

Ship 43 and the ship graveyard in the central basin of Thonis-Heracleion, Egypt

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Overview

A third season of excavation was undertaken on Ship 43, generously supported by the Honor Frost Foundation, by a four-person team from the Oxford Centre for Maritime Archaeology (OCMA), who worked alongside a member of the Underwater Archaeology Unit of the Supreme Council of Antiquities of Egypt (Figure 1).¹ The excavations took place in the Bay of Aboukir, some 30 km east of Alexandria, at the now submerged port city of Thonis-Heracleion. Located at the end of the Canopic Branch of the Nile, the port was Egypt's gateway to the sea and the important markets of Greece and the Eastern Mediterranean. The excavation of Ship 43 is part of a much larger archaeological project at the site undertaken under the overall direction of Franck Goddio and the European Institute for Underwater Archaeology (IEASM) (Goddio 2007; Goddio and Fabre 2008; Goddio 2011; Goddio et al 2015).



Figure 1: Ship 43 excavation team (image OCMA © Franck Goddio/Hilti Foundation)

The ship

Ship 43 is a type of flat-bottomed Egyptian river cargo vessel known as a *baris* (cf. Herodotus *The Persian Wars* 2.92) that would have been used to transport goods between the port of Thonis-Heracleion, where it was found, and other centres of production and consumption

¹ Team members were: Damian Robinson, Carlos Cabrera Tejedor and Giles Richardson from the OCMA, Bobby Orillaneda OCMA/National Museum of the Philippines and Ahmed Abdel Rahim from the SCA.

around the Delta and further up the Nile. It was built between 785 - 412 cal. BC, possibly in a ship yard belonging to the temple of Amun-Gereb, and would have had a long working life after which it underwent primary salvaging and was then deliberately abandoned in the Central Basin of the port alongside up to ten other largely identical vessels (Robinson *forthcoming* 2015).

The 2014 mission returned to the bow and stern of the vessel, which had been initially excavated during 2011. The work concentrated on documenting the areas previously exposed, particularly the area of the stem-post and the anchor at the bow, and also in starting to excavate areas with well preserved through beams at the bow and stern of the ship (see below). Through the excavation of these construction elements, it was recognised that Ship 43 is in a better state of preservation than Ship 17, a similar vessel from Thonis-Heracleion that has been more completely excavated (Belov 2014a and b). Progress was made in the documentation and understanding of Ship 43 and these important features. Consequently, the excavation of Ship 43 is adding a great deal of detail to the board patterns of *baris* construction that have already been highlighted. This is significant because no archaeological example of a *baris*-ship had previously been excavated and documented and the careful and detailed recording of Ship 43 will enable a thorough reconstruction of the nautical architecture of this type of vessel. This work will also allow us to clearly reconstruct in detail the way in which these types of ship were built, which uses a form of internal framing that is unique to the ships from Thonis-Heracleion (Fabre 2011).

Through beams

From our initial observations of the through beams in the bow and stern portions of the vessel, it would appear that they are well preserved and that, with further excavation and study, there is the potential to understand exactly how these features fitted in to the naval architecture of the ship. At the stern they are laid in two courses in the central area of the vessel, with the bottom most through beam being laid flush with the planks of the hull. At the bow of the ship, there are the remains of a through beam in and amongst the rubble that was used to fill the vessel at the time of its abandonment that appears to enter into the sixth strake.

L-shaped tenons

An interesting tenon was recovered during the excavation of the stern with an approximately 120-degree bend. The tenon was found loose and as such cannot be conclusively associated with any particular part of the ship. Nevertheless, the angle of the tenon suggests that it would have been used to shape the hull, perhaps aiding with the turn of the bilge and the transition from a relatively flat bottom to the more upright sides of the ship. This would suggest that Ship 43 was a hard chined vessel, perhaps with a rather boxy-shape. These observations clearly require further investigation, ideally with the documentation of these elements *in situ*, and will be returned to in subsequent seasons.

Anchor

Excavation at the bow of Ship 43 revealed the presence of a two-holed stone anchor of an Egyptian type (Nibbi 1991) that could be *in situ*. When initially excavated the anchor was complete with its two wooden flukes, both of which appear to have been shaped from a small branch. One of the flukes was sampled for radiocarbon determination and wood species analysis (anchor fluke 70_2007), which suggest that they were made of pine (*Pinus* sp.), with a date of between 405 cal BC-208 cal BC. The anchor was fully documented during the 2014 season (Figure 2) and the remaining fluke was carefully removed from the anchor and raised for drawing and also because it has a good number of growth rings and could be used to give a dendrochronological date.



Figure 2: Giles Richardson recording the anchor (image OCMA © Franck Goddio/Hilti Foundation)

The abandonment of Ship 43

Further progress was also made in understanding why so many near identical vessels were abandoned in the same location. Previously it had been suggested that they were abandoned in order to create a defensive barrier across the Nile to prevent access to the port from potential Perisan invaders. This can now be discounted due to the work of Franck Goddio's team elsewhere in the port, which has demonstrated that the entrance to the harbour that the blockships would have defended would have been silted up at the time of any potential Persian threat (Goddio *forthcoming* 2015). Consequently, it is now thought more likely that the ships were either used as a form of pontoon bridge or that the abandonment event was related to the construction of an artificial island (Robinson *forthcoming* 2015). The excavations at the stern of Ship 43 in 2014 sheds interesting light onto this though the discovery of a large stake that appears to have been driven through this portion of the vessel. Although further excavation is needed, at this point it would appear that this stake is not the same as those stakes used to hold the ships in position during their abandonment, as these are driven into the Nile silts around the edge of the vessel rather than through the hull. The large stake may then represent the first evidence of the piles from an overlying structure.

Outreach activity

During the mission, the field team also took part in the making of a documentary programme for the BBC, *Swallowed by the Sea: Ancient Egypt's Greatest Lost City*, which featured the work on Ship 43 and the ship graveyard in which it was deposited (Figure 3). The programme was first broadcast on BBC2 on the 14th October 2014, and the BBC webpage for this programme is at:

<http://www.bbc.co.uk/programmes/b04lss20>



Figure X: Giles Richardson being filmed during a pre-dive briefing with Franck Goddio (image OCMA © Franck Goddio/Hilti Foundation)

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