A 13th-Century Wine Carrier: *Çamaltı Burnu, Turkey*

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When I first saw the amphoras on the seabed at Çamaltı Burnu, in 1993, I knew that I had found my "fortune." To understand why, we must go back to the 1980s. I was then developing a typology of late Byzantine amphoras throughout Turkey's museums for my doctoral thesis, which resulted in my finding an important amphora production area at Gaziköy on the northwest coast of the Sea of Marmara. Gaziköy, known as Ganos in ancient and medieval times, was an important monastic center from the 10th century onward. Its monks, along with neighboring villagers, like those of many monasteries, had a virtual monopoly over the production and sale of wine in the area.

My survey of workshop areas at and around Gaziköy, followed by excavation of an amphora kiln, revealed a large amphora production, which indicated an equally large

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Çamaltı Burnu Factfile

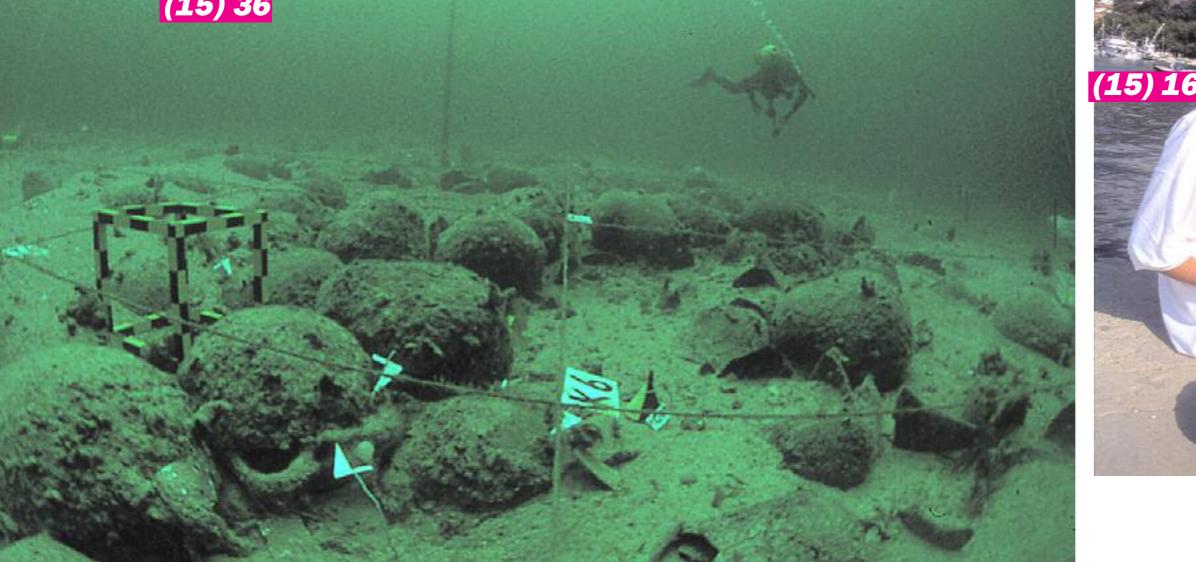
Location Marmara Island Date early 13th century Excavated 1998-2004 Dives 4295 Area Excavated 2000 sq m (xxxx sq ft) Depth 22-34.7 m (xx-xx ft) (100ft) Cargo c 800 amphoras and 30 scrap iron anchors Conservation Hull remains and iron anchors 2004 onwards

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production of wine, most of which would have supplied the markets of nearby Constantinople (modern Istanbul). Each time I returned to the region I dreamt of those monasteries and their vineyards - and the thousands of amphoras waiting to be loaded with Ganos wine. Enthusiasm for nautical archaeology, inspired by my meeting George Bass during the summer of 1979, at last led me to search for the ships that sailed from Ganos with those amphoras. My quest began at Marmara Island in the summer of 1992, shortly after completing the excavation of the kiln at Gaziköy. I still search around it and other islands in the Sea of Marmara, and so far have found eight shipwrecks loaded with Ganos amphoras.

The surveys also located a tile wreck, a water-pipe wreck, and, importantly, a marble wreck. The very name of Marmara Island, the site of one of the biggest marble quarries of late antiquity, comes from the Turkish word for marble. Many architectural pieces of the temples, monasteries and churches in Constantinople, throughout Anatolia, and even in Ravenna in Italy came from those quarries, yet this is the only marble wreck ever discovered near the island.

Let's return to the day I first dived at Marmara Island's Çamaltı Burnu (Cape Under the Pine). I was not looking for just any ancient wreck. At that time, the major archaeological material related to Byzantine maritime activities came from three wrecks excavated by INA along the Anatolian coasts: at Yassiada (7th-century), Bozburun (9th-century), and Serçe Limanı (11th-century), all of which are described



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in this book. Chemical analyses by Helen Hatcher of Oxford University on samples from the Serce Limani amphoras showed that most had been made in the region around Ganos, and so excavation of another 11th-century shipwreck would break little new ground. I was looking for a younger wreck. The amphoras on the seabed at Çamaltı Burnu were just that, of the 13th century - my "fortune."

These were the last major group of Byzantine ceramic containers used to transport wine in the sea trade, their place soon taken by wooden barrels. Further, little is known of the shipbuilding technology of this period, most of our knowledge being derived from written texts rather than archaeological remains. Thus the excavation of what I called the Çamaltı Burnu I Wreck might well contribute much new information about Byzantine maritime activities, particularly in the region of the Sea of Marmara, during or shortly after the brief period of Latin rule at Constantinople (1204–1261).

Even so, it took courage to decide to excavate the wreck. It would be the first Turkish underwater excavation. I had a very small team and budget. But I remembered George Bass's famous phrase in his book, Archaeology Beneath The Sea: "If you don't grab the bull by the horns when you have the chance, you will never get anywhere." So I grabbed the wreck! The day that I raised the first amphora, on 1 October 1998, two dolphins jumped over them. It was unbelievable. Was I liberating some spirit by showing sunlight to those ceramic jars after almost 800 vears?

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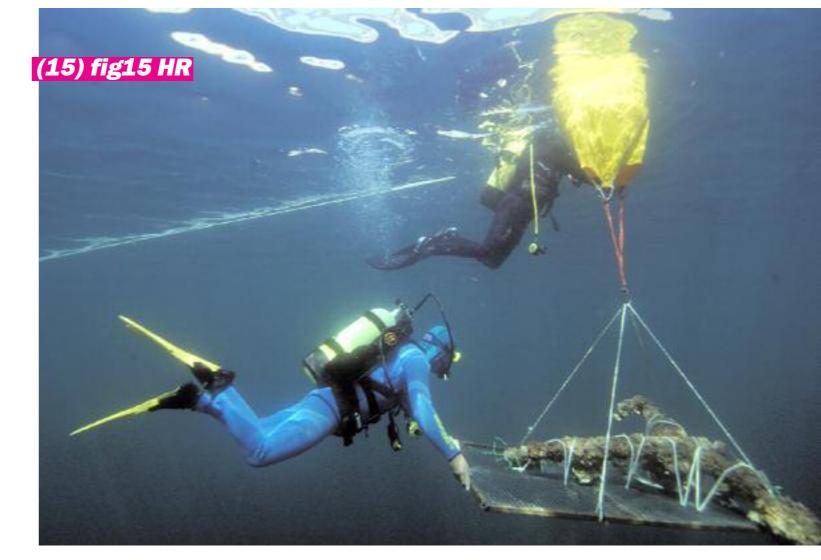
Wine Iars

The amphoras were distributed on a sloping sandy seabed in three principal pockets between 22 and 32 m (72 and 105 ft) deep. At least 30 anchors lay 17 m (56 ft) away from the amphoras, with a group of two-handled, flat-bottomed jars inbetween. We began the excavation by establishing a grid system to divide the site into 160 2-m (6.6-ft) squares and putting datum points around it. Each diver had his own square in which to map every object by taking at least three measurements with meter tapes from four datum points. Using the same computer software as that used by INA during its Bozburun excavation, we recorded extremely accurate three-dimensional locations of all the artifacts on the sea floor. My students had to measure carefully but quickly for at this depth each of us had only 28 minutes for the morning dive and 18 minutes in the afternoon.

Late cargo amphoras are not like the Greek or Roman amphoras with which most people are familiar: although thin-walled, they are huge, with large bellies, their size reflecting a need for greater capacity. They represent the transition from clay to wood transport containers.

The amphoras show a wide range of dimensions (41–80 cm (16–31.5 in) high) and capacities (15.5–98.5 liters). The sieved contents of intact amphoras usually yielded grape seeds, which, along with the amphoras' watertight pine-pitch linings, point to a primary cargo of wine. A few amphoras, however, were filled with pine pitch. The large mouths of the flat-bottomed storage jars suggested that they contained some commodity that was not liquid. The ship was carrying around 800 amphoras in total, and we estimate that the weight of the entire cargo of ceramic jars was between 50 and 60 metric tons.

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A Cargo of Anchors?

One of the smallest anchors at the wreck site would not have worked well, if at all,

The large number of anchors was initially very puzzling. Some are Y-shaped and others are T-shaped, but all are Byzantine in design. In addition to the 30 or more anchors lying about 17 m (56 ft) away from the amphoras, four broken anchors were found among the amphoras themselves. Almost all of the anchors have teeth of the same form, set at the same angle to the arms. It is therefore unlikely that even the anchors lying at some distance from the amphoras have to do with an anchorage, since in that case one would expect to find at least a few anchors of earlier or later design. It would seem, then, that all the anchors belong together, probably to our ship. Most are quite small and if the ship had used such small anchors, it could not have been any larger than around 30 tons in capacity – and no ship of such small size would have used anywhere near the number of anchors found. A ship of more like 400 to 500 tons capacity might have used around 30 anchors, including spares and heavier sheet anchors for use in storms, but they would have been much larger. since the shank (or shaft) is not long enough to permit the stock to easily come to rest flat on the seabed, thereby forcing one side of the stock into the sand (this is known as

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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 Cekmece 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 (26ft) 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 Serce Limani, 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 Camalti 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 (nauklèros), 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.





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