





canting). The shank may have been broken and hastily repaired with a section missing. Some of the other anchors are broken, at least one of them certainly before the time of the shipwreck. It would appear, then, that the ship (or possibly some other vessel) was carrying as one of its cargoes some relatively small, broken anchors, to be repaired or used as scrap iron. A study of the anchors has been undertaken by one of my team, doctoral candidate Ufuk Kocabaş, who helped to raise 31 anchors in the 2003 field season. All were X-rayed at the Nuclear Research Laboratory at Çekmece in Istanbul to make accurate 3-dimensional measurements and record all structural features, particularly welds. We plan to conclude the task by replicating the anchors, as was done at Yassıada and Serçe Limanı.

### Hull Remains

According to Jay Rosloff, the excavation's ship expert, and who was trained at Texas A&M University, no more than 3 percent of the hull is preserved, including a meter of keel, a few frame (rib) segments, and the traceable remains of perhaps 6 strakes (hull planks). Nevertheless, we have deduced that the vessel was a flat-bottomed craft, 5–6 m (16.5–20 ft) wide, built in the modern, frame-first manner with the planks attached to the frame by iron nails. The wood fragments were found within the three pockets of cargo amphoras that extend over a distance of 40 m (131 ft). However, an 8-m (26-ft) empty space between the first two pockets and the third pocket indicates that the ship had broken in two, and we presently estimate that the ship had an overall length of around 25 m (82 ft). From two wood samples identified by Peter Ian Kuniholm of Cornell University, we know that one plank is pine and one frame is elm.



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Even these sparse facts are important to the documentation of Medieval ship types, for this is the only ship of the 13th century excavated in its entirety. The list of comparative materials is short. The remains of the 11th-century “Glass Wreck” from Serçe Limanı, and a somewhat younger vessel from Contarina, Italy, are the best known examples from the general period. No ship's plans are extant and the building specifications that we know of raise as many questions as they answer.

### Merchants and Crew

A concentration of kitchen ware along with roof tiles indicates the presence of a galley at the ship's stern, while other kitchen ware found in the bow indicates a living area designated for the crew.

But what of the origin of our ship? Where was her home port and where was she sailing? How many passengers were on board? Why and how did she sink at Çamaltı Burnu?

The amphoras and daily table wares, including glazed dishes and bowls, are of recognizable Byzantine origin. The monogram stamps on the amphoras are Greek. Similar stamps found on handles of other amphoras from this period are the abbreviations of names, in most cases those of Byzantine emperors or members of their families who were owners of workshops. Presumably, the owners might also include cities, provincial nobility, private citizens, and large cloisters. Besides these stamps, Greek names are carved on some of the table amphoras and pitchers. Another important finding is a stamp mould. Made of an alloy of copper, tin, zinc and lead, it bears abbreviated Greek letters. Could it possibly belong to a “firm”? Unfortunately, the amphoras of the type found can't be linked to any place of production with certainty, we also makes the point of departure for the ship's last voyage uncertain. Also, we found no personal items belonging to the crew.

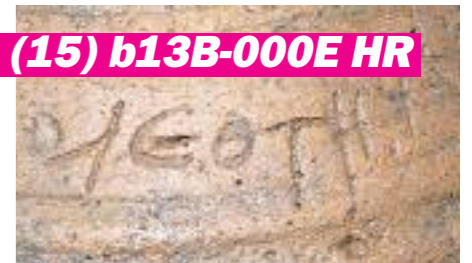
Early 13th-century written sources indicate that most of the crew, including the captain (*nauklêros*), on many Byzantine ships at that time were monks, since almost all the large monasteries possessed their own ships. These did not form big fleets nor were they involved in large-scale commerce.

In view of the nature of the cargo and the fact that wine was an important monastic commodity at that time, I believe that the cargo lost at Çamaltı Burnu belonged to a monastery in the Marmara region and was being shipped to the markets in Constantinople. The absence of carpentry tools and defensive weapons leads us to believe that our ship was making a journey of relatively short distance. The ship was probably sailing from west to east and then northwest, towards Constantinople, when it ran into some kind of trouble – probably strong winds. The captain tried to shelter in the bay of Çamaltı Burnu and ordered his crew to throw off all the cargo anchors in order to lighten the ship. When they realized that the end was near, they abandoned ship and made their way to the nearby shore, taking their belongings with them.

Ours is an ongoing project. We should soon complete the excavation, but that will end only the first leg of our journey into the Middle Ages. Physical and chemical analyses of the hundreds of amphoras, pitchers, jugs, cooking pots, cups, jars, stoppers, anchors, and hull fragments will have to be completed, but to answer all the questions raised by the ship's discovery will take many years.



(15) fig 32 HR



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(15) fig 19 HR