

Pomegranates in eastern Mediterranean contexts during the Late Bronze Age

Cheryl Ward

Abstract

The recovery of botanical remains from the late fourteenth-century BCE Uluburun shipwreck near Kaş, Turkey, provides a unique opportunity to examine the consumable components of an elite-oriented cargo, which included numerous pomegranate seeds, skin fragments and flower parts. Examination of pomegranate-shaped objects and botanical remains permits investigation of the establishment and development of the pomegranate as part of the 'package' of elite and luxury items exchanged by Bronze Age eastern Mediterranean cultures.

Keywords

Archaeobotany; Bronze Age; Uluburun shipwreck; pomegranate; luxury goods.

Introduction

The pomegranate bush raises its voice (tiny, insistent, and shrill): My seeds shine like the teeth of my mistress, the shape of my fruit is round like her breasts. I'm her favorite, I know, sweetest tree in the orchard, looking my best through every season.

(twelfth-century BCE Turin Papyrus, Foster 1992: 83–4)

The late fourteenth-century BCE Uluburun shipwreck excavated by the Institute of Nautical Archaeology near Kaş, Turkey, offers a rare opportunity to examine the components of an elite-oriented cargo (Bass 1986; Bass et al. 1989; Pulak 1988, 1998). While nine or ten cultures are represented by finds on the wreck, the ship probably was Syrian or Cypriot in origin, loaded for its final journey at Ugarit (Pulak 1998: 216–18). The ship itself, about 15m long and capable of carrying some fourteen to fifteen tons of cargo, was built of cedar and represented a substantial investment. Its cargo included raw materials and finished products of both elephant and hippopotamus ivory, precious metals, copper, tin and coloured glass as well as aromatic resin, amber, tortoise carapaces and ostrich eggs,

all identifiable as luxury goods because of their presence in the administrative centres, elite residences and elaborate graves of a relatively small portion of ancient eastern Mediterranean cultures. The extensive investment in sea-borne traffic during the most active trading period, c. 1400–1200 BCE, is glimpsed through the rich textual record of the El Amarna tablets, which document exchange between rulers, and through the excavation of palace sites and tombs throughout the eastern Mediterranean (e.g. Cline 1994; Knapp 1991; Peltenberg 1991). The Uluburun ship exemplifies directional trade by the most conspicuous consumers in Late Bronze Age societies, whose efforts to acquire luxury goods seem to be particularly important in the development of intensified levels of production and the extension of political and economic influence (Sherratt and Sherratt 1991; Zaccagnini 1987).

The recovery of pomegranate seeds, stamen and anther fragments and skin fragments from more than 25 per cent of all sampled contexts on the Uluburun shipwreck (Haldane 1993) suggested that this non-staple fruit with elaborate symbolic associations in later times might also be classified as part of the elite-oriented cargo. The pomegranate is a botanical curiosity with origins east of Mesopotamia, and its movement westward over millennia can be traced through archaeobotanical remains and iconography (see Tables below). The association of pomegranates with aspects of life (fertility) and death through iconography is well established by the early Iron Age in the eastern Mediterranean world, and is further elaborated by texts and images dating to Classical times, although Bronze Age antecedents are less clearly defined. Immerwahr's thorough survey of pomegranate vases and fruit-shaped artefacts from the Bronze Age suggests that, in the Aegean at least, the pomegranate 'played a symbolic role appropriate for those going on a journey to the Underworld' (1989: 408) as most finds of pomegranate-shaped artefacts come from tombs. As most of these pomegranate representations were made of imported glass, faience, bronze, ivory, gold and finely painted ceramics, and these materials were closely linked with status and prestige in the Aegean, it is clear that the pomegranate itself deserves consideration as to whether there may be sufficient evidence to group the fruit of the pomegranate with other, more familiar, luxury goods of the region. I shall first discuss the pomegranate from a botanical perspective, outline its economic uses and review symbolic associations before assessing its potential as a luxury food aboard the Uluburun shipwreck.

The cultivated pomegranate

The cultivated pomegranate (*Punica granatum* L.) probably originated in north-eastern Turkey and the south Caspian regions where its wild forms are found today (Zohary and Spiegel-Roy 1975). It is a family of one genus and two species (Polunin 1969: 266; Zohary and Hopf 1988: 150–1; Davis 1972: 173–4). The wild form produces a smaller fruit (5–8cm diameter) than the cultivated (6–12cm). The other species, a dwarf form, is cultivated as an ornamental plant. Cultivars are self-pollinating and usually propagated vegetatively, but may also be grown from seed in temperate and tropical areas. The pomegranate is deciduous, with shiny, oblong leaves growing on many branches. It reaches 5m in height, and is considered a shrub or small tree. Its fleshy, red flowers are up to 4cm wide and solitary, and continue blooming even while the shrub is fruiting. The most remarkable feature

of the pomegranate is its brightly coloured, swollen, leathery fruit, crowned by a persistent, hard calyx tube. The dentate calyx has five to seven triangular 'teeth' enclosing five to seven petals and numerous stamens. The fruit forms as a large and fleshy berry containing many arils, seeds surrounded by pulp with a characteristic deep pink to red hue (Fig. 1).

Tangy pomegranate juice and paste are regularly used in Middle Eastern cooking. As sweetened grenadine, the juice is a familiar cordial to Europeans and North Americans and probably was known to the Egyptians at the end of the Bronze Age (Loret 1892: 78). The pomegranate is nourishing as well – nutritional analyses show that 100 grams of arils (pulp-encased seeds) contain about 8 per cent of recommended daily allowances for both iron and vitamin C in addition to trace amounts of other vitamins and minerals. Classical writers appreciated and often referred to the pomegranate's astringent qualities in perfumery and medicine (for example, Dioscorides *De Materia Medica* I.110) and to its use as a flavouring for wines and as a favourite fruit (*Lucius Junius Moderatus Columella on Agriculture* 5.10.16). Dried pomegranate rinds have a tannin content approaching 20 per cent. They are used today, as in the past, to produce a black dye in Turkey (Eyüboğlu et al. 1983) and to tan leather in Morocco. Austen Henry Layard, active in exploring ancient sites in Mesopotamia in the first half of the nineteenth century, reported that raft men on the Tigris preserved the suppleness of skins used to build their floats by rubbing the skins with pounded pomegranate rinds (1854: 302). The rind also contains certain flavonoids which medical researchers are currently testing as potential anti-bacterial treatments (Prashanth et al. 2001; Schubert et al. 1999), expanding on ancient Egyptian and

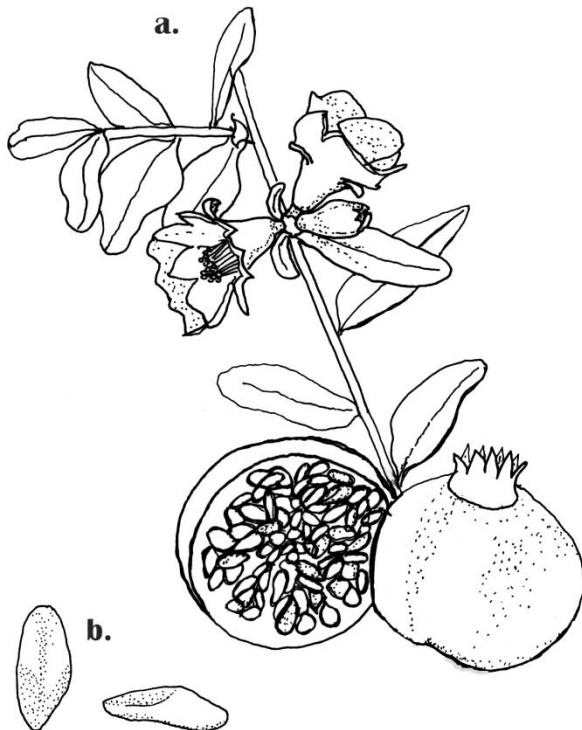


Figure 1 a) Pomegranate fruit with flowers and b) seeds. The seeds, 4.6–6.2cm long, are from the Uluburun shipwreck.

Classical medicinal use of the pomegranate's bark and rind as a cure for stomach ills and as a vermifuge (Manniche 1989: 140).

The brilliant red and yellow of its skin, blood-red juice and abundance of its seeds make the pomegranate ripe for symbolic associations with human fertility – and thus life and death – across time and space. In the recent past, Zoroastrian communities in Iran planted pomegranate trees in the courtyards of fire temples, and certain Zoroastrian rites and customs apparently required pomegranate twigs and seeds (Modi 1922). Fecundity there also is related to the pomegranate: in some rural areas a groom will throw a pomegranate over the head of his bride on the wedding night. In modern Greece, both wedding celebrants and mourners use pomegranate arils to mark life's passages: the seeds are thrown behind a newly wedded couple, and are an important part of a traditional All Souls Day pudding, *kolyva* (pers. obs.; Du Boulay 1993). Believed to absolve from sin those who eat it, the dish is an important aspect in ceremonies dedicated to remembering the dead. *Kolyva* – boiled grain sweetened with pomegranate seeds, nuts, sesame seeds, raisins and sometimes cinnamon – is similar to *aşure* or 'Noah's pudding' of Anatolia, a dish now associated with the month-long fast of Ramadan. Similar dishes are prepared today for Rosh Hoshanah by Sephardic Jews and as a memorial dish for Barbara (St Barbara's Day, 4 or 17 December) in Palestinian Christian communities.

The pomegranate, common in all these regions today, does not seem to be a common food in maritime communities of the Aegean until long after the Late Bronze Age (Immerwahr 1989), and is not found in coastal Levantine sites until the fourteenth century BCE (Tables 1 and 2). Its expansion can be traced along the inland trade route from northern Mesopotamia to northern Sinai if the plant remains accurately indicate its range, but, for some periods, there are more representations of the pomegranate on Crete and in Egypt (Table 1). The association of pomegranates with ritual belief in texts and artefacts in the Bronze Age is less clear than evidence for the ninth to eighth centuries BCE (Muthmann 1982; Immerwahr 1989) when Iron Age use of pomegranate fruits as decorative motifs charged with symbolic meaning in both the core and peripheral lands of ancient Mesopotamia abounds.

Pomegranates in the Bronze Age

Luxury items are those identified as being coveted, lusted after and in short supply. For example, Wallerstein (1974: 306) described the role of exotic goods imported from beyond a society's borders as a way to examine the demarcation and maintenance of barriers to status change. This fits the conception most of us share at least on the subconscious level about luxuries. It is clear, however, from looking at traditional human societies and at archaeological examples of the redistribution of wealth and 'scarce' materials and privileges, that it is the ability to conduct the redistribution that is the true luxury rather than the goods or symbols or resources. Elite consumption is a complex interaction of bestowal, receipt and sharing the wealth, and a number of studies of the Late Bronze Aegean make it clear that its more powerful residents were intent upon obtaining high-value objects and materials from the more cosmopolitan Levant.

As Sherratt and Sherratt observe, 'Bronze Age Greece was not just engaged in material exchanges with the Orient: it was absorbing also the language of ostentation and display,

Table 1 Artefacts and images of pomegranates in the ancient world prior to the Iron Age

| <i>Site/Date</i> | <i>Context</i> | <i>Pomegranate finds</i> | <i>Source</i> |
|--|----------------------|---|--------------------------------------|
| Uruk, Mesopotamia 4th millennium | elite residence | vase decoration | Muthmann (1982: 13) |
| Susa, Iran ca. 3300 BCE [Uruk IV] | elite residence | ceramic, fruit-shaped tokens | Mecquenem et al. (1943: Figs 23, 46) |
| TT168, Thebes, Egypt 18th Dyn. [late 16th c. BCE] | tomb of Ineni | tree in list of flora | Loret (1892: 76–8) |
| Thebes, Egypt 18th Dyn. [late 15th c. BCE] | tomb of Amenhotep II | 19 faience fruits | Immerwahr (1989: 400) |
| Thebes, Egypt LBA | tomb | glass fruit | Goldstein (1979: 63, fig. 32) |
| Karnak, Egypt 18th Dyn. [late 15th c. BCE] | temple wall | tree in 'botanical garden' | Loret (1892: 76–8) |
| Abydos, Egypt 18th Dyn. | tombs | fruit-shaped faience votives | Immerwahr (1989: 400) |
| Sebkhotep, Egypt 18th Dyn. | tomb painting | fruits in basket, on string | Davies (1936: pl. 44) |
| Mena, Egypt 18th Dyn. | tomb painting | bouquet with fruits | Davies (1936: pl. 52) |
| Thebes, Egypt 18th Dyn. [late 14th c. BCE] | tomb of Tutankhamun | fruit-shaped silver vase | Carter and Mace (1933: 130) |
| Ashur, Mesopotamia Late 14th c. BCE | elite residence | bone or ivory inlays | Muthmann (1982: 13) |
| Ugarit, Syria 14th/13th c. BCE | elite residence | gold bowl w/fruits | Schaeffer (1949: pl. 8) |
| Ugarit, Syria 14th/13th c. BCE | elite residence | jewelry mold w/fruits | Schaeffer (1939: 43, fig. 32) |
| Lachish, Syria 13th c. BCE | temple | 2 ivory rods w/fruit finials | Tufnell et al. (1940: 62) |
| Hama, Syria LBA | tomb | ivory rod w/fruit finial | Riis (1948: 173, fig. 217) |
| Megiddo, Israel LBA | unspecified | glass fruit | Harden (1981: 37) |
| Jericho, Israel MB II [17th c. BCE] | tomb B 35 | fruit-shaped wooden box | Kenyon (1960: 371, pl. 17) |
| Tel Nami, Israel 13th c. BCE | burial | gold bud-shaped earrings, 1 bronze rod w/fruit finial; 1 bronze rod and incense burner with possible fruits | Artzy (1991) |
| Alakh, Cyprus 15th c. BCE | elite residence | ivory pyxis w/fruit-crowned woman's head | Courtois et al. (1986: 151) |

Table 1 Continued

| <i>Site/Date</i> | <i>Context</i> | <i>Pomegranate finds</i> | <i>Source</i> |
|---|-------------------|--|--|
| Enkomi, Cyprus 14th–13th c. BCE | tombs | gold jewelry with fruits 2 ivory rods w/fruit finial 16 glass fruits | Murray et al. (1900: 43, pl. 10); Gjerstad et al. (1934: pl. 78, 240–1) Immerwahr (1989: 410) |
| near Larnaca, Cyprus LBA | tomb | glass fruit | Harden (1981: 37) |
| Ayios Iakovos, Cyprus 13th c. BCE | tomb sanctuary | ivory rod w/fruit finial gold necklace w/fruits | Gjerstad et al. (1934: 331 pl. 63, 357, pl. 67) |
| Kourion, Cyprus 13th c. BCE | tomb | glass fruit | Immerwahr (1989: 400) |
| Kition, Cyprus 13th c. BCE | tomb | ivory rod w/fruit finial | Buchholz and Karageorghis (1973: 479 no. 1746) |
| Phaistos, Crete MMII?, early 18th c. BCE | elite residence | ceramic fruit-shaped vase | Immerwahr (1989: 404) |
| Knossos, Crete MMIII, late 18th c. BCE | elite residence | bone inlays: buds, flowers | Evans (1921: 496, fig. 354b) |
| Phaistos, Crete MMIII, later 18th c. BCE | elite residence | ceramic fruit-shaped vase | Levi (1976: 346, pl. 180) |
| Mycenae, Greece c. 1500 BCE | Shaft Grave III | 12 hollow gold beads | Immerwahr (1989: 404) |
| Vaphio, Greece Early 15th c. BCE | tomb | silver pin w/fruit-shaped head | Immerwahr 1989: 404 |
| Mycenae, Greece Early 15th c. BCE | chamber tomb | gold fruit-shaped pendant | Immerwahr (1989: 404) |
| Athens, Greece Late 14th c. BCE | tomb XXVI | ceramic fruit-shaped vase | Immerwahr (1989: 397) |
| Uluburun, Turkey End of 14th c. BCE | shipwreck | two fruit-shaped ivory finials | Pulak (1994: 12–13) |

in architecture, food and drink, clothing, and bodily appearance and smell' (1991: 354). The process and the effect of devolving privilege, rank, status and access to 'elite' goods such as the labour of stonemasons or woodworkers was a normal part of the ancient world, as Kanawati's (1977) study of burial practices in the late Old Kingdom cemeteries at Giza, Egypt, demonstrates. The expansion of privilege ultimately contributed to broadening the meaning of those status-enhancing symbols and goods and increasing access by a larger portion of the population, a situation that seems to be paralleled in burial goods present in tombs of the Late Bronze Age Cypriot maritime cultures. A later, but very clear example of providing luxury goods is identifiable in archaeobotanical studies in Egypt's Eastern Desert at Mons Claudianus, a Roman quarry from the later first to the mid-third century CE, where Van der Veen's (2001) studies show an unexpected pattern of consumption of luxury-level foods such as artichoke, citron, pepper, walnuts and other imports including

Table 2 Archaeobotanical finds of pomegranates in the ancient world prior to the Iron Age

| <i>Site/Date</i> | <i>Context</i> | <i>Pomegranate finds</i> | <i>Source</i> |
|---|--------------------------------|--------------------------|--------------------------------------|
| Ebla, Syria EBA/MBA | elite residence | sporadically attested | Wachter-Sarkady (1995: 251) |
| Tell Brak, Syria c. 1275 BCE | elite residence | entire charred fruit | Charles and Bogaard (1998: 130) |
| Arad, Israel early 3rd millennium | walled town | 2 charred seeds | Hopf (1978: 74) |
| Jericho, Israel MB II [17th c. BCE] | tomb | 6+ entire fruits | Kenyon (1960: 392–3; Hopf 1969: 357) |
| Tell Gezer, Israel late 3rd millennium | unspecified | unspecified | Lipschitz (1989: 272) |
| Tell Hesi, Israel late 3rd millennium | unspecified | unspecified | Lipschitz (1989: 272) |
| Tell es-Sa'idiyeh, Jordan late 3rd millennium | 'scullery area' | entire charred fruit | Cartwright (1997: 73) |
| Shiloh, Israel c. 1750–1615 BCE | storerooms at Canaanite shrine | 3 seeds | Kislev (1993: 355) |
| Tell el-Dab'a, Egypt SIP [c. 1780–1550 BCE] | elite residence | seeds | Thanheiser (in press) |
| Tell el Amarna, Egypt 18th Dyn. [late 14th c. BCE] | elite residence | unspecified | Murray (2000: 625) |
| Tomb of Djehuti, Egypt 18th Dyn. | tomb | entire desiccated fruit | Hepper (1990: 62, 64) |
| Thebes, Egypt 18th Dyn. [late 14th c. BCE] | tomb of Tutankhamen | leaves | Germer (1989: 11–15) |
| Tiryns, Greece c. 1200 BCE | elite residence | 2 seeds | Kroll (1982: 470) |
| Hala Sultan Tekke, Cyprus, c. 1200 BCE | well | seeds | Hjelmqvist (1979: 112) |
| Uluburun, Turkey end of 14th c. BCE | shipwreck | seeds and skin fragments | Haldane (1993) |

pomegranates. The Roman emperors brought almost the entire output of Mons Claudianus directly to Rome to benefit from the prestige associated with the difficulty of extracting the finished stone products. The array of elite foods demonstrates their commitment to keeping their well-paid, and well-fed, workers satisfied by providing them with a surprisingly comfortable life and consumable luxuries far from the civilized world.

There are two types of evidence for pomegranates in the Bronze Age, plant remains and representations, both primarily from elite residences or tombs of individuals whose high status is indicated by artefacts buried with them. Pomegranates appear early in Mesopotamia where archaeological and linguistic evidence for the pomegranate dates, respectively, to the fourth and third millennia BCE, but, somewhat surprisingly, most finds

date to the Late Bronze and Iron Ages (Muthmann 1982). As Zohary and Hopf point out (1988: 151), pomegranates do not grow wild in the Levant, so their presence in that region suggests their introduction and spread. They also are not found in the wild in Egypt, Cyprus or the Aegean. More Middle Bronze finds are tabulated in Egypt and the Aegean than in the Near East, with the earliest remains in Egypt from Tell el-Dab'a, a northern Delta site probably inhabited by the 'Hyksos' culture (Thanheiser in press). At Jericho, a Hyksos tomb of c. 1600 BCE included a wooden pomegranate-shaped box and at least six entire, desiccated fruits (Tables 1 and 2). Traditionally, Thutmose I, whose courtier Ineni has the first written reference to pomegranates in Egypt (late sixteenth century BCE), is thought to be the earliest Egyptian link to the fruit (Loret 1892: 76–8); his son, Thutmose III, included the pomegranate tree with other Syrian exotics in his contribution to the religious complex at Karnak that is popularly known as the botanical garden.

The circumstantial evidence suggests that the pomegranate was an introduced plant in Eighteenth Dynasty Egypt, probably from Syria through the agency of wartime exposure or perhaps through trade with Syro-Palestinian peoples operating or trading via ships like the luxury-laden Uluburun vessel. Its presence in the tomb of pharaoh Amenhotep II (late fifteenth century BCE) in the form of nineteen faience votives (Immerwahr 1989: 400) links it to continued elite appropriation in Egypt. In the Aegean, a few pomegranate representations date to slightly earlier Middle Bronze Age palaces on Crete, but the majority can be found in the tombs of the Late Bronze Age, on Cyprus and the Greek mainland but not on Crete (Table 1). Along the Levantine coast, gold jewellery and pomegranate-topped rods in tombs date to the fourteenth and thirteenth centuries BCE (Table 1).

Pulak (1998: 216–18) tentatively identifies the Uluburun ship as Syrian in origin, and places its sinking at the end of the fourteenth century, towards the close of the Eighteenth



Figure 2 Ivory pomegranate finials KW 4086 and KW 5156 in association with an incised rod. (Photograph by L. R. Martin used by permission of the Institute of Nautical Archaeology.)

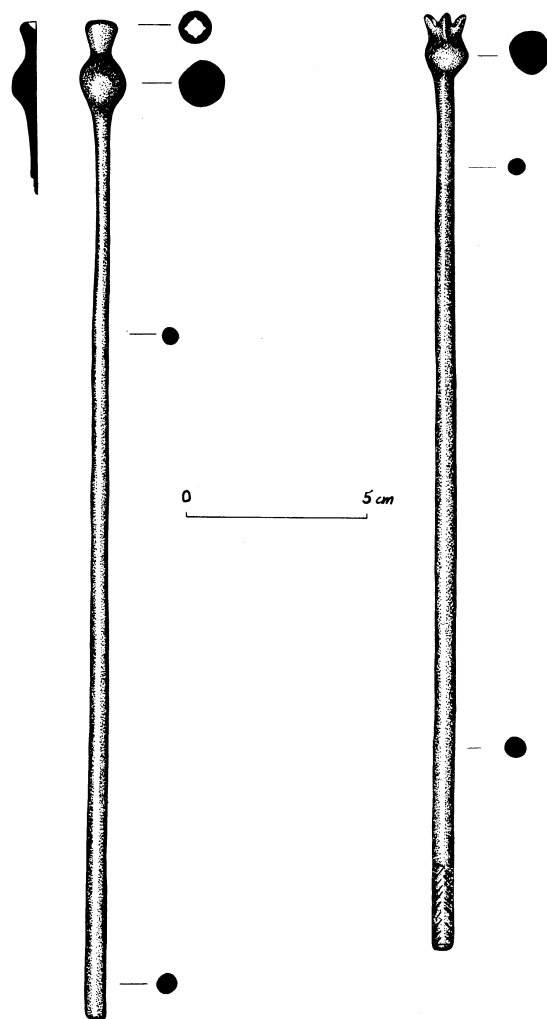


Figure 3 Tel Nami rods with (left) a poppy or pomegranate finial and (right) a pomegranate finial. (Drawing by R. Pollak, used by permission of M. Artzy.)

Dynasty in Egypt. While its ultimate destinations are unknown, personal items with Mycenaean Greek parallels and finds of raw materials at palace workshops suggest that the vessel's route might have led it west along the southern Anatolian coast perhaps to Rhodes or Crete (Pulak 1998: 215). Thousands of pomegranate seeds and fruit fragments in sediments from the Uluburun shipwreck attest to an abundant supply of them aboard. Botanical remains from shipwreck sites tend to include a greater percentage of fruits, nuts, spices or condiments and, for example, organic packing materials, than staple crops such as grains and legumes, which dominate terrestrial assemblages (Haldane 1990, 1991). Pomegranate appears in about 25 per cent of samples from ceramic containers, but large, open shapes such as a krater produced more than a thousand seeds and epidermal fragments, as did a collared-rim storage jar over 1.5m in height, suggesting the fruits were stored inside it.

What is unclear is whether the pomegranates themselves should be considered as an elite-level, luxury cargo or as a common food.

The separate discoveries of two small, carved, ivory finials (KW 4086 and KW 5156) with basal holes, one in association with an ivory rod, from near the centre of the Uluburun ship (Pulak 1994: 12–13) point to the pomegranate as more than a food source (Fig. 2) and link the vessel even more closely to Cypriot and Syrian cultures. The finials show two different forms. One (KW 5156) is probably a fully formed fruit¹ while the other is in development, with its elongated calyx atop a slightly swollen body. Ivory and bronze rods with pomegranate finials are, in fact, one of the most common artefacts to include pomegranate motifs in the LBA eastern Mediterranean (Table 1), second only to glass fruits from tombs (Immerwahr 1989: 400). The rods are found in tombs, as at Tel Nami in Israel (Fig. 3), on Cyprus, and in Syria, where they also occur at Lachish, in clear cultic associations although their precise contextual meaning is unclear (Artzy 1991, 1994, 1995; Tufnell et al. 1940: 62).

These LBA finds have Iron Age parallels with clear cultic association. A small, ivory pomegranate probably dating to the eighth century BCE has been the focus of some controversy (Avigad 1994; Anon. 1992), but of more relevance to this discussion is the object itself. About 4cm tall, the ivory represents a still-maturing pomegranate, with the elongated calyx occupying half its height. As is the case for earlier LBA pomegranate finials, its base is slightly hollowed, and probably originally fitted onto a rod (Anon. 1992). A number of other Iron Age examples of bronze, iron and ivory rods or pins with pomegranate-shaped heads are known from Cypriot tombs at Enkomi and Lapithos (Gjerstad et al. 1934: 187, 197–202, 245, 262–3).

The business of luxuries

Can we classify pomegranates in the Late Bronze Age eastern Mediterranean as luxury items, or at the least as items of elite consumption? Almost every find of a pomegranate fragment or representation of a pomegranate has come from a moderately high- to high-status location, with carefully crafted artefacts of rare materials. Iconography also tends to illustrate elite, rather than lower status, themes. Because pomegranate remains and representations in the Bronze Age eastern Mediterranean occur exclusively in elite contexts, it is appropriate to consider the pomegranates from the Uluburun ship as a luxury food. In addition to its value as an exotic product unavailable to most individuals, the pomegranate may also have borne symbolic associations related to death because of its relatively frequent presence in tombs, either as an actual fruit or as a glass, ivory or bronze imitation.

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Florida State University, Department of Anthropology, 1847 W. Tennessee St.
Tallahassee, FL 32306-4531, USA

Note

- 1 Pulak (1994: 13) identifies KW 5156 as an opium capsule, however. See Merrillees (1962) for a discussion of a comparison of some features of opium capsules and artefacts.

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