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A Roman Sprit-Rigged Vessel Depiction from Marmara Island (Proconnesos), Turkey

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ABSTRACT

A Roman inscribed grave stela with a rare depiction of a sprit-rigged vessel was discovered in 1998 in the west necropolis of Saraylar on Marmara Island (ancient Proconnesos, modern Balıkesir Province, Turkey). Dated to the 2nd–3rd century AD, it was stolen in 2002 and recovered in 2016, and is now housed at the Bandırma Archaeological Museum. This article details new information provided by this and other Roman sprit-rig depictions documented since the 1950s, and discusses the possible roles of sprit-rigged vessels in Roman trade on the Sea of Marmara and Aegean.

KEYWORDS

Sprit rig; Roman grave stela; Proconnesos; Marmara Island; Roman ships; ship iconography

In the 1950s, Lionel Casson published the first systematic studies of iconographic evidence for sprit-rigged vessels in the ancient Mediterranean. Based on depictions on Hellenistic and Roman funerary monuments, Casson demonstrated the use of this sailing rig in the Mediterranean from as early as the 2nd century BC to at least the 3rd century AD (Bowen, 1957; Casson, 1956, 1960). A more recent addition to this corpus, a Roman grave stela discovered on Marmara Adası (ancient Proconnesos) in the Balıkesir Province of Turkey (Figure 1), has so far received little scholarly attention. In addition to exhibiting several unusual features in the hull of the vessel and a unique sail configuration, this find also provides rare evidence for the maritime trade of Proconnesos during the Roman Empire.

The Discovery of the Grave Stela

The exact location of the grave stela's discovery (Asgari catalog # OC.942/ Bandırma Archaeological Museum Inv. # 2017/1775(A)) has not been recorded, but it was reportedly found in the 'harbour necropolis' (*liman nekropolü*) to the west of the coastal village of Saraylar on the northern side of Marmara Island in 1998 (T. C. Kültür; <https://kvmgm.ktb.gov.tr/TR-173279/balikesir-ili-marmara-ilcesi-saraylar-beldesinden-2002-.html>). It is one of several grave stela with ship depictions discovered on the island, although most date to the 19th century (Günsenin, 2005). The marble deposits on Marmara Island, covering an area of over 40 square kilometres, were exploited since at least the Archaic period and are



Figure 1. Map of the Sea of Marmara region (M. Jones).

still quarried today; Saraylar's ancient settlement served as a port for stone export (Asgari, 1995, p. 263; Carlson & Aylward, 2010, p. 154). Ancient architectural elements and quarry faces are frequently found during modern quarry operations on the island, particularly during the removal of old quarry dumps in order to reach the bedrock. Archaeologist Nuşin Asgari has documented finds in the Saraylar district since the 1970s (see Asgari, 1995, p. 263, n. 1, 265 for references), while local authorities have permitted the quarry companies operating on the island to establish open-air museums to store and display such finds. It was from one such open-air museum that the stela was stolen in 2002. In 2016, curators of the Istanbul Archaeological Museum successfully located the stela in the hands of a private collector; it was reclaimed by the authorities and sent to the Bandırma Archaeological Museum, where it is on display today (Figure 2a, b). While a sketch and short catalog description of the grave stela and its ship relief have previously appeared in H. Özdaş' PhD disser-



Figure 2. (a) Three views of the Roman grave stela of Gorgias at the Bandırma Archaeological Museum (Balıkesir Province, Turkey) (Asgari Cat. #OC.942; Bandırma Archaeological Museum Inv. # 2017/1775(A)) Metashape model by G. Öçgüden, adapted by M. Jones); (b) detail of Roman grave stela (Photo by M. Jones).

tation on ancient ship iconography in Anatolia (Özdaş, 2000, p. L. 49, Ş. 84; also reproduced in Aslan, 2010, p. 66, L. IV, R.1), it has otherwise

received little attention in comparison to other ancient sprit-rigged vessel depictions, probably due to its disappearance between 2002 and 2016.

Description and Features

The front face of the stela (height: approx. 1.2 m/1.085 m exposed above the base; maximum width: 0.64 m; maximum thickness: 100–130 mm) displays the ship relief (l. = 539 mm; h. = 552 mm) above a six-line funerary inscription and below a stylized pediment-roof. Aside from the central scene there is little trace of additional carving aside from the better-preserved *akroterion* on the right side of the pediment and a central disc. Stylistically it appears consistent with a 2nd or early 3rd century AD date, similar to a number of Imperial-period funerary stelae on display in the Istanbul Archaeological Museum originating from the Sea of Marmara and northern Aegean region (e.g. Inv. 2724, 5825 T), particularly an example of a ship captain's tombstone from Lampsacus (see Figure 3). Although the helmsman on the Bandırma Museum stela is damaged, he appears to have the full head of hair and beard typical of Antonine portraiture, similar to the Lampsacus example (see, for example, Inan & Rosebaum, 1966, pl. LXXII, 1-2, CXIV; Poyiadji-Richter, 2009, p. 186, 193, fig. 6a, b). The sides and top of the stela are finished, but the rear face retains a rough quarry coat.

The vessel relief carving is nearly intact, with only a section of the sternpost behind the helmsman and some of the carved details of the helmsman himself missing due to (probably modern) surface damage.

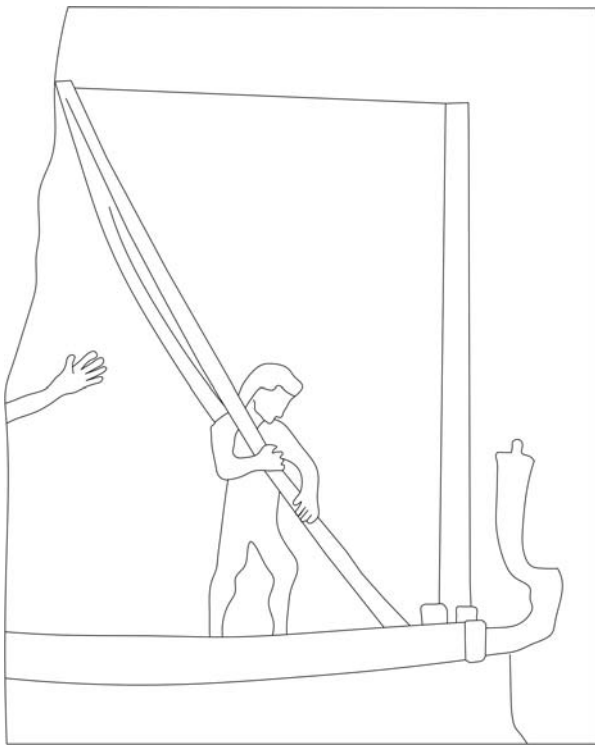


Figure 3. Sprit-rigged ship Grave stela of Demetrios, son of Chrestos, Istanbul Archaeological Museum (Inv. #4251 T), 2nd century AD (Drawing by M. Jones, after Casson, 1995, fig. 177).

The vessel's construction features are shown in detail. The ends of several frames are visible at the ends of the ship, particularly three frames at the stern. A T-shaped object just forward of the helmsman's legs may depict a cleat. Four wales are shown in the hull, with the upper three (including a caprail) in 'wings' or outriggers protecting the quarter rudders, a common design for quarter rudder mountings on Roman merchant ships (Casson, 1995, pp. 226–227; Mott, 1997, pp. 20–22). Only one quarter rudder is carved on the relief. Although Roman and medieval Mediterranean vessels typically employed two quarter rudders, some depictions show vessels being steered using only one lowered quarter rudder; the utility of this method under some sailing conditions was demonstrated with the *Olympias* trireme reconstruction (Mott, 1997, p. 48, 50–53; Morrison et al., 2000, p. 274; Zafropoulou, 1998, p. 38, fig. 9; Whitwright, 2009, p. 99, fig. 2). The quarter rudder appears to have two tiller bars set at approximate right angles. This specific design is unusual but tillers constructed of two joined, angled timbers are shown in a number of Roman ship depictions, including a sprit-rigged vessel depicted on a 2nd-century AD tombstone from Çanakkale (Lampsacus) housed in the Istanbul Archaeological Museum (Figure 3) (Istanbul Archaeological Museum Inv. # 4251 T; Basch, 1987, p. 479, fig. 1081; Casson, 1995, pp. 227–228, fig. 177, 179). It is possible that this style of tiller was particularly favoured for small vessels since it is not commonly shown on larger ship depictions. The position of the helmsman's hands seems to depict two separate tillers (as in the Lampsacus relief), with the rest of the port quarter rudder obscured by the hull, rather than two pieces of a single tiller.

The stempost has an unusual, crooked shape not typically seen on Roman vessel depictions; however, one similar depiction of a 2nd century BC sprit-rigged vessel on a grave stela from Thasos and a probable sprit-rig example from Marmara Island dated to the 2nd century AD displays a very similar stem (Figure 4) (Basch, 1987, p. 478, n. 1078; Casson, 1995, fig. 176; Özdaş, 2000, p. 94, L. 49, Ş. 83). Perhaps this was a feature specifically found on sprit-rigged vessels or vessels originating from the Sea of Marmara and northern Aegean, which suggests the possibility that this shape may have been advantageous in some way for handling the sprit rig (as a handhold for sailors?). Alternatively, it could represent a stylized swan or bird's head, a feature present on the sterns of many Roman merchant ships (see, for example, Casson, 1995, figs 139, 144, 147, 149, 150, 154, 156).

In the waist of the vessel, a raised object is shown protruding above the caprail, interspersed with at least five raised bands. The three thickest bands are located at the ends and centre of the object and appear to be connected to the caprail in some way, while two

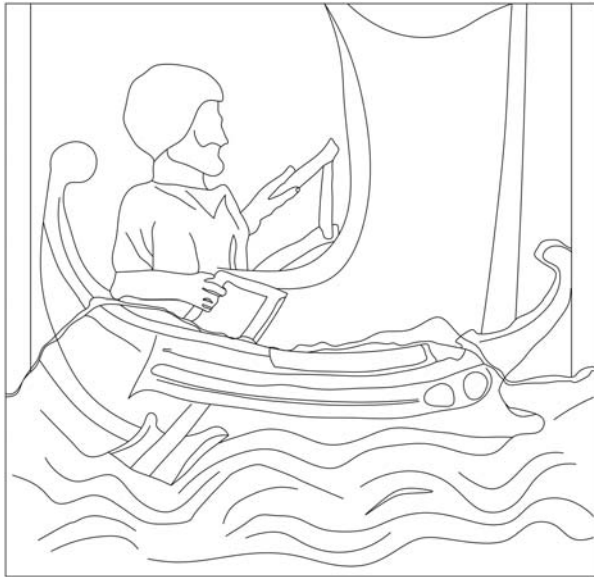


Figure 4. Detail of a relief of a sprit rig from Thasos, 2nd century BC (Drawing by M. Jones, after Casson, 1995, fig. 176).

thinner bands appear between the thicker examples (a third may have been included in a damaged area on the relief). These could represent supports for a roof or cover over cargo in the waist of the vessel; the fact that the curvature of this feature matches that of the caprail seems to support this interpretation. Another possibility is that some or all of the raised bands are features of the cargo itself. The stela itself originates from the main port for the island of Proconnesos, one of the largest marble sources of antiquity, and, according to Diocletian's Price Edict, one of the most inexpensive marble types in the later Roman Empire (Asgari, 1995, pp. 263–265; Carlson & Aylward, 2010, p. 154; Russell, 2011, p. 150; 2013, p. 63). The stela's origin suggests the possibility that these features were intended to represent a stone cargo, perhaps drum-shaped blocks to be used for columns or altars. Such elements were often transported from quarries with a 'protective envelope' or quarry coat, which could be partially or completely removed when they were used for construction; columns in particular often had 'a thicker ring near [the] extremities' of the stone for protecting their ends (Carlson & Aylward, 2010, pp. 147–148; Wurch-Kozelj, 1988, p. 55). This feature is visible on columns from the late antique shipwreck at Ekinlik, an island to the west of Marmara Island (Günşenin, 1998, p. 299, fig. 1, 300, fig. 2). The bands shown on the objects in the vessel's waist show some resemblance to such protective 'rings' on quarried cylindrical stones, while the thinner bands could perhaps represent ropes or cables for securing the cargo.

A textual reference from the 7th century AD in the *Miracles of St Demetrius* mentions the transport of marble architectural elements, including columns and a *kiborion*, stored in wadding and tow for

transport from Constantinople to Thessalonica (Lemerle, 1979, p. 235). No indication of such packing material is visible in this depiction, although dunnage would presumably have been placed between the cargo and the bottom of the hull (Russell, 2011, p. 147). Regardless of whether stone blocks or columns are actually shown on the relief, it is certainly possible that marble architectural elements were carried on such vessels.

The Mast and Spritsail

The single mast is located in the bow, just forward of the end of the third wale and caprail. The depiction of the sail is, to our knowledge, unique in the iconography of ancient Mediterranean sailing rigs. One of the vang runs aft, apparently secured to a cleat near the helmsman. An eye or cringle in the boltrope is visible at the lower corner of the sail in the relief. The sprit itself is not visible. There are at least two possible explanations for this omission. One possible (and perhaps simpler) explanation is that the sprit may not be shown because the vessel is depicted as sailing downwind, and the sprit itself is concealed behind the mast, or was originally painted rather than carved into the relief. Alternatively, either the sprit pole itself has been removed, or else brailed against the mast. Based on this interpretation, the eye or cringle visible on the sail could represent its peak or upper corner; such a feature would be necessary to fit over the upper end of the sprit (Lever, 1998, p. 51; Marquardt, 1992, p. 143; Moore, 1925, pp. 150–151). The nautical term for this configuration is a 'scandalized' sprit rig, since the sprit itself is not in place (Kemp & Kemp, 2007). Modern sailors of sprit-rigged small craft describe the use of a scandalized spritsail as a simpler alternative to shortening the sail by reefing (Fuller, 2016). The waves carved into the relief may have been intended to represent a choppy sea and windy conditions in which a shortened sail would be necessary, or the sailor is deliberately shortening sail to slow the vessel.

As with most ancient sprit rig depictions, the housing of the lower end of the sprit is not shown, and the method of seating the sprit pole is therefore unknown. Sprit rigs of more recent times typically secured the sprit above the mast step using a snotter (similar devices are known as tabernacles, muzzles, or greelbands on different vessels) (Marquardt, 1992, pp. 141–142; Moore, 1925, p. 149). A similar arrangement appears to have been used for one of the two sprits shown on the vessel from a sarcophagus from Çemberlitaş in Istanbul (Figure 5), the lower end of which is secured to the mast; this vessel appears to be sailing 'goose-winged' or 'wing and wing', with the wind abaft the beam (Bowen, 1957, p. 163; Casson, 1956, p. 3, fig. 3). Other ancient sprit rigs may have

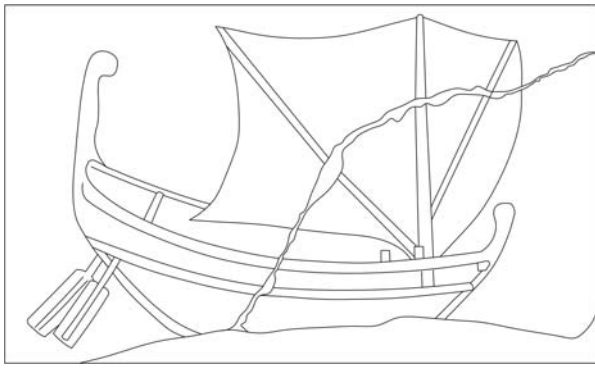


Figure 5. Detail of a sprit-rigged vessel with two sprits depicted on a sarcophagus from Çemberlitaş, Istanbul, now in the Istanbul Archaeological Museum (Inv. # 4252 T), 1st–2nd century AD (Drawing by M. Jones).

had such arrangements located below the bulwark, which may explain their absence in ancient ship depictions. The mast step of the 10th-century Byzantine shipwreck YK 6, which was probably sprit-rigged based on the timber's location at one end of the hull, exhibits only one socket for the heel of the mast (l. = 65 mm; w. = 50 mm; depth = 54 mm) (Kocabaş, 2008, p. 111, fig. 7). This suggests that the sprit pole may have rested on top of the mast step or else used a snorter or similar arrangement. The disarticulated, damaged mast step of the 10th century AD YK 24 shipwreck has also been proposed as a possible mast step for a sprit rig; it has a single mortise for the mast heel (150 × 65 mm, cut c.95 mm through the thickness of the timber), although its greater length (min. l. 1.27 m) and straight rather than curved shape may have been less suitable for placement in the bow area of a vessel (Pulak et al., 2015, p. 46). Moore also describes a spritsail on the *ferilla*, a small vessel type from Malta, rigged with a 'Turkish sail' or spritsail stepped in a beam or thwart abaft the mast (Moore, 1925, p. 162).

Regardless of the specific details of the rig, the Bandırma Museum stela is a unique example of a sprit-rigged vessel depiction from the Roman Imperial period, due to the unusual way in which the sail is depicted. Regardless of whether the appearance of the sail is due to the use of perspective by the artist or to the depiction of a 'scandalized' spritsail, the functioning of the ancient rig itself appears to be more or less identical to that of sprit-rigged small craft from the Post-Medieval period.

The Inscription¹

The inscription below the relief scene (Figure 6) reads as follows:

ΥΠΟΜΝΗΜΑ

ΓΟΡΓΙΟΥ ΤΟΥ ΔΕΙΟΥ ΚΥΒΕΡΝΗΤΟΥ

Ο ΚΑΤΕΣΚΕΥΑΣΑΝ ΑΥΤῶ ΟΙ ΣΥΝΑ-
ΓΟΜΕΝΟΙ ΕΝ Τῶ ΕΜΠΟΡΙῶ ΝΑΥΤΑΙ
ΕΚ ΤῶΝ ΙΔΙῶΝ ΕΤῶΝ ΜΒ
ΧΑΙΡΕ

ὑπόμνημα

2 Γοργίου τοῦ δεῖου² κυβερνήτου

ὁ κατεσκεύασαν αὐτῷ οἱ συνα-

4 γόμενοι ἐν τῷ ἐμπορίῳ ναῦται

ἐκ τῶν ἰδίων ἐτῶν μβ'

6 χαίρει.

Monument in memory

of the noble captain Gorgias (son of Dios/of Dios?)³

which the sailors assembled at the emporium⁴

erected for his sake

the association of port sailors⁵

from their own funds. (He was) forty-two years of age

Farewell

The provenience of the stela and the inscription seem to indicate that Gorgias was a local inhabitant of the port (at least part-time), and that the stone was likely quarried and carved on the island; similar funerary formulae are known from other Roman-period funerary monuments (Barth & Stauber, 1996; <https://inscriptions.packhum.org/regions/1656>). The fine quality of the relief carving and the inscription might indicate that he was a person with some status

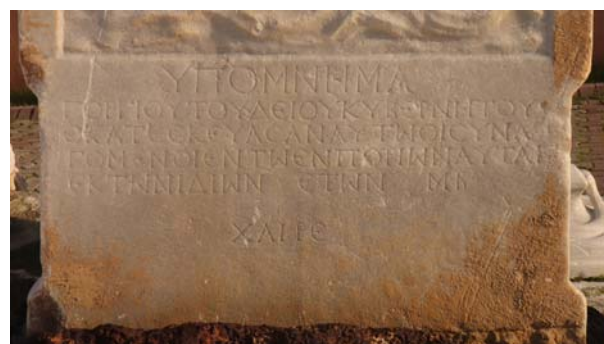


Figure 6. Detail of the inscription on the Saraylar grave stela (Photo: M. Jones).

in the community. However, skilled sculptors were almost certainly employed at the quarries on Proconnesos, so high-quality relief carving may have been cheaper here than elsewhere in the region. The exact nature of the group that funded the production of the grave stela is unclear: it may have been an informal group of sailors living in the main port of Proconnesos, some or all of whom may have been considered foreigners or part-time residents (Brokaert, 2011, p. 229; O. Delouis, pers. comm.). More likely this group was a professional trade association or *collegium* similar to those documented for maritime trades at Ostia and other port towns and cities (Frank, 1934, pp. 483–486, 491–492; Meiggs, 1973, pp. 311–336). Scholars debate the exact social and economic role of these groups. They appear to have played an important social role as a focus of drinking and feasting for their members, as well as providing access to a network that supported their economic interests (Brokaert, 2011, pp. 225–232; Gibbs, 2011, pp. 300–301, 308; Verboven, 2011). They also appear to have played a religious role, most prominently in the funerary arrangements of their members, as shown by many examples of funerary inscriptions from the Imperial period (Gibbs, 2011, pp. 302–304, 307; Meiggs, 1973, p. 334). Based on this evidence, it seems likely that Gorgias was a local member of a trade association of captains or skippers that paid for his funeral.

Comparative Evidence

Unfortunately, no explicit textual references to the use of the sprit rig are known from ancient sources (Whitewright, 2008, p. 152). Mediterranean sailors used sprit rigs since at least the 2nd century BC based on a ship depiction on a tombstone from Thasos (Casson, 1960, p. 3). Casson notes three other examples from Thessalonica, Istanbul, and Lampsacus, besides an additional example from Ostia, all dated stylistically to the 1st–3rd centuries AD (Casson, 1956, pp. 3–5; 1995, fig. 175–179; see also Basch, 1987, pp. 478–479, fig. 1077–1079, 1081–1083). Another 3rd century AD example is displayed in the Archaeological Museum of Thessaloniki (Polzer, 2008, pp. 244–245, fig. 19). Özdaş includes sketches of the Bandırma Museum stela and two additional vessel depictions not discussed by Casson: one from Proconnesos and one possibly from the Müsadere-Izmit region now housed in the Istanbul Archaeological Museum. Both are dated to the 2nd century AD and show vessels with masts stepped in the bows (i.e. the location necessary for the use of a single spritsail), but without sails or sprits shown in use (Özdaş, 2000, pp. 94–97, L. 49, Ş. 83, 85; L. 208, R. 27).

The prevalence of these depictions in the Sea of Marmara and northern Aegean region led Casson to suggest that ‘Very likely this geographical range is

mere coincidence. Yet there is always the possibility that it is more than that: the sprit-rig may have been a favourite with the sailors of these waters; they may even have invented it’ (Casson, 1960, p. 3). Frank (1934, pp. 484–486) notes the large number of Greek names associated with membership lists of maritime *collegia* in Ostia. If the spritsail was indeed an Aegean type, it is possible that Greek-speaking sailors from the Aegean or central Mediterranean colonies introduced the sprit rig to central Italy, perhaps for use in harbours, rivers, and canals at Rome and Ostia. A possible example of what appears to be a spritsail furled around a mast is identified by Casson on a plaque in a tomb from the Isola Sacra necropolis at Portus dating to the 3rd century AD (Casson, 1965, pp. 35–37, pl. I, 1). Casson calls this a ‘harbor tugboat’ propelled by three rowers and a helmsman using a single large steering oar secured to the sternpost. Its identification as a sprit-rigged vessel is based on the location of the mast at the forward end of the vessel; Casson argues that such a mast could be used for towing the vessel on rivers as well as for a spritsail. He also speculates that the Isola Sacra vessel was connected to the guild of the *lenuncularii tabularii*, who may have operated lighters, collected harbour dues, and towed vessels to their berths in the harbour (Casson, 1965, pp. 35–37, 39, pl. V, 2). Regardless of whether this interpretation is correct, a sprit rig is a sensible choice for a vessel with such functions, and it is possible that Gorgias’ boat was used in a similar way; Whitewright notes that ‘The simplicity and efficiency of the sprit rig means that it has remained common on small craft which often have to operate in confined waterways’ (Whitewright, 2008, p. 152). Nonetheless, larger sprit-rigged vessels were also apparently used, judging from the Thasos and (perhaps) the Çemberlitaş reliefs.

More recently, graffiti depicting sprit-rigged craft were discovered in the basilica in the agora of Smyrna, dating to the late 2nd or 3rd century AD (Bagnall et al., 2016, p. 26; Pomey, 2006, pp. 335–336). While most of the 48 ship images from the basilica depict square-rigged vessels or do not show sails, at least two appear to be sprit rigs (Bagnall et al., 2016, p. 29). The better-preserved example (Catalog # D28.1) depicts a vessel with a straight prow or possibly a transom bow (?) (Figure 7). Its spritsail is unfurled, and it displays three vertical bands on the hull. The purpose of these bands is unknown; perhaps they represent deployed fishing nets (?), or, as Pomey suggests, internal features of the hull such as bulkhead partitions or bilge pumps (Pomey, 2006, p. 336). Pomey also notes that the vessel’s straight prow is similar to those on several Hellenistic ship graffiti from Delos (Basch, 1987, fig. 374–10, 380–61; Pomey, 2006, p. 336). Alternatively, the depicted vessel could represent a small *horeia*-type vessel, perhaps used for fishing (Boetto, 2009, p. 289, 292, fig. 4, 294–295). A

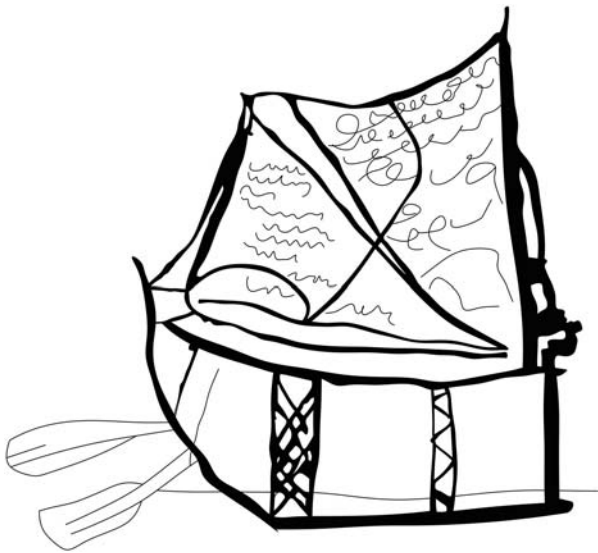


Figure 7. Graffito of a sprit-rigged vessel from the Roman basilica at Smyrna (D28.1). Probably late 2nd/3rd century AD (Drawing by M. Jones, after Bagnall et al., 2016, p. 275).

short graffito inscription ('To Isis, having been saved ...') near the graffito may be part of a 'riddle' written as a votive inscription (Bagnall et al., 2016, pp. 270–272, 275). A second ship graffito (Catalog # D 15.3) appears to have a mast drawn near its prow, possibly a representation of another sprit-rigged vessel (Bagnall et al., 2016, p. 179, 194). Pomey identifies the Smyrna graffito as a small coaster, noting that sprit rigs were a feature of small vessels in the Aegean during the Roman Empire (Pomey, 2006, p. 335).

Archaeological remains of possible ancient or medieval sprit-rigged vessels in the Mediterranean are extremely rare, but support the interpretation of the use of the rig for small vessels. The Yenikapı Byzantine shipwreck YK 6, dated to approximately the 10th century AD, likely represents a sprit-rigged craft based on the placement of the mast step at one end of the hull (Kocabaş, 2008, pp. 103–112; 2015, p. 11, 13, fig. 6). The hull of this vessel was preserved to a length of 6.2 m and a width of 2.5 m, with original estimated dimensions of 8 m in length and 2.5 m in beam; the YK 24 shipwreck was of a similar size (Kocabaş, 2008, p. 103; Pulak et al., 2015, p. 43, table 1). Sprit rigs are well-suited to such small craft and appear to have survived into the Byzantine period, although evidence from shipwrecks and ship iconography suggests that the lateen rather than the sprit rig was the dominant fore-and-aft type used in the Mediterranean in the later 1st millennium AD (Kocabaş, 2015, p. 11, 15; Pulak et al., 2015, p. 45; Whitewright, 2009, 2018, pp. 36–37).

Newer finds of Roman sprit rig depictions, including the Bandırma Museum grave stela, the Smyrna graffito, and the YK 6 shipwreck, support Casson's hypothesis that sprit-rigged craft were a notable presence in the Aegean and Sea of Marmara. However, the fact that

sprit-rigged craft represent only a small percentage of the many examples of ship graffiti in the Smyrna basilica seems to support Whitewright's assessment that they were never a dominant sailing rig type:

the abiding impression [of Roman sprit-rigged vessels] is of a sailing rig that was certainly used in antiquity, but which never achieved the ubiquitous acceptance within the maritime societies of the ancient Mediterranean, and their iconographic record, afforded to the square sail. (Whitewright, 2018, pp. 34–35)

He attributes this to their use as 'support and service vessels, rather than larger merchantmen or warships' (Whitewright, 2018, p. 35). Significantly, spritsails were used for similar types of 'support and service' vessels, including coasters, barges, launches, and fishing vessels, in Renaissance and post-medieval Europe into the 20th century (Moore, 1925, pp. 147–162). These later vessels may provide some insights on the use of the sprit rig in ancient times. Modern sprit rigs are described as weatherly and easy to handle on small craft. Local conditions in the Sea of Marmara and Aegean, may have therefore made the sprit rig especially suitable for coasters in these regions: it is an effective rig for inshore sailing in a variety of conditions.

Additionally, the mast location of sprit-rigged vessels in the bow allows a greater area of free deck space than other rigs, an important consideration for fishing and work boats. This might have also been advantageous for loading individual stone blocks or architectural elements into the waist of the ship. The design of Roman stone carriers remains a debated issue due to the lack of well-preserved hull remains associated with stone shipwreck cargoes. However, Beltrame and Vittorio note that large stone cargoes from Roman shipwrecks sometimes have a 'lack of space [for a mast step and mast] between the blocks'; they suggest that the ships did not have masts and were instead rowed or towed (Beltrame & Vittorio, 2012, pp. 145–146). The use of the sprit rig might have avoided such stowage problems, particularly on smaller vessels; sprit rigs were used on some early 20th-century barges carrying high-volume cargoes, such as hay, which left little room to manipulate the sails in the waist of the vessel (Moore, 1925, p. 153).

Finds of Proconnesian marble on shipwrecks tend to consist of large blocks or architectural elements: Russell lists eight shipwrecks known to have carried Proconnesian marble, only three of which were found close to the Sea of Marmara region (Russell, 2011, pp. 140–141, table 8.1). A shipwreck off the island of Ekinlik to the west of Marmara Island carried a main cargo of 5–7 m-long columns; the ship sank in late antiquity based on the presence of basket-shaped

capitals (typically dated to the 6th century AD) and amphoras on the wreck-site dated to the 5th–7th century AD (Günsenin, 1998, pp. 297–301, 1999, p. 20). Similarly, an Imperial-period (early 2nd century AD) shipwreck that sank off Şile on the Black Sea to the east of the Bosphorus carried several large pieces of Proconnesian marble, while the 1st-century-BC Kızılburun shipwreck carried eight large column drums for a Doric temple as well as other pieces of Proconnesian marble (Beykan, 1988; Carlson & Aylward, 2010, pp. 154–155). All of these elements appear to have been carried on much larger ships than those depicted with sprit rigs in Roman art. Although much of the scholarly discussion of stone-carrying shipwrecks tends to focus on such large stone cargoes, Ben Russell has emphasized the need to focus on different types of stone transport and exchange, including finds from smaller vessels (Beltrame & Vittorio, 2012; Russell, 2011, p. 139, 143, 145–146). Smaller ships likely played some role in the transport of stone, particularly for short- or medium-distance transport of decorative architectural elements for private commissions; Russell suggests that the quarrying and export of stone from Proconnesos and most other Roman marble quarries was predominantly a private rather than state-run industry (Russell, 2013, p. 58, 61–62). Asgari believes the majority of late antique exports from Proconnesos such as roughed out column capitals were destined for Constantinople, so smaller local vessels may have been a practical choice for transporting these architectural elements (Asgari, 1995, p. 275). Smaller ships also must have supplied the quarrymen and masons working on Proconnesos with many other commodities as well. The vessel on the Bandırma Museum stela cannot be conclusively identified as a stone carrier, but the prevalence of sprit rig depictions from the Sea of Marmara and Aegean area suggests that small-scale stone transport and transport of other necessities used by the island's quarry workers were likely some of the uses of small sprit-rigged vessels in the region.

Conclusion

The grave stela of Gorgias from Saraylar is an interesting new addition to the corpus of sprit-rigged vessel depictions from the Roman Mediterranean. Besides the particularly fine preservation and craftsmanship of the relief, it shows a number of unusual or unique details of Roman rigging technology. It is a unique example of a Roman spritsail in use, either sailing downwind or using the spritsail in a 'scandalized' configuration partially furled along the mast, a method of reducing sail that is used on modern sprit-rigged small craft today.

Based on the scale of the helmsman in the depiction, it appears to represent a smaller sprit-rigged

vessel whose closest parallel in the iconographic record is the 2nd century AD tombstone of Demetrios, son of Chrestos from Lampsacus (Çanakkale) in the Istanbul Archaeological Museum. While this is admittedly an imperfect method of determining the size of the vessel (even more so for the Lampsacus example, which includes an oversized helmsman), sprit rigs are particularly suitable for small vessels such as a number of those excavated from 10th-century contexts from the Theodosian Harbour excavations in Istanbul, including a probable sprit-rigged vessel, YK 6 (Kocabaş, 2015; Pulak et al., 2015, p. 43). Boats of this size can be sailed by a single person using a sprit-sail, one of the main advantages of this type of rig for small craft.

This raises the question of the function or functions of sprit-rigged vessels. It seems likely that there was a great deal of continuity in how these vessels were used since antiquity. As a fore-and-aft rig, it offers some more manoeuvrability in variable winds. Sources for later periods indicate the usefulness of this rig type for 'work boats' – Dutch fishing boats, Thames barges, and so on – a function consistent with Casson's interpretation of the apparent uses of the rig in the Roman period, such as 'tugboats' and river boats capable of being towed or pilot boats in harbours. Roman sprit-rigged vessels were likely well-suited for work as local coasters or fishing vessels on the Sea of Marmara as well. Scholars have debated whether purpose-built stone carriers were used in antiquity, with some questioning the necessity for purpose-built vessels for all but the largest stone cargoes (Russell, 2011, p. 146). Based on the location of its discovery, the Bandırma Museum stela also suggests one possible use of such vessels was as small-scale local or regional stone carriers, perhaps shipping smaller blocks or architectural elements from Proconnesos for buyers in the surrounding region. Regardless of the possible identification of cargo on the relief carving, the stela's provenience and inscription suggests at least an indirect link with the marble export industry of Proconnesos: Gorgias almost certainly worked on shipping routes between the island and the surrounding region. Roman sprit rig depictions from Saraylar and Smyrna still largely fit previous interpretations of the sprit rig as a type used mainly in the Sea of Marmara and Aegean in the 1st millennium AD for small coasters and utility vessels, although it was possibly in occasional use on larger vessels.

Notes

1. The authors thank Olivier Delouis, Haris Theodoridis-Rigas, and Inge Uytterhoeven for their translations and comments on the inscription, and Inge Uytterhoeven for providing references to similar inscriptions from Mysia.

2. Haris Theodorelis-Rigas, personal communication, 12 August, 2020:

This is difficult to translate with certainty. My first inkling is that this is the adjective $\delta\iota\omicron\varsigma$ ($\epsilon\iota$ and ι are very often used interchangeably in the period), which means ‘noble’, ‘excellent’, used here simply as an adjective in praise the deceased’s technical abilities. Another reconstruction with the same effect would be $\delta\epsilon\iota$ (ν) $\omicron\upsilon$ misspelled by the stone cutter as $\delta\epsilon\iota\upsilon$ which would also mean ‘capable’, ‘terrific’, ‘excellent’. There are two more options: (a) that it is a patronymic (‘son of Deios or Dios’) [Note: this translation is favoured by I. Uytterhoeven] or a civic adjective (‘of Dion’). There are several classical and Hellenistic cities of Dion (Latinized as Dium) but I could not find this form as an adjective for their inhabitants.

3. *Kybernetes* is here translated here as ‘captain’, following Casson (1995, p. 300, 314–315, n. 66, 316, n. 72). One of three occurrences of this term on funerary stela documented on <https://inscriptions.packhum.org/> is from Mysia (IMT Kyz Kapu Dağ 1570 – 1st c. BC).
4. The word *syngagomenoi* could have at least two implied meanings in this context: either as a more general term (‘... those who have come to settle in the port ...’), or as a more specific term for a formal ‘assembled’ group similar to a trade association or guild (H. Theodorelis-Rigas, personal communication, 12 August 2020).
5. Or, ‘... those who have settled in the port’. According to inscriptions.packhum.org, *nautai* are only attested on funerary inscriptions in Mysia: in Parion (IMT Gran/Pariane 1028: 2ndc. AD) and the Kyzikos region (IMT Kyz PropInseln 1321: Imperial period) (Special thanks to I. Uytterhoeven for noting the geographic distribution of this term in funerary inscriptions).

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