A Phoenician shipwreck off Gozo, Malta

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The Department of Classics and Archaeology of the University of Malta recently undertook a detailed survey of the seventh-century BC shipwreck located in Maltese territorial waters. This survey was organised within the GROPLAN Project financed by the French National Science Foundation. Work was undertaken together with the Centre National de la Recherche Scientifique (CNRS) and the University of Aix-Marseille in close collaboration with the Superintendence of Cultural Heritage, Malta.

This shipwreck was discovered in deep waters and subsequently documented over a number of years by a team of experts from AURORA Trust, Heritage Malta and the Superintendence of Cultural Heritage. However, due to the delicate nature of the site this work was carried out discreetly. Such an approach enabled the gathering of important preliminary data without putting the site at risk. These initial surveys confirmed that the site consisted of a well-preserved Phoenician shipwreck (Fig. 1). Various amphora types, known from local burial contexts of the Phoenician period, allowed Professor J.C. Sourisseau to confirm the date of the vessel as the first quarter of the seventh century BC. Given the potential contribution of such a site to the understanding of trade in the central Mediterranean during the Archaic period it was decided that various options would be explored in order to better study this site.

Early in 2013, an opportunity arose for the University of Malta to participate in a well-funded project that aimed at recording the site using state of the art technologies that would produce a 3D photogrammetric image of the site that will be compiled by Dr Pierre Drap. In order to achieve this, various underwater assets were brought to Malta on board the Minibex – a research vessel owned by the renowned French underwater exploration firm COMEX. Among the various pieces of equipment deployed the most notable were the Remote Operated Vehicle together with the REMORA 2000 – a two-person submarine capable of carrying an array of instruments and sensors.

Three synchronised cameras produced real-time odometry which essentially enables the use of data to estimate changes in the position and location of the vehicle. Software developed especially for this project subsequently processes these images and produces the aforementioned 3D photogrammetric image with an accuracy of under 3 mm (Fig. 2). Such a high-resolution image will then be utilised for future detailed studies of the site. Although data are still being processed initial observations are revealing some very interesting and previously unknown facts about the site. Whereas it was previously believed that the ship was carrying four types of ceramic container (including amphorae and

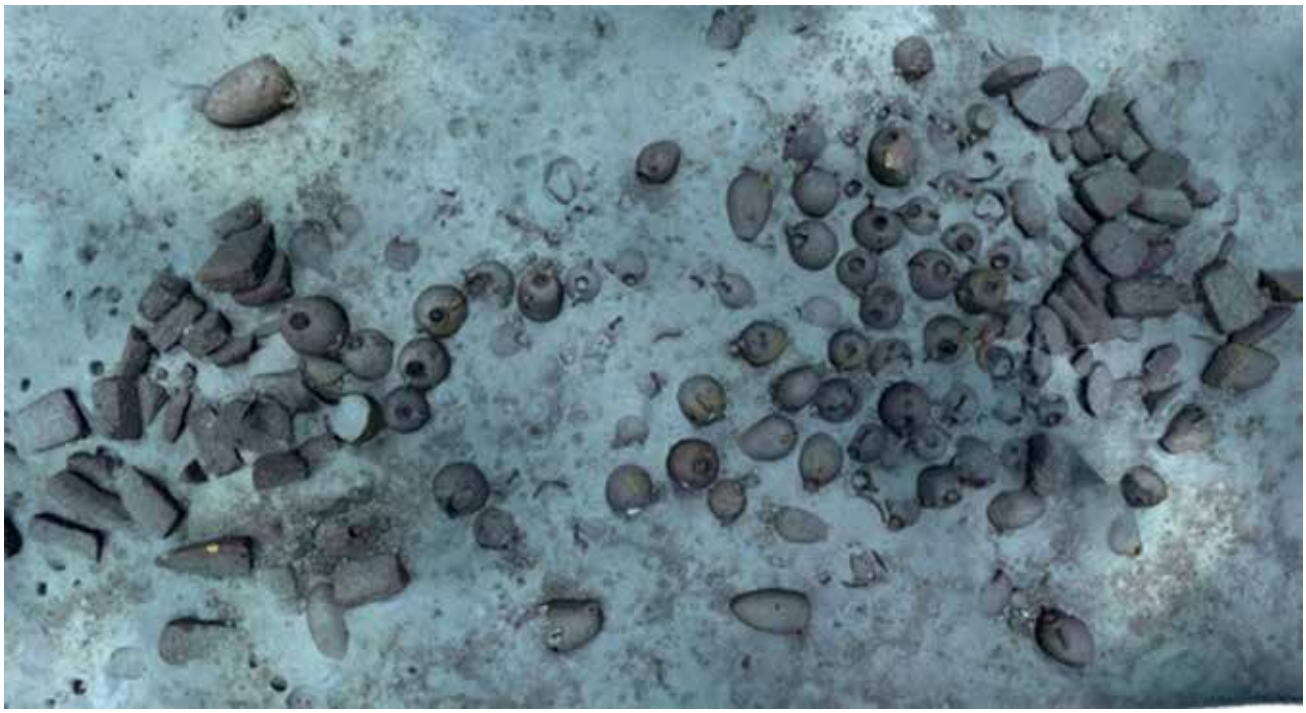

Figure 1. A composite image of the entire shipwreck produced by stitching over 2000 photographs using highly specialised software developed specifically for underwater photogrammetry. (Image: University of Malta/Groplan Project).

Figure 2. An oblique image of the Phoenician shipwreck as seen from the submersible. (Image: University of Malta/Groplan Project).

urns) it has now been established with certainty that there are at least seven typologies present on the site. Besides the cargo of ceramics, the ship was also carrying a significant number of grinding stones. Close study of the area where a number of stone blocks lie confirmed the presence of grinders that correspond to the stones.

Another phase of this year's fieldwork included the lifting of samples of the cargo from the site. Following the completion of the data gathering for the 3D photogrammetric survey a number of objects were selected for recovery. Objects chosen for lifting included one grinding stone and three ceramic containers that were clearly not entirely embedded in the seabed, thus minimising the risk of damaging them during the operation. A special tool developed and used by COMEX on numerous deepwater sites was deployed successfully, with three ceramic objects recovered as well as one grinding stone. Environmental samples were taken from the deposits present inside the ceramic containers. Other objects included pottery fragments, molluscs and concretions. All objects and their contents are currently undergoing desalination at the Archaeology Centre at the University of Malta.

Final results of the fieldwork undertaken in 2014 will provide the platform upon which future works will be planned. Further studies on the site are already being conceptualised in conjunction with all local and foreign partners. Some pertinent questions that are still awaiting answers include, but are not limited to: (1) exactly how far into the seabed does the shipwreck extend? (2) is there a secondary cargo of smaller ceramic objects buried amongst the amphorae? and (3) are any remains of the ship's structure preserved in the seabed? Given that this site might be one of the oldest shipwrecks in the central Mediterranean these are all valid and extremely important questions that can shed light not just on the Archaic period in Malta but also on the trading patterns of the Phoenicians. The latter is something that is often spoken and written about but is rarely visible in the archaeological record, at least not in such a well-preserved and homogenous manner.

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