

# Wine from the Desert

## Late-Antique Negev Viniculture and the Famous Gaza Wine

Sára Lantos, Guy Bar-Oz, and Gil Gambash

Left: Colt Papyrus 16 from Nessana; The Morgan Library and Museum. Middle: Mosaic of Byzantine screw press from Mount Nebo, Saint Lot, and Procopius Church, sixth century; CC BY 2.0 Wikimedia Commons. Right: Vineyard in the Negev; photograph by Joshua Schmidt.

One of the most prestigious wines of late antiquity was Gaza wine, which, like Ashkelon wine, became popular in the late fourth century and reached peak demand in the second half of the fifth–early seventh centuries CE. The appetite for this and other southern Levantine wines arose as a result of several influential processes, leading among them the growth of the new capital at Constantinople and its positive economic effect on the eastern Mediterranean (Ostrogorsky 2003: 59; van Dam 2010: 77). More specifically, the growing popularity of Christianity, and the rise of both the pilgrimage movement and the ascetic communities, served as efficient platforms for familiarizing the Mediterranean world with wines originating in the Holy Land. With the spread of the ritual of the Eucharist, wine from the Holy Land gained particular sanctity. While the western part of the Mediterranean may have been lost to the empire, the new kingdoms that now controlled the region adopted essential elements of Mediterranean routine and Roman culture, including Christianity, and the wine trade between the eastern and western parts of the Mediterranean continued to prosper regardless of political changes (Chrysos 1997: 18; Pohl 1997; Lebecq 1997; Halsall 2007: 19–22; Brown 1971: 144).

Throughout the fifth–seventh centuries, Gaza wine was praised by western poets and writers (Mayerson 1985: 75–76). Among others, Corrippus in the sixth century writes:

sweet gifts of Bacchus, which fruitful Sarepta and Gaza had created and which beloved Ashkelon had given to her prosperous colonists ... the ancient gifts of Palestinian Lyaeus were mingled in, white with the color of snow, exceedingly light and with an agreeable taste. (Corippus, *In Laudem Iustini* 3.88; trans. Cameron 2003)

This wine, according to available sources, was white, sweet, and of high quality (Corrippus, *In Laudem Iustini* 3.88; Gregory of Tours, *Hist. Franc.* 7.29, *Liber in Gloria Confessorum* 64; Mayerson 1993). Contemporary writers are clear in demonstrating how its popularity rose with the increase of pilgrim traffic, and how it gradually gained global reputation (Decker 2013: 105–7; Mayerson 1985: 75).

Gaza wine also appeared frequently in western European poetry and stories, emphasizing its popularity and quality.<sup>1</sup> Its name was employed in the context of the treasures of the Earth; and in poetical discourse it was associated with high quality, richness, and general pleasure. The mere use of the phrase “Gaza wine,” devoid of supplementary adjectives, suggests that the audience of these poems and stories was familiar with the

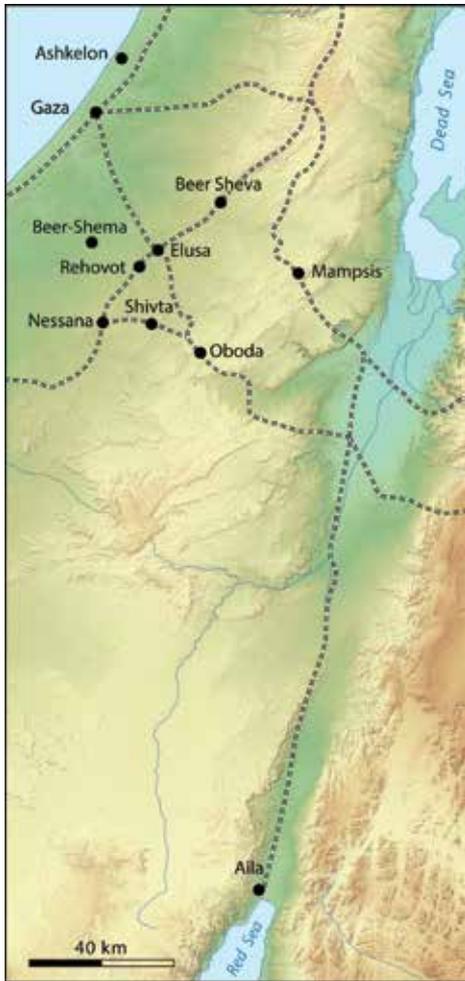


Figure 1. Map of the Negev-Gaza micro-region. Map prepared by Sapir Haad.

wine associated with Gaza and appreciated its quality (Lantos 2018).

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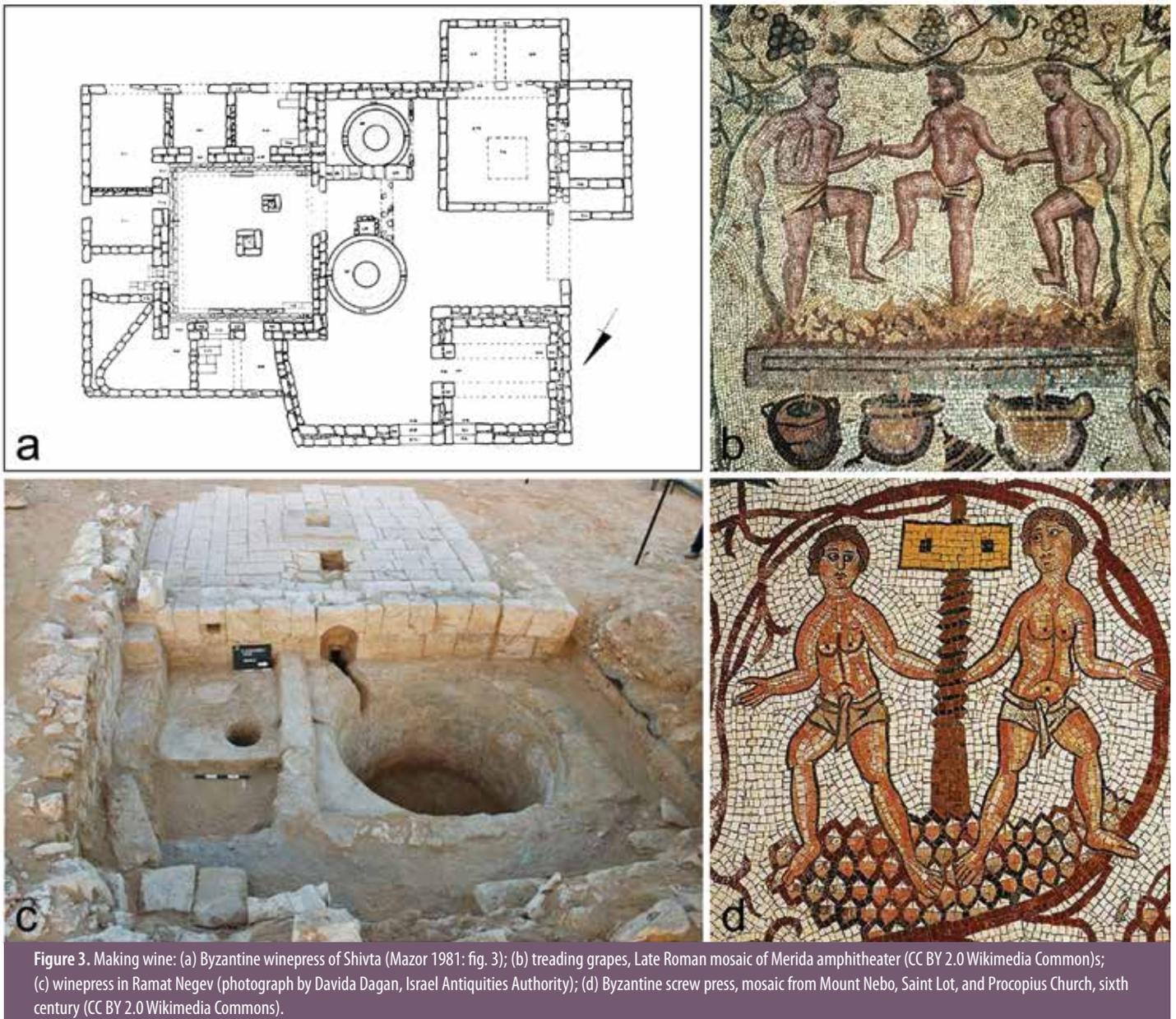
Gaza wine received its name from the port city from which it was transported (fig. 1) to multiple sites around the Mediterranean. Wine presses were, of course, discovered in Gaza's immediate vicinity (Israel and Erickson-Gini 2013: 189–91; Ayalon, Frankel, and Kloner 2009: 349–50), but, as in most cases of large-scale primary production aimed for export, the ancient city would have relied on its agricultural hinterland. By the sixth century, Gaza wine became a brand name—like modern Jaffa oranges, Dijon mustard, and Chianti wine—indicating its geographic designation origin. It appears that, at least as far as the local wine industry was concerned, the



Figure 2. The Negev terroir: (a) modern vineyard in the Negev in Kerem Ramon; (b) wadi in the Negev; (c) agricultural installations near Nessana. Photographs by Joshua Schmidt.

name of Gaza—the main harbor city in the area—came to represent the entire micro-region.

One of the distant parts of Gaza's hinterland would have been the Negev Desert, especially the Negev Highlands, which provide rich evidence of widespread viticulture and high-scale wine production (fig. 2). To overcome the aridity of the area, an elaborate run-off wadi cultivation system was developed, combined with the local chain of cisterns already in use by the Nabataeans. It was improved in the Roman-Byzantine period and made large-scale cultivation of agricultural crops possible, including the



farming of grape vines (Mayerson 1960: 13, 22–36; Rubin 1996: 53–54; Decker 2009: 194; Ashkenazi, Avni, and Avni 2012: 57; Avni, Avni, and Porat 2019; Tepper, Porat, and Bar-Oz forthcoming).

Previous research has focused on the agricultural system of the Negev and its unique, sustainable infrastructure (Evenari, Shanan, and Tadmor 1971; Decker 2009; Tepper et al. 2017; Tepper, Porat, and Bar-Oz forthcoming). Separately, Gaza wine and its trade have also been studied through historical accounts (Mayerson 1985, 1992, 1993; Decker 2013; Decker and Kingsley 2001; Kingsley 2001, 2004). However, none of these studies have focused on the connection between the Negev agricultural production and the Gaza wine trademark. The project “Crisis on the Margins of the Byzantine Empire,” headed by Guy Bar-Oz, and sponsored by the European Research Council, brings together scholars from different fields in order to discover and analyze new evidence in the Byzantine Negev and to shed new light on

existing data. Viticulture—more specifically viniculture—and the trade in wine were some of the focal points of this project, and the results suggest that a significant part of the wine known as Gaza wine was in fact produced in the Negev desert. Four categories of evidence are relevant in support of this theory: written sources, archaeobotanical evidence, archaeological materials, and iconographic representations.

### Written Evidence

Numerous historical accounts mention the vineyards in the Negev, sometimes in direct connection with winemaking. Procopius of Gaza, for example, writes to his friend Jerome:

There will be a day when you will see Elusa again and you will weep at the sand being shifted by the wind stripping the vines naked to their roots ... (Proc. Gaz. *Epist.* 81; trans. Westberg 2017)



Figure 4. (a) Late-antique Gaza jar (LRA4); (b) Gaza jar, mosaic from the Church of Beer Shema (CC BY 2.0 Wikimedia Commons).

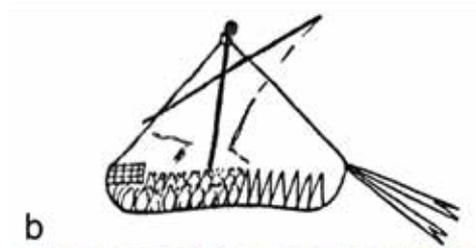
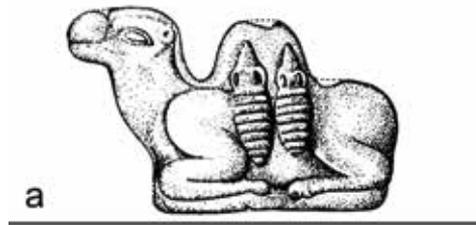


Figure 5. Different modes of transportation of Gaza amphorae: (a) on the side of a camel, Byzantine terracotta bottle from Ashkelon (McCormick 2012: fig. 3.7); (b) ship graffiti with jars inside the ship from Oboda (Avi-Yonah 1942: 16); (c) ship mosaic with jars on board from the House of Kyrios Leontis at Scythopolis (CC BY 2.0 Wikimedia Commons).

Stories and descriptions of saints and monks often take place in the region's vineyards, especially in those around Elusa: St. Jerome's *Life of Hilarion*, for example, documents numerous vineyards in that vicinity. This region was a center of monasticism in late antiquity, and Hilarion himself founded his monastery south of Gaza in the fourth century; he is considered the founding father of Gazan monasticism and one of the important Christian fathers in the region (Westberg 2017: 399; Hirschfeld 2004: 62). In his biography written by Jerome, Hilarion is said to have visited multiple monasteries and monks and their vineyards in the desert around Elusa:

Wishing to set the monks an example of humility and of zeal he was accustomed on fixed days before the vintage to visit their cells. ... With a great company of monks he reached Elusa. (Jerome, *Vita S. Hilarionis* 26.25; trans. White 1998)

Or in another case, a few paragraphs later, still in the same region, he is said to have visited a vineyard owned by Sabas. After the saint's blessing, the vineyard started to produce a triple quantity of wine (Jerome, *Vita S. Hilarionis* 27.27–28). A very similar story of a miraculous event is known from the *Life of Peter the Iberian* (137).

These quotations illustrate that vine cultivation was a preferred agricultural activity around Elusa, which was called "the head of the desert" (Piacenza Pilgrim 34.1–2; trans. Caner 2010). Grapevine was grown by monks and secular

farmers as well (Negev 1981: 211–14; Kingsley 2001: 49). The fact that Hilarion had a set time immediately before the vintage for visiting the monasteries and vineyards suggests that it was one of the main events of the year in the routine of monasteries and farmers. Furthermore, the calendar used in the *Life of Hilarion* and in the Elusa region in general was an adoption of the Gaza calendar. The Negev towns used the Gaza era to mark the years and months (Sivan 2008: 343; Di Segni 2004: 43). The adoption of the Gazan calendar, as well as additional attributes such as Gazan measurement standards, imply a significant economic connection between Gaza and the Negev. Indeed, the Nessana papyri suggest that during the Islamic period Gaza became the official administrative center of the whole Negev area (Di Segni 2004: 54–55).

The Nessana papyri contain, additionally, information about the vineyards around Nessana, comprising mostly contracts of property divisions. P.Ness 16, for example, records changes in the ownership of land, and dates them to 512 CE. The land has been divided between Zunayn; John, a soldier; and his sister. The property was located east of the village (line 6: ἐξ ἀνατολῶν τῆς κώμης), across the wadi from Nessana, and included a vineyard (line 33: ἀμπ[ε]λώνος).

Another papyrus, P.Ness 31, documents a similar division of property between three brothers after their father's death. It mentions farms, buildings and gardens, including a vineyard (line 10, 14: ἀπελώνος) located on the north slope of a hill. Additional fragments also mention vineyards, such as P.Ness 32, P. Ness 34 and P.Ness 97.

These papyri give a valuable insight into the routine of the Byzantine Negev and provide information about the existence of vineyards around the town of Nessana. Some of the documents even mention the location of the vineyards, mostly on the hill slopes or in the wadi bed, where the run-off water could be caught, but also just outside of the village, close to cisterns (P. Ness 16, 31, and 32). This provides important insights into how the wadi run-off system might have operated (Mayerson 1960: 13, 22–36; Nevo 1991: 4, 92; Rubin 1996: 53–54; Decker 2009: 194; Evenari, Shanan, and Tadmor 1971: 148).

The literary sources presented here suggest that Negev agriculture included a significant degree of vine cultivation. This in itself does not prove that grapes were grown for the sole purpose of wine production; but, combined with the archaeological, iconographic, and archaeobotanical evidence, we can draw direct lines between the reported abundance of viticulture and

the local wine industry, indicating that wine production played an important part in the Negev economic routine. Insofar as the picture of abundant viticulture represents production of wine on a scale exceeding local consumption, there is a high probability that surpluses were exported to Mediterranean networks under the name of Gaza wine.

### Archaeological Remains

The archaeological corpus comprises agricultural and industrial installations, wine presses, and wine amphorae (fig. 3). Multiple industrial installations have been discovered throughout the Negev, indicating large-scale wine production (Mayer-son 1985: 75). Large wine presses were discovered in most of the Byzantine Negev settlements—two in Elusa, three in Shivta, and six in Oboda (Mazor 2009). Recently, two additional wine presses were discovered in the area: one in Ruheiba (Dahari and Sion 2017) and another one in Mashabei-Sade, 10 km east of Elusa (Erickson-Gini pers. comm. 2019). All of these presses were built according to the same general plan, containing three main parts: (1) compartments for storing the grapes and wine; (2) treading floors (16–33 m<sup>2</sup> in size) with one or two screw presses (Frankel 1999; Ayalon, Frankel, and Kloner 2009: 4–10); (3) one or two receiving vats to collect the must (2.60–8.80 m<sup>3</sup> in volume) (Mayer-son 1985: 77; Mazor 1981). Wine presses of the same type were found in Ashkelon (Ayalon, Frankel, and Kloner 2009: 349) and in Negba (Ayalon, Frankel, and Kloner 2009: 359). The dimensions of these presses point to industrial-scale production. Some presses with similar dimensions were found in other parts of the southern Levant, but the majority of the examples known to us are smaller (Ayalon, Frankel, and Kloner 2009; Israel and Erickson-Gini 2013).

This leads us to the wine amphorae themselves. The main containers produced for the Palestinian wine trade were the late-antique Palestinian wine amphorae, and particularly the Gaza jars (LRA4) (Mayer-son 1992; Kingsley 2001: 49; Pieri 2005: 105–6). The Gaza jars (fig. 4a) were designed for both land and sea transportation. Although they could contain any type of liquid or foodstuff they were mostly used for wine storage and transport (P.Ness 85). It is a telling fact that in contemporary literature they are called Gaza jars (γαζήτιον, γαζήτια, γαζίτιον, γαζίτια, γαζίτι, signifying that, like the wine, they represented the entire microregion, rather than the city of Gaza alone (P. Got. 17; P. Iand. 6.103; P.Oxy. 16.1924; P.Vind.Worp. 11).

Gaza jars were found in high concentrations of 50–70 percent of all assemblages in surveys and excavations of Byzantine sites in the Negev. A slight decrease in their presence is noticed for the Late Byzantine period (550–640 CE), and in the Early Islamic period this decrease continues (Bar-Oz et al. 2019: 4–5, 9; Tepper et al. 2018; Tepper, Porat, and Bar-Oz forthcoming). The domination of Gaza wine jars in the Negev sites signifies the connection between the agricultural farms of the hinterland and the brand of Gaza wine. The wine was produced from Negev-grown vineyards in Negev-based wineries, packaged in Gaza jars—whether brought in for the purpose or locally produced—and

then transported by camels (fig. 5a) to the port of Gaza for distribution by ships (fig. 5b, c) to Mediterranean markets.<sup>2</sup>

### Archaeobotanical Remains

Recent excavations in the Negev have produced numerous grape pips, indicating the popularity of the vine particularly in towns and their surrounding areas. The archaeobotanical assemblages were obtained from different contexts, such as the floors of domestic buildings, trash dumps of settlements, and pigeon towers at the agricultural hinterland of urban sites (Tepper, Erickson-Gini et al. 2018; Tepper, Weissbrod et al. 2018; Bar-Oz et al. 2019; Hirschfeld and Tepper 2006). On the outskirts of Shivta, two recently excavated pigeon towers proved to contain a high volume of archaeobotanical material. More than 50 percent of the assemblages consisted of various sorts of fruit, with grape seeds comprising a significant part among them (>10%). Besides the seeds, pollen originating in the vines and grape twigs was also retrieved (Ramsay, Tepper et al. 2016: fig. 6; Ramsay and Tepper 2010: fig. 4; Tepper, Weissbrod et al. 2018).

Trash middens excavated in both Shivta and Elusa produced a high percentage of grape pips as well. In the Early Byzantine (300–450 CE) loci, 13 percent of all fruit remains consisted of grape pips, while in the Middle Byzantine (450–550 CE) layers grape remains make up 24 percent of the botanical finds. This rise in the quantity of grape seeds aligns both with the peak of the Gaza wine production in the entire microregion, and with the volume of its exportation across the Mediterranean (Fuks et al. 2016: 2–3; Bar-Oz et al. 2019; Fuks et al. forthcoming).

A case could be made for ascribing these and similar finds to the importation of grapes. However, the fact that local, contemporary pigeon towers contain a high percentage of grape remains, including not only seeds, but also pollen and twigs, in conjunction with the textual evidence and the large scale of the local wine industry, all indicate that grapes were cultivated locally and intensively.

### Iconographic Evidence

Iconographic evidence from the Negev represents the process in vivid colors. A mosaic from Kissufim depicts a camel driver holding a stick and a cluster of dates in his hands, leading his camel, whose load includes four Gaza amphorae on each side of the saddle. The mosaic, dated to 576–78 CE, was unearthed in the Byzantine Church of the settlement, located 5 km off the Roman road that connected the wineries of Elusa and Beer-Sheva to Gaza. It was probably also a station for caravans and merchants on their way to Gaza and back.<sup>3</sup>

The Greek inscription on the mosaic reads *OPBIKON* (*Orbikon*), which could be the name of the merchant who contributed the mosaic, suggesting just how dominant and profitable the wine trade was. Alternately, the word could originate from the Latin *orbis* (cycle), a synonym of the Greek κύκλιον φόρον (periodical offering) representing the offerings regularly donated to the church. This could mean that the mosaic was an offering made to the Kissufim church by a merchant or a caravan owner

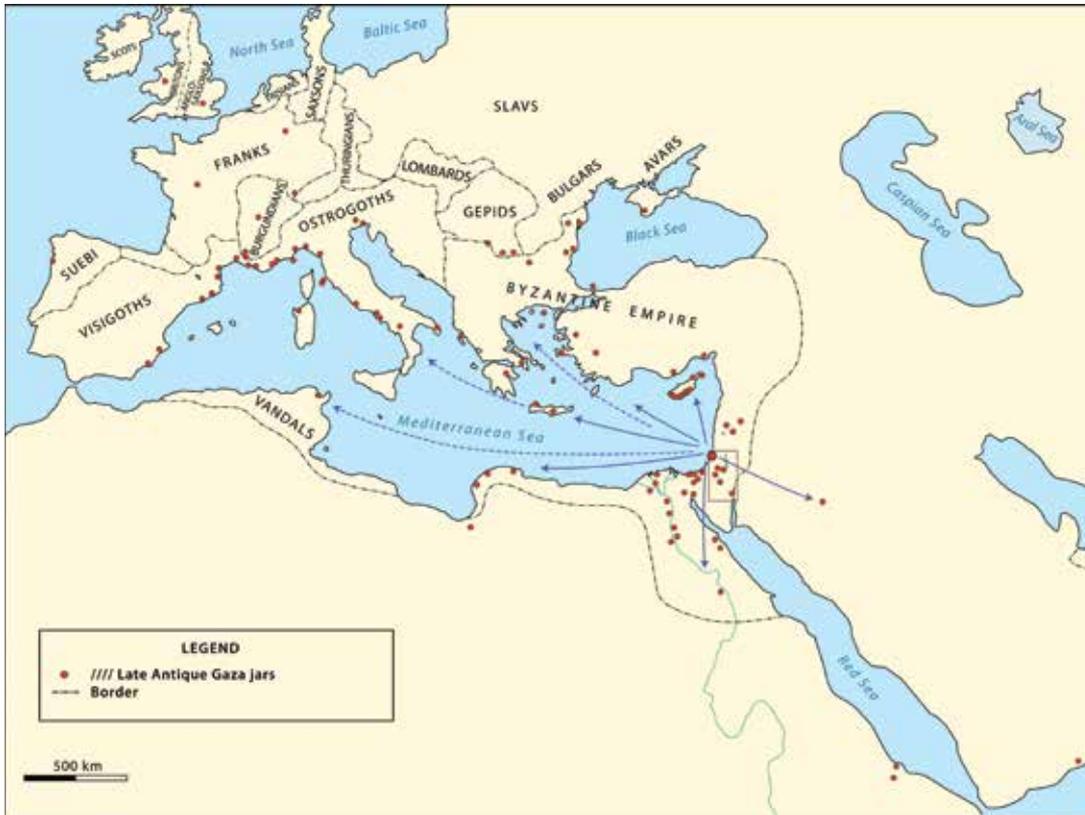


Figure 6. Distribution of Gaza amphorae. Map prepared by Sapir Haad.

(Cohen 1980; McCormick 2012: 72–73; Amiling et al. 2016; *CIIP* vol. 3, 2545; Bitton-Ashkelony and Kofsky 2004: 48).

Similar representations from the third and fourth centuries showing terracotta bottles shaped to be carried by camels were found in Ashkelon, Nag Hammadi, Alexandria, and Aphrodisias (McCormick 2012: 74–75).

Mosaics from fifth-century Scythopolis and sixth-century Haditha depict Gaza jars on board ships (Kingsley 2001: 52–53). And a mosaic from Beer-Sheva presents Gaza jars together with grapes and vine leaves (fig. 4b; Israel 1995: fig. 12), whereas the Shivta church boasts grape leaf decorations. The fact that graffiti of ships were found in Oboda and Nessana completes the picture, demonstrating the acute awareness of all parties involved of the complex yet efficient elements of the process (Avi-Yonah 1942: 148–50).

### Gaza Wine Distribution

The presence of sherds of Gaza amphorae (fig. 6) in numerous sites across the Mediterranean portrays clearly the trade routes and transportation range of the Gaza wine (McCormick 2012; Kingsley 2004, 2001). Remains of Gaza jars were found in high concentration on sites all around the Mediterranean—in France, Italy, Greece, North Africa, and Anatolia, as well as further inland in Switzerland, Germany, and northern France, and even in Britain. Furthermore, Gaza jars made their way to the southern desert of Sinai, to the Red Sea, and to Qana in southern Arabia (Kingsley 2001: 53).

Finds of Gaza wine jars (LRA4) dating prior to the fifth century are still scarce around the Mediterranean. In the mid- to late fifth century, the percentage of finds rises significantly, to peak in the sixth century. This dominance decreases again in the early seventh century, presenting an alignment with the periods of prosperity and decline in Byzantine Palestine and in the Gaza-Negev microregion (Kingsley 2004: 98–99; Decker 2013: 110). The curve of prosperity and decline may be followed with fine resolution through all the forms of evidence listed above, and the connection between the production sites of the Gaza wine and its numerous destination points may thus prove to be direct.

The Islamic conquest brought changes: The volume of pilgrimage and international trade declined, but local exchange continued, and so did life in Negev towns and monasteries, if at reduced levels. Demand for Gaza wine gradually faded, and the percentage of Gaza jars in the Negev as well as in the Mediterranean dropped accordingly (Kingsley 2004: 99; Decker 2013: 111). Nevertheless, our evidence shows that local wine production continued in the Negev also during the early Islamic period. Muslims did not forbid the religious practices of the Christian and Jewish communities in Palestine, and wine consumption was not prohibited. Indeed, within Muslim communities themselves wine was not categorically forbidden in the early Islamic period, even as it gradually grew marginal and less acceptable (Kueny 2001: xi, 1–2, 26, 102; Matthee 2014: 101; Schick 1995: 280). The main focus of Palestinian trade now shifted eastwards, targeting the Arab territories, while the means of transportation shifted from sea to land accordingly (Schick 1995: 78–79; Moorhead 2001: 224–23, 237; Avni 2014: 13, 257, 267–71, 274; Decker 2013: 112–13).

While Islamic rule did not induce a sudden collapse of Negev society, long-term changes were nevertheless triggered. Next to the political and economic shifts, there is also evidence of a significant global climate change during this period that did not necessarily affect the climate of the Negev but influenced its commerce (Bar-Oz et al. 2019; McCormick 2019). The fragile, local economy, which prospered in marginal environmental conditions and depended heavily on Mediterranean markets, gradually declined during the eighth through tenth centuries;

the settlements themselves were ultimately abandoned, and local viticulture was not practiced again until modern times.

## Conclusion

The integration of historical and archaeological sources allows for a holistic analysis of the significance of wine production in the late-antique Negev, indicating distinctly that it was one of the main production areas of the popular Gaza wine. Human ingenuity learned to overcome the local challenges of the Negev's arid environment, and these achievements, which peaked during the Byzantine period (fourth–seventh centuries), served as ready-made infrastructure for the expansion of viticulture to industrial capacity. Furthermore, the Negev's terroir, with its particular arid climate, soil, and terrain, would have affected the qualities of the wine and its taste, and may have contributed to its success.

Gaza was one of the most important ports for pilgrimage traffic, as well as an entrepot for goods moving between the Far East and the Mediterranean. The influence of Gaza on the Negev was significant economically, administratively, and culturally (Elliot 1982: 4; Glucker 1987: 26–28; Sivan 2008: 43–54, 343; Di Segni 2004: 41, 53–55; Hirschfeld 2004: 62–63). Part of the economic activity generated through Gaza relied on the agricultural lands and industrial complexes of the Negev, its settlements, farms, and monasteries. The wine supplied to Gaza through entrepreneurs such as the likely Orbikon was next distributed throughout the Mediterranean basin under the name of the port city from which it was shipped (Sivan 2008: 342; Lantos 2018).

The distinct prosperity of contemporary Negev society should be approached as the flip side of the coin: Wealth flowed into Shivta, Halutza, Nessana and the other towns and villages of the area just as wine was flowing out of them, in parallel lines that were obviously mutually beneficial. The capital produced from the wine industry should be seen as a significant facilitator of the rich and elaborate importation market visible in the Negev.

Imported amphorae and fine ware from Cyprus, North Africa, Asia Minor, and Greece demonstrate the extent to which Mediterranean goods and fashions were known to the local population and obtainable to those able to finance them (Kingsley 2001: 57–59; Kingsley 2004: 117–19). Much as the Mediterranean world had access to the wine produced in the desert, Mediterranean luxuries were available for the dwellers of the desert, at least for as long as they could continue to produce sufficient surpluses of their wine.

Perhaps unsurprisingly, distinct features of Mediterranean connectivity, familiar to us from coastal areas, are clearly visible in the Negev routine. Nowhere is the taste for fashionable parrotfish dishes, so widely lauded across the ancient Mediterranean by naturalists, physicians, and cuisiniers such as Pliny, Galen and Apicius, better exemplified than in the refuse mounds recently excavated in Halutza and Shivta, which produce ample parrotfish bone remains—enough to suggest regular consumption by locals (Gambash et al. 2019). A straight line passes also between the shipment of Carystian marble columns sent by the empress Eudoxia to Porphyry of Gaza, and the “marble rush” evident in

the public routine of the Negev during the same period (*Vita Porph.* 84; Fischer 1998).

As long as high-scale local wine production continued and Mediterranean connectivity persisted, there was, in fact, nothing marginal about the southeastern margins of the Byzantine Empire. The Negev desert was indeed located on a remote corner of the empire, distant from imperial centers of power in the north, but its northern reaches lay in proximity to the Mediterranean coast, allowing for a manageable connection of the entire micro-region to Mediterranean networks of commerce and knowledge. The central place dedicated to the representation of the Negev-Gaza microregion in the Tabula Peutingeriana and the Madaba Map demonstrates perhaps most vividly of all its important part in regional networks of mobility and economy.

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## Notes

1. Fortunatus, *Vita S. Martini* 2.81–82; Sidonius Apollinaris, *Carmina* 17.15; Cassiodorus, *Variae* 12.12.3; Gregory of Tours, *Hist. Franc.* 7.29; *Liber in Gloria Confessorum* 64.
2. Primary sources on Gaza wine trade: *Expositio totius mundi XXIX; Life of Porphyry of Gaza* 58; *Life of John the Almsgiver* 10.
3. Other caravan stops mentioned in the Nessana Papyri: P.Ness 72, 73, 74, 89.

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