski 1997; Tubb 1983). This view gained some support from the NAA studies of Canaanite jars by McGovern (1997, 73), which confirmed the trading links between the Delta and southern Palestine. Other studies suggested the opposite view. There were well documented commercial and diplomatic links between MK Egypt and Byblos (Ryholt 1997). Some have argued that such links ceased after the MK and that southern Canaan became the major trading partner during the SIP (Ben-Tor 2007, 246; Kopetzky 2002, 244). However, Cohen-Weinberger and Goren (2004, 81-82) concluded, from their petrographic studies, that the overwhelming proportion of imported vessels (60-70%) came from Syria and northern Palestine and only 20% from southern Palestine, and that this situation did not materially change after the MK.

Nubia can be considered as overlapping cultures: in the south the Kerma culture of upper Nubia and in the north 'C-group Phase' of lower Nubia. During the 12/13th dynasty, when Egypt was in control of regions north of Semna, the indigenous 'C-group' population had its own distinct material culture, whilst Kerma and 'Pan-grave' cultures and the Medjay, from the desert, had different traditions. Whilst there was some movement of these groups into Lower Nubia (as evidenced from burials as far north as Semna), Egyptian fortifications and patrols discouraged interaction between the C-group population and these other groups. Some time during the 13th dynasty, the evidence points to the loss of Egyptian control over the fortresses of Lower Nubia. It has been suggested that the Egyptian residents stayed and accepted Kushite domination. During this time there was a mixing of material culture in burials, with Medjay and Kushite graves adopting C-group burial customs and native pottery traditions becoming heavily egyptianised, and it becomes increasingly difficult to separate the different cultures (Bourriau 1991, 129-132; Williams 1992, 1).

That people from the Delta region traded with Nubian populations seems probable, with gold and ivory a likely incentive. It has been suggested that they circumvented the

Theban-controlled part of the Nile by using the oasis route through Bahriya, Dakhleh and Dush, and that this was a political relationship as well as a trading interaction, designed to exclude Middle and Upper Egypt (Redford 1992, 98-115). Whilst the political alliance is supported by textual evidence, O'Connor (1997, 62) doubts that this route was plausible and refers to Bourriau (1991, 130), who suggested that whatever trade there was went via the Theban kingdom, based on the presence of Nubian pottery in the Theban area. Tell Dab'a, as a major entrepôt, was undoubtedly in a position to control trade between Theban Egypt and the outside world.

Early in the MBA, i.e. MCI-II, Cyprus was not urbanised, although burial practices, particularly the high consumption of copper, indicated an emerging social hierarchy. With the exception of Lapithos and Vounous, most settlements were inland - a very different configuration to the developing coastal sites of Palestine. It is generally agreed that the start of the MC period is heralded by the introduction of White Painted (WP) ware. Other typical MC styles were Black Slip and RoB wares. The distribution of these wares indicates the regionalism prevalent in Cyprus. The MCIII period saw the start of some major transformations in social structure with changes in settlement, economy and social relations. Two coastal towns, Enkomi and *Toumba tou Skourou*, are known to have become established at this date. Since there is little evidence that these areas were previously occupied to any great extent, it is assumed that the new settlements were formed by groups from outlying communities, who were attracted by prospects of long-distance trade, i.e. they grew around entrepreneurial elites or 'aggrandizers'; essentially they were heterarchic or oligarchic with kin or non-kin groups forming alliances, networks and even defences for organising and mobilising production, particularly of the copper resources (Keswani 1996; Keswani 2004; Manning and De Mita 1997).

Pottery of coastal Syria, Palestine and the Delta may have developed some stylistic similarities, but that of Cyprus, Egypt and Nubia maintained regional distinctiveness. In Cyprus, distinctive differences were even intra-regional. Burial practices, however, showed overall similarities amongst these regions. In Cyprus, Syro-Palestine and the eastern Delta, individual burials in cist or pits did exist but alongside these, it was customary to re-use chamber tombs. These built tombs had multiple successive burials with competitive status displays and secondary treatments of previous interments were common. Infant burials were treated differently from adults and older children, usually

with few or no grave goods, often intramurally and sometimes in storage jars (Baker 2006; Forstner-Müller 2002; Gonen 1992; Keswani 2004).

6.2 Local juglet consumption in the different regions

Given similarities and differences in material culture within and across the regions of the eastern Mediterranean, the production and consumption of juglet commodities would also be expected to show similarities and contrasts. This section looks at local regional variations in juglet use, firstly with a brief overview and then with a more detailed examination region by region.

For the MBA, or to be more precise the period in which MB style ceramics were used, juglet consumption (viewed as the percentage of the total number of vessels) would seem to have been broadly similar across the three major regions. Table 6-1 shows the data recorded for all the ceramic samples within each region for this period, with the sum of juglet numbers from all the contexts recorded, related to the sum of the total number of pots. The resulting percentages allow comparisons between regions with different sample sizes, as discussed in Chapter 4. Cyprus had the highest consumption rate with around 24% of pottery being the juglet form, whilst Egypt and Syro-Palestine would appear to have had similar consumption rates, just over one in five pots being a juglet. This macroscopic view, however, masks the finer details of usage patterns (Table 6-2).

Region	Juglet nos	Total no. of pots	Percentage
Cyprus	439	1828	24%
Egypt and Nubia	1567	7,620	21%
Syro-Palestine	3,399	16,529	21%

Table 6-1 Juglet distribution compared for the sampled sites of three major regions of the eastern Mediterranean in the MBA

The overwhelming majority of the juglets in Egypt was found in the Delta, where usage was high, reflecting its close cultural ties with the Levant (see discussion below). It would seem that juglet usage was minimal in the rest of Egypt during much of this time period. The data for Syria and Palestine are a little skewed for reasons related to data collection. In Palestine, an uncharacteristically high number of vessels was recorded at

one site (Beth Shan), for reasons which will be discussed below. Conversely for Syria, much of the data comes from Ugarit, where most of the plain, local pottery was discarded unrecorded after excavation, giving unrealistically low totals (Table 6-2).

Region	Juglet nos	Total no. of pots	Percentage
Cyprus	439	1828	24%
Palestine	3,114	15,922	20%*
Syria	285	607	47%**
Egypt (Middle & Upper)	76	2,210	3%
Eastern Delta	1,491	5,071	29%
Nubia	76	339	22%

Table 6-2 Regional and intra-regional juglet distribution compared for the sampled sites of the eastern Mediterranean

* Probably an underestimate ** probably an overestimate (see discussion)

At least some of the local juglets were processed as records of them exist, and since many of them were plain, they were presumably regarded as fine local wares. Some may have been discarded with other plain local pottery, nevertheless the high proportion of 47%, is probably an overestimate. For Cyprus, the data include only MC styles, which in most regions were not produced after 1650 BC, i.e. what archaeologists construe as the MB culture, has an earlier terminal date in this region than that on the mainland.

Nevertheless, the figures do indicate a degree of regional variation in juglet consumption. It was not only the numbers of juglets consumed that varied from region to region, the forms were different inter- and intra-regionally. The tables above include all juglets documented, both local and imported. For the sake of identifying local consumption practices in each region, the following discussion separates the analyses of locally produced juglets and imported juglets.

6.2.1 Local juglet consumption in MBA Palestine

The consumption of commodities in juglets had been an established practice in Palestine, certainly since the beginning of the MBA and possibly earlier. In this study it was found that juglets comprised around 1 in 5 of the published ceramic assemblage. There would appear to have been some geographical variation, with the greatest consumption in southern Palestine, where around one quarter of ceramic vessels was juglets (Table 6-3). Northern Palestine would seem to have consumed only half this

quantity. Usage patterns in eastern Palestine appeared to be close to the Palestinian average of 19.5%; however, figures are based on only two sites, both with widely different distributions.

Region	No. juglets	Total pots	Percentage
Southern Palestine	2175	8667	25%
Northern Palestine	791	6541	12%
Eastern Palestine	139	714	19%

Table 6-3 *Intra-regional distribution of MB Palestinian juglets in the sampled sites of the sub-regions*

However, a different picture emerges by examining the individual sites rather than whole regions and by returning to the original reports where necessary for contextual information. Table 6-4 and Figure 6-1 show the distribution of juglets throughout Palestine during the MB period, presented as a percentage the total pottery assemblage for each site. To avoid too much recovery bias from small sites with low numbers, only those sites with more than 3 juglets are shown.

Region	Site	Total pots	Total juglets	Percentage
eastern	Pella	422	133	32%
eastern	Tell Abu al-Kharaz	290	4	1%
northern	Afula	71	49	69%
northern	Beth Shan	3124	56	2%
northern	Hazor	589	92	16%
northern	Megiddo	1156	379	33%
northern	Mevorakh	147	13	9%
northern	Shechem	1301	126	10%
northern	Tel Dan	150	48	32%
southern	Ashkelon	154	71	64%
southern	Dhahrat el-Humraiya	219	77	35%
southern	Jericho	4137	965	23%
southern	Lachish	246	82	33%
southern	Tell Beit Mirsim	779	179	23%
southern	Tell el-'Ajjul	2227	587	26%
southern	Tell Farah South	515	178	35%

Table 6-4 *Distribution of MB juglets in Palestinian sites with more than 3 juglets*

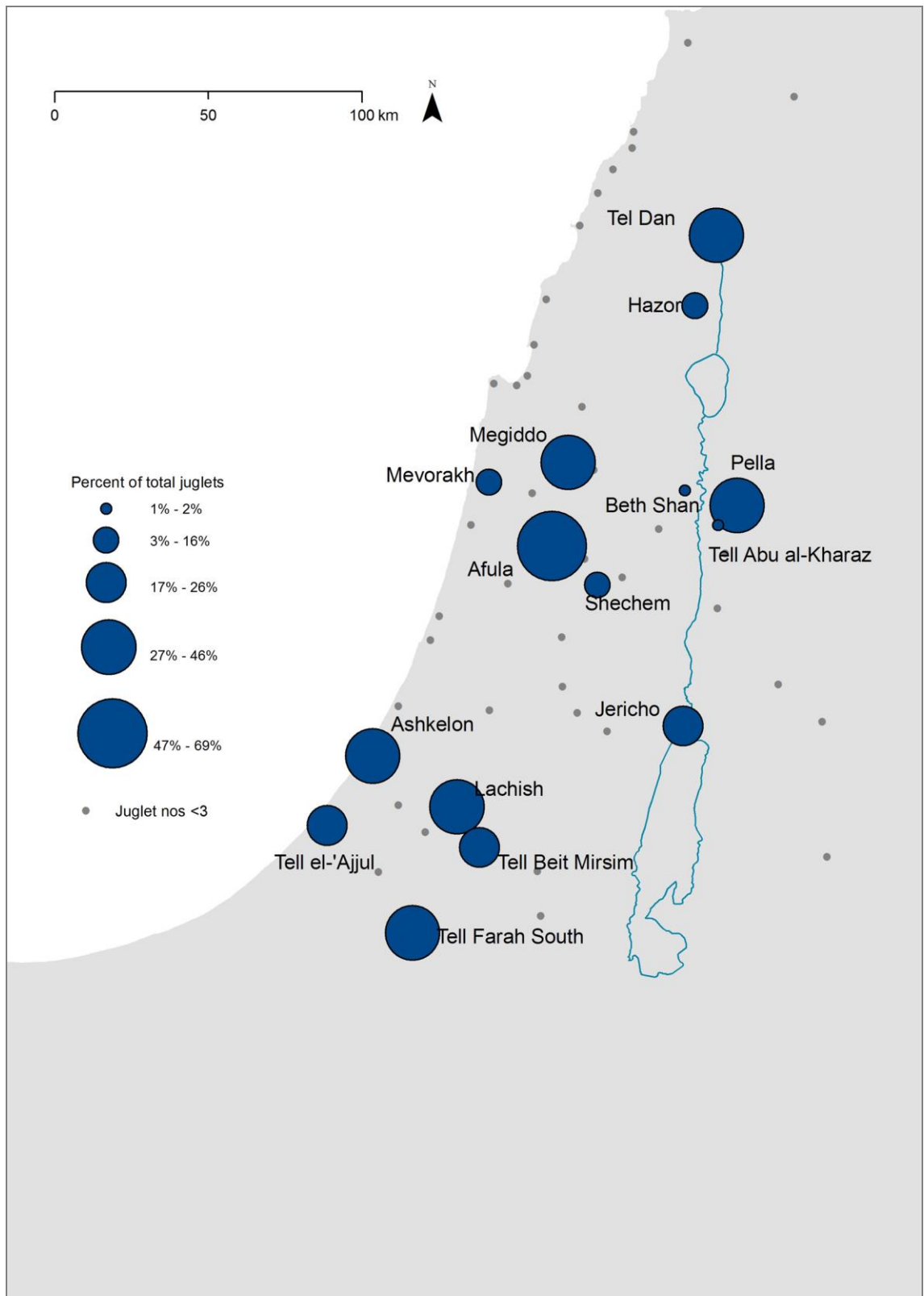


Figure 6-1 Relative distribution of juglets in MB Palestine (where no. juglets>3)

They both show that there was no major difference between the north and south and just a handful of sites were affecting the regional averages, notably Beth Shan and Abu al-Kharaz at one extreme, and Ashkelon and Afula at the other.

Beth Shan

Some data from Beth Shan may have skewed the overall consumption pattern for northern Palestine. Most of the contexts involved were within the settlement districts in Area R, all dated to MBIIC. This was a recent excavation (Mazar and Mullins 2007) with detailed recording techniques. All diagnostic rims had been recorded, resulting in an exceptionally high total pottery count of 3091. However, the juglet count was very low, only 46, which is 1.5% of the total pottery assemblage. This was very low even by settlement standards, as discussed in the next section. The number of funerary contexts for the MBII period at this site was low. There were just three pit graves from within the settlement area and one tomb from the Northern Cemetery (Tomb 303). They yielded a total of 52 pots, of which 19 were juglets, accounting for 36%, i.e., the average distribution for funerary contexts. This area also contained a staggering 599 storage jars. It would seem that part of this area may have had a special function such as supply depot, rather than dwellings and so possibly not expected as a major area for juglet consumption. This is a good example of recovery bias discussed in Chapter 4. The exceptionally detailed recording has resulted in a higher pottery count than in some reports, and it may well be that these results were a better reflection of the distribution. However, even exceptionally good reporting may skew results. Without data from the contexts at Beth Shan, the juglet consumption rate would be 22% for northern Palestine, so much closer to the Palestine average of 25%. It therefore became important to investigate further examples of unusual representation.

Afula

The high percentage of juglets at Afula is interesting because the context is interpreted as a potter's refuse pit. It contained sherds of MBIIA pottery as well as some unfired pottery remnants and most importantly, 36 discarded complete or broken TEY juglets, mostly of the ovoid form (Zevulun 1990). It would seem that Afula was an early manufacturing centre for TEY juglets, since it had the earliest ovoid forms of this ware in an MBIIA context (see Chapter 8).

Pella and Tell Abu al-Kharaz

The juglet distribution pattern in eastern Palestine is interesting. The proportion of juglets to total pottery was relatively high at around 31% and most were deposited late in the period, a significant number in MBIIC, with some in MBIIB-C contexts but none in MBIIA. The highest number came from funerary contexts at Pella, dated from MBIIC to LBIA. However, further south at Tell Abu al-Kharaz, there were very few juglets, just 4 documented from a total of 290 pots recorded. To a certain extent this was a sample issue as Tell Abu al-Kharaz was the only other MB site in this sub-region studied in depth, but it is curious that Kaplan's (1980) study did not show very many TEY juglets from this region either – just one at Tell es-Sadiyeh and one at Amman. Since the juglets came to Pella somewhat late, and this was considered as a gateway community susceptible to innovative practices, it seems conceivable that the custom of juglet consumption arrived in eastern Palestine later than in the rest of the region, since they were certainly found there in LBII.

6.2.1.1 Contextual finds of MB Palestinian juglets

The greatest deposition of juglets was in funerary contexts. In my sample of MB Palestinian juglets, 78% were found in burials compared with 18% in habitation contexts. However, these figures do not give a good indication of differential consumption rates as the majority of contexts recorded were funerary contexts. The proportion of juglets as a percentage of the total ceramic assemblage is an alternative index for measuring usage patterns in different contexts (Table 6-5). Using this index, it can be seen that 35%, or around 1 in 3 of the funeral ceramics were juglets compared with only 7% of settlement pottery.

Context type	No. juglets	Total pots	Percentage
Funerary	2420	6864	35%
Habitation	576	8489	7%
Palatial	23	109	21%
Cult	47	451	10%

Table 6-5 *Juglet distribution in MB Palestine by context*

Table 6-6 shows contextual distribution for those sites with juglet numbers sufficiently high for meaningful analysis. The two most southerly sites of Ashkelon and Tell el-

'Ajjul had higher than average funerary consumption. In the north, Hazor had very high juglet consumption with over 1 in 2 of the burial ceramics being juglets. This high rate may have been related to a disproportionately high number of infant jar burials in the sample, around 33 of the 54. For most MB Palestinian sites, funerary juglet deposition was around one-third of the ceramic assemblage, i.e. close to the average.

Sub-region	Site	Total pots*	Total juglets	Juglets as a percentage of the total nos of pots by context			
				Cult	Funerary	Habitation	Palatial
		No.	No.				
eastern	Pella	422	133	75%	33%	7%	
eastern	Tell Abu al-Kharaz	290	4			1%	
northern	Afula	71	49		40%	97%	
northern	Beth Shan	3124	56		30%	1%	
northern	Hazor	589	92	0%	52%	9%	
northern	Megiddo	1156	379	23%	35%	17%	47%
northern	Mevorakh	147	13			9%	
northern	Shechem	1301	126			10%	
northern	Tel Dan	150	48		32%		
southern	Ashkelon	154	71		46%		
southern	Dhahrat el-Humraiya	219	77		35%		
southern	Jericho	4137	965		33%	1%	13%
southern	Lachish	246	82		33%		
southern	Tell Beit Mirsim	779	179		31%	10%	
southern	Tell el-'Ajjul	2227	587		42%	20%	3%
southern	Tell Farah South	515	178		36%	6%	

Table 6-6 Juglet distribution by site and context type (where juglet nos >3)

*Total number of pots per site is included only as an indication of the overall size of the ceramic assemblage; each context type has its own total.

Funerary consumption of juglets

In the MBA, juglets were commonly placed in burials as a standard practice for most of the region. Adults were commonly buried with a few other pottery vessels such as bowls or storage jars. The number of imported ceramics of all types was low at this time (0.15 per burial). Other grave goods included jewellery, although mostly simple beads, weapons (15% of burials) and scarabs (37% of burials). Figure 6-2 shows the burial of two adults with a range of pottery including juglets, bowls and storage jars. This tomb was from Megiddo Stratum XII dating to MBIIB. Dipper juglets, RSB/BSB piriform and other juglets are visible, mostly placed around the head and torso.

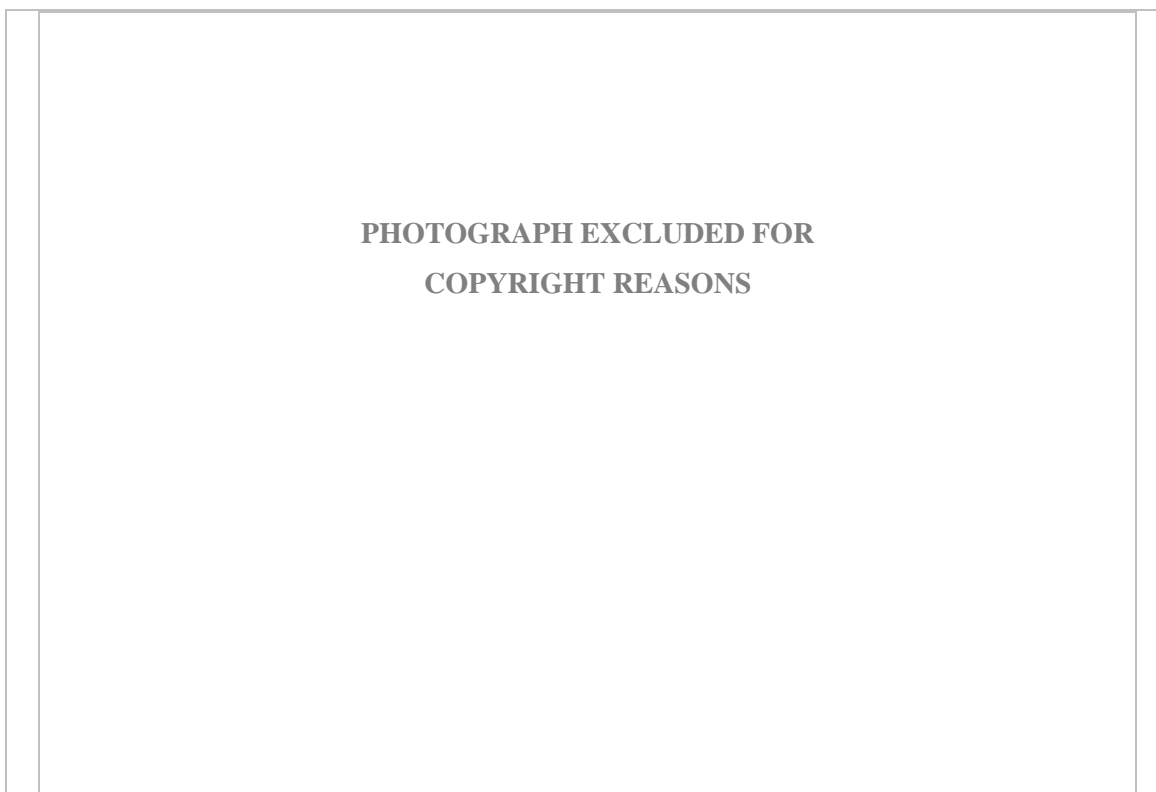


Figure 6-2 *Tomb 5067 at Megiddo (Loud 1948, Fig. 318)*

Infant burials were often in large storage jars and grave goods were generally restricted to one juglet (Figure 6-3). At Hazor, which had a large number of jar burials in stratum 3, there were 7 dipper juglets and 15 RSB/BSB juglets in 19 burials.

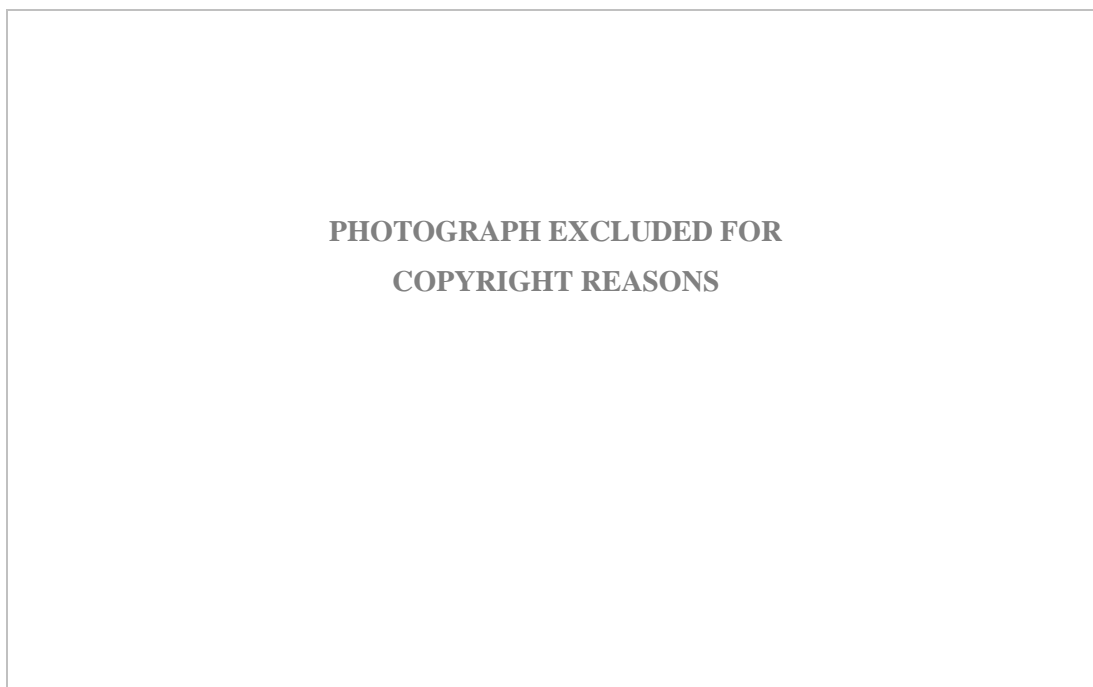


Figure 6-3 *Infant jar burial at Hazor under room 6114 (Yadin 1960)*

Juglet consumption and cult

Cult places sometimes had juglets deposited but the figures are probably too small to detect any patterns. Only three contexts were recorded. At Pella, juglets accounted for 75% of the pottery deposited but numbers were small, and interestingly, the juglets found there were Egyptian styles. At Hazor, cultic pottery was mainly bowls, storage jars and cooking pots, with no juglets present. The difference may be related to the different types of cult activity. At Pella, the cult context was interpreted as a funerary libation area because of its close proximity to tombs, so probably use was related to burials rituals (Bourke *et al.* 2003, 342). At Hazor, the context was within a built temple (Yadin *et al.* 1961). At Megiddo, with 23% juglets, the contexts were cult buildings within a sacred area (Guy 1938; Loud 1948).

Juglets in settlement contexts

Habitation contexts had a much lower proportion of juglets in their pottery assemblages, typically 10% or less. Notwithstanding survival issues in settlement contexts (other pottery being subject to similar problems), this percentage is so consistently low, that everyday consumption seems unlikely. They were notably low at Beth Shan (already discussed) and at Jericho, despite very high pottery recovery there. At Jericho amongst the loci of area H dating MBIIB-C, pottery finds were plentiful (a total of 1056), including bowls, cooking pots and 392 storage jars, but only 7 RSB/BSB juglets (Kenyon and Holland 1982, 268-383). Yet very high numbers of juglets were found in funerary contexts at Jericho (Table 6-6).

Afula, Megiddo and Tell el-'Ajjul had higher than average percentages in settlement contexts. Afula, as discussed above, was almost certainly a production centre for juglets. It seems possible that the higher domestic presence at the other two sites may have been related to greater access to juglets, leading to a higher domestic consumption of these commodities; both Megiddo and Tell el-'Ajjul were important centres and may have been involved in either production or distribution, as discussed below.

Juglets in palatial contexts

The palatial contexts were also too few for discernible patterns to emerge. At Tell el-'Ajjul, the Palace II complex had a few juglets (7 amongst 229 vessels). At Jericho the palatial context was a store room where the percentage of juglets was around the same as that for habitation contexts (Garstang 1934, pl. VIII-XXXIX). At Megiddo the high percentage is unreliable due to the low numbers involved (a total of 15 vessels).

6.2.1.2 The local MB juglet types produced and consumed in Palestine

Analysis of local MB juglet styles shows that most fell into two broad categories (Table 6-7). These were the slipped and burnished juglets (RSB/BSB juglets) and the dipper juglets. Beside these two main groups of essentially plain juglets, were the patterned juglets, i.e. the incised TEY juglets and the painted juglets. These had the same, standard range of forms as the traditional plain slipped and burnished juglets, namely piriform, cylindrical, ovoid or biconical, but they were far less prevalent. TEY juglets with their exotic decoration and their widespread distribution throughout the eastern Mediterranean, have received more scholarly attention than the plainer slipped and burnished forms, but they actually represented only 6% of the juglet products manufactured in MB Palestine. Juglets with painted patterns were even rarer, i.e. <1%. The RSB/BSB, painted and TEY juglets which share a standard range of forms, are discussed together and a section on dipper juglets follows.

RSB/BSB, TEY and painted juglets

Of the mainstream RSB/BSB juglets, piriform shapes were most popular, accounting for 36% and the cylindrical RSB/BSB juglets for 25% of all local juglets. According to various authorities the piriform types first appeared in MBIIA and reached a peak in MBIIIB (Amiran 1969, 107-112; Baker 2006, 8-11; Cole 1984, 17), whilst the cylindrical form appeared slightly later, peaking during MBIIIC and generally replacing the piriform styles. This general trend is confirmed in this study, with the piriform types being less prevalent in the later part of the MBA (Table 6-7). Only a small proportion of the MB juglets were TEY. In MBIIA-B it was 6%, and this fell to around 2% by MBIIIC. Painted juglets were relatively rare, at <1% of the total juglets, throughout the MBA. Although the TEY and painted juglets more decorative and less common than the plainer RSB/BSB juglets, they did not appear to have a special prestige value;

contextual analysis did not reveal any associations with prestige markers such as abundant jewellery or luxury stone vessels.

Juglet types	All MB style juglets		MBIIA-B		MBIIC	
	Nos	Percentage of all juglets	Nos	%	Nos	%
RSB/BSB piriform	1274	36%	589	41%	120	16%
Dipper	916	26%	434	31%	270	34%
RSB/BSB cylindrical	870	25%	182	13%	302	36%
TEY	209	6%	86	6%	14	2%
RSB/BSB ovoid/globular	73	2%	33	2%	17	2%
RSB/BSB unclassified	52	1%	17	1%	7	1%
RSB/BSB biconical	51	1%	30	2%	1	<1%
RSB/BSB trefoil juglet	15	<1%	3	<1%	1	<1%
RSB/BSB Syrian juglet	13	<1%	6	<1%	1	<1%
Painted piriform	19	<1%	8	1%	3	<1%
Unclassified juglet	15	<1%	4	1%	9	1%
Painted cylindrical	7	<1%	1	1%	5	<1%
Painted ovoid	5	<1%	33	2%	2	<1%
Painted dipper	2	<1%	0		1	<1%
Painted biconical	1	<1%	0		0	
Total no of local juglets*	3522		1426		753	

Table 6-7 *Distribution of local Palestinian juglet types by date*

*There is a greater total number of MB style juglets than for the sum of those in chronological MBIIA-B and MBIIC periods because not all contexts could be discretely dated

Despite some forms being more prevalent in the earlier periods of the MBA, geographical distribution patterns indicate that there were regional, stylistic preferences for certain juglet forms that were independent of chronology. Table 6-8 shows the regional distribution of the main local juglet types. Whilst in most northern and southern sites, the percentage of piriform juglets greatly outnumbered cylindrical juglets, there were some exceptions. At Tell el-'Ajjul, there were 235 cylindrical juglets (37% of all juglets) compared with 59 piriform (9%), yet only 22 of these cylindrical forms were found in definite MBIIC contexts. Many occurred in contexts dated to MBIIA-B or wider time periods. At Tell Farah South, the contrast was even greater where 43% of juglets were cylindrical compared with <1% piriform. This was a definite geographic distribution rather than a chronological change. The ovoid and globular forms were far less prevalent with only a handful in the south. TEY juglets represented a greater proportion of the juglet assemblage in northern Palestine where the form seems to have originated, possibly at Afula in MBIIA.

Sub-region	Site	Total local MB juglets	Dipper	RSB/BSB biconical	RSB/BSB cylindrical	RSB/BSB ovoid or globular	RSB/BSB piriform	TEY
eastern	Pella	164	23%	0%	38%	2%	26%	2%
eastern	Tell Abu al-Kharaz	3	100%	0%	0%	0%	0%	0%
northern	Afula	49	10%	0%	0%	0%	12%	75%
northern	Ara	31	0%	0%	33%	0%	66%	0%
northern	Beth Shan	102	17%	0%	22%	0%	20%	5%
northern	Hazor	117	12%	0%	14%	0%	28%	2%
northern	Megiddo	483	24%	2%	18%	9%	26%	2%
northern	Mevorakh	14	21%	7%	7%	0%	36%	21%
northern	Shechem	128	46%	0%	5%	0%	45%	3%
northern	Tel Dan	49	14%	2%	20%	4%	35%	0%
southern	Ashkelon	73	29%	0%	5%	0%	48%	11%
southern	Dhahrat el-Humraiya	66	26%	1%	1%	0%	65%	0%
southern	Gezer	54	15%	0%	26%	0%	24%	11%
southern	Jericho	1163	14%	1%	19%	<1%	57%	5%
southern	Lachish	95	17%	0%	43%	0%	56%	0%
southern	Tell Beit Mirsim	174	25%	<1%	12%	3%	55%	4%
southern	Tell el-'Ajjul	638	45%	<1%	37%	1%	9%	2%
southern	Tell Farah South	205	38%	0%	43%	2%	<1%	0%

Table 6-8 Regional distribution of the common MB juglet types as percentages of total local juglets

Since RSB/BSB juglets represented the largest proportion of local juglets, the data for these types are considered separately in Table 6-9.

Sub region	Site	Total no of RSB/BSB juglets	Piriform	Cylindrical	Other
eastern	Pella	122	34%	51%	15%
northern	Afula	6	100%	0%	0%
northern	Ara	31	65%	32%	3%
northern	Beth Shan	51	41%	43%	16%
northern	Hazor	73	47%	23%	30%
northern	Megiddo	290	44%	29%	27%
northern	Mevorakh	8	63%	13%	25%
northern	Shechem	65	89%	11%	0%
northern	Tel Dan	30	57%	33%	10%
southern	Ashkelon	40	88%	10%	3%
southern	Dhahrat el-Humraiya	48	90%	2%	8%
southern	Gezer	31	42%	45%	13%
southern	Jericho	921	72%	24%	4%
southern	Lachish	74	45%	55%	0%
southern	Tell Beit Mirsim	123	77%	17%	6%
southern	Tell el-'Ajjul	335	19%	79%	3%
southern	Tell Farah South	95	1%	94%	5%

Table 6-9 Distribution of RSB/BSB juglet forms in Palestine

The greater preference for the cylindrical forms is even more evident when isolating the data for RSB/BSB juglets. The highest proportions of the cylindrical forms came from Tell Farah South, Tell el-'Ajjul, Gezer and Lachish in the south. The percentages of forms, other than piriform and cylindrical, also becomes more evident with this analysis. These other forms, which include biconical, ovoid or globular were more prevalent in northern sites, particularly Hazor and Megiddo.

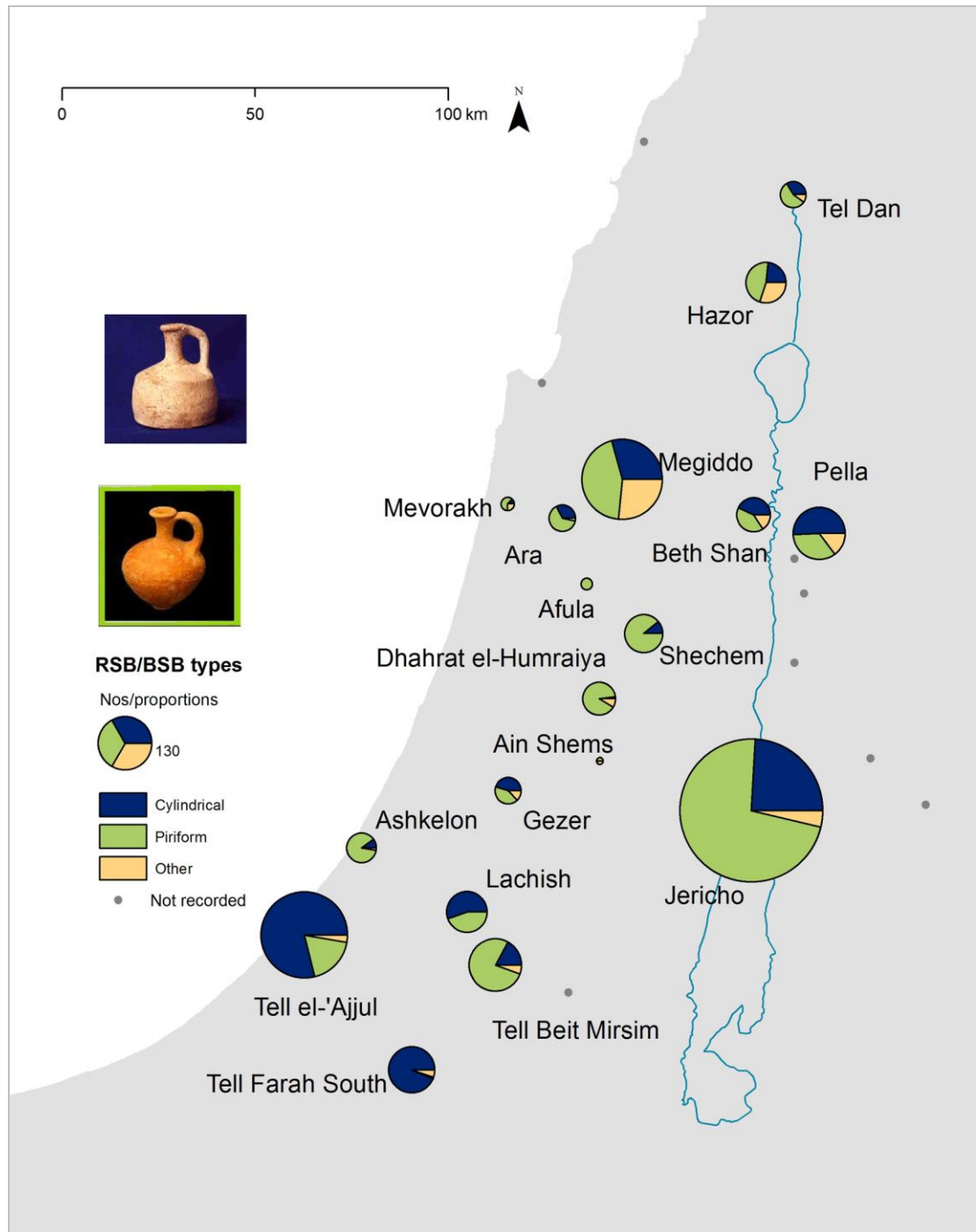


Figure 6-4 The distribution of RSB/BSB piriform and cylindrical juglets in Palestine

Numbers of TEY juglets may have been low, but their distribution was widespread (Figure 6-5). The types and decorative styles prevalent in Palestine differed from those in Egypt. As pointed out by Kaplan (1980, 44-46), there was little geographic overlap amongst the major types. Cylindrical 2, Ovoid, Biconical 2 and Piriform 3 were the forms mainly associated with the Levant. Palestinian types of juglets most usually had simple incised decoration within horizontal bands compared with Egyptian wares, with their vertical banding or more complex zigzag patterns over the entire surface (see e.g. Bietak 1997, 92, fig. 4.4).

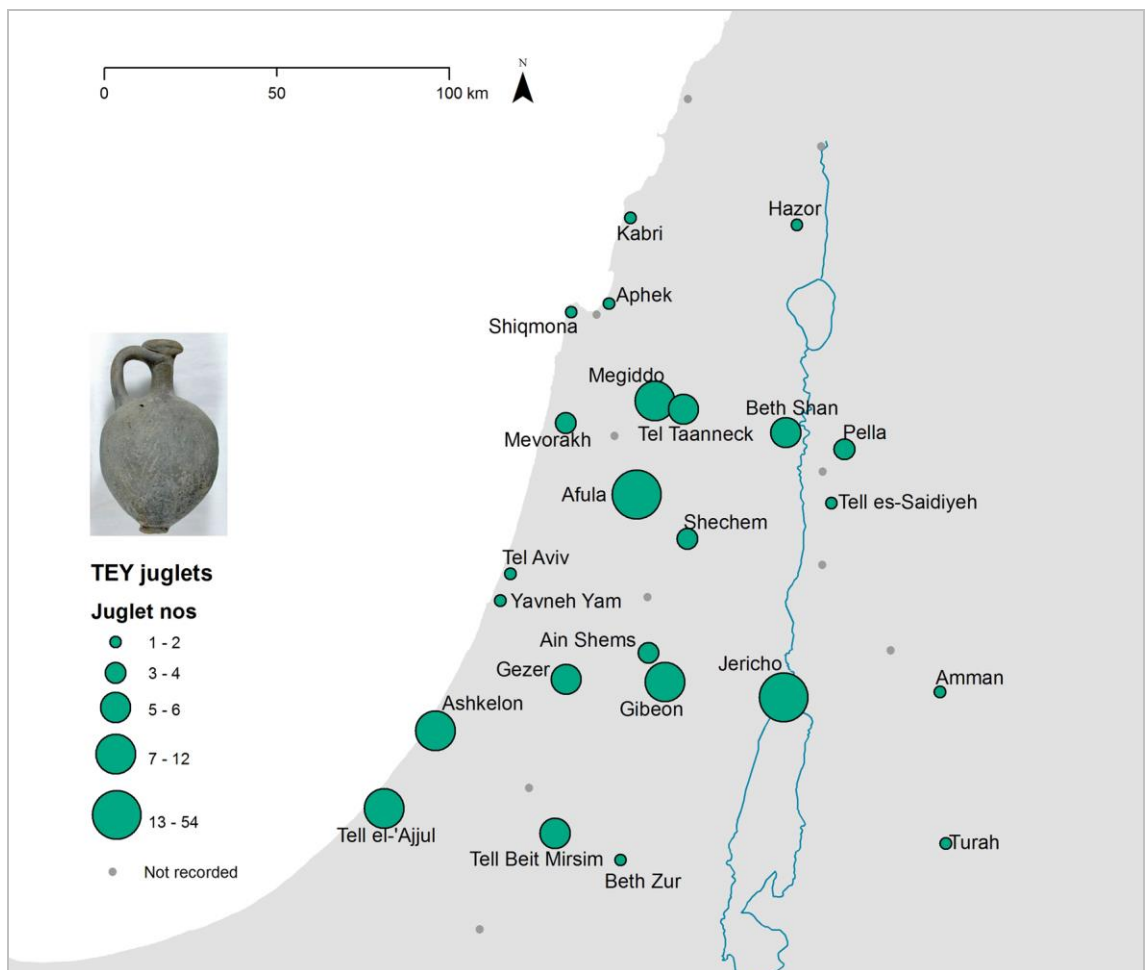


Figure 6-5 *The distribution of TEY juglets in Palestine*

Overall numbers of painted juglets are too small to draw any conclusions; they may have been more prevalent in northern regions (Table 6-10). A few have also been found at Ugarit, in the Syrian style, and since painted pottery was a Syrian tradition, there may have been some stylistic borrowing.

Painted juglets			
Sub-region	Site	Juglet type	Nos
northern	Beth Shan	Painted piriform	1
northern	Hazor	Painted biconical	1
northern	Hazor	Painted cylindrical	3
northern	Hazor	Painted ovoid	2
northern	Hazor	Painted piriform	6
northern	Megiddo	Painted ovoid	3
northern	Tel Dan	Painted cylindrical	4
northern	Tel Dan	Painted piriform	6
southern	Dhahrat el-Humraiya	Painted piriform	1
southern	Gezer	Painted piriform	2
southern	Jericho	Painted piriform	2
southern	Tell Beit Mirsim	Painted piriform	1
southern	Tell el-'Ajjul	Painted piriform	2

Table 6-10 *Regional distribution of Painted juglets in MB Palestine*

The implication of these different geographical distribution patterns is suggestive of regional consumption preferences for the various juglet types and forms, and this is the subject of further discussion below.

6.2.1.2.2 Dipper juglets

Dipper juglets were ubiquitous items throughout the MBA and their use continued into the LBA. They accounted for 26% of all juglets in MB Palestine and these were evenly spread across northern and southern Palestine (Figure 6-6).

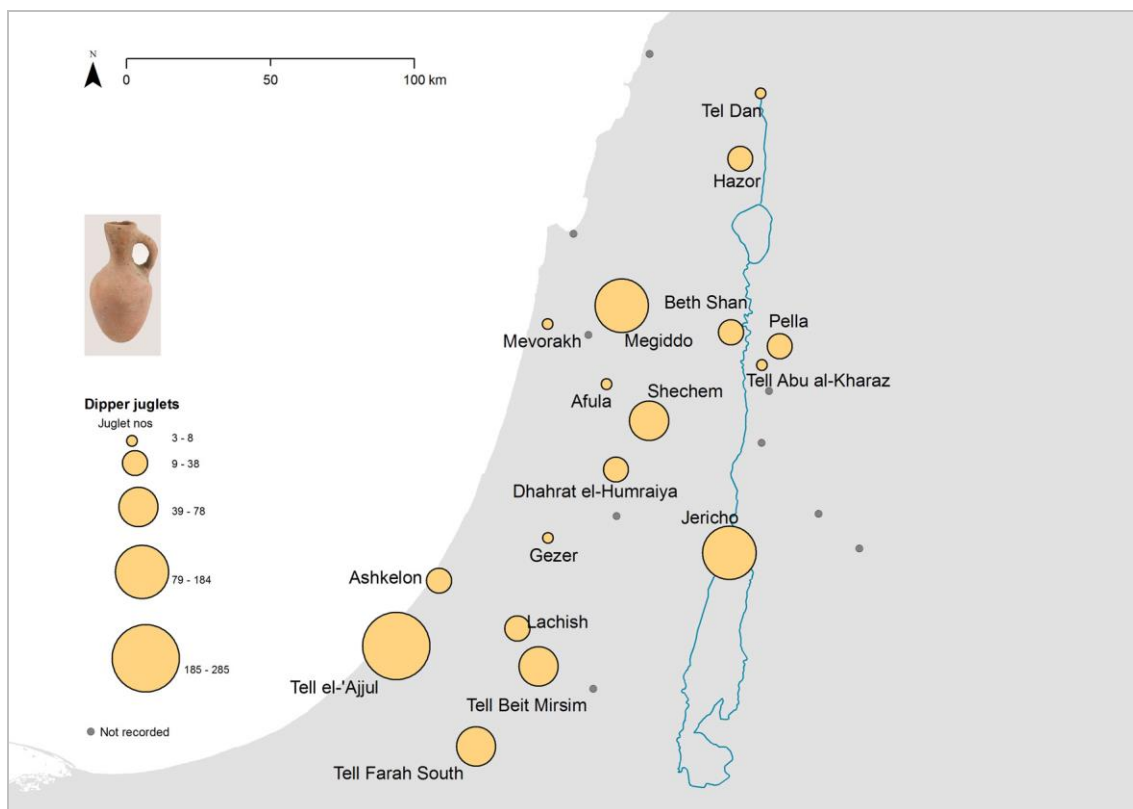


Figure 6-6 MB dipper juglet distribution in Palestine

Dipper juglets were different from other juglets in some aspects of their general morphology. They were generally larger than other juglets, with wider neck openings and pointed bases, so were unable stand up alone. They were also long-lived, outlasting other MB juglets and surviving until the end of the LBA. The question has therefore arisen as to their function. Did dippers perform the same function, as containers, or were they used in a different way? It has been suggested that dipper juglets were not containers for precious commodities but, as their name suggests, they were used to extract and dispense liquids from larger storage vessels, especially Canaanite jars (Kopetzky 2002, 227). The evidence cited is that dipper juglets have sometimes been found inside these jars. In one particular case, the dipper juglet was found suspended by

a stick over the top of a large jar. Importantly, it is known that the jar had contained liquid because a skin had formed and been preserved (Figure 6-7).

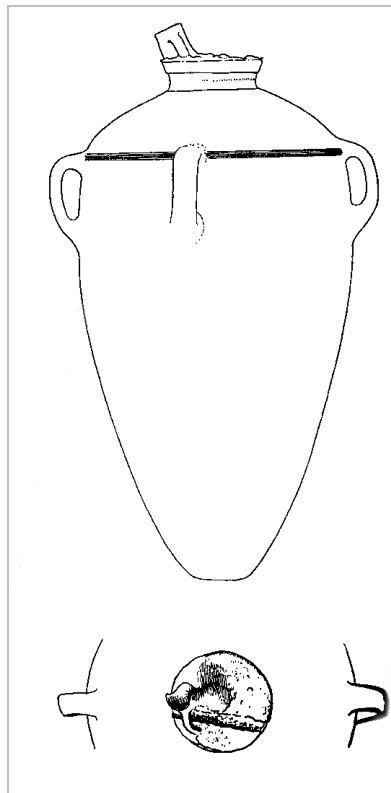


Figure 6-7 Dipper juglet suspended over top of a storage jar with stick through the handle (Kenyon 1960, p.448, fig. 190)

If dipper juglets had been used to extract liquid, then certain associations or attributes might be expected.

- Dippers would be expected to be associated with storage jars, and it might seem reasonable that they were used this way domestically, at least as often as in funerary consumption.
- The morphology of the dipper should be suitable for this purpose.
- Signs of use as dispensers might be apparent as wear marks on the pottery or its slip.

None of these conditions has been demonstrated in this study.

Compared to the total number of dipper juglets in MB contexts (916), the number recorded as found inside storage jars is very low (9), and they were all found at Jericho. It is possible that in other excavation reports, the position of the dipper may not always have been recorded. My recording system does not include the position of the juglet as a

mandatory field, although it is mentioned in the notes if this is deemed out of the ordinary. A numerical rather than anecdotal association of juglets with storage jars can, however, be calculated from the data. Of the 231 MB findspots which contained dipper juglets, 165 contained one or more storage jars, but 68 contained no storage jars. That means 29% of the contexts, most of them funerary, contained dipper juglets deposited alone. From the other perspective, there were 264 separate contexts which contained storage jars, and of these 182 (69%) also contained dipper juglets to a total of 692. This means that 82 contexts (31%) had storage jars but no dippers. As a comparison, 192 of the 264 (73%) contexts with storage jars also contained RSB/BSB and other juglets to a total of 1406, indicating a slightly greater correlation between storage jars and these juglets. These figures perhaps say more about the ubiquity of all of these juglet types during this period. However, they do not support any particular association between dipper juglets and storage vessels.

Contextual analysis shows that dipper juglets were not widely used in domestic life. Dipper juglets accounted for around 10% of funerary pottery compared with only 3% of settlement ware. The comparison with RSB/BSB juglets is shown in Figure 6-8 which have comparable representations in settlement contexts.

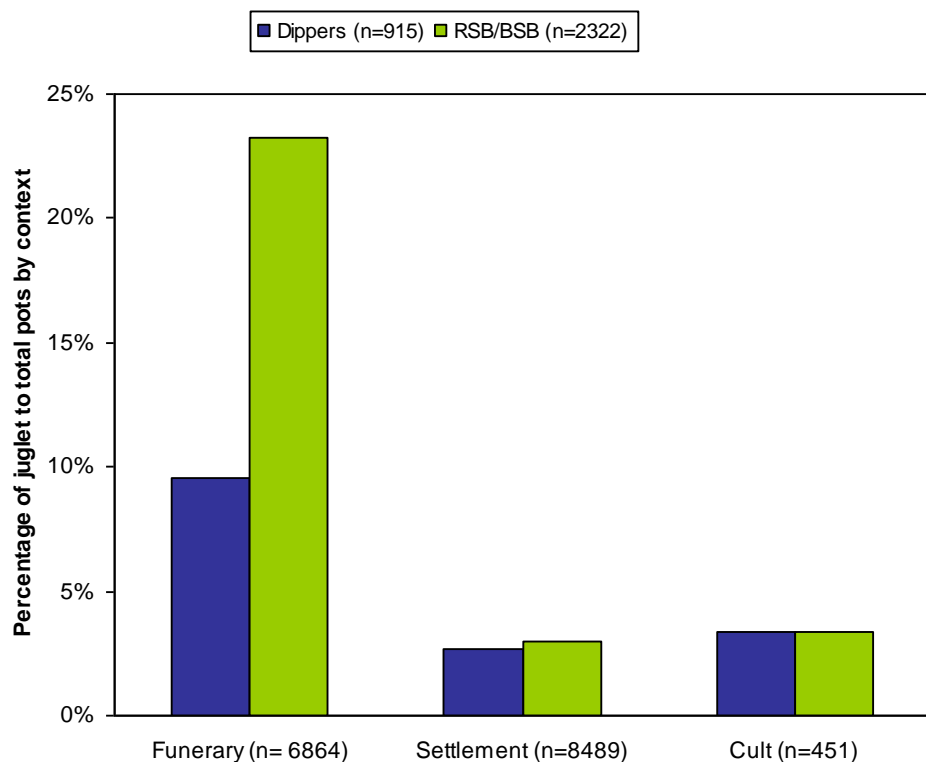


Figure 6-8 MB Palestinian dipper and RSB/BSB juglets as a percentage of total vessels in different contexts

In terms of morphology, the neck opening of dipper juglets, whilst wider than other juglets, would not have facilitated liquid extraction or certainly not as efficiently as small, wide-mouthed jugs. Furthermore, the neck of the storage jar would need to be wide enough for a dipper juglet to fit through the opening, as pointed out by Kopetzky (2002, 227), and this was not always the case. Illustrations of two of the dipper juglets at Jericho in tombs G1 and H22 (Kenyon 1960, 457, fig. 195 and 507, fig. 219), revealed that they were wedged in the top of storage jars with necks that were not wide enough to accommodate entry of the dipper for use as a ladle.

Finally, a small test was carried out to look for wear on several dipper juglets taken from different contexts. Juglets were examined for wear on the front of the rim and along the front of the body, especially at the widest circumference. Of 26 dipper juglets examined, only 3 showed faint or indeterminate signs of wear. Several looked pristine. If they had been used for dispensing liquid, it is unlikely they had been extensively used e.g. domestically before being left in burials. Limited and primary use in burial practices seems more likely therefore than prior frequent domestic heavy use.

During this study, it appeared that the dipper juglets from Jericho were larger than those from Tell Farah South. So it was worth looking at the entire sample of MB dipper juglets where the height was recorded. The average height for dipper juglets was 178 ± 34 mm but this was not uniform (Table 6-11). At some sites, dipper juglets were larger, notably at Jericho and Hazor, where the average height was over 20 mm greater than the mean.

Site	Av dipper ht (mm)	Av RSB/BSB ht (mm)	Difference (mm)
Hazor	201	120	79
Lachish	193	131	62
Jericho	190	120	70
Tell Farah South	188	122	66
Tell Beit Mirsim	187	127	60
Average	178	125	53
Pella	166	116	50
Megiddo	166	139	27
Tell el-'Ajjul	149	132	17

Table 6-11 Differences in the size of dipper juglets across sites

Given that most of the evidence supporting dippers as dispensers rather than containers of liquids comes from one of these sites, i.e. Jericho, it might be possible that the functions were not always the same at every site. As extra supporting data, note that at Jericho, only 5 contexts with dippers had no storage jars compared with 68 with both. At Tell el-'Ajjul, it was roughly half (29 and 34 respectively).

The above results suggest that dipper juglets were not used primarily as dispensers. Whether they were containers of commodities in the same way as the other juglets is less certain. I believe they may have been and we shall return to this point in the discussion when more strands the argument can be joined together.

6.2.2 Local juglet consumption in Syria

The data from Syria for the MBA were limited. Only 24 contexts were fully recorded from four sites (mostly Ugarit). Furthermore, as mentioned above, the total number of pots counted at Ugarit is probably an underestimate. But when figures for juglets only are examined, then RSB/BSB juglets account for around half of the juglet total (including imports) and over three-quarters of the local juglets (Table 6-12). Syrian RSB/BSB styles were quite different from those in Palestine. The main types had piriform bodies with a sharp carination at the shoulder. Openings were either round with flat rims (RSB/BSB Syrian juglets), or pinched into a trefoil mouth (RSB/BSB trefoil juglets). RSB/BSB piriform and cylindrical styles were much rarer.

Juglet style	Juglets nos	Percent juglet total
RSB/BSB Syrian	142	49%
Dipper	36	12%
RSB/BSB trefoil	33	11%
TEY juglet	29	10%
RSB/BSB cylindrical	18	6%
Bichrome ovoid/glob	13	4%
Painted trefoil	5	2%
RSB/BSB piriform	7	2%
Bichrome cylindrical	2	1%
Painted dipper	2	1%
Painted ovoid	2	1%
Painted pirifom	1	<1%
RSB/BSB ovoid/glob	2	1%

Table 6-12 *Local juglet types consumed in Syria*

Painted juglets, especially the new bichrome juglets, began to appear at the end of MBIIC. Dipper juglets were less prevalent, only 12% rather than around 30% found in Palestine, but TEY juglets were more common in this region. Some early types of TEY, i.e. Piriform 1 or Ovoid, occurred at Sin el-Fil, Kfar Djarra and Byblos (Kaplan 1980, 41), and these had similarities with early Egyptian types. In this region, although there were similarities in wares and basic juglet concept, there were definite preferences for certain shapes compared with Palestine and the differences were most marked between Syria and southern Palestine.

6.2.3 Local juglet production and consumption in the eastern Delta

Cultural links between the Levant and the eastern Delta during the MBA have been discussed above. It has been noted that starting at the end of the 12th dynasty and continuing through the SIP, the ceramic assemblage in the eastern Delta had attributes of both the Palestinian and Egyptian styles. This study shows that juglets were no exception; their styles embodied elements from both cultures, but they could be recognised as three categories: Egyptian-style juglets and jarlets, TEY juglets and Levantine-style juglets. The number of juglets found in Delta settlement contexts was extremely low at around 3%. The proportion of juglets to total vessels in mortuary contexts was exceptionally high, around 1 in 2, rather than the 1 in 3 found in Palestinian burials. Figure 6-9 shows an example of a built tomb of a high status male buried with sword, copper belt and amethyst scarab. Pottery was both Egyptian and Palestinian MBII style and included two RSB/BSB piriform juglets.

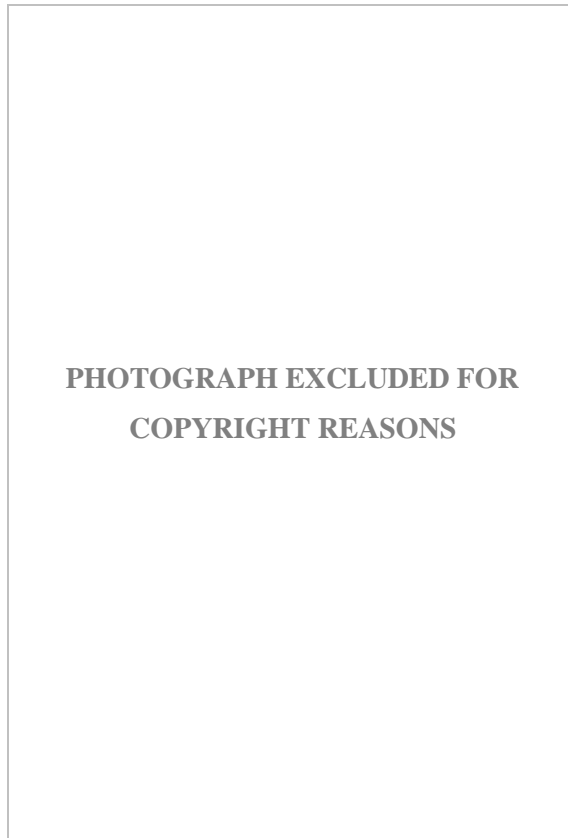


Figure 6-9 *Built tomb from the MBIIA period in area A/II (Forstner-Müller 2002, fig. 8)*

In this study the Delta juglet sample included 164 Egyptian-style jarlets and juglets (12%), 318 TEY juglets (24%) and 833 Palestinian-style juglets (63%). Of the RSB/BSB juglets, the frequency of the various forms is very different from its nearest neighbours in southern Palestine (Table 6-13). Firstly, there were far more piriform juglets (494) than cylindrical (10), a complete opposite of the distribution at Tell el-'Ajjul and Tell Farah South. Also atypical was the high quantity of ovoid and globular juglets, around 12% of the juglet total. Ovoid and globular forms in the Levant were amongst the earlier styles, and most often associated with northern Palestine. In the Delta, however, these types were not limited to MBIIA. Finally biconical forms were common and almost exclusive to this region. These, too, were MBIIA forms, otherwise limited to northern Palestine, but rather longer lasting in the Delta. This opens up the possibility that the originals were imported early and subsequently the form was reproduced locally. In fact, clay analysis has shown this probably was the case and this point is returned to later in the section on imports and imitations. The implications are that the RSB/BSB styles consumed in the Delta were distinctively regional. A fair few dipper juglets in the mix (8%) is a noteworthy indication of the Levantine influence on the local juglet consumption practice.

Juglet descriptor	Juglet nos.	Percent local juglet
Palestinian style juglets		
RSB/BSB biconical juglet	123	9%
RSB/BSB cylindrical juglet	10	1%
RSB/BSB ovoid/globular juglet	158	12%
RSB/BSB piriform juglet	414	31%
RSB/BSB unclassified juglet	10	1%
Painted ovoid juglet	2	<1%
Painted juglet	5	<1%
Dipper	108	8%
Ring flask	1	<1%
Total	833	63%
TEY juglets		
	318	24%
Egyptian Style juglets and jarlets		
Cylindrical flat-based shouldered jarlet	60	5%
CylRouSh jarlet	1	<1%
Mini-amphora	1	<1%
OvFlatSh jarlet	2	<1%
OvFlatSimp jarlet	2	<1%
OvRouSh jarlet	69	5%
PirFlatSh jarlet	23	2%
PirFlatSh juglet	2	<1%
Piriform round-based shouldered jarlet	3	<1%
Wavy jarlet	3	<1%
Total	166	12%

Table 6-13 *Juglets found in the eastern Delta*

There were very high numbers of TEY juglets, most of them from Tell el-Dab'a, and mostly from the MBIIC period. These were the second most popular form of juglets and at 24%, the prevalence of this type is more than three and a half times that found in the Levant. It is of interest that the distribution pattern of TEY forms, i.e., biconical, ovoid/globular and piriform (18%, 23% and 60% respectively) mirrored that of RSB/BSB juglets (13%, 13% and 69%). Such a high density of TEY juglets at Tell Dab'a, and the fact that many were made from Nile alluvial clay from the region, is indicative of a production centre in the region. If so, the Nile Delta may have been supplying Middle Egypt with TEY juglets, at least during MBIIC, and such an observation has been made by McGovern (2000, 78) as the result of NAA studies on two TEY juglets found in the Memphis-Faiyum district.

There were a modest number of Egyptian-style juglets at Tell el-Dab'a, a few from MBIIA-B (strata G-E1), but mostly dated to MBIIC (strata E2-D2). It should be noted that the proportions of Egyptian-style and Palestinian-style juglets, of 12% and 63% respectively, were quite different from the general ceramic repertoire, for which the incidences of the different styles were 60% and 40% respectively, as discussed above. The presence of Egyptian style juglets underlines the Egyptian cultural influence in the eastern Delta. However, the low proportions of Egyptian-style juglets might indicate that juglet consumption was not a traditional Egyptian practice, and this is further explored below.

6.2.4 Local juglet production and consumption in Middle and Upper Egypt and Nubia

The most striking observation about the juglet tradition in Egypt outside the Delta is that it was minimal in the MK and the earlier part of the SIP. There were only a handful of local juglets, just 1% of the total ceramic assemblage amongst the sites sampled (Table 6-14). The local Egyptian styles consisted mainly of handleless jarlets, some with round bases, some with flat. Although they had basic cylindrical, ovoid or piriform shaped bodies, they did not resemble Palestinian styles (see Chapter 1 for diagrams). The flat-based jarlet seems to have been derived from stone vessel shapes, whilst a certain likeness to larger Egyptian vessels such as beer jars can be detected in the round-based jarlets. A very distinctive Egyptian style was the wavy jarlet. Another distinction between the Egyptian jarlets and the Palestinian counterparts is that they were not limited to the MBA but their use extended into the LBA.

Juglet type	Egyptian nos	Nubian nos
Cylindrical flat-based, shouldered jarlet	16	4
Cylindrical round-based shouldered jarlet	5	0
Drop alabastron	1	1
Ovoid flat-based simple jarlet	7	0
Ovoid round-based simple jarlet	10	3
Piriform round-based shouldered jarlet	3	1
Piriform round-based simple jarlet	6	2
Wavy jarlet	11	3
Total local juglets	59	14
Total pots	7272	285

Table 6-14 *Locally made juglets from the 12-15th dynasties in Egypt and Nubia*

TEY juglets have been considered separately from the other local juglets. There were greater numbers of these types of juglets than other local forms, and they were distributed along the Nile, but the distribution thinned south of the Memphis-Faiyum region, until Nubia was reached, when it increased again (Table 6-15). We know from previous studies that early forms did occur in Egypt and that these were made of Nile clay (Aston 2009; Bietak 1985). However, in general, most (62%) were consumed in MBIIC or later. This is very late when compared with Palestine, where only 20% of TEY juglets occurred in MBIIC. These two patterns point to TEY juglets being manufactured in the Delta and being distributed down-the-line. The possible exception might have been a more direct access between the Delta and Nubia particularly towards the end of the SIP.

Nubia had greater 'local' juglet consumption than Egypt, but with more TEY juglets than Egyptian-style juglets. The latter may have been imported or copied; no information is available from the mainly older, brief excavation reports. None of the juglets were made in Nubian styles or wares, so strictly speaking all of the juglets were imports or imitations.

Region	Sub-region	Juglet nos
Egypt	Memphis-Faiyum	44
Egypt	Middle Egypt	15
Egypt	Upper Egypt	13
Nubia	Nubia	79

Table 6-15 *Number of TEY juglets in the different regions of Egypt and Nubia*

Chronologically, the trend for juglet commodity consumption was much later in Egypt and Nubia than in the other areas of the eastern Mediterranean. It would seem therefore that juglet use may have been an adopted rather than an indigenous cultural practice.

6.2.5 Local juglet production and consumption in Cyprus

Cyprus had a tradition of juglet consumption that was well established in the EC period. Of note, the Philia culture, in the north of Cyprus included deposition of Black topped, Red Polished Ware juglets in burials. Of the regions studied here, Cyprus had the earliest production and consumption of juglets. By the MC period, the predominant wares were black slipped wares and their red slipped variants (BS II-IV), Red Polished

IV, Red-on-Black, and a range of White Painted wares including WP III, WP IV, WP CLS, WP PLS, WP SHS, and WP V). In this chapter, I intend to examine those styles which are generally regarded MCI-III (Åström 1972b). This means that WP VI and BS V juglets, which are dated to LCI, will be discussed in the next chapter. There are two reasons for carrying out the analysis this way. Firstly, the Middle Cypriot period, or rather its ceramic wares, finished rather earlier in some areas of Cyprus than others, and earlier than the MBA on the mainland. The overlap between MCIII and LCI is important and will be reviewed in the next chapter. The other consideration is that Cypriot data often lacks good stratification; the dates of the contexts were often very wide.

The number of juglets collected for Cyprus in MC is much smaller than those of Palestine, reflecting the smaller number of sites and the extent of the excavations. However, as proportions of the total ceramic assemblage (24%), they are comparable with Palestine. As almost all the sites recorded were funerary, this is also the proportion of juglets in burial contexts. Mortuary contexts of MCI-III tended to be large multi-chambered structures, re-used for successive, collective burials as in Figure 6-10, so it is sometimes difficult to relate offerings to burials. However, around 1 in 4 funerary vessels in a given mortuary context was a juglet, slightly lower than in Palestinian burials.



Figure 6-10 Aiyos Iakovos Tomb 6 dated to MCIII (Gjerstad et al. 1934, Fig 124)

There was a wide variety in the juglet styles shown in Table 6-16, and these varied geographically, closely matching the regional distribution of the ceramic wares. This would imply that the production of the contents of the juglets was also regional and quite conceivably that these varied enough to make them *regional specialties*, which could account for some movement intra-regionally.

The most popular types, BS II juglets, were mainly found in the north, although some were found at Enkomi and Kalopsidha (Figure 6-11). BS III juglets were much less prevalent, with only 2%, but they were important because this incised ware was often used to imitate TEY juglets. There were also fairly distinct geographical distributions for the WP juglets too (Figure 6-12). The WP III and IV and the SH styles were largely found in the centre of the island, and were most probably produced in the northern and central areas. The slightly later CLS and PLS styles were a south-eastern form of juglet.

Juglet type	Nos juglets	Percent
BS II juglet	176	19%
WP CLS juglet	132	14%
WP V juglet	125	14%
WP IV juglet	101	11%
BS IV juglet	94	10%
RoB juglet	84	9%
WP PLS juglet	42	5%
WP SH juglet	41	4%
RP III juglet	36	4%
WP III juglet	25	3%
BS III juglet	23	3%
BS unclassified juglet	22	2%
WP Unclassified juglet	8	1%
WP LDS juglet	4	<1%
WP III bottle	1	<1%
WP III juglet	1	<1%
WP III-IV juglet	1	<1%

Table 6-16 *Distribution of local MC juglets in Cyprus*

WP V juglets were also distributed regionally. The Fine Line Style (FLS) juglets were associated with northern Cyprus, whilst the Tangent Line Style (TLS) and Broad Band Style (BBS) were found in south-eastern Cyprus, as can be seen in Figure 6-13. One particular form of BBS style, the WP V Eyelet juglet, is of particular interest as it has attributes which associate it with some Syrian style juglets, i.e. the body shape and the painted 'eyes' on either side of the pinched rim. RoB juglets and the RoR variants were generally restricted to the north-east of the island, and since these juglets continued into LCIA, they will be discussed in Chapter 7. The distribution of the various types of local juglets would therefore seem to divide across an axis separating north and central areas for the south-eastern sector.

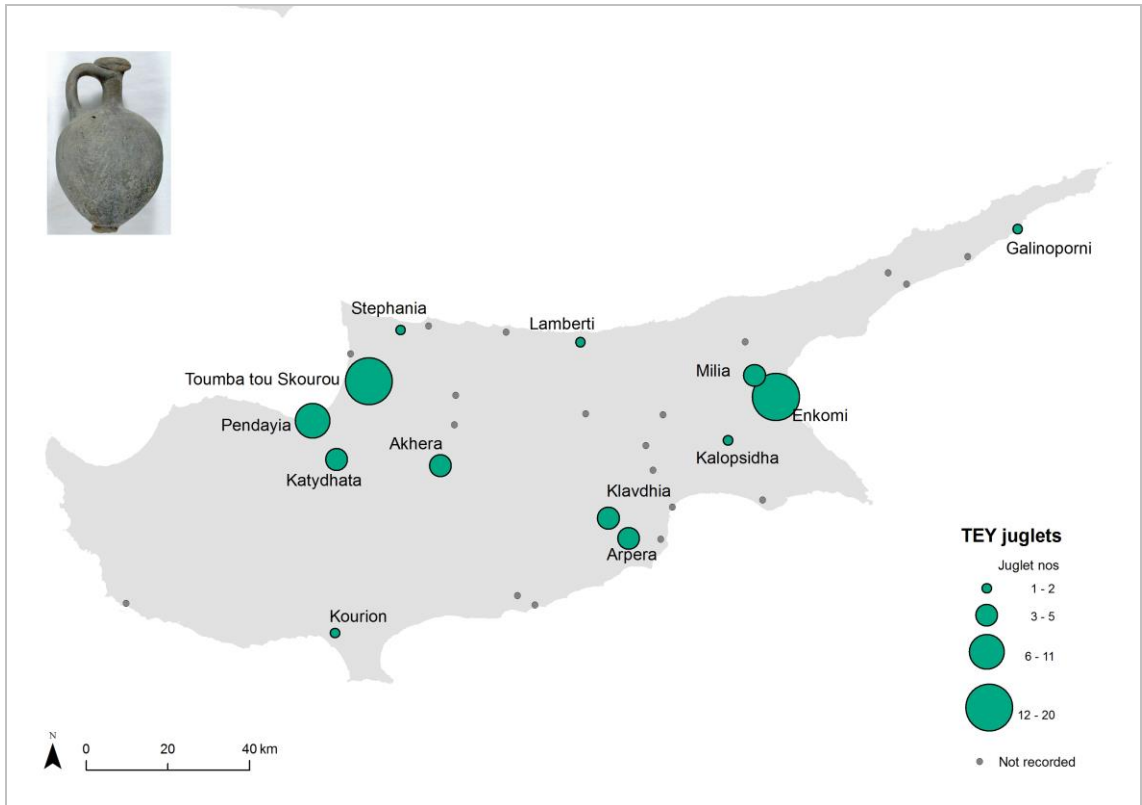


Figure 6-11 *The distribution of BS II juglets in Cyprus*

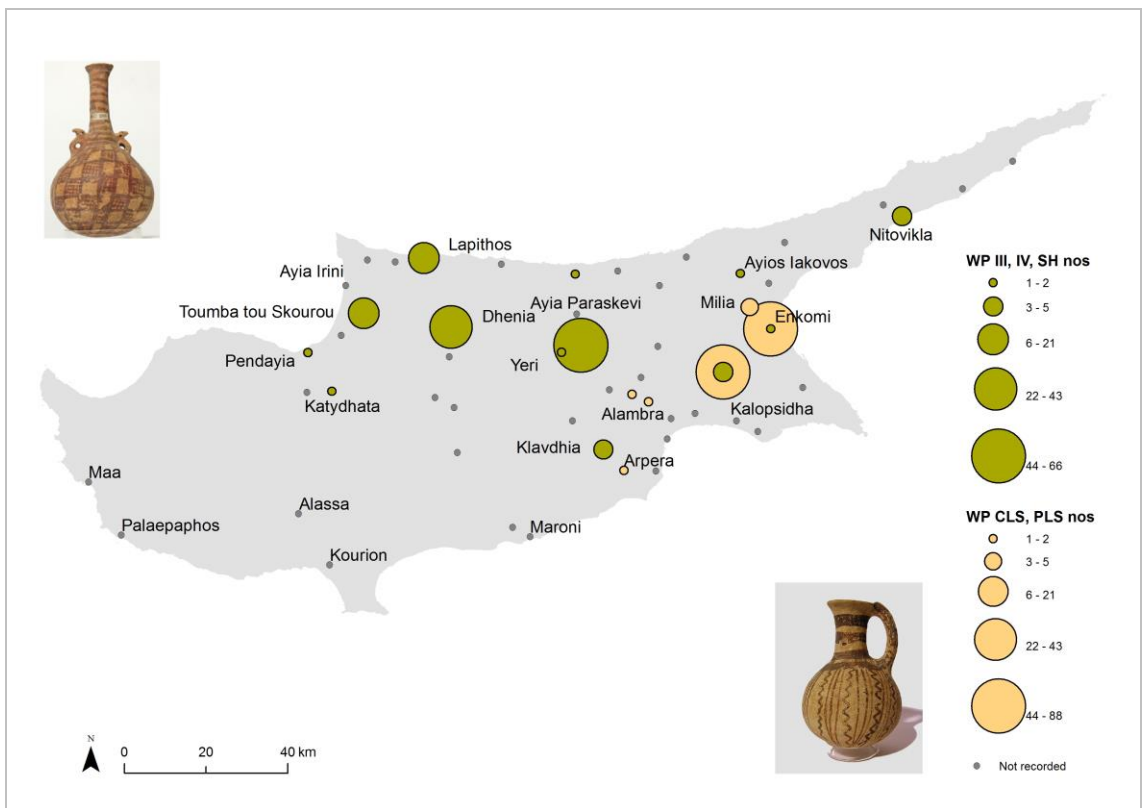


Figure 6-12 *Regional distribution of WP juglet styles in Cyprus*

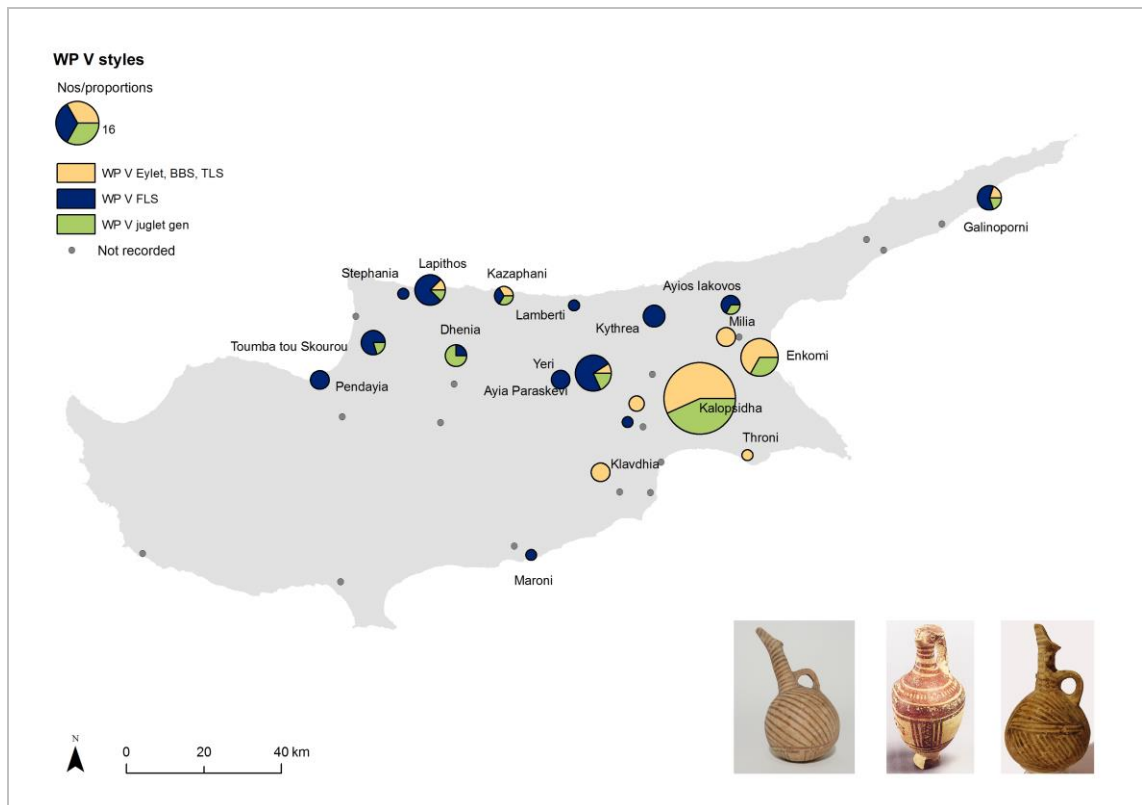


Figure 6-13 *The distribution of different WP V juglets styles in Cyprus*

6.3 Imports, imitations and international influences on juglet consumption in the MBA

It was during the MBA that foreign juglets began to find their way into local assemblages. Though the numbers of imported or imitation juglets were very small in most regions at this time, it heralded the much greater trade in these commodities during the LBA. Some, such as the hand-made Cypriot WP juglets, were considered worthy of note by excavators, and so gained some celebrity. Others, such as Egyptian forms in Levantine contexts, though just as numerous as the Cypriot juglets, were not even recorded as imports in excavation reports. In some circumstances, where styles were similar, it is difficult to distinguish between imports and locally made juglets, as with RSB/BSB Syrian style juglets in Palestine or RSB/BSB Piriform juglets in Syria. In the case of TEY juglets, the origins have been debated for almost a century, and since the distribution was so widespread, it is sometimes difficult to disentangle the local style from imports and imitations. In the Delta, the derivatives of both Egyptian forms and Palestinian juglets have become acculturated as part of a hybrid culture, so what may be considered an imitation elsewhere, is viewed as a local product in the Delta.

6.3.1 Imports and influences in the eastern Delta

For the eastern Delta, modern ceramic studies of the Tell el-Dab'a pottery have provided an excellent source of information on the origins of the ceramics by distinguishing between genuine Palestinian imports and locally made MBII style pottery (Aston 2002; Kopetzky 2008). In these studies, the Palestinian imports accounted for 20% of the entire ceramic assemblage: 14% in MBIIA (Aston 2002, 46) and 24% and 7% in MBIIB and MBIIC, respectively (Kopetzky 2008, 195). Table 6-17 summarises the data extracted for Palestinian style juglets in the Delta, i.e., for imported and locally made RSB/BSB and dipper juglets. The juglet imports accounted for around 20% of the total juglets, matching the import rate for the entire ceramic assemblage.

Juglet type	Nos	imported	locally-made	unknown
RSB/BSB Biconical	123	44	78	1
RSB/BSB Cylindrical	10	2	8	
RSB/BSB Ovoid/globular	158	42	116	
RSB/BSB Piriform	414	30	293	91
RSB/BSB Unclassified	10	0	10	0
Dipper	108	43	43	0
Totals	823	161 (20%)	548 (67%)	92 (11%)

Table 6-17 Imported and locally made Palestinian-style juglets in the Delta

In addition to the Palestinian imports, around 6% of Delta juglets were MC Cypriot forms, and almost all of these were WP juglets, mostly the later types, i.e. WP V and WP CLS juglets. All the Delta imports were found at Tell el-Dab'a. Table 6-18 shows the distribution of WP imports from Cyprus to the eastern Mediterranean sites. Tell el-Dab'a was by far the largest importer of Cypriot WP juglets.

Cypriot imported juglets	Nos
WP V	63
WP Unclassified	55
WP CLS	24
RoB	3
WP PLS	3
WP PLS/CLS	2

Table 6-18 Cypriot imported juglets to the eastern Delta

With the publication of the imported ceramic material at Tell el-Dab'a, it has become clear that there was a special trade relationship between Cyprus, most probably Enkomi, and Tell el-Dab'a (Maguire 2009, 21-41), manifest in several ways. Firstly, a very large number of Eastern Sequence WP ceramics were found there in several of the excavated areas (A/II, F/I, A/IV, A/V), which first appeared in strata E/1 to D/2. Juglet numbers were relatively modest, with 22 WP juglets from a total of 211 vessels (approximately 10%), but it should be noted that the contexts reported here were settlement rather than funerary, which may account for the low proportion. Most of the other vessel sherds represented jugs. Secondly, some of the TEY juglets at Tell el-Dab'a exhibited some of the characteristic features of Cypriot WP juglets, being hand-made rather than produced with the standard wheel-made technique for TEY juglets. They were globular juglets with round bases, unlike the more usual button or pedestal base of TEY juglets, and even the decorative patterns, although incised like TEY ware, displayed some of the syntax of Cypriot WP ware. Finally, they had the Cypriot hallmark of a handle pushed through the vessel wall (Maguire 2009, 21-25).

6.3.2 Imports and influences in Middle and Upper Egypt, and Nubia

As mentioned above, very few juglets were found in Middle and Upper Egypt. Of the 76 recorded, there was one Palestinian juglet and two Cypriot WP juglets. Nubia had a curious distribution of juglets. They were very small in number, with only 76 in total, but 54 of these (71%) were TEY juglets. There were two RSB/BSB Palestinian forms and one Cypriot BS II juglet. It is difficult to know whether the juglets should be considered as local or imported juglets, since none of them belonged to Kerma or C-group cultures, although the possibility of TEY juglet design having a Nubian influence has been suggested because of the incised patterning. Most of the juglets belonged to the later period of MBIIC, and will be looked at more closely in the next chapter, but it should be noted that the pattern of juglet imports for Nubia is different from that of Middle and Upper Egypt. So it seems unlikely that juglet consumption habits can be related to the Egyptian population that had remained after the loss of Egyptian control of the fortresses in lower Nubia.

Juglet type	Nos	Origin
BS II juglet	1	imported
Cylindrical flat-based shouldered jarlet	4	imitation or import
Drop alabastron	1	imitation or import
Ovoid round-based simple jarlet	3	imitation or import
Pilgrim flask	1	imported
Piriform round-based shouldered jarlet	1	imitation or import
Piriform round-based simple jarlet	2	imitation or import
RSB/BSB Piriform juglet	2	imported
TEY juglet	54	imitation or import
Wavy jarlet	3	imitation or import

Table 6-19 *MB Juglet types found in Nubia*

6.3.3 Imports and influences in Palestine and Syria

In MBII Palestine, of the 3114 juglets recorded, there were 25 MC-style WP juglets, 18 possible Syrian RSB/BSB imports or imitations, and 22 Egyptian style jarlets or juglets. This means a maximum of 65, or 2%, of juglets were imported. In Syria, mostly from Ugarit, there were 27 Egyptian style and 26 Cypriot WP juglets from a total of 285. At 19%, this figure was higher than for Palestine. To a certain extent this may reflect the importance of Ugarit as a port, but this result must be tempered with the fact that much local pottery was discarded during excavation.

That MC ceramics reached the coastal settlements of the Levant has been known for some time (Johnson 1982), and Maguire (1990) pointed out the high proportion of south-eastern styles of WP juglets that were amongst the exports. The distribution of MC WP juglets is shown in Figure 6-14.

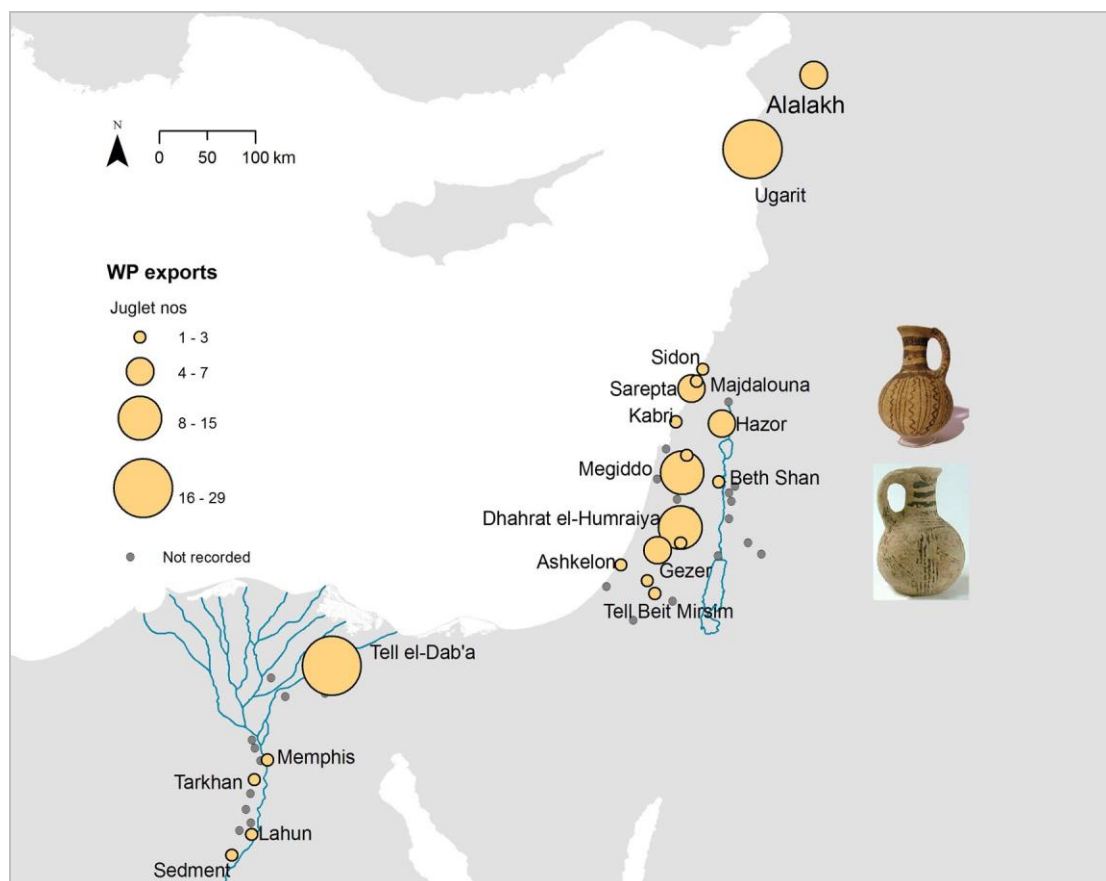


Figure 6-14 *The distribution of WP juglet imports in the eastern Mediterranean in the MBA*

That WP juglets were found at Ugarit is not surprising, given its proximity to Enkomi, the probable export harbour. In Palestine, the juglets were concentrated in the northern

sites with fewer in southern Palestine. The high numbers found more recently at Tell el-Dab'a (Maguire 2009) may need an explanation other than 'down-the-line' trade, particularly given the dearth of WP juglets at Tell el-'Ajjul and other southern settlements. A direct trade connection seems likely.

6.3.4 Imports and influences in Cyprus

Cyprus did not only export juglets. In common with the rest of the eastern Mediterranean, Cyprus had its share of TEY juglets, both imported and imitated (Table 6-20). These were found clustered around the new coastal towns of *Toumba tou Skourou* or Enkomi (Figure 6-15).

Site	No. TEY juglets	Origin
Akhera	3	imitation
Arpera	5	imported
Dhali	2	imported
Enkomi	16	imitation
Enkomi	4	imported
Galinoporni	1	imported
Kalopsidha	1	imported
Klavdhia	2	imported
Kotchati	1	imported
Kourion	1	imported
Lamberti	1	imported
Milia	5	imported
Nikolidhes	1	imported
Pendayia	7	imitation
Stephania	1	imitation
Tomba tou Skourou	6	imitation
Tomba tou Skourou	5	imported
Yeri	1	imported
Unprovenanced	24	
Total	87	

Table 6-20 *The distribution of TEY juglets in Cyprus*

A total of 54 imports have been identified and of these, there were a relatively high number of biconical and piriform 2a forms most often associated with Egypt or the Delta. The origin suggested by these juglet styles has been confirmed by provenance studies (Artzy and Asaro 1979). However, there were several other, grooved TEY juglets. These were quite rare and most often found in Cyprus where they were made in

BS III, so it is difficult to tell whether they were inspired imitations or whether this rather unusual type were actually Cypriot in origin.

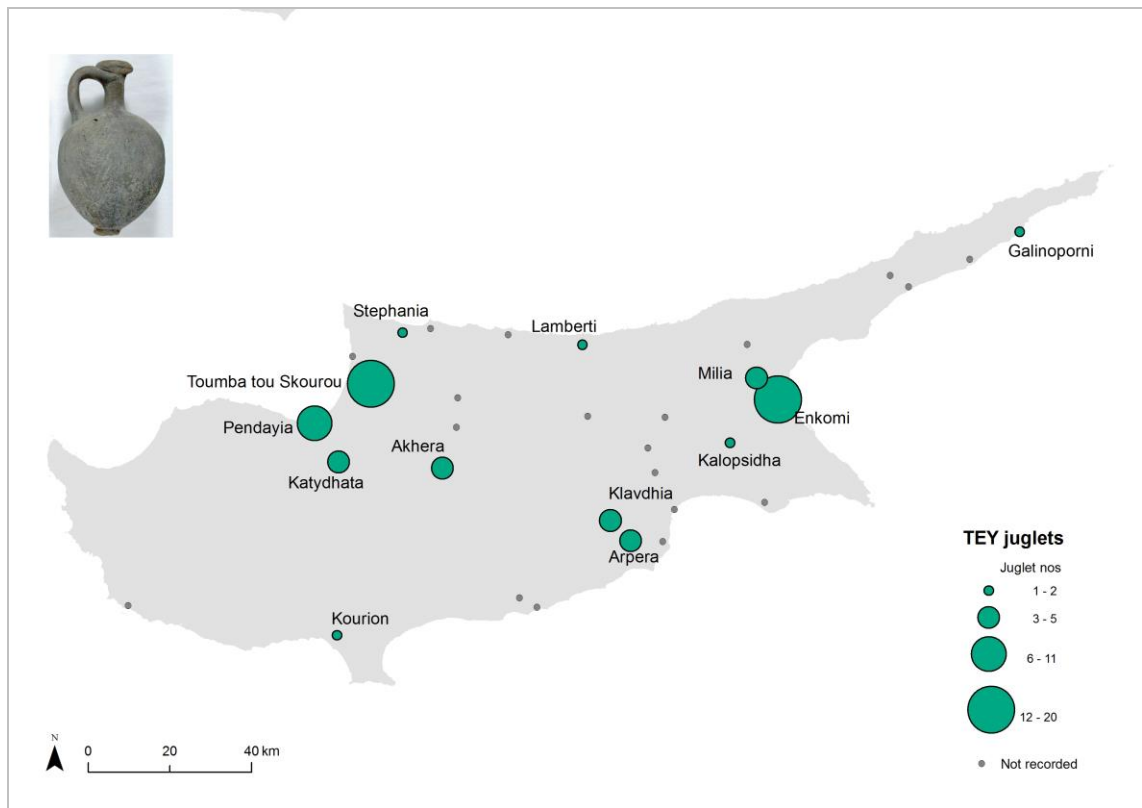


Figure 6-15 *The distribution of imported and imitation TEY juglets on Cyprus*

6.3.5 Were foreign juglet commodities prestige items?

The above data indicate that there was interest around the eastern Mediterranean in consuming foreign juglet commodities, and to be seen to do so. The *mêlée* of imports, imitations and acculturated products is difficult to disentangle and gives a clue to the infancy of the export trade in these commodities. They seem to have been exotic and interesting but difficult to acquire, hence the relatively high proportions of imitations. In some areas, there are indications that the actual custom of juglet consumption was the result of international influence (see further discussion below). The distribution patterns might point to specific destinations, with interesting implications for trade routes. Since most juglet import/export movement for the MBA took place in the latter MBIC, these implications will be revisited more fully in Chapter 7. Whether imported juglets were considered as prestige items is complex to detect for the MB period because imported juglets were still relatively rare and notions of what constituted prestige items may have varied. Figure 6-16 shows the results of an analysis of the contexts, which contained

imported juglets. In Cyprus, a higher proportion of these contexts also contained jewellery and weapons compared with the average. However, this does not hold true in the other regions. Furthermore, there is no correlation between the presence of luxury containers and the presence of imported juglets.

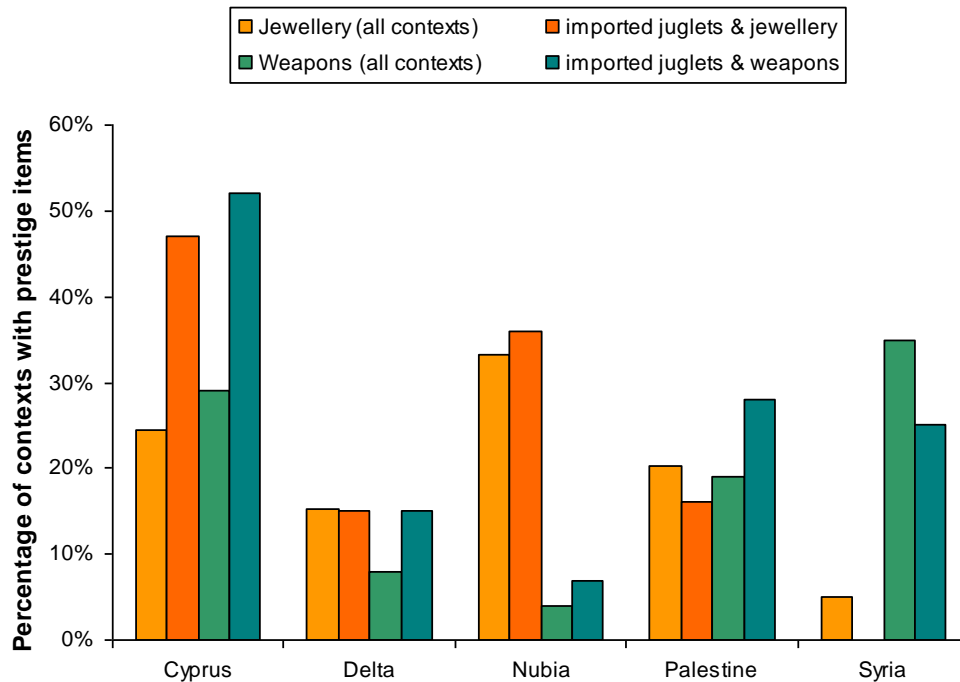


Figure 6-16 *The presence of prestige items in contexts with imported juglets*

6.4 Summary of results

Juglet consumption practices during the MBA showed some considerable contrasts across the regions of the eastern Mediterranean. They were long established cultural practices in Cyprus and in Palestine, but in Syria, Nubia and Egypt they appear to have been introduced during the course of the MBA. There were differential consumption rates across the regions, with highest rates in Cyprus and Palestine. In Egypt, the consumption practice depended on the sub-regions: the eastern Delta and Nubia had similar usage rates to Palestine, whereas the rest on Egypt had low juglet use, with very limited local production. Eastern Palestine seems to have been somewhat isolated from the practices of the rest of the region, with a low consumption rate.

There were marked regional preferences for juglet types and styles. In Palestine, Syria and the Delta, the main types were RSB/BSB juglets, dipper juglets and a few TEY

juglets, but preferences varied in the different areas. Of the former type, there were clear regional preferences with cylindrical styles popular in the most southerly parts of Palestine, with piriform styles more common further north. Trefoil-mouthed and Syrian-style RSB/BSB juglets were the most prevalent types in Syria, whilst ovoid and biconical were mainly consumed in the Delta.

In Cyprus, the types were completely different, but the island had intra-regional variations in distribution of BS II and III juglets and of the different styles of WP juglets. The major regional split was between the north and central districts, and the south-eastern area. It was the south-eastern styles of juglets that were first exported, and these went mostly to Tell el-Dab'a, Ugarit and to northern Palestine. Though the actual imports recorded for this period was quite low, interest in foreign juglets and their consumption seems to have been burgeoning, as evidenced by the influences that were circulating. This can be detected in the regional developments in certain types such as TEY juglets, which despite a low prevalence had a widespread geographic distribution, or of RSB/BSB with its special Syrian forms. Furthermore, it can be seen in the adoption of ideology in the Delta, and to other regions of Egypt which had no tradition of ceramic juglet use.

6.5 Discussion and conclusions

6.5.1 Juglet consumption and cultural practice: Cyprus, Palestine and Syria

The consumption of juglet commodities was part of an embedded cultural identity in certain regions of the eastern Mediterranean in the MBA. The practice was probably earliest in Cyprus since juglet forms can be traced back with continuity to the EC periods, whereas in Palestine, juglets were not part of the repertoire in the preceding EBIV period though some small closed containers were produced earlier in the EB period. For coastal Syria, the tradition of juglet consumption *per se* probably spread from Palestine as it was not associated with central Syria, even though different regional preferences developed in tandem.

From relative usage patterns, I believe that the main consumption of juglet commodities was during burial rites. The strong links with funerary consumption, and a likelihood

that the contents were perfumed oil, would be consistent with bodily anointing as part of the burial rite or possibly for perfuming of enclosed spaces. As funerary items, juglets were very common, comprising around 1 in 4 or 1 in 3 of the ceramic vessels deposited. The findings of this study are in broad agreement with Baker's identification of a standard funeral kit in MB and LB burials at the Palestinian site of Ashkelon (Baker 2006). This kit, which numbered at least one juglet alongside a bowl and a scarab, was independent of social rank, age or gender. It is interesting that even in infant burials that rarely have other grave goods to mark status, there was usually a juglet. Although time and my study design did not allow for detailed collection and analysis of all burial variables, anecdotally, the juglets were often positioned relative to the body, e.g. near the head or abdomen. This, again, supported the findings of the Baker study.

We see that in MB Cyprus, Syria, Palestine and the Delta, *funerary* juglet consumption was standard practice. Regardless of whether the types were Levant-style RSB/BSB or Cypriot WP, juglets were recognisably part of the embedded cultural practice of these regions. Nevertheless, there is no reason to suppose funerary consumption was an exclusive use. Finds at sanctuary sites and other cult places suggest ritual use, perhaps as libations or offerings. Even taking into account different post-depositional processes, their scarcity in settlement areas would indicate they were not in everyday use, though they may have been reserved for rarer, special or ceremonial occasions. This was also a firm conclusion of a recent, highly contextualised, study of TEY juglets at Tell el-Dab'a, which found that the majority of juglets had a ritual, mostly funerary, rather than profane use (Aston and Bietak 2012, 557).

This leads to the vexed question of whether or not dipper juglets were used in the same way as the other juglet styles. As shown above, their usage patterns indicate they were more common in funerary contexts than in domestic situations, a fact that does not necessarily sit well with them being used as ladles. They were not always associated with storage jars, neither were they more associated with storage jars than other juglet types. Even Kopetzky (2002, 227), who suggested their use for extracting liquids, saw them as symbolic in funerary contexts, thus accounting for their use in tombs without large jars. I believe that they were too frequently deposited in tombs not to be considered as part of a burial custom. I wonder if infant burial might account for some of the findings of dipper juglets inside storage jars. Certainly this association was

common as at Hazor, for example. It should be remembered that infant bones, especially neonates, do not always survive post-depositional or recovery processes. An alternative explanation for finding dippers in or near storage jars is that they were used to add something to the storage jars, rather than to extract liquid (See Chapter 5 for further discussion). The differences in size between dippers and other juglets may also be relevant. The larger sizes with wider necks, such as those found at Jericho and Hazor, were most often associated with storage jars, whereas the smaller dippers such as those at Tell el-'Ajjul were less often found with them. It seems plausible that the function of dippers juglet may have varied at different sites. Further contextual study might shed more light on these differences. Whatever their function, dipper juglets were very common grave goods which continued into the LBA, long after the other local MB juglets forms had disappeared. It is possible that they gradually replaced the smaller RSB/BSB juglets as precious commodity containers.

6.5.2 Juglet consumption and transferred ideology: Egypt and Nubia

It is apparent that in Egypt outside the Delta, ceramic juglet consumption was not a common cultural practice. Middle Kingdom pottery did not include very many small closed vessels, less than 1% of all ceramics. This paucity of juglets, and their late chronological appearance, mostly towards the end of the SIP, suggests that the custom of placing juglet commodities in burials may have owed something to borrowed ideology. The situation may be quite complex and not unconnected with the indigenous tradition of stone vessel manufacture. During the Old Kingdom, there had been a practice of depositing sets of sacred oils in burials (Bevan 2007, 71-73), in a prescribed (and mainly elite) ritual consumption practice. These had included stone juglets, as well as stone jarlets. By the MK, these forms had been replaced by cylindrical jars and kohl pots (Bevan 2007, 100-101), so in SIP when local *ceramic* jarlets were produced and consumed, they may have recalled and reproduced familiar stone vessel forms alongside the less familiar TEY juglet shapes. If the use of *ceramic jarlets* was borrowed from the Levant, the ideas did not all flow one way. The enthusiastic adoption of stone vessel manufacture in Palestine resulted in *stone juglet* manufacture which was virtually exclusive to that region. Whether the consumption practices had similar symbolic meanings in the different regions can only be a matter for speculation, but I suspect different meanings may have been attached to the borrowed forms.

The somewhat limited interest in juglets in most of Egypt contrasts starkly with the situation in the Delta. In this area, juglet consumption became a core cultural practice mirroring that in Palestine. The ideology would appear to have travelled with the goods and this is apparent in the number of imported juglets as well as the locally made versions. Cultural similarities can also be detected in other burial customs, such as the placement of juglets around key areas of the body and the use of similar types of graves and grave goods (Forstner-Müller 2002). This is all against a back-drop of other imported Levantine cultural elements, such as housing and weapons. It has been suggested that these cultural influences arrived with an influx of people from the northern Levant into the eastern Delta (Bietak 1997, 113). However, there have also been arguments and counter-arguments for trading partners as suppliers of imported produce, either with southern Palestine, based on NAA studies (McGovern 2000), or with northern Palestine, based on petrographic analysis (Cohen-Weinberger and Goren 2004). Whatever the mechanism, an interesting argument is whether these influences came from the northern or from southern Levant. This is discussed more fully below.

More juglets were used in Nubia than in Egypt, which is curious. The proportion of juglets amongst the ceramics was around 20%, all of them imports or locally-made imitations and none of them indigenous pottery types. This suggests that both consumption practices and ideology may have been adopted. Given that the ideology was not of Egyptian origin, the possibility of transference through trading links with the eastern Delta might be considered. Certainly, in the reverse direction Pan grave ceramics found their way into the Delta as early as MBIIA (Aston 2002, 55). However, a note of caution should be introduced here since numbers were quite small.

6.5.3 Regional preferences and regional group identity

In several core regions of the eastern Mediterranean, it has been shown that consumption of juglet commodities was linked with burials, consistently enough to suggest it was local cultural practice. The style of the juglet chosen was seemingly important and this varied with the region. Undoubtedly, one factor involved would have been the products being made at local, specialist manufacturing centres, and some indication that these centres existed is apparent from the evidence at Afula, Kalopsidha

and Beth Shan. However, regional practices and preferences would have played a big role, and particularly in conservative arenas such as burials, the regionalism of juglet styles might have reinforced regional group identities as part of a cycle of reproductive consumption. This is illustrated in the different areas of Cyprus and the Levant.

Within Palestine, regional variations in RSB/BSB juglets saw most sites favouring piriform styles. However, at Tell el-'Ajjul and Tell Farah South, sites close together and in the furthest southerly area, the overwhelming favourite was the cylindrical style. The possibility that the manufacturing may have taken place at either of these sites (or somewhere close to them) should be considered, especially since there were also above average numbers of cylindrical juglets at the neighbouring settlements of Lachish and Gezer. It was really only in the northern Palestine that there were significant numbers of ovoid, globular and biconical styles. In Syria, the trefoil-mouthed and Syrian style juglets defined the preferences of that region. It is difficult to say whether these RSB/BSB juglets originated in this region or from Palestine, or whether they developed in tandem, but the separate regions showed marked preferences for their own forms.

The material culture that emerged in the Delta from the 12-15th dynasties had influences from both Egypt and the Levant. The adoption of juglet consumption was heavily influenced by the latter culture and the RSB/BSB styles adopted by the Delta were those most commonly found in northern Palestine. Piriform styles were common, but it is significant that the biconical and ovoid forms that were so prevalent in the Delta, were otherwise restricted to the northern sites of Megiddo, Mevorakh and Tel Dan. Cylindrical juglets which formed the bulk of those at Tell el-'Ajjul and Tell Farah South were absent at Tell el-Dab'a. This observation is in line with earlier thinking that links the Hyksos culture with the northern Levant.

Cyprus was the most extreme in its regional identities, with topographically delineated settlement areas which were culturally distinctive. Regional differences in juglet preferences were not merely related to juglet forms and styles, but also to the wares in which they were produced. Despite an overriding tradition of funerary consumption of juglets throughout much of the island, different regions showed their preferences for juglets in various styles of BS, RoB and WP wares. However, the ceramic regionalism of Cyprus was not only a matter of topographical separations and it was not static.

Socio-political change and technological advances, especially in MCIII, had their roles in spreading ideas, whilst settlements rose and fell in prominence. The region around Lapithos, for example, was an important and innovative production area for early wares such as BS II. The type ceramic of the MC period, WP ware, also originated in the north, and most WP II ceramics were found at Lapithos (Åström 1972b, 12-17), but WP vessels, including juglets, also became popular in central Cyprus where WP II-III and III and later WP V FLS became popular. Dhenia and Ayia Paraskevi were apparently thriving ceramic producers, with communications to the north and southeast. The distribution of WP juglets as shown in Figure 6-12 and Figure 6-13 support the view that WP ware innovation and technology were communicated from north to central Cyprus, from where they were adopted by the south-eastern sector (Georgiou 2009; Webb 2009, 32). Further innovations there led to the so-called Eastern Cypriot Sequence of WP PLS, CLS, WP V BBS and Eyelet styles, where Kalopsidha has been identified as a pottery production centre for the region. More specifically, in terms of the manufacture of juglet commodities, the presence of Canaanite jars at the site indicates that bulk specialty oils may have been transported there to fill the abundant numbers of fine quality jugs and juglets. In other words, Kalopsidha has been considered as a packaging centre (Crewe 2010, 69) for juglet commodities that were exported, probably with Enkomi as the distributive hub.

It is interesting how intertwined the processes of production and consumption became in the development of regional preferences for juglet commodities. The producers in different regions might have manufactured and distributed these regional specialties, but ritual use, particularly conservative mortuary consumption, embedded the practice into regional group identity, ensuring that the cycle was reproduced over many decades, even centuries.

6.5.4 Imports and imitations and the exchange of ideas

The last section looked at regionalism and group identity within regions that had a tradition of juglet consumption. We saw that when new settlements arose, the cultural tradition of juglet consumption spread. So, for example, as coastal Syria became settled, they adopted juglet styles similar though not identical to the re-emerging towns of Palestine. In Cyprus, Enkomi and the south-east followed and developed juglet styles

from northern and central Cyprus. This section will discuss how juglet production and consumption across the regions may have been influenced by the trade in juglet commodities and the flow of ideas.

Although the Delta showed a definite regional preference for certain juglet styles, it is interesting that these were not those of its nearest neighbours. It seems that the influences were coming from the north. This can be seen particularly with the ovoid and biconical forms that were fairly specific to northern Palestine and which became very popular in the Delta, forms that applied to both RSB/BSB and TEY juglets. Given the numbers of actual imports of these types amongst the juglet assemblage, it appears that the real imports were inspiration for the types that were eventually manufactured locally. Whether they had originally arrived through trade, or with people moving into the region, the juglet types became subsumed into the regional cultural identity of the Delta.

The distribution of TEY juglets, in general, is a prime example of the spread of ideas in juglet use. This form was widely distributed throughout the eastern Mediterranean and its origins, often debated (Bietak 1997; Kaplan 1980; Stager 2002), are still not fully resolved (Aston 2009). Their presence, or perhaps more particularly their production in certain regions, seems anomalous. Why did Egypt have TEY juglets made in Nile clay when these shapes were alien to the region and when juglet consumption was such a minor custom? The large number of TEY juglets found in Nubia poses questions as to whether they were produced there or were imported and, if the latter from where? Clearly, forms of TEY juglets have their origins in the shapes of the Palestinian slipped and burnished juglets and the earliest ovoid forms can be traced to the northern Palestinian site of Afula in MBIIA. But the incised patterning was not a Levantine tradition, although this can be compared with some Nubian pottery, and may account for its popularity there.

Also a Cypriot link has been suggested in that TEY juglets may have a common ancestor in BS II juglets, which had incised patterning. The established production of incised decoration amongst BSII juglets may also explain the ease with which TEY juglets were imitated on Cyprus in BS III ware.

In the Delta, Tell el-Dab'a became an extremely large consumer of TEY juglets, especially in MBIIC, or latter part of the SIP, and despite indications that original imports came from the northern Levant, it seems likely that Tell el-Dab'a became an important production centre for TEY juglets, not just for domestic consumption but also for export. It is conceivable that the Nile clay TEY juglets in Egypt and Nubia were produced at Tell Dab'a. Whilst there were early derivatives of TEY juglets in Egypt, the majority of them dated to MBIIC, making this possibility more likely.

Whilst inter-regional influences in the production and consumption of juglet commodities have been demonstrated and/or surmised, the effects were neither static nor unilateral. Some of the cultural influences seemed to have gone full circle. There was a chain of changes in WP juglet design, influenced by movement through different cultural regions of Cyprus. The so-called Eastern Cypriot sequence not only became popular in south-eastern Cyprus, but was fundamental to the start of the Cypriot export trade in juglets. Most of the Cypriot WP juglets exported were destined for Tell el-Dab'a. This was a trade link that was not necessarily one-way. The TEY grooved juglets were only found at Tell el-Dab'a and in Cyprus. It is not clear which region originated the style and which imitated (Aston 2009) but both Enkomi and Tell el-Dab'a appeared to have been eager to adopt innovations and ideas.

An example of circular influences was the production of the RSB/BSB Eyelet juglet. Whether or not the original Syrian-style juglet was an independent development, or whether it was derived from the piriform-style of Palestine, the Eyelet variation with its painted eyes gained attention in Cyprus, where it was imported. Not only was this then adapted in the local WP Ware and used in Cyprus, it was also exported back to Syria. Another curiosity is that Egyptian style jarlets and juglets were found dotted around the eastern Mediterranean. If, as seems likely, the custom of juglet use in Egypt trickled down from the Delta after being adopted there, then the influence went full circle when the Egyptian products or their imitations were being consumed in the Delta, and Nubia, as well as further afield at Beth Shan and at Pella.

To summarise and conclude, juglet consumption was part of embedded cultural practice for the MB Levant and Cyprus. The main focus would appear to have been for ritual use, particularly as part of burial rites. Whilst preferences were important in establishing

or maintaining regional identities, juglet commodities and their consumption practices spread to other regions during the MBA. They were wholeheartedly taken up in the eastern Delta with its Levantine cultural ties, but they also filtered into the rest of Egypt and Nubia, which had very different cultures. Cyprus, emerging from relative isolation, started to exploit trading links in adopting innovation and exporting its rather exotic products to other regions.

CONTINUATION VOLUME

UNIVERSITY COLLEGE LONDON

The socio-economic implications of the distribution of juglets in the eastern
Mediterranean during the Middle and Late Bronze Age

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Chapter 7 The innovative juglets of the MBA/LBA transition: development and distribution from the Cypriot viewpoint

In the last chapter, juglet production and consumption throughout the eastern Mediterranean were discussed with the Levant as the central focus, and variations in regional practices were reviewed in comparison with this region. This chapter sets Cyprus, and its juglet innovations, at the centre of the narrative, and explores how these regional specialties gained identifiably distinct consumer bases, both at home and abroad. It also looks at how these new regional specialties appear to have stimulated competition for overseas trade. The first section (7.1) sets the scene by reviewing the international socio-political situation during the transition from the MBA to the LBA. The main section (7.2) presents the production of the different types of LCI juglets, their regional distribution in Cyprus, and their export to other regions of the eastern Mediterranean. It explores juglet distribution patterns for indications of consumption preferences in the different regions. Section 7.3 examines how the new Cypriot commodities influenced the juglet consumption practices of the eastern Mediterranean. It also discusses possible production and distribution regions and their interconnections. Section 7.4 presents a summary of the results with the main conclusions, whilst the final section (7.5) explores some possible mechanisms that might have been involved in the regional production and international distribution.

7.1 The international arena at the transition from the MBA to the LBA

Throughout the eastern Mediterranean, the period between the end of the MBA and the start of the LBA was one of political upheaval, social change and economic fluidity. However, these changes were not synchronised across all the regions. As discussed in Chapter 2, Late Cypriot cultural changes on the island started earlier than the LBA period in the rest of the eastern Mediterranean, i.e. around 1650 BC, corresponding to the MBIIC in Palestine and the latter part of the SIP in Egypt. As a consequence, the chronology of developments on Cyprus necessitates revisiting the MBIIC and late SIP periods on the mainland and Egypt before looking at the LBI. This study period, which

is of crucial importance in the development of the international juglet commodity trade, covers 1650 to 1450 BC.

During the latter half of the SIP (around 1650-1550 BC), Egypt was culturally fragmented with a Hyksos enclave in the eastern Delta and Nubian control over the fortresses in the south. This situation was recorded on the Kamose stela (Kamose II, 3): “*A king is in Avaris, another is in Kush, and so I sit alongside an Asiatic and a Nubian. Each one has his slice of this Egypt, dividing up the land with me*”. Whilst the eastern Delta had its own distinctive identity, based on Levantine, Egyptian and locally developed material culture, the Memphis-Faiyum region had pottery which was characteristically Egyptian. This was a continuation of Middle Kingdom traditions, with only a very small scatter of foreign pottery (Bourriau 1997, 163). Middle and Upper Egypt belonged to a similar cultural zone but further south there was a mixing of Egyptian ceramics in burials with Nubian (Pan Grave) pottery. In Nubia, Egypt had lost control of the MK fortresses built in the 12th dynasty, but Egyptian residents may have stayed and accepted Kushite rule. Consequently during the SIP, there existed in Nubia a mixing of material culture (Bourriau 1991, 129-131; Säve-Söderbergh and Troy 1991b, 1).

During the 15/17th dynasties, Egypt had economic and cultural contact with other regions of the eastern Mediterranean, but there seem to have been some limitations. For Egypt the major entrepôt was Tell el-Dab'a, which traded with the so-called 'Gaza cities' of southern Palestine, which included Gaza, Tell Farah South, Tell el-'Ajjul, Tell Beit Mirsim, Ashkelon and Lachish. NAA studies have indicated that most imports of Canaanite jars into the eastern Delta came from southern Palestine. The same studies showed extremely limited contact from regions further north and there were no NAA matches with eastern Palestine (McGovern 2000, 70). However, textual evidence has indicated trade with the northern Levant, and of note were the imports of moringa oil, resins and incense, perhaps for making perfumed oil. It was proposed in Chapter 6 that juglet commodities were imported from that region. The Hyksos-controlled region also had contact with the Aegean and with Cyprus. The publication of the ceramic data at Tell el-Dab'a has clarified a special trade relationship between this centre and one or more Cypriot settlements, most probably Enkomi (Maguire 2009, 21-41).

International trade relations between Theban Egypt and the rest of the eastern Mediterranean during the SIP must have been subject to Hyksos control given the importance of Tell el-Dab'a to trade routes. Kamose's description of the harbour at Avaris mentions “...*hundreds of ships of fresh cedar which were filled with gold, lapis, silver, turquoise, bronze axes without number, not to mention the moringa oil, fat, honey, willow, box-wood, sticks, and all their fine woods - all the fine products of Syria*” (Kamose II, 13-15). McGovern's NAA study also confirmed trade between the eastern Delta and the Memphis-Faiyum region of Egypt, probably with Tell el-Dab'a acting as an entrepôt (McGovern 2000, 78-79). However, trading links between the Delta and Upper Egypt in this period have not been demonstrated.

There may have been diplomatic links between the Hyksos and the Nubian rulers, according to the Kamose stela, so commercial interactions may have existed. It has been suggested that goods were channelled from Tell el-Dab'a to the south via the oasis routes through Bahriya, Dakhleh and Dush, specifically designed to exclude Middle and Upper Egypt from a political and trading relationship (Redford 1992, 113). Whilst the political alliance is supported by textual evidence, O'Connor (1997, 62) doubted that this route was plausible and referred to Bourriau (1991, 130), who suggested that whatever trade there was, went via the Theban kingdom, based on the presence of Nubian pottery in the Theban area. She points out, though, that there is no evidence of direct trade between the Nubians and the Hyksos.

In MBIIC, Tell el-'Ajjul seems to have developed into an important trading hub for Palestine. Despite being smaller in size than other Gaza cities, it had a great number of imported goods and foreign influences. The special relationship which existed at this time between this city and the Delta is manifest in the local production of and trade in stone vases and scarabs displaying Egyptian-Levantine cultural influences (Ben-Tor 2007, 190-93; Bevan 2007, 105-6). Trade links between this city and Cyprus started at this time, and it would appear to have been a very early importer of Cypriot PWS, PBR and BR I wares – one of the few places with confirmed imports of these LC ceramics before the end of the MBA.

The end of the SIP saw the re-unification of Egypt. The initial moves of the early 18th dynasty kings appear to have re-established hegemony over Nubia, where the

boundaries were pushed south to the fourth cataract. The early 18th dynasty was associated with the re-building of fortresses and temples at Buhen and Kerma, and also by rapid Egyptianisation, evident in material remains including burials (Bourriau 1991; Säve-Söderbergh and Troy 1991b, 1-2; Williams 1992, 1-5). Then, according to the Kamose inscription and other contemporary and historical accounts, they became occupied with the expulsion of the Hyksos from the Delta (Bietak 1997; Bourriau 2000, 210-14; Redford 1992, 126-28). It would seem that Ahmose and his immediate successors continued to participate within the eastern Mediterranean exchange system. There is an interesting reference to the establishment of residences at Memphis, the better to oversee the northern operations, and the appointment of a 'house steward' at the 'ways of Horus'. This seems to relate to the establishment of new trading routes (Redford 1992, 153, note 113), because in the immediate post-Hyksos period, Tell el-Dab'a may not have been not operational.

Initial moves by the Egyptian military into the Levant resembled those of the Middle Kingdom, i.e. razzias or punitive strikes to intimidate in a bid to acquire goods. Ahmose led campaigns against Sharuhem (possibly Tell el-'Ajjul) in Palestine. His Levantine raids appear to have reached northwards to Byblos. Later raids penetrated further north and inland, with Amenhotep I reaching Tunip, on the Orontes, and Thutmose I reaching the Euphrates. But these seem to have been periodic skirmishes rather than consistent empire building. (Redford 1992, 148-89). In Palestine the end of the MBIIC and the start of the LBIA period were marked by destructions and abandonments. It is tempting to see these as causally linked, given the Egyptian textual references to the expulsion of the Hyksos. However, close examination of the archaeological data from Egypt and from southern Palestine does not necessarily provide the expected patterns. Firstly, it is now recognised that the apparent 'destructions' that occurred in Palestine in the mid 16th century BC do not all relate directly to Egyptian campaigns by Ahmose or the early 18th dynasty rulers. Beth Shan, for example, has a destruction level which may have occurred within MBII, with no stratigraphic break between MBIIC and LBIA (Weinstein 1981, 2). Tell Farah South had no destruction level and was probably only abandoned. Those sites that were destroyed do not appear to have been abandoned for long. At Tell el-'Ajjul, the burnt level separated Cypriot imports of similar styles, implying, at most, a short abandonment. Nevertheless, the archaeological record shows

a distinct decline in the number and size of settlements, reaching a nadir in LBIA and not recovering until the 14th century (Gonen 1984).

At the end of the MB period, the Hittite conquests by kings Hattusili I and Mursili I led to political and economic disruptions across most of central western Syria. The violent destructions there resulted in dramatic socio-economic changes with reductions in the number and size of settlements and urban decline. This was followed in LBI with a rise in importance of the coastal regions (Mazzoni 2002, 131).

At this time, Cyprus also entered the international arena, as attested by Cypriot pottery in Egypt and the Levant and by foreign goods and symbols in Cypriot contexts, with the presence of seals, weights and scales indicating the commercial nature of the interactions. It has usually been assumed that copper from Cyprus was the driving force for increased trade links, and it has been suggested that it was the intensification of mortuary consumption of copper in northern Cyprus, e.g. at Lapithos, which had led to outside awareness of this copper resource (Keswani 2004, 153). Demand for copper has also been seen as the motivation behind the competitive regionalism generally agreed as characteristic of the social structure of the island since the seminal paper by Merrillees (1971), with coastal sites vying for access to prestige foreign goods and the systems of fortifications across the island built to protect copper resources (Peltenburg 1996). However, international trade in the south-east may not have been linked to copper export since there is little evidence for copper exploitation at Enkomi at this time and Enkomi was not close to the copper sources. More recently, an alternative explanation has been proposed (Crewe 2012, 239) for the contemporary, competing regional systems, based on models proposed by Whitelaw (2004, 238-45) for the pre-Palatial development of complexity in the Aegean. One system was based on international trading at coastal settlements, whilst the other resulted from surplus accumulation from a strong agricultural hinterland. Such frameworks, which could be identified at *Toumba tou Skourou* and Enkomi respectively, parallel the situations described for Mochlos and Knossos in pre-Palatial Crete. The presence of local storage amphorae and imported Canaanite jars in the east and south of Cyprus in MCIII and LCIA levels, are not only evidence for imports of organic commodities from the Levant, they may also indicate emulation of Levantine storage systems and intensification in production and storage of bulk agricultural commodities from the Mesaoria Plain or the Karpas.

Certainly regionalism is manifest in the differing ceramic assemblages which persisted until a more uniform, island-wide material culture became apparent, certainly not before LCIB (Manning 2001; Manning *et al.* 2002, 103), and probably as late as LCIIA (Crewe 2007b, 153). The original premise was an east-west divide with two main production regions: the more innovative potters of the north-west and centre of the island where the new WS and BR wares developed, and the more conservative producers in the south-east around Enkomi and Kalopsidha still producing the Eastern Sequence WP styles. It has been suggested that the intra-island divide, manifest in the appearance of fortified sites across the island, was responsible for the restricted movement of the new pottery across the island (Manning *et al.* 2002, 106). To a certain extent this is true; there may have been very little contact between the two competing protagonists of Enkomi and *Toumba tou Skourou*. However, this 'intra-island barrier' thesis is criticised as overly simplistic and inaccurate by Eriksson (2007a, 55-58). Pottery did move between the eastern and western regions as illustrated by variations and anomalies in pottery assemblages among sites in the north-east, north, central and south, as even Manning *et al.* (2002, 102) allows. It is most noticeable in the ceramic repertoires at junctures between the two regions, such as at Maroni and Kalavassos, where a merging of some ceramic features reflected both western and eastern influences (Crewe 2007b, 102; Manning *et al.* 2002). Furthermore, a recent topographical study shows that central Cyprus acted as a cultural bridge during MCIII and LCIA facilitating the flow of ideas and material culture between *Toumba tou Skourou* and Enkomi (Georgiou 2011). That said, regionalism did affect the patterns of exports and imports of ceramics and other goods to and from regions of the Levant and Egypt, and has given rise to the notion of competitive regionalism.

Most of the commodities which reached Egypt from Cyprus would seem to have arrived via Tell el-Dab'a along the Pelusiac branch of the Delta, most likely from Enkomi or Kalopsidha, as indicated by the visible exports of WP ceramics, and the reverse trade has been recognised in Egyptian goods such as TEY juglets in the earliest occupation levels at these two sites. The Eastern Sequence WP juglets also went to Ugarit and a port supplying Megiddo and northern Palestine. The MC styles of WP juglets were not exported to Tell el-'Ajjul and southern Palestine as was discussed in Chapter 6. The trade into Tell el-Dab'a was interrupted with the end of the Hyksos period in the eastern

Delta, and during this time the evidence points to a similar hiatus in trade out of Enkomi, with a dearth of Canaanite jars at Enkomi in LCIB levels (Crewe 2012, 234). Furthermore, it is not very clear whether Tell el-Dab'a regained its premier position as an entrepôt. Certainly LC I material has not been retrieved in large quantities, and in the post-Hyksos strata at the Ezbet Helmi area of Tell el-Dab'a, Cypriot pottery is mostly dated to the reign of Tuthmosis III (Hein 2007; 2009; Hein and János 2004).

It is argued that mature BR I ceramics only reached Egypt after LCIB, once they had been adopted in eastern Cyprus (Manning *et al.* 2002, 103-4). However, Enkomi and Tell el-Dab'a may not have played a role in trading BR I, as suggested by Crewe (2007b, 153), and if that were the case, how did the new BR I ware arrive in Egypt and the Levant, and which regions were exporting it? It would seem that the new BR I did find an outlet, probably from *Toumba tou Skourou* to southern Palestine via Tell el-'Ajjul. Interestingly, some of the ceramic products such as PWS and early WS I, as well as a few early BR I juglets, arrived at Tell el-'Ajjul during MBIIC, which means that the trade link between northern Cyprus and south-east Palestine was operating before the Enkomi to Tell el-Dab'a route was disrupted.

7.1.1 A note on the ceramic types on Cyprus at the start of LCI

It has been widely accepted for many years that the appearance of WS I and BR I ceramics on Cyprus signalled the start of LCI (reviewed by Eriksson 2007a, 37-59 with references). However, the occurrence of certain ceramics on the island, notably Proto White Slip (PWS) and Proto Base Ring (PBR) needed some explanation and adjustments to dating. If these ceramics are to be considered as prototypes which preceded WS I and BR I, they too need to be accommodated within the LCI period. Next, there is a problem with the continuation of some of the MC pottery styles into LC period, such as BS and WP variants and the RoB pottery. Then, there was the problem of the first appearance of wheel-made ceramics, long believed to be foreign imports as wheel-made technology was presumed to be alien to Cyprus. However, it is now generally accepted that Bichrome and BLWM were manufactured on Cyprus and have become beacons of LCIA (Artzy 2001; Eriksson 2007b; Knappett *et al.* 2005; Yannai and Gorzalczy 2007).

Explaining the chronological and geographical distributions of innovative and traditional wares around the island has been greatly helped by the subdivision of the LCI period into: LCIA:1, LCIA:2, LCIB:1 and LCIB:2 (e.g. Åström 1972d, 700-701, 756-58; Eriksson 2007a, 43-46). To summarise the major pottery groups, the opening of the LCIA saw the continued development of MC pottery styles such as BS ware, mostly as BS V in the north, but also as BS IV in the east. RoB pottery continued through MCIII into LCIA with little change in the Karpas peninsula. WP wares such as WP V and CLS continued from MCIII into LCI, whilst the newer WP VI first appeared in LCIA:1. True innovations included WS I and BR I, whose origins are generally associated with the north of the island. They first appeared in LCIA:2, with the 'proto' forms of each preceding them in the LCIA:1 period. Bichrome wheelmade ware, now known to be of Cypriot manufacture, and also dated to LCIA:1, is strongly associated with Milia in the east of Cyprus. Both BLWM and RLWM ceramics were also introduced in LCIA, the former at the beginning of this period and the latter towards the end. Evidence associating them with particular production centres is scanty, although there are some indicators that Kazaphani and Kalopsidha may have been associated with manufacturing, as will be discussed below. Finally, WSh ware was introduced in LCIA:2 or LCIB, with Enkomi as a possible manufacturing site. Other new wares were also introduced at this time including Plain White and Monochrome wares, but these were of negligible importance to juglet production since so few have been recovered.

Juglet production, distribution and consumption featuring most of these wares are discussed below. It should be noted that some juglets that first appeared in LCI were still being manufactured beyond this date and their discussion will continue in the following chapter. Where feasible, analyses and discussion have been limited to this short, innovatory period.

7.2 Introducing the new juglet commodities of LCI

The start of the LCI period on Cyprus saw an escalation in the appearance of innovative decorated juglets, which may well have had contents which were also new and exciting. The new juglets went further than mere regional variations designed by the potters for the local populations. Some showed real advances in ceramic technology, such as the wheel-made BLWM and RLWM juglets, and the shiny, thin-walled BR I juglets. An

interesting point is that these novelties did not originate from a single innovative centre, but in multiple regions, with their first appearances within a relatively short time frame, when this plethora of interesting new containers attracted attention abroad. Presumably the contents inside the new juglets had been attractive enough to maintain that interest.

In this main section, the different types of Cypriot juglets are presented, by ware, in sub-sections 7.2.1 to 7.2.7. As far as possible they are discussed in chronological order of their development/first appearance, although some represent simultaneous introductions. Consequently, progressions, evolutions and innovations can be tracked. Within each sub-section, the regional Cypriot distribution of each juglet type is examined before looking at the export patterns.

7.2.1 The continuance of WP juglets in south-eastern Cyprus

As discussed in Chapter 6, the WP juglets of the MC period exhibited marked regional variation, with different forms and decorative styles apparent in the north and centre of the island compared with the south-eastern region. The split was also apparent in the MC exports, with only the 'Eastern Sequence' types reaching destinations abroad. Before discussing the new WP juglet styles that were exclusive to LCI, it is worth reviewing in greater depth WP V juglets, which extended from MCIII into LCIA.

7.2.1.1 WP V juglets

As with the earlier WP wares, regional variation existed amongst WP V juglets, with Eyelet and the TLS styles clustered in the south-east, and FLS juglets in the north and centre. This clustering is shown very clearly in Figure 7-1. Many thousands of WP V sherds of different types as well as whole juglets were found in LCI levels at Kalopsidha (Åström 1966, 49), a possible manufacturing site for WP juglets and their contents. WP V juglets were exported abroad, and like WP CLS and PLS juglets, these were traded out of the south-east to the Levant and to Tell el-Dab'a. Unfortunately, many of them were unclassified or unclassifiable (e.g. due to being too worn or too fragmentary). However, since northern styles have almost never been identified outside Cyprus, it seems likely that WP V juglets reaching the mainland came from the south-east. The south-eastern, Eyelet juglets, which are more readily recognisable, were concentrated in the north of Palestine and in Syria. It is important to note that few of

these juglets were found in southern Palestine and, in particular, none were found at Tell el-'Ajjul, and I shall return to this point later in the chapter.

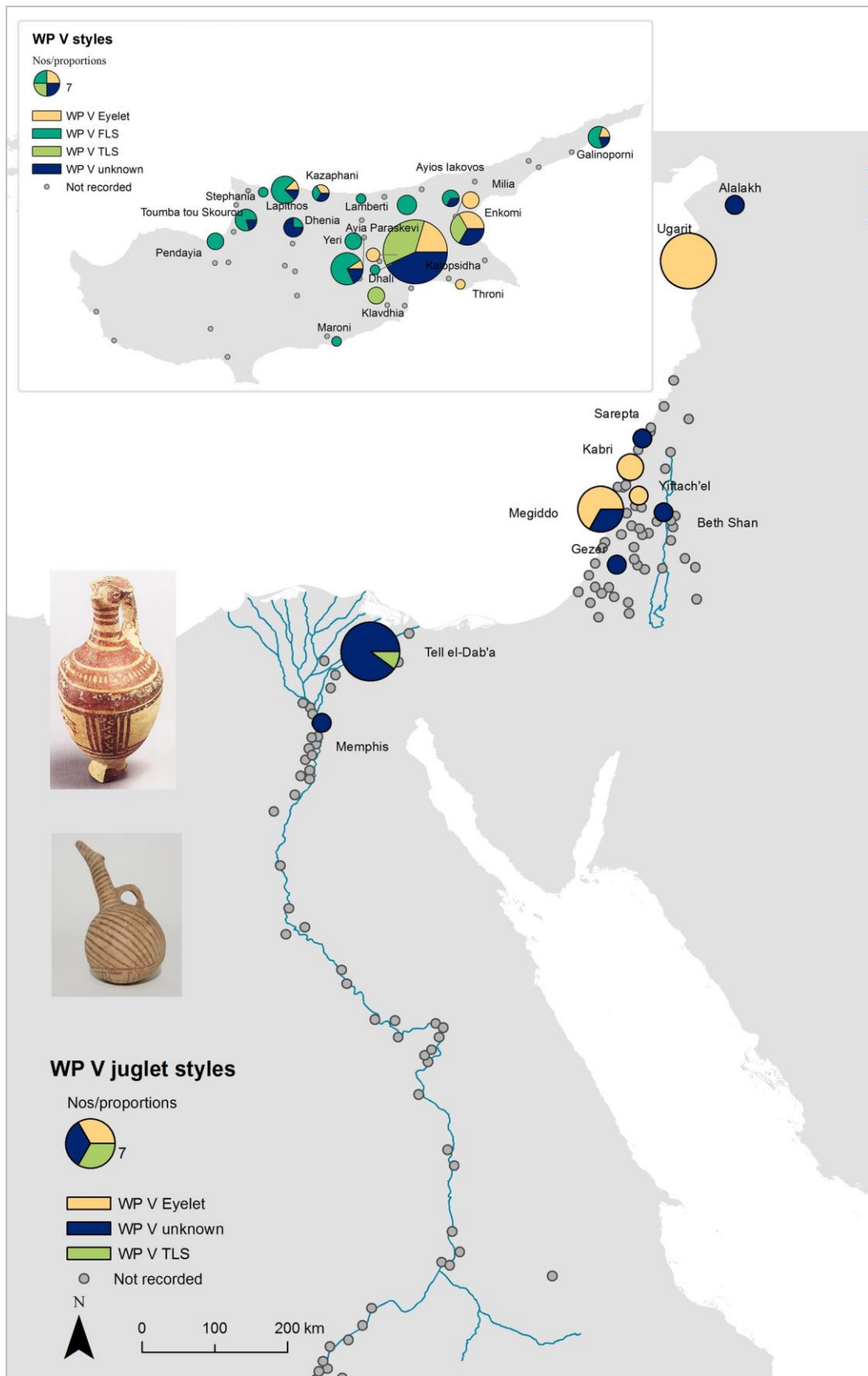


Figure 7-1 The distribution of all recorded WP V juglets on Cyprus and their export abroad

7.2.1.2 WP VI juglets

The new WP VI juglets developed at the start of LCIA, lasted until the end of LCIB and were the only WP types that were exclusively LC. The distribution of WP VI juglets on Cyprus, and their export abroad, are shown in Figure 7-2, which shows the spread was dependent on type. Of the classifiable types, WP VI spouted juglets were concentrated in the south-eastern sector of Cyprus. This is not surprising since they probably developed from the WP PLS style of decoration, as discussed in Chapter 1. These juglets were exported almost exclusively to Palestine and Syria, although none have been found at Tell el-'Ajjul. The distribution of WP VI STS juglets on Cyprus suggests a south-eastern origin for these types also, although Kazaphani had a significant number. The exports of these commodities reached different destinations. WP VI STS juglets were thinly distributed along the Nile, as far south as Aniba and Debeira, though the vast majority were imitations rather than genuine imports. Not a single WP VI STS juglet was found in the SIP levels of the main Tell el-Dab'a site, although four have been found at Ezbet Helmi in area H/I, dated to 1550-1450 BC (Hein 2007).

Other WP VI juglet forms with completely different decorative styles originated in the north and centre of Cyprus (see Chapter 1). These were not exported abroad, but they do appear to have spread from the north-west sector to southern sites, in contradiction to the intra-island barrier thesis. It is interesting that Kazaphani and Maroni, both situated in the centre of the styling divide, consumed a mixture of all the WP VI juglets. Whilst the northern juglet commodities were never exported off-island, the south-eastern WP juglets continued to be produced for both domestic and overseas consumers. What is curious and interesting is that whilst the south-eastern styles of WP V and VI juglet commodities, were produced in the same region, their export destinations were not the same.

WP V Eyelet styles went to northern Palestine and Syria, whilst the other WP V forms reached Tell el-Dab'a. Compared with previous WP juglet styles, fewer WP VI STS juglets went to Tell el-Dab'a, but they did travel further than the Delta, into the Memphis-Faiyum area and beyond, with a few found as far south as Nubia. It is noteworthy that many of the WP VI STS juglets in Egypt and Nubia (62%) were imitations. These patterns could indicate that though WP VI STS was a desirable

product, within Egypt access to supplies of the genuine product was difficult at this disruptive period.

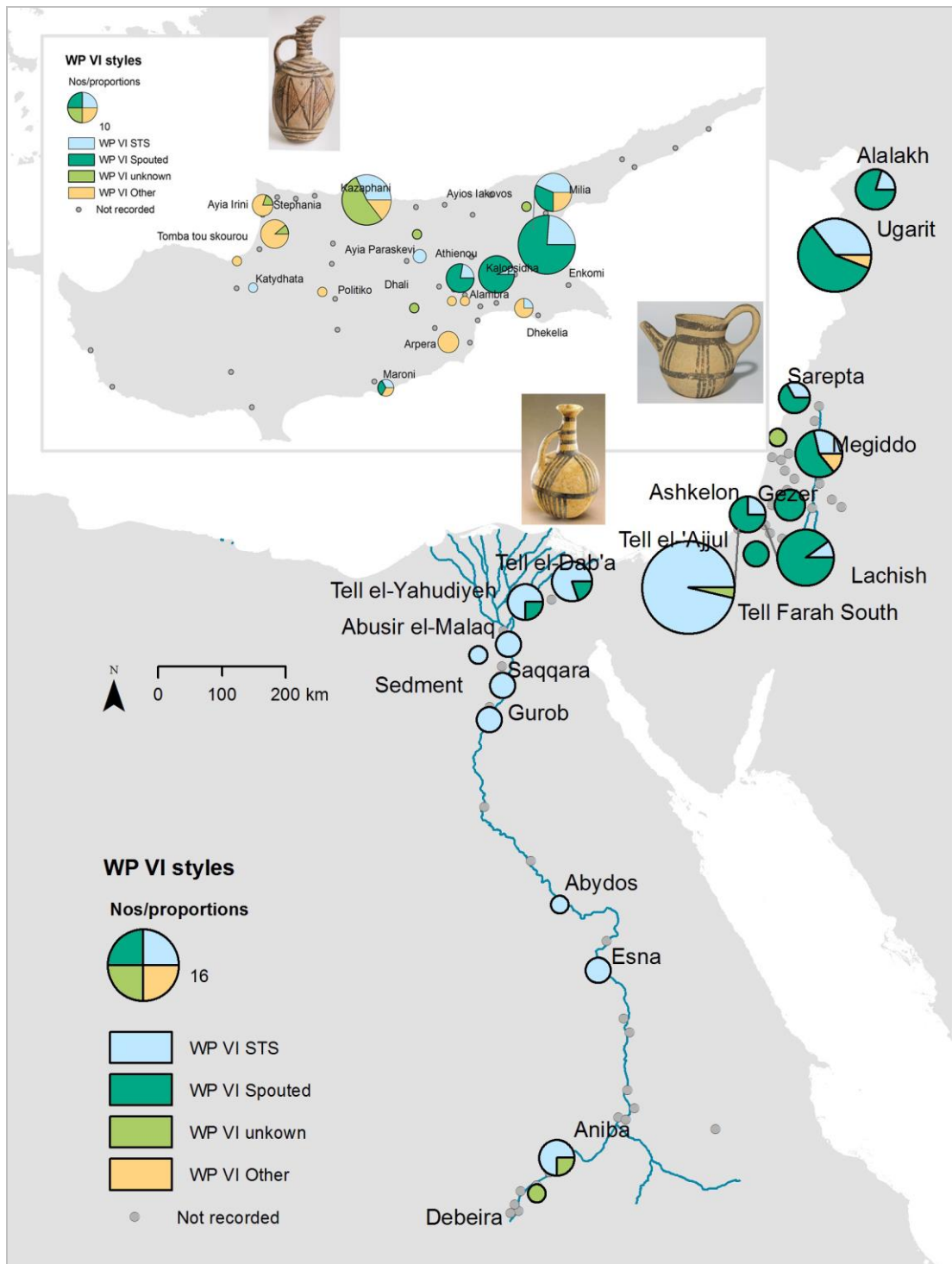


Figure 7-2 *The distribution of all recorded WP VI juglets on Cyprus and abroad*

WP VI spouted juglets were much more popular than the WP VI STS juglets in the Levant, although unlike the earlier WP V commodities, which went to northern

Palestine, these found their way to the more southerly communities at Ashkelon, Gezer and Tell Farah South, but importantly not to Tell el-'Ajjul. These export patterns not only show the conservatism of the south-east producers in continuing to manufacture WP juglet products, they also hint at fragmentation of the production of different commodities, or at the very least in their distribution. That the destinations of WP V and WP VI juglets in the Levant and Egypt should have changed is not extraordinary if it is accepted that they were produced at different times. However, the varying distribution of WP VI STS and spouted juglets, seemingly from the same manufacturing region and pivoting around Tell el-'Ajjul, perhaps requires more comment. This may be related to the reduction in trading activity between Tell el-Dab'a and Enkomi, coupled with a rise in importance of Tell el-'Ajjul as a commodity trader.

7.2.2 Red-on-black juglets that never left the peninsula

The highest concentrations of RoB/RoR ware have been found in the Karpas peninsula, where it almost certainly originated (Merrillees 1979, 120). The ware seems to have been innovative, because although it appeared very early, around MCII, it anticipated some of the stylistic features of later LCI forms and it lasted well into LCI. These included a funnel mouth and flat strap handle and a burnished metallic finish. The RoB juglets were largely confined to Ayios Iakovos, Nitovikla and Palaeoskoutella. They were almost exclusive to the Karpas, with only a few found scattered elsewhere in Cyprus (Figure 7-3). Only one, single RoB juglet has been found outside Cyprus, though bowls of this ware and some jugs were exported to the Levant in MCIII and into LCIA. These exports coincided with the foundation of Enkomi. Furthermore, the greater bias of bowls to closed shapes at Enkomi in settlement rather than funerary contexts (Merrillees 1979, 120), has suggested that this site became the distributor of RoB vessels that did travel abroad (Crewe 2007b, 120). Reasons for the lack of interest in the RoB juglet commodities outside the peninsula, even on Cyprus, was not merely a problem of isolation or transportation. This must have been related to consumption preferences. If RoB bowls were popular outside the region, but the juglet commodities were not, then the decorative styling was not the only factor in selection. The contents may not have been acceptable outside the region. Perhaps the contents were totally different and/or the consumption practice alien. Possibly the production process limited the quantity available.

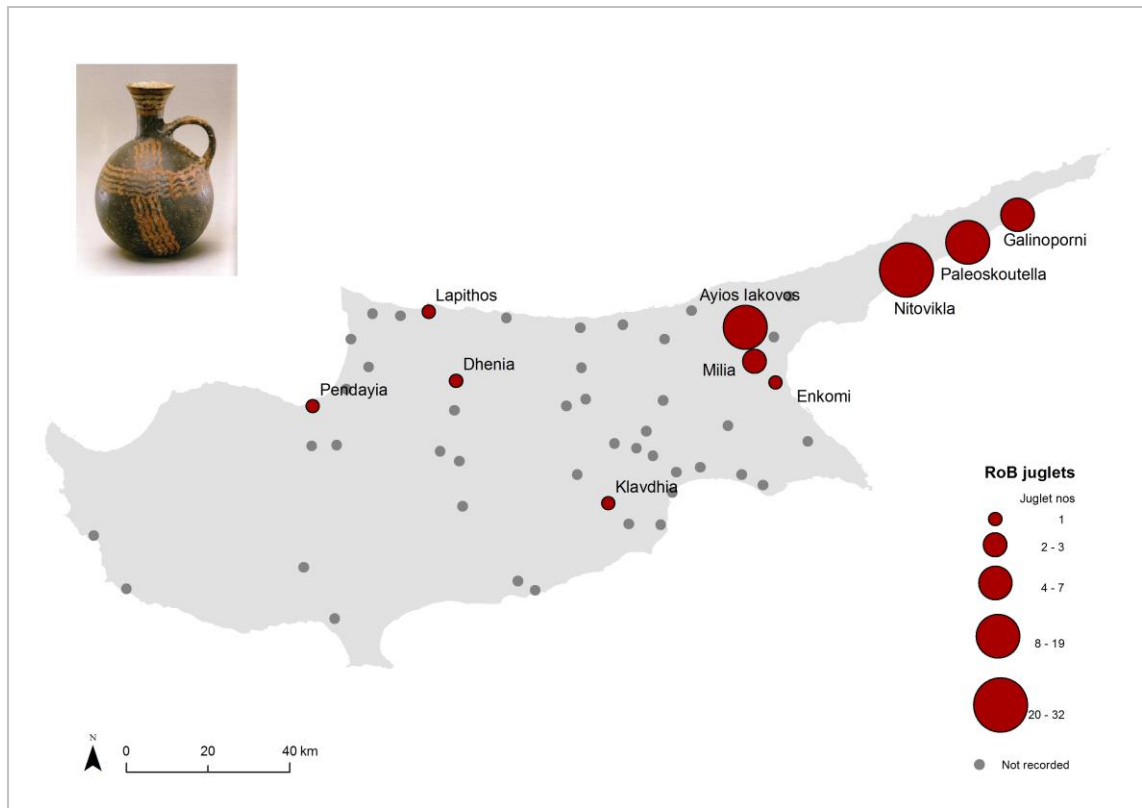


Figure 7-3 The distribution of all recorded RoB juglets on Cyprus

7.2.3 Black Slip juglets: a lesson in experimentation

BS V juglets were the LC version of BS III. The typological differences have been described in Chapter I, but since they are not always easy to differentiate, it is assumed that they projected the same broad messages and had similar contents. As with the MC products in BS II and III, BS V juglets were mainly produced and consumed in the northern parts of the island, notably at *Toumba tou Skourou* (Vermeule and Wolsky 1990), *Stephania* (Hennessy 1966) and *Ayia Irini* (Pecorella 1977; Quilici 1990), although not insignificant numbers were also found at Enkomi (Schaeffer 1952; Courtois 1981) and Milia (Westholm 1939) (Figure 7-4).

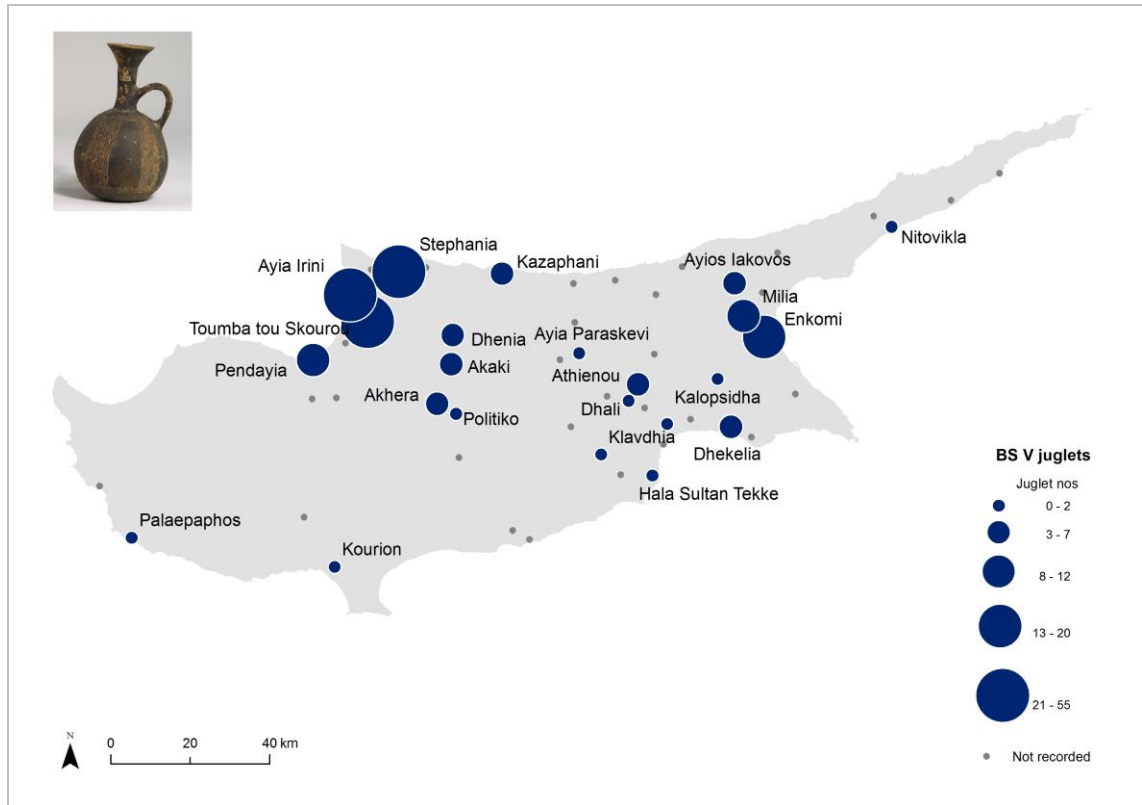


Figure 7-4 *The distribution of all recorded BS V juglets on Cyprus*

However, if BS V juglet numbers are compared as percentages of the total number of juglets in those contexts, then it can be seen that it was the northern sites around the Morphou Bay region that had a preference for BS V juglets (Figure 7-5).

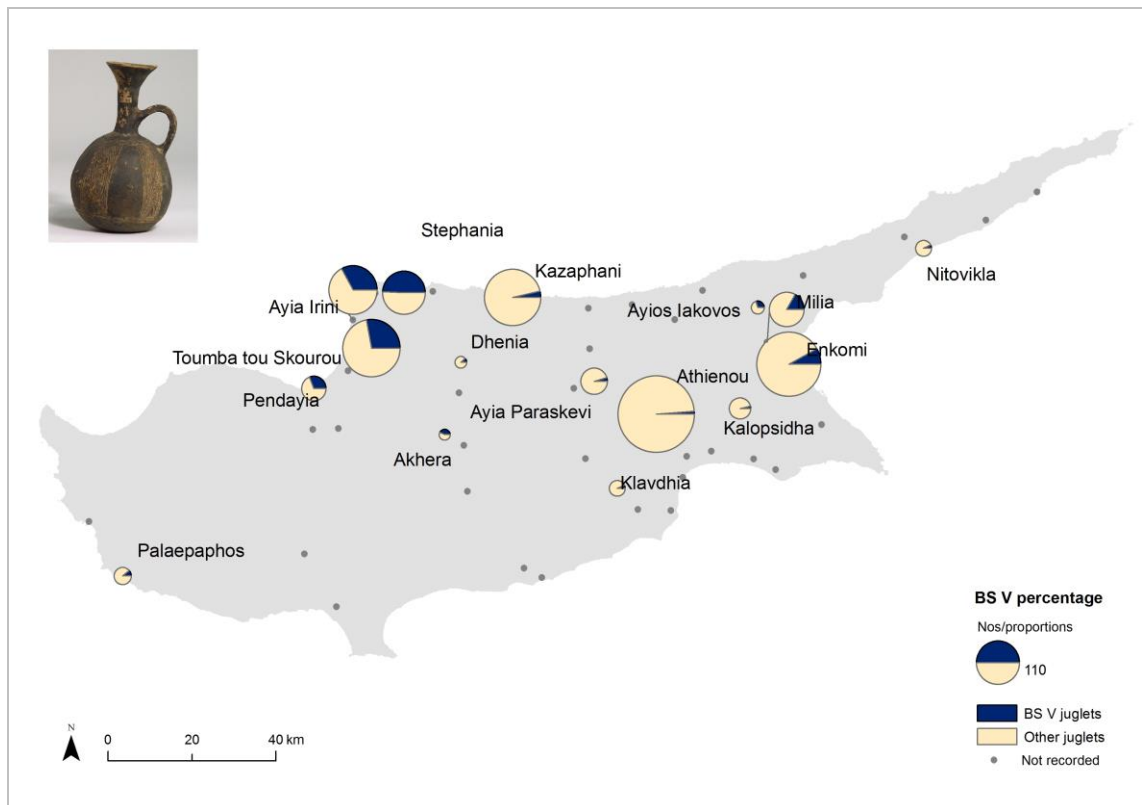


Figure 7-5 *BS V juglet preference at north-west Cypriot sites*

Regional differences in BS juglets may also have been affected by technical know-how. Åström (1972c, 75) pointed out that the BS IV juglet was a new LC shape, and that it was produced using a different technique. The clay was often soft and the slip frequently flaky. BS IV juglets were generally less prevalent in the north, where the finer grained clay of BS V was common, but there were high numbers at Enkomi (Dikaois 1969; Courtois 1981; Schaeffer 1952) and several misfired pieces of BS have been reported (Åström 1966) at Kalopsidha (Figure 7-6). It is not inconceivable that the eastern quarter were experimenting with their own versions of BS. If so, they were not a great success, since they were not widely distributed and were quite short-lived.

Only a handful of Cypriot BS juglets were recorded abroad, just singles of BS IV and BS V at Ugarit (Monchambert 2004, 83), Alalakh, (Woolley 1955, 209) Saqqara and Tyre (Åström 1972c, 717, 732) and singles of BS II and III at Alalakh (Bergoffen 2005, 83) and Lachish (Tufnell 1958, 305). An interesting exception is the eight incised BS V juglets found at Aniba (Steindorf 1937, 171-190), as well as the one BS II juglet at

Buhen (Merrillees 1968, 141).



Figure 7-6 *The distribution of all recorded BS IV juglets on Cyprus*

7.2.3.1 *Experimentation with new forms*

In the north, and in particular at *Toumba tou Skourou* and *Ayia Irini*, there is evidence of some experimentation, with the form of BS V juglets developing a long neck with a funnel mouth. The funnel mouth would have been of great practical value to manufacturers when filling the narrow-necked vessels. The strap handles, attached from mid-neck to shoulder may have assisted careful, drop-by-drop pouring. Perhaps the most noticeable attribute is the strong resemblance to the ubiquitous BR juglets, or more precisely PBR, since most had a flat rather than a ring base. The similarities may be seen in a comparison of shapes for these types (Figure 7-7).

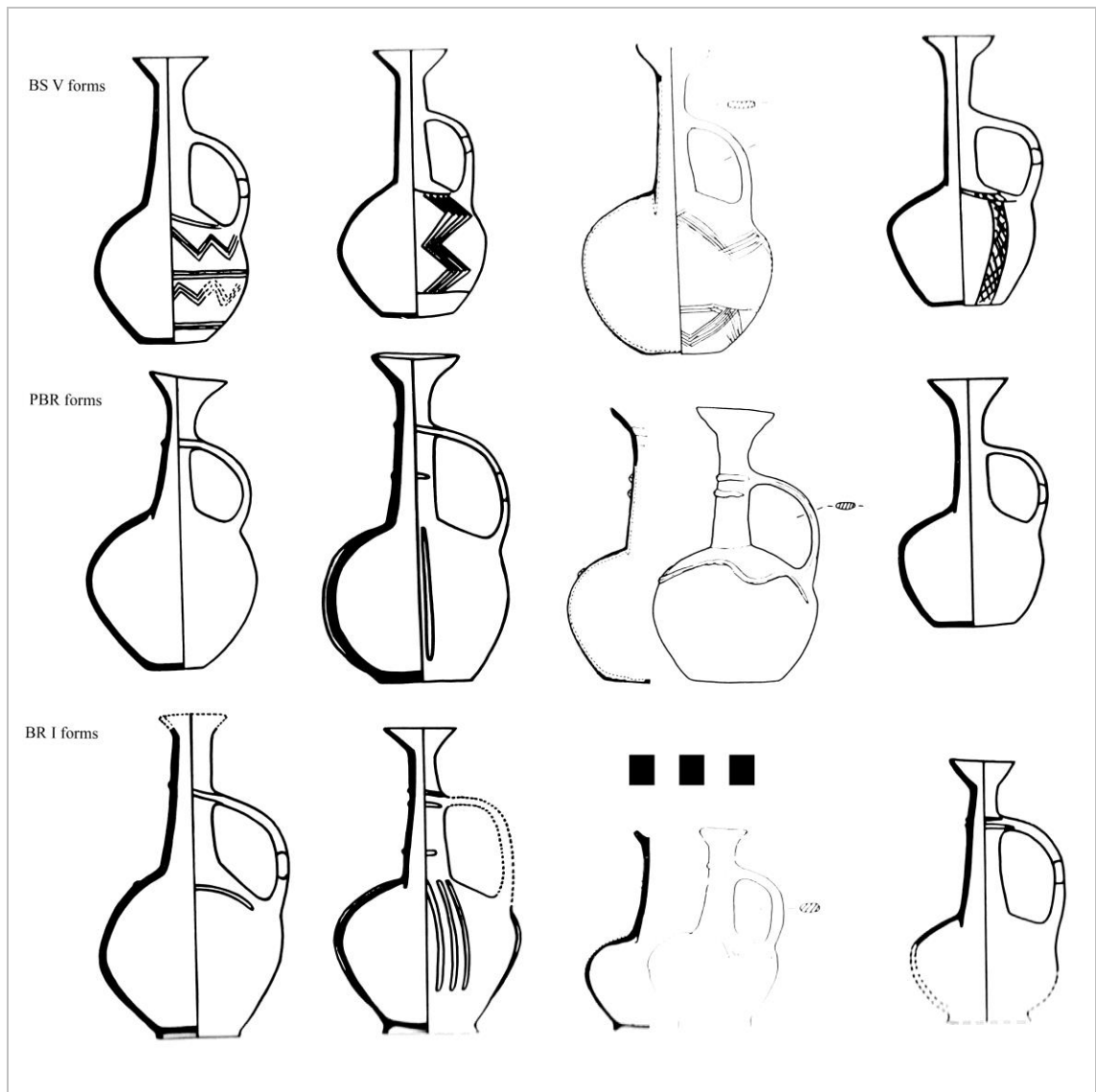


Figure 7-7. Comparison of BS V, PBR and BR I juglet shapes (After Hennessy 1966, pl.LXII)

Sometimes the fabrics and finishes were similar too, with some PBR ware defined in terms of having a Black Slip fabric and finish. BS V juglets of this form usually had incised decoration. BS V juglets were most common around the Morphou Bay area, which also had the highest proportion of BR-shaped juglets (Figure 7-8). Whilst a few of the new styles reached the south-east at Enkomi and Milia, the experimentation appears to have been located in the area of *Toumba tou Skourou* and *Ayia Irini*, based on current evidence from excavated sites (Vermeule and Wolsky 1990; Pecorella 1977; Quilici 1990). It is notable that the centre of the island had none of the new forms. Either tastes had remained conservative or circulation had been restricted for some reason.

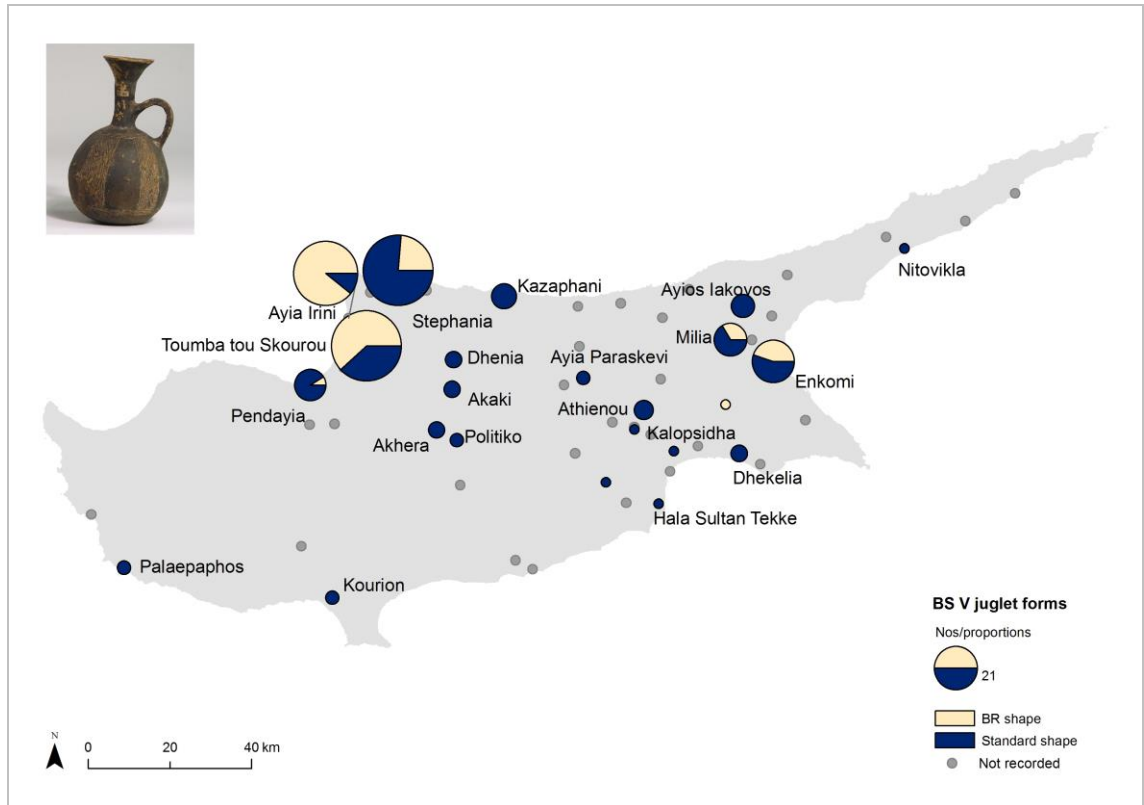


Figure 7-8 Sites with BS V juglets having BR shapes

Since these BS V juglets were found together with PBR juglets and BR I juglets in fairly closely dated contexts of LCIA, it is difficult to say whether they were formative for or imitative of BR juglets. However, as the former came from the area associated with BR production, and since the latter lasted longer, into LCIIA, it seems more likely that they were the forerunners of PBR and BR I juglets (Vermeule and Wolsky 1990, 391). It is conceivable that tinkering with the shape of BS V juglets was more to do with improvements in the commodity packaging, than with any changes in the product. That the same forms were retained when BR I juglets and their contents were produced later, and this precedence might be used as an argument against the design of BR I juglets signalling a completely new product. The greater difference between from BS V and BR I juglets resided in the ceramic technology, rather than the shape.

7.2.4 The appearance of BR I juglet commodities

7.2.4.1 *Introduction and regional distribution*

As discussed in Chapter 1, Proto BR and BR I ware seems to have originated in the Morphou Bay area, appearing first in LCIA, with fabric and slips rooted in late MCIII traditions of BS II and BS V (Crewe 2007b; Hennessy 1966, 48; Vaughan 1991, 126). Several regional fabric groups have been identified for BR ware, which indicate that there may have been more than one production centre. This would help to explain the variations in chronological appearance of BR ware throughout the island, as with the late appearance of BR I at Enkomi (Crewe 2007c, 443), or with the persistence of PBR ware in some regions after the introduction of BR I. The co-existence of PBR and BR types, and the differences in fabric and firing, have been cited as arguments against the linear development of BR ware (Vaughan 1991, 123-26). This explanation is not convincing, on two counts. Firstly, it fails to take into account the development of shape. When juglets are examined in isolation from other BR forms, the shape development more clearly supports a general sequential trend. As noted above, the development of flat bases, funnel rims and strap handles were common to both BS V and PBR juglets early in LCIA. The ring-base of BR I juglets followed quickly. Incised decoration was another attribute shared by all forms, but that disappeared early on BR I juglets. Secondly, there is some, albeit limited, stratigraphic data from Tomb 1 at *Toumba tou Skourou*, which does support the case for an overlapping sequence of BS V, PBR and finally BR I juglets (Vermeule and Wolsky 1990, 362).

Though the introduction of BR I occurred almost simultaneously with the experimental phase of BS V juglets, its demise was not so precipitous. Whilst formal attributes seem to favour the argument for sequential development, fabric and finish appear to have been key to the popularity and subsequent longevity of BR I, with the eventual disappearance of the other two forms. BR I clay was highly plastic (Vaughan 1991, 126), which may have been more advantageous to producing these fine-walled juglets, with their applied decoration. The high firing produced a hard, metallic ring to the thin walls, and the lustre of the finish contributed to this effect. A resemblance to metal jugs may have contributed to a preference for BR I juglets.

Data analysis supports an origin for PBR juglets in the Morphou Bay area, with significant numbers only occurring at the three main sites of *Toumba tou Skourou*, Ayia Irini and Stephania (Figure 7-9). There was some access to these products in the central regions but consumption in the eastern areas was negligible.

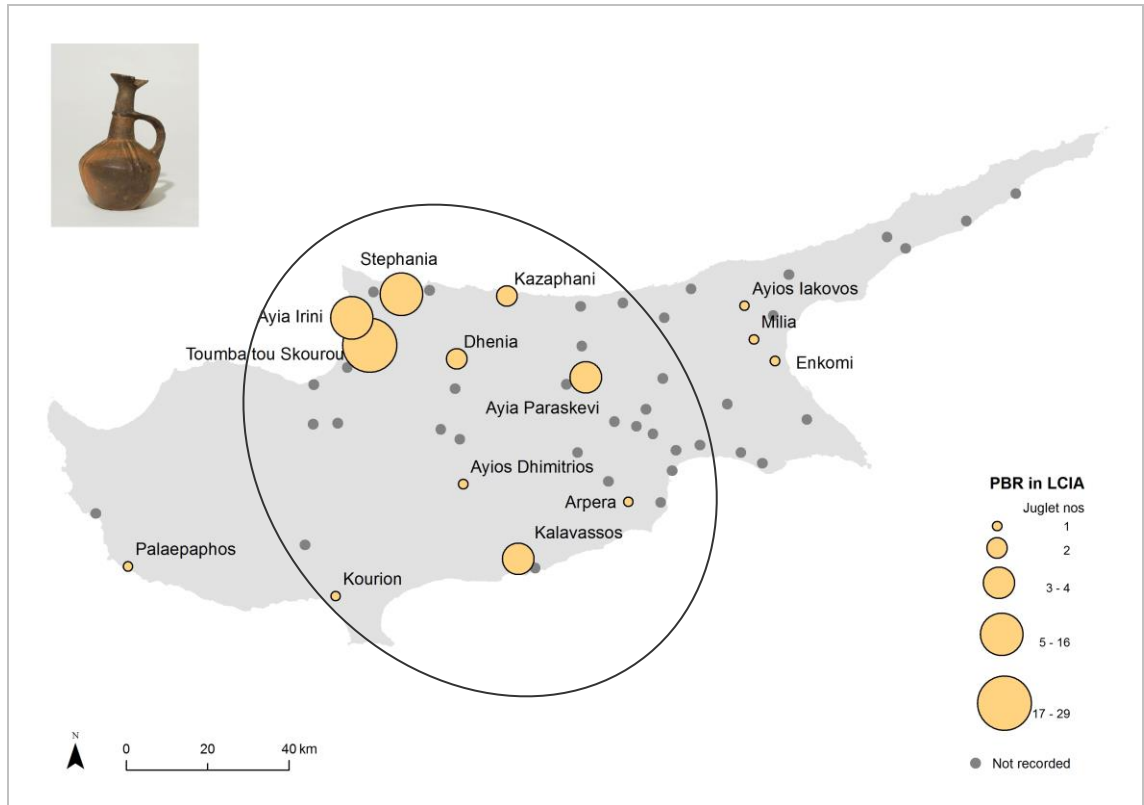


Figure 7-9 The distribution of all recorded PBR juglets on Cyprus

It is difficult to trace the regional appearances of any LC pottery, due to the paucity of good stratigraphic data, and this is illustrated well in attempting to identify the chronological precedence of BR I juglets. It is perhaps worth presenting in full the distribution table for BR I juglets, by context date at the primary sampled sites. A high proportion of the contexts have a wide date range as can be seen in Table 7-1.

Sub-region	Site	Date range	BR I juglet nos	Total juglet nos
Central Cyprus	Akaki	1650-1450 BC	6	25
Central Cyprus	Alambra	1750-1450 BC	20	45
Central Cyprus	Athienou	1650-1200 BC	19	351
Central Cyprus	Katydhata	1650-1400 BC	1	2
Central Cyprus	Katydhata	1600-1550 BC	1	2
Central Cyprus	Katydhata	1550-1450 BC	2	3
N. Cyprus	Ayia Irini	1650-1550 BC	12	28

N. Cyprus	Ayia Irini	1650-1450 BC	1	6
N. Cyprus	Ayia Irini	1600-1550 BC	4	17
N. Cyprus	Ayia Irini	1600-1450 BC	43	85
N. Cyprus	Ayia Irini	1500-1450 BC	2	2
N. Cyprus	Ayia Paraskevi	1750-1200 BC	4	41
N. Cyprus	Dhenia	1850-1650 BC	1	22
N. Cyprus	Dhenia	1650-1375 BC	4	8
N. Cyprus	Kazaphani	1750-1375 BC	130	196
N. Cyprus	Kazaphani	1650-1375 BC	93	155
N. Cyprus	Stephania	1650-1550 BC	7	20
N. Cyprus	Stephania	1650-1450 BC	4	26
N. Cyprus	Stephania	1650-1300 BC	15	62
N. Cyprus	Toumba tou Skourou	1750-1450 BC	17	153
NE Cyprus	Ayios Iakovos	1750-1650 BC	4	16
NE Cyprus	Ayios Iakovos	1750-1550 BC	5	15
NE Cyprus	Ayios Iakovos	1650-1550 BC	4	13
NE Cyprus	Ayios Iakovos	1450-1300 BC	1	8
NE Cyprus	Nitovikla	1650-1550 BC	3	16
S. Cyprus	Kalavassos	1650-1550 BC	2	3
S. Cyprus	Kalavassos	1600-1300 BC	21	28
S. Cyprus	Kourion	1650-1450 BC	1	1
S. Cyprus	Kourion	1600-1550 BC	2	4
S. Cyprus	Kourion	1450-1375 BC	1	3
S. Cyprus	Kourion	1450-1200 BC	2	8
S. Cyprus	Maroni	1650-1200 BC	4	11
S. Cyprus	Palaepaphos	1650-1100 BC	12	18
SE Cyprus	Angastina	1450-1300 BC	1	11
SE Cyprus	Enkomi	1750-1550 BC	4	45
SE Cyprus	Enkomi	1750-1375 BC	1	27
SE Cyprus	Enkomi	1650-1550 BC	1	12
SE Cyprus	Enkomi	1650-1500 BC	1	4
SE Cyprus	Enkomi	1650-1450 BC	3	27
SE Cyprus	Enkomi	1650-1375 BC	1	53
SE Cyprus	Enkomi	1650-1300 BC	3	13
SE Cyprus	Enkomi	1650-1200 BC	30	126
SE Cyprus	Enkomi	1650-1100 BC	2	6
SE Cyprus	Enkomi	1550-1450 BC	15	85
SE Cyprus	Enkomi	1550-1200 BC	2	12
SE Cyprus	Enkomi	1550-1050 BC	1	2
SE Cyprus	Enkomi	1500-1400 BC	5	61
SE Cyprus	Enkomi	1500-1200 BC	1	8
SE Cyprus	Enkomi	1450-1375 BC	1	37
SE Cyprus	Enkomi	1450-1300 BC	6	44
SE Cyprus	Enkomi	1450-1200 BC	2	28
SE Cyprus	Enkomi	1450-1050 BC	2	10
SE Cyprus	Hala Sultan Tekke	1550-1200 BC	2	24
SE Cyprus	Hala Sultan Tekke	1375-1200 BC	6	22

SE Cyprus	Kition	1250-1200 BC	2	13
SE Cyprus	Klavdhia	1750-1450 BC	1	2
SE Cyprus	Klavdhia	1750-1200 BC	2	13
SE Cyprus	Klavdhia	1650-1450 BC	1	1
SE Cyprus	Klavdhia	1650-1200 BC	1	1
SE Cyprus	Klavdhia	1400-1200 BC	1	2
SE Cyprus	Milia	1650-1550 BC	12	45
SE Cyprus	Milia	1650-1450 BC	5	19
SE Cyprus	Milia	1650-1400 BC	1	10

Table 7-1 BR I juglet numbers presented by context date, in the sampled Cypriot sites. (Highlighted rows show contexts dated prior to 1550 BC, i.e. LCIA)

Few can be assigned entirely to LCIA (1650-1550 BC), and although some have an early start date, on or before 1650 BC, most of these extend beyond 1550 BC. If the contexts dated prior to 1550 BC are extracted (see highlighted section of Table 7-1), the resulting distribution favours an LCIA introduction in the north, with Ayia Irini and Stephanía having higher BR I juglet numbers than Enkomi. The proportion of BR I juglets to total juglets was also higher in the north, as illustrated in Figure 7-10. The low proportion of BR I juglets at Enkomi in this study, is in broad agreement with the dearth of BR I wares (<1%) reported in the published settlement pottery for Enkomi at this time (Crewe 2007b, 132-133). Notably, BR I juglets were missing from Kalopsidha, which was still producing WP juglets during the early part of LCI. There was an unexpectedly high number of BR I juglets at Milia. The number of LCIA contexts, however, is too small to draw any conclusions, and since BR I juglets were only introduced in the latter part of this period, i.e. LCIA:2, more information can be gained from extending the period until the end of LCIB, i.e. 1450 BC.

The numbers of BR I juglets in LCI contexts shown in Figure 7-11, confirms the high numbers at Ayia Irini, and now includes some data from the site of *Toumba tou Skourou*. If this same data are presented as proportions of the total juglets in these contexts, then regional preferences become apparent. The centre and southern coastal towns appear to have a preference for BR I juglets over other juglet types, indicating a movement from the north to the south during the course of LCI. The numbers of juglets at Enkomi increased but the relative proportion shows only a modest increase from 7% to 16%.

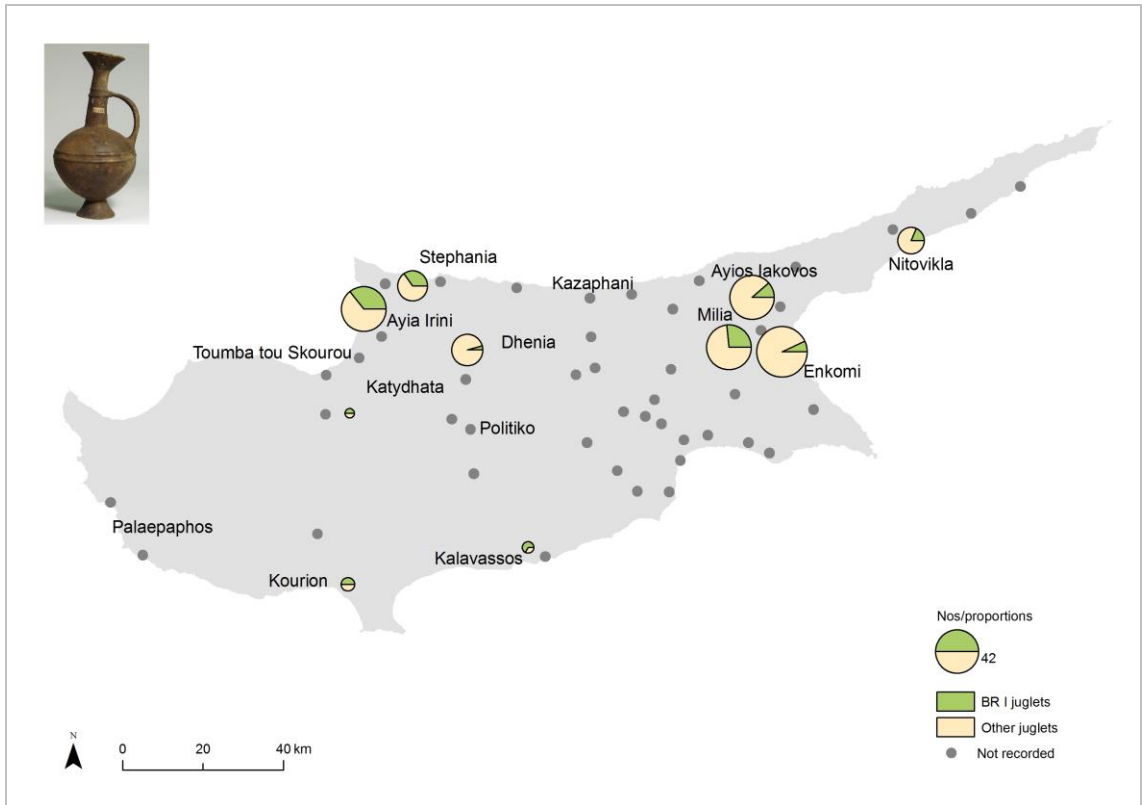


Figure 7-10 The distribution of BR I juglets in sites with contexts dated no later than 1550 BC (LCIA)

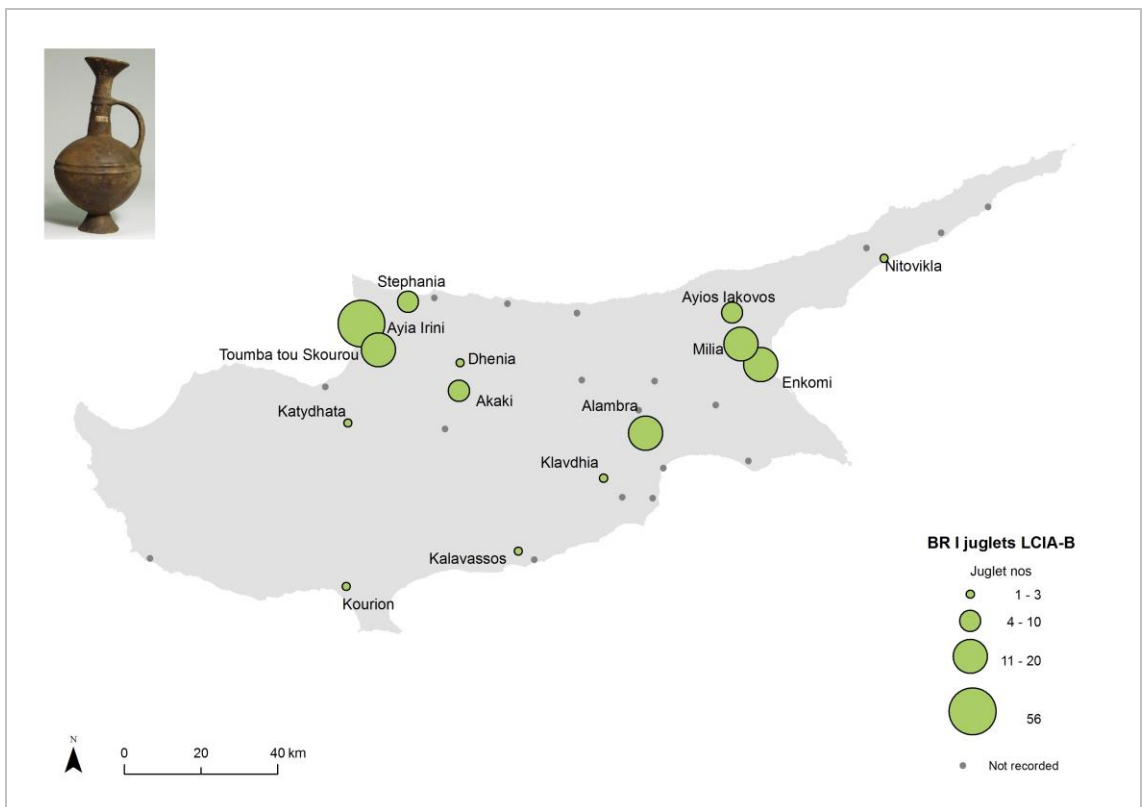


Figure 7-11 BR I juglets numbers in sites with contexts dated no later than 1450 BC (LCIA-B)

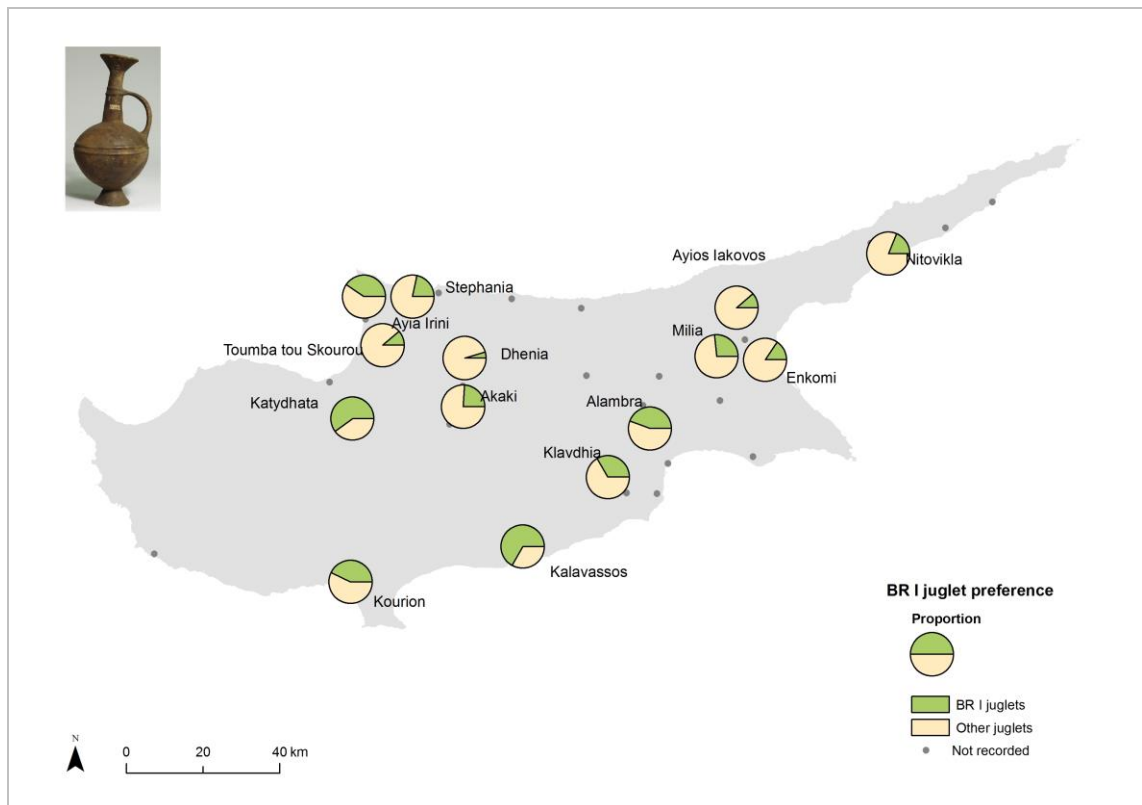


Figure 7-12 Ratios of BR I to other types of juglets at sites with contexts dated no later than 1450 BC (expressed as proportions only)

One problem with using only closely dated contexts for distribution studies, is that omission can be misleading. Kazaphani, which is a very important site for this period, contained a very high number of BR I juglets, as well as other innovative forms. However, as it was disturbed, some stratigraphy is unsound, and the tombs are dated from MCIII to LCIIIC. Even though two levels can be distinguished, on the basis of pottery dating, i.e. MCIII to LCIIA and LCIIA-LCIIA, none of the material could be included in the above analysis for LCI, since both divisions extended to 1375 BC. Yet much of the material belongs to LCIIA, and should not be ignored. This is also true of other sites.

Aoristic analysis, as discussed in Chapter 4, can help to include all the data, and arrive at a distribution trend, which may be more representative. Figure 7-13 shows the distribution pattern for BR I juglets which were assigned to LCIIA, including those at Kazaphani. The data have been combined with those for PBR juglets, indicating a trend for the spread of PBR and BR I juglets, from the north-west in a fan-like direction towards the southern centres, such as Kourion, Kalavassos and Arpera. One possibility is that these were routes used for exporting BR I juglets abroad from the northern

production centres, with central Cyprus acting as a conduit (Herscher 1984, 25). Another possibility is that some of the production of BR I juglet commodities moved south. Although the exact locations of production of BR I juglets may not be totally clear, it is apparent that they were produced in different regions from those making the exported WP juglets, which has implications for the distribution of these products outside Cyprus.

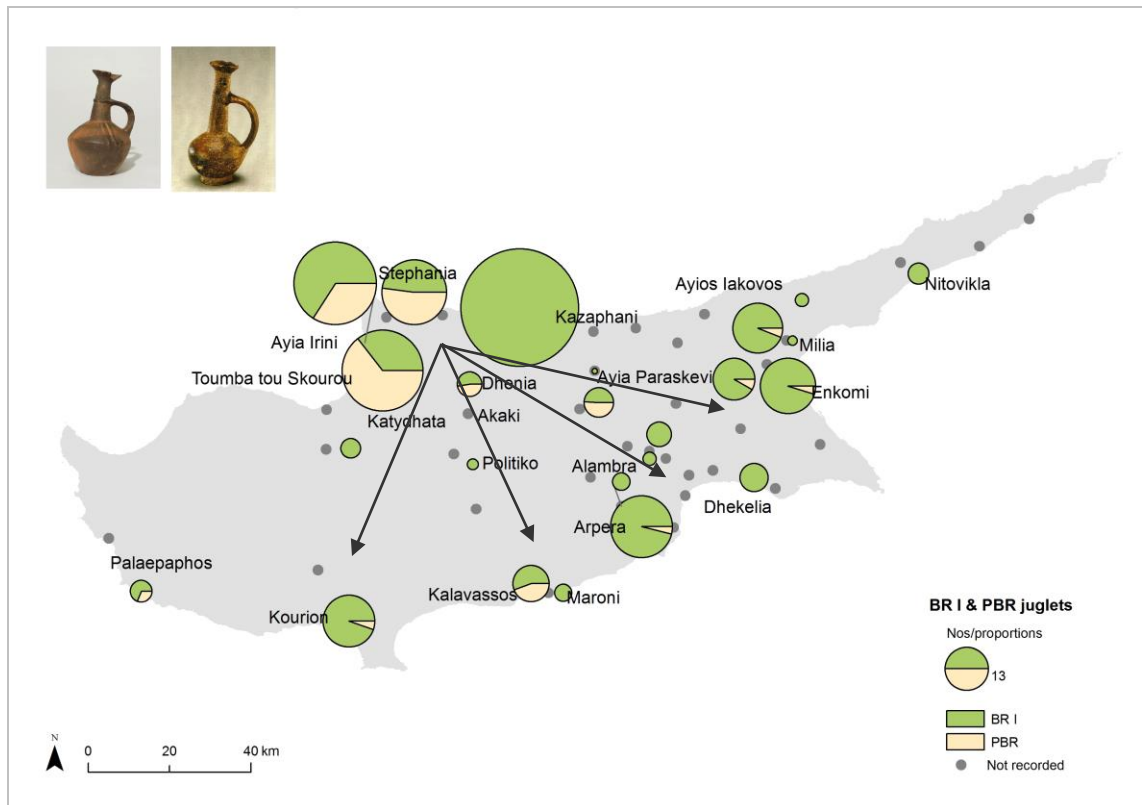


Figure 7-13 The distribution of PBR and BR I juglets assigned to LCIA (using aoristic analysis), suggesting origin and spread of these products

7.2.4.2 Export of BR I juglets to Egypt and the Levant

BR I juglets were very successful exports overseas. Whilst BR I juglets began to appear in Cyprus in LCIA:2, they did not arrive in the Levant or Egypt in any quantity until LCIIA (equivalent to LBIB, or the reign of Tuthmosis III). Nevertheless, there were some early arrivals. Though there are not many securely dated contexts for pinpointing early exports, isolated juglets reached some sites dated to LCIA, i.e. before 1550 BC. These included 6 juglets at Tell el-'Ajjul, 4 at Madjalouna in Syria and one at Ugarit, although it should be noted that these very early dates have been disputed (e.g. Oren 1969, 143-45). In LBIA or the early 18th dynasty, there was a steadier trickle of BR I

juglets. Figure 7-14 shows the number of juglets reaching Egypt and the Levant up until the end of 1450 BC. The distribution data show that the exports clustered in Egypt, Ugarit and southern Palestine, with few at the more northerly Levantine sites, and this distribution is rather the complement of the situation with the MC WP juglets.

It is worth mentioning here that there were early concentrations of imported BR I juglets at Ashkelon, an important port in MBII, and at Jericho, a high consumer and most probably producer of juglet commodities in MBII, including stone juglets and their contents (Sparks 2007, 234-35). In Egypt, in contrast to WP juglets, there were few BR I juglets in the Delta, notably at Tell el-Dab'a. The greatest concentrations were in the Memphis-Faiyum region, although smaller quantities did reach all along the Nile and into Nubia. The significance of these distribution patterns is explored in section 7.5 below.

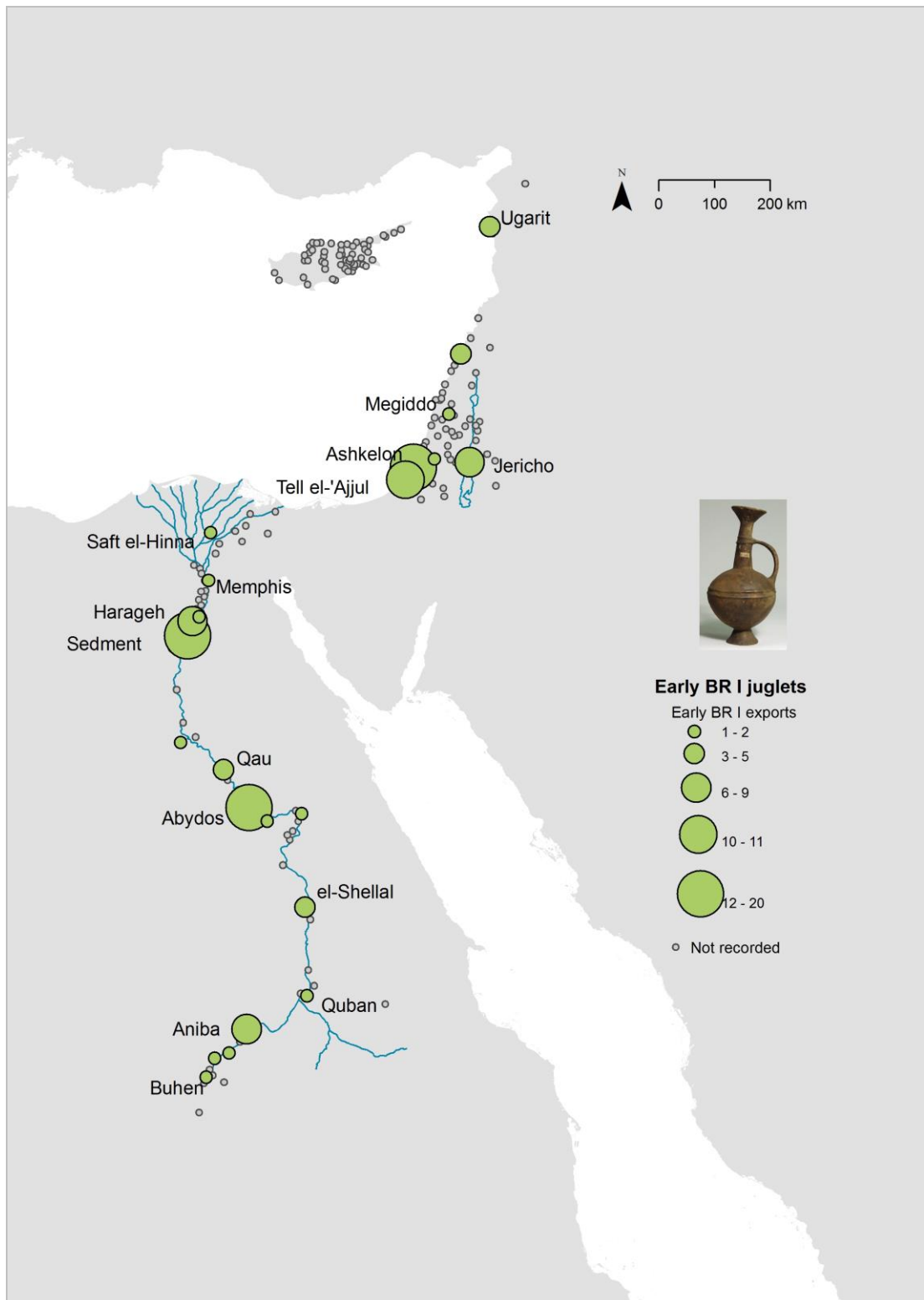


Figure 7-14 BR I juglet exports in contexts dated no later than 1450 BC

Whether or not they contained an opiate, BR I juglets were undeniably successful, rapidly taken up both in Cyprus and abroad. Probably originally produced in the north, and almost certainly not in the south-east, the BR I juglet commodity was one of a range of desirable and innovative juglet products which spelled the end for WP juglets. In

LCI, BR I juglets were reaching new export destinations, via new distribution systems, a point for further discussion in the last sections.

7.2.5 BLWM juglets as popular but short-lived novelties

Recognised for a long time under several names such as Black Polished juglets and Grey Ware juglets, it had been assumed that these wheel-made juglets were from the Levant. Recent typological and chemical studies have left little doubt that BLWM juglets were manufactured in Cyprus and probably also originated there (Hörburger 2007; Yannai 2007; Yannai and Gorzalczany 2007). So BLWM juglets represented another LCI innovation, although curiously they were quite thinly deposited on Cyprus, making it difficult to postulate a production place (Figure 7-15). The south-east seems a likely manufacturing region, considering the concentration at Kalopsidha, where a significant number of BLWM sherds (477 sherds or 0.5% of the assemblage) and whole juglets (33) were found in Trench 9 (Åström 1966, 49-56). The earliest occurrence of BLWM juglets was in LCIA, but whether this was LCIA:1 or LCIA:2 is disputed (Åström 1972d, 48; Crewe 2007a, 37). The manufacture of the juglets appears to have been short-lived, probably ending by LCIB, although later Palestinian versions of BLWM juglets were made and circulated in the Levant. Figure 7-16, which shows the distribution of genuine, LCI BLWM juglet exports, is a reasonable representation of the circulation prior to 1450 BC.

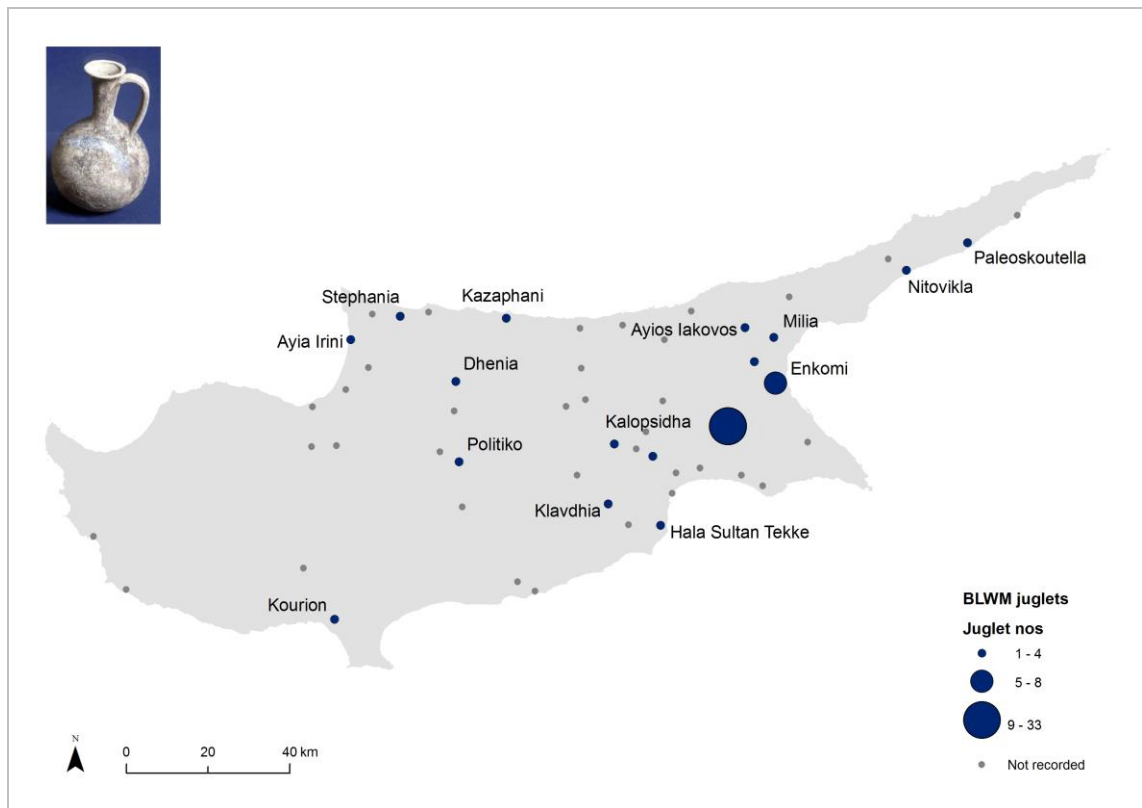


Figure 7-15 *The distribution of all recorded BLWM juglets in Cyprus*

The circulation of BLWM ware in Egypt has been previously reported by Oren (1969), with additions to the corpus by Hörburger (2007). My own data, collected from primary reports, are broadly similar to these secondary publications, with BLWM juglets fairly evenly distributed throughout the excavated sites of Egypt and Nubia. In comparison to the MC styles of WP juglets, which had only penetrated as far as the Memphis-Faiyum region, BLWM were found in significant numbers as far south as Nubia, with a total of 27 recorded at Aniba.

In Palestine, BLWM juglets were clearly popular, with a widespread distribution and substantial numbers being found in the southern sites of Tell el-'Ajul, Ashkelon and Gezer, as well as the northerly settlements of Palestine. BLWM juglets appear to have reached the Jezreel Valley, and were even found at eastern sites across the Jordan river. Dhahrat el-Humraiya, which had received at least one delivery of MC WP juglets, had no BLWM juglets. Tell el-'Ajul, which had not previously imported Cypriot juglets, had the highest number of BLWM juglets.

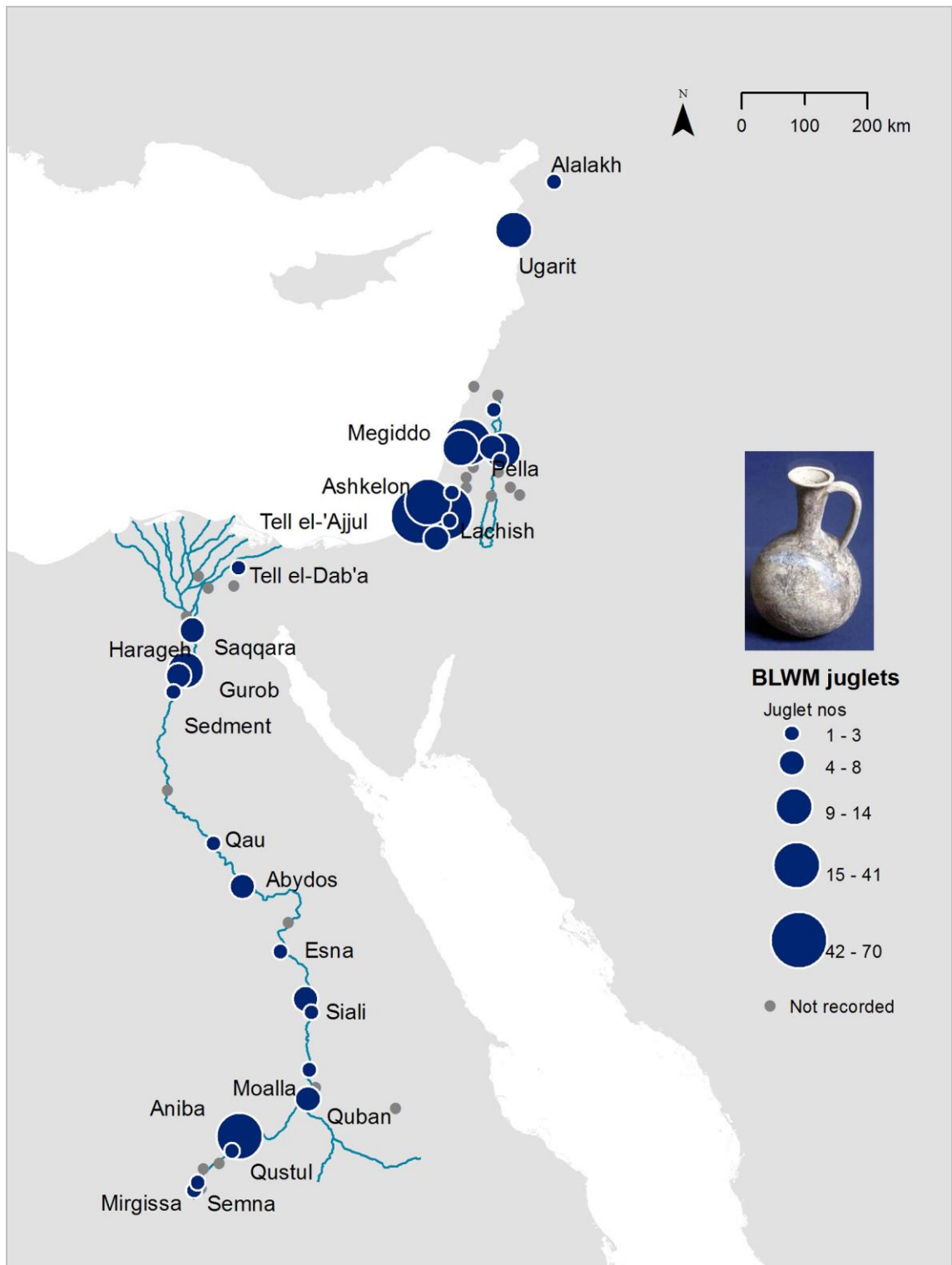


Figure 7-16 *The distribution of LCI BLWM juglet exports in the Levant and Egypt (with imitations excluded)*

The overseas distribution patterns described mean that BLWM juglets were the most widespread juglet exports of the LCI period. They were also the most numerous, with a total number of 179 exported prior to 1450 BC, compared with 144 BR I juglets, 101 RLWM juglets and 69 WP VI juglets. Also some were relatively early. The first

BLWM juglets appeared in Palestine and Syria in MBIIC, and at the end of the SIP in Egypt, and they were sometimes found in the same, usually funerary, contexts with TEY juglets. The earliest types were the 'proto' form (Type 1) or Type 2a juglets. These were found at Tell el-'Ajjul, Kabri, Lachish and Beth Shan and were found in MBIIB-C deposits. But they did continue to be imported throughout the period. At Tell Dab'a most were found in the post-Hyksos strata and have been dated to the early 18th dynasty. They were also quite often found in the company of RLWM juglets, and this co-occurrence tended to be in early contexts (Table 7-2).

Region	Site	Place	Date from	Date to
Egypt	Abydos	Cemetery D	1550 B.C.	1425 B.C.
Egypt	Abydos	Cemetery E	1550 B.C.	1475 B.C.
Egypt	Gurob	Point Q	1650 B.C.	1400 B.C.
Egypt	Gurob	Point W	1550 B.C.	1425 B.C.
Egypt	Lahun	Kom el-Iswid	1600 B.C.	1375 B.C.
Egypt	Qau	early-mid 18th dyn tombs	1550 B.C.	1425 B.C.
Egypt	Sedment	Cemeteries A,B,E,H	1550 B.C.	1425 B.C.
Egypt	Shallal	Cemetery 7 (2 contexts)	1650 B.C.	1450 B.C.
Egypt	Zawiyet el Aryan	Tomb Z 330-9	1479 B.C.	1425 B.C.
Nubia	Aniba	Cemetery S (8 contexts)	1550 B.C.	1425 B.C.
Nubia	Aniba	Cemetery SA	1650 B.C.	1450 B.C.
Nubia	Moalla	Cemetery 69	1650 B.C.	1450 B.C.
Nubia	Quban	Cemetery 110 (2 contexts)	1550 B.C.	1475 B.C.
Nubia	Qustul	Cemetery R	1425 B.C.	1300 B.C.
Nubia	Semna	Cemetery 500S	1550 B.C.	1295 B.C.
Palestine	Ara	Tomb 2	1750 B.C.	1200 B.C.
Palestine	Ashkelon	Tomb 161	1550 B.C.	1450 B.C.
Palestine	Ashkelon	Tomb 39	1450 B.C.	1350 B.C.
Palestine	Ashkelon	Tomb 40	1550 B.C.	1450 B.C.
Palestine	Ashkelon	Tomb 64	1450 B.C.	1350 B.C.
Palestine	Ashkelon	Tomb 65	1450 B.C.	1350 B.C.
Palestine	Ashkelon	Tomb 74/75	1450 B.C.	1350 B.C.
Palestine	Pella	Tomb 62	1650 B.C.	1450 B.C.
Syria	Ugarit	General sites	1600 B.C.	1200 B.C.
Syria	Ugarit	Tomb LIII	1650 B.C.	1550 B.C.
Syria	Ugarit	Tomb LIV	1550 B.C.	1450 B.C.
Syria	Ugarit	Tomb XXXVI	1650 B.C.	1200 B.C.

Table 7-2 Contexts with both BLWM and RLWM juglets

Very few BLWM vessels were found in contexts together with BR I juglets. According to Yannai (2007, 308-9), when there was a co-occurrence, the BLWM juglet was Type 2b, which he therefore argued was the later type. My data analysis showed that there were indeed very few co-occurrences unless the contexts were long-lived or later than

LBI (Table 7-3). However, I was not able to distinguish between types 2a and 2b from drawings, as noted in Chapter 1. At Ashkelon, there were several tombs with both BR I and BLWM juglets, but the type of the juglet was not given in the abbreviated site catalogue. Judging by the date of the contexts and also from a drawing of ceramic category 68 in chart 3 (Baker 2006, 26), these juglets could have belonged to Yannai's Type 5 BLWM. If this were the case, then these juglets were not early Cypriot imports but later local imitations (see Chapter 8). Although the Ashkelon material had not been available for Yannai's typology, it seems reasonable to assume that the late Ashkelon BLWM juglets were locally produced and not imports.

Context	Date	Juglets
Ara Tomb 2	1750-1200 BC	BLWM Type 2 BR I juglet VID1c
Ashkelon Tomb 120	1450-1350 BC	BLWM Type 5? BR I juglet
Ashkelon Tomb 39	1450-1350 BC	BLWM Type 5? BR I juglet
Ashkelon Tomb 40	1550-1450 BC	BLWM Type 2 BR I juglet
Ashkelon Tomb 64	1550-1450 BC	BLWM Type 2 BR I juglet
Ashkelon Tomb 65	1450-1350 BC	BLWM Type 5? BR I juglet
Ashkelon Tomb 74	1450-1350 BC	BLWM Type 5? BR I juglet
Ashkelon Tomb 148	1550-1450 BC	BLWM type 2 BR I juglet
Ashkelon Tomb 161	1550-1450 BC	BLWM type 2 BR I juglet
Beth Shan Tomb 27	1550-1200 BC	BLWM Type 2 BR I juglet
Lachish Tomb 4004	1750-1450 BC	BLWM Type 2 BLWM Type 2 BR I juglet
Tell el-'Ajjul E-T locus 1074-850	1750-1550 BC	BLWM Type 2 BR I juglet VID1b
Tell el-'Ajjul Tomb 1031	1550-1400 BC	BLWM Type 2 BR I spindle bottle IXa
Tell el-'Ajjul Tomb 1908	1750-1450 BC	BLWM Type 2 BR I juglet VID1b
Tell el-'Ajjul Tomb 364	1550-1400 BC	BLWM Type 1 BR I juglet VID1b

Table 7-3 *The co-occurrence of BLWM and BR I juglets in Palestinian contexts*

BLWM and BRI both first appeared in LCIA, though the first exports of BLWM juglets may *just* have predated BR I juglet exports, judging from the distribution patterns. However, the early disappearance of BLWM juglets may not be due to replacement by the later juglet products. Some further explanation is needed. A question arises as to why the most popular and most widespread juglet commodity should have lasted such a

relatively short period, particularly as after this period, they were locally copied. This evidence points to supply rather than demand problems. If Kalopsidha had been the main or sole production centre for this product, then the abandonment of this site during LCI might account for those supply problems, as discussed further below.

7.2.6 Red Lustrous Wheel-made narrow-necked vessels

RLWM vessels were narrow-necked containers including spindle bottles, flasks, juglets or arm vessels. RLWM vessels were widely distributed throughout Cyprus with major concentrations at Hala Sultan Tekke (115), Enkomi (114), Kazaphani (82), Kalavassos (46) and Maroni (25). RLWM bottles first appeared in Cyprus in LCIA:2 and reached a peak in LCIB to LCIIA. They were still being produced in LCIIC/IIIA1, although in reduced quantities by this late period. The distribution of RLWM over the entire period is shown in Figure 7-17.

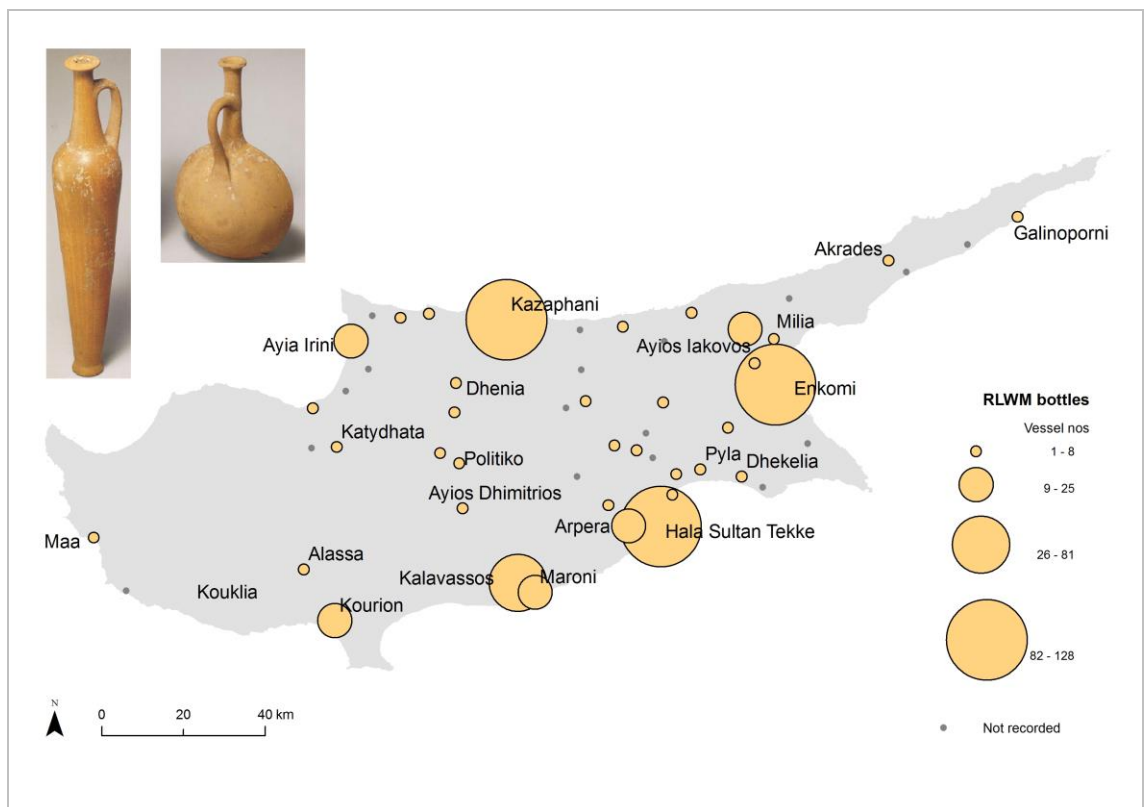


Figure 7-17 The distribution of all recorded RLWM bottles on Cyprus

7.2.6.1 RLWM vessels in Cyprus in LCI

Many of the contexts in which RLWM vessels were found were quite widely dated, so it is a little difficult to isolate those made in LCI. Table 7-4 shows the contexts dates for the three sites which had the greatest quantity of RLWM containers. Overall, there is a tendency for the earliest deposits to have been at Kazaphani. The median date ranges for contexts with RLWM vessels were 1650-1375 BC at Kazaphani, 1500-1400 BC at Enkomi and 1400-1200 BC at Hala Sultan Tekke (highlighted in grey). These data are in broad agreement for the smoothed out averages calculated by aoristic analysis (Figure 7-18).

Site	Date ranges of contexts	Total nos of RLWM vessels
Enkomi	1750-1550 BC	7
Enkomi	1750-1375 BC	1
Enkomi	1650-1450 BC	3
Enkomi	1650-1400 BC	1
Enkomi	1650-1375 BC	2
Enkomi	1650-1300 BC	1
Enkomi	1650-1200 BC	7
Enkomi	1650-1100 BC	5
Enkomi	1550-1450 BC	2
Enkomi	1550-1050 BC	2
Enkomi	1500-1400 BC	24
Enkomi	1500-1200 BC	2
Enkomi	1450-1375 BC	7
Enkomi	1450-1300 BC	11
Enkomi	1450-1200 BC	16
Enkomi	1450-1050 BC	10
Enkomi	1400-1300 BC	2
Enkomi	1375-1300 BC	1
Enkomi	1350-1250 BC	1
Enkomi	1300-1200 BC	5
Enkomi	1300-1100 BC	5
Enkomi	1200-1050 BC	1
Hala Sultan Tekke	1650-1200 BC	22
Hala Sultan Tekke	1550-1200 BC	4
Hala Sultan Tekke	1450-1200 BC	9
Hala Sultan Tekke	1400-1200 BC	59
Hala Sultan Tekke	1375-1200 BC	2
Hala Sultan Tekke	1200-1100 BC	20
Kazaphani	1750-1375 BC	10
Kazaphani	1650-1375 BC	41
Kazaphani	1650-1200 BC	31

Table 7-4 Context dates for the Cypriot sites with the highest number of RLWM vessels

If the earliest contexts in Cyprus with RLWM bottles are examined, relatively more were deposited in northern tombs. Although the northern deposits accounted for only 30% of the total of RLWM bottles, those in contexts dated LCIA-IIA represented over half of the total.

The very high numbers at the Kazaphani site, together with the wide range of other RLWM shapes, might indicate that Kazaphani was close to a production site. There were also several of the earlier forms of spindle bottles in the lower burial chamber of this tomb (Eriksson 1993, 55). As pointed out by Eriksson (2007b, 51), Knappett's petrographic data for RLWM ware matches the rocks of the Kyrenia range close to Kazaphani (Knappett *et al.* 2005). Taken together, these strands of evidence make the area around Kazaphani a contender for an early manufacturing region. Nevertheless, even if production did originate in the north, the popularity of RLWM was relatively short-lived there, and in later periods the greatest consumption seems to have disseminated south-east, especially to Enkomi and then Hala Sultan Tekke. The distribution map and the graph showing the chronological distribution trends of RLWM bottles at major sites, might even suggest the production shifted or extended to the south-east, in later periods, and this argument will be re-examined in Chapter 8.

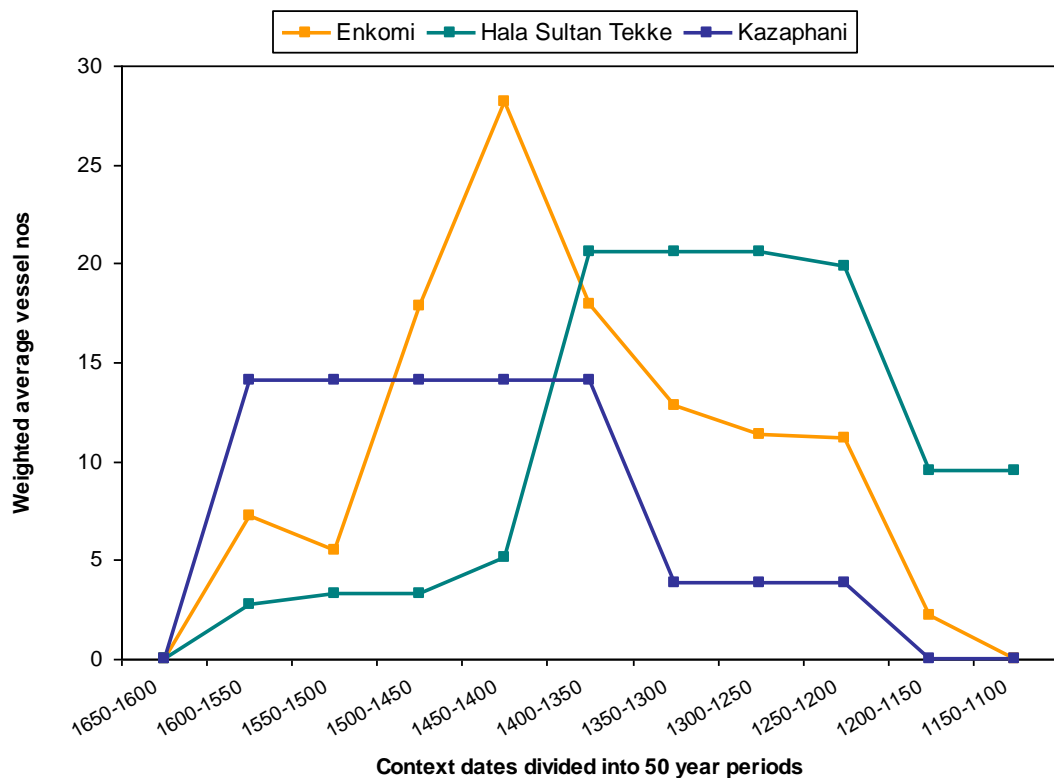


Figure 7-18 The chronological distribution of RLWM vessels at three major Cypriot sites based on aoristic analysis. Weighted average numbers are calculated on the probability that RLWM vessels were deposited during the lifespan of the ware, i.e. 1600-1050 BC)

7.2.6.2 RLWM bottles exported abroad

Of 979 RLWM vessels recorded in total, 597 (61%) were found in Cyprus. This proportion is higher than that reported by Eriksson (1993, 57), partly because only closed vessels are recorded here and also because some regions, such as Anatolia, were not included in this study. The distribution in the other study regions is shown in the chart (Figure 7-19). The first chart relates to all the RLWM vessels recorded. The second chart refers to those with securely dated contexts equivalent to LCI, i.e. no later than 1450 BC.

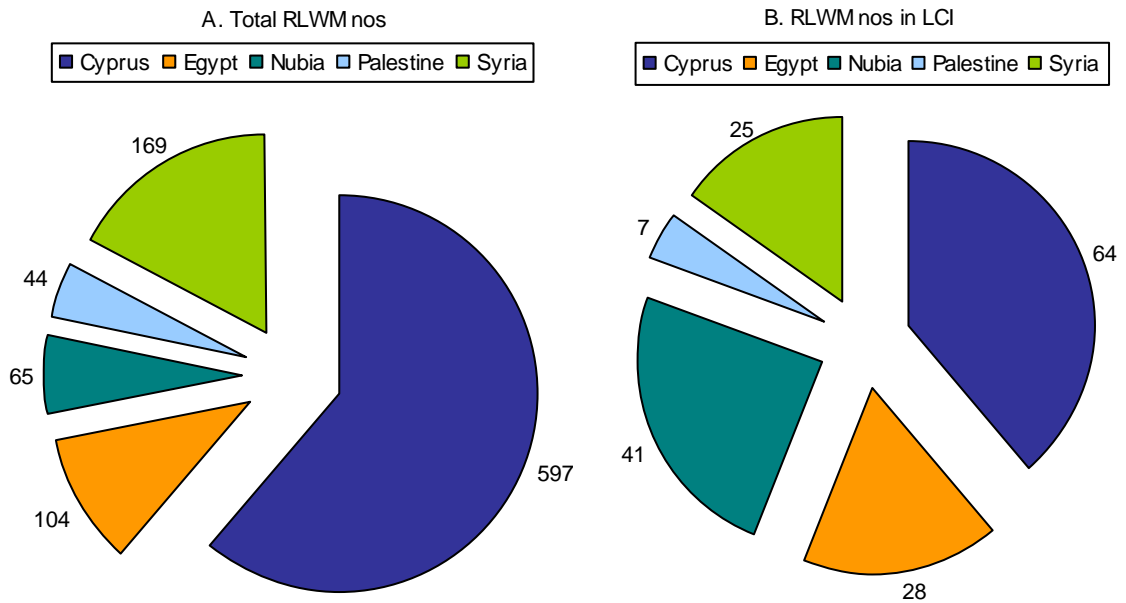


Figure 7-19 The relative proportions of the RLWM bottles in each region, as represented by the primary sampled sites. A. All dates; B. Contexts dated no later than 1450 BC

Some of the RLWM exports reached these regions early in the lifetime of the product. In those contexts which could be dated no later than 1450 BC, relatively high proportions of RLWM vessels were found in Syria, Egypt and Nubia (Figure 7-19 and Figure 7-20). There is some dispute about whether these commodities reached Egypt towards the end of the SIP, which is at the very start of their production period, or whether they only arrived early in the eighteenth dynasty (Eriksson 1993, 96-97; contra Merrillees 1968, 171). To a certain extent the fine distinction of this debate is more relevant to synchronisation studies and not so important here. Exports which preceded the end of LCIB may still be considered early (see also below). What I find more intriguing is that of these early Cypriot exports, a high proportion was found in Nubia, *more* than in Egypt. Consequently, I find Eriksson's argument (1993, 97) that they probably moved as a result of the Egyptian military activity in Nubia open to question. In such a scenario, a higher and earlier consumption in Egypt might be expected. As discussed above, they were also frequently found with BLWM juglets in Nubia.

RLWM commodities were never popular in Palestine at any time, but only a handful of RLWM bottles reached this region in the LBIA period (Figure 7-20). In contrast to Palestine, northern Syria did import RLWM spindle bottles, mainly to Ugarit, a trade that increased in later periods.

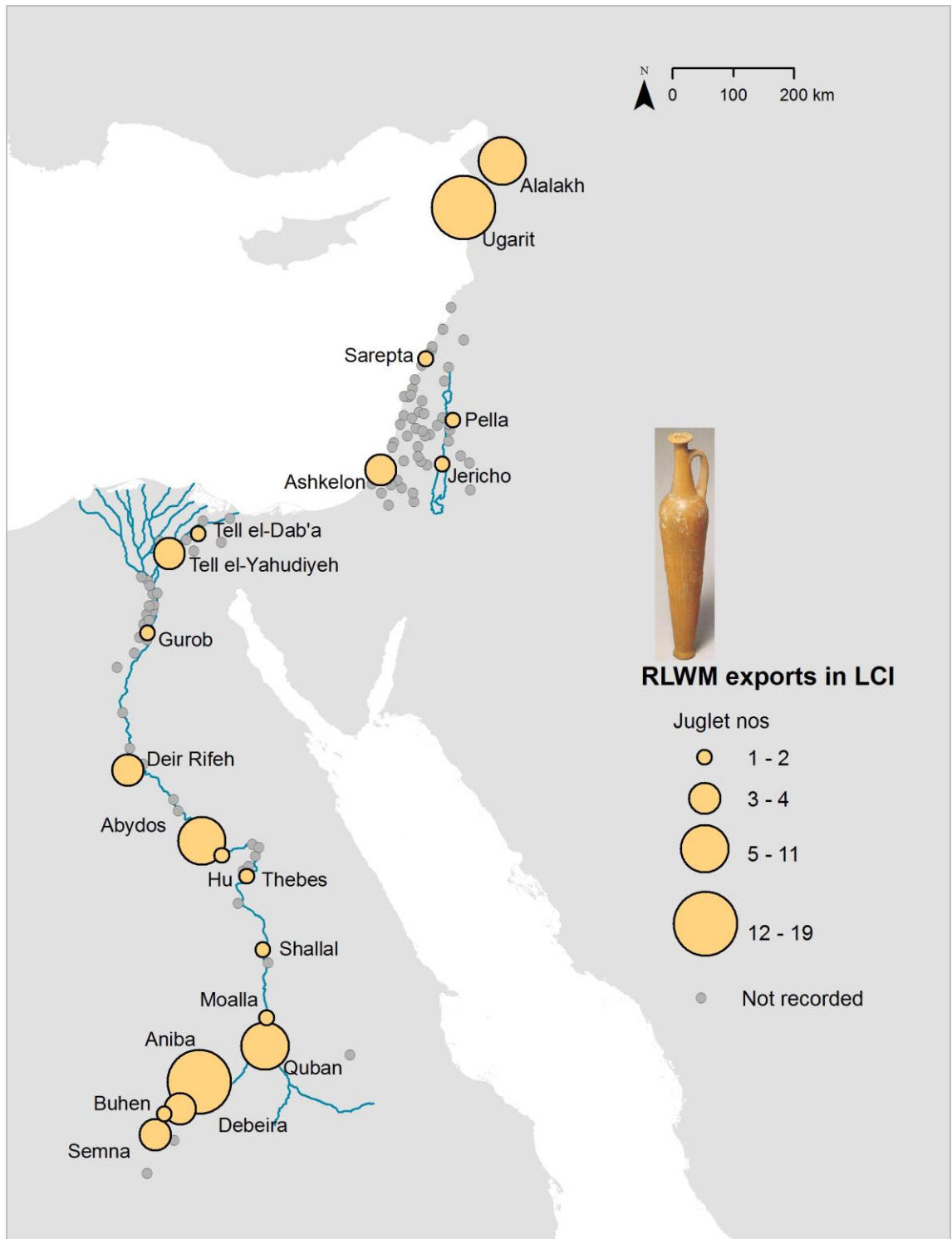


Figure 7-20 *Distribution of RLWM vessel exports in contexts dating no later than 1450 BC*

With regard to the types of RLWM vessels exported to regions in the study area, almost all of them were spindle bottles (Figure 7-21). Although Anatolia was not part of this study, it is interesting to note from Eriksson's study that the arm vessels, which began to appear in Cyprus later, were also exported to Anatolia. Since the arm vessels did not

have a precedent in the Cypriot repertoire, they may have been produced specifically for a new set of customers (for further discussion, see Chapter 8).

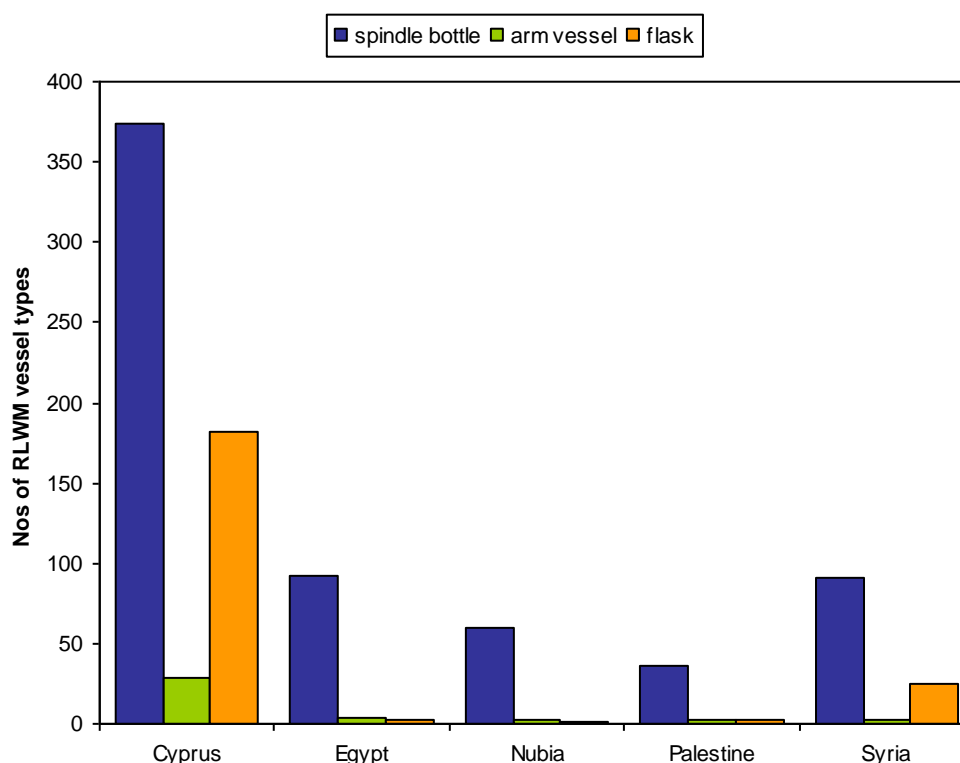


Figure 7-21 *The regional preferences of different types of RLWM bottles,, as represented by recorded numbers at the sampled sites*

The distribution data for this time period suggest that the highest consumption rate for RLWM vessel commodities was in Cyprus, although they were also available in Syria, Egypt and Nubia. Their frequent early co-occurrence with BLWM juglets has been noted above, with special reference to Egypt and Nubia. Apart from Ashkelon, where they were both found in LBIA tombs 40 and 191, the co-occurrence did not extend to Palestine and, unlike BLWM juglets, they were sparse at Tell el-'Ajjul, even at later dates.

7.2.7 White Shaved juglets

The WSh juglet was another innovative juglet of LCI, introduced possibly as early as LCIA:2, though they were more numerous in LCIB and continued to be produced until LCIIA-B (Åström 1972d, 700-701). There were high numbers of WSh juglets at Enkomi, and although 204 of the 208 juglets at Enkomi were found in tombs rather than in the settlement, the presence of some misshapen juglets in some of the tombs has been

taken to indicate local manufacture. Local production is supported by the clay analysis which is compatible with an eastern source (Knapp and Cherry 1994, 84). Although nearby Kalopsidha has been associated with the manufacture of WP juglets, it almost certainly did not produce WSh juglets, since only one WSh juglet was found there. WSh juglets were distributed throughout the rest of Cyprus, though in smaller quantities than at Enkomi. As discussed in Chapter 4, WSh juglets seem to have been inspired by gypsum juglets from Palestine (Bevan 2007, 152, n. 15), and if so, the commodity inside may also have emulated an exotic product. During the LCI period the quantities of this WSh juglet commodity were quite low and they only reached their peak in LCIIA, as shown by the numbers recorded from definite LCI contexts (Table 7-5). Furthermore, they were not exported at this time; only two juglets reached the Levant in LBIA.

Site	Nos
Enkomi	15
Ayios Iakovos	3
Milia	2
Kourion	2
Arpera	2
Ugarit	1
Tell el-'Ajjul	1
Kalopsidha	1
Ayios Sozomenos	1
Akaki	1

Table 7-5 *WSh juglets in contexts dating no later than 1450 BC (LCI)*

7.2.8 The juglets that were not successfully developed as commodities

WS I juglets can be seductively attractive to the modern eye. The elegant shape, the tenacious white slip and the fine painted decoration mean they have retained such an appeal they have found their way into books, exhibitions and museum catalogues, giving a misleading impression that they were popular in the Bronze Age. They were actually quite rare. This study has recorded only 15, on Cyprus: 6 at Kazaphani, 3 at Enkomi, 2 at Athienou and singles at Kalavassos, Maroni, Palaepaphos and *Toumba tou Skourou*. In the Levant, there were 10 recorded: 8 at Megiddo and one each at Tell el-'Ajjul and Alalakh. None have been documented from the sampled sites in Egypt and Nubia. WS II juglets were even rarer with just 2 recorded at Cypriot sites. It seems

curious that they should not have been more popular, since other WS I vessels, especially bowls, were extremely numerous and were very popular imports into the Levant. A total of 513 examples of WS pottery is recorded in a study of Palestinian sites by Gittlen (1977, 369). Since the ware itself was popular at home and abroad, it is assumed that the production of commodities for bottling in WS juglets was not undertaken at any scale.

Juglets in Bichrome wheel-made ware were also rare in Cyprus, only one has been recorded at *Toumba tou Skourou*. Although some Bichrome wheel-made ceramics are known to have been made on Cyprus, these most probably did not include juglets. The few Bichrome wheel-made juglets found in the Levant were almost certainly manufactured there, since they had traditional Palestinian juglet shapes. It seems that this ware, like WS ware, was not chosen for packaging commodities intended for widespread distribution.

The fact that occasionally there were few juglets in wares that were otherwise ubiquitous, is a reminder that it was the *contents* of juglets that were consumed. However popular the ware, the decision to make juglets did not reside with potters. The producers of the specialty oil contents controlled the commodity, and probably commissioned the juglets, which were ultimately only the carriers or the packaging.

7.3 The transition from MBA to LBA and the changes in juglet production and consumption in the eastern Mediterranean

7.3.1 The demise of the local juglet specialties outside Cyprus

During the time that Cyprus was undergoing a highly innovative period in juglet manufacture, i.e. LCI, the equivalent period in the eastern Mediterranean straddled the end of the MBA and the start of the LBA, i.e. MBIIC-LBIA in Palestine and the second half of the SIP to the early eighteenth dynasty in Egypt. Since the consumption of juglets during MBIIC was discussed in depth in Chapter 6, and the LCI exports of Cypriot juglets were discussed above, this section represents an overall summary of juglet consumption in the regions other than Cyprus during LCI (Table 7-6). By comparing the two parts of the table, it is possible to track how juglet consumption

changed outside Cyprus during the transition from MBIIC to LBI. It can be seen that MBII forms such as the RSB/BSB juglets had declined dramatically by the end of MBIIC. TEY juglets had also virtually disappeared by LBIA. Those that were still in use in the MBIIC period were in Egypt, mainly in the Delta. Dipper juglets remained in use into the LBA but numbers had fallen. Painted and Bichrome wares became popular for open vessels in Palestine and Syria in LBIA, but were relatively rare in the juglet form. A new form, the pilgrim flask, made its appearance in LBIA, although the height of its popularity was to be during LBII. Although this new narrow-necked vessel had its origin in Palestine, it was also to become relatively popular in Egypt and Nubia from the middle of the 18th dynasty. In Egypt, locally made Egyptian juglets declined in numbers, although they did make a brief appearance in Nubia. Consumption of the new, imported LC juglets began to increase, but not in quantities that could account for the reduction in local juglet consumption at the start of the LBA/18th dynasty.

Local juglet types	LCIA/MBIIC/late SIP (1650-1550)					LCIB/ LBIA/early 18 th dynasty (1550-1450)				
	Total	Egypt	Nubia	Pal	Syria	Total	Egypt	Nubia	Pal	Syria
RSB/BSB	967	445	7	479	36	34	0	3	22	9
Dipper	384	61	0	314	9	115	3	1	107	4
TEY	274	253	6	15	0	5	1	1	2	1
Egyptian	186	174	1	7	0	47	16	27	4	0
Bichrome	4	2	2	0	0	5	2	1	2	10
Painted	0	4	0	0	1	5	0	3	2	10
Pilgrim flask	0	0	0	0	0	28	6	5	0	17
Cypriot imports Until 1450 BC										
All WP juglets						173	40	6	73	54
BLWM						179	38	30	98	13
BR I						144	74	17	39	14
RLWM						101	28	41	7	25

Table 7-6 *Local and imported juglet distribution based on numbers at the recorded sites in the different regions, at the transition between MBA and LBA*

Considering the huge numbers of local juglets in Palestine in MBIIA-C, their rapid disappearance in LBI seems to need some explanation, since RSB/BSB juglets were not substantially replaced in the new local wares such as Bichrome or Chocolate-on-White, and the Cypriot imports were not yet numerous enough to have replaced them. It is tempting to speculate that the local juglet production had been disrupted during the political upheaval and settlement destructions that occurred around the middle of the sixteenth century. Table 7-7 shows the highest consumers of RSB/BSB juglets during

this transitional period. If the assumption is made that high juglet concentration at a site can indicate a place of production nearby, then any of those listed could have been possible manufacturing sites (based on the high proportions of these RSB/BSB juglets to total juglets and/or total vessels). With the exception of Megiddo, all of them suffered destruction or abandonment at around this time. Tell el-Dab'a, in particular, had manufactured a very large number of RSB/BSB and TEY juglets at the end of the SIP.

Site	RSB/BSB juglet nos.	Total juglets	Percent of all juglets	Total vessels	Percent of all pots
Tell el-Dab'a	444	916	48%	3128	14%
Jericho	145	216	67%	802	27%
Tell Farah (S)	91	179	51%	516	35%
Megiddo	56	149	38%	486	31%
Lachish	49	56	88%	192	29%
Tell el-'Ajjul	42	139	30%	503	28%
Pella	41	78	53%	1357	3%
Beth Shan	30	56	54%	6006	N/A
Ugarit	26	42	62%	314	8%

Table 7-7 *Sites with high numbers of RSB/BSB juglets*

It is evident from the distribution patterns discussed in Chapter 6 that manufacture of these standardised products was regionally localised, though not necessarily limited to single production sites. It is possible that the special skills needed for manufacturing the commodities and their containers may have been lost during the destructions. Credence is lent to this idea by the fact that these very sites, with the exception of Lachish, also made local stone vessels, typically alabastra, cylindrical jars and juglets (Sparks 2007, 206-33). In the case of Jericho, there is even evidence of a workshop. These stone containers were also highly suitable for carrying perfumed oil or other precious commodities. Is it possible that the same sites, which had been making ceramic juglets and stone vessels, also manufactured the contents as part of a local industry in precious commodities? If so, is it possible that at the start of the LBA, the specialty oil industry underwent significant change following disruption, allowing an opportunity for the Cypriot precious commodities to meet a need? Similar associations between the production of ceramic juglets and stone vessel manufacture are noted at the end of LBII, and will be discussed in Chapter 9.

7.3.2 Important coastal centres and their roles in juglet circulation

Special mention must be made of some major centres in Cyprus and on the mainland, which may have had roles in the production and distribution of juglet commodities. Two major Cypriot coastal settlements of the LCI period, *Toumba tou Skourou* and Enkomi, were almost certainly involved in the circulation of international trade goods between Cyprus and the rest of the eastern Mediterranean. Kazaphani and Kalopsidha are interesting by virtue of their distinctive pottery assemblages, and their proximities to *Toumba tou Skourou* and Enkomi, respectively. On the mainland, the importance of several ports, including Tell el-Dab'a, Tell el-'Ajjul and Ugarit, deserves consideration in relation to juglet circulation.

7.3.2.1 Enkomi

Enkomi may be considered as the largest and most important settlement site of LC Cyprus. It was excavated by several different archaeological expeditions including Swedish, British, French and Cypriot expeditions (Courtois 1981; Dikaios 1969-71; Gjerstad *et al.* 1934; Lagarce and Lagarce 1985; Murray *et al.* 1900; Schaeffer 1936b; Schaeffer 1952; Schaeffer 1971), although it should be noted that a relatively small proportion of the total material has been fully published. However, some information is available from both settlement and funerary contexts, although almost all juglets came from tombs. Several contexts could be dated specifically to the LCI period, although it should be remembered that other tombs used over longer periods may have contained material from this date.

The most abundant juglets at Enkomi in LCI were BS juglets, which were not exported (Table 7-8). There were a surprisingly high number of BS IV juglets, 23% of the total. Plain White juglets, both hand-made and wheel-made, were deposited in tombs but in common with the BS IV juglets, these vessels were not typical of precious commodity vessels, being wider-mouthed and made of coarser fabric. The older designs of the Eastern Sequence WP juglets had started to tail off and newer LC WP VI juglets had appeared.

Of the new LC juglets, 27 BR I juglets documented at Enkomi were mostly from funerary contexts, either specifically dated to LCI (1650-1450 BC), or with a *terminus*

ante quem of 1450 BC. This number shows that BR I juglets were not as scarce as has been suggested by the virtual absence of general BR I ware, found in closely dated phases of the LCI settlement (Crewe 2007b, 117). In fact, as a percentage of the total juglets (15%), it was higher than the proportion at *Toumba tou Skourou* (11%). However, the latter site also had a high number of PBR juglets, so overall there were more BR juglets, amounting to 25% of the total. Furthermore, at Enkomi, 15 of the BR I juglets were in LCIB contexts, and so were later than those at *Toumba tou Skourou*. Enkomi is therefore unlikely to have been a production site, or even a distribution site for BR I juglets during LCI, in agreement with Crewe (2007b, 153).

Juglet type	Nos	Percent total juglets
<i>Cypriot juglets</i>		
BLWM juglet	4	2%
BR I juglet	27	14%
BR I spindle bottle	1	<1%
BS IV juglet	45	23%
BS V juglet	8	4%
BS Wheel-made juglet	3	2%
Monochrome juglet	1	<1%
Plain White hand-made juglet	14	7%
Plain White Wheel-made juglet	5	3%
RLWM arm	1	<1%
RLWM flask	1	<1%
RLWM juglet	1	<1%
RLWM spindle bottle	9	5%
RoB juglet	1	<1%
WP Unclassified juglet	2	<1%
WP V Eyelet	4	2%
WP V juglet	1	<1%
WP VI Spouted	11	6%
WP VI STS juglet	6	3%
WS I juglet	2	1%
WSh juglet	15	8%
<i>Imported juglets or imitations</i>		
Dipper juglet	4	2%
RSB/BSB juglets	5	3%
TEY juglet	20	10%
Total	29	

Table 7-8 LC style juglets at Enkomi in contexts dated no later than 1450 BC (LCI)

There were also a few BLWM and RLWM vessels, but not in quantities suggestive of production at Enkomi at this time. The presence of a not insignificant number of WSh juglets at Enkomi even at this early date, i.e. 15 (8%) seems to anticipate the greater abundance there in LCIIA. Four of the 15 Enkomi juglets were from LCIA contexts,

whilst 11 were from LCIB. This means that they were considerably earlier than those found in Palestine, where most did not arrive until LBII.

There were some examples of foreign influence on juglet design reflective of Enkomi's increased overseas contact during the LCI period (Keswani 2004, 231). There were several imported dipper juglets, whose alien forms are likely to have inspired the design of the Cypriot WSh vessels produced there (Gittlen 1981, 53-54). The presence of 11 TEY juglet *imitations*, but not original imports, in French Tomb 32 (Courtois 1981, 45), is another interesting example of the flow of ideas as well as goods.

7.3.2.2 *Toumba tou Skourou*

Toumba tou Skourou may once have been a large town, although very little remained to the excavators after extensive damage by bulldozing. Nevertheless, the evidence of a kiln, tuyeres and clay balls pointed to what had been potters' workshops and/or quarters, dated to LCIA (Vermeule and Wolsky 1990, 38-46). The presence of innovative wares in the settlement levels dated to LCIA included PWS, PBR, BS to BR transitional ceramics, BR I and WS I, amongst others, attesting to the innovatory nature of the potters in this area. Most of the information on juglets (and other whole vessels) comes from the tombs, which on the basis of their assemblages can be relatively closely dated to MCIII-LCIB. Examination of the juglets in the tombs indicates the innovative styles that were deposited there were probably also produced at the kilns of *Toumba tou Skourou*. Differences in juglet assemblages between this site (Table 7-9) and the parallel settlement of Enkomi in the south-east (Table 7-8) are apparent.

The juglet sequence at *Toumba tou Skourou* indicates the stylistic developments of the region for this horizon. The development of BS II to BS V can be traced in the changes from round to flat bases, from round to strap handles, and in the rim transitions from flared to funnel. Not only are the shapes of BR I juglets anticipated in BS V juglets (as discussed above), but there were also a significant number of PBR juglets at this site, as well as some BR I juglets.

Exotic imports in the tombs, including LMIA pottery, indicate overseas contacts which include links with the Aegean. The first haematite weights appear suggesting that this

contact was related to trade. Original Egyptian-style TEY juglets were found alongside their imitations in incised BS III ware. The presence of PWS ware and the early appearance of BR I juglets at Tell el-'Ajjul, point to an export route from the north-west Morphou Bay area to southern Palestine.

Juglet type	Nos	Percent total juglets
<i>Cypriot juglets</i>		
BI juglet	1	<1%
BR I juglet	24	11%
BR I spindle bottle	1	<1%
BS II juglet	41	19%
BS III juglet	4	2%
BS IV juglet	17	8%
BS V juglet	55	26%
Morphou Bay juglet	6	3%
PBR juglet	29	14%
RLWM flask	1	<1%
RSB/BSB juglet	4	2%
WP III juglet	1	<1%
WP III-IV juglet	1	<1%
WP IV juglet	3	1%
WP PLS juglet	1	<1%
WP Unclassified juglet	4	2%
WP V FLS	4	2%
WP V juglet	1	<1%
WP VI juglet	1	<1%
WP VI other	8	4%
WS I juglet	1	<1%
<i>Imported juglets</i>		
Minoan stirrup jar	1	<1%
TEY juglet	4	2%
Total	208	

Table 7-9 Juglets at Toumba tou Skourou in tombs dated MCIII-LCIB

7.3.2.3 *Kalopsidha*

Interpreted as a possible juglet commodity production centre, Kalopsidha may have supplied WP juglet products to Enkomi for export (Crewe 2010, 69). Table 7-10 shows the juglets from both funerary and settlement contexts which spanned MCIII to LCIA. There is a high proportion of the earlier Eastern Sequence WP juglets, such as WP CLS and WP V (almost 60%). However, of the later LC WP styles, WP VI STS (as exported to Tell el-'Ajjul) was virtually non-existent, and only the WP VI Spouted juglets, which developed out of the WP PLS juglets, were found in significant numbers.

Kalopsidha had an important production and export role until early LCIA, but one of several indications of its decline is attested by the reduction in numbers of WP juglets. Crewe (2010, 69-70) has hinted at rivalry developing after a previously good trading relationship between Enkomi and Kalopsidha. Had the WP VI STS juglets found a new producer in Enkomi, whilst the WP spouted forms remained at Kalopsidha? Did the quantity of BLWM juglets indicate an innovative initiative in manufacturing specialised commodities? BLWM juglets fit well into the short gap between the decrease of the WP juglet trade and the rise of BR I juglets. The similarities in form between WP CLS juglets and proto-BLWM juglets have been pointed out by Yannai (2007, 297-98), and are suggestive of a stylistic development (see Fig. 1-5 in Chapter 1). Since both styles have been found at Kalopsidha in quantity, the region around this site seems to be a likely place of origin. Furthermore, the short life span of this commodity and the final demise of Kalopsidha coincide. BLWM juglets were not associated with Enkomi and it is possible that they represented a production/distribution process for Kalopsidha, independent of Enkomi.

Juglet type	Nos	Percent total juglets
<i>Cypriot juglets</i>		
BLWM juglet	33	15%
BR I juglet	1	<1%
BS IV juglet	10	5%
BS V juglet	1	<1%
RLWM spindle bottle	2	1%
RP IV juglet	15	7%
WP CLS juglet	86	39%
WP IV juglet	3	1%
WP PLS juglet	2	1%
WP V Eyelet	9	4%
WP V juglet	19	9%
WP V TLS	16	7%
WP VI Spouted	14	6%
WP VI STS juglet	1	<1%
WSh juglet	1	<1%
<i>Imported juglets</i>		
RSB/BSB juglet	4	2%
TEY juglet	1	<1%
Total	218	

Table 7-10 LCI juglet styles at Kalopsidha contexts dated MCIII-LCIA

7.3.2.4 Kazaphani

Kazaphani is another site that deserves special mention. Situated at opposite sides of the island, the profiles of the juglet assemblages at Kazaphani and Kalopsidha could hardly be more different from one another. In fact, there is hardly any overlap in types at the two sites. Kazaphani *Ayios Andronikos* was a prestige tomb complex in north Cyprus. In the case of Tomb 2, there were very high numbers of juglets, i.e. 413 or 43% of the total of 950 vessels dated to MCIII-LCII. There were upper and lower burial chambers with very many of the juglets dated to LCI, but unfortunately, the tomb was disturbed so that the stratigraphy is not reliable. Nevertheless, although this is not a pure LCI horizon, the contents do provide an insight into this early period. Table 7-11 shows only those styles which are known to be prevalent in LCI, but omits exclusively MCIII and LCII juglets from the list.

Juglet descriptor	Nos	Percent juglets
BLWM juglet	2	1%
BR I double juglet	41	11%
BR I flask	3	1%
BR I juglet	177	48%
BS III juglet	5	1%
BS IV juglet	3	1%
BS V juglet	7	2%
PBR juglet	2	1%
RLWM flask	15	4%
RLWM juglet	2	1%
RLWM spindle bottle	65	18%
WLWM juglet	3	1%
WP V Eyelet juglet	1	<1%
WP V FLS juglet	1	<1%
WP V juglet (unknown type)	1	<1%
WP VI Other juglet	4	1%
WP VI STS juglet	9	2%
WP VI juglet (unknown type)	15	4%
WS I juglet	6	2%
WSh juglet	2	1%
Total	371	

Table 7-11 LCI style juglets at Kazaphani

Kazaphani had a different juglet distribution from the more north-westerly sites of Ayia Irini, *Toumba tou Skourou* and Stephania. Certainly, there were BR I and BS V juglets as well as northern FLS types of WP V juglets and even a few of the rare WS I juglets, but there were also RLWM bottles and WP VI juglets including the south-eastern style

WP VI STS. The exceedingly high number of some types is worthy of comment. Tomb 2 had by far the greatest number of BR I juglets recorded at any Cypriot site and a good proportion of these were the much rarer double juglets. As mentioned above, the unusually high number of RLWM juglets might even indicate a nearby production site for this new ware.

The WP VI juglets at Kazaphani warrant comment, in that they exhibited a mix of stylistic features. Some WP VI STS, hallmarks of the south-eastern WP VI (Courtois 1989, 93), were found there as were the lattice-patterned juglets typical of the north-west. Some of the juglets exhibited a somewhat hybrid style between the north-west and south-east styling (Courtois 1989, pl.III, nos 323 and 130). The rather thick lines of the STS were present, but the vessels also contained lattice patterns. A similar effect has been noted in a WP VI juglet from Maroni (Manning *et al.* 2006, 476). Both settlements, midway between the south-east and north-west influences, had some hybrid styling. Perhaps also indicative of its central geographical position on the north coast, this site had a broad range of juglet types commonly exported in LCI, with the exception of BLWM juglets. I would tentatively suggest that the number and range of commodities at this site, albeit in funerary contexts, indicates there may have been a nearby distribution centre for export.

Maroni may have been similar to Kazaphani in many respects. Both sites were situated on the coast, one north and one south, between two probable production regions in the south-east and north-west. Both settlements had been subject to the stylistic influences from each area so that they consumed a mixture of juglet types, and in some case even hybrid types.

The data from these Cypriot sites throw into relief many questions on the distribution of juglet commodities and these are considered further in section 7.5 below.

7.3.2.5 The mainland entrepôts

On the mainland there were several important entrepôts, namely Ugarit, Megiddo, Tell el-Dab'a and Tell el-'Ajjul. The first three had received WP juglets, amongst other MC

Cypriot imports, since the MBIIB period. At Tell el-Dab'a most WP juglets arrived during the SIP, before the end of the Hyksos era (Table 7-12).

Juglet type	Ugarit	Megiddo	Tell el-Dab'a	Tell el-'Ajjul	Ashkelon
BLWM juglet	9	7	16	40	20
BR I juglet	5	1	0	12	17
PBR juglet	0	0	0	1	0
RLWM bottles	15	0	4	0	4
WP eastern types	29	12	21	0	0
WP VI juglet	5	3	5	20	3
WSh juglet	1	0	0	1	0

Table 7-12 *Cypriot juglets imports in contexts dating no later than 1450 BC (LBIA) at major regional sites*

Almost all the LC commodities reaching the site of Tell el-Dab'a were recovered from the palatial district of Ezbet Helmi in areas H/I-VI in levels D/1 and C/3-1. Most were found in levels C/3-2, which correspond to period between the end of the Hyksos era and the first half of the reign of Tuthmosis III, dates which are equivalent to LCIB (Table 7-13).

Juglet type	Nos
BLWM juglet	15
BR I juglet	1
Dipper juglet	7
RLWM flask	1
RLWM spindle bottle	5
WLWM juglet	4
WP VI STS juglet	4

Table 7-13 *LC juglets at Ezbet Helmi in contexts dated approximately 1550-1450 BC*

Tell el-'Ajjul had received no Eastern Sequence WP juglets, but became an early importer of LC juglet commodities, including BLWM, BR I and WP VI STS juglets, with some arriving in MBIIC (pre-1550 BC). It is important to realise that Tell-el-'Ajjul started its trading relations with Cyprus before the end of the MBA, i.e. whilst Tell el-Dab'a was still a Hyksos-controlled port. Ugarit imported the complete range of juglets, but the new LC juglet commodities arrived in lower numbers than at Tell el-'Ajjul at this early stage.

7.3.3.3 *The Nubian consumers*

Considering its southerly position and the inevitable logistical difficulties involved in transport, it is surprising that Nubia received a relatively high number of Cypriot juglets (Table 7-14). The other curiosity is that they arrived early.

Juglet type	Nos pre-1450
BLWM juglet	26
BR I juglet	14
BS III juglet	7
RLWM bottle	39
WP VI juglet (unknown type)	2
WP VI STS	3
WP Eastern sequence	0

Table 7-14 *Cypriot juglets imports in Nubia in contexts dated pre-1450 BC*

More BR I juglets reached this long-distance destination in the pre-Tuthmosid era than anywhere else in the eastern Mediterranean. There were high numbers of BLWM and RLWM and as mentioned above, there were co-occurrences of these juglets in the same contexts. Although BS juglets were rarely exported from Cyprus, seven BS III juglets found their way into Nubian tombs.

7.4 *Summary and conclusions*

Juglet production and consumption during the LCI period, of around 1650 to 1450 BC, are examples of the intensity of socio-economic change, which occurred during the transition from the MBA to the LBA across the eastern Mediterranean. In Cyprus, there was active development of new juglet types, and given their distinctive regional variation, there is no reason to suppose the production of their contents was not also regional, that is to say the specialty oils inside were also different or at least perceived to be so. In LCI, WP juglets continued to be developed all over the island, with regional variations of WP V and VI juglets, but only the south-east region produced a successful export range. RoB juglets, also rooted in the previous MC era, were products of the Karpas peninsula, which never travelled far from that area. In the north of the island, especially around the Morphou Bay area, there were some truly innovative products, in the form of PBR and BR I juglets, which emanated from the tradition that had created BS V juglets. Whether their manufacture was confined to this area is less clear. The

distribution of BR I juglets suggests that production may have spread to other regions, possibly to the southern coastal areas (and this would be supported by the variety of clay fabrics used to make BR I wares), but whether this took place before LCIIA is uncertain. In particular Enkomi's involvement, in either production or in distribution abroad, seems unlikely during LCI.

Other important innovations of this period were RLWM spindle bottles and BLWM juglets, not least because they represented the first wheel-made containers for these types of commodities. It is, however, difficult to pinpoint their origins. There is some evidence that the region around Kazaphani may have produced RLWM commodities from LCI to LCIIA. There are also arguments that some BLWM juglets may have been produced at the purported manufacturing/packaging site of Kalopsidha. WSh juglets were first introduced late in the LCI period, and were probably manufactured in the region of Enkomi, but as so few made an early appearance they are best considered as an LCII product. Though there are uncertainties over the locations of production sites, nevertheless, a picture of regionalism emerges, in the development of juglet commodities as with other vessel types in these wares (Figure 7-22).



Figure 7-22 *Regionalism in the development of juglets in Cyprus in LCI*

In the other regions of the eastern Mediterranean, production and consumption of local MB juglets continued until around 1550 BC. After that time, production of some types, notably RSB/BSB, TEY and Egyptian juglets, declined dramatically, although the manufacture and consumption of dipper juglets persisted. This shortfall was not completely filled by imported Cypriot juglets during the LCIB period. It seems likely that during the socio-political upheavals between the end of the MBA and the start of the LBA, the production of precious commodities, and their ceramic or stone containers, was disrupted. The manufacturing techniques and knowledge may even have become lost during the destructions and abandonments of major production centres. If so, this would have been an added impetus to increasing the export of Cypriot juglets, already started in a modest way in the MBA. However, the trade links between Cyprus and other regions in the eastern Mediterranean, established in the earlier period, did not remain the same. New associations and new routes began to be used in LCI, and this may well have been due to regional competition (see 7.5 for discussion).

The last of the MB-style WP juglets, in WP V style, followed in the footsteps of WP CLS and PLS juglets, from the south-east region of Cyprus to Syria, northern Palestine (through unidentified ports that served the region) and the Nile Delta (through Tell el-Dab'a). With WP VI there was a change in the destinations. Most WP VI STS juglets appeared in Syria, and in Egypt, extending beyond the Delta. A high number arrived at Tell el-'Ajjul, but not many found their way further north in Palestine. On the other hand, WP VI spouted juglets were rare in Egypt, and absent at Tell el-'Ajjul, though they were spread throughout the Levant and Syria. Early BR I juglets were distributed along the Nile, with the notable exception that they were virtually absent from the Delta. In the Levant, most BR I juglets were restricted to southern Palestine, with Ashkelon as the major receiver prior to 1450 BC. RLWM vessels, mostly spindle bottles, were imported into Syria and Egypt, but they were not numerous in Palestine, and they were notably absent from Tell el-'Ajjul, though not from Ashkelon. BLWM juglets were early and short-lived exports limited to LCI, but they seemed to be popular throughout most of the study area. There were high numbers at both Ashkelon and Tell el-'Ajjul and some had even arrived at Tell el-Dab'a. The distribution routes for juglets exported during LCI is summarised in Figure 7-23.

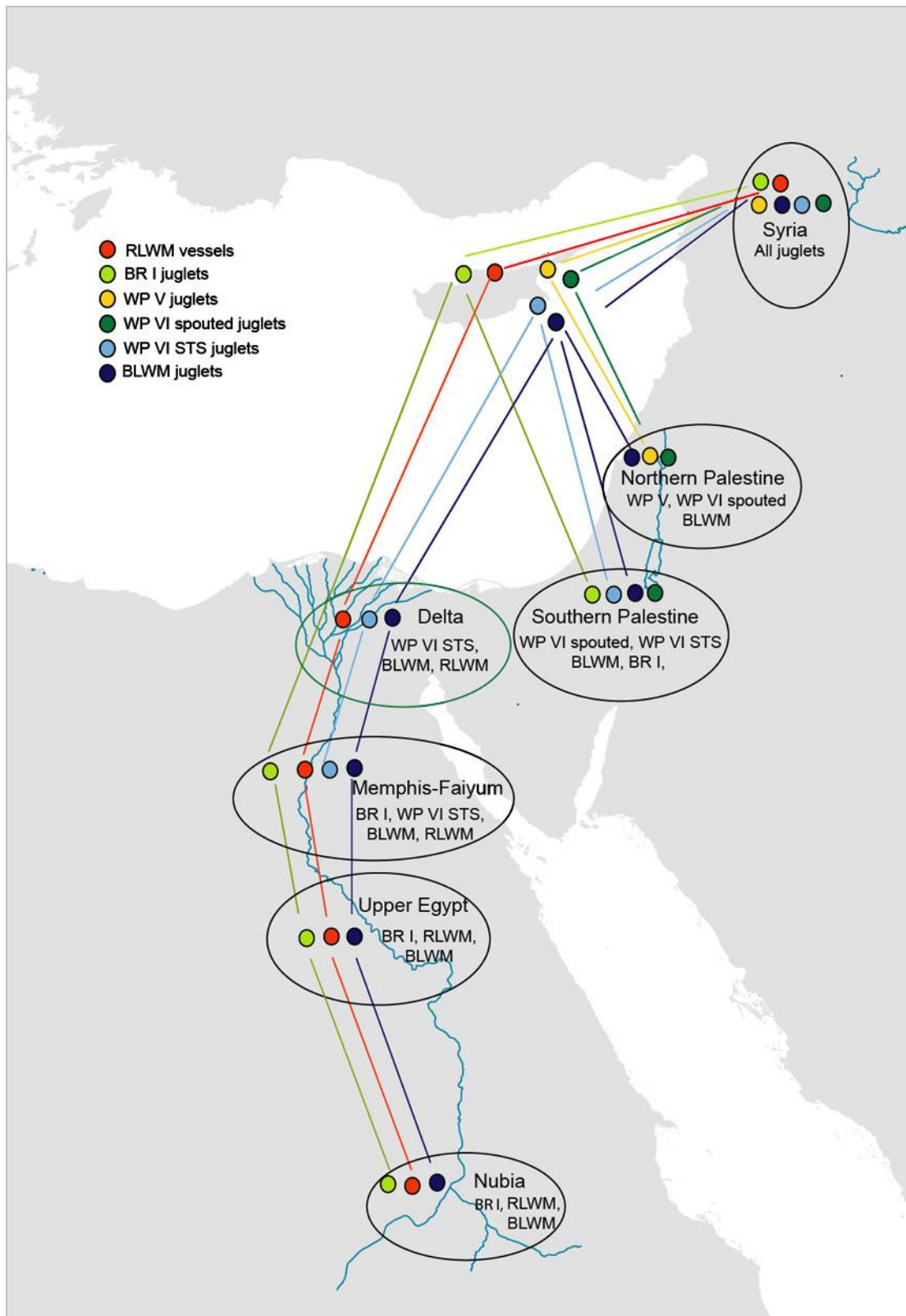


Figure 7-23 A summary of the major distribution patterns for LCI juglets, showing regions that received more than 5 of any of the types of juglet, based on contexts dated no later than 1450 BC

The distribution pattern of the LCI exports shows that the trade connections had changed from the end of the MBA. Only Syria, represented mainly by Ugarit, continued to import all types of Cypriot juglets. Trade with Egypt was no longer concentrated in the Delta, and the port of Tell el-Dab'a received only WP V juglets and small quantities of the very earliest LCI juglets, i.e. WP VI, BLWM juglets and a few RLWM. This might relate to the tail end of the MB trading connections between the south-eastern producers of Cyprus and their Hyksos customers. After that, the LCI commodities, such as BR I and RLWM, as well as WP VI and BLWM juglets, travelled further south, along the length of the Nile, even reaching Nubia. This must surely reflect the changed socio-political position, with the end of Hyksos rule and the opening up of trade in a re-unified Egypt.

In Palestine, it would seem that new trading relationships were forged between Cyprus and the southern cities, especially Tell el-'Ajjul, but also Ashkelon, from the number of BR I and WP VI STS found there. Again, as in Egypt, the early BLWM juglets arrived at both the older and the newer destinations in the north and south, respectively. RLWM vessels were very thinly distributed in Palestine.

The co-occurrence of BLWM and RLWM juglets in the same contexts at quite a few sites might indicate that they travelled together, but other aspects of their distribution do not support this. Their probable production regions in the south-east and north, respectively, and the generally wider distribution of BLWM juglets militate against 'co-marketing'. It is more likely to be associated with the early timing of manufacture and export for both types, and use of the same trade routes during this exploratory phase to newer destinations. The two types tended to be found together most often in very early contexts, particularly in Nubia. They were also found together in the same areas, and even in the same contexts at Tell Dab'a. The very low co-occurrence of BLWM and BR I juglets, and the absence of BR I juglets from Tell el-Dab'a, suggests that these juglet commodities were originally distributed through different trade links.

The ports of entry for Cypriot juglets seem to have changed during MBIIC. Trade to Tell el-Dab'a was disrupted at the end of this period, and it is not clear how goods were channelled into the Memphis-Faiyum region and beyond, after this time. The evidence from the 18th dynasty area of Ezbet Helmi does not support the *uninterrupted* use of Tell

el-Dab'a, although the archaeological evidence recently uncovered (Hein 2007; 2009) but not yet fully reported, might suggest a later recovery mid-late 18th dynasty. Furthermore, the increased level of juglet imports around the Memphis region suggests a rise in importance of distribution centres further south in the early 18th dynasty. Southern Palestinian ports such as Tell el-'Ajjul represent possible alternative ports-of-entry for Cypriot trade into Egypt, given the established trading routes which already existed between the southern towns and Egypt, as discussed in section 7.1.

In terms of general ceramic circulation, Tell el-'Ajjul and Ashkelon seem to have imported Cypriot goods in LCI. There is evidence connecting the northern region of Cyprus around *Toumba tou Skourou* with Tell el-'Ajjul, at this time, including the presence of PBR, BR I, PWS and WS I ware. Evidence from the BR I juglet distribution supports these trading links between the northern region of Cyprus and southern Palestine. However, the connections do not seem to represent exclusive trading relationships, since deposits of WP VI STS juglets and BLWM at Tell el-'Ajjul, and BLWM juglets at Ashkelon, suggest additional links with the south-east of Cyprus.

A possible scenario that might explain these distribution patterns is as follows: during LCIA, the south-eastern production regions were producing WP V, WP VI STS and probably also BLWM juglets, and the early exports of these juglets, from LCIA:1, were probably destined for Tell el-Dab'a and northern Palestine, using established trade links. The early arrival of BLWM, RLWM and WP VI juglet commodities in Nubia is more difficult to explain, unless there had been a special trade link between the Delta and Nubia at the end of the Hyksos era. By LCIA:2, BR I juglets were being produced and 'competitive' export links were established between northern Cyprus and southern Palestine, using Tell el-'Ajjul and Ashkelon as ports for entry. These expanding trading posts could then have become useful to Enkomi and the south-east, perhaps to the detriment of the more northerly Palestinian ports. At the end of the Hyksos era in Egypt, access to Tell el-Dab'a was disrupted, and juglet consumption in the Delta declined, probably due to the reduction in the consumer base. However, the rest of Egypt was open to trade, and the southern Palestinian ports had already established trade links with different producing regions of Cyprus. So the international juglet trade was well underway and due to reach its peak in LCIIA-B, as will be discussed in Chapter 8.

7.5 Discussion

7.5.1 Productive consumption and competitive regionalism

In the previous chapter it was argued that consumption of local juglets was an important part of the funerary ritual, and could be considered as part of the ritual deployed in confirming regional group identity. Consumption had a direct influence on production in a theoretical process that can be captured via the notion of 'productive consumption'. In Palestine and Cyprus, juglet consumption had become standard practice that was constantly reproduced. So producers met the needs of the consumers in a negative feedback loop and the *status quo* was maintained, with little need for innovation. In Egypt and Nubia, the practice was not part of the culture, but borrowed from the Levant, or quite possibly from the Delta (where juglet consumption had become culturally accepted). By the end of the MBA and into the LBA, new LC juglets were being imported and deposited in tombs, whose characteristics and contents indicated they belonged to emerging social classes coined 'middle or professional class Egyptians' by Merrillees (1968, 146, 160). Such groups have also been termed 'sub-elites' by Susan Sherratt (e.g., 1999, 185). Unfortunately, my data sets were not sufficiently detailed to isolate sub-elite populations but, based on Merrillees' study (with many of the same contexts recorded in this one), the assumption is made that groups with access to imported LC juglets constituted a sub-elite class. Since restricted access to imported commodities (juglets included) could have been used to negotiate or re-negotiate social status, as more people tried to do this, the relationship between production and consumption develops a positive feedback mechanism, with demand feeding the need for production and extra production stimulating consumption (Figure 7-24). It is possible that increased consumption of Cypriot juglet commodities abroad also stimulated regional competition on Cyprus.

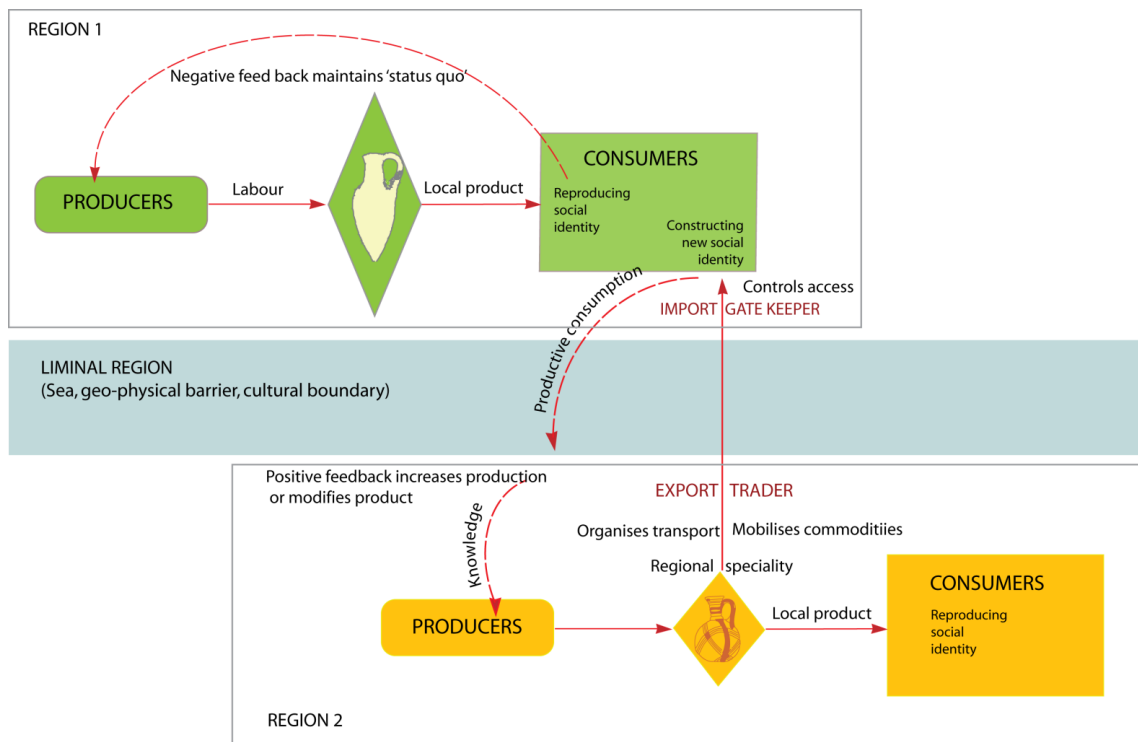


Figure 7-24 *Model of productive consumption*

At first sight, the competitive axis on Cyprus seems straightforward with the international juglet distribution following an essentially north vs south-east divide similar to that previously observed for general trade by Merrillees (1965; 1971), Manning (2001, 80-84) and others. The earliest juglet exports were from the south-east region of Cyprus, probably with Enkomi as the major distribution centre. The Eastern Sequence WP juglets reached Syria via Ugarit, northern Palestine via the ports serving Megiddo and the Egyptian Delta via Tell el-Dab'a. It is logical to assume that the development of the later, south-eastern LC styles of WP VI juglets, would have continued the trade with similar or expanded consumer bases overseas. If BLWM juglets had indeed developed in the south-east, they too should have been added to the mix, and distributed through the same networks.

The northern axis of competition derived from the sites in the Morphou Bay area. This area had long had very fine ceramics in BS ware and had developed a number of juglet commodities. Until LCI, these products had not been exported and had remained largely for regional consumption. During the LCIA period, the first northern style juglets found outlets through Tell el-'Ajjul and Ashkelon, gateway ports that had not previously received Cypriot juglets. This trade link became established before the end of MBIIC,

providing an early competitive route for BR I juglets and other goods, including PWS and WS I ceramics. Early RLWM products, which may also have been manufactured in the north, could have used similar trade networks.

By studying only the juglet forms which represent commodities rather than just ceramics, a more nuanced view of trade emerges. The neat scenario of a north *vs* south-east trade divide has more than a few problems. Firstly, there is the case of WP V and VI juglets, which had very different distribution patterns overseas. WP V juglets, like the WP PLS and CLS, were sent to Syria, northern Palestine and the Egyptian Delta (Figure 7-1), whereas WP VI juglets were concentrated in southern Palestine and Egypt beyond the Delta, which poses some logistical dilemmas. If WP V juglets overlapped with WP VI juglets in LCIA:1 and possibly into LCIA:2 (Eriksson 2009, 60-61), it seems odd that these juglets would have been exported separately from the same producer to different sites. On the other hand if, as suggested by Maguire (2009, 18), none of the MC styles were found in LCIA levels at Enkomi or 18th dynasty/LBI deposits abroad, then a new export network is a more credible option, particularly if there had been a hiatus in trade between Enkomi and Tell el-Dab'a, as discussed above.

What is much more interesting is the complete dichotomy in directions travelled by WP VI STS and WP VI spouted juglets, the former to Tell el-'Ajjul and Egypt, and the latter to the rest of the Levant (Figure 7-2). I would tentatively suggest that whilst Enkomi may not have been involved in the early BR I juglet export, in agreement with Crewe (Crewe 2007c, 447), it was not necessarily dormant in trading, but set up new links with Tell el-'Ajjul, through which WP VI STS juglets were distributed. These juglet commodities may even have been produced at Enkomi, since they were probably not being made at Kalopsidha. I further propose that Kalopsidha, which probably manufactured WP VI spouted juglet commodities, was somehow independently involved in their export to the Levant, alongside BLWM juglets, which might also have been manufactured at Kalopsidha. WP VI spouted juglets and BLWM juglets did have some northern Palestinian destinations in common with each other and with the older WP juglets. It is conceivable that their distribution was based on a combination of older established northern routes and the newer southerly routes.

From the northern side of the island, early BR I juglets were shipped in quantity to Tell el-'Ajjul and other sites in southern Palestine, but they had a scanty distribution in the north during LCI. They also reached Egypt early, but not early enough to have been found at Tell el-Dab'a. RLWM vessels were also destined for Egypt and Nubia, but their distribution was low in Palestine, which is odd if they were using the same distribution networks. Tell el-'Ajjul was a strange entrepôt; it seems to have had links with both northern and southern regions of Cyprus, but its juglet imports were selective with lots of BLWM, BR I and WP VI STS, but no RLWM. It may have had a distributive role in southern Palestine for BR I and BLWM, but not for WP VI STS juglets which were mainly found in Egypt.

In conclusion, competitive regionalism in the production of juglet commodities can be readily identified in LCI within the island of Cyprus. Overseas consumption preferences for these regional products were likewise apparent in some highly specific distribution patterns. Less readily identifiable are the exact trade routes between producers and consumers. Whilst most products found their way to Ugarit, not all went to Tell el-'Ajjul. An explanation may lie in the way the products were distributed, and the role of middlemen and traders.

7.5.2 Distribution mechanisms

It is often thought that Cypriot juglet commodities, along with other ceramic items, would have been incidental travellers accompanying the main bulk commodities, usually assumed to be copper. However, the patterns of production for different juglets have been seen to be regional and their export targeted at specific regional destinations. This need not be a problem, since it has been suggested that copper was probably not the early driver of exports in the south-east (Crewe 2012). In other words, the bulk commodities which formed the main cargo to other exported goods may also have been regionally distinct. Nevertheless, the organisation of that trade needs to be considered. Copper production must have been organised and controlled, in order to mine, refine and distribute the quantities needed for export, such as those documented in the Amarna letters (Moran 1992). Similarly, producing, storing and moving huge agricultural reserves would have needed an organisational structure.

The concept of a vertically-integrated production system has been suggested (Manning and De Mita 1997, 109), resulting in centralised decision-making for the procurement of raw materials, large-scale production of goods and their transport, as well as the exchange or conversion of the commodities. Such systems might have operated at a few major centres, such as Enkomi and *Toumba tou Skourou*, for dealing with bulk commodities. However, craft-based production on Cyprus cannot be explained along the standard models of palatial administration and attached specialists. Juglet commodity production is a case in point. Whilst it is feasible that small regional operations were capable of manufacturing the quantities of juglet commodities needed for export, mobilising sufficient production, arranging the shipping and making strategic responses to consumer preferences, would have required a certain level of organisation and authoritative leverage. This may have come via high status figures such as Cypriot 'kings' or *rabisu* who had sufficient authority to organise intra-regional level mobilisation, as has been recently proposed (Peltenburg 2012). Alternatively, it has been suggested that independent entrepreneurial traders may have emerged from such a situation (Manning and De Mita 1997, 112-115; Sherratt and Sherratt 1998, 337). They may well have been foreigners rather than indigenous people, who thrived where trade was 'trans-zonal', i.e. between regions of different levels of development such as Middle Bronze Age Palestine and Cyprus in comparison with Egypt or Syria.

There is ample documentary evidence for the existence of traders from Ugaritic and Akkadian texts, and even for one from *Alashiya* at Ugarit (for a review see Knapp 1991, 48-49), but their specific roles in juglet distribution and export must remain speculative. However, what has become apparent from the evidence is that juglet distribution was neither random nor opportunistic; they were not incidental travellers on the back of copper exports. Someone had made strategic choices about the goods to be exported. Someone had organised the production and communicated the reception of the juglets which started in MCIII/LCI but which was to become much bigger business in LCII. Someone had perhaps seen the gap in the supply of juglets in Palestine when production of RSB/BSB juglets was drastically reduced.

Chapter 8 The era of the exports

Following the impetus of Cypriot regional competition in LCI, the export of juglet commodities from Cyprus to the eastern Mediterranean stepped up a gear. During LCII, the international trade in juglets reached its height. Now competition came not just from neighbouring regions in Cyprus, but all the way from the Aegean, in the alien forms of Mycenaean flasks and stirrup jars. This chapter explores juglet commodity distribution and consumption during an era of expanded internationalism in the eastern Mediterranean. The first section (8.1) examines the socio-political back-drop of the mid-late LBA and reviews some relevant aspects of the international exchange of the period. The next section (8.2) looks at general juglet consumption practices across the region and changes that occurred since the MBA. Section 8.3 presents the data on the Cypriot juglet trade at its height, whilst section 8.4 documents the impact of the Mycenaean precious commodity trade. The importance of certain towns to the circulation of juglets is looked at in section 8.5. Section 8.6 explores the possible roles that Cyprus may have played within the Mycenaean juglet trade, for example, whether it had a role as trading intermediary or producer of Mycenaean copies, or whether it might have had influences on product development. The penultimate section (8.7) summarises the main findings and conclusions and the final section (8.8) discusses their socio-economic implications.

8.1 Socio-political and economic background of the mid-late LBA

The period under consideration spans the absolute dates of 1450 BC to 1200 BC, following on from the LCI period of the previous chapter. It may usefully be further divided into around three broad political eras.

8.1.1 From around 1450 to 1400/1375 BC

The first period was relatively short, around 1450-1400/1375 BC, and corresponds approximately to LCIIA on Cyprus, LBIB in Palestine and the mid-18th dynasty in Egypt.

Regions	Relative periods	Absolute dates
Egypt	Thutmosis III, Amenhotep II, Thutmosis IV	1458-1390
Palestine	LBIB	1450-1400
Cyprus	LCIIA	1450-1375
Syria	LBIB e.g. Alalakh V-IV, Hama G3-1	1450-1400
Aegean	LHIIB, LMII. LHIIIA:1, LMIIIA:1	1460-1375

Table 8-1 *Relative and approximate absolute dates for the peak period of Cypriot pottery exports*

With the campaigns of Thutmosis III, Egypt started to exert administrative and military control over Palestine. A major campaign was initiated to quell a revolt by a confederation of cities in western Palestine, the plain of Esdraelon and northern Syrian territories, led by the princes of Megiddo and Kadesh. It ended in the siege and fall of Megiddo, which marks the start of LBIB in Palestine (Leonard 1989, 12). Whilst some military and administrative strongholds were established, Palestine was largely ruled through appointed Canaanite princes, whose loyalty and tribute were encouraged by taking royal hostages to be Egyptianised. Thus, this was a period of political and economic control rather than of massive military occupation. With Palestine under firm control, Thutmosis was able to concentrate on Syrian campaigns (Leonard 1989, 12-13). He also established control of Nubia, southwards to the Fourth Cataract (Kuhrt 1995, 329).

Syria experienced a turbulent period, caught in the middle of the expansionist programmes of Egypt and Mitanni. Whilst Egypt claimed to conquer as far as the Euphrates, the eventual outcome of the campaigns was that Egypt controlled coastal and southern Syria including Qatna, and possibly as far north as Hama. The Mitanni retained the north-western sector and the Lower Orontes, at least as far as Aleppo. Both regions were governed by local dynasts who paid tribute to their Egyptian and Mitannian overlords (Akkerman and Schwartz 2003, 329). Egypt and Mitanni preserved this power balance until the mid-14th century.

Archaeological evidence for such a short chronological period on Cyprus is difficult to tease out, with much inferred and extrapolated from the more archaeologically visible LCIIIC period. Thus social complexity and the urbanisation process, which had its roots in LCI (see Chapter 7), is presumed to continue with the burgeoning of more urban centres, particularly in the south. LCIIA-B is still often defined by the appearance of Mycenaean pottery in Cyprus, but there is some stratified archaeological evidence for

continuous occupation. Early LCII phases were identified at Enkomi by Dikaios as level IIA (1969-71) and reviewed extensively by Crewe (2007b, 88-91). Early LCII occupations have also been demonstrated at Maroni *Vournes* (Cadogan 1991, 3-7; Cadogan 1996, 15), Kalavassos *Ayios Dhimitrios* (South 1989, 317-19), Kourion (Benson 1972, 26, 40) and Phlamoudhi *Melissa* (Smith 2008, 46-52). Together with Enkomi (Dikaios 1969-71) and *Toumba tou Skourou* (Vermeule and Wolsky 1990), these settlements constituted the primary urban centres of the tiered settlement hierarchy proposed by Knapp (1997, map 13), based on the exploitation of copper or agricultural produce such as olive oil.

8.1.2 The fourteenth century including the Amarna period

The fourteenth century constituted the second part of this period. In Egypt, it encompassed the reigns of Amenhotep III (1390-1352 BC), the Amarna period under Akhenaten (1352-1336 BC) and the later 18th dynasty, which lasted until 1295 BC. This corresponds to LBIIA in Palestine, LCIIB (1375-1340/25 BC) and early part of LCIIIC (1340/25-1200 BC) in Cyprus, and LHIIIA and LMIIIA in the Aegean. The 38 year reign of Amenhotep III (1390-1352 BC) was essentially a period of peace and affluence for Egypt, although there was a Nubian campaign which took place in year five of his reign. In the eastern Mediterranean world, this was a period of strong Egyptian influence as attested by letters between Amenhotep and the kings of Mitanni, Arzawa, Alashiya and Babylon, indicating diplomatic links and marriage alliances (Moran 1992, 1-117). The relationship of Egypt to Palestine and parts of Syria during the reign of Amenhotep III and the subsequent Amarna period, was that between overlord and vassal princelings, as also indicated in the Amarna letters, (EA 44-382: Moran 1992, 117-370). The succeeding king, Akhenaten, moved the religious and political centre of Egypt to the newly constructed city at Amarna.

The north and west of Syria came under Hittite threat during Akhenaten's reign, when large areas were lost under him and his successor Smenkhkare. The Hittite annexation of Syrian territory by Suppiliuma I meant that Egypt now shared a border with Hatti for the first time (Redford 1987, 174), and that it had lost military control, as well as political and economic influence over some southern Syrian coastal cities. Ugarit now fell under Hittite control, though it was not occupied, and it seems that much of the

long-distance trade of the Hittites was conducted through this important kingdom (Bell 2006, 4). However, much of northern Palestine now came under stronger Egyptian influence, and this may have included the Jezreel Valley, where Egyptian-style pottery, stone vessels and other Egyptianising material culture are apparent at Beth Shan, Megiddo, Pella and Tell es-Saidiyeh. A positive economic benefit of the resulting Egyptian-Hittite treaty meant borders became more open and international trade flourished along the coastal Via Maris and the King's Highway in Transjordan.

There still remains a question over whether control was exercised from a distance or whether there were permanent Egyptian governors and garrisons in Palestine at this time (Shaw 2000, 325-26). The Egyptian influence may have had more to do with elite emulation than the limited military presence (Higginbotham 2000, 71). However, there has been some support, based on textual evidence from the Amarna letters, and the presence of Egyptian artefacts, that strongholds did exist at this time to protect Egyptian economic interests. Beth Shan, strategically positioned on the route from the coastal Levant to the Jordan Valley, may have been one such garrison and other contenders are thought to have existed at Sharuhen (possibly Tell el-'Ajjul or Tell Farah South) in southern Palestine, and Kamid el- Loz further north (Redford 1992, 203-207).

With regard to Cyprus, stratified evidence for LCIIIB (as opposed to LCIIA-B) from settlement sites is sparse, represented by Kourion Area A, levels B and C, also Areas B and C and Tombs 5 and 18 (Benson 1972) and Myrtou *Pighades* Period IV (du Plat Taylor 1957, 9-23). Tomb evidence comes from Enkomi Swedish tombs 2, 11, and 17 (Gjerstad *et al.* 1934, 510-75) and British tomb 77 (Crewe 2011, the tombs) and also from *Ayios Iakovos* tombs 8 and 14 (Gjerstad *et al.* 1934, 328-35, 353). The difficulty in separating out later levels means most of the discussion above for LCIIA also applies to LCIIIB.

8.1.3 The thirteenth century BC – the beginning of the end of the LBA

The end of the LBA has been dated differently for the various regions. In Cyprus and the Aegean, 1050 BC marks the termination of the LBA, with the end of the LCIIIB and LHIIC/LMIIC periods, respectively, whilst the close of New Kingdom in Egypt is dated to 1069 BC. For Syria and Palestine, however, the start of the Iron Age (IA) is set at 1200 BC. These are, of course, merely conventional markers and a more meaningful

break could be set at around 1200 BC when there were widespread destructions around the Aegean and eastern Mediterranean. Though this date does not signal the end of the LBA for all regions, it does mark a general collapse in socio-political frameworks all around the eastern Mediterranean. After this time, there were notable societal changes in all the regions with transformations in social practices and material culture. Juglet production and circulation was part of this transformation. Consequently, although the trade in precious commodities did continue to thrive in a different guise at later dates and was particularly strong in the IA, the date of 1200 BC has been set as the close of one era of the juglet commodity trade.

The prosperity and international trade of the 14th century continued into the start of the 13th century across much of the eastern Mediterranean. In Mainland Greece, the Mycenaean palatial systems had reached their acme and continued at the heart of local socio-economic frameworks and international trading (Galaty and Parkinson 1999; Gillis *et al.* 1995). Egypt prospered under Rameses II, despite his largely unsuccessful Syrian incursions which ended in the indecisive battle at Kadesh and an eventual peace treaty with the Hittites (van Dijk 2000, 298).

In Cyprus, the LCIIC period (1340/25- c.1200 BC) was characterised by a greater degree of administrative centralisation and concurrent emergence of an elite ruling population. At this time, some established towns including Enkomi, Kalavassos, Maroni, Hala Sultan Tekké and Palaepaphos underwent major rebuilding including the construction of large ashlar buildings and monumental storage facilities. Important new centres also appeared in LCIIC, i.e., Kition, Pyla-Kokkinokremos, Maa-Palaekastro and Alassa-Pando Mandalaris and Alassa Paliotaverna. All of these settlements were associated with metallurgical activity (Karageorghis 1990, 2-26), which no doubt contributed to their prosperity and growth. By LCIIC Cyprus had become a major player in international trade, supplying copper around the eastern Mediterranean, as evidenced, for example, by the 10-ton consignment of Cypriot copper on the Uluburun shipwreck.

By the end of LHIIIB:1 and the beginning of LHIIIB:2, around 1225 BC, the seeds of change were already present in the Aegean, with the first series of destructions at Mycenae, Tiryns and Gla. Following rebuildings and fortifications, there was a second,

more widespread series of destructions at the end of LHIIB:2 and the start of LHIIC, Early around the Greek Mainland resulting in the demise of the palatial buildings at Mycenae, Tiryns, Pylos, Thebes, and elsewhere. Although there was some rebuilding, the devastation led to the collapse of the palace economies and the eventual restructuring of society in the post-palatial period of LHIIC (Deger-Jalkotzy 1998, 105-106; Mountjoy 1993, 21-22). The waves of destructions and abandonments spread to many islands of the Aegean, as detected in the archaeological records of Euboea, Melos, Crete and Rhodes amongst others. The breakdown of societal structures and the depopulation of major settlements have been associated with the destructions in the eastern Mediterranean attributed to displaced people and pirates often termed 'Sea Peoples' (Deger-Jalkotzy 1998, 107-112).

In the eastern Mediterranean, the catastrophic events in the Aegean coincided with the death of Rameses II and the Hittite king Tudhaliyas IV, ending a period of political stability between the two great powers which had been the background to prosperity and international trade for the entire region. This instability may have been a contributory cause of the ensuing devastations which occurred in the region from around 1200 BC. The Hittite capital Hattusha was burned and the Hittite empire disintegrated, along with destructions of major urban centres such as Ugarit, Emar, Alalakh and Brak (Akkermans and Schwartz 2003, 358). The major trading emporium of Ugarit did not recover and was never reoccupied and this alone must have struck a devastating blow to trade and prosperity in the region. Even the Egyptian empire was under threat from invading forces and border incursions from Libya, and although these were eventually stalled by a land and sea battle in the Delta (van Dijk 2000, 304-305), there seems to have been little defence of Egypt's Palestinian territories and the destructions extended along the Syro-Palestinian littoral, including at Tell Abu Hawam and Ashdod.

8.1.4 International exchange during this period

Though local Syrian and Palestinian economies may have been affected by the struggles between Egypt and Mitanni, followed by attacks from the Hittite empire, the military campaigns do not seem to have had a lasting effect on international trade, although they may have influenced the trading routes and networks. Thus, coastal areas of Syria became rich, particularly Ugarit, with its port at Minet el-Beidha, which was an

important entropôt of the period. It not only had royal palaces but also merchants' quarters, and documents attest to the merchant operations. Excavations have revealed LBIIA levels at Sarepta (Anderson 1988; Khalifeh 1988; Pritchard 1988), which became a key port for Mycenaean goods from this period (Bell 2005). In Palestine, despite the decline in settlement numbers discussed above, some new sites appeared in LBIIA, including the harbour of Tell Abu Hawam which became significant for international trade (Balensi 2004).

The distribution of ceramic exports and imports in this period has been well reported previously (Bergoffen 1990; Gittlen 1981; Hankey 1993a; 1993b; Leonard 1994; van Wijngaarden 2002). However, as a back-drop to analysing the circulation of juglets, it is pertinent to summarise here some key features of ceramic circulation in general. For Cyprus, this was a boom time for ceramic trade and Cypriot pottery became widely circulated throughout Egypt and the Levant, although there were local differences in distribution patterns. In Egypt, preferences were for BR I and RLWM in terms of wares, and closed vessels such as juglets and bottles in terms of their forms, indicating that they were valued more for their contents (Merrillees 1968). Cypriot ceramic imports reached their fluorit in the first part of this period, and declined sharply during the following Amarna period. In Palestine, BR II vessels were more common than BR I, and WS bowls constituted a significant proportion of the imports, especially in domestic contexts. The trade in Cypriot pottery also lasted longer in the Levant than in neighbouring Egypt, peaking rather than declining in the later LBIIA (Gittlen 1981, 51). The different inter-regional consumption patterns for Cypriot pottery have been attributed to varying social display strategies in Egypt and the Levant (Hulin 2009).

Pottery from the Aegean started to reach the eastern Mediterranean in increasing quantities in this period. The first pottery to arrive, LHI-II and LMII was distributed in a very limited way (van Wijngaarden 2002, 187). In Cyprus just a few LHIIB vessels have been found at Enkomi, Maroni, Kalavassos, Katydhata, Hala Sultan Tekké and Ayia Irini (Mountjoy 1993, 168-69), whilst at *Toumba tou Skourou* and Ayia Irini, Aegean pottery was mostly Minoan of LMIA or LMII styles (Quilici 1990; Vermeule and Wolsky 1990). In Egypt, early Mycenaean imports were found at Saqqara, Thebes and Kahun, whilst in Palestine and Syria, a handful of finds have been made at Lachish,

Tell el-'Ajjul and Amman (Mountjoy 1993, 168-69). From the start of the 14th century, there was a dramatic increase in the circulation of LHIIIA ceramics.

Aegean ceramic exports were in the ascent during the 14th century. The greatest numbers of Mycenaean vessels were apparent in Cyprus, as well as the widest corpus of vessel forms. These were spread along the coast and in the mining regions (van Wijngaarden 2002, 126). In other areas of the eastern Mediterranean, the range and the number of Mycenaean vessels were generally lower than in Cyprus. Also, in most sites, Mycenaean pottery was accompanied by Cypriot pottery. This led to early speculation by Hankey (1967) that Cypriot agencies were involved as 'middle-men' in the distribution of Mycenaean wares in the eastern Mediterranean. The presence of pre-firing Cypriot pot marks on some Mycenaean vessels at Tell Abu Hawam and other Levantine sites has strengthened the case for the role of Cyprus, especially as these also appeared on many RLWM vessels (Hirschfeld 1993). There have been exceptions to the distribution pattern, however. Sarepta, in southern Syria, had a much higher number of Mycenaean vessels and a much broader range of forms than any other site in the Levant; it matched the assemblage of Enkomi. Cypriot imports, on the other hand, tailed off once the Aegean imports started to arrive. It seems credible that this site was trading directly with the Aegean (Bell 2006, 59).

Regular commerce between Egypt and the Aegean started in the reign of Amenhotep III, as attested by Egyptian artefacts in mainland Greece and an inscription which mentions the names of Aegean cities such as Mycenae, Phaistos and Knossos (Shaw 2000, 268). Mycenaean ceramic imports to Egypt lasted for a relatively short time, with most of the pottery dated to LHIIIA:2 and very little to LHIIIB. The commonly imported shapes in Egypt were closed vessels: piriform jugs, stirrup jars and vertical flasks. As at Sarepta, very little Cypriot pottery was found in association with Aegean pottery at Amarna (Hankey 1973), which is contrary to the norm in the Levant and again suggests a more direct contact.

The Uluburun shipwreck material provides excellent evidence for international trade in the eastern Mediterranean with its large, mixed cargo of bulk metals, organic material, ceramics and luxury goods. The very range of materials, and the varied weight systems

represented, attest to an array of international links between the Aegean, Cyprus, the Levant and Egypt.

8.2 Juglet consumption practices in the mid-late LBA

During the mid-late LBA, corresponding to 1450-1200 BC, the international circulation of juglets reached its zenith, with dramatic increases in the exports and imports of these products around the eastern Mediterranean compared with the MBA and early LBA, discussed in Chapters 6 and 7. There were also some noticeable shifts in consumption practices amongst different regions and sub-regions. Figure 8-1 shows general juglet consumption in the different regions. In Cyprus and Palestine, there was a decline in juglet consumption in this period compared with the MBA. In Cyprus, around 1 in 4 of MC pottery vessels were juglets, and this decreased to around 1 in 5 in the mid-LBA and 1 in 6 after 1300 BC. In Palestine, the proportions were initially 1 in 5 decreasing to, but then stabilising at, around 1 in 8. The data for Syria also show a fall in the percentage of juglets in the ceramic assemblage, although the MBA proportion of 46% juglets may be too high due to an underestimate of the number of local vessels, as discussed in Chapter 6. In Egypt and Nubia, where the consumption practice seems to have been imported, the consumption rate of around 1 in 10 juglets remained constant until the end of the Amarna period, after which it fell to only 6%.

If overall juglet consumption was reduced somewhat in the LBA, compared with the MBA, the proportion of imported juglets increased in most regions. Figure 8-2 compares the proportions of local juglets with imports and imitations for the period between 1450 and 1200 BC. Cyprus was the only region in the study which had a higher percentage of locally produced juglets, indicating its role as a major producer and its low reliance on imports. In Egypt and Syria, most of the juglets consumed were imported, whilst in Palestine, imported juglets or their imitations had become the norm, matching domestic products. The consumption of imported juglets had become so popular in the Levant that during the LBA, the number of contexts with imported juglets exceeded the number without them. In burials, there was no association between the presence of imported juglets and the presence of prestige goods such as jewellery, weapons and luxury containers, so it would seem that imported juglets were not restricted to elite consumers, but were more widely consumed, perhaps by sub-elite

consumers, as discussed Chapter 7. The ratio of imports to local juglets varied across this region, with coastal settlements consuming a higher proportion of imports than inland sites. There was also a north-south divide, with northern Palestine producing and consuming more local juglets and a higher percentage of imitations than southern Palestine.

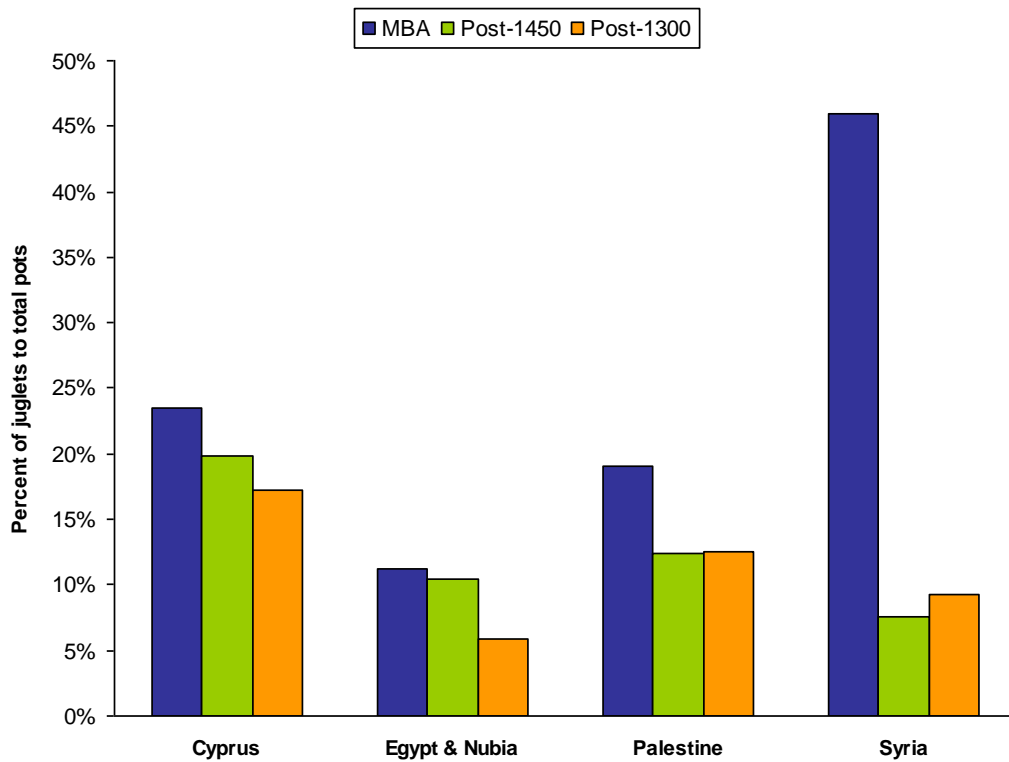


Figure 8-1 Overall proportions of juglets consumed in the different regions in contexts dated to the MBA, the mid-late LBA and the end of the LBA

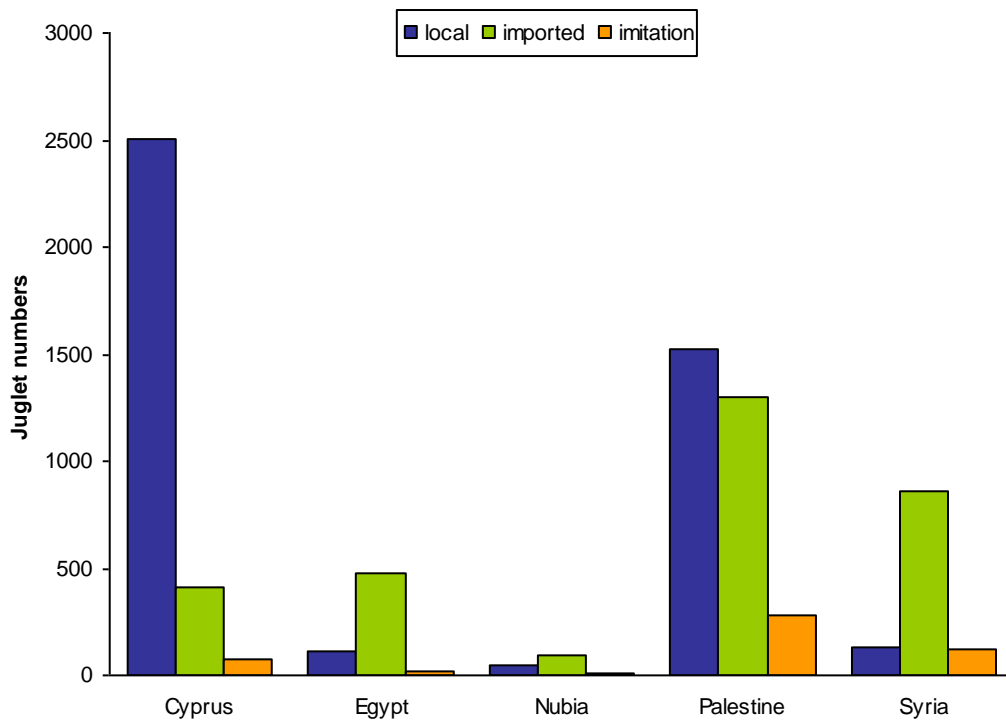


Figure 8-2 Numbers and proportions of local, imported and imitation juglets at the sampled sites of the different regions, in contexts dated no earlier than 1450 BC.

Table 8-2 shows the most prevalent juglet types found in mid-late LBA contexts, giving an indication of the preferences for local and imported juglets by region.

Region	Juglet type	Total nos
Cyprus	BR I	386
Cyprus	Mycenaean	346
Cyprus	RLWM	320
Cyprus	WSh	320
Cyprus	Coarse ware	227
Cyprus	BR II	85
Cyprus	PWWM or PWHM	71
Cyprus	BLWM	13
Palestine	Dipper	926
Palestine	Mycenaean	585
Palestine	BR I	263
Palestine	BR II	211
Palestine	Pilgrim flask	146
Palestine	BLWM	145
Palestine	WSh juglet	134
Palestine	Painted pilgrim flask	104
Palestine	Unclassified	44
Palestine	Mini-amphora	43
Palestine	RLWM	21
Palestine	Plain White	14
Syria	Mycenaean	519
Syria	RLWM	132

Syria	WSh	82
Syria	BR I	63
Syria	Pilgrim flask	54
Syria	BR II	50
Syria	Dipper	46
Syria	Unclassified	27
Egypt	BR I	137
Egypt	Mycenaean	91
Egypt	BR II	65
Egypt	RLWM	48
Egypt	Local Egyptian	42
Egypt	Mini-amphora	26
Nubia	Egyptian	37
Nubia	Pilgrim flask	25
Nubia	RLWM	23
Nubia	BLWM	14
Nubia	Drop alabastron	12

Table 8-2 *The most prevalent types of juglets found in regional contexts dating later than 1450 BC (the highest numbers shown for each region)*

During the LBA, some new local juglet types made an appearance in Cyprus but they were not exported. These were Plain White Wheel-made and Plain White Hand-made juglets, and coarse ware juglets, and as their names suggest, these types were undecorated. More significantly, Cyprus became a juglet importer during this time, with the quantities of Mycenaean narrow-necked containers consumed close to those for BR I, RLWM and WSh juglets on the island.

In Palestine, the variety of local juglet types declined drastically. Most of the older style RSB/BSB and Bichrome juglets had disappeared by this period, but dipper juglets remained popular and continued to be widely produced in the Levant, forming the bulk of the local juglet assemblage. However, new types of juglet, the pilgrim flask and the painted pilgrim flask, entered the repertoire in LBIB and were being made in quite high quantities by the end of the period. Syria, and in particular Ugarit, had significant numbers of both Cypriot and Aegean imported juglets, but local juglets were quite rare.

In Egypt, the production of local juglets was very much lower than imported products. The low numbers and the reduced distribution indicate a greater interest in importing juglet commodities than in emulating local juglet production, as happened in the MBA. As discussed in detail below, even the imported commodities were losing popularity and starting to decline during the Amarna period. The distribution of imports also varied, with most in the Memphis-Faiyum area and Middle Egypt and very few in the

Delta, rather than with an even spread along the Nile. Nubia, which adopted the juglet habit early in, or even prior to the 18th dynasty, had very few juglets at all during this period. It seems likely that with the removal of the Hyksos cultural influence, juglet commodity consumption fell.

Though many juglets were still consumed in funerary contexts, there may have been some changes in the way juglets commodities were used. For example, in Cyprus and Palestine, the funerary deposition declined compared with the MBA, but it increased in Syria. Although settlement deposition is difficult to assess due to problems of post-depositional survival, it seem to have remained low (around 6%), except in some documented settlements contexts in Egypt, in particular Amarna, where 18% of recorded pottery was juglets.

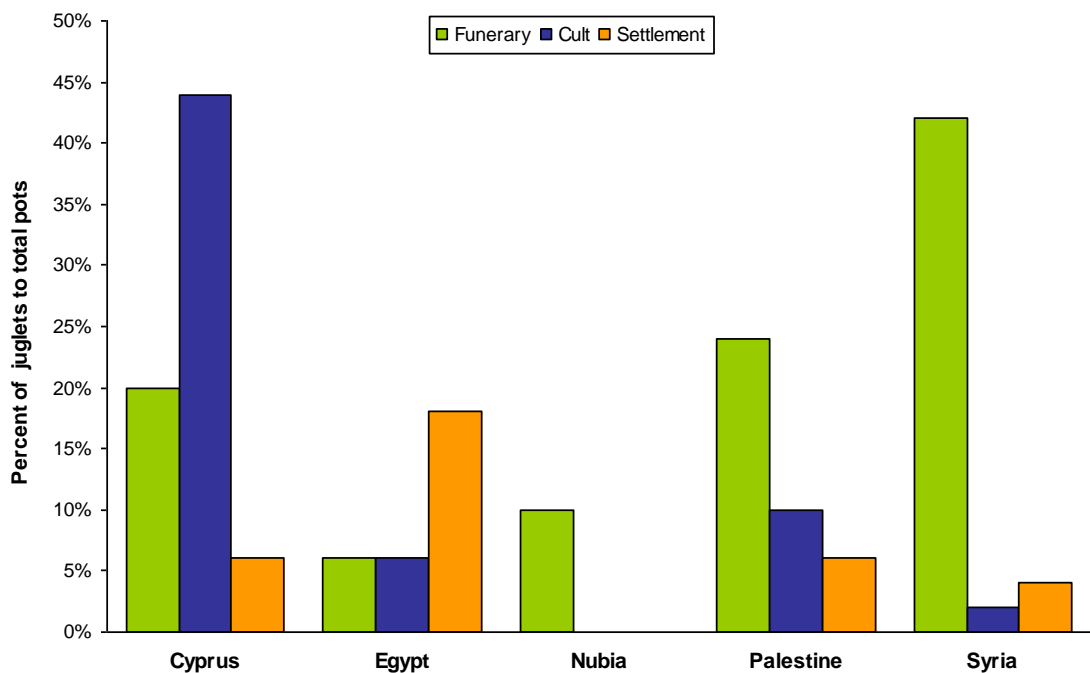


Figure 8-3 *The proportion of juglets found in various types of contexts dating no earlier than 1450 BC in the sampled sites of the different regions*

Cult use of juglet commodities may have increased during this period, though it is difficult to be certain since the number of cult contexts excavated and documented is relatively low compared with funerary contexts. It may have become more important in Cyprus, with juglets accounting for 44% of vessels deposited in cult places recorded for

this period. Though most of the data comes from only one large site, at Athienou, depositions at cult contexts at Ayios Iakovos support ritual use, whereas the records from earlier, smaller cult contexts at Paleoskoutella indicate that juglets were not previously used in this way.

Athienou consisted of a building, a courtyard and pits, of which the relevant stratum dated from LCIB to the end of the LCIIC, with the main period of activity from the 14th to 13th centuries. Thousands of vessels had been deposited there, of which 2000 were intact, but the total number was estimated to be in the region of 10,000. The collection of ceramic vessels is noted for its huge numbers of miniature votive vessels, a large proportion (around 40%) of which were juglets (Table 8-3). The pottery was not published in its entirety, but only as a representative sample of around 800 (Dothan and Ben-Tor 1983). Most miniature juglets were rather crudely made, coarse ware vessels with no recognisable style. This fact, and the discovery of heaps of clay, a large stone basin and warped and misfired vessels, led the excavators (Dothan and Ben-Tor 1983, 139) to postulate that the miniature votives were made on site. However, there were also recognisable juglet styles amongst the miniatures, representative of other regions, including BR, WSh, BS V and Bucchero (Table 8-3). Furthermore, NAA analyses of 180 specimens have shown that the clay was not all local but came from all around the island. All the Mycenaean ware deposited there was LHIIB in style, and provenance studies have indicated that it was imported from the Argolid, even the miniature Mycenaean votives (Yellin 2007, 278-80).

Juglet type	Size	Nos
Coarse ware juglet	miniature votive	227
WSh juglet	normal size	42
WSh juglet	miniature votive	25
BR I juglet	miniature votive	11
Bucchero juglet	miniature votive	11
BR I juglet	normal size	8
WP VI Spouted	normal size	7
Mycenaean juglet	miniature votive	6
BS juglet	normal size	7
WP V Eyelet	normal size	2
WP VI STS juglet	normal size	2

Table 8-3 *Types of juglets deposited at Athienou from a sample of 819*

Unusually, these were small Mycenaean juglets rather than tiny stirrup jars. There were no small stirrup jars but only a few Minoan-style storage-size stirrup jars. These data would seem to imply that Athienou had acted as an inter-regional cult centre and that the production of special votives for ritual deposition may have been an island-wide practice, which even led to the importation of miniature votives from overseas.

There were several cult contexts in Palestine dated to this period, including the important Amman temple site which dated from 1400-1200 BC. The deposits at this site are noteworthy because they include many Mycenaean or Mycenaean-style vessels, over half of them closed vessels including stirrup jars, alabaster and flasks. It seems that the consumption practice may also have been imported, since although over half of all the ceramic vessels were local, there was only one, unclassified, local juglet at the site (Hankey 1974). At Beth Shan, the Garrison Temple level VIII, dated 1300-1275, also yielded a high number of Mycenaean juglets amongst the cult offerings, which included jewellery and stone vessels (James and McGovern 1993). The Deir Alla cult centre had very different deposits. Dating to the end of the 13th century and start of the 12th century BC, the contexts contained mostly local dipper juglets with relatively few Mycenaean imports. There was, however, a significant presence of other luxury containers in stone and faience (Franken 1992).

8.3 The Cypriot juglet trade at its height

8.3.1 BR I juglets

8.3.1.1 Chronological and geographical variation

BR I juglets were in circulation for around 300 years, from LCIA:2 to LCIIB, although, as was seen in the last chapter, the consumption of these juglets varied over time in the different regions of the eastern Mediterranean. In Cyprus, early production and consumption started in the north and spread to the south and south-east. By LCIIA, BR I juglet consumption was island-wide. Figure 8-4 shows the distribution of all recorded BR I juglets in Cyprus during the lifespan of the form. Of these, the later occurrences are indicated by Figure 8-5, which shows the sites with contexts having terminal dates later than 1450 BC. As discussed in Chapter 4, this analysis of distribution provides only an approximate indication of chronological spread, as some of the contexts have a wide date range. Nevertheless, it does point to a decline in the consumption of BR I juglets in Cyprus after LCI, and this is especially noticeable in the centre of the island. It should be noticed that Kazaphani, which did not occur in the LCI maps, now appears here, since the terminal dates for the contexts at this site are later than 1450 BC.

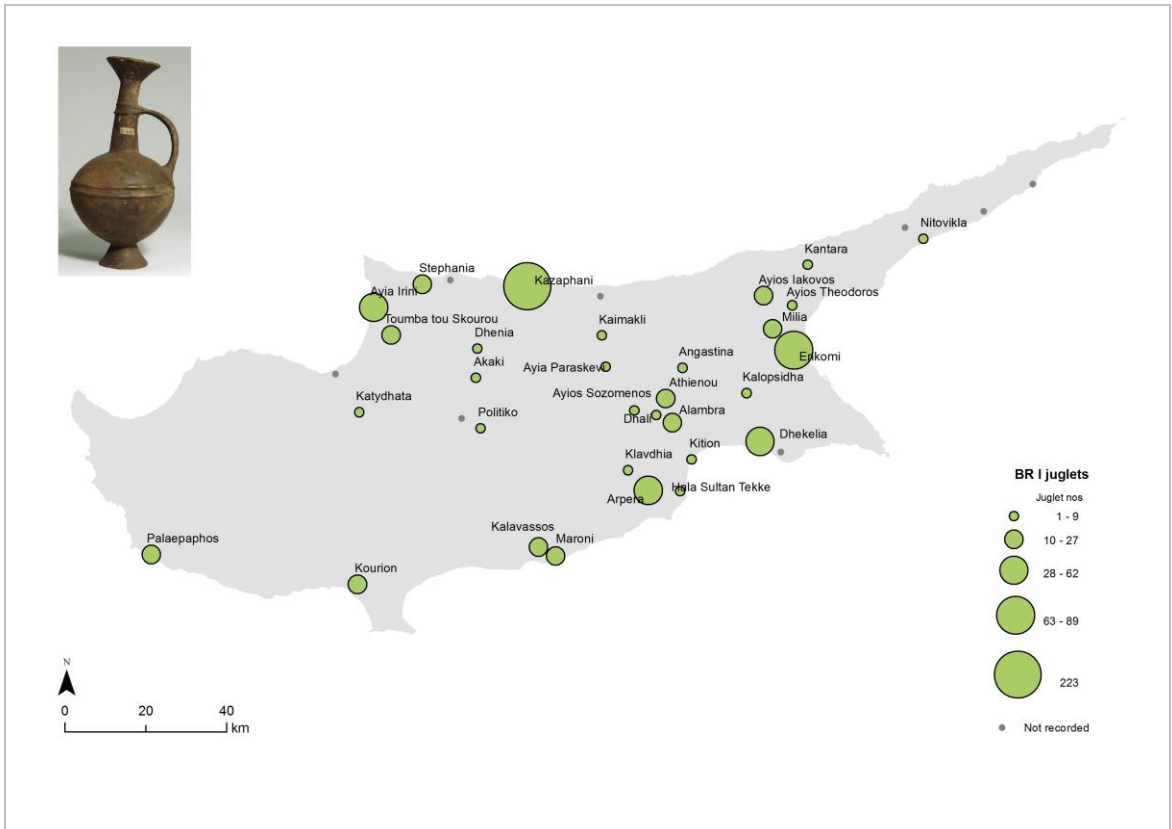


Figure 8-4 *The distribution of all recorded BR I juglets in Cyprus*

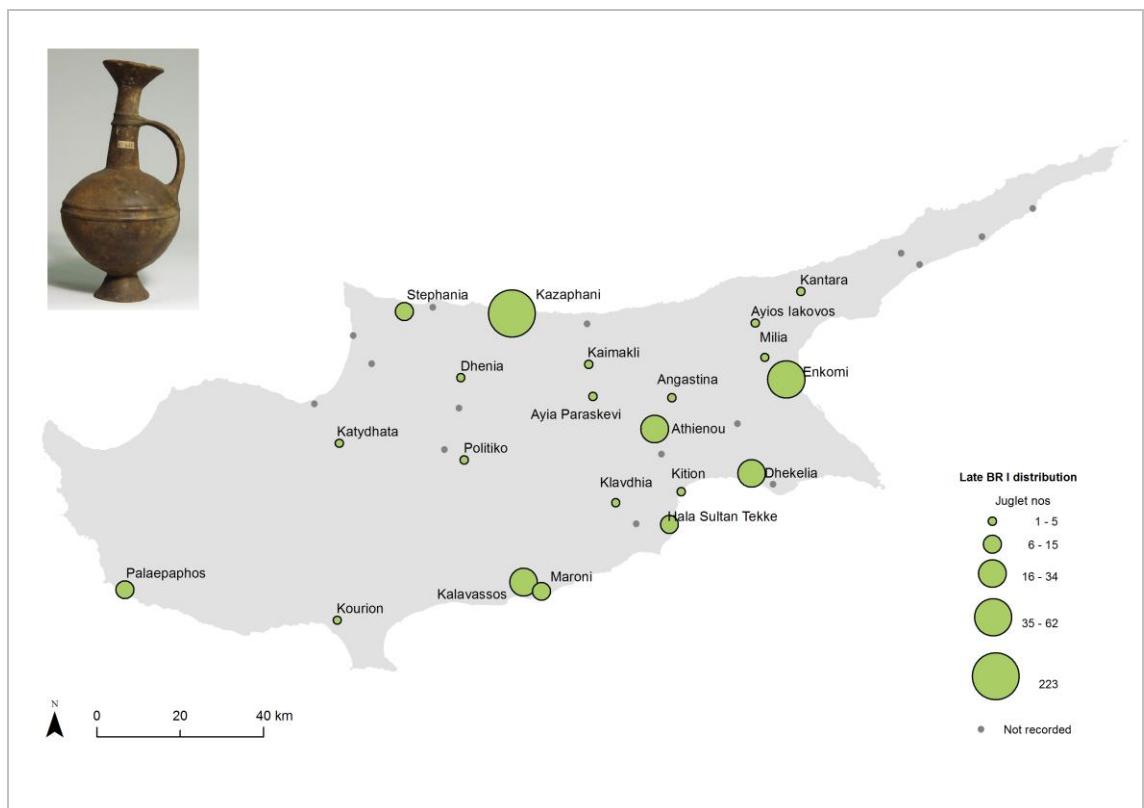


Figure 8-5 *The distribution of BR I juglets in Cyprus in contexts with terminal dates later than 1450 BC.*

Exports to the mainland regions from Cyprus had started in the LCI period, but the quantities at this stage had been limited. Figure 8-6 shows the circulation of the entire exported corpus of BR I juglets.

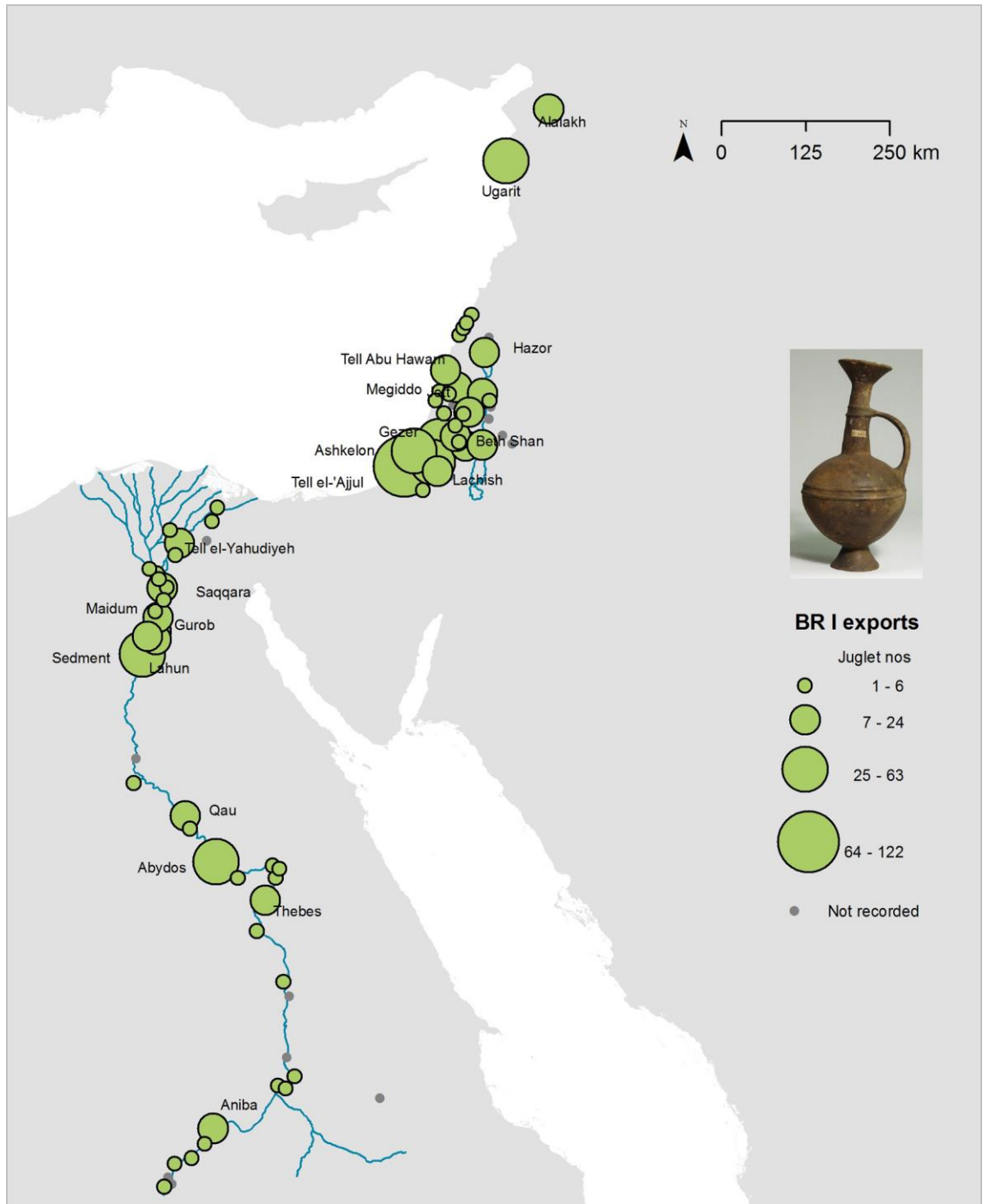


Figure 8-6 *The distribution of all recorded BR I juglet exports in Egypt and the Levant at the sampled site*

The greater proportion of these was exported from Cyprus during LCIIA, corresponding to the LBIB-IIA period in the Levant and the Tuthmosid era in Egypt. Compared with the earlier period (see Figure 7-14), BR I juglets reached more destinations, in greater

quantities, as can be seen in Figure 8-7, which gives an indication of the circulation of the BR I commodities in this later period, from analysis of contexts with terminal dates later than 1450 BC.

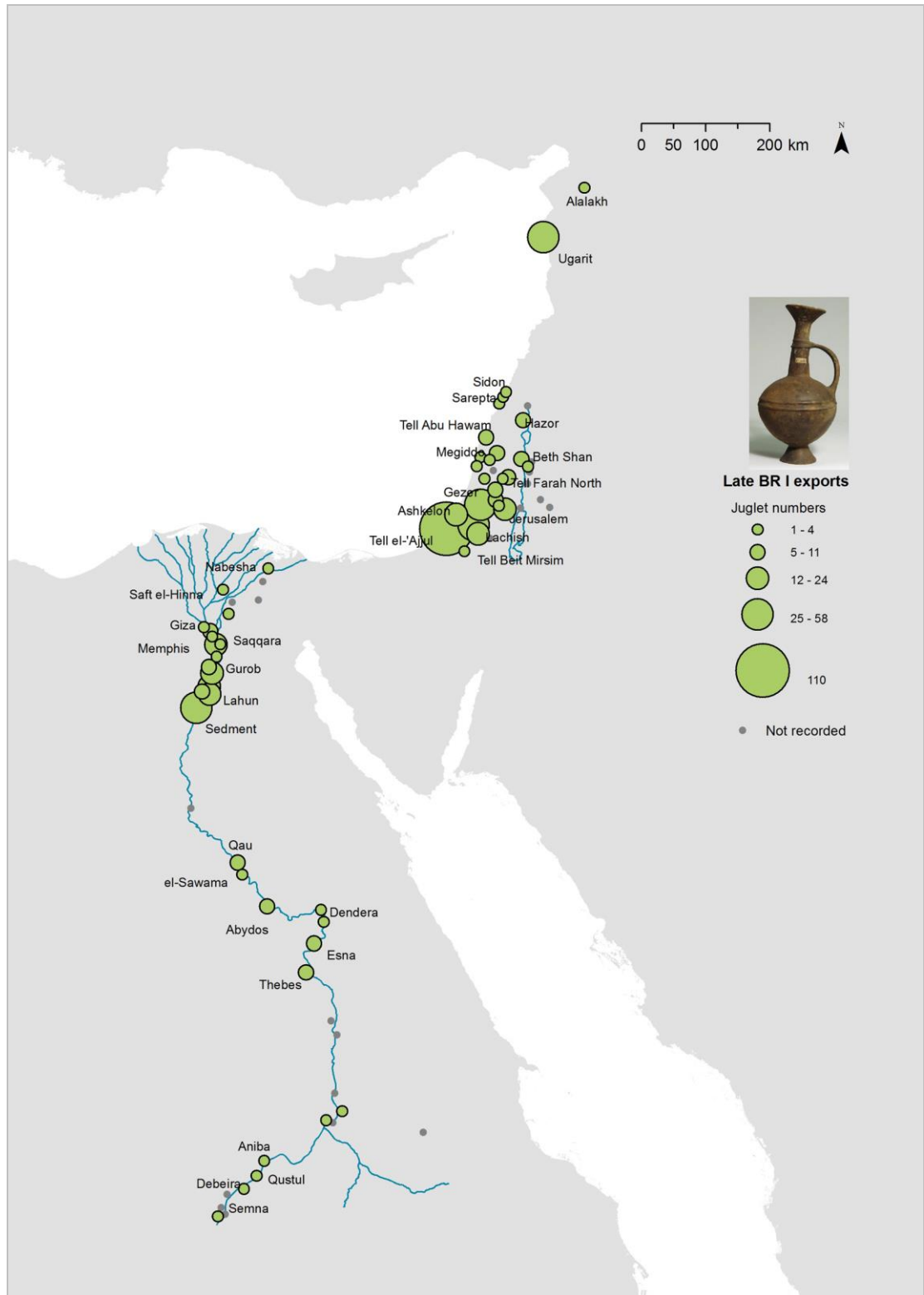


Figure 8-7 The main period of export of BR I juglets indicated by juglet numbers in contexts with terminal dates later than 1450 BC.

It is perhaps worth noting that the aoristic analysis (Figure 8-8), which smoothes out the distribution across the contexts dates, provides a very similar picture of the late export of BR I juglets.

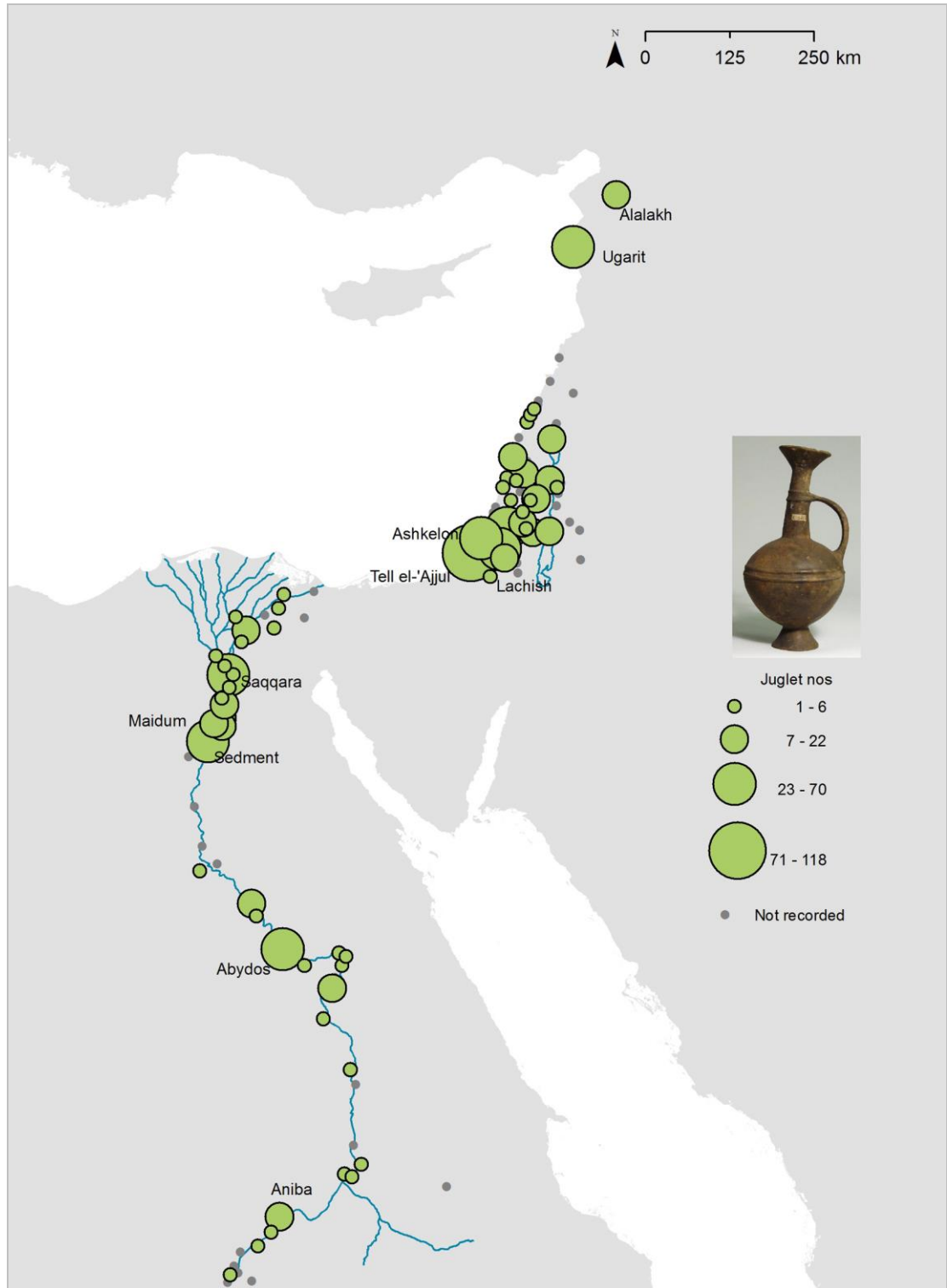


Figure 8-8 *The main period of export of BR I juglet, after 1450 BC, based on aoristic analysis*

The greatest consumption continued in southern Palestine, Ugarit, Upper Egypt and the Memphis-Faiyum region, as in the earlier period, but in LBIB to LBIIA, more BR I juglets arrived at destinations further north. A close-up map of the circulation of BR I juglets in the Palestine (Figure 8-9) shows that some found their way to Megiddo and the Jezreel Valley. Furthermore, a small but visible presence of BR I juglets in southern Syria should be noted, since these sites were not previously associated with Cypriot juglet imports. Some, especially Tell Abu Hawam, were to become significant as importers of Mycenaean products.

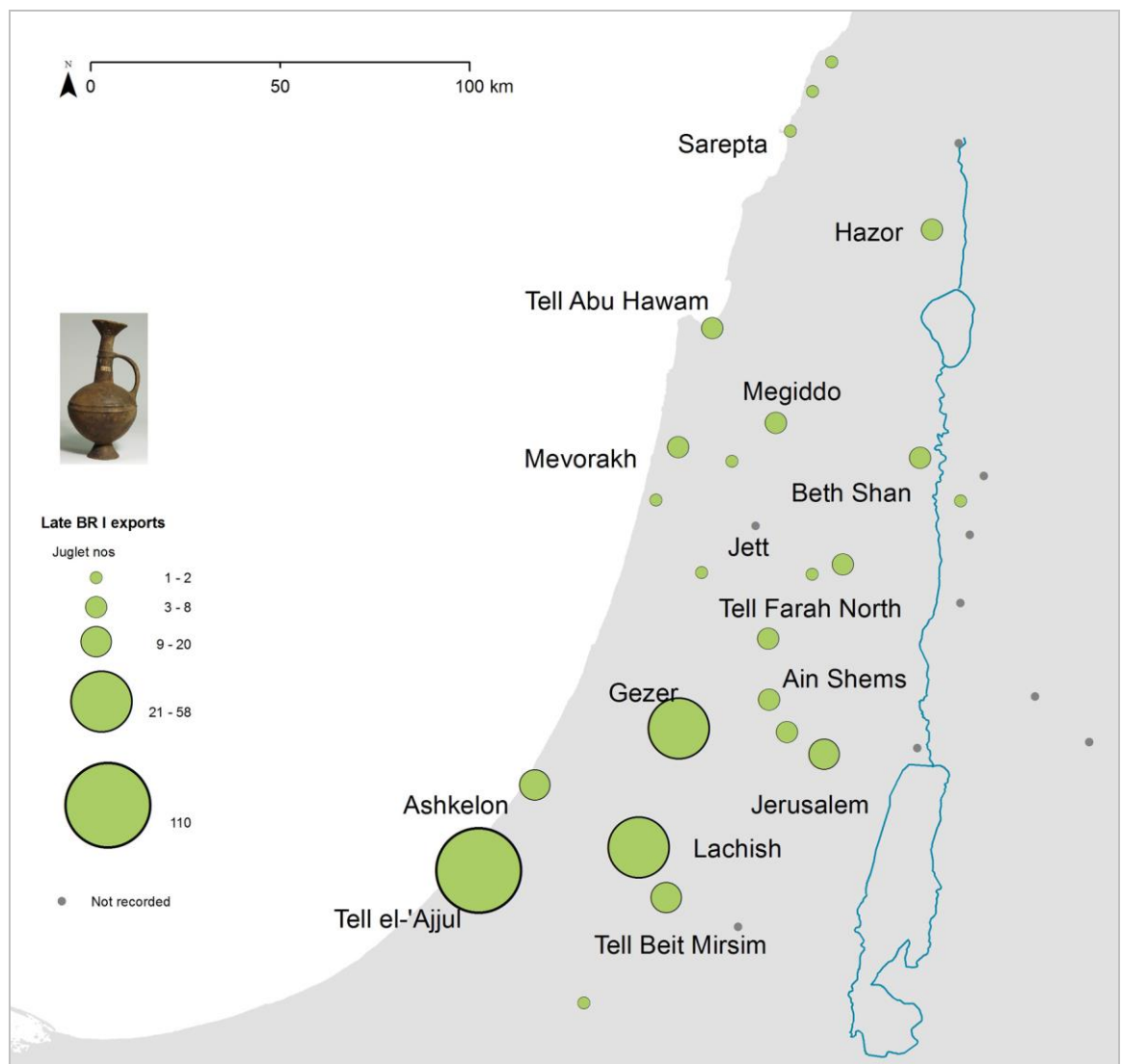


Figure 8-9 The distribution of BR I juglets in Palestine, based on contexts with terminal dates later than 1450 BC.

The distribution and consumption of BR I juglets in the different regions was staggered chronologically (Figure 8-10). In Cyprus, the peak of popularity was in LCI, and consumption had started to decline in LCIIA. This fall in Cypriot domestic consumption

was complemented by a surge in exports of BR I juglet commodities to Egypt. In this region, the bulk of these commodities arrived in the Thutmosid period *c.* 1450-1375 BC, but started to decline during the Amarna period. In Nubia, imports arrived earlier and were short-lived. The importation of BR I juglets into the Levant was generally later than in Egypt, with lower numbers of arriving in LBIB and the bulk during LBII, around 1400-1200 BC (i.e. terminal dates in the 1375-1200 BC range).

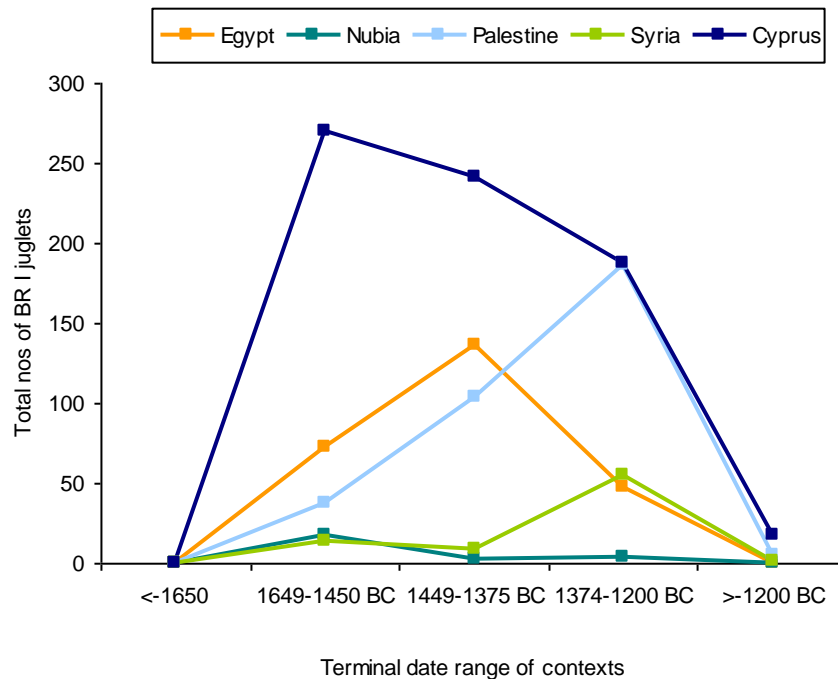


Figure 8-10 *Periods of peak consumption of BR I juglets in the different regions as represented by total numbers at the sampled sites.*

However, in Palestine there were notable exceptions, such as Tell-‘el-‘Ajjul, where the distribution of BR I juglets at Tell el-‘Ajjul over time, resembles the Egyptian import pattern more closely than those for Palestine and Syria. This is shown in Figure 8-11, which plots the same chronological distribution data, but with Tell el-‘Ajjul considered separately from the rest of Palestine. These data suggest that this centre was somehow linked with Egypt, in the transshipment of BR I juglets.

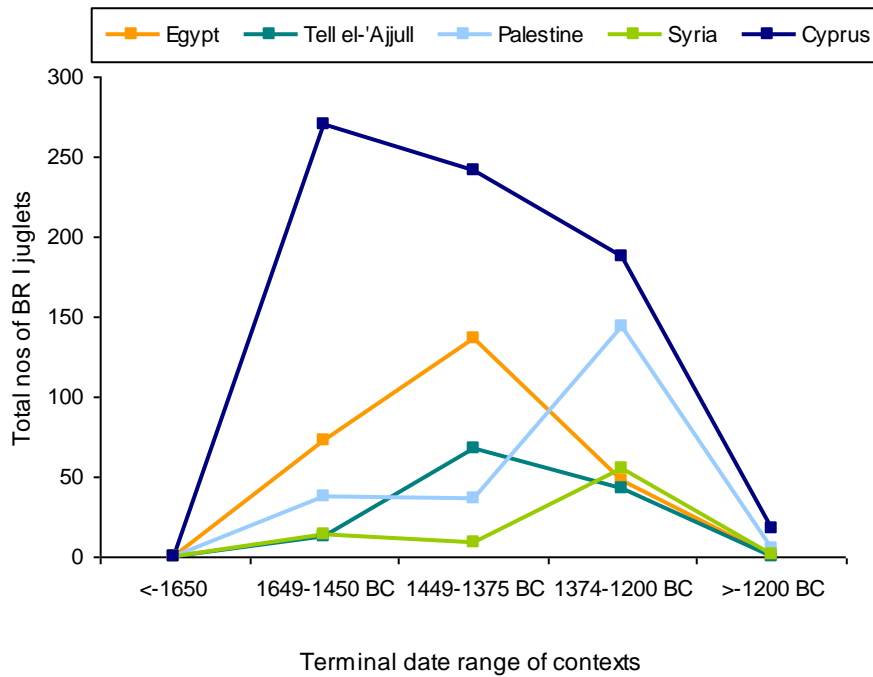


Figure 8-11 *Periods of peak consumption of BR I juglets at Tell el-'Ajjull compared with the main eastern Mediterranean regions, as represented by total numbers at the sampled sites.*

8.3.1.2 *BR I juglet product preferences*

BR I juglets were not the only types of small narrow-necked containers in that ware. Other forms included BR I spindle bottles, BR I flasks and BR I double juglets, and these may have contained different precious commodities, but there is no indication from the archaeological record of different manufacturing regions. The distribution map of BR I juglet forms in Cyprus does not reveal any special patterning, except for the high numbers of all types at Kazaphani (Figure 8-12). This is also the site which had the greatest proportion of the rather curious double juglets. It is also very clear that juglets vastly outnumbered the other forms of BR I narrow-necked containers, including flasks and spindle bottles.

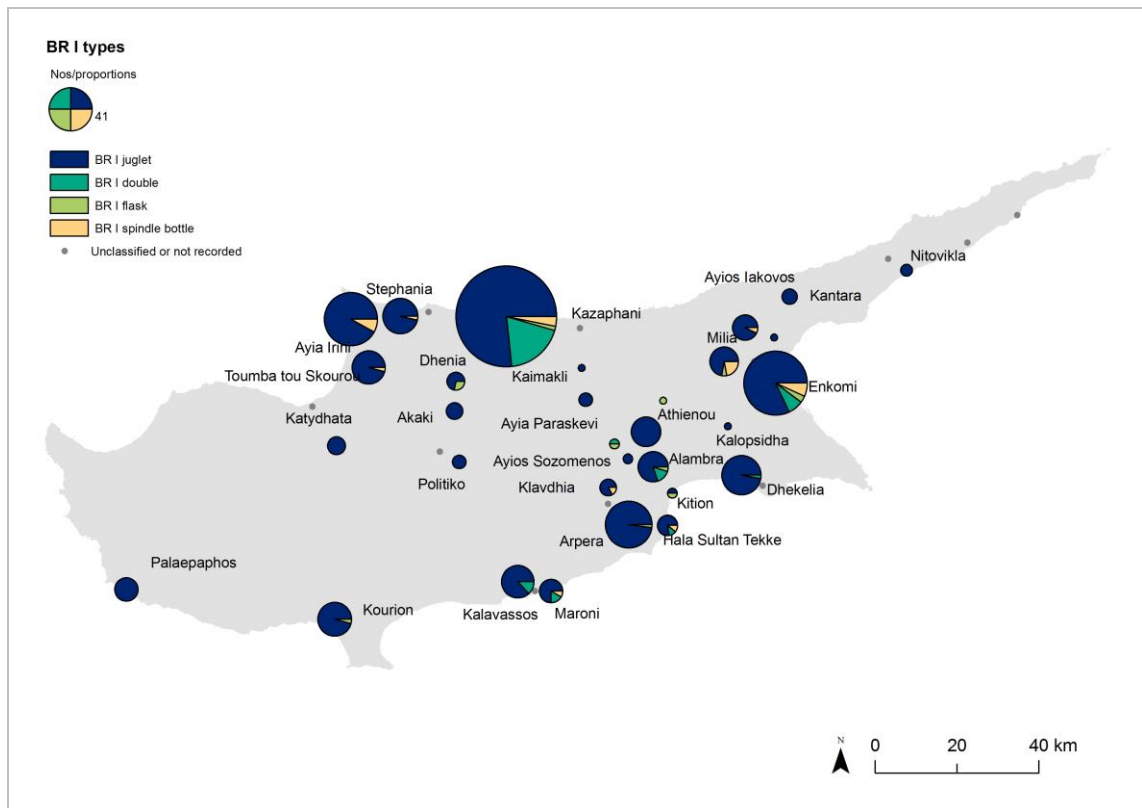


Figure 8-12 *The distribution of the different types of BR I narrow-necked containers in Cyprus*

Figure 8-13 shows the consumption of the various forms of BR I narrow-necked containers in the different regions of the eastern Mediterranean. As with Cyprus, there seems to have been a preference for juglets across all regions. There is little difference in the proportions of these commodities across the regions, so it may be assumed that preferences for or access to the different forms, possibly different products, was similar. The double juglet is a minor exception, which seems to have been restricted to Cyprus and Egypt, with very few reaching the Levant. This could suggest a direct trade link between northern Cyprus and Egypt. However, the double juglets were not found at Tell el-'Ajjul, though BR I flasks and BR I spindle bottles were found there.

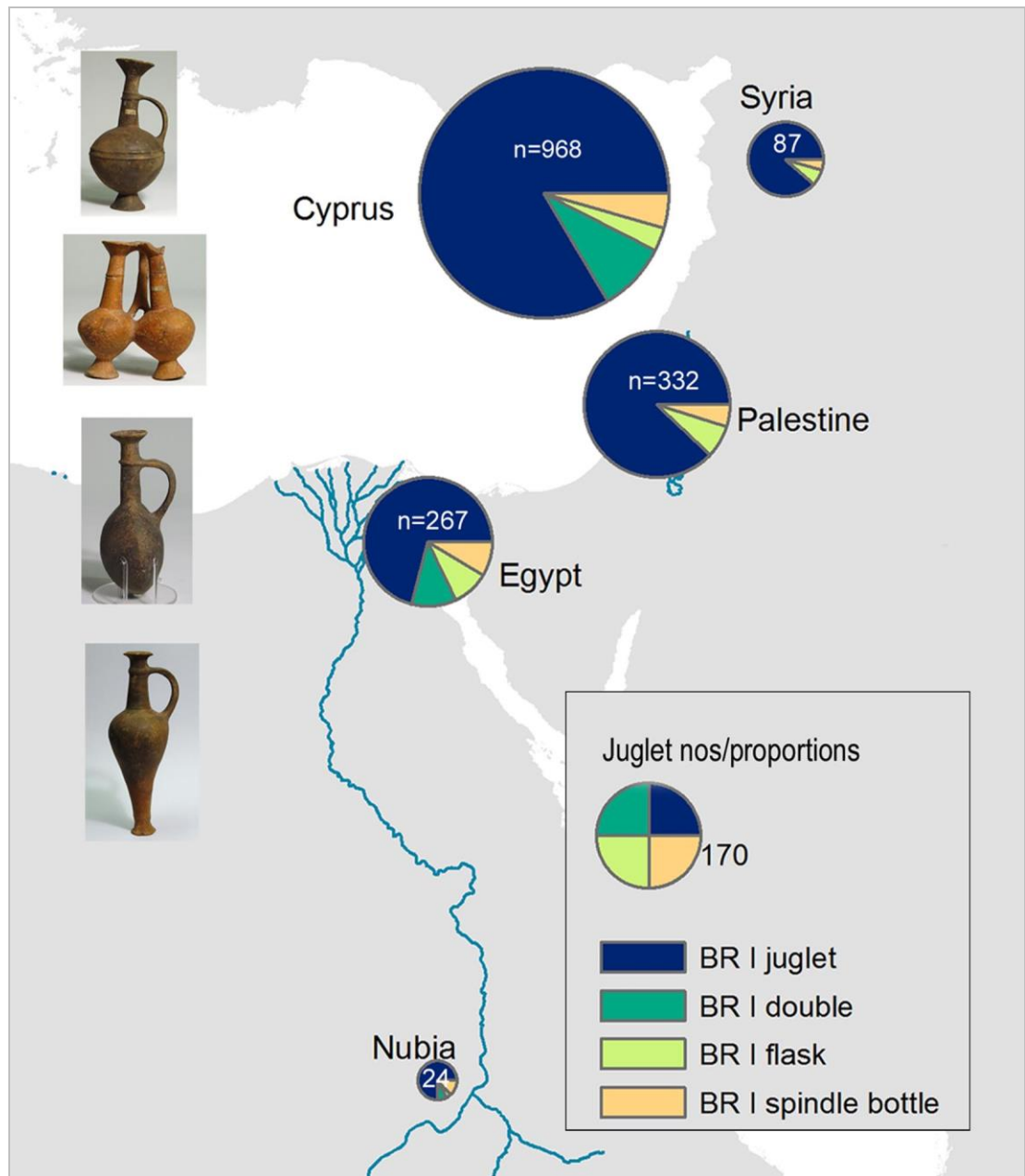


Figure 8-13 *The distribution of the different types of BR I narrow-necked containers across the eastern Mediterranean.*

Though the juglets appear to have been the consistently favoured form amongst the BR I products, there were preferences amongst their various styles. The main styles of juglets consumed were VID1a, which had trumpet-bases, VID1b with their low ring-bases and VID2 juglets with cutaway or trefoil mouths. Very small proportions were juglets with carinated bodies (VID1c). Rarities included miniature votive BR I juglets and juglets with tripod bases. The low base-ring juglets (VIA1b) were the most common in Cyprus (Figure 8-14), and it seems likely that these were amongst the earliest, developing from the BS V and PBR forms. The trumpet-based juglets (VID1a)

were popular at Kazaphani, which had the highest percentage of this style. Enkomi and Dhekelia had significant proportions of this style. The other shapes were not so common. In particular, the BR I juglets with cutaway spouts were rare in Cyprus. Athienou, which was a cult site, had a number of miniature juglets which were rare elsewhere.

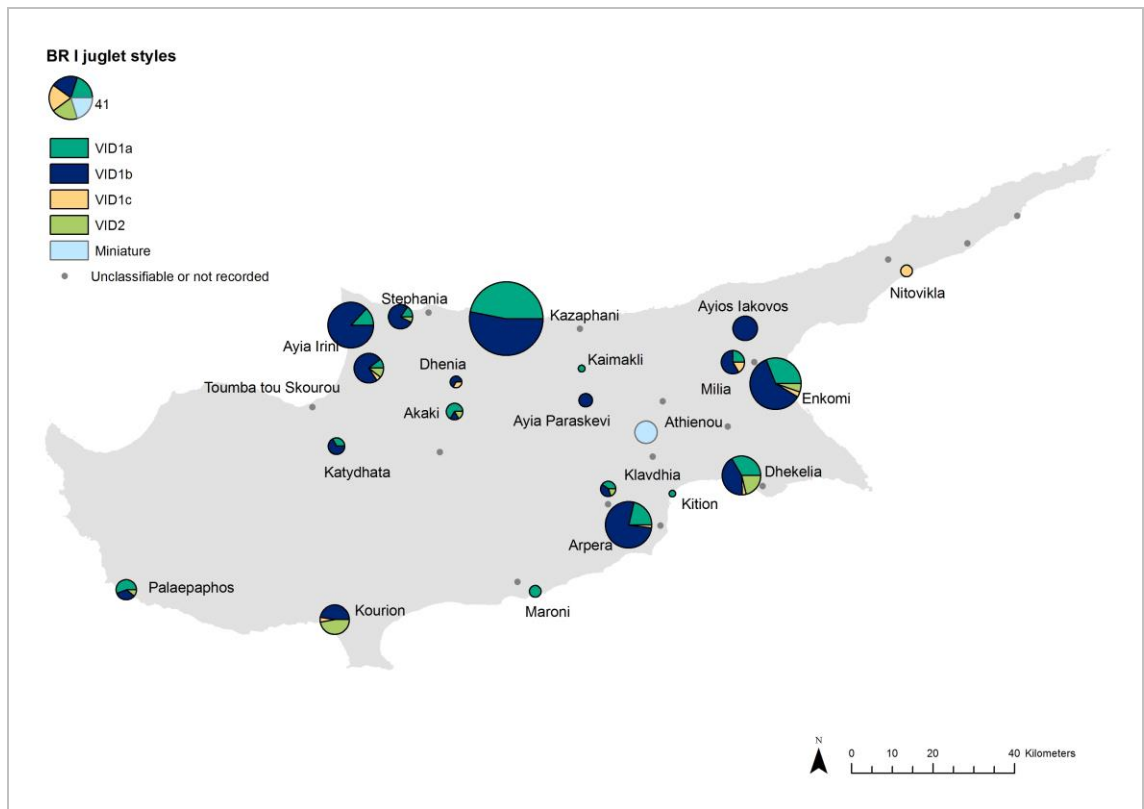


Figure 8-14 *The distribution of the different styles of BR I juglets in Cyprus.*

The following two figures compare the distribution of the styles of BR I juglets in the different regions. Figure 8-15 shows the numbers and proportions of the different styles, and includes juglet counts, where fragments were not diagnostic, or where typology had not been recorded in the original reports. This provides the most accurate view of the relationship of numbers and proportions of each style in the different regions. Figure 8-16 shows *only* the percentages of the classified types, without reference to numbers, and offers a clearer view of preferences.

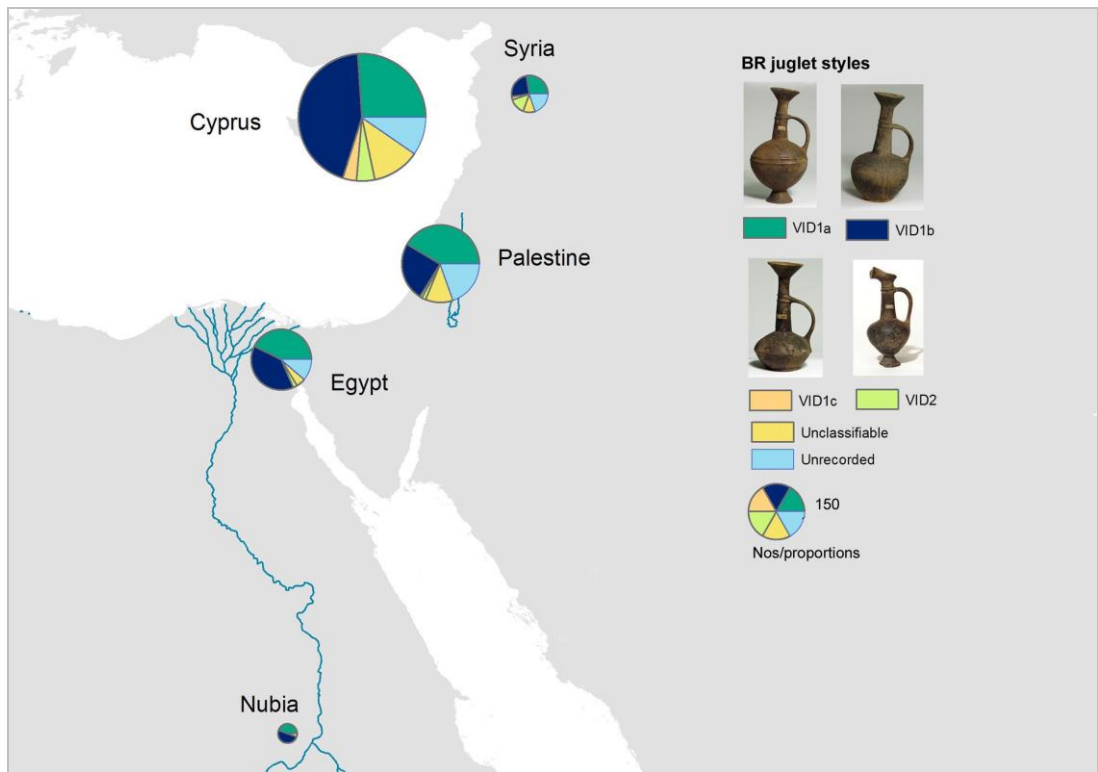


Figure 8-15 Numbers and proportions of BR I juglet styles recorded from the primary sampled sites in different regions

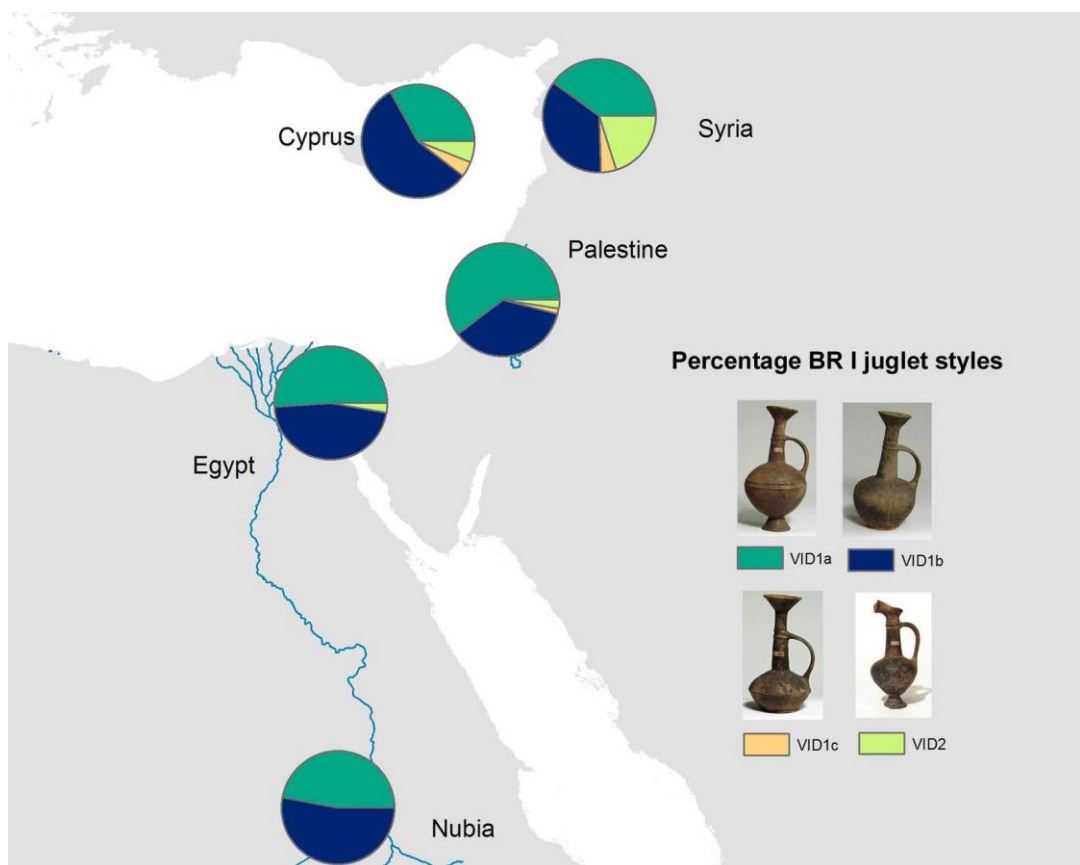


Figure 8-16 Proportions of the classifiable BR I juglet styles in different regions

The trumpet-based juglets of VID1a type were more popular in Palestine than the low base-ring types and these results are in agreement with Gittlen's (1977, 119-120) analysis. Roughly equal proportions of VID1a and VID1b types were found in Egypt and Nubia, which reflects the earlier arrival of BR I juglets in these regions. Only Syria had any significant numbers of juglets with cutaway or pinched mouths, suggesting this type may have been produced for this region to match the pinched-mouthed indigenous forms. These distribution patterns suggest that the producers of BR I juglets adapted the product appearances to meet regional preferences, in that the trumpet-based juglets were shipped to Egypt and the Levant, and the cutaway-mouth types were produced for Syria. The northern Cyprus trade link for early BR I juglets exports is again indicated by the presence of high numbers and proportions of the favoured export style at the site of Kazaphani.

It is also worth observing that the type of juglet foot in the trumpet-based variant of the BR I juglet was not a local Cypriot style and it may have been borrowed from Levantine forms towards the end of MCIII, when there was a move away from rounded bases. Certain RSB/BSB juglets have this type of base. Some TEY juglets also had a small conical foot, which seems to have developed from the button base. Some earlier Cypriot juglets, such as WP V Eyelet style and the imitations of TEY in BS III, adopted this feature, so I wonder whether the BR I juglet design with the trumpet base was also emulating an Egypto-Levantine taste for delicate bases on juglets (Figure 8-17). Likewise, the cutaway mouth had also been borrowed from Syrian styles for the design of the WP V Eyelet juglets. These different juglet styles would appear to be another example of production tailored to the preferences of the consumer.

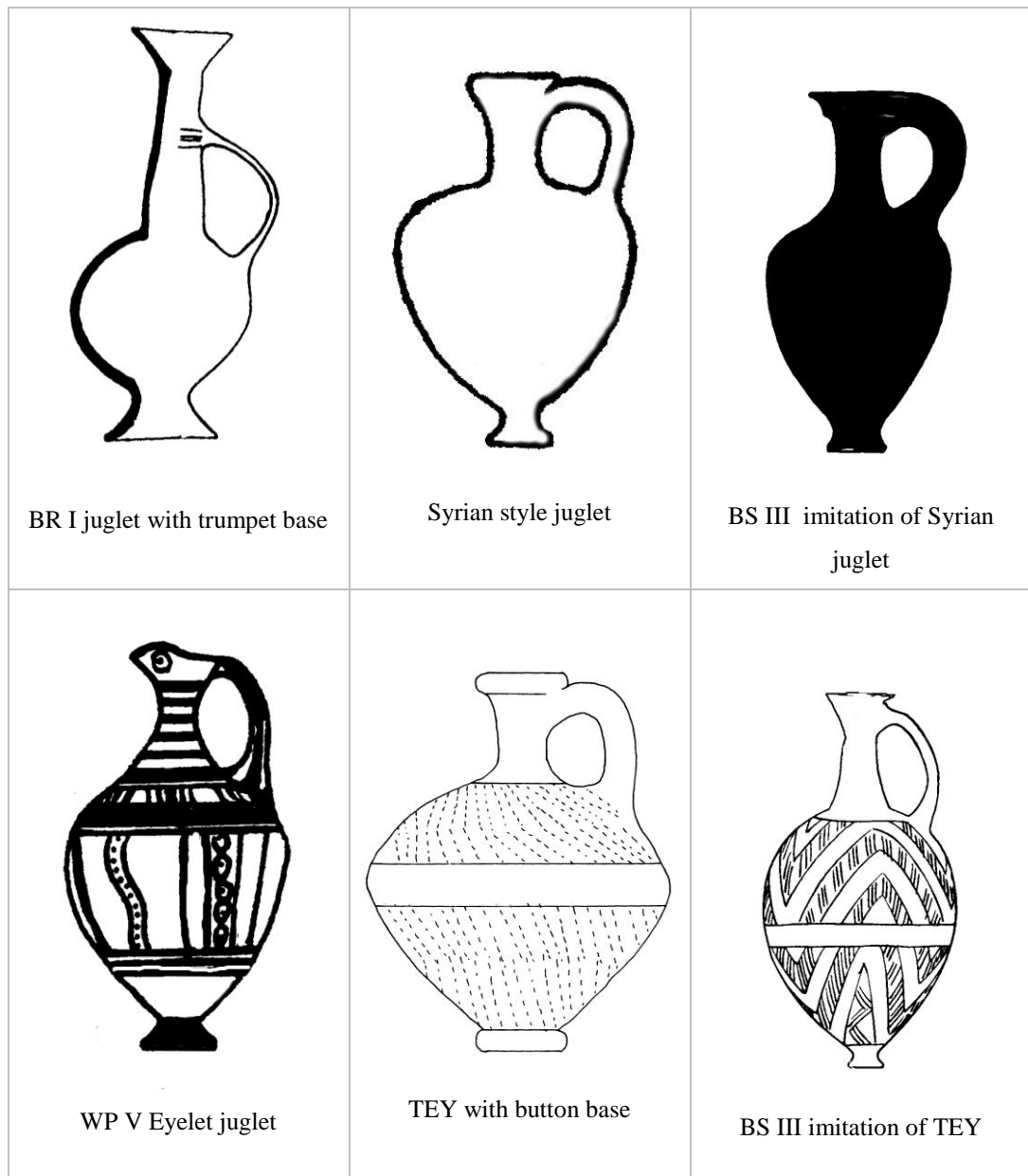


Figure 8-17 *Design similarities in Cypriot and Levantine juglets*

It is perhaps not surprising that the regions on Cyprus which had the greatest concentrations of BR I juglets after LCI, namely the northern area near Kazaphani, the southern coastal towns and Enkomi, were also those with the highest proportions of the types and styles popular as exports, i.e. the VID1a style juglets and the double juglet forms, since this might suggest regions involved in export trade.

8.3.2 BR II juglets

Chronologically, BR II juglets overlapped with BR I juglets, appearing in Cyprus at the start of LCIIA, and continuing in production there until the end of LCIIIC (Åström 1972d, 700-701). Compared with the overall distribution of BR I juglets in Cyprus

(Figure 8-4), the number of BR II juglets consumed was lower, and they were circulated less widely. However, the distributions of BR II juglets and the *later* BR I juglets were not dissimilar (Figure 8-5). Both BR II juglets and the later BR I juglets were clustered at Kazaphani, the Larnaca Bay area and around Enkomi. There were very few BR juglets at the north-western sites around Morphou Bay. Kazaphani had a relatively high number of BR II juglets, as did Alambra and Kaimakli. Deposition of BR II juglets (as with BR I juglets) at Enkomi was modest but not high. Distribution from Cyprus abroad could therefore have been from the south-east, out of Enkomi, or via settlements around Larnaca Bay, but the northern region (though possibly not the north-west) remains an option too. It is of interest that Dhekelia had a high number of BR II, as well as the later BR I juglets. Alambra had a high number of BR II juglets but unfortunately, the records for Alambra were not from an excavated site, but only reputedly from there, as reported in a secondary reference (Åström 1972d, 181-87).

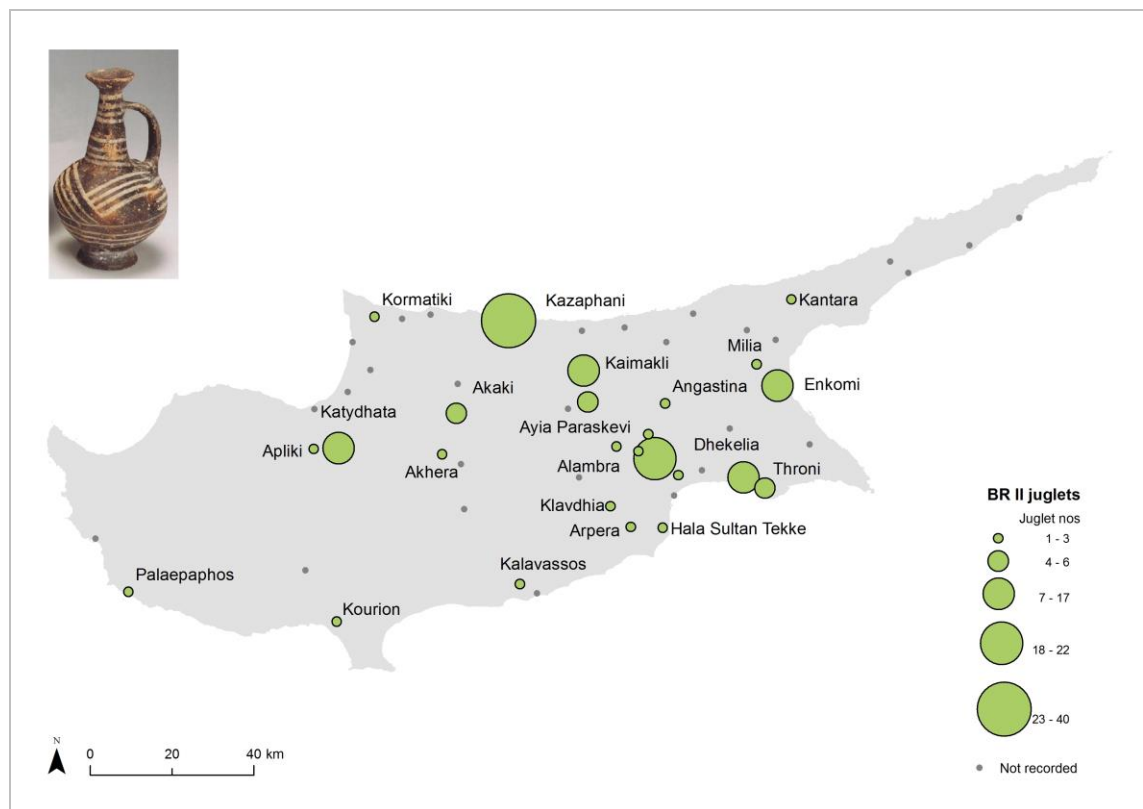


Figure 8-18 *The distribution of BR II juglets in Cyprus*

The main destination for these BR II juglet commodities was Palestine, clustered in the south, with Tell el-'Ajjul still a major importer, as with BR I juglets (Figure 8-19). Some BR II juglets started to reach Tell Abu Hawam by the latter part of LCIIB, a new port of

entry for Cypriot goods with distribution onwards to Megiddo and northern Palestine as well as to the Jordan Valley via Beth Shan. This is in contrast to the southern bias of BR I juglets in the earlier LCIIA period (see Chapter 7, Figure 7-14). A few of the BR II juglets also reached southern Syria at the coastal settlements of Sarepta and Sin el-Fil. Elsewhere, the distribution was fairly sparse.

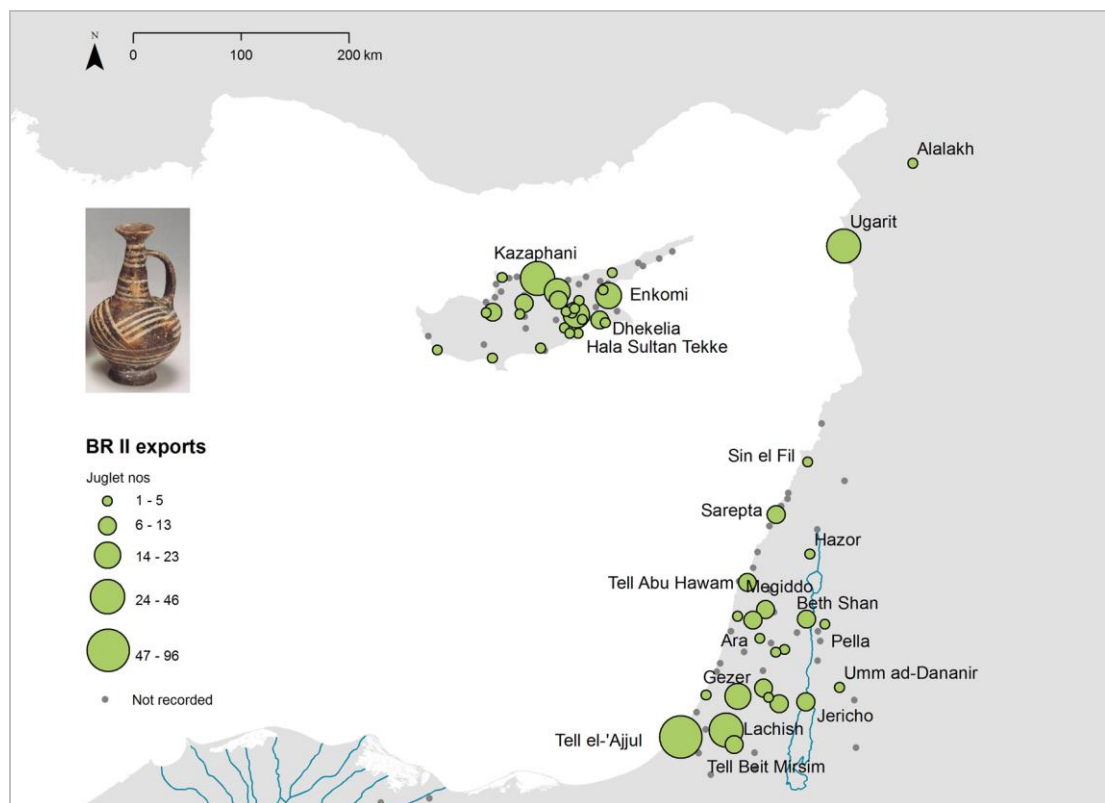


Figure 8-19 *The distribution of BR II juglets in Cyprus and the Levant*

Compared with BR I juglets, the numbers of BR II juglets consumed fell in all regions, even in Palestine, as shown in Figure 8-20, and the decline was very noticeable in Cyprus. This decline in domestic consumption suggests that a large proportion of the product was being made for export, especially for the Levant. This is in contrast to the impression given by Gittlen's study for BR imports to Palestine (Gittlen 1977, esp. 141-144), in which he noted an increase in the overall consumption of BR II pottery over BR I pottery. This is an important difference, because his study included all forms of BR ware, and these imports were mainly jugs, tankards and bowls. It would seem that in this period, the consumption of BR II table wares was greater than BR II juglets.

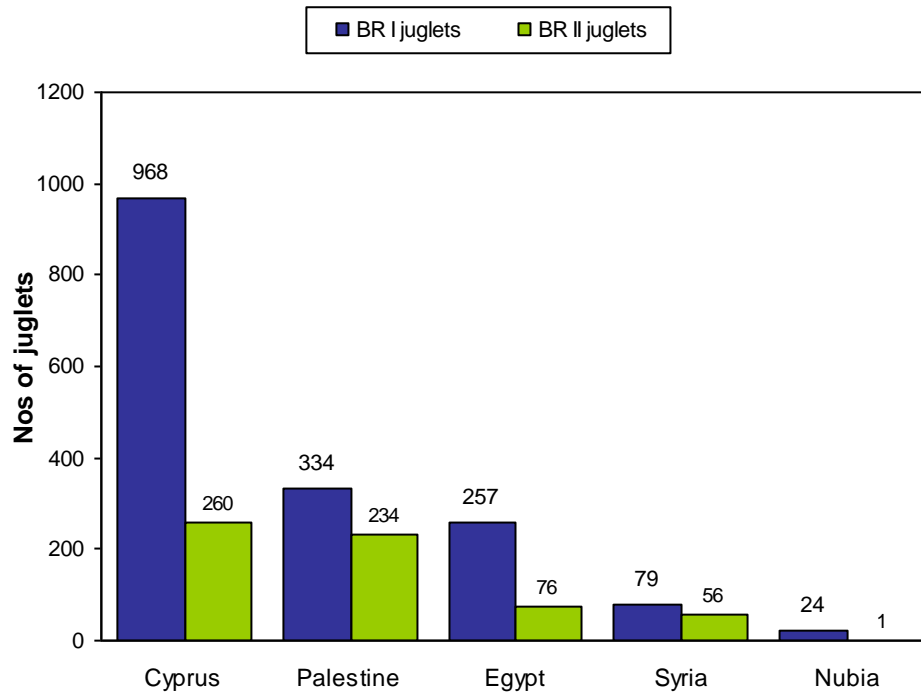


Figure 8-20 Comparison of the distribution of BR I and BR II juglets in the different regions

Variety amongst forms of the BR II juglets was much less than with BR I small closed vessels. Spindle bottles and double juglets in BR II ware virtually disappeared, and the proportions of BR II juglets and flasks were similar across all regions (Figure 8-21).

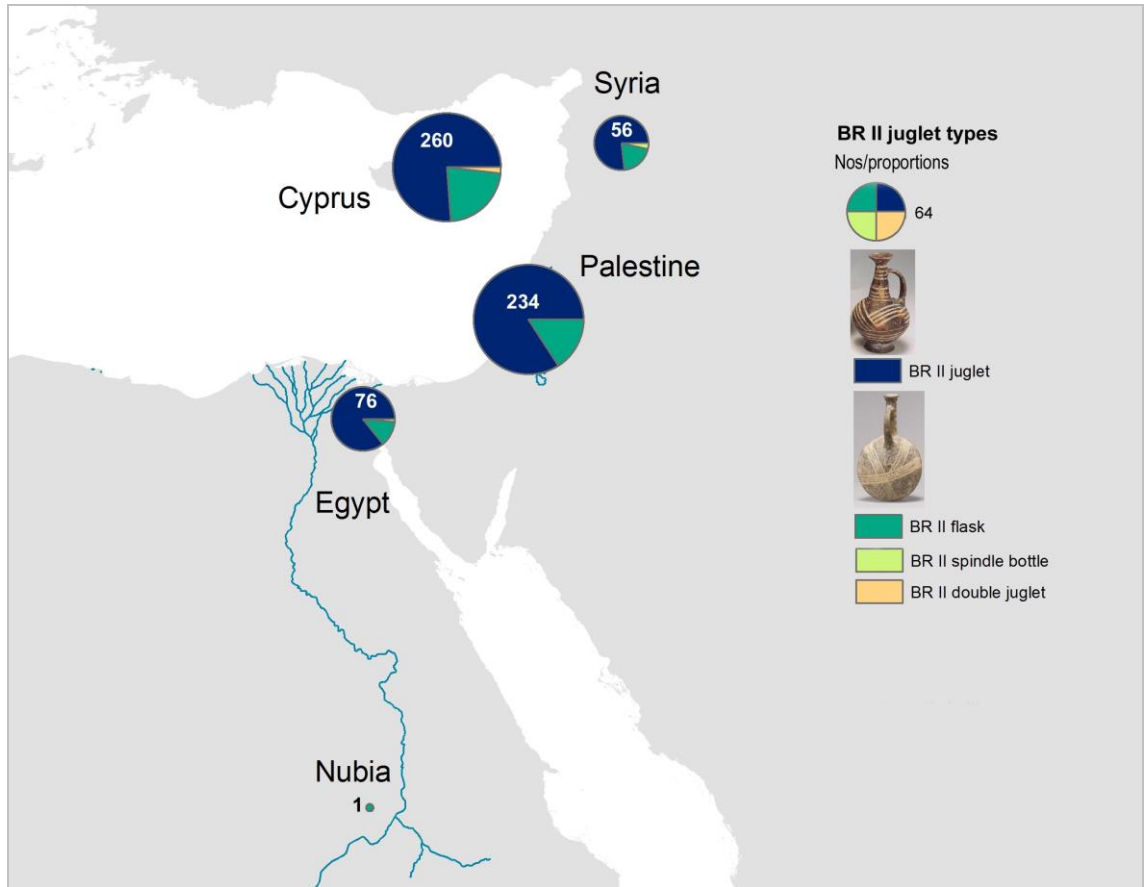


Figure 8-21 Types of BR II small closed vessels consumed in different regions, as represented by the sampled sites

This would perhaps indicate a more standardised approach to the manufacture of BR juglet products, which would have been consistent with bulk production for export. This corroborates an observation by Gittlen (1977, 142-43), that the BR products found in Palestine had less elaborate decoration than those found in Cyprus. This restriction of types and styles of vessel, and the reduction in their decoration, may have resulted from a desire to manufacture a less time-consuming, and therefore more cost-efficient container. Whether the contents were likewise standardised, and whether any resultant loss in product quality or cachet accompanied the 'mass production', is a matter of conjecture. In Palestine, where the consumption of BR juglet commodities was relatively recent compared with Cyprus and Egypt, the influx of more plentiful, accessible products may have been an acceptable compromise for loss of variety and decorative style. In contrast, the fall in consumption rates in Cyprus and Egypt, might suggest consumer fatigue and a commodity that was past its 'sell-by-date'.

8.3.3 White Shaved juglets

White Shaved (WSh) juglets were first manufactured in Cyprus in LCIA:2, although they did not reach their peak until LCIIA, somewhat later than other new LCI juglets. Export to the Levant did not start in earnest until LBIIA, though a few juglets have been recovered from LBI contexts. WSh juglets were not a standard Cypriot shape, but very clearly based on the Levantine dipper juglet or its stone vessel equivalent. Their late arrival, following the exportation of WP, BR and other Cypriot juglets, makes it entirely plausible that Palestinian preferences would have had time to filter back to Cypriot producers to design something specific to the market. Figure 8-22 shows the distribution of WSh juglets in Cyprus and highlights the concentration at Enkomi, the putative production site, as discussed in the previous chapter. They were very thinly distributed elsewhere which strengthens the case for the product being designed for Palestinian consumers.

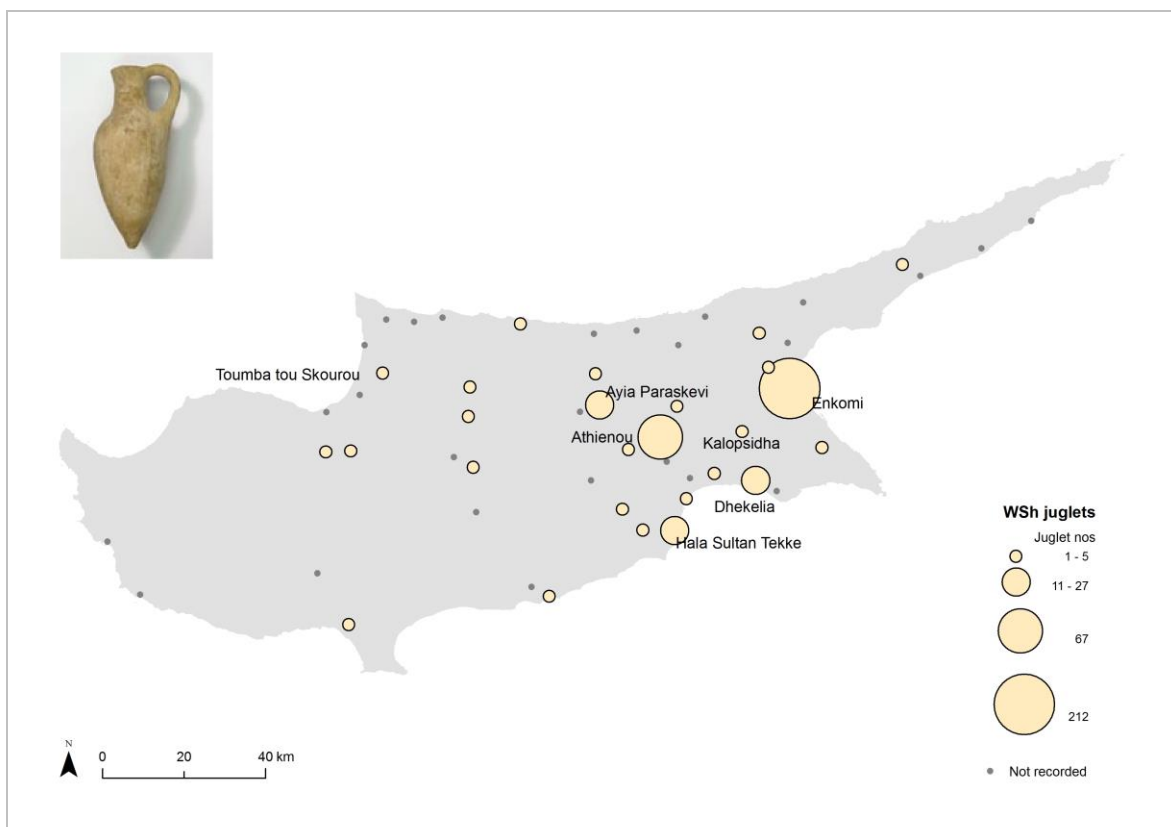


Figure 8-22 *The distribution of WSh juglets in Cyprus*

As astutely observed by Gittlen (1977, 355), if the design and production of WSh juglets had not been a response to a Levantine market requirement, then far more shapes

in this new ware would have been expected, together with a more even distribution in Cyprus. Firstly, WSh ware was indeed used, almost exclusively, for the manufacture of this one form. Secondly, the circulation around the island was very thin. Apart from Enkomi, the only other place with more than a very limited number, was the cult site of Athienou, where miniature WSh juglets were deposited. Perhaps these had the special appeal of the unusual to have been used in ritual contexts. Furthermore, the export of WSh juglets from Cyprus was restricted to the Levant; they were not found in Egypt, further supporting a specific, targeted trade.

The Palestinian destinations for many of the WSh juglet products are indicative of a change in juglet trade routes. These Enkomi-made commodities were delivered to the newer coastal settlements of the LBII period. Whereas Tell el-'Ajjul had been an important consumer and most probably a distributor of BR I juglets, it was not the most important centre for WSh juglets. These juglet numbers were just as high or higher at Tell Abu Hawam, Sarepta and Ugarit (Figure 8-23).

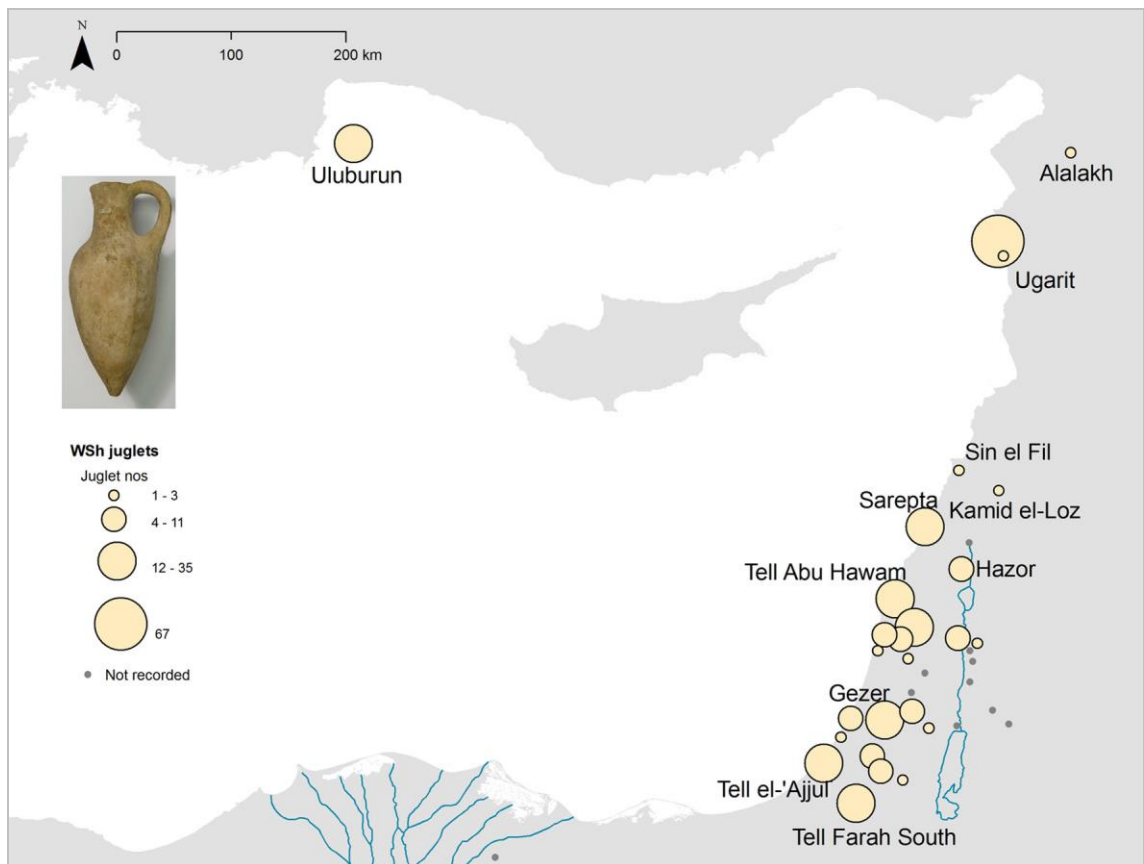


Figure 8-23 *The distribution of exported WSh juglets*

If the data are re-examined with WSh juglets shown as a percentage of the total juglets for those sites, strong consumption preferences are revealed at some of the sites including Ashdod and Ashkelon in the south, and Sarepta, Ugarit and Tell Abu Hawam further north (Figure 8-24). It seems likely that trade in imported juglet commodities had expanded with new consumers and different networks opening up at this time. The implication is that following a hiatus in the precious commodity trade via Tell el-Dab'a and southern Palestine, Enkomi established some new trade links for the export of this new product.

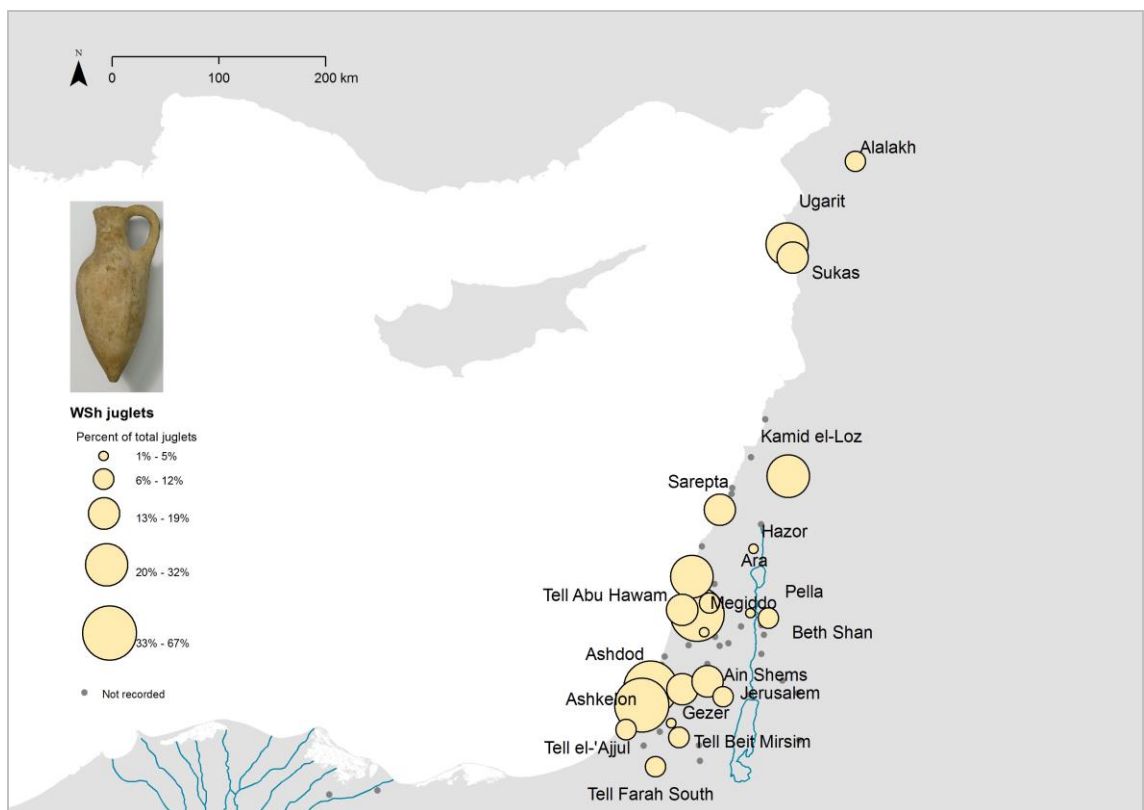


Figure 8-24 The distribution of WSh juglets as a percentage of total juglets in the Levant

8.3.3.1 The curious case of White Shaved juglets on board the Uluburun ship

There were 35 WSh juglets in the cargo of the ship that sank off the Turkish coast at Uluburun. They were in the company of other Cypriot pottery including 29 WS II bowls and 19 BR II bowls. If the ship had been on its way to a port in the Aegean, as has been suggested (Cline and Yasur-Landau 2007; Pulak 1997, 251), this would have been an unusual destination for Cypriot pottery, since very little was sent to the Aegean during the LBA. Bloedow (2005, 341) suggested Egypt as an alternative destination, but this

does not seem a better option for WSh juglets, which were not exported to Egypt, having been produced exclusively for the Levant. They were not even consumed very much on Cyprus. So, whether they were destined for Egypt or the Aegean, the question is why were they on board? In an almost throw-away comment, Bloedow (2005, 338) proposed the Cypriot ceramics were samples, rather than a main export cargo. Perhaps there had been a merchant aboard looking for new markets for the WSh juglet commodities. If so, the ill-fated mission was not attempted again, because the Levant remained the only destination for these juglets.

8.3.4 RLWM vessels

RLWM vessels were in circulation for a long period of time from LCIA:2 until LCIIIA, and the distribution over this entire period, for all the recorded RLWM vessels, is shown in Figure 8-25 and Figure 8-26.

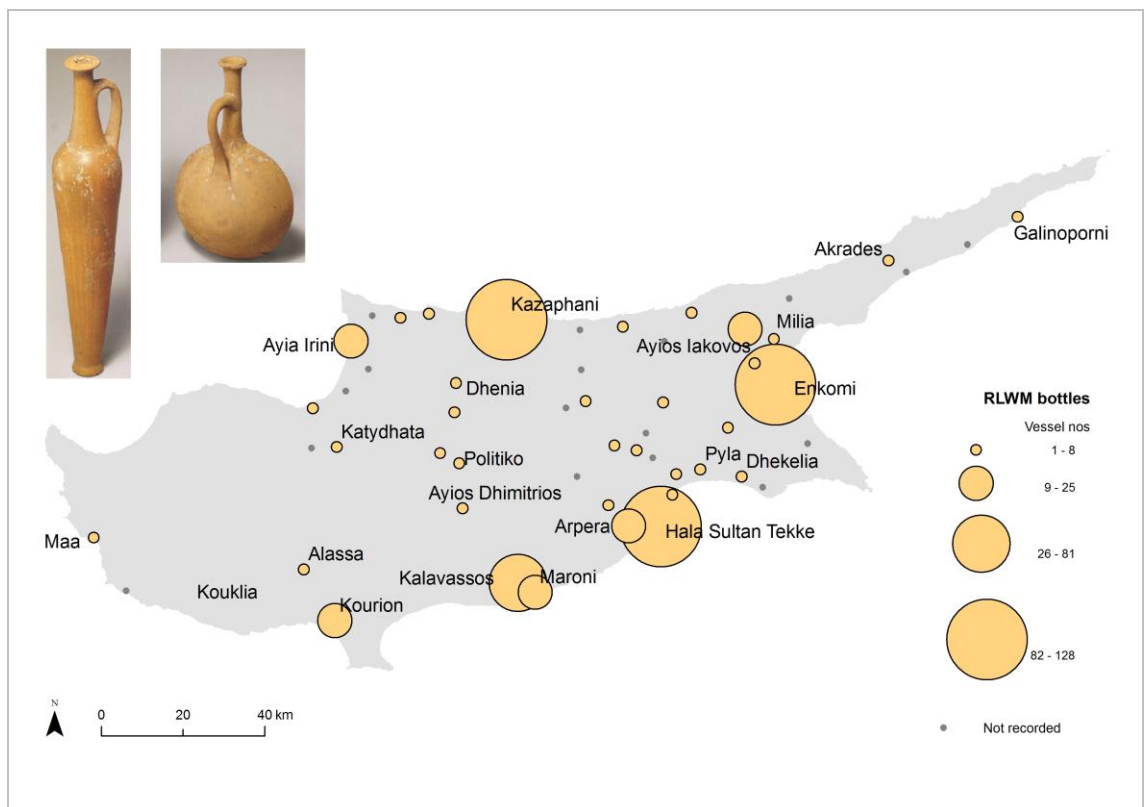


Figure 8-25 *The distribution of all recorded RLWM vessels in Cyprus*

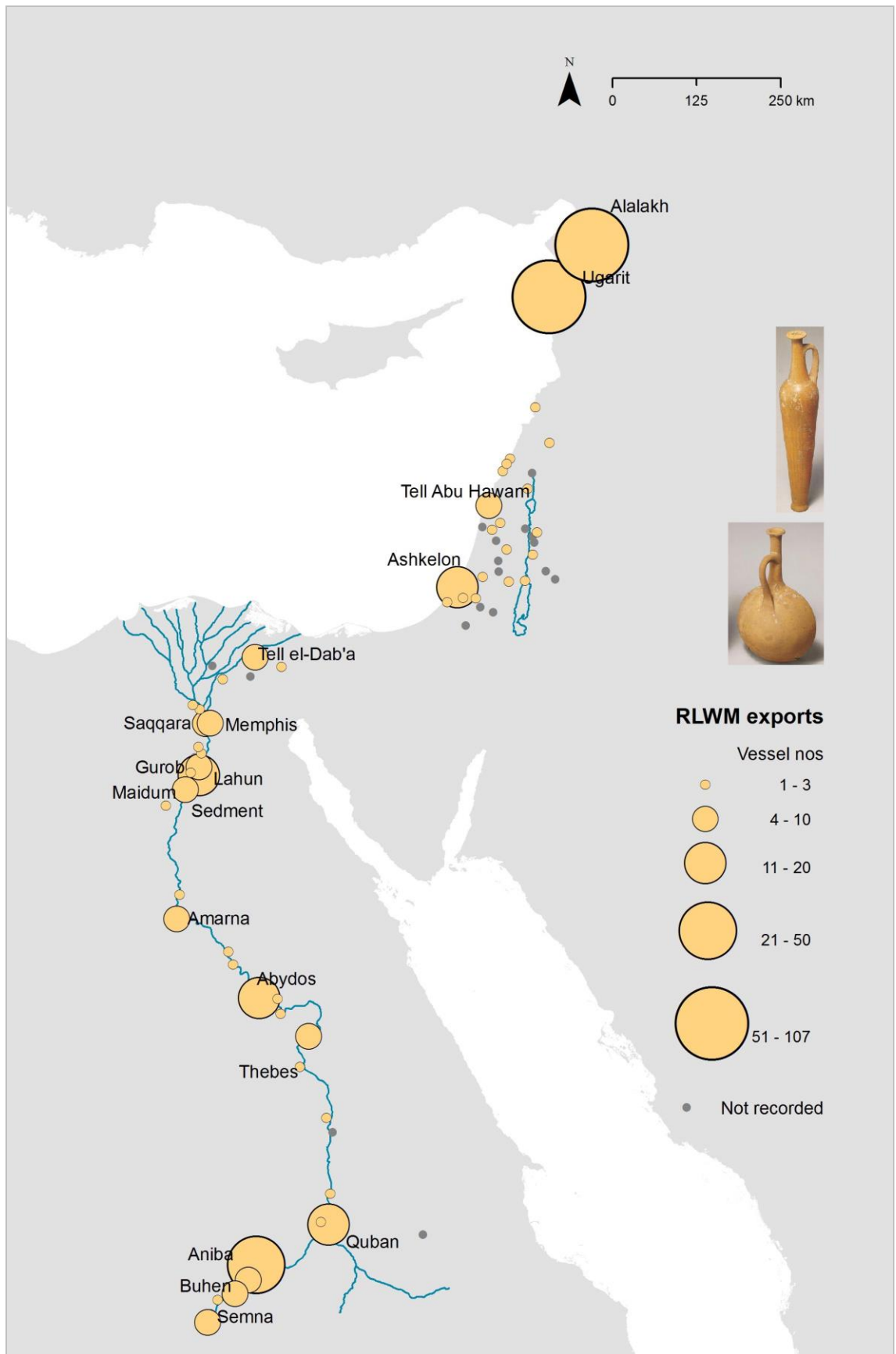


Figure 8-26 *The distribution of all recorded RLWM vessel exports*

During this time there were some significant regional and chronological variations. Export to Egypt and Nubia started early, and was well underway by the end of LCIB (c. 1450 BC). The consumption rates reached a peak somewhat earlier in Nubia than in Egypt, probably in the early 18th dynasty, as had been the case with BR I juglets. In Egypt, RLWM imports continued to increase, probably reaching a peak during the Tuthmosid period, in agreement with Eriksson (1991, 97), because they had virtually disappeared by the reign of Akhenaten (Figure 8-27). It is significant that only one RLWM vessel was found at Amarna.

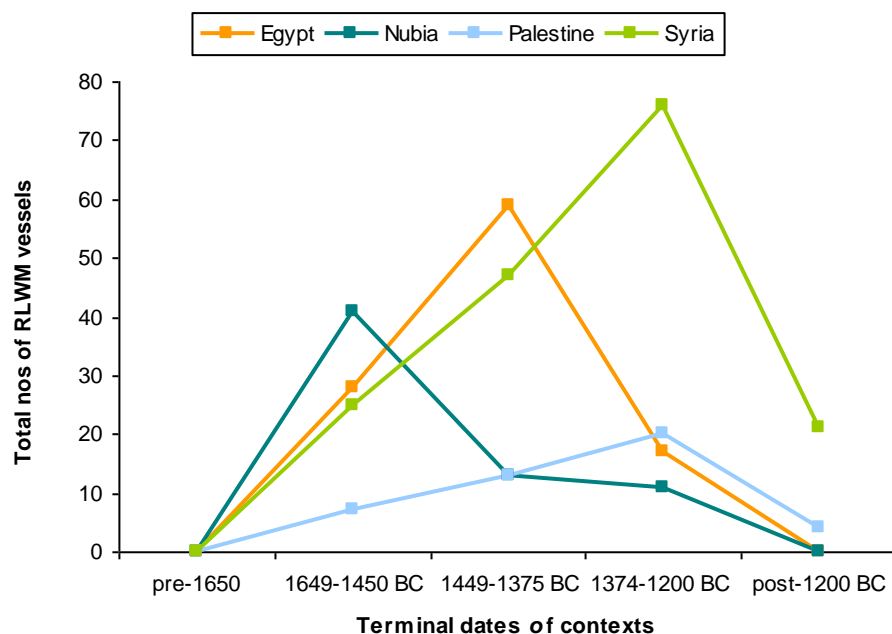


Figure 8-27 *Periods of peak consumption of RLWM vessels in the different regions as indicated by total numbers at the sampled sites.*

In Syria, the rate of importation of RLWM vessels was somewhat slower i.e. peak consumption did not occur until early in the 14th century BC, coinciding with the decline in exports to Egypt. Thereafter, consumption was high, with greater numbers of vessels found at Ugarit and Alalakh than at any of the sites in Egypt or Nubia, and the trade continued until around 1100 BC. The distribution picture in Palestine, though indicating a low interest in these products, distinguishes two sites. Ashkelon received some RLWM vessels between 1650 and 1350 BC; all were spindle bottles, reflecting the Egyptian preferences of the earlier part of the period. In contrast, the site of Tell Abu Hawam, received RLWM vessels at rather later dates (around 1550-1100 BC).

They included the more recent flasks and arm vessels, showing similar preferences to Syrian importers. The peak consumption periods in Syria and Palestine matched a late surge in domestic consumption in Cyprus, most of which is attributable to Hala Sultan Tekké .

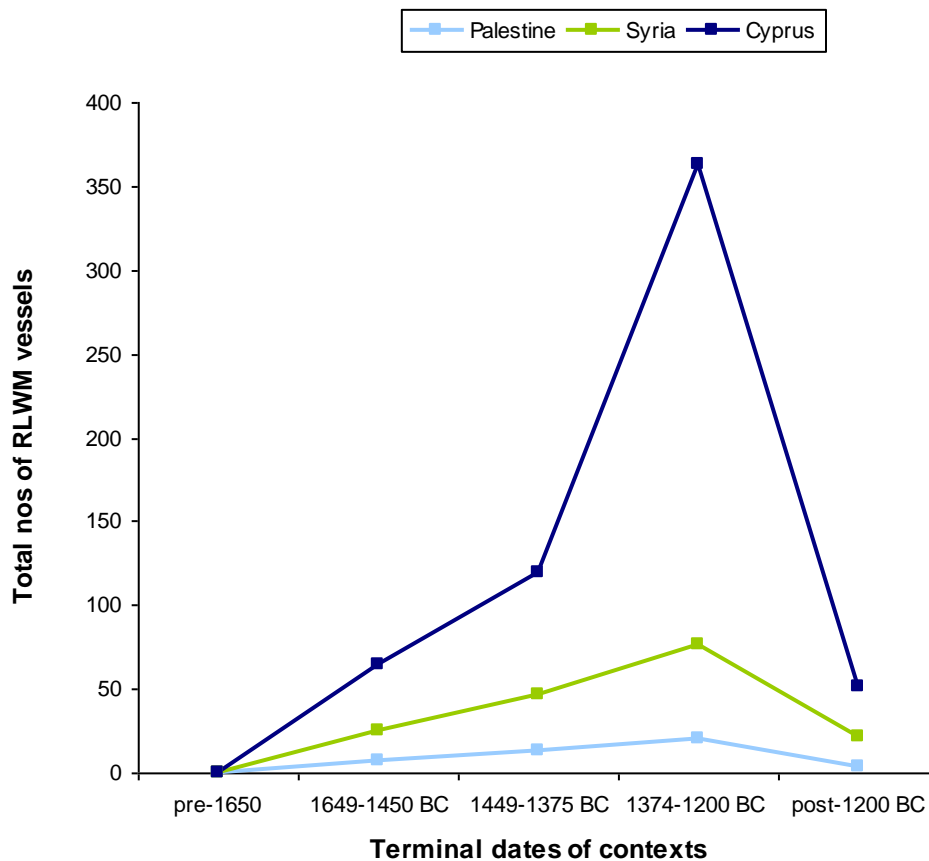


Figure 8-28 *Periods of peak consumption of RLWM vessels in Cyprus and the Levant as indicated by total numbers at the primary sampled sites.*

As mentioned in Chapter 7, the number of vessels at Hala Sultan Tekké started to increase as the number at Enkomi was decreasing. It is perhaps worth repeating Figure 7-18 here (Figure 8-29). The surge in the presence of RLWM vessels at Enkomi during LCIIA, coincided with the peak of Egyptian consumption, whilst the peak consumption of RLWM vessels at Hala Sultan Tekké occurred at the same time as the change in export destinations to Syria. The implication is that Hala Sultan Tekké may also have been distributing these products at this later date.

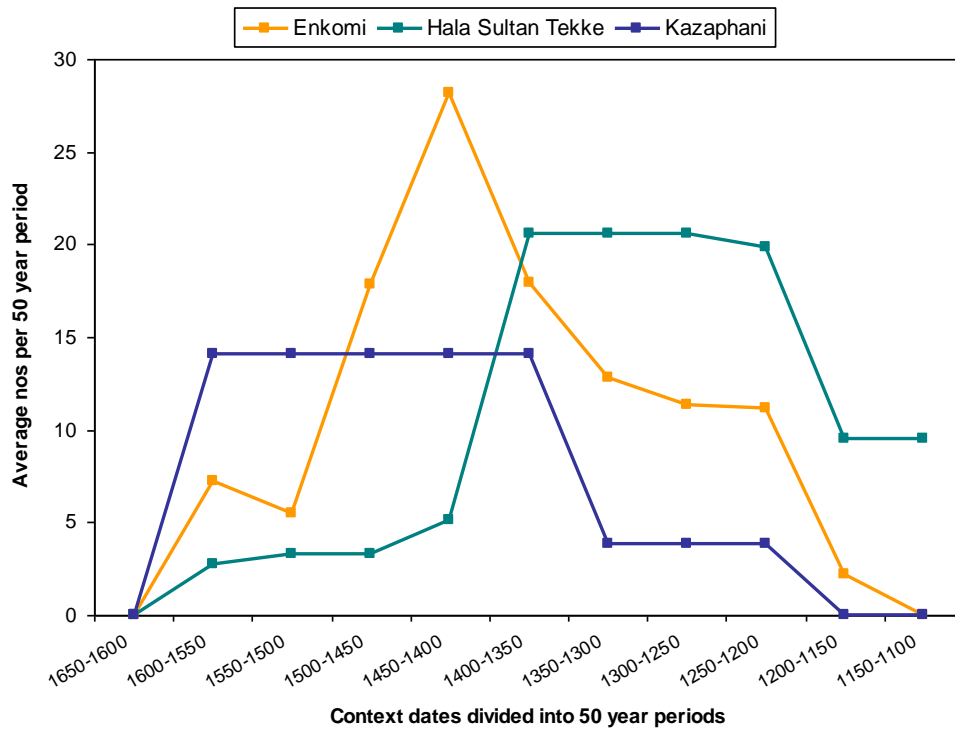


Figure 8-29 *The chronological distribution of RLWM consumption at three major Cypriot sites, based on aoristic analysis with weighted average numbers calculated from the probability that RLWM vessels were deposited during the lifespan of the ware, i.e. 1500-1050 BC*

The production of RLWM flasks and arm vessels increased from LCIIA:2 (c. 1400 BC). Almost half of the RLWM vessels at Hala Sultan Tekké (52%) were flasks or arm vessels, compared with 48% spindle bottles. This compares with 32% flasks and arm vessels to 68% spindle bottles at Enkomi and 18% flasks to 79% spindle bottles at Kazaphani. Flasks and arm vessels were also popular amongst the RLWM products imported into Syria. Figure 8-30 shows the comparative distribution patterns on Cyprus and Syria of RLWM flasks and arm vessels.

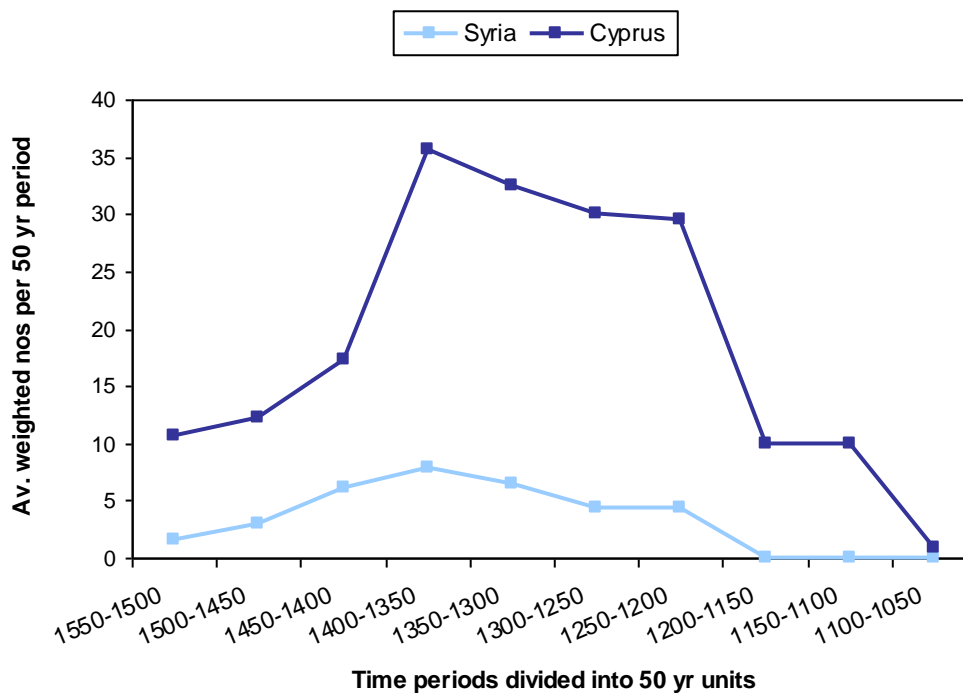


Figure 8-30 The distribution of RLWM flasks and arm vessels, based on aoristic analysis with weighted average numbers calculated from the probability that RLWM vessels were deposited during the lifespan of the ware, i.e. 1500-1050 BC

It is not unlikely that the commodities inside the new containers may also have changed. This view is lent some support from a study by Knappett *et al.* (2005) which analysed residues in RLWM vessels from various regions inside and outside Cyprus, including the relevant sites of Hala Sultan Tekké and Kazaphani. The residue analyses from the different sites showed variation in contents (probably plant oil) and sealants which might suggest different manufacturing practices. Given that there was a steep rise in consumption of RLWM vessels at Hala Sultan Tekké at this later date, and especially the increase in RLWM flasks, it might be tempting to speculate that the production of RLWM commodities for export had shifted to Hala Sultan Tekké. However, the petrographic analysis and INAA data indicate that the clay source was all from one region in the north, i.e. around Kazaphani.

Eriksson (1993, 151) suggested that changes in RLWM production were due to an influx of Hittites to Cyprus, and Knappett *et al.* (2005, 49) also concurred with a Hittite sway over Cyprus. This need not be the case. I would propose that following the Hittite conquest of the Mitanni, new borders between Egyptian and Hittite controlled regions of Syria and Palestine resulted in shifts in political alliances and that this had significant

influences on trading relationships. Ugarit aligned itself with the Hittites at this time, and became wealthy as a consequence. It is possible that the traders of these Cypriot wares found these northern alliances more accessible and/or more profitable.

Furthermore, the rather strange RLWM arm vessels did not have a precedent in the Cypriot repertoire, and the production of this new shape, at this time, implies they were designed specifically to meet the needs of new consumers in Anatolia. Flasks were shapes popular in the Levant, and it may be that RLWM flasks were originally designed to appeal to Syrian consumers. The background of political conflict between Egypt and the Hittite empire at this time has interesting socio-political implications for southern Syria and northern Palestine, and should be factored into any interpretations of new trade relations. Such influences and interactions are discussed again below.

8.3.5 Imitations of imported Cypriot juglets - proof of prestige value?

During this period, as during the MBA-LBA transition, small numbers of locally made copies of imported juglets were deposited in tombs. There can be little doubt that they were made to imitate products that had a certain prestige value, since there would be no point in reproducing something that had little value. Restricted access to the imported goods, among certain poorer groups, may therefore have been one factor stimulating the production of imitations. Another problem would have been supplying inland sites down-the-line, which generally received fewer imports, as with the limited supplies of Cypriot juglets reaching the Jordan valley. Copies in these cases were generally limited to a few 'one-off' reproductions. Very low proportions of BR juglets (1.8%) were copied, and this reflects their ubiquity and their relative ease of access. The RLWM juglets had a higher percentage of copies, with 13% locally made imitations, indicating a high prestige value or restricted access. Copying of Mycenaean juglets had started in a limited way (around 6%), during LHIIIA:2, but the main period of local manufacture did not start until LHIIB, and this is discussed in greater detail below.

One form of juglet, the BLWM juglet, provides evidence of organised local production. Firstly, the proportion of imitations was high, with 14% of the finds made locally. Secondly, BLWM juglets were made and consumed in Palestine around LBIB-IIA, compared with the original Cypriot products which were generally imported in LBIA. Thirdly, petrographic studies by Yannai (2007, 199) confirm that the local BLWM

juglets were made from clay identified as coming from Redzina soils in northern Palestine, inland in the Upper Galilee area, which could indicate a production region. Finally, the shapes of the imitations were standardised with Types 5 and 6 (as described in Chapter 1) subtly different from the Types 1, 2 and 3 made in Cyprus (other types have not been identified in the course of this study).

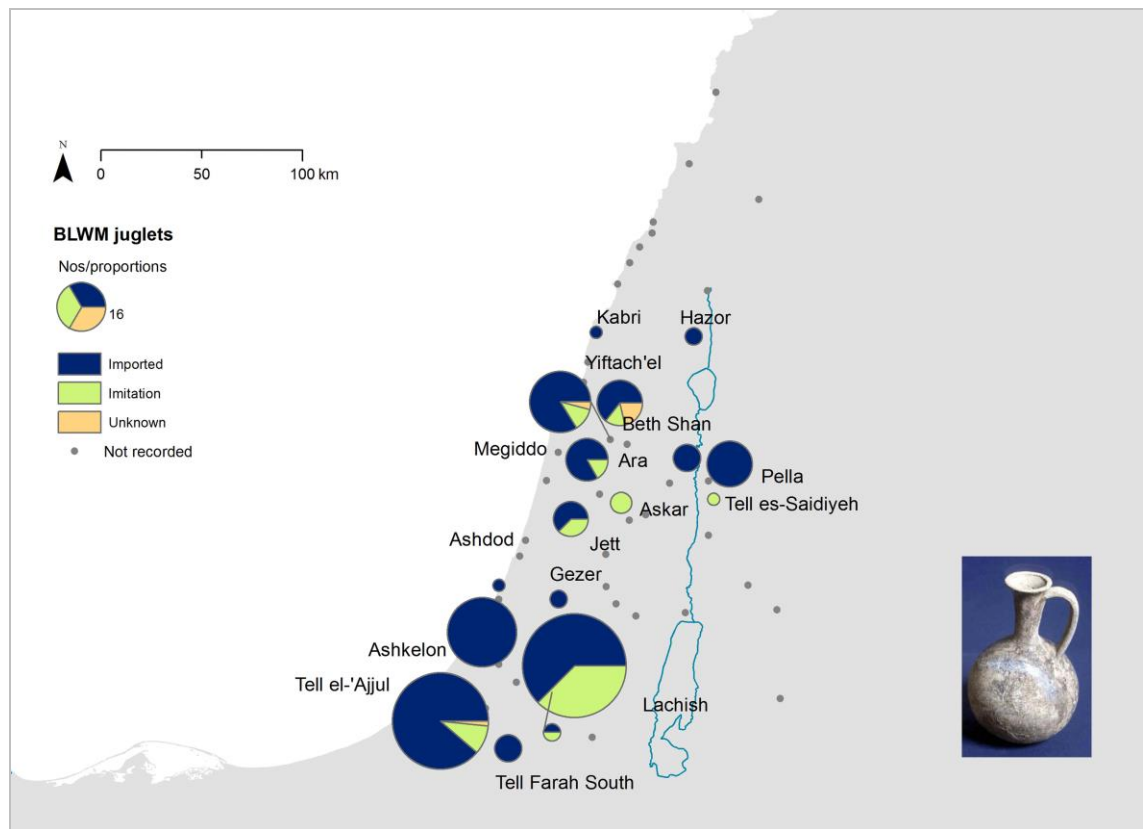


Figure 8-31 Imports and imitations of BLWM juglets in Palestine

The distribution pattern (Figure 8-31) suggests that manufacture and distribution took place at sites inland along the Jordan Valley, which is in line with the petrographic studies. Imitation BLWM juglets were rare outside Palestine, with none found in Egypt which would indicate that production and distribution were relatively restricted.

One type of imitation was much more a tribute to the original product than any intention to deceive (Figure 8-32 and Figure 8-33). These were the few shapes that were copied in more expensive or labour-intensive materials. Some Egyptian copies of BR juglets were made in alabaster, faience and other materials (Hankey 1967, pl.37). This also happened with Mycenaean stirrup jars, which were copied in faience, and decorated with Egyptian motifs.



Figure 8-32 BR I juglet copied in alabaster (photograph ©Trustees of the British Museum)



a.



b.

Figure 8-33 Two stirrup jars made in faience and decorated with Egyptian motifs
 a. Inv. no UC 16630 photograph courtesy of Petrie Museum of Egyptian Archaeology
 b. From Enkomi, tomb 80, Inv no. 1897,0401.1143, ©Trustees of the British Museum

8.4 The impact of Mycenaean commodities on the international juglet trade

Although some parts of the eastern Mediterranean had already started to import Aegean fine ware by LHIIIA:1, these comprised mainly cups, bowls, jugs and alabastra (Cadogan 1973, 168; Jones and Catling 1986, 592-596). Mycenaean stirrup jars and flasks, which may be considered as the functional equivalent of juglets, did not start arriving until LHIIIA:2 (1375-1300 BC). In fact, they were not known in mainland Greece until this time (Mountjoy 1993, 120, 127). However, between around 1375 and 1200 BC, they became very popular imports to the eastern Mediterranean.

In studying their circulation, many variables need to be considered and cross-correlated with one another. The different styles and shapes of the vessels, their various dates, the consumption preferences in the different regions and sub-regions, and the influence of locally manufactured imitations, are all considered below. With respect to this last variable, it has long been known that some Mycenaean-style pottery was made outside the Aegean, but the majority of narrow-necked, Mycenaean containers found in the eastern Mediterranean were, in fact, imported. Of the 1841 vessels recorded in this study, 78% were known or presumed to be genuine Mycenaean imports, and 19% were recorded as locally made, with 3% categorised as unknown or unclear. In this chapter, all the data relate to Mycenaean imports unless otherwise stated.

8.4.1 Regional distribution of imported Mycenaean juglet commodities

Although the period under consideration in this chapter covers 1450-1200 BC, Mycenaean narrow-necked imported containers only started to arrive in the eastern Mediterranean during the LHIIIA:2 period, i.e. after around 1375 BC. The regional distribution of all of the recorded vessels is shown in Figure 8-34. The overall picture shows widespread circulation of Mycenaean juglet commodities although some regional variations can be detected even at this gross level of analysis. In Egypt, the commodities were not evenly distributed along the Nile but concentrated at one site, Amarna, and most arrived prior to 1300, and this is discussed in greater detail below. The situations in Cyprus and the Levant were fundamentally different, with more widespread circulation which lasted for the entire period of 1375 to 1200 BC.

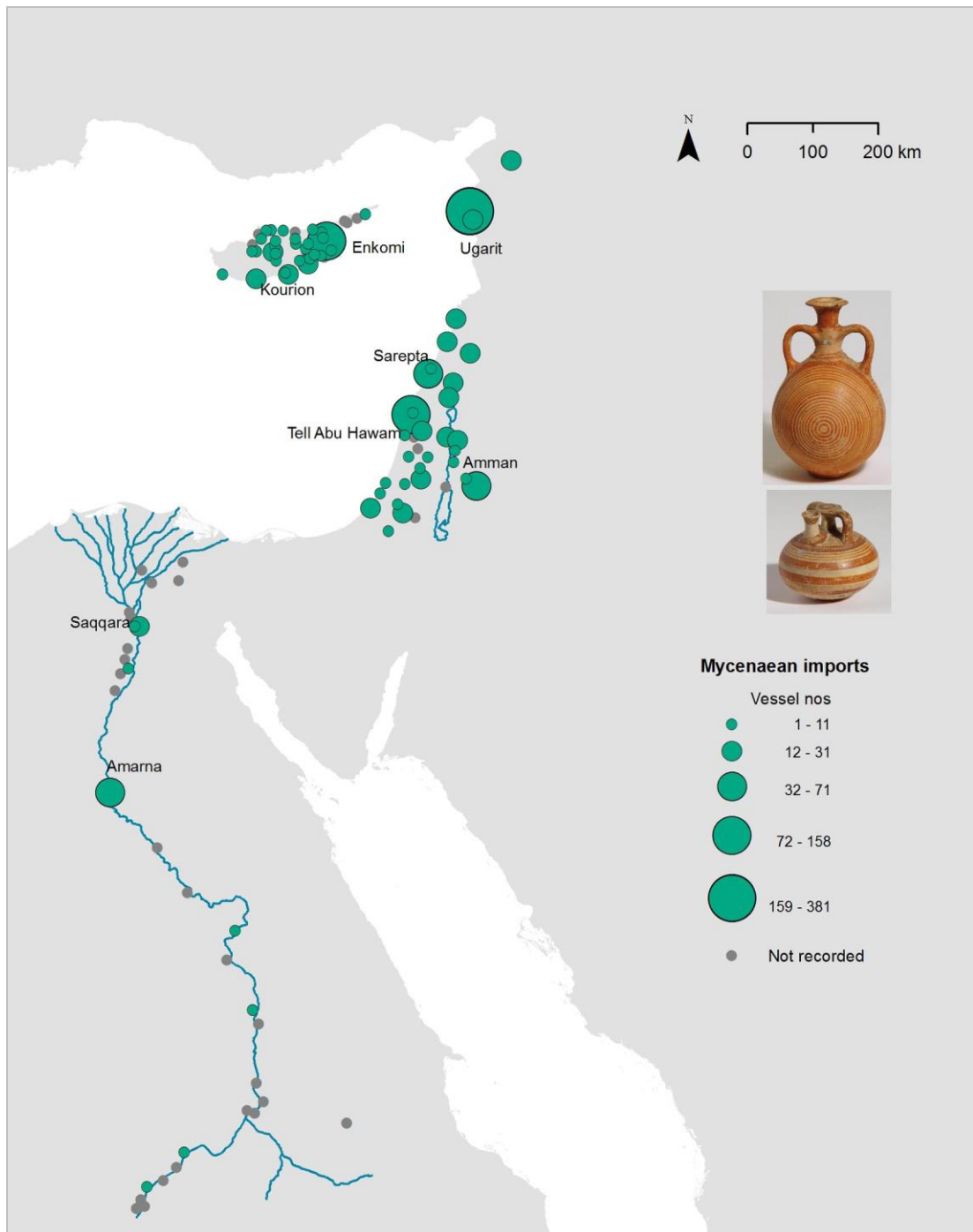


Figure 8-34 *The distribution of all recorded Mycenaean narrow-necked containers at the sampled sites across the eastern Mediterranean, indicating the important centres*

It comes as no surprise that in Cyprus, the southern/south-eastern regions maintained their traditional interest in juglet commodities, although now as importers as well as exporters. Cyprus imported significant numbers of Mycenaean juglet commodities, with widespread distribution throughout the island, as there was for the entire imported Mycenaean pottery repertoire (van Wijngaarden 2002, 314-15, maps 8-9). There were, not unnaturally, higher concentrations at the coastal settlements. Besides Enkomi, the

southern ports of Kourion, Maroni and Hala Sultan Tekké received sizeable quantities of Mycenaean juglets, reflecting their increased role in trade, from LCIIA onwards (Keswani 1996; Manning and De Mita 1997). However, some of these goods found their way to the inland sites, reflecting not only the settlement hierarchy of the island, but also an interest in the acquisition of foreign goods even at the secondary settlements inland.

In Syria, a significant importer of the new precious commodities was, as usual, Ugarit, which had traded in all types of precious commodities since the MBA. Southern Syria started to show an interest in imported juglet commodities, in contrast to previous periods, perhaps due to the establishment of new coastal settlements with the development of new trading opportunities. Sarepta seems to have become an important destination for Mycenaean juglet commodities, with Sin el-Fil and Byblos amongst the other sites which received these goods.

In northern Palestine the import of these new Mycenaean commodities represented a significant change from previous juglet import patterns. Large quantities of Mycenaean narrow-necked containers arrived at Tell Abu Hawam, and the map indicates a clear route for these products from Tell Abu Hawam through to Megiddo, Beth Shan and Pella, and then along the eastern bank of the River Jordan. This 'juglet route' into eastern Palestine had not been used systematically before 1375, though some BR II and WSh juglets found their way to this area. In contrast to the new activity in the north and the east, southern Palestine suffered a reversal of its previous position as the highest level importer and consumer of imported specialty oil juglets. There were relatively fewer imported Mycenaean juglets than in other sub-regions, indicating a change in interest or in supply, as discussed below.

8.4.2 Product preferences in Mycenaean juglets

Amongst the Mycenaean small, narrow-necked containers imported into the eastern Mediterranean, by far the highest proportion, around 75%, were stirrup jars, whilst flasks made up 22% and small jugs a mere 4% (Figure 8-35).

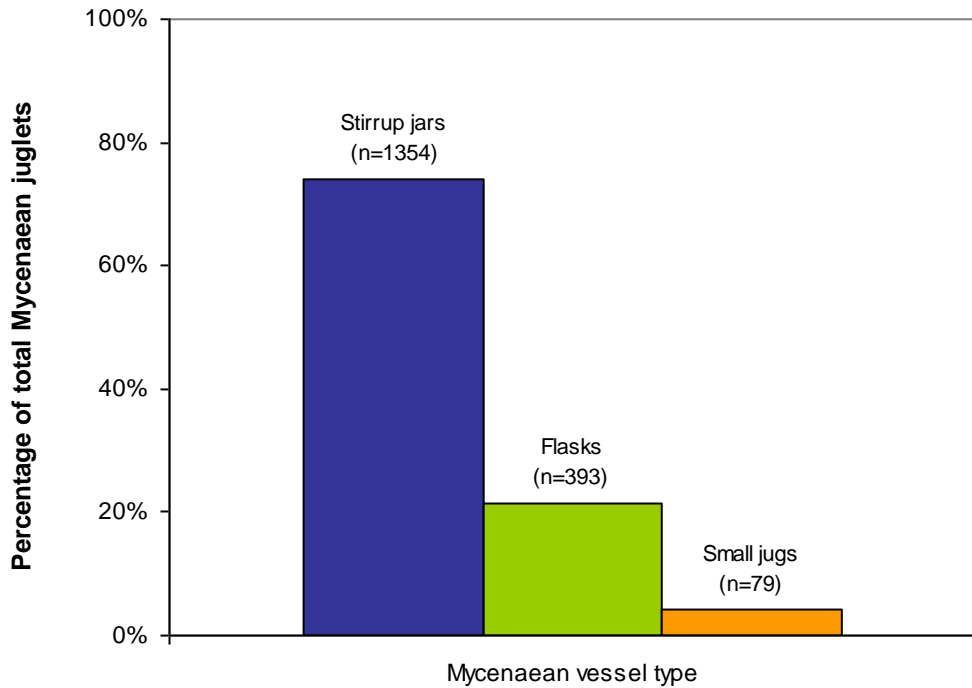


Figure 8-35 Proportions of the different types of small narrow-necked Mycenaean containers recorded from all the sampled sites

The overwhelming preference for stirrup jars was repeated across most of the regions with the proportions of stirrup jars to other forms around the same as the average (Figure 8-36). The two exceptions were northern Syria, which had an even greater percentage of stirrup jars, and Middle Egypt, i.e. Amarna, which had mostly flasks. The very few, small Mycenaean jugs were mostly limited to Cyprus. Differences in product preferences across the regions become more apparent when variables such as FS classifications and date are considered.

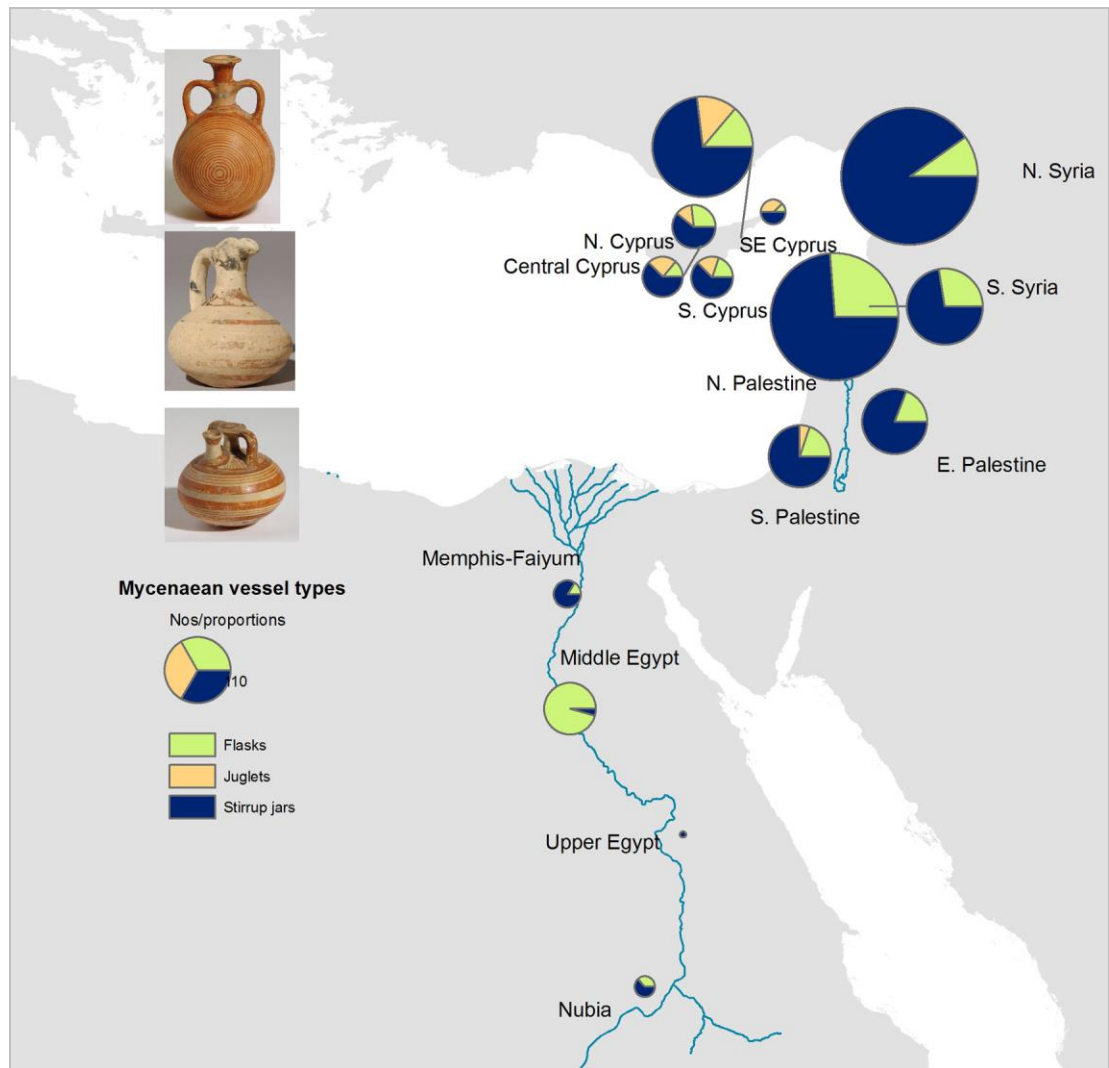


Figure 8-36 *The distribution of various types of Mycenaean small containers, by region, as recorded from the sampled sites*

Figure 8-37 shows regional preferences for those Mycenaean stirrup jars that were classifiable by FS number. Broad classifications are used, since quite a few different shapes are represented, and some were already grouped in the original reports, such that distinctions cannot always be made (e.g. FS 171-173). These broader groups have been arranged by gross body shapes, according to Leonard (1994, 50, 58, 64). FS 171-173, which included the globular stirrup jars of LHIIIA-B, were the favoured styles in Cyprus, but were also popular in Palestine and Syria. Squat styles were the FS 178 to FS 180 forms, and these constituted higher proportions of the stirrup jars imported into Palestine and Syria than into Cyprus. Some later stirrup jars with conical body shapes, i.e. FS 182 and 183 styles, were virtually restricted to Syria and Palestine and to the LHIIIB period. The figure also confirms the observation that stirrup jars were not being sent to Egypt and Nubia in any quantity.

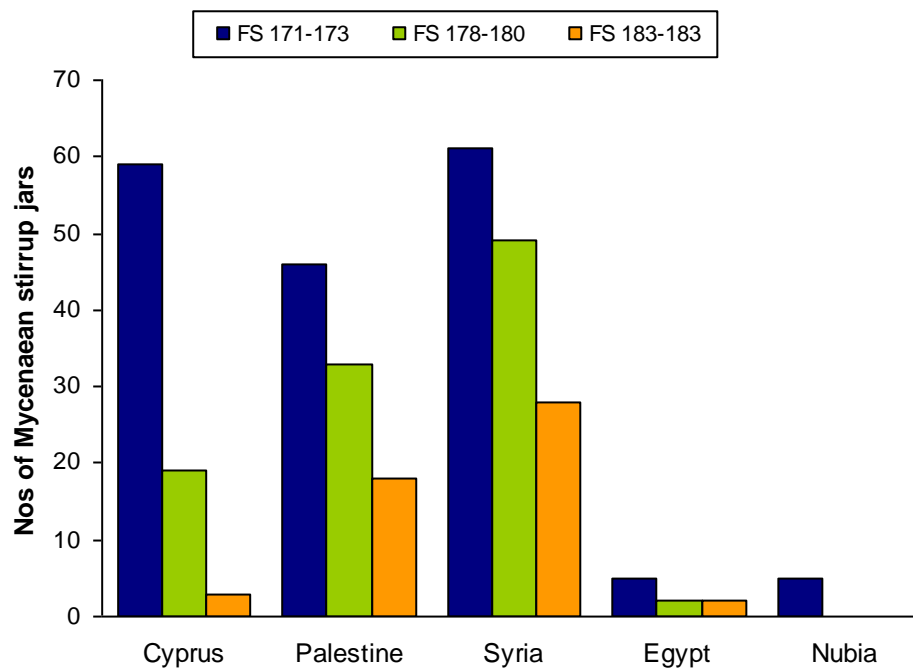


Figure 8-37 *Regional preference for different forms of stirrup jars based on numbers recorded from the sampled sites*

There are also variations in the types of Mycenaean flasks that appeared over different time periods and in different regions. Most flasks, including FS 189, FS 187-188 and FS 190-192, arrived in the eastern Mediterranean early (between LHIIIA:2 early and LHIIIB:1), and these are discussed below in greater detail. FS 189 flasks were preferred in Syria, Palestine and Egypt but not Nubia (Figure 8-38). In Cyprus, there were few of these flasks, but other forms were more common, i.e. FS 187-188 and FS 190-192. Later, in LHIIIB, the Mycenaean version of the lentoid flask (FS 186) entered the repertoire, but they were often manufactured locally, and genuine imports were not found in large quantities. These products, which were restricted to the Levant, are further discussed below.

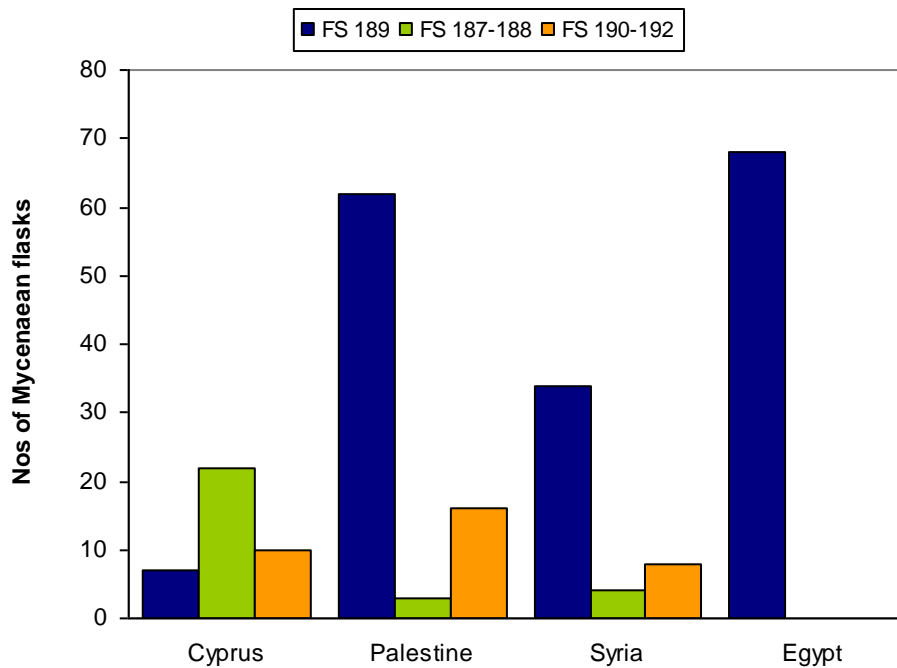


Figure 8-38 *Regional preference for early Mycenaean flask shapes, based on numbers recorded from the sampled sites*

8.4.3 The chronological distribution of Mycenaean narrow-necked containers

Regional consumption preferences only account for some of the variations in distribution. The different forms and styles of Mycenaean narrow-necked containers, which developed over time, also had significant effects on consumption patterns. A few of these containers, such as FS 188 and 189 flasks, were exclusive to the LHIIIA:2 period, whilst some other forms, including FS 186 flasks and FS 182-183 conical stirrup jars, were only made in LHIIIB. However, most styles, accounting for the vast majority of the imports, were manufactured throughout the LHIIIA:2-B period which corresponds to *c.* 1375-1200 BC (see Chapter 1 for agreed dates on Mycenaean juglets). This makes it difficult to tease out patterns in distinct periods. Figure 8-39, based on pottery dating, can only show that most Mycenaean juglet commodities arriving in different regions were made some time between 1375 and 1200 BC.

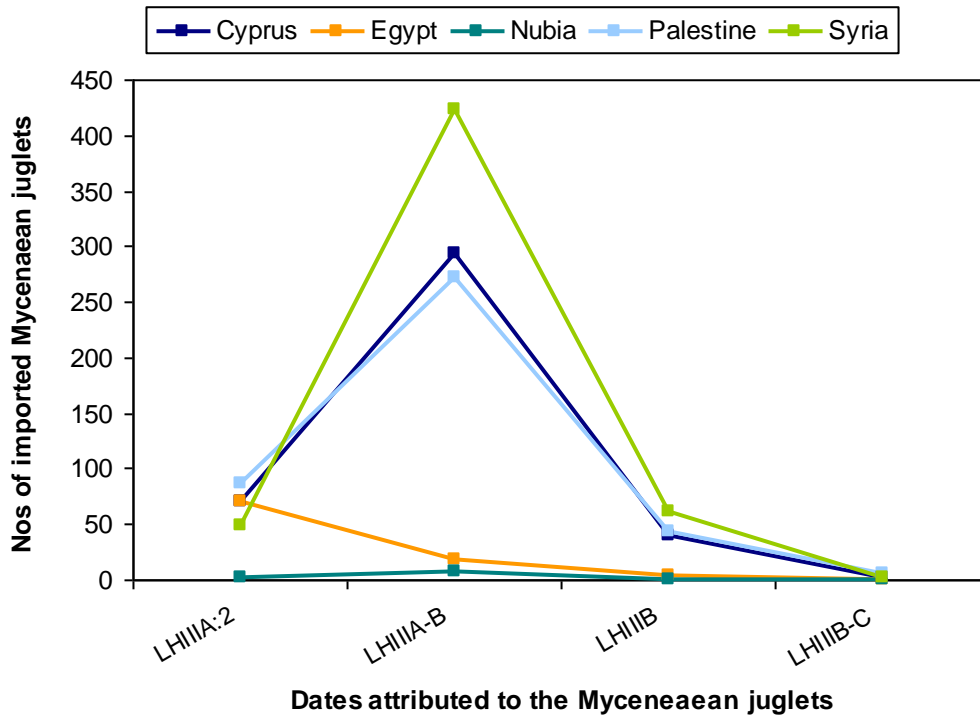


Figure 8-39 *The chronological distribution of Mycenaean juglet commodities during the LBA, based on pottery dates*

The same data presented using the terminal dates of the contexts (Figure 8-40), provides an indication of the deposition periods, and offers a slightly greater degree of chronological separation. Although some (but not all) of the sampled contexts would have been dated by the presence of Mycenaean pottery, accounting for some similarity, this graph can provide an indication of the relative peaks of importation and consumption in the different regions of the eastern Mediterranean. Both figures show that the start, zenith and decline of these Mycenaean narrow-necked containers had very similar chronological configurations in Cyprus and the Levant, which followed the import patterns for the entire Mycenaean ceramic repertoire (van Wijngaarden 2002, 308-9, Map 4). However, the situation in Egypt was different, with juglet imports arriving early and declining rapidly. Furthermore, Mycenaean juglets were not reaching Nubia in any significant quantities, unlike Cypriot imports.

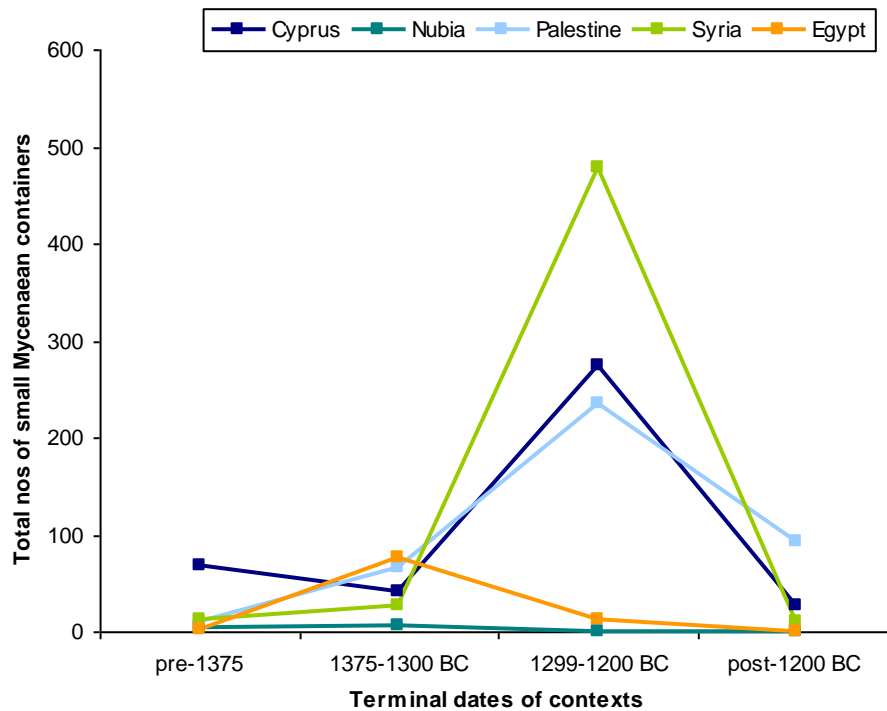


Figure 8-40 *The chronological distribution of Mycenaean juglet commodities during the LBA based on context dates.*

Given the difficulties with accurate dating for much Mycenaean pottery, the next three sections consider chronological variability in the Mycenaean narrow-necked containers as follows: the LHIIIA:2 only vessels, those attributed to LHIIIA-B and the LHIIIB containers.

8.4.4 Mycenaean narrow-necked containers of the LHIIIA:2 period

There are two ways to track the early imports of Mycenaean narrow-necked containers into the eastern Mediterranean. The first examines the distribution of the LHIIIA:2 dated juglets. The second is to look at Aegean juglets deposited in contexts dated no later than 1300 BC, as shown in Figure 8-41. In this instance, there is very good correlation between the two methods, with only minor numerical variations, so that one distribution map will suffice. However, both ways probably underestimate the quantities of imported juglets that would have arrived between 1375 and 1300 BC: the first, because it does not include any of the more widely dated juglet types, and the second because records from more widely dated contexts are not included. Nevertheless, the information can provide some insight into the circulation of some of the very earliest types of Aegean narrow-necked containers to arrive in the eastern Mediterranean.

What this figure shows very clearly is that several new centres became involved in the import of these new precious commodity containers. In Cyprus, Kourion received early imports, as well as Enkomi. The northern sites had a few Aegean vessels, some of them LMIIIA stirrup jars from Crete. In Syria, not only Ugarit, but also Sarepta received early imports. In Palestine, Tell Abu Hawam was an early importer, and in general the first Aegean juglet commodities arrived in northern towns rather than in southern Palestine.

In Egypt, the bulk of the Mycenaean products can be dated to LHIIIA:2-B1 (Hankey 1973, 129). Most of the contexts were dated prior to 1300 BC. These were concentrated in a few areas rather than evenly distributed along the Nile, the majority having been sent to the newly founded capital at Amarna. Very few centres imported Mycenaean narrow-necked containers, and they were notably absent from the Delta. There may be some recovery bias; for example, Amarna is an extensively excavated site, compared with other sites in Egypt during this period. However, distinctly fewer sites imported these products compared with the earlier Cypriot juglet counterparts. Interestingly, other Mycenaean ceramics reached far more sites all along the Nile as shown in Figure 8-41, reproduced from van Wijngaarden's study (2002, 319, 327-28, Map 13). Nevertheless, even though van Wijngaarden reported 53 sites in Egypt with Mycenaean pottery, these were very thinly spread with mostly single pieces, rarely rising above two outside Amarna.

At Amarna, 1341 sherds and several whole vessels were found, representing several whole vessels from around 22 types, a wide repertoire of Mycenaean imports, which was rare outside Cyprus and Ugarit (Hankey 1973, 129). Almost all were dated to LHIIIA:2, and over one third of the sherds were vertical flasks (FS 189). Of narrow-necked containers, this new city had far fewer Cypriot imports (just 22 BR II juglets), compared with a minimum of 71 Mycenaean flasks and stirrup jars. Such data indicates that the Mycenaean imports may have arrived directly from the Aegean rather than via Cyprus. It is difficult to say whether the early arrival of these new Mycenaean flask products represented a successful entry into this consumer market, because the Mycenaean juglet commodities were not imported for very long. Their numbers and their concentration in one place suggest only a few consignments. There are indications

that there may have been a fundamental change in the consumption of precious commodities from abroad, and this will be discussed further below.

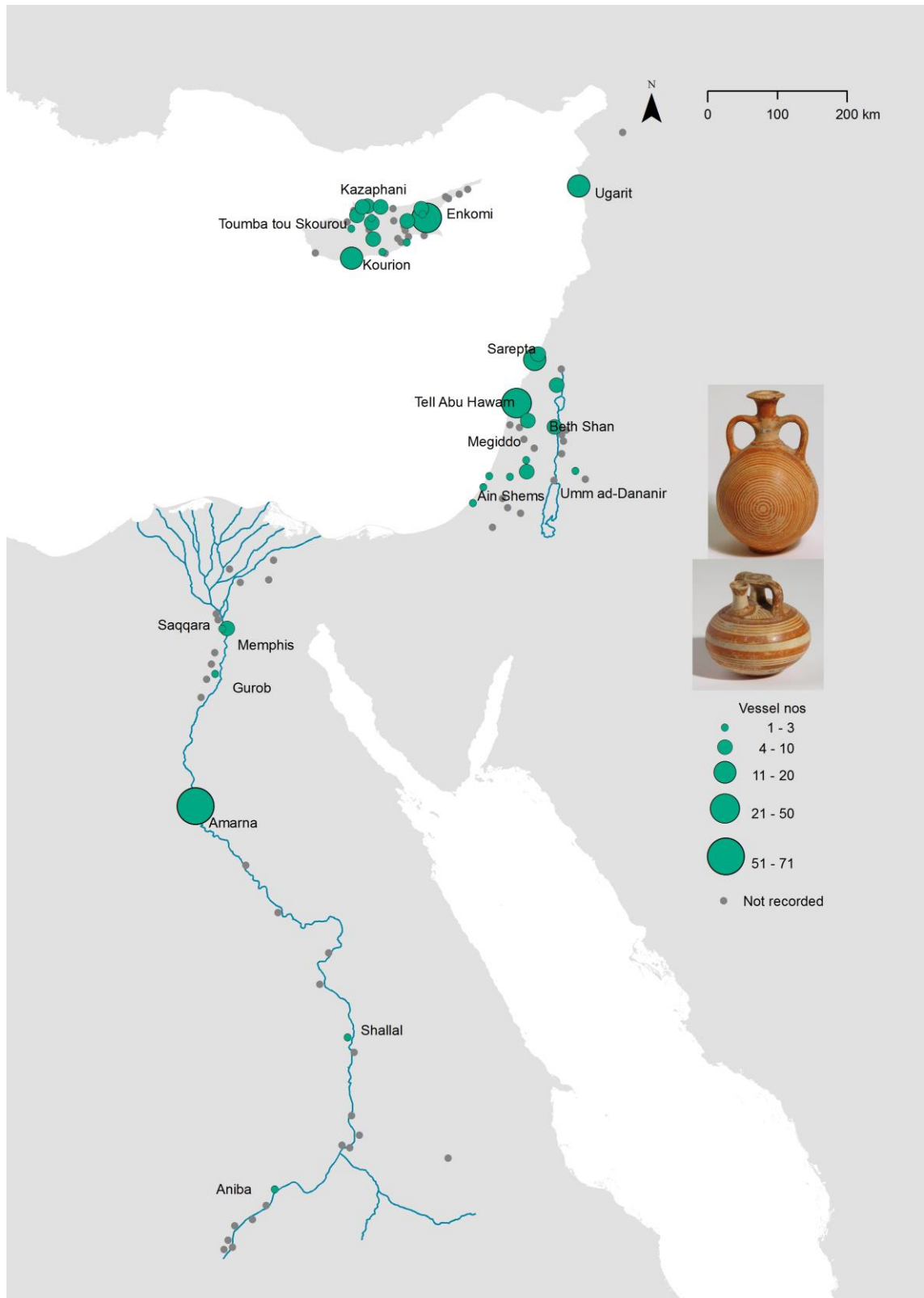


Figure 8-41 *The distribution of Mycenaean juglets in the eastern Mediterranean in contexts dating no later than 1300 BC*

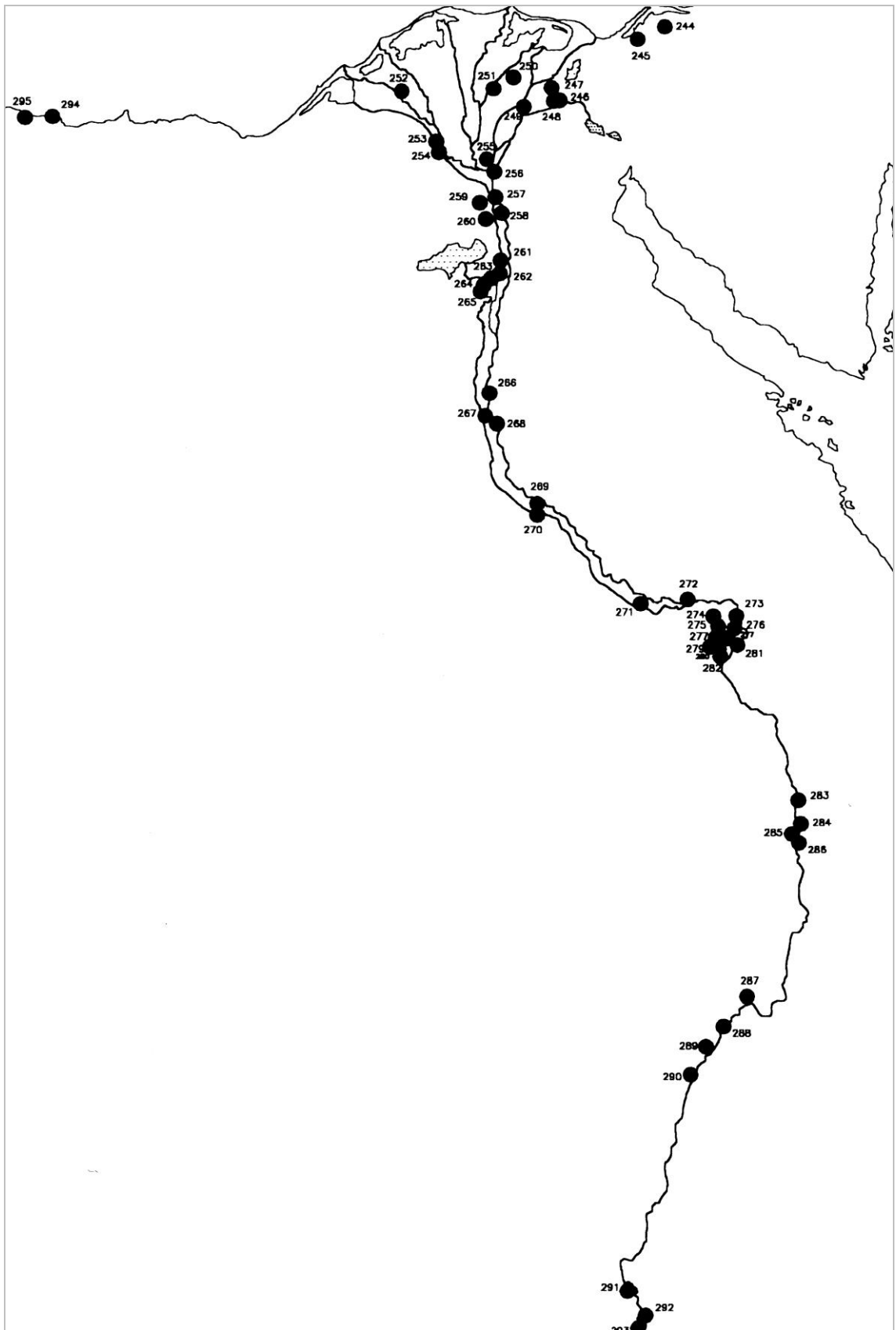


Figure 8-42 Egyptian sites with Mycenaean pottery (van Wijngaarden 2002)

The total number of Aegean narrow-necked containers recorded in the sampled sites of this study, from contexts with terminal dates no later than 1300 BC, is relatively low, just 280 across the eastern Mediterranean region. Perhaps the first observation is that not all the early arrivals were Mycenaean containers; a few LMIIIA Minoan stirrup jars and flasks can be identified. However, it is of note that most of the LHIIIA:2 narrow-necked containers, found in pre-1300 contexts, i.e. 81%, were flasks.

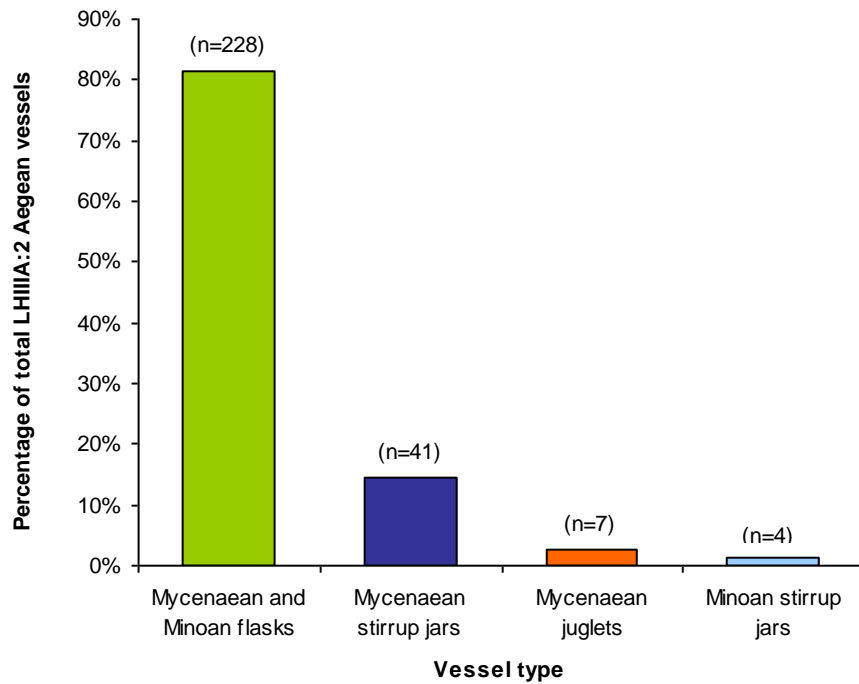


Figure 8-43 *The types of Aegean narrow-necked containers found in contexts dated no later than 1300 BC from all the sampled sites*

Most of the flasks (74%) were FS 189 shapes, which were vertical globular flasks, decorated with concentric circles in a vertical plane (see Chapter 1). This type of flask has been dated to LHIIIA:2 late. Slightly earlier, dated to LHIIIA:2 early, the globular horizontal FS 188 forms, made up 12% of the total. The decoration on these flasks quoted from the Minoan repertoire, and it has been argued that they were of Cretan manufacture, as were the few Minoan stirrup jars of FS 185 shape. The other types of flask arriving early in the period had FS 190-191 shapes which are dated to LHIIIA:2-B1 and these comprised 13% of the total. Stirrup jars were not very common in the pre-1300 BC contexts, just 15% of the total vessels. The shapes were not recorded, but they were presumably FS 171, which was the earliest of the stirrup jar styles.

The distribution of the LHIII A:2 Mycenaean flasks, with the proportions of the different types, are shown in Figure 8-44. It is apparent that the types of flasks imported into Cyprus were different from those in Egypt and northern Palestine. There were more FS 188 and FS 190-192 flasks in Cyprus. This is important, since it indicates that Cyprus was a separate destination, supplied with different products, and not necessarily a stop on the way to the Levant. It also brings into question the often asserted middle-man role for the distribution of Mycenaean narrow-necked containers, especially at this early date. This question is visited again below.

From the above data, it could be suggested that Mycenaean precious commodity containers arrived in the eastern Mediterranean in LHIII A:2, and that the earliest forms were probably flasks. The distribution pattern of the FS 189 examples indicates that there was some direct traffic from Mainland Greece to centres in the Levant and Egypt, which had not passed through Cyprus. Certainly the FS 189 form was not prevalent there, and the first few flasks to arrive (FS 187-188), possibly from Crete, were found at Hala Sultan Tekké . The rounded, horizontally decorated FS 190-191, also of an early date, were perhaps replaced with stirrup jars. The dating and the distribution of these vessels might imply that the stirrup jars supplanted the early flasks and became the iconic carrier of the Mycenaean specialty oils.

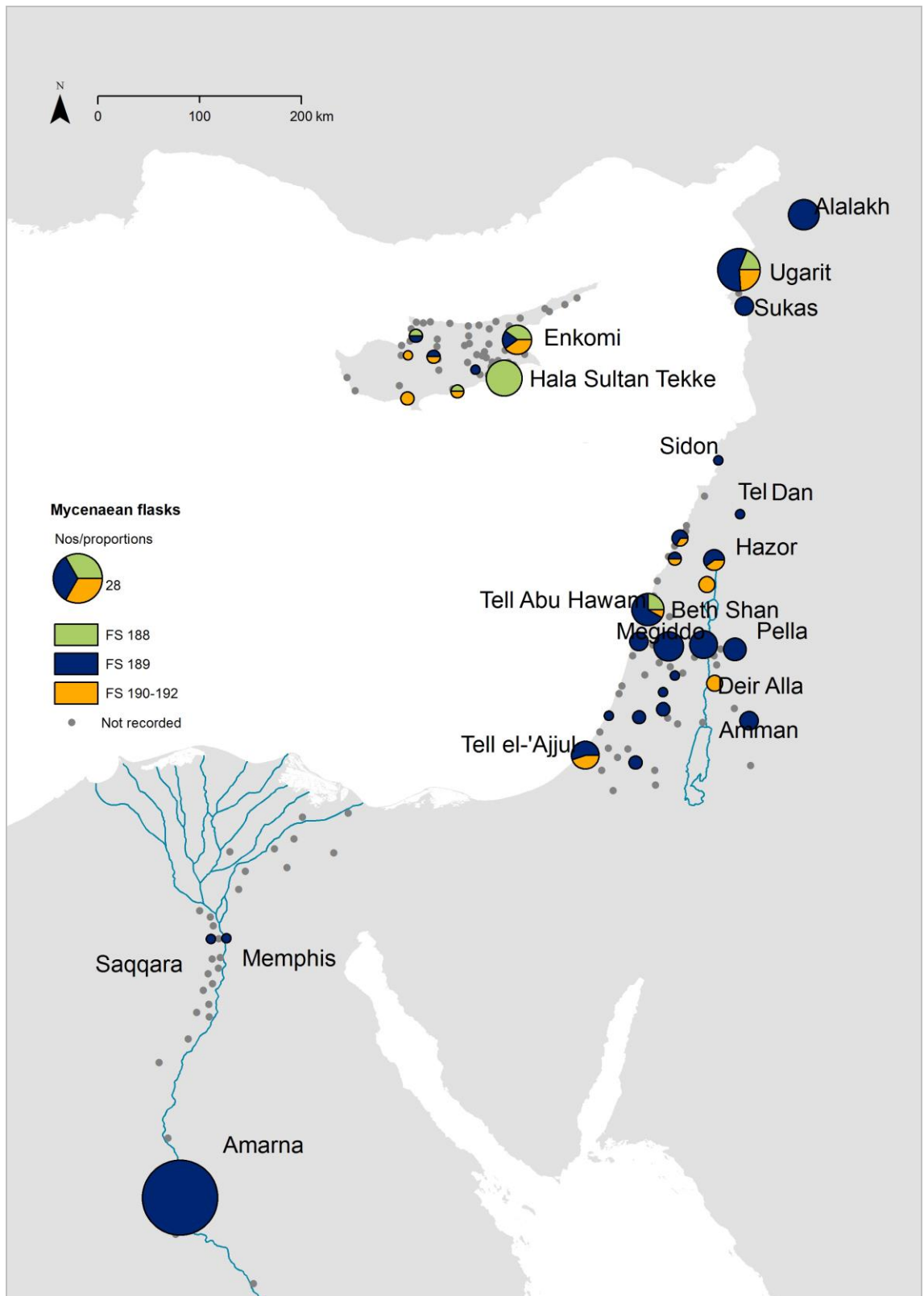


Figure 8-44 *The distribution of LHIIIA:2 Mycenaean flask types across the eastern Mediterranean from contexts dating no later than 1300 BC*

8.4.5 Mycenaean narrow-necked containers of the LHIIIA-B period

As mentioned above, most of the Mycenaean narrow-necked containers exported to the eastern Mediterranean are dated to the broader time band of LHIIIA-B, amounting to 70%, compared with 20% for LHIIIA:2 and 10% for LHIIIB dated vessels. It is difficult to know exactly when most of these arrived at their destinations. Aoristic analysis of the contextual information can provide an indication of how many LHIIIA-B vessels were probably deposited before 1300 BC. In Cyprus this was 51% of the total, for Palestine and Syria 42 and 43%, respectively. The distribution based on this analysis is shown in Figure 8-45. Since most of the vessels imported into Egypt were dated LHIIIA:2, only the distribution for Cyprus and the Levant is shown here.

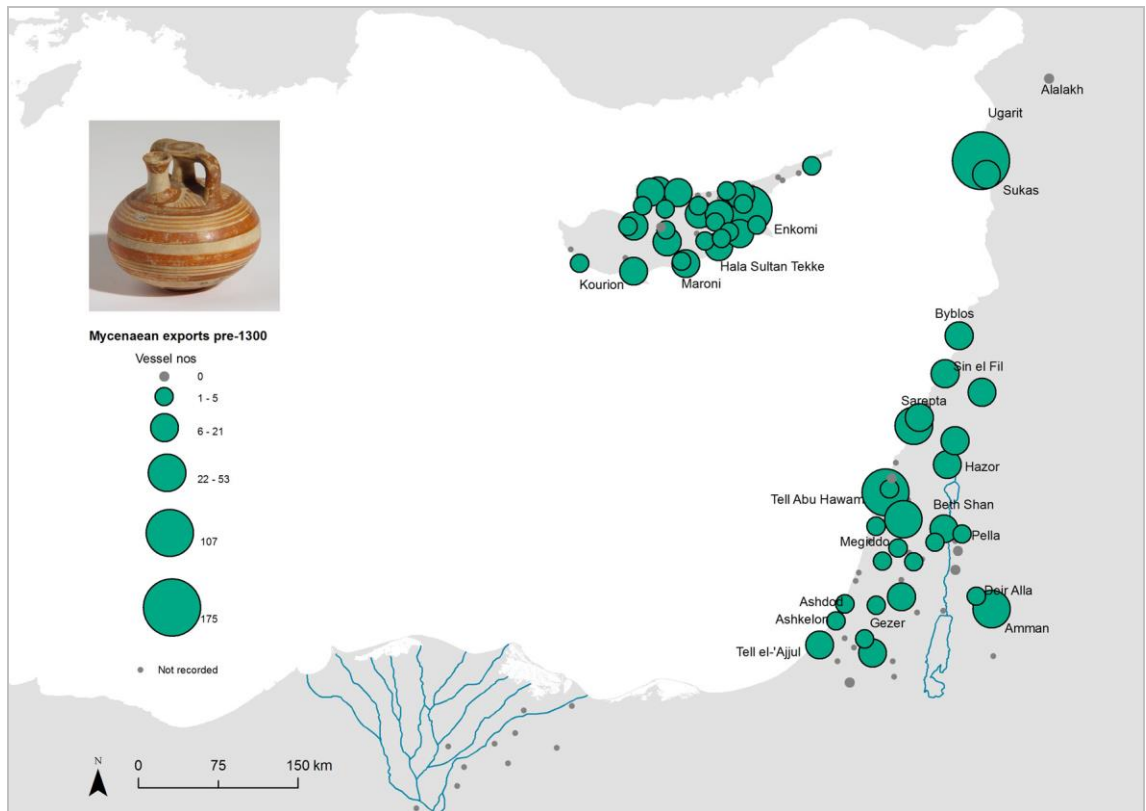


Figure 8-45 *The distribution of Mycenaean narrow-necked containers in Cyprus and the Levant in 1375-1300 BC, based on aoristic analysis*

Of the total of 1014 LHIIIA-B Mycenaean narrow-necked containers recorded in this study, 89% were stirrup jars, which is substantially higher than the 75% documented for the whole import period. A high proportion has not been classified by Furumark shape; either they were not originally classified by the excavators, or it was not possible to identify the style from the remains of the vessel.

Vessels type	Style	Nos
Mycenaean flasks	Unclassifiable	52
Mycenaean juglet	FS 114	10
Mycenaean juglet	FS 134	1
Mycenaean juglet	FS 144	2
Mycenaean juglet	Unclassifiable	46
Mycenaean stirrup jar	FS 171	91
Mycenaean stirrup jar	FS 171-173	54
Mycenaean stirrup jar	FS 173	20
Mycenaean stirrup jar	FS 178	41
Mycenaean stirrup jar	FS 178-180	58
Mycenaean stirrup jar	Other	7
Mycenaean stirrup jar	Unclassifiable	632
Total		1014

Table 8-4 *Types and styles of Mycenaean narrow-necked containers dated LHIIIA-B*

Just a handful of the stirrup jars, dated to this period, reached Egypt and Nubia, 18 and 7, respectively, but the numbers reaching Cyprus and the Levant were much higher. High numbers reached the northern Levant, particularly Ugarit and Tell Abu Hawam. They were also reaching far inland across the River Jordan and into eastern Palestine, via the Jezreel Valley, with significant numbers along the route (Figure 8-46) at Megiddo and Beth Shan. Amman was a slight anomaly because there were so many Mycenaean imports (Hankey 1995), rather unexpected for a destination so far from the coast and so far down-the-line.

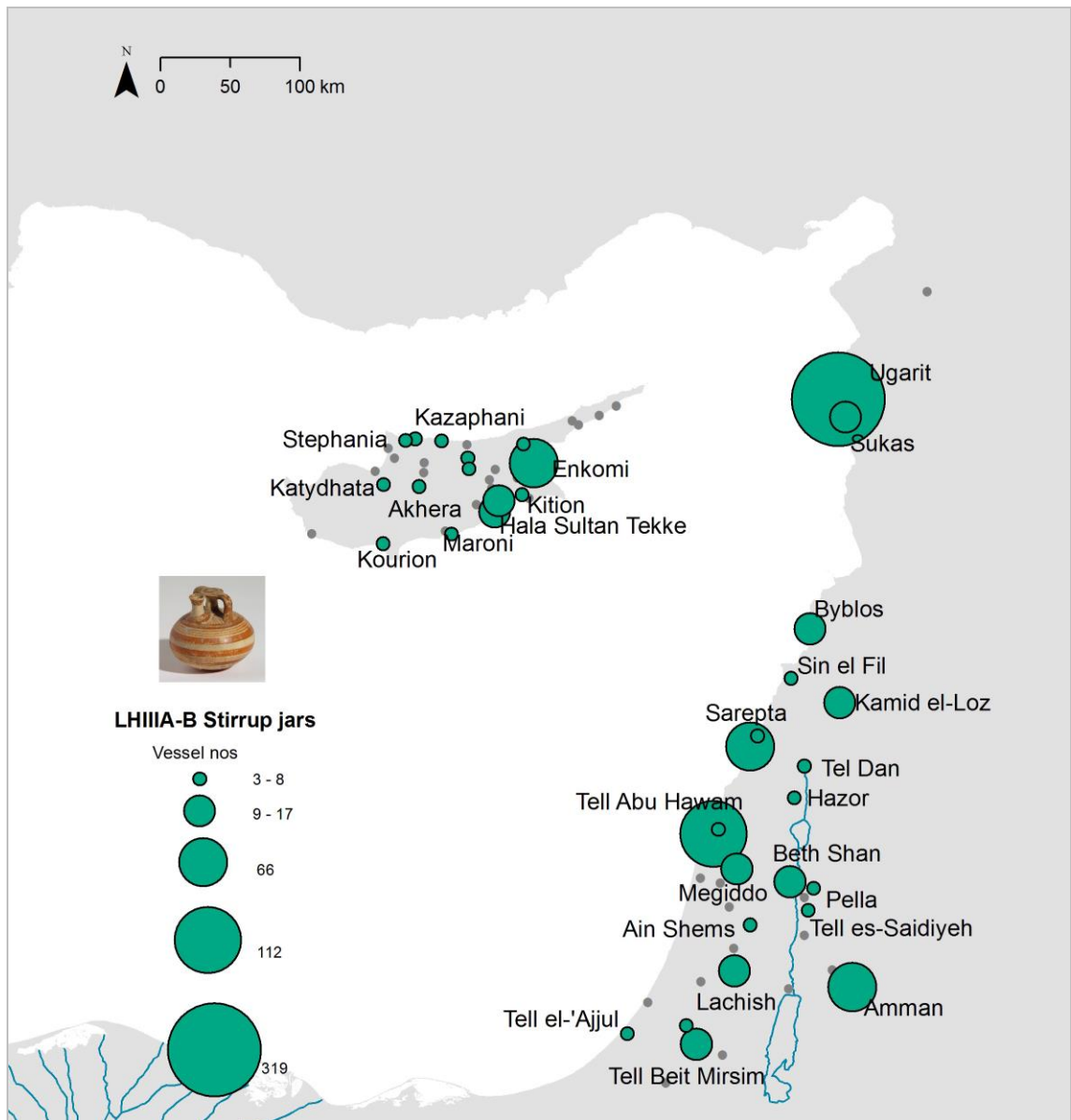


Figure 8-46 *Distribution of Mycenaean stirrup jars dated to LHIIIA-B in Cyprus and the Levant*

In Cyprus also, a significant number of these foreign commodities found their way to the interior of the island, at Akhera and Katydhata. This is less expected than finding imports at Enkomi, or at those southern coastal towns that had also imported the LHIIIA:2 Mycenaean flasks (Figure 8-47), and this is discussed further below.

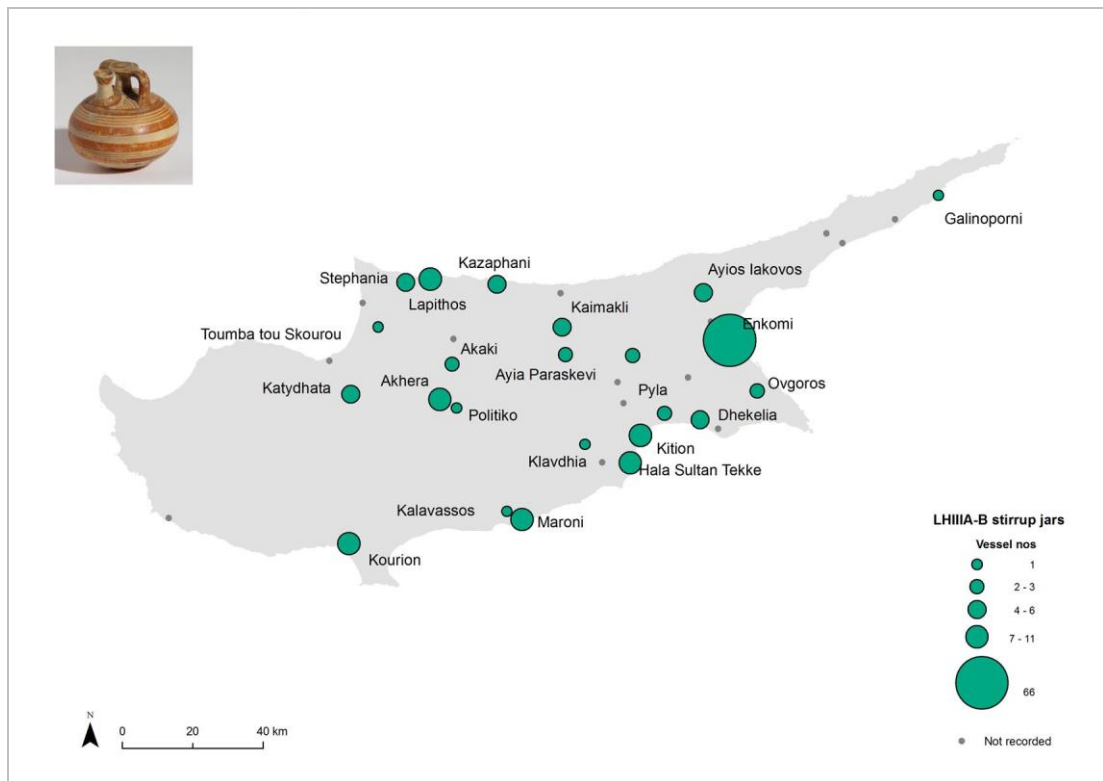


Figure 8-47 *Distribution of LHIIIA-B stirrup jars in Cyprus*

In terms of any comparison between the Levant and Cyprus, it is better to look at the proportions of stirrup jars to total juglets, rather than raw numbers, because of the very different extents of excavations. Figure 8-48 shows the percentages of stirrup jars amongst all the juglets at sites where contexts can be dated between 1450 and 1200 BC. For the Levant, there are similar distribution patterns, with the greatest proportions corresponding to the highest numbers. However in Cyprus, the importance of the southern towns becomes more apparent, when examining proportions of Mycenaean stirrup jars at sites with relatively little excavation data. At the inland site of Akhera, the proportion of stirrup jars to local juglets was higher than anywhere else on the island, and at Enkomi, the relative proportion was much lower than for the southern coastal towns.

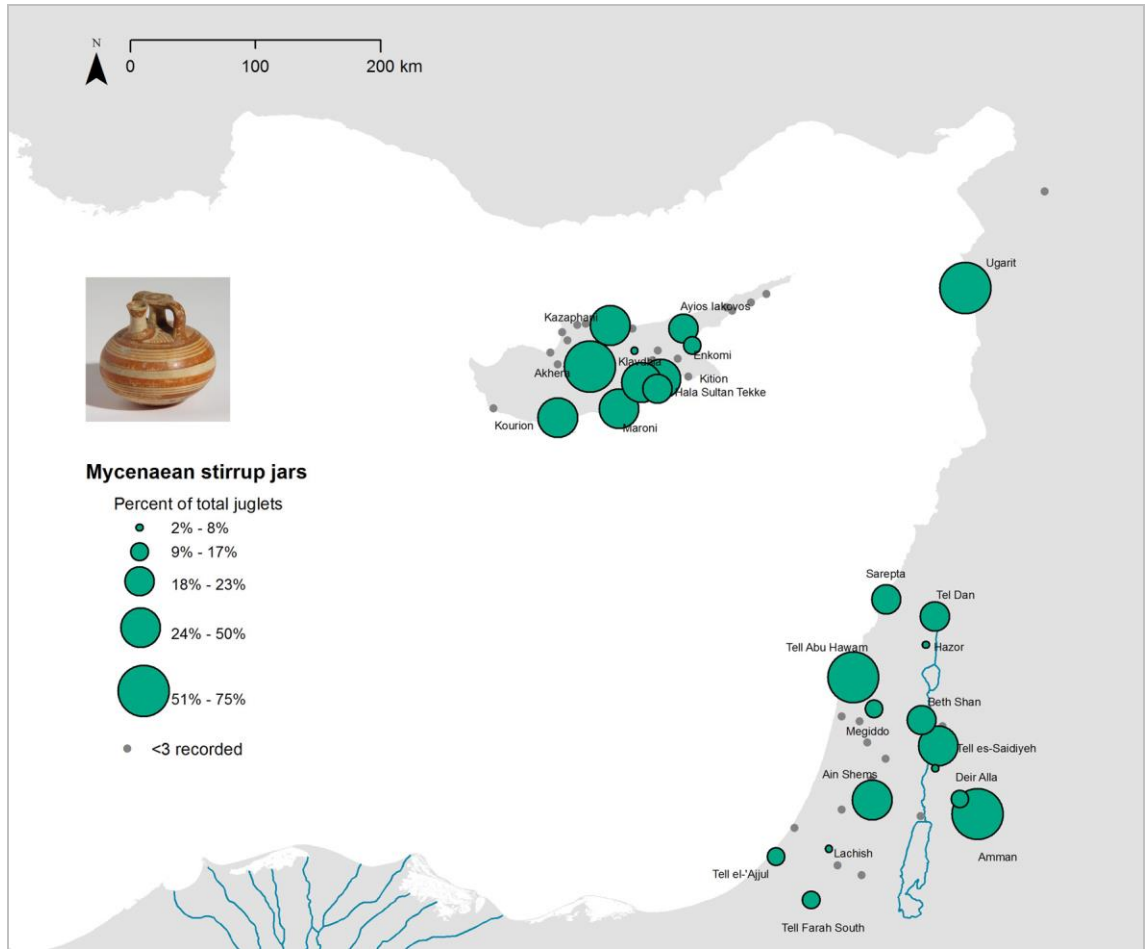


Figure 8-48 *The distribution of Mycenaean stirrup jars presented as a percentage of the total juglets, recorded in contexts dated within the period 1450-1200 BC. (Only sites with 3 or more stirrup jars are shown)*

8.4.6 Mycenaean narrow-necked containers of the LHIIB period

Of the Mycenaean narrow-necked containers that are usually dated to LHIIB (c. 1300-1190 BC), the most common types in circulation were the squat biconical stirrup jars (FS 178-180), the tall conical stirrup jars (FS 182-183) and the lentoid flasks (FS 186), with the stirrup jars still dominating, in terms of import preferences (Table 8-5).

The number of imported lentoid flask was low, and this is because most of these types were locally made.

Mycenaean vessel type and style	Total nos
Mycenaean stirrup jars	125
FS 182-183	56
FS 178-180	31
Other or unclassifiable	38
Mycenaean flask	19
FS 186	14
Other	5
Mycenaean juglets	2

Table 8-5 *LHIIIB Mycenaean narrow-necked containers from the sampled sites of the eastern Mediterranean*

The distribution of Mycenaean narrow-necked containers from the later contexts, with terminal dates after 1300 BC, is shown in Figure 8-49. It does overlap with the distribution plotted for LHIIIA-B imports (Figure 8-46). Furthermore, aoristic analysis indicates that imports during the 13th century remained high in Cyprus and the Levant, and that this distribution is probably an underestimate. The latter suggests that after 1300 BC, these imports in Cyprus, Palestine and Syria were 49, 58 and 57% of the respective total imports. Nevertheless, this sub-set does provide an indication of which sites maintained their interest in importing the later Mycenaean juglet commodities until the end of the trading period. Since most of the Mycenaean imports are dated no later than LHIIIB:1, and since LHIIIB:2 pottery is not in evidence outside the Argolid (Mountjoy 1993, 80), trade in juglet commodities probably terminated *c.* 1225 BC.

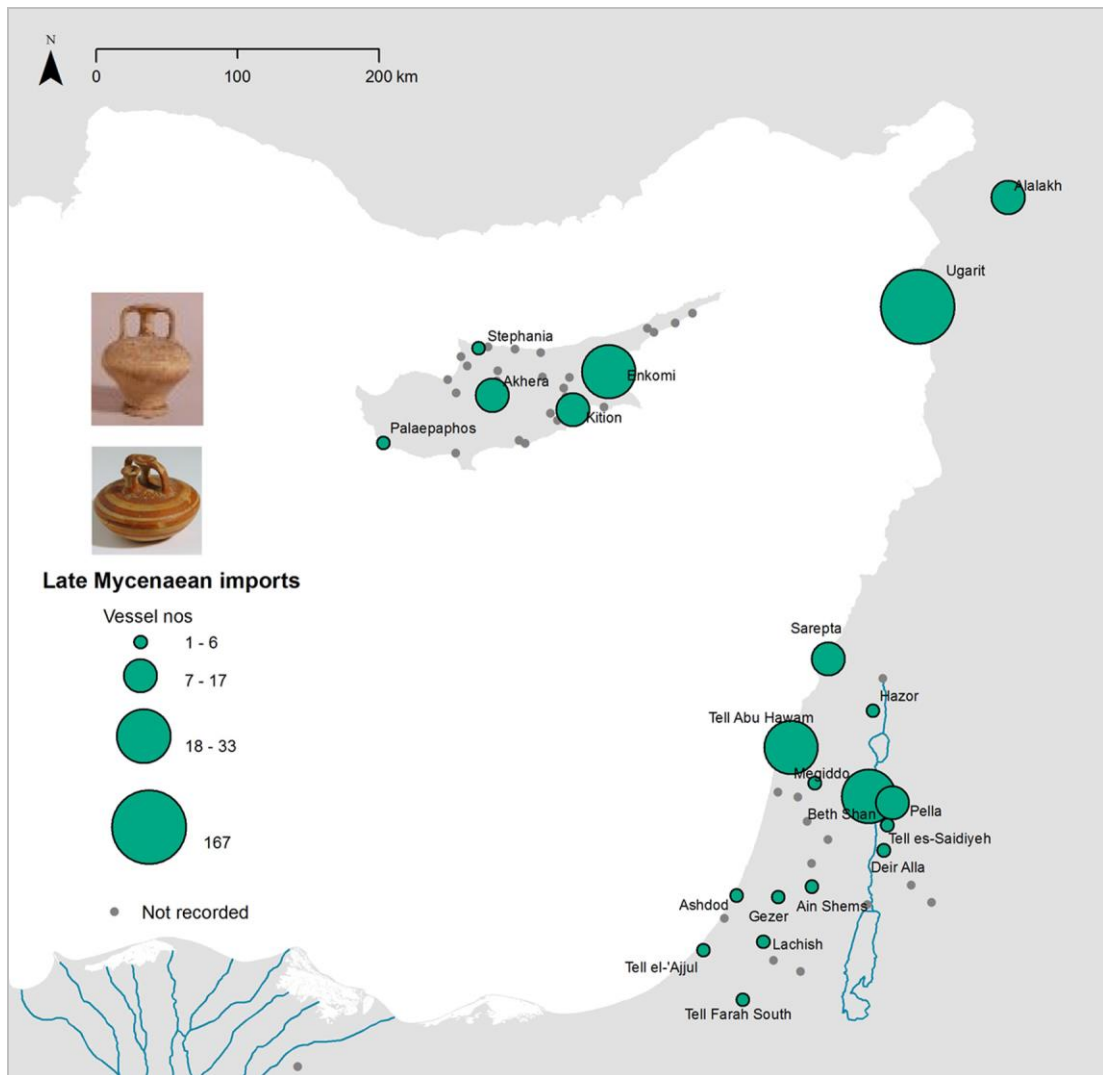


Figure 8-49 *The distribution of Mycenaean narrow-necked containers in contexts dating no earlier than 1300 BC*

It can be seen that the sites which continued importing the later Mycenaean commodities until this time included the coastal sites of Palaepaphos, Kition, Enkomi, Ugarit, Sarepta and Tell Abu Hawam. Inland, Beth Shan, Pella and Akhera continued to trade in the later imports.

In summary, the chronological distribution of Mycenaean imports is as follows: the LHIIIA:2 imports, which were mostly flasks, constituted around 20% of the total, and the LHIIIB imports around 10%. Of the 70% classified as LHIIIA-B, most were stirrup jars. On the basis of deposition contexts, around half of them can probably be attributed to each of the pre-1300 and post-1300 BC divisions, although the Levant probably had more of the later imports than Cyprus, and Egyptian imports mostly predate 1300 BC.

8.4.7 Imitations of Mycenaean narrow-necked containers

A small but significant proportion of Mycenaean juglets were imitated, and locally-made versions of both flasks and stirrup jars have been found. The greatest number of imitations was found in Palestine and Syria (Figure 8-50). Just 11% of the locally made versions have been found in Cyprus and almost none in Egypt. The fact that 99% of Mycenaean narrow-necked containers in Egypt were imported, reflects the early dates of imports in this region, since most imitations dated to the 13th century.

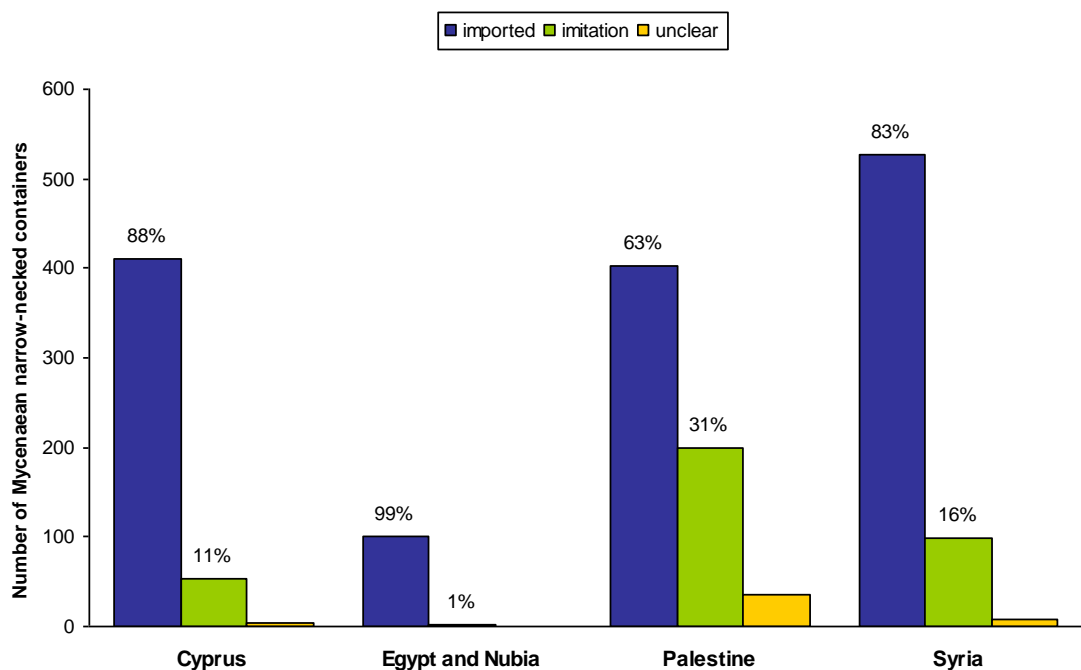


Figure 8-50 *The numbers and proportions of imported and locally made Mycenaean narrow-necked containers at the sampled sites of the different regions*

Before 1300 BC, only 7% of Mycenaean narrow-necked containers were imitations, whereas after that date 34% were locally made. During the 13th century, the older, i.e. more familiar styles, seem to have been imitated the most. For example, almost all globular stirrup jars of this period were the Simple Style vessels (FS 171-173 SS). These roughly executed variants of the Mycenaean FS 171 and 173 types, with single thick painted bands, were mainly found in Syria and Palestine. In Cyprus, these Simple Style vessels were rare.

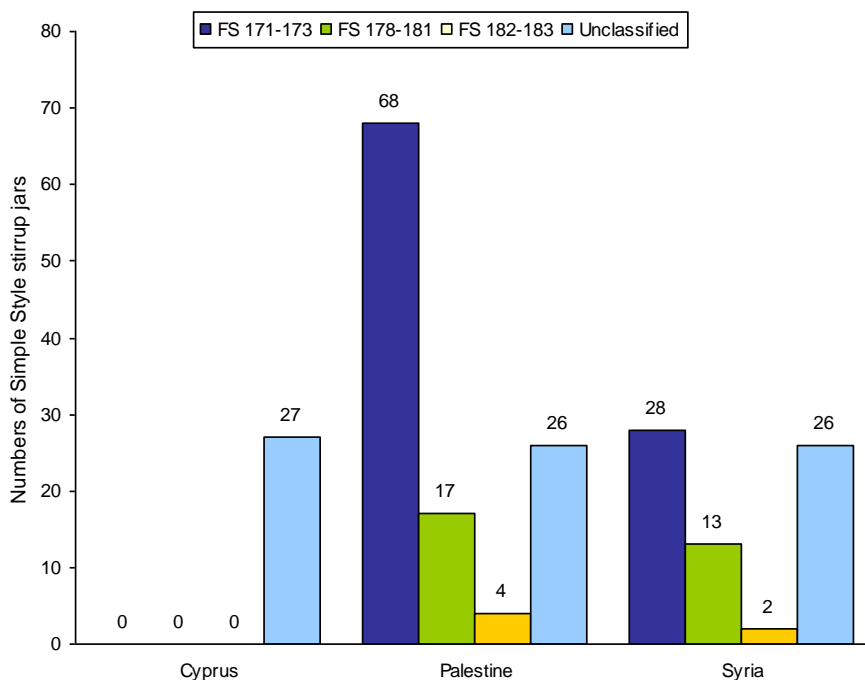


Figure 8-51 *The numbers of locally made stirrup jars at the sampled sites of the different regions*

Around half of the squat stirrup jars (FS 178-180), which were also introduced in the earlier LHIIIA:2 period, were still imported in the course of the thirteenth century, but the other half were locally-made versions, consumed in the Levant. In contrast, the newer conical style stirrup jars (FS 182-183), introduced in LHIIIB, were mainly imported, and the few imitations that were made were found only in Palestine.

Of the Mycenaean flasks, FS 186 was the only LHIIIB style. Its origin is slightly odd, because it has no antecedent in the Aegean and is rarely found on the Greek mainland (Leonard 1994, 80). It might conveniently be considered as one of the so-called Levanto-Helladic forms, i.e. based on an existing Levantine form, and manufactured specifically to appeal to the export market. It has the hallmark of such a product, e.g. in comparison with the local Levantine flasks, the imported Mycenaean vessels were better formed in finer clay, and the painted decoration more finely executed in thick and thin line groups of concentric circles. However, as mentioned above, very few products in this style were actually imported from the Greek mainland; and the vast majority were locally made, and found in northern or eastern Palestine (Figure 8-52). Some of the locally-made flasks were decorated in Mycenaean style, rather than in the 'original' thick painted bands. These have been designated imitation Mycenaean flasks whereas the

ones with less complex painted decoration viewed as local. Hence, it is difficult to distinguish original, copy and local versions.

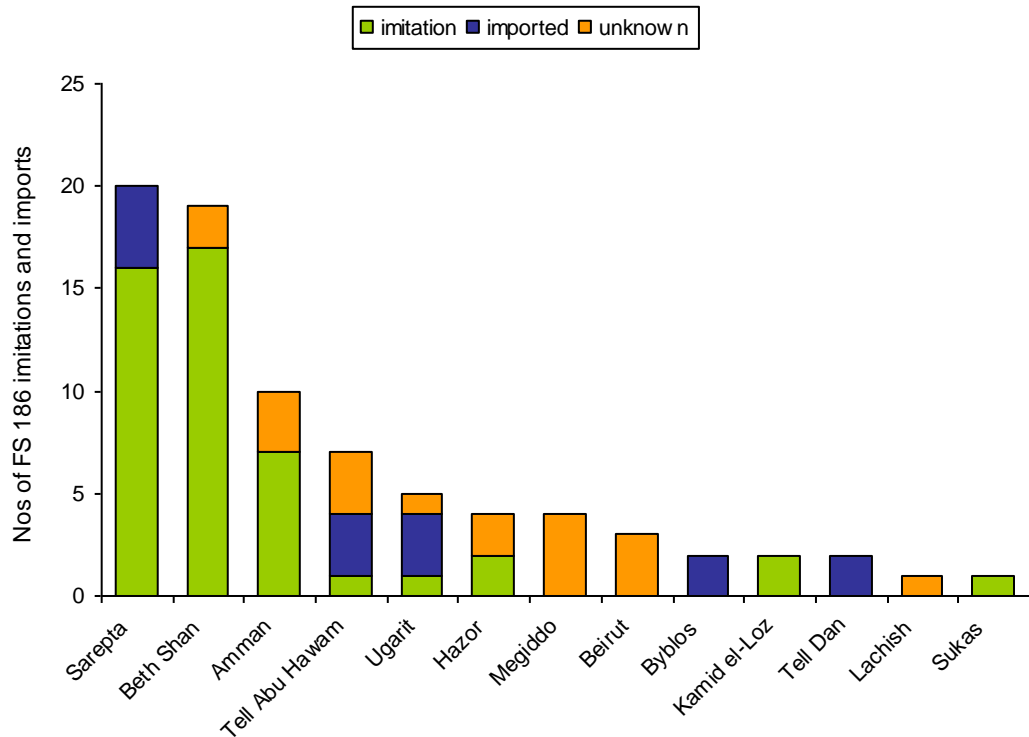


Figure 8-52 *The numbers and proportions of locally made and imported FS 186 flasks*

The overall patterns in the distribution of Mycenaean juglet commodities in the eastern Mediterranean during the 13th century BC are shown in Figure 8-53. In some areas, it would seem that consumption of Mycenaean products was still very popular and the numbers imported into Ugarit, Tell Abu Hawam and Sarepta were high. Furthermore, imitations would appear to have made up for any shortfall in imports as in the Jezreel Valley, and in particular at Beth Shan, where there was a high number and proportion of imitations. Southern Palestine had low numbers of Mycenaean specialty oil containers, whether genuine imports or imitations. Noting the large difference in scale between the regions in Figure 8-53, there was also a low consumption of Mycenaean juglets in Cyprus compared with the northern Levant. Additionally, there were very low numbers of locally made Mycenaean imitations in Cyprus in LCIIC, and even at Enkomi and Hala Sultan Tekké there were only a handful.

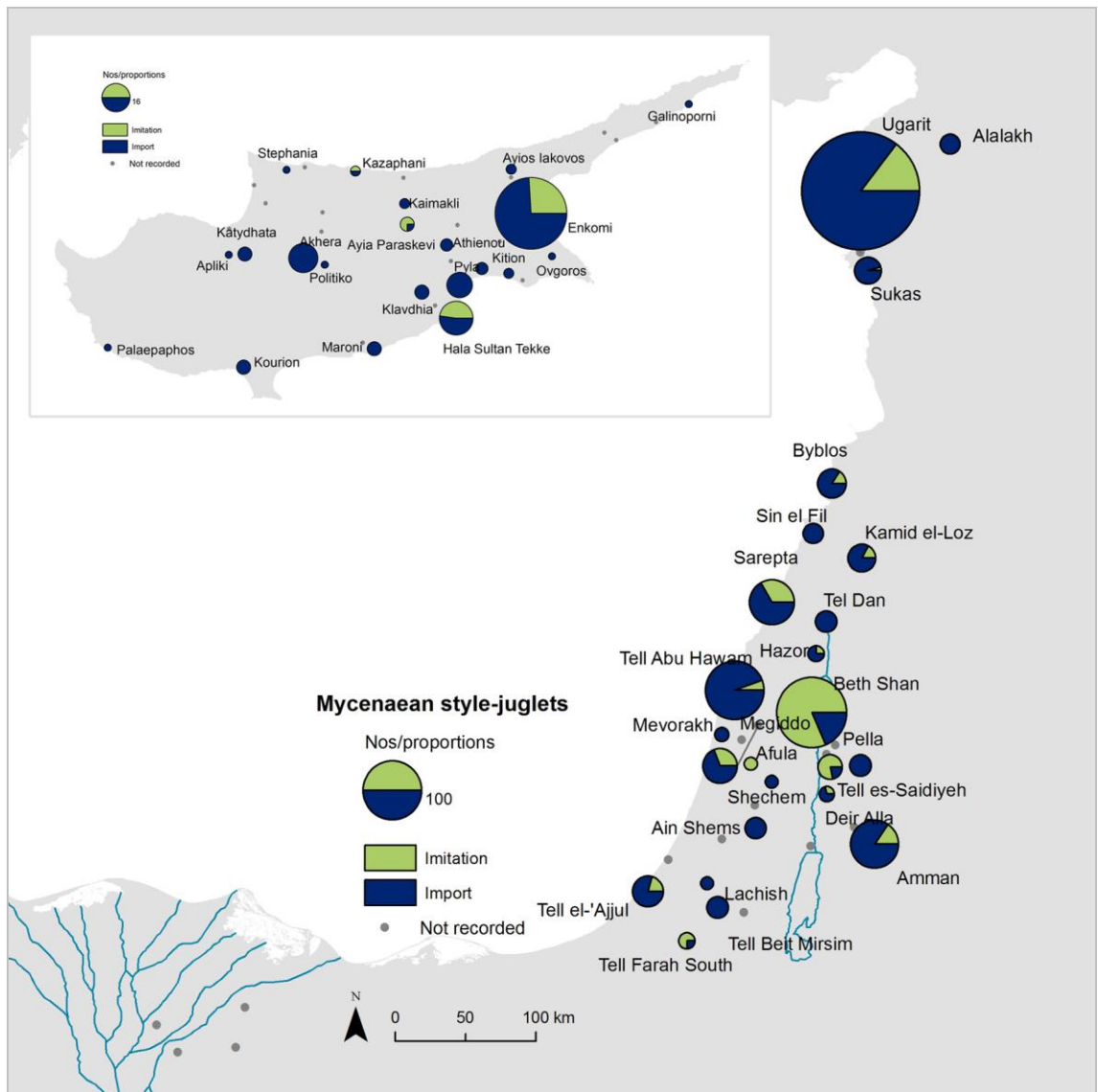


Figure 8-53 Imports and imitations of Mycenaean juglet commodities in the 13th century BC, based on aoristic analysis

8.5 Changes in the centres associated with juglet circulation in the mid-late LBA

From the end of the MBA and into the early LBA, some towns and cities emerged as important centres for producing and distributing juglet commodities, and these were identified and discussed in Chapter 7. Some of these centres remained important throughout the mid-late LBA (c. 1450-1200 BC), whilst others lost their prominence early in this period. Enkomi seems to have become a major player in exporting and importing juglet commodities. Following a brief lull in export trade to Tell el-Dab'a with WP juglets, its role as a producer and distributor of WSh juglets is supported by

the very large quantity of these products at Enkomi (Table 8-6), amounting to 35% of all the juglets there. Although numbers alone are only one indication of a production site, other evidence (discussed in Chapter 7) suggests Enkomi was a manufacturer of these products. The high numbers of RLWM vessels could indicate that Enkomi may also have been one of the sites involved in distributing this product, though clay analysis does not support local production. What was new for Enkomi was a role as importer of juglet commodities. Enkomi had the highest quantity of Mycenaean juglets, particularly stirrup jars, in Cyprus. Furthermore, they had arrived at this port from an early date, as attested by the LHIIIA:2 styles. This evidence indicates that Enkomi was a major entry port for Mycenaean narrow-necked containers.

Hala Sultan Tekké also had early Mycenaean imports, but the numbers did not increase very much in the latter part of the period. Instead, this centre had a much greater association with RLWM, especially the later forms. The possibility arises that these products may have been exported from here, as well as from Enkomi, perhaps at a later date as suggested by Figure 8-29, and perhaps to different regions such as Syria or Anatolia. The distribution of Mycenaean juglets as well as other Mycenaean imports at the southern coastal sites of Kition, Kourion and Maroni, as well as at Hala Sultan Tekké, is intriguing, indicative of a southerly trade involvement. However, even though the proportions of Mycenaean juglets to local juglets are high at these settlements (Figure 8-48), the excavated areas at the sites are limited, so that numbers are probably not high enough for conclusions to be drawn.

Some inland sites are worthy of note because of the Mycenaean imports that reached the hinterland. Akhera, Katydhata and Ayia Paraskevi were all secondary settlements close to mining areas, and all have relatively high proportions of Mycenaean imports. Akhera also had a very low number of local juglets. Ayia Paraskevi and Katydhata had quite high numbers of Plain white hand-made and Plain white wheel-made juglets, which were not common elsewhere in Cyprus. Interestingly, these hinterland communities, in the mining areas, did not have the usual high prestige burial items such as gold, weapons and imported Mycenaean pictorial kraters, which distinguished elite tombs at the large coastal settlements (Keswani 2004, 136-137). It could be argued that these imported juglet commodities represented a lower order of symbolic goods acquired by sub-elites in second-order settlements.

Site	BR I	BR II	RLWM	WSh	Myc flask	Myc juglet	Myc stirrup
Akhera	0	2	4	0	2	1	14
Ayia Paraskevi	4	6	4	15	2	2	6
Enkomi	62	16	97	197	14	28	148
Hala Sultan Tekké	9	1	110	27	16	2	21
Katydhata	4	13	5	1	1	4	6
Kition	1	0	4	2	0	2	8
Kourion	3	1	9	1	3	2	6
Maroni	12	0	24	2	2	3	10

Table 8-6 *The numbers of juglets found at selected Cypriot sites in contexts dating later than 1450 BC*

Table 8-7 shows the imports at selected sites in Palestine and Syria. Ugarit has the most comprehensive range of juglets, and in this respect, it remained unchanged in this period, as the site with the greatest range. From Cyprus there were imports of RLWM, in contrast to the other towns in Syria and Palestine. There were also significant quantities of WSh and BR juglets. The absolute numbers of all the juglets were high reflecting the size of the site. However, the proportion of Mycenaean products was exceptionally high, at 73%. Two new ports for this period were Tell Abu Hawam and Sarepta. Neither imported very many BR or RLWM juglets, but WSh juglets were found at both sites. Tell Abu Hawam was almost certainly the port supplying the Jezreel Valley, whilst Sarepta probably served southern Syrian towns and quite possibly Hazor and Tel Dan.

Tell el-'Ajjul imported extremely high numbers of BR juglets (80% of all imported juglets), both BR I and BR II, indicating this was the major port-of-entry for these products. Only a modest 10% of imported juglets were Mycenaean.

Site	BR I	BR II	RLWM	WSh	Myc flask	Early Myc flask	Myc stirrup
Amman	0	0	0	0	0	15	58
Beth Shan	2	6	0	3	13	9	16
Hazor	7	3	1	5	3	3	10
Megiddo	8	6	1	14	10	10	19
Sarepta	1	8	1	20	7	2	41
Tell el-'Ajjul	110	92	3	22	9	9	15
Tell Abu Hawam	7	8	7	20	17	9	121
Ugarit	58	41	92	59	26	15	412

Table 8-7 *The numbers of juglets found at selected sites in Palestine and Syria in contexts dating later than 1450 BC*

The site of Amman, discussed above, had a high concentration of Mycenaean juglets. The deposits had been made at a cult structure, which had burnt human bones together with a pyre, and a wealth of rich material, suggesting a sacrificial and votive place. Offerings included stone vessels, gold jewellery and bronze weaponry. There were 146 local pots, but curiously only one of those was a juglet. Of the imported ceramics, there were few Cypriot vessels and no juglets. The imported Mycenaean vessels included 52 stirrup jars and eight flasks, as well as piriform jars and alabastra. The very high proportion of closed to open vessels strongly suggests that the former were imported for their specialty oils and unguents. Furthermore, the lack of local or Cypriot juglets, anywhere at this site, indicates that offerings of, or libations from, the Mycenaean oil containers were new consumption practices.

Though Amman had the highest number of Mycenaean juglets, imports of these goods occurred at other Transjordanian sites. The dominance of closed over open forms was repeated across the region, and this trade in specialty oils/unguents, but not table ware, has been pointed out by Leonard (1981b, 262). This is interesting since it implies that of the Mycenaean ceramics imports, the smaller, and arguably easier-to-transport items were traded the furthest.

8.6 A role for Cyprus in the Mycenaean precious commodity trade?

It has long been held that Cyprus may have played a greater or lesser role in the trade of Mycenaean ceramic products from Greece to the Levant (Hankey 1967). Suggestions have varied from the involvement of Cypriot merchants in the carriage of goods (Hirschfeld 1993), to the use of Cypriot ports as stop-overs on the way to the Levant (Bell 2006, 91), or even a role in undercutting the trade by manufacturing imitations. This section looks at whether any of these suggestions hold true in the specific case of the trade in Mycenaean precious commodities. The findings are that perhaps Cyprus had less of a part to play in this trade than has been seen from the perspective of the more general ceramic trade and that there may have been more direct trade between the Aegean and most parts of the Levant. Also, there is more evidence for Levantine, rather than Cypriot involvement, in manufacturing Mycenaean-style containers and presumably their precious commodities. If Cyprus did have a role, it might have been in

spreading the ideas of juglet commodities to the Aegean, perhaps via Cypriot agents or merchants working in the Aegean. These possibilities are explored below.

8.6.1 Did Cyprus play a role as middle-man in the Mycenaean juglet trade?

It was first suggested by Hankey (1967) that Cyprus played an intermediary role in the distribution of Mycenaean pottery to the Levant. Firstly, it was found that imported Mycenaean ceramics have almost always been found alongside imported Cypriot pottery at sites in the Levant, and in most cases, Cypriot vessels outnumbered them. Secondly, the variety of Mycenaean imports in Cyprus was greater than for sites in the Levant, indicating that shipments of imports first stopped at Cyprus, where they were 'cherry-picked' before reaching onward destinations in the Levant. Thirdly, post-firing pot-marks, in Cypro-Minoan script, have been found on imported Mycenaean vessels at Enkomi, Ugarit and Tell Abu Hawam (Hirschfeld 2004). Since incising marks on pottery, particularly on handles, was a Cypriot practice rather than an Aegean habit, the presence of pot marks on Mycenaean imports has been interpreted as indicating Cypriot carriage (Hirschfeld 1993). More recently, Bell (2006, 59) has argued that the area around Sarepta was the exception to the general rule, with a much greater percentage of Mycenaean to Cypriot wares, and that it probably traded directly with the Aegean.

If the trade in Mycenaean juglet commodities followed the same pattern as that of general ceramic imports, then more Cypriot juglets than Mycenaean precious commodity containers could be expected at sites throughout the Levant except, perhaps, in southern Syria. This expectation is not supported by the data. The proportions of Cypriot to Mycenaean juglets were only high in southern Palestine. In northern and eastern Palestine and in Syria, there were greater numbers and proportions of Mycenaean narrow-necked containers than Cypriot juglets (Figure 8-54).

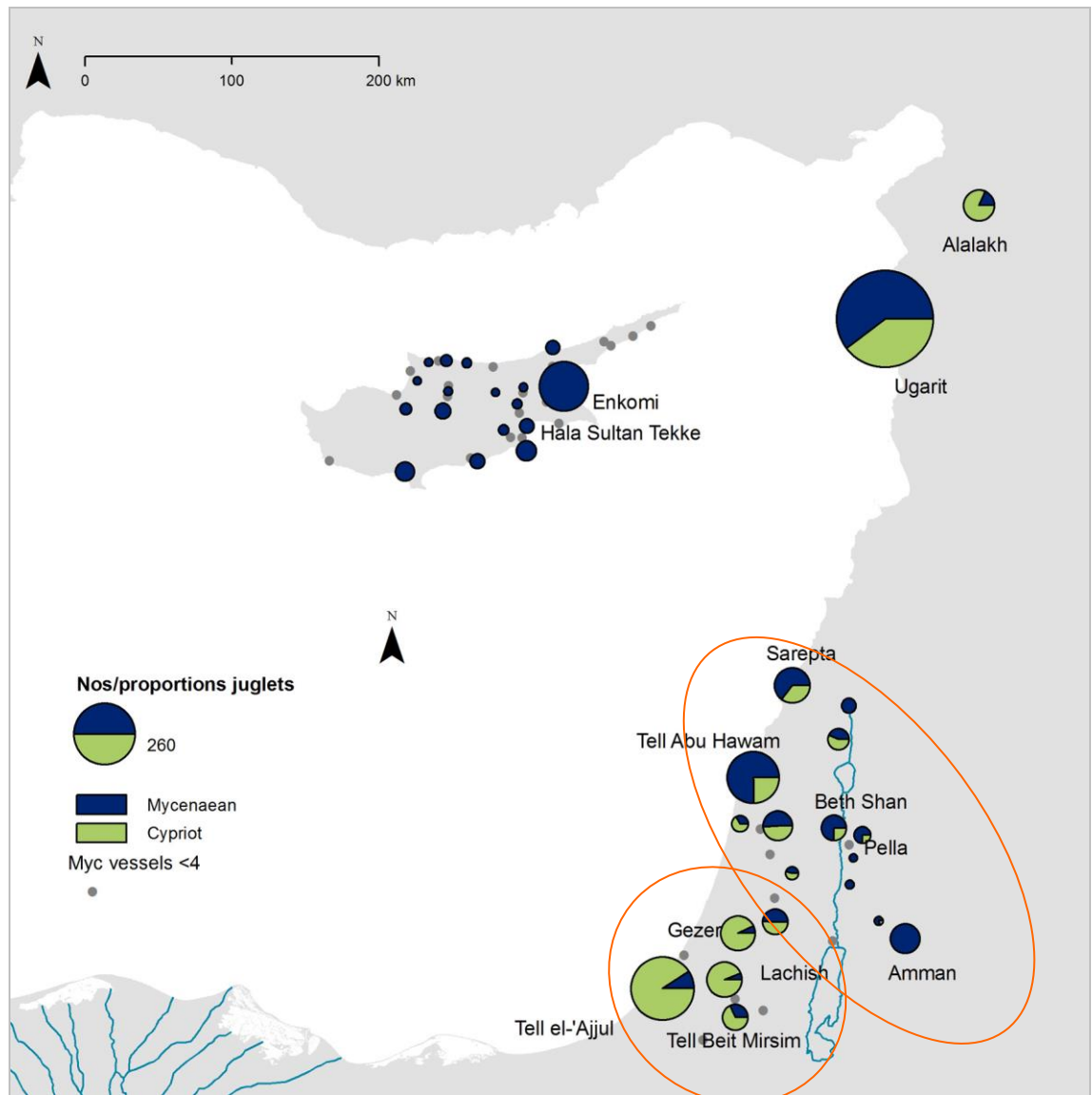


Figure 8-54 *The distribution of imported Mycenaean and Cypriot (BR, RLWM and WSh) juglets*

Several possible implications may be drawn from these findings. Firstly, there may have been more direct trade between the Aegean and the northern regions of the Levant, than previously thought. Secondly, since the distribution patterns of Mycenaean precious commodities differ from those previously reported for general ceramics, such as table wares, the different products may have reached their destinations through separate networks. The third may be related to the timing of imports.

The map shows a very clear-cut division between the northern and the southern settlements of Palestine. In southern Palestine, the small ratio of Mycenaean products to Cypriot juglets, suggests that they could have arrived via the major emporium of Enkomi or other developing interregional centres on the south coast, where there may

have been a handling agent or middle-man for onward distribution. In the northern Levant, it seems possible that Tell Abu Hawam and Sarepta, known for their high importation of Mycenaean ceramics, may have been entry ports for all Mycenaean goods, with Mycenaean specialty oils being shipped on to Megiddo, Beth Shan and into Transjordan. The low proportion of Cypriot juglets is consistent with such imports reaching these destinations without the intervention of any other agency trading in Cypriot juglet commodities. There may have been stops at south-western coastal settlements on Cyprus before heading for the Levantine coastal emporia, as suggested by Bell (2006, 91), but without Cypriot trade involvement. So although Mycenaean cargoes may have been offloaded at sites such as Palaepaphos and Kourion, Cypriot products were not collected to be traded on.

It may be that early imports tended to be direct from the Aegean, with only later involvement of Cypriot agents. The early imports of Aegean narrow-necked containers in Cyprus were different from those in the Levant indicating that Cyprus was not being used as an intermediary. Furthermore, Cypriot juglet imports to the northern Levant were also later as mentioned above. It therefore seems likely that if Cyprus were involved, this may have occurred later, rather than earlier in the period.

Support for a separate trading network for juglet products compared with other ceramic vessels comes from the inland sites, such as those in Transjordan or central Cyprus, where stirrup jars represented the major proportion of Mycenaean imports, and where large vessels were absent.

8.6.2 Did Cyprus have a role in producing and exporting Mycenaean-style commodities?

As mentioned above, a sizeable proportion of the Mycenaean narrow-necked containers found in Cyprus and the Levant were manufactured outside the Aegean, mostly during LHIIIB. A question arises of where these imitations were manufactured, and a logical candidate would appear to be Cyprus. Certainly, there is evidence for some Mycenaean-style ceramics being manufactured on Cyprus in LCIIIC, particularly the Pictorial style bowls and kraters, which have been designated the Pastoral or 'Rude Style' (Asaro and Perlman 1973, 221; Jones and Catling 1986, 603-609). Furthermore, Cyprus had a long

history of production and export of juglet commodities, through organised trade links. There is also some support for a role as middle-man in the distribution of imported, i.e. genuine, Mycenaean juglet commodities to the southern Levant (as discussed above). Nevertheless, the evidence does not support the role of Cyprus as the sole or even major producer of imitation Mycenaean flasks and stirrup jars, for several reasons.

Firstly, the types and styles of the imitations found on Cyprus do not match those found in Syria and Palestine. The majority of Mycenaean-inspired stirrup jars and flasks found in the latter regions were in styles known as Simple Style, which were usually executed in an inferior fabric, with much simpler decoration in broad, encircling bands without the interspersed fine lines of the Mycenaean originals. Most of the stirrup jars were globular in shape, modelled on FS 171-173 shapes and the flasks were of FS 186 type, i.e. lentoid flasks. These were rare in Cyprus. Apart from a few non-diagnostic sherds of stirrup jars, the locally-made copies were of early flasks (FS 189 and FS 188) or juglets. No FS 186 flasks, neither imitations nor imports have been found on Cyprus.

Secondly, results of the provenance studies do not point to Cyprus as the only source of the locally-made imitations of Mycenaean narrow-necked containers. Most NAA studies have tended to study a wide range of ceramic vessels, and overall results for the proportions of copies amongst such material have shown that around 20% of vessels originated outside of the Argolid (French and Tomlinson 2004, 16; Zuckerman *et al.* 2010, 412). My study results show similar levels for Mycenaean narrow-necked containers with 349 of the total 1841 (19%) judged to be locally made. In general, NAA provenance studies have shown that many Mycenaean-style ceramics found in the Levant and Egypt were made in clays with well recognised Cypriot profiles (Leonard *et al.* 1993; Mommsen and Sjöberg 2007; Mountjoy 2001). However, recent NAA evidence from Aegean-style vessels from 14 sites in northern Palestine has shown that the percentage of Mycenaean-style vessels with a Cypriot provenance was actually quite low, at around 7%, and the same study found another 11% had a common unidentified NAA profile, which was probably from the Levant (Zuckerman *et al.* 2010).

Provenance data relating specifically to juglet forms have been much more limited than for more general ceramic assemblages. Most of the data on stirrup jars relate to the provenance of LHIIIC stirrup jars, which did have a Cypriot origin, but are not of the

relevant period for this study (D'Agata *et al.* 2005; Leonard *et al.* 1993). The somewhat limited information for earlier Mycenaean narrow-necked containers comes from a study by Mountjoy (2001, 139-154) which shows that of the 14 small, non-Aegean stirrup jars and flasks analysed, 7 had a Cypriot origin: 6 stirrup jars in Simple Style and one flask of uncertain style, but probably FS 192. However, 4 of the narrow-necked containers had a Palestinian provenance and these were not Simple Style but decorated in the Mycenaean style; three were FS 182 and one FS 173 in form. The FS 186 flasks were not made in Cyprus, but curiously in Nile clay from Egypt, where they were found. This very limited data cannot be considered conclusive, but considered with other evidence, indicates that the locally-made containers were not exclusively Cypriot.

Thirdly, the distribution of Mycenaean-style flasks and stirrup jars in Syria and Palestine do not indicate that they were imported from Cyprus. The sites with the greatest number of imitations were those which also had the highest number of imports (see Figure 8-53). These were in the same regions, i.e. southern Syria, and northern and eastern Palestine, which are thought to have had direct trade with the Aegean, rather than trade via a Cypriot distributor. The southern region, which could conceivably have received its Aegean imports via Cyprus, had few imitations. It seems a little unlikely that separate Cypriot trade links were established for the dissemination of Cypriot-made and Mycenaean-style products.

Interestingly, Levantine centres, that had the highest numbers of imitation Aegean-style juglets, also had high numbers of local juglets such as dippers and pilgrim flasks (Table 8-8), and emerge as important in terms of consumption and possibly of production. Both Beth Shan and Sarepta had high numbers of pilgrim flasks of which painted pilgrim flasks formed a high proportion. Tell es-Saidiyeh and Deir Alla had high proportions though actual numbers were lower. Of the pilgrim flasks, a significant number were painted, like imitation Mycenaean FS 186 flasks, rather than plain. It therefore seems possible that the region of the northern Levant, and the Jezreel Valley crossing over into Transjordan, were also production areas for specialty oils or other precious commodities. This is supported by the fact that BLWM imitations were also manufactured in this region (as discussed above), and is further backed by evidence that Beth Shan and Tell es-Saidiyeh were also core areas for the manufacture of small gypsum vessels in LBIIB (Bevan 2007, 143-146). In other words, the expertise for

producing the commodities packaged inside small narrow-necked containers, whether ceramic or stone, may have resided in this region.

Site	Mycenaean imitations	Dipper juglets	Pilgrim flasks
Afula	5	9	8
Ain Shems	0	9	6
Amman	11	0	1
Beth Shan	128	143	104
Deir Alla	3	34	5
Hazor	3	87	9
Kamid el-Loz	4	0	0
Lachish	0	140	9
Megiddo	13	146	4
Pella	2	15	1
Sarepta	29	20	65
Sukas	1	0	0
Tell Abu Hawam	10	13	3
Tell el-'Ajjul	6	114	28
Tell es-Saidiyeh	14	8	10
Tell Farah South	5	32	33
Ugarit	61	26	5

Table 8-8 *Distribution of locally-made juglets in the Levant*

The above evidence seems to suggest a minimal role for Cyprus in the manufacture of Mycenaean-style juglets. Certainly, the distribution patterns do not indicate the highly organised mobilisation and trade links associated with Cypriot exports. Since the limited provenance data are no more persuasive for a Cypriot origin than they are for a Levantine origin, then on balance, the distribution evidence favours Levantine production.

8.6.3 Did Cyprus have any influence on the Mycenaean precious commodity trade?

The above arguments have suggested that Cyprus may not have been highly involved in the distribution of Mycenaean precious commodities. Neither does it seem to have been at the centre of an industry producing imitations. However, there is one area of influence it may have had. Rather than Cypriots copying the Mycenaean products, the reverse may have been the case. The idea that specialty oils in small narrow-necked containers may have been introduced from Cyprus to the Aegean has been reviewed in some depth elsewhere (Bushnell 2012). A few of the arguments are presented here.

Firstly, the combined interest generated by the Linear B texts on palatial perfume production (e.g. Bennet 2008; Foster 1977; Hamilakis 1996; Shelmerdine 1985) and by the widespread distribution of Mycenaean pottery abroad might have led to an exaggerated view of the role of the Aegean in producing specialty oils. 'Proto-marketing' by Mycenaean producers to particular Levantine customers has even been proposed (Balensi 2004; Dabney 2007). That the trade in specialty oils was already well established much earlier in the eastern Mediterranean is rarely taken into account. In fact, perfumed-oil manufacture and consumption was not a Mycenaean tradition before the 14th century BC, and it may have been introduced as a direct result of eastern Mediterranean exchanges, an example of how knowledge often spread alongside trade.

In early Mycenaean communities of LH I-III A:1 juglets were not a feature of burial practices. The surprise in examining the ceramic repertoire for the period is the dearth of small, narrow-necked containers. At this time, small fine-ware stirrup jars did not exist on the Greek mainland, only appearing in LH III A:2.

Domestic contexts		
<i>Date</i>	<i>Dominant</i>	<i>Common</i>
LH I	Vapheio cup	piriform jar, rounded cup
LH IIA	goblet	alabastron, squat jar, Vapheio cup
LH IIB	goblet	alabastron, Vapheio cup
LH IIIA:1	goblet	piriform jar, alabastron, krater, cup
LH IIIA:2	kylix	piriform jar, stirrup jar, stemmed bowl
LH IIIB	deep bowl	piriform jar, stirrup jar, kylix
LH IIIC	deep bowl	amphoriskos, stirrup jar
Funerary contexts		
<i>Date</i>	<i>Dominant</i>	<i>Common</i>
LH I	piriform jar, alabastron	squat jug
LH IIA	alabastron, squat jug	piriform jar
LH IIB	alabastron	ring-handled cup
LH IIIA:1	piriform jar, alabastron	jugs, kylix
LH IIIA:2	piriform jar, stirrup jar	alabastron, jugs, high-handed kylix
LH IIIB	stirrup jar	piriform jar, alabastron, jugs, high-handed kylix
LH IIIC	stirrup jar, amphoriskos	lekythos, jugs, deep bowl, feeding bottle

Table 8-9 Consumption of Mycenaean pottery forms in LH Greece (After Mountjoy 1993, 120, 127)

Until the end of LH III A:1, alabastra were traditional grave goods and the most frequent inclusion in funerary deposits Table 8-9. After this time there was a change in popularity from alabastra to small stirrup jars as burial offerings. Changes in preferences from alabastra to stirrup jars suggest a change in consumption practices,

since the two vessel types probably had different contents. The former are interpreted by Leonard as containers for thicker unguents that were extracted with the fingers or utensils. In contrast, stirrup jars and flasks are better suited to storage, transportation and dispensing of thinner, liquid products (Leonard 1981a, 91-96). These morphological and functional distinctions are supported by Linear B texts for products that are for smearing on (*we-a-re-pe*) or for outpouring (*po-ro-ko-wa*). Linear B also makes a distinction between oils and unguents, with the use of an ideogram for oil (*OLE*), compared with the corresponding ideogram (and word) for unguent (*AREPA*; *ar-re-pa-zo-o*). From this evidence, it could be inferred that perfumed creams were consumed by the Mycenaean population until the end of LH IIIA:1. Crucially, the stylistic and functional history of ceramic containers implies that Mycenaean communities had not started manufacturing the liquid contents of miniature stirrup jars or flasks, usually assumed to be perfumed oil, until after trading connections with the eastern Mediterranean had become firmly established. Certainly they had not started packaging and distributing such commodities in small amounts for individual consumption until the start of LH IIIA:2.

During the next period of LH IIIA:2 and into LH IIIB:1, the Mycenaean trade in ceramics stepped up a gear, and included specialised forms that appear to have been specially commissioned for their eastern consumers (Sherratt 1994, 36). The most renowned of these are the Pictorial Style amphoroid kraters often depicting chariots, but there were also cups, bowls and chalices. It is therefore worth considering whether the first small stirrup jars (FS 171 and FS 173) were also originally conceived as a special export commission, designed for consumers already familiar with this type of commodity, but keen for the status associated with the exotic Mycenaean-ware imports. Adoption by mainland Mycenaean communities may have been an unforeseen consequence. If this process of change on the Greek mainland, from use of perfumed unguents to consumption of perfumed oils, was stimulated by contact with the eastern Mediterranean, it must have been through the transmission of ideas and exchange of technical know-how since neither Cypriot nor Palestinian juglets reached the Aegean in any quantity.

The role of Cyprus, or of Cypriot merchants or middle-men in Aegean trade, receives affirmation in the many incised post-firing pot-marks on Mycenaean vessels found in

the Aegean. The fact that some of the marks have been identified as specifically Cypriot-Minoan symbols suggests not only Cypriot handling, but further that a Cypriot or Mycenaean individual concerned with exports to Cyprus was active in the Aegean (Hirschfeld 1993, 313). Using more specific textual evidence from Mycenaean documents, the Linear B term *ku-pi-ri-jo* may be interpreted as evidence of Cypriot involvement in perfumed oil manufacture in the Aegean. Meanings of *ku-pi-ri-jo* in relation to Cyprus rely on the association with the Homeric word for Cyprus, *Kupros*, even though the place-name *Kupros* has not been attested in Linear B documents (Bubenik 1974, 245). Parallel possibilities exist for Knossian texts referring to *a-ra-si-jo* or Alasios which could relate to the place-name Alašiya and this name has been attested in contemporary or earlier eastern texts which probably refer to Cyprus or a place in Cyprus (Bubenik 1974; Gallavotti 1976).

Meanings of *ku-pi-ri-jo* have been much debated and there are several interpretations based on its grammatical form and its functional context. These include use as an ethnonym meaning 'the Cypriot', as a personal name 'Kuprios', as a professional title, or as an ethnic adjective standing for Cypriot or of Cypriot-type (Bennett, Jr. *et al.* 1989; Bubenik 1974; Godart 1968; Knapp 1996). Particularly interesting is the number of times *ku-pi-ri-jo* appears in conjunction with Linear B words or signs which have affinities with oil and perfume manufacture, or which have some links with trade (Bubenik 1974, 246-47; Foster 1977, 20-24). On several documents, the word *ku-pi-ri-jo* has been associated with disbursements of oil and aromatics which could have been used in the manufacture of perfumed oil (KN Fh 347, Fh 361, Fh 371, Fh 5246, Fh 5446, Fh 5447, Fp(2) 5472, Ga (1) 676, Ga (1) 677), or with vessels which might have been used in storing oil: namely *ka-ra-re-we*, possibly a Mycenaean name for stirrup jar (X468), and *ke* vessels, whose meaning is unknown (K(2) 773).

It should be noted that amongst Linear B scholars, the interpretation of *ku-pi-ri-jo* as an individual of Cypriot origin or with other word associated with Cyprus is not always accepted. The personal name of *Kuprios*, as suggested originally by Olivier (1967, 327) and supported by Knapp (1996, 53-57), might seem a more realistic translation than the ethnonym 'the Cypriot'. It should be remembered that personal names could very easily have been given to individuals with connections with Cyprus, either in terms of origin or trade. Such interpretations allow for a wider usage of the term, so that the appellation

may have been applied to natives or foreigners who had dealings with Cyprus. Different interpretations need not be mutually exclusive; different tablets need not have identical meanings and *ku-pi-ri-jo* may be a personal name in one and an ethnic derivation in another (Bubenik 1974, 245). Shelmerdine's review (1997, 295-96) of the various scholarly positions, favours a strong connection between the the Aegean and Cyprus, based on attestations of *ku-pi-ri-jo* and *a-ra-si-jo* in the Linear B texts. Used together with other evidence, Linear B texts could support the idea that knowledge of precious commodities and their production may have been transmitted from Cyprus to the Aegean.

8.7 Summary and conclusions

8.7.1 Juglet consumption in the mid-late LBA

The period from around 1450 to 1200 BC was the time when international circulation of Bronze Age juglet commodities reached its height. However, overall juglet consumption (as measured relative to other pottery vessels) declined a little during this period compared with MBA levels. Furthermore, most regions relied on imported juglet products. The exception was Cyprus, where local juglets continued to be produced and consumed in large quantities throughout the period, though at this time Cyprus became an importer as well as an exporter of this type of product. Syria, and especially Ugarit, consumed large quantities of juglets, most of which were imported. Egyptian consumption too, was based mainly on imported products. In Palestine, local juglets still accounted for around half of the consumption, although the variety of types had diminished, with dipper juglets and later lentoid flasks making up the bulk of the juglets. By the end of the period, locally-made imitations of imported juglets, including BLWM and Mycenaean stirrup jars and flasks, made up a small proportion of the examples consumed.

8.7.2 Regional distribution patterns of juglet types and styles

The findings for this period have shown distinctive patterns of juglet circulation, which indicate that regional product preferences were fulfilled, or indeed encouraged by the producers and/or distributors. BR I and II juglets, and Mycenaean stirrup jars were widely distributed across the eastern Mediterranean. Consumption of RLWM vessels

was much more popular in Egypt, Syria and Cyprus than in Palestine. On the other hand, consumption of WSh juglets outside their probable production place of Enkomi, was not only limited to the Levant, but had probably been designed specifically for that region. Amongst the different types of juglets consumed, there were even some regional preferences amongst different styles which appear to have been exploited by the distributors and producers. For example, cutaway spouted BR I juglets were popular in Syria, whilst outside of Cyprus, the double juglets were only sent to Egypt. The use of trumpet bases for BR I juglets may even have been an idea adapted from a Levantine tradition.

Regional preferences can also be detected in the export destinations of Mycenaean narrow-necked containers. Mycenaean stirrup jars were by far the most popular types and the globular shapes (FS 171-173) were widely disseminated, but there were regional preferences amongst other styles, for example squat and conical forms were more popular in the Levant than in Cyprus. Mycenaean flasks also showed regional variation with Furumark shape FS 189 sent to Egypt and the Levant whilst FS 188 flasks and the FS 190-192 forms were found mostly in southern Cyprus. Small Mycenaean jugs did not seem to have been popular outside Cyprus.

8.7.3 Diachronic changes in distribution patterns

Some of the changes in circulation patterns of the juglet products can be attributed to chronological variation. In general, the peak of juglet consumption in Egypt and Nubia seems to have been much earlier than in the Levant, so product preferences are related to the varieties that were produced early in the period, such as BR I juglets, RLWM spindle bottles and the early Mycenaean flasks and stirrup jars. Almost all the juglets arrived before the mid 14th century, and juglet import had virtually ceased after the Amarna period. A similar pattern can be detected at Tell el-'Ajjul. BR I juglets were popular there at around the same time as the peak in Egypt, suggesting this centre may have been linked with Egypt in the transshipment of these juglets. The imports of Mycenaean juglet commodities were also rather low at Tell el-'Ajjul and limited to the earlier styles.

The distribution of the later juglets shows changes in destinations, possibly related to the development of new markets in response to political events (see discussion below).

Whereas BR I juglets had their largest concentrations in Egypt and southern Palestine, BR II juglets and WSh juglets found export destinations in northern Palestine as well as the south, with a more even spread across the two sub-regions. It would seem that after 1375 BC, when the Mycenaean commodities became available, juglet importation became centred further north, in northern Palestine and southern Syria, and also reaching eastern Palestine. Certainly these sub-regions had greater concentrations of Mycenaean stirrup jars and other products than the southern towns at this period. It was during this time that Sarepta and Tell Abu Hawam became involved with importing all types of juglet commodities, but particularly the Mycenaean products. Ugarit had always been an active importer of juglets, but there were some notable late peaks in trade. BR I juglet consumption reached its height there during the period between 1375 to 1200 BC, i.e. later than for Egypt or southern Palestine. For RLWM vessels too, a late surge in imports indicate that Syria was one of the regions replacing Egypt as the destination of choice for this product, following the decline in juglet trade in that region.

At some stage during the later 13th century BC there appears to have been a change in the trade in juglet commodities. Juglet consumption declined slightly in Cyprus, although not in the Levant, where the consumption of both imports and imitations continued to increase slightly until the end of the LBIIB.

8.7.4 Production and distribution centres and possible trade routes

As discussed in Chapter 7, competitive regionalism in juglet production and distribution was evident in Cyprus in LCI. Regionalism is much less apparent for the LCII period. Even if the assumption is made that high deposition levels of pottery might point to an area of production (not necessarily valid without other evidence), it is difficult to identify specific settlements for juglet production and distribution. WSh juglets have been associated with Enkomi which, as previously argued, is a probable production site. Enkomi is also linked to the high consumption of RLWM vessels, and high level of imports of Mycenaean narrow-necked containers. It seems that Enkomi was a major distributor of juglet commodities during this period, though the indications are that juglet trade may have been greatest during the early half of the period when links with southern Palestine and Egypt were at their height. The later consumption of RLWM vessels is more associated with Hala Sultan Tekké which may have been involved in distributing to Syria, which also had peak consumption at this time. Most of the

distribution patterns for both the export of Cypriot juglets and the import of Mycenaean commodities during this period, together with their prime geographical locations, point to Enkomi and the Larnaca Bay area as important to the juglet trade. However, concentrations of early style Mycenaean flasks along the south coast of Cyprus suggest early trade links with the Aegean, so it is by no means certain the eastern centres had a monopoly.

In the Levant, Ugarit must certainly have been a premier destination for exports from Cyprus and the Aegean (whether directly or indirectly). How much of a role it played in distribution further south is less obvious, because the establishment of a port at Sarepta in LBIIA seems to have been more important in the spread of juglet commodities to southern Syria and the northern Palestinian towns, such as Tel Dan and Hazor. Tell Abu Hawam, also established during this period, seems to be associated with the further dissemination of juglets through the Jezreel Valley and into eastern Palestine, a route not previously utilised for the juglet trade. Tell el-'Ajjul was a significant trading port in the early to mid-LBA but after 1300 BC the juglet trade was in decline, probably related to the reduction in juglet trade to Egypt.

Cyprus does not appear to have been a major intermediary for distributing juglet commodities between the Aegean and the Levant or Egypt. Though this role has been suggested for the circulation of Mycenaean ceramics in general, because of the wide range of vessels found in Cyprus but not elsewhere, the distribution pattern for precious commodity containers indicates other possibilities. The types arriving early, in LHIIIA:2 were very different, with FS 188 and FS 190 being sent to southern Cyprus compared with FS 189 flasks arriving in Egypt. Similarly, the LHIIIB products varied considerably, with the squat and conical stirrup jars, FS 178-180 and FS 182-183, much more prevalent in the Levant than in Cyprus, and the FS 186 flask totally absent from Cyprus. Of the main bulk of LHIIIA-B stirrup jars, the northern sites would appear to have received consignments direct from the Aegean, since so few Cypriot juglets appeared alongside them. A contrasting situation occurred in southern towns with higher proportions of Cypriot juglet imports. Whilst this is an indicator of Cypriot involvement in the carriage of Mycenaean commodities, the possibility of down-the-line trade from more northerly ports in the Levant should not be dismissed.

Numerous Mycenaean-style stirrup jars and flasks, manufactured outside the Aegean, have been found in the eastern Mediterranean, most especially in the northern Levant during LHIIIB. Though Cyprus might seem to be the logical place for producers and distributors of these imitations, given the long-term experience of this region, yet the evidence points to northern Palestine as a more likely option.

8.8 Discussion

For the period covering *c.* 1450-1200, when the international circulation in juglet commodities was at its height, the data presented substantiate claims that the distribution of these goods was far from random, and represents a trade in these little luxuries that was most definitely organised. Regional product preferences have been distinguished, putative entry ports identified and trade routes traced by examining distribution patterns. Creation of new products or modifications of styles have also been linked to regional consumption patterns, and it has been argued, in some cases, that these were designed to meet specific consumer requirements. The distribution of these precious commodities was not *ad hoc* but appears to have had some independence from that of other traded goods, even from other ceramic products of the same ware. This independence implies the involvement of some separate agencies, such as merchants, co-ordinating distribution (and possibly also influencing producers, as discussed further below).

Whilst the use of modern marketing terminology is sometimes deemed inappropriate in discussions of Bronze Age trade, yet some of the theory behind it can be applied as discussed in Chapter 3. In particular, the dialectical relationship between production and consumption pertains to goods used in this period, as today, even though the media involved in communicating social meanings may be very different. Furthermore, ideas such as branding and 'proto-marketing' have recently entered the literature with respect to the eastern Mediterranean at this time (Balensi 2004; Bevan 2010; Dabney 2007; Wengrow 2008). Consequently, this discussion explores how the producer/distributor actions, as well as the consumer influences, acted on the circulation of these precious commodities, and it does occasionally employ some marketing jargon. It is presented in three sections pertaining to production, distribution and consumption. The first examines the implications of the changing socio-political and economic climate of the

region and how this might have affected trade in general and juglet commodities in particular. The second looks at regional cultural influences on juglet consumption and the final part on the impact of both on the manufacture of juglets.

8.8.1 The circulation of juglets in the changing socio-political and economic environment

One of the interesting findings for this period was the diachronic development of different geographical distribution patterns of some juglet types. Of particular interest are the imports of BR I juglets. It emerged that Egypt received most BR I juglet imports in the first part of this period i.e., the Thutmosid era or LBIB, whereas Palestine imported the greatest proportion during the later LBIIA. The exception was Tell el-'Ajull, whose trading links were allied with Egypt rather than the rest of southern Palestine. It is known that under the administrative systems of Thutmosis III and IV, southern Palestinian ports had very probably been economically controlled, to ensure the flow of tribute, and to channel foreign goods into Egypt. It would seem from these distribution patterns that foreign perfumed oil was no exception. After this period, Tell el-'Ajul was no longer the important distributor of imported juglet commodities that it had been previously, coincidental with a sharp downturn in the consumption of imported juglet products into Egypt.

It was from around the start of the 14th century BC that many ports in the north become much more significant. Whereas most BR I juglets had been sent to southern Palestine, BR II juglets reached the north in addition to the south, and with WSh juglets, there was a switch to the north as the most significant importers, with concentrations of this commodity at Tell Abu Hawam and Sarepta. By early LCIIB, trade was concentrated in the north, but there was an interest in juglet commodities, not previously documented, in eastern Palestine, with Tell Abu Hawam the likely entry port for eastern movement in this inland trade. BR II and Mycenaean juglets arrived there, though WSh juglets were only found at Pella. This route may have been more feasible for juglets than for the larger decorative imports, being desirable commodities in small, readily transportable containers. It may also indicate the easier access to different trade routes, reflecting new boundaries and alliances, consequent upon the Egyptian-Hittite treaty mentioned above in 8.1.

Ugarit, with its economic autonomy, had seen few restrictions on trade and the full range of Cypriot and Mycenaean juglet commodities had been imported there and had travelled inland to Alalakh. But now more southern Syrian ports, such as Sarepta, became involved in importing juglet commodities, and Sarepta was probably a reception site for their inland distribution to Hazor and Tel Dan. This new trading activity coincided with the political upheaval of the period. The Egyptian and Mitannian administrative and economic control over southern coastal Syria must have seen changes following the incursions of the Hittites. Although trade had continued, the disturbance seems to have resulted in different trading relationships.

It is difficult to say whether the demise in the juglet commodities exported from Cyprus to Egypt was related to the political situation in the north, a change in consumption practices during the Amarna period, or a combination of both. Whatever the reasons, Cypriot production for export continued (although possibly not with the same manufacturers), because new consumers were found for their products, illustrated most clearly with RLWM commodities. Following the decline in exports to Egypt, there was an increase in exports to the northern Levant (and Anatolia). Furthermore, the new customers were closer to the production source, an advantage which must have been appreciated by traders. Of course, the merchants themselves, as discussed in Chapter 7, may have had diplomatic links created by the new socio-political climate, which could account for variations in trade routes at this time. Loss of Egyptian control in the northern Levant may well have been associated with loss of trade links.

There are indications of changes in production and distribution centres for juglet commodities in Cyprus. Enkomi specialised in producing and distributing WSh juglet commodities. Hala Sultan Tekké and Enkomi were probably distributing RLWM products and the south coast seems to have been a likely production area for mass-produced BR II juglets. The ports along the south coast including Maroni and Hala Sultan Tekké and the settlements around Larnaca Bay all showed evidence of growing international trade, including Mycenaean imports, and were ideally placed to trade with Tell Abu Hawam, whilst Enkomi was in a good position for sailing to Ugarit.

8.8.2. Consumer attitudes to imported juglet commodities

As discussed previously, consumer perceptions of these juglet products were cultural and that consumption practices and preferences had a huge influence (via 'productive consumption') on their production and distribution. The evidence for this period has shown how style preferences may have influenced the production process, as with special manufacture of trumpet-based BR juglets to meet specific regional product preferences, the design of the WSh juglets for consumers of dipper juglets or the copying of the lentoid flask shape in producing the Mycenaean FS 186 shape. The data have also indicated that distribution had varied according to regional preferences for various forms of BR juglets and Mycenaean stirrup jars and flasks.

Previous studies by Hulin have shown that perceptions of Cypriot pottery varied across different regions, namely the Levant and Egypt (Hulin 2006; Hulin 2009). She argued that Egypt imported, almost exclusively, small closed vessels for their contents, because use of perfume in public social arenas was the norm and an ideal setting for display of access to foreign perfumes. In contrast, the Levant imported open vessels, mainly table ware, alongside the closed vessels, because their social display was during small-scale domestic entertaining. I would certainly concur that the consumption of imported goods was related to different social activities and attitudes in the various regions, although not necessarily for the same reasons.

In the Levant, juglets had been used since the MBA and their consumption continued until the end of the LBA and beyond. One constant and important arena for juglet consumption was during the burial ritual, possibly related to reinforcing social group identity. In earlier periods, access to and display of imported Cypriot juglet commodities were limited and may have enhanced social standing. By the LBIIA, half of all juglets were imported, so that depositing Cypriot precious commodities as grave goods had become the norm rather than a luxury, defining group identity and the *status quo*. The introduction of Mycenaean commodities could then have become new prestige markers with which to re-negotiate personal identity. Unfortunately, in this study, the contextual details were not sufficient to isolate social status, so this remains speculative.

In Egypt, use of juglet commodities, especially in the mortuary context, was to a certain extent an imported social practice, rather than merely an imported product range (as

suggested in Chapter 6). In Egypt, there is some limited data from Merrillees' 1968 study to suggest that the imports were associated with burials of sub-elite persons. I would argue, *contra* Hulin (2009, 44) that their main consumption was not restricted to public ceremonial feasting, but also included burial use, acknowledging that the two situations are not mutually exclusive. Contemporary documents record the importance of perfume in ancient Egyptian life, and hint at containers of specialty oils not available in Egypt (see Chapter 5). Before the appearance of TEY juglets, small narrow-necked containers had not been a native form, so the possibility must be considered that perfumed *oils* (at least as presented in small ceramic containers in individual quantities) were new, and that previously Egyptians had manufactured and used perfumed *unguents* stored in alabastra, as they were on the Mycenaean mainland (discussed above). Whether or not this was the case, the consumption of precious commodity containers fell out of favour at around the same time. By the end of the Amarna period, imports of BR juglets and RLWM vessels had ceased and even the newer Mycenaean containers enjoyed only a brief, and very limited popularity. This is unlikely to have been caused by changes in trade links, since other exchanges between Egypt and Cyprus (as Alashiya) did continue as attested in the Amarna letters, and by the luxury Egyptian goods reaching Cyprus and the Aegean. Perhaps the changes in consumption represent an alteration in the Egyptian attitude to this type of imported product.

In Cyprus, consumption practices underwent a great change also, since during this period the region which had previously been the major inter-regional supplier had now itself become a consumer of foreign precious commodities.

8.8.3 Producer/distributor influences on juglet commodities

8.8.3.1 Juglet brands

Though it is all too easy to equate the juglets with the ceramic ware, it has to be remembered that the juglets contained a special, sought-after liquid, probably perfumed oil, made by craftspeople other than potters. The juglets would have been commissioned by the oil producers, and these formed the packaging for the product. The recognisable ceramic shape and decoration identified the special oil or other precious commodity instantly without another label. The same goods in an undecorated container could not

have been identified until opened. In other words, the shape and decoration of the ceramic container branded its contents.

Though these brands do not pretend to all the attributes of modern brands, with their advertising and modern marketing techniques, they do share some features. Brand recognition, brand image and brand 'rip-offs' can all be recognised in the LBA. Brand recognition is related to expectations. The consumers would have expected particular products to have been associated with a juglet type. Since there is such limited analysis available, the nature of the contents must be speculative. However, textual information can be very specific about names and descriptions of specialty oils, so they could obviously be manufactured consistently to order. It therefore seems reasonable to assume that a particular juglet form was associated with a specific product. Whether minor variations in style of juglet meant different products or just package design variations for different consumers cannot be known. Neither can we know whether all juglets of the same type carried the same type of product, and conversely, whether each different juglet type necessarily carried a distinct product. Did all of them contain perfumed oil of different types or different regional specialties? Or did some carry additives or flavourings for alcoholic drinks?

The shape and decoration of the juglet, however, was not only about product recognition. Brand image is an important visual aspect of a branded product. It offers perceived value. A tall, slim spindle bottle with a bright lustrous finish or a white, painted juglet might have been perceived as more exotic than the plain dipper juglets, even had the contents been very similar. If it is assumed that access to imported juglets helped in constructing social identity, then the brand image would have been important in that negotiation. Finally, it is well known that rip-off copies or imitations are produced to appropriate that brand image. Juglet commodities were no exception. Around 13-14% of RLWM and BLWM vessels and 20% of stirrup jars were copies, assiduously produced in attempts to re-create the perceived value of the branded original.

Different brands appeared in different places. BR I juglets were earliest and most popular in Egypt and Nubia. Palestine was a later consumer, and as the demand increased, the product packaging was changed. BR I juglets sent to Palestine had less

elaborate plastic decoration those found on Cyprus. With BR II, the juglet was even simpler, making production less time-consuming and the overall product manufacture more efficient. But whilst this meant producers/distributors could supply more consumers, the brand probably lost some of its prestige value through unrestricted access and loss of distinction, particularly at the time when the very exotic Mycenaean stirrup jars had started arriving in the eastern Mediterranean.

8.8.3.2 Targeted marketing

Another producer/distributor influence was in the creation or adaptation of products tailored to suit the ultimate consumers. Merchants would appear to have fed back to the producers their knowledge of local regional preferences, encouraging pro-active responses. This was seen during the MB/LB transition with the production of WP V Eyelet juglets made in Syrian styles, and in the manufacture of TEY variants in Cypriot styles. But the LCIIA-B period saw even more significant applications. WSh juglets seem to have been made specifically for Palestinian consumers, based on the knowledge of their use of the dipper juglet. This shape was familiar to these consumers and had already inspired the production of the higher value stone dipper juglet. It may have been that the WSh juglets were designed to exploit both the familiarity of the shape and the luxury of the white carved gypsum container, as suggested by Bevan (2007, 152, n.15). This trade was exclusive to consumers of these two forms in this region only; it was not even consumed in any great quantity in Cyprus, where it was produced. In today's jargon this would be referred to as *targeted marketing* or even *export-only* trade.

Judging by their distribution and the timing thereof, RLWM spindle bottles were originally conceived as an innovative product for Cypriot consumers. However, export soon followed and was targeted at Egypt and Nubia - not exclusively, but they did become a preferred product of this region and very little of this commodity was sent to Palestine in the early part of this period. The fact that a small concentration has been found at Ashkelon may indicate an entry port for Egypt, since RLWM bottles were not shipped to Tell el-'Ajjul, as so many other Cypriot juglets had been. Mentioned above was the frequent co-occurrence with BLWM juglets and is seen at Ashkelon as well as in Egypt and Nubia. Though these two juglet types may have been manufactured at different sites, they seem to have been targeted at the same consumer regions. The

mechanisms involved in this targeting are not known, there being no evidence for 'co-marketing', but they must surely have involved the transmission of product preferences through some part of the distribution network.

A case can be made that Mycenaean flasks and stirrup jars were not only actively marketed in the eastern Mediterranean (Balensi 2004; Dabney 2007), but that they were originally devised as a special export commission (Bushnell 2012, 203). It is also apparent that certain types of Mycenaean narrow-necked containers were targeted at different markets. The earliest, in the form of flasks with shapes FS 189 and FS 190-192, are shapes which were much more at home in the eastern Mediterranean than in the Peloponnese. The stirrup jars were widely distributed and the early globular FS 171 was particularly popular, but the squat forms (FS 178-180) seem to have been directed to Palestine and Syria but not to Cyprus.

Signs of distinctive regional brands, their tailored and targeted regional marketing, the directed destinations and adjustments to socio-political change can all be detected in the ways these juglets were distributed across the eastern Mediterranean at the height of this export era. None of these processes occurred by chance and the role of merchants or state agents with sideline interests, can help to explain how these relatively minor products could have anything other than an *ad hoc*, down-the-line spread associated with the important state-led movement of bulk commodities and high value goods.

Chapter 9 Conclusions: the expected, the unexpected, the unexplainable and their implications

When I started this study on the socio-economic implications of juglet circulation in the eastern Mediterranean in the MBA and LBA, I had certain expectations, based primarily on results from work already carried out in wider ceramic studies. These expectations are reflected in the research questions composed at the start of this study and outlined in Chapter 3. Several years and 16,400 juglets later, many of those expectations were confirmed, but there was a bonus in the number of unexpected surprises, with their ensuing cultural or economic implications. On the down side, a few findings have remained frustratingly inexplicable. This chapter provides an overall review of the conclusions drawn in the previous chapters, and discusses their expected, and also their less expected, socio-economic implications. It is structured in three sections, the first (9.1) dealing with the variations in cultural practices of juglet consumption in the different regions over the different time periods and the social implications. Section 9.2 discusses the findings relating to the regional consumption of certain types and styles of imported juglet products and the economic consequences for production and distribution. Finally, section 9.3 links juglet circulation patterns with logistic possibilities for the production and distribution of juglet commodities.

9.1 Cultures of juglet commodity consumption

9.1.1 Inter-regional variations in juglet consumption practices and the spread of juglet-linked ideology

As expected, juglet commodity consumption was highest in Cyprus and Palestine. It had been a deep and locally-rooted cultural practice in Cyprus since the EBA, and in Palestine since the start of the MBA, and in these two regions juglet consumption was continuous throughout the period of this study. In Syria, the tradition seems to have been confined to the coastal regions, and here juglet use started in the MBA, but does not seem to have become such an important practice as in neighbouring Palestine until the LBA. Given the 'noise' created by the extensive publications and the widespread distribution of TEY juglets, it came as quite a surprise to find that they comprised such a small proportion of the juglets consumed. Further, their documentation in Egypt had led to a misleading impression of juglet consumption in that region. Results of this

study, discussed in Chapter 6, show that in Egypt juglet consumption was low with little indication of it being a local tradition, except in the eastern Delta. Outside this region, it did not become an important practice until the end of the MBA.

In the course of the MBA, the practice of juglet commodity consumption spread from the core consumption regions. The ideology seems to have spread from Palestine to Syria, and probably was adopted quite late, because although some early TEY juglets had been found in Syria early in the MBA, it was only during the MBIIC period that Syrian producers started to develop their own versions of the RSB/BSB juglets. There was probably also some interaction between Cyprus and Syria, swapping ideas and forms as evident in similarities of TEY and some BS III juglets and also in the development of the WP V Eyelet style from Syrian originals. But perhaps the best example of an area absorbing and spreading ideology was the eastern Delta during the Hyksos period. The material culture of the Delta had its origins in the northern Levant, and whether it had arrived with an influx of migrants or through trade, it developed over two centuries as a hybrid of Levantine and Egyptian styles.

The juglet preference in the Delta is a good example of this hybrid material culture. The regional preferences for RSB/BSB and TEY juglets included forms that had their roots in the earliest prototypes. Only in the Delta did the ovoid and globular forms, characteristic of MBIIA styles of northern Palestine, linger into MBIIC. However, they also developed their own biconical forms, which were almost exclusive to the region. So the Delta had acquired a cultural practice that was decidedly un-Egyptian. The population of this area not only embraced juglet consumption practices, there are signs that it also became very active in producing and exporting juglets. In MBIIC, even outside the Hyksos cultural region, the ideology of juglet consumption had spread into Egypt proper, certainly into the Memphis-Faiyum region. Though some TEY juglets had found their way to Egypt early, it has to be noted that the forms were alien to their ceramic repertoire. Furthermore, the majority are dated to MBIIC, and this timing indicates the adoption, rather than the indigenous origin of TEY juglet use in Egypt. Also at this time, Egyptian ceramic jarlet forms started to be manufactured, and some of these found their way into the Delta, consistent with an exchange of ideas.

Towards the end of the SIP, the Delta was also in contact with Cyprus, importing WP juglets, but also exchanging ideas as evidenced by the appearance on Cyprus of a particular type of TEY vessel, the grooved juglet. Perhaps the least explicable link was that between the Delta and Nubia. Nubia had a greater consumption of juglets than any area of Egypt outside the Delta, even the neighbouring Memphis-Faiyum. How juglets arrived there from the Delta is a bit of a mystery. The patterns do not conform to down-the-line trade, and anyway the political situation of the time is assumed not to be conducive to the movement of trade goods along the Nile. Support for an alternative oasis route has been somewhat dismissed, so the spread of the ideology to Nubia, where juglets were alien, remains unexplained.

During the MBA, juglet consumption practices for most of the eastern Mediterranean were based on locally-made commodities, even where the ideology itself was adopted from elsewhere. During the course of the early part of the LBA, the practice in Egypt and the Levant became more reliant on imported juglets, and the local juglet manufacture and consumption declined. Interestingly, this pattern was repeated in Cyprus in LCIIC, when this primary exporter of juglet commodities, turned importer, and started to consume more Mycenaean products. It is also noteworthy that the Egyptian population for whom juglet consumption was a borrowed cultural practice were also the first to lose interest in the ideology, in a way that seems to be unrelated to supply or trade links.

9.1.2 The contexts of juglet usage

Throughout most of the MBA and LBA, there was a strong association between burials and juglet consumption. The percentages of juglets amongst the mortuary ceramic assemblages was always much higher by several orders of magnitude than the percentages of juglets in settlement contexts. Although this does not mean that juglet commodity consumption was confined to funerary use, it does indicate that juglet deposition was important within the burial ritual, and continued to be so over several centuries. These findings accord with the study by Baker (2006) that juglets were a standard part of the burial assemblage in southern Palestine. These results, taken together with the evidence on juglet contents presented in Chapter 5, make perfumed oil a reasonable supposition for the precious commodity used in burial ritual. Having

rejected Merrillees' argument that juglets may have been refilled before deposition (see Chapter 5), I believe that perfumed oil from juglets may have been used during the funerary ceremony, possibly as a bodily libation or to purify the air.

Settlement evidence for juglet consumption, however, is not completely absent, so use on other occasions cannot be dismissed. Pictorial evidence has associated juglets with alcohol use as discussed in Chapter 5, and in these instances the contents of the juglets were being added to a larger vessel. The idea that the contents may have contained a psychoactive substance was originally proposed by Merrillees (1962), and more recently pursued in fresh studies (Chovanec *et al.* 2012; Collard 2012), with Collard suggesting that the contents were added to alcohol to induce an enhanced intoxicating effect. The recent finds of a possible brewery at the LCI site of Kissonerga (Crewe and Hill 2012), which included a quantity of juglets, might strengthen that association. Contents of juglets being added to larger vessels also provide a neat explanation for why dipper juglets were sometimes found with larger storage jars. An association between juglets and alcohol use could imply ceremonial use, as appeared to have been the case in some clear cult scenes depicted on seals and other imagery (Chapter 5, Figures 5-10 to 5-16). This offers the possibility that settlement use of juglet commodities was related to ceremonial consumption or group drinking activities, rather than to everyday use. Further ceremonial or ritual consumption of juglet commodities is indicated by findings of juglets at cult contexts, which appears to have mainly developed in the LBA, as at Athienou, Amman, Beth Shan and Lachish.

It seems evident that whether juglets contained perfumed oil, psychoactive substances, or indeed some other product, their use has been associated with ritual or ceremonial practices, where there was opportunity for display. These cultural practices, particularly the burial rituals, employed familiar paraphernalia. Recognisable juglet forms, with their distinctive shapes and decorations would have constituted part of that paraphernalia, particularly if, as Baker suggests, juglets were part of the 'burial kit'. Use of the kit, including juglets, probably confirmed membership of the social group. They were standardised forms, defined by the local regions producing them, such as the BS or WP juglets of Cyprus, or the RSB/BSB juglets made in the Levant. However, even among the standardised forms, regional variations in shape and decoration developed, as

with the cylindrical forms of RSB/BSB juglets in southern Palestine, or the WP CLS and PLS of south-eastern of Cyprus.

It is difficult to explain the MBA regional variations of essentially the same types. Were they genuine regional preferences, perhaps reinforcing regional group identity? Or were they more to do with the styles of the local potters or the preferences of the regional perfume producers who used them as carriers? Sometimes their appearances outside regional confines are interesting, as demonstrated by the deposition of regional specialties at the inter-regional LC cult site of Athienou. It is interesting that so many offerings were juglets, and that many exhibited regional traits. The recognisability of form and decoration, in a relatively small vessel, may have been important. These physical traits may also have become sign-values (a term introduced by Baudrillard (1981) and discussed in Chapter 3) involved not only in the development of regional innovations or modifications, but also in the appeal of foreign imports. 'Sign-values', which have similarities with modern day 'brand-images', would have been even more important when considering the more exotic imports.

9.2 The consumption of imported juglets and the socio-economic implications

The spread of juglet commodities and the ideology of consuming them, which had started at the end of the MBA (roughly MCIII in Cyprus and MBIIC in Palestine), was discussed in Chapter 6. Juglets in circulation included WP CLS, PLS and WP V juglets from Cyprus to northern Palestine and the Delta, and TEY juglets in the reverse direction. These were very few in comparison to the circulation in the next period (c.1650-1450 BC), covered in Chapter 7, during which juglet exports from Cyprus grew in number and diversity, from the LC WP variants, WP VI STS and WP VI spouted juglets, to a raft of more innovative products including BLWM juglets, BR I juglets and RLWM spindle bottles. Specific destinations are detectable for different varieties of Cypriot juglets and seem to support the idea of regional competition amongst the producers for overseas trade, as previously proposed for more general trade (Crewe 2007b, 153-54; Manning and Hulin 2005). It would seem that the manufacturers of innovative products, probably from the north and north-west of Cyprus, challenged the export monopoly of the traditional WP juglets from the south-east. RLWM spindle

bottles reached new destinations in Egypt, not just the Delta, but all along the Nile as far as Nubia, as did BLWM juglets and the first exports of BR I juglets. In Palestine, it was the southern sites that were targeted and not the older destinations in the north. It seems logical that the newer producers and distributors sought new destinations and trading links. But trade out of Enkomi and the south-east during LCI also used new routes and destinations, sending juglets to Ashkelon and Tell el-'Ajjul in southern Palestine, as well as utilising the older links with northern Palestine, once the trade through Tell el-Dab'a became temporarily disrupted. What is unexpected, is that two different varieties of WP VI juglets, both from the south-east, were travelling in different directions. Overall, in LCI, the RLWM spindle bottles, BR I juglets and WP VI STS juglets were targeted at Egypt and Nubia, whilst Palestine received WP V and VI spouted juglets, and later some BR I juglets. BLWM juglets transcended barriers and were distributed all over Palestine, Syria and Egypt. It is possible that regional competition was not confined to that between the north/north-west vs. the south-east areas. Regional competition within the south-east sector is discussed in Chapter 7. Whilst acknowledging that there may have been more than one centre for producing juglet commodities, the additional evidence supporting production at Enkomi and at Kalopsidha could indicate separate enterprises, one for the export of WP VI STS, and the other for the export of WP VI spouted and BLWM juglets.

It is difficult to disentangle the influences of consumer preferences from the proactive targeting by the producer/distributor during this LCI period of competitive regionalism. Almost certainly there was some dialectical relationship between consumption preferences and production, as can also be argued for the LCIIA-B period, which saw the height of juglet exports from Cyprus. With experience and knowledge in the juglet trade now well established, producers were well placed to tailor radical juglet innovations or minor modifications to meet consumer needs. This has been argued for WSh juglets, designed specifically for Palestinian consumers. It can be seen in the production of modified products, such as spouted BR I juglets for Syrian consumers and trumpet-based BR I juglets for Palestine and Egypt. It might also be argued that the simplified BR II juglet design, which would have been more efficient to produce, was a response to high volume demand in Palestine.

In the final export period of around 1375 to 1200 BC, the interactions between producer/distributors and consumers were played out again with the introduction of Mycenaean narrow-necked containers to the eastern Mediterranean. Different types of early Mycenaean flasks (FS 188, FS 189, FS 190) were introduced to different regions, with Cypriot settlements receiving different shapes compared with Egypt and Palestine. A rather extreme argument is that Mycenaean stirrup jars may even have been designed for export, but certainly later shapes were modified to suit different consumers, and the late FS 186 flask was certainly based on Palestinian consumer partiality for lentoid flasks.

9.3 The logistics of juglet distribution in the Bronze Age eastern Mediterranean

The circulation patterns for juglets indicate some definite trade links which varied with the types of products exported and with the period of export. Some juglet distributions, particularly BR I and II juglets and Mycenaean narrow-necked containers, would appear to have differed from those of other ceramic vessels in the same wares (based on published studies on other decorative fine-ware exports). It therefore seems likely that juglets were traded for their contents and that at least some of this trade may have had some independence from the export of other decorative fine wares. This scenario requires logistical mechanisms for the mobilisation and distribution of juglet commodities, and the case for entrepreneurial traders or state agents with side-line interests has been argued above. It is conceivable that such agents were proactive in their delivery of consignments, with a greater degree of choice than their eventual consumers. However, it is apparent from the distribution patterns of juglet types and styles that consumer feedback and adaptation became important.

Directed destination-based trade in juglet commodities is indicated by the distribution maps presented in Chapters 6-8, and some trading links that operated in the MBA and LBA are postulated. One of the oldest routes, for the exports of WP juglets in MCIII-LCIA, was from south-east Cyprus to Egypt, via Tell el-Dab'a. There was some further trade, but only as far as the Memphis-Faiyum district (unlike the RSB/BSB and TEY juglets which had travelled further south from the probable production site at Tell el-Dab'a). Between Cyprus and the Levant, the juglet trade was directed to Ugarit in Syria,

and to the northern region of Palestine, possibly via Akko, and inland to Megiddo and Dhrahrat al-Humraiya.

Some time in LCIA, the trade routes for juglets appears to have changed. A very few early LCI juglets, such as BLWM, did reach Tell el-Dab'a, as did non-juglet ceramics such as PWS, but for the bulk of LCI juglet imports, this was no longer the port-of-entry. Most of the LCI juglet types, including WP VI STS juglets, BLWM, RLWM and BR I juglets were imported into Egypt (via an unknown port), and as the trade was no longer Hyksos-controlled, they travelled the length of the Nile. In Palestine, the juglet trade was now directed at southern Palestine, instead of the more northerly destinations of the MBA trade, and the products sent there included WP VI spouted juglets and BLWM juglets, but not many RLWM vessels. Furthermore, only Ashkelon and Tell el-'Ajjul imported BR I juglets at this early stage.

It would appear that competitive trade was not restricted to Cypriot producers. The Palestinian ports of Ashkelon and Tell el-'Ajjul seemed to have been in competition for incoming trade. Such a notion has been suggested by Artzy (1998, 445) for the later period of the 13th century, when Tel Nami 'advertised' its presence as a safe haven for traders, by carving ships in the cliffs which were visible from the sea. It is tempting to see these southerly Palestinian towns as ports for the onward trade for Egypt, as well as for Palestine, especially as Tell el-Dab'a was no longer receiving the Cypriot specialties, except that there is no compelling evidence of an overland route through Sinai. In fact, Bergoffen (1991) has shown that this route was unlikely as a distribution route for LC pottery. So the actual point of entry of these juglets into Egypt in the early 18th dynasty cannot be determined on presently available data.

During LCIB, the BR I juglet trade to the rest of southern Palestine increased, and then later in the LCIIA-B period, the trade routes for Cypriot juglets expanded into northern Palestine and southern Syria. This was not unexpected, considering the change in the political environment resulting in the availability of more open routes. New ports at Sarepta and Tell Abu Hawam were also functioning in this period. BR juglets were now disseminated to northern Palestine and southern Syria, although both BR I and BR II juglets remained concentrated in the south. However, WSh juglet commodities, from a different production region, were arriving in relatively higher numbers in the north than

in the south. With all these commodities, a trade route between south-eastern ports in Cyprus, which might now include Hala Sultan Tekké and Maroni, and Tell Abu Hawam seems likely. From there, the products seem to have been transported southwards along the coastal plains or inland to Megiddo and Beth Shan. Another route would appear to have been from south-east Cyprus to Sarepta, which acted as a hub for Hazor and southern Syria. There was also a change in the destination of RLWM vessels to Syria, especially Ugarit (and also to Anatolia), subsequent to the decline in consumption in Egypt.

Once Mycenaean juglet commodities started to arrive in the Levant, the preferred destinations were in Syria, including southern Syria and northern Palestine. Southern Palestine received far fewer Mycenaean narrow-necked containers. Much of the trade in Mycenaean commodities seems to have been transacted directly between the Aegean and northern Palestine and southern Syria, and not via Cyprus. Unexpectedly, the long accepted role of Cyprus as a 'middle-man' in the trade between the Aegean and the Levant was not confirmed for Mycenaean juglets, as is discussed in Chapter 8 (especially Figure 8-54). Whilst Bell (2006, 59) proposed a direct trading link between Sarepta and the Aegean for Mycenaean imports, this study extends that direct link to all of northern Palestine and southern Syria, most probably via Sarepta and Tell Abu Hawam. This is not so clear for Ugarit or southern Palestine, and it is possible that Cyprus did have a role as a 'middle-man' for trade in Mycenaean juglets arriving in these areas. Similarly, it has been argued that Cyprus was not particularly active in manufacturing and exporting the imitated Mycenaean Simple Style stirrup jars of the 13th century, and that the inland areas of the northern Levant were a more likely source.

Though juglets have been labelled as 'precious commodities', these ubiquitous products were more likely to have been modest 'little luxuries', and by studying them in depth, it has been possible to add to the knowledge base on how such added-value products might have been produced and traded during the Bronze Age. Whilst there is considerable literature on Cypriot ceramic imports, there has been little written on the use of local juglets in regions such as Palestine and Egypt, which this research has helped to address. Following the distribution patterns of these very specific types of products has also provided insights into the more general socio-economic conditions that supported this trade in the eastern Mediterranean of the late MBA and the LBA

periods. Future research objectives have been suggested by some of the unanswered questions arising from this research. A more contextualised view would seem to be the next step to take, and this would be greatly aided by the the full publication of many sites that are still outstanding. Certainly, greater differentiation between mortuary and settlement use of juglet commodities would be of value in further understanding consumption practices. Some numerical comparisons between juglets and other ceramic forms would be useful. It would be interesting to look at deposition data in tombs comparing imported juglets with other ceramic imports. Exploration of selected, well-contextualised sites might also provide a better indication of juglet use and social status than the current study. A more detailed search for contexts with evidence for production, would be also be useful. It would also be fascinating to investigate the distribution of stone juglets and ceramic juglets for common denominators in production and distribution, as was hinted at from the cursory examination of current data. Finally, it is to be hoped that in the near future research will determine what precious commodity or commodities these attractive little vessels contained.

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Appendix I Recorded contexts and their chronological divisions

The first column is the period name assigned to the context in the publication by the excavator or specialist. In some, these are well known chronological divisions or actual dates. In other cases, the designation is specific to the excavation and not very meaningful alone. The names themselves are somewhat unimportant here, where the aim is to demonstrate the variety of context dates. The second and third column show the absolute date range of each of these time period. The final columns show which time periods fitted within allocated time slices as discussed in Chapter 4 (Section 4.5), and which had wider period ranges. They have been arranged chronologically in ascending order.

Period Excavators' nomenclatures	Date from	Date to	Cypriot	Levantine	Mycenaean
Time slice 1 (1850-1550 BC) - starting point					
MCI-II	1950 B.C.	1750 B.C.	MCI-III	MBIIA-C	
MBII-LBII	1950 B.C.	1200 B.C.			
12th-mid-17th dynasty	1950 B.C.	1600 B.C.	MCI-III	MBIIA-C	
MBIIA-LBIB	1950 B.C.	1400 B.C.			
MBIIA-B	1950 B.C.	1650 B.C.	MCI-III	MBIIA-C	
MBII-LBIA	1950 B.C.	1450 B.C.			
MBIIA	1950 B.C.	1750 B.C.	MCI-III	MBIIA-C	
MBII	1950 B.C.	1550 B.C.		MBIIA-C	
MB	1950 B.C.	1550 B.C.		MBIIA-C	
MCI-III	1950 B.C.	1650 B.C.	MCI-III	MBIIA-C	
Ugarit Moyen 2-3	1900 B.C.	1600 B.C.	MCI-III	MBIIA-C	
Ugarit Moyen 2	1900 B.C.	1750 B.C.	MCI-III	MBIIA-C	
K-I	1878 B.C.	1830 B.C.	MCI-III	MBIIA-C	
MCII-LCIIA	1850 B.C.	1375 B.C.			
MCII-LCI	1850 B.C.	1450 B.C.			
MCII	1850 B.C.	1750 B.C.	MCI-III	MBIIA-C	
MCII-LCIA	1850 B.C.	1550 B.C.		MBIIA-C	
MCII-III	1850 B.C.	1650 B.C.	MCI-III	MBIIA-C	
H	1830 B.C.	1800 B.C.	MCI-III	MBIIA-C	
G4	1800 B.C.	1765 B.C.	MCI-III	MBIIA-C	
MBIIA/B	1800 B.C.	1700 B.C.	MCI-III	MBIIA-C	
13th dynasty	1800 B.C.	1650 B.C.	MCI-III	MBIIA-C	
13th-mid-17th dynasty	1800 B.C.	1600 B.C.	MCI-III	MBIIA-C	
13th-mid-17th	1800 B.C.	1600 B.C.	MCI-III	MBIIA-C	
Ugarit Moyen 2/3	1800 B.C.	1650 B.C.	MCI-III	MBIIA-C	
1800-1400 BC	1800 B.C.	1400 B.C.			
G4-E3	1800 B.C.	1650 B.C.	MCI-III	MBIIA-C	

13-15th dynasty	1800 B.C.	1550 B.C.		MBIIA-C	
Ugarit Moyen 2/3- Ugarit Recent 1	1800 B.C.	1450 B.C.			
1850-1600 BC	1800 B.C.	1600 B.C.	MCI-III	MBIIA-C	
SIP 13th (Theban)	1800 B.C.	1650 B.C.	MCI-III	MBIIA-C	
G	1800 B.C.	1710 B.C.	MCI-III	MBIIA-C	
SIP	1800 B.C.	1550 B.C.		MBIIA-C	
G1-3	1765 B.C.	1710 B.C.	MCI-III	MBIIA-C	
G-F	1765 B.C.	1680 B.C.	MCI-III	MBIIA-C	
1760-1650 BC	1760 B.C.	1650 B.C.	MCI-III	MBIIA-C	
1750-1350 BC	1750 B.C.	1350 B.C.			
1750-1450 BC	1750 B.C.	1450 B.C.			
MCIIIB	1750 B.C.	1700 B.C.	MCI-III	MBIIA-C	
MBIIB-LBI	1750 B.C.	1400 B.C.			
MCIII-LCIA:1	1750 B.C.	1600 B.C.	MCI-III	MBIIA-C	
MBIIB-LB	1750 B.C.	1200 B.C.			
MCIII-LCII	1750 B.C.	1200 B.C.			
MBIIB	1750 B.C.	1650 B.C.	MCI-III	MBIIA-C	
14th dynasty	1750 B.C.	1650 B.C.	MCI-III	MBIIA-C	
MBIIB-C	1750 B.C.	1550 B.C.		MBIIA-C	
MBIIB-LBIIA	1750 B.C.	1300 B.C.			
MBIIB-LBIIB	1750 B.C.	1200 B.C.			
Ugarit Moyen 3	1750 B.C.	1600 B.C.	MCI-III	MBIIA-C	
MCIII	1750 B.C.	1650 B.C.	MCI-III	MBIIA-C	
MCIII-LCI	1750 B.C.	1450 B.C.			
MCIII-LCIA	1750 B.C.	1550 B.C.		MBIIA-C	
Alalakh IX-VII	1750 B.C.	1650 B.C.	MCI-III	MBIIA-C	
MCIII-LCIB	1750 B.C.	1450 B.C.			
MBIIB-LBIA	1750 B.C.	1450 B.C.			
Syrian MBIIB	1750 B.C.	1650 B.C.	MCI-III	MBIIA-C	
MBIIB-LBIB	1750 B.C.	1400 B.C.			
MBIIB-LBII	1750 B.C.	1200 B.C.			
Group C IIB-III	1750 B.C.	1550 B.C.		MBIIA-C	
Classic Kerma	1750 B.C.	1550 B.C.		MBIIA-C	
MCIII-LCIIA	1750 B.C.	1375 B.C.			
1750-1500 BC	1750 B.C.	1500 B.C.		MBIIA-C	
MMIII	1750 B.C.	1710 B.C.	MCI-III	MBIIA-C	
MCIII-LCIIC	1750 B.C.	1200 B.C.			
F	1710 B.C.	1680 B.C.	MCI-III	MBIIA-C	
F-E3	1710 B.C.	1650 B.C.	MCI-III	MBIIA-C	
MBIIB/C	1700 B.C.	1600 B.C.	MCI-III	MBIIA-C	
MCIII/LCIA- LCIIC/IIIA	1700 B.C.	1150 B.C.			
MCIII/LCIA-LCII/III	1700 B.C.	1050 B.C.			
E3-2	1680 B.C.	1625 B.C.	MCI-III	MBIIA-C	
E3	1680 B.C.	1650 B.C.	MCI-III	MBIIA-C	
Time slice 2 (1650-1450 BC) –starting point					
15th dynasty	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
MBIIC-IA	1650 B.C.	1000 B.C.			
LCIA-IIC	1650 B.C.	1200 B.C.			

LCI-IIC	1650 B.C.	1200 B.C.			
1650-1050 BC	1650 B.C.	1050 B.C.			
Hyksos-early 18th dyn	1650 B.C.	1450 B.C.	LCI		
MBIIC-LBII	1650 B.C.	1200 B.C.			
MBIIC-LBI	1650 B.C.	1400 B.C.	LCI		
SIP-dyn XVIIIA	1650 B.C.	1475 B.C.	LCI		
17th dynasty	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
Hyksos	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
E2-D2	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
LCI-III	1650 B.C.	1200 B.C.			
1650-1450 BC	1650 B.C.	1450 B.C.	LCI		
Alalakh VI	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
LCI-IIIA	1650 B.C.	1100 B.C.			
SIP-Tuthmosis III	1650 B.C.	1400 B.C.	LCI		
MBIIC-LBIA	1650 B.C.	1450 B.C.	LCI		
MBIIC	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
LMIA	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
LCI	1650 B.C.	1450 B.C.	LCI		
LCIA	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
LCIA-IIB	1650 B.C.	1300 B.C.			
LCIA-IIIA	1650 B.C.	1100 B.C.			
LCI-IIA	1650 B.C.	1375 B.C.			
LCI-II	1650 B.C.	1200 B.C.			
SIP 15th (Hyksos)	1650 B.C.	1550 B.C.	LCI	MBIIA-C	
hyksos-dynXVIII B	1650 B.C.	1450 B.C.	LCI		
LCIA-IB1	1650 B.C.	1500 B.C.	LCI	MBIIA-C	
hyksos-18th dyn	1650 B.C.	1300 B.C.			
hyksos-19th dynasty	1650 B.C.	1200 B.C.			
LCIA-IIA	1650 B.C.	1375 B.C.			
E2	1650 B.C.	1625 B.C.	LCI	MBIIA-C	
E2-1	1650 B.C.	1600 B.C.	LCI	MBIIA-C	
LCIA-IIA1	1650 B.C.	1400 B.C.	LCI	MBIIA-C	
E1	1625 B.C.	1600 B.C.	LCI	MBIIA-C	
E1-D3	1625 B.C.	1575 B.C.	LCI	MBIIA-C	
LCIA:2	1600 B.C.	1550 B.C.	LCI	MBIIA-C	LHIIA-B
Ugarit Recent 1	1600 B.C.	1450 B.C.	LCI		LHIIA-B
MCIII/LCIA-LCII/IIIA	1600 B.C.	1150 B.C.			
LCIA:2-IIB	1600 B.C.	1300 B.C.			
MBIIC/LBIA	1600 B.C.	1500 B.C.	LCI	MBIIA-C	LHIIA-B
D3	1600 B.C.	1575 B.C.	LCI	MBIIA-C	LHIIA-B
LHIIA-B	1600 B.C.	1400 B.C.	LCI		LHIIA-B
1600 BC	1600 B.C.	1600 B.C.	LCI	MBIIA-C	LHIIA-B
<i>(End of time slice 1)</i>					
Ugarit Recent 1-3	1600 B.C.	1200 B.C.			
LHIIA-IIIA1	1600 B.C.	1375 B.C.			LHIIA-B
LCIA:2-IIC	1600 B.C.	1200 B.C.			
1600-1250 BC	1600 B.C.	1250 B.C.			
LCIA:2-IB	1600 B.C.	1450 B.C.	LCI	LBI	LHIIA-B

LHIIA	1600 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
1600-1475 BC	1600 B.C.	1475 B.C.		LBI	LHIIA-B
LCIA:2-IIA	1600 B.C.	1375 B.C.		LBI	LHIIA-B
D3-2	1600 B.C.	1550 B.C.	LCI	LBI	LHIIA-B
LCIA:2-B2	1600 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
D2	1575 B.C.	1550 B.C.	LCI	LBI	LHIIA-B
LCIB	1550 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
1550-1450 BC	1550 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
LBI-II	1550 B.C.	1200 B.C.			
LCIB-III A	1550 B.C.	1100 B.C.			
M18A	1550 B.C.	1479 B.C.	LCI	LBI	LHIIA-B
Alalakh VI-V	1550 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
Syrian LBIA	1550 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
dyn XVIII A-C	1550 B.C.	1350 B.C.		LBI	LHIIA-B
18th dynasty	1550 B.C.	1295 B.C.			
LBI-IIA	1550 B.C.	1300 B.C.			
dyn XVIII A	1550 B.C.	1475 B.C.	LCI	LBI	LHIIA-B
Early 18th dynasty	1550 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
LCIB-II	1550 B.C.	1200 B.C.			
D1	1550 B.C.	1500 B.C.	LCI	LBI	LHIIA-B
18-19th dynasty	1550 B.C.	1200 B.C.			
LCIB-III	1550 B.C.	1050 B.C.			
18th-19th dynasty	1550 B.C.	1186 B.C.			
LB	1550 B.C.	1200 B.C.			
dyn XVIII A-B	1550 B.C.	1425 B.C.	LCI	LBI	LHIIA-B
LCIB:1-IIB	1550 B.C.	1300 B.C.			LHIIA-B
LBIA	1550 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
LBI	1550 B.C.	1400 B.C.	LCI	LBI	LHIIA-B
LBIA-IIA	1550 B.C.	1300 B.C.			
LCIB-IIC	1500 B.C.	1200 B.C.			
LCIB:2-IIC	1500 B.C.	1200 B.C.			
1550-1050 BC	1500 B.C.	1050 B.C.			
1500-1300 BC	1500 B.C.	1300 B.C.			
1500-1050 BC	1500 B.C.	1050 B.C.			
LCIB:2-LCIIC	1500 B.C.	1200 B.C.			
1500-1000 BC	1500 B.C.	1000 B.C.			
1500-1400 BC	1500 B.C.	1400 B.C.		LBI	LHIIA-B
1500-1375 BC	1500 B.C.	1375 B.C.		LBI	LHIIA-B
1500-1250 BC	1500 B.C.	1250 B.C.			
LHIIA2	1500 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
LCIB:2	1500 B.C.	1450 B.C.	LCI	LBI	LHIIA-B
1500-1100 BC	1500 B.C.	1100 B.C.			
Tuthmosis I-III	1500 B.C.	1400 B.C.	LCI	LBI	LHIIA-B
15th century	1500 B.C.	1400 B.C.	LCI	LBI	LHIIA-B
Tuthmosis III	1479 B.C.	1425 B.C.	LCI	LBI	LHIIA-B
M18B	1479 B.C.	1425 B.C.	LCI	LBI	LHIIA-B
dyn XVIII B-C	1475 B.C.	1350 B.C.	LCIIA-B	LBI	LHIIA-B
dyn XVIII B-D	1475 B.C.	1300 B.C.	LCIIA-B		
dyn XVIII B	1475 B.C.	1425 B.C.	LCIIA-B	LBIIA	LHIIA-B
Time slice 3 (1450-1200 BC) – starting point					

LCIIA-III A	1450 B.C.	1100 B.C.			
LBIB-IIB	1450 B.C.	1200 B.C.			
Ugarit Recent 2	1450 B.C.	1300 B.C.	LCIIA-B		
LBIB	1450 B.C.	1400 B.C.	LCIIA-B	LBI	LHIII A-B
LCII	1450 B.C.	1200 B.C.			
LCIIA-B	1450 B.C.	1300 B.C.	LCIIA-B	LBIIA	
LHII B	1450 B.C.	1400 B.C.	LCIIA-B	LBI	LHIII A-B
LCIIA	1450 B.C.	1375 B.C.	LCIIA-B	LBI	LHIII A-B
LMIIA-III B	1450 B.C.	1200 B.C.			LHIII A-B
LHII B-III B	1450 B.C.	1190 B.C.			LHIII A-B
LCII-III	1450 B.C.	1050 B.C.			
1450-1350 BC	1450 B.C.	1350 B.C.	LCIIA-B	LBI	LHIII A
LBIB-IIA	1450 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
Ugarit Recent 2-3	1450 B.C.	1200 B.C.			
M18D	1427 B.C.	1295 B.C.	LCIIA-B	LBIIA	LHIII A
M18C	1427 B.C.	1425 B.C.	LCIIA-B	LBIIA	LHIII A
dyn XVIII C-D	1425 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
1425-1290 BC	1425 B.C.	1290 B.C.	LCIIA-B	LBIIA	LHIII A
dyn XVIII C	1425 B.C.	1350 B.C.	LCIIA-B	LBIIA	LHIII A
14th century	1400 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
LBIIA-IA1	1400 B.C.	1050 B.C.			
1400-1150	1400 B.C.	1150 B.C.			
Late 18th dynasty	1400 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
LHIII A	1400 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
LHIII	1400 B.C.	1190 B.C.	LCIIA-B	LBIIA	
1400-1200 BC	1400 B.C.	1200 B.C.			
LCIIA2-B	1400 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
LBII	1400 B.C.	1200 B.C.			
LHIII A-B	1400 B.C.	1190 B.C.			
LBIIA	1400 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
1400-1150 BC	1400 B.C.	1150 B.C.			
1400-1250 BC	1400 B.C.	1250 B.C.	LCIIA-B	LBIIA	
1400-1100 BC	1400 B.C.	1100 B.C.			
LHIII A:1	1400 B.C.	1375 B.C.	LCIIA-B	LBIIA	LHIII A
LBIIA-B	1400 B.C.	1200 B.C.			
LBII-IA1	1400 B.C.	1050 B.C.			
1400-1350 BC	1400 B.C.	1350 B.C.	LCIIA-B	LBIIA	LHIII A
Amenophis III	1390 B.C.	1352 B.C.	LCIIA-B	LBIIA	LHIII A
LHIII A:2-III B	1375 B.C.	1190 B.C.			LHIII A
LCIIB-LCIII	1375 B.C.	1100 B.C.			
LHIII A:2	1375 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
LCIIB	1375 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
LHIII A:2-III B1	1375 B.C.	1225 B.C.			LHIII A
LHIII A:2-B1	1375 B.C.	1225 B.C.			
LCIIB-C	1375 B.C.	1200 B.C.			
LHIII A:2-C	1375 B.C.	1050 B.C.			
LHIII A:2-B	1375 B.C.	1190 B.C.			
dyn XVIII D	1350 B.C.	1300 B.C.	LCIIA-B	LBIIA	LHIII A
LBIIA/B	1350 B.C.	1250 B.C.	LCIIC	LBII B	
LCIIB/C	1350 B.C.	1250 B.C.	LCIIA-B	LBII B	

1350-1300 BC	1350 B.C.	1300 B.C.	LCIIA-B	LBIIA	
Time slice 4 (1300-1200 BC) – starting point					
1350-1200 BC	1350 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
1325-1200 BC	1325 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
1300-1200 BC	1300 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
LHIIIB:1	1300 B.C.	1225 B.C.	LCIIC	LBIIIB	LHIIIB
1350-1275 BC	1300 B.C.	1275 B.C.	LCIIC	LBIIIB	LHIIIB
LBIIIB	1300 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
Ugarit Recent 3	1300 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
13th century	1300 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
LCIIC-III A	1300 B.C.	1100 B.C.			
LHIIIB-C	1300 B.C.	1030 B.C.			
1300 BC	1300 B.C.	1300 B.C.	LCIIC		
LBIIIB-IA1	1300 B.C.	1050 B.C.			
1300-1150 BC	1300 B.C.	1150 B.C.	LCIIC	LBIIIB	LHIIIB
1300-1275 BC	1300 B.C.	1275 B.C.	LCIIC	LBIIIB	LHIIIB
LCIIC	1300 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
LCIIC-III B1	1300 B.C.	1100 B.C.			
19th dynasty	1300 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
LHIIIB	1300 B.C.	1190 B.C.	LCIIC	LBIIIB	LHIIIB
1275-1200 BC	1275 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
1275-1150 BC	1275 B.C.	1150 B.C.	LCIIC	LBIIIB	LHIIIB
1275-1000 BC	1275 B.C.	1000 B.C.			
1250-1200 BC	1250 B.C.	1200 B.C.	LCIIC	LBIIIB	LHIIIB
1250-1150 BC	1250 B.C.	1150 B.C.	LCIIC	LBIIIB	LHIIIB
LHIIIB:2	1225 B.C.	1190 B.C.	LCIII	IA1	LHIIIB
12th century	1200 B.C.	1100 B.C.	LCIII	IA1	
1200-1100 BC	1200 B.C.	1100 B.C.	LCIII	IA1	
1200-1050 BC	1200 B.C.	1050 B.C.	LCIII	IA1	
20th dynasty	1200 B.C.	1050 B.C.	LCIII	IA1	
LCIII	1200 B.C.	1050 B.C.	LCIII	IA1	
LCIIIA	1200 B.C.	1100 B.C.	LCIII	IA1	
1200-1000 BC	1200 B.C.	1000 B.C.	LCIII	IA1	

