Introduction/ Uvod

News / Vijesti

Deep Sea Survey off Konavle / Dubinsko pretraživanje podmorja uz Konavle

Jeffrey Royal, Luka Bekić

Coastal Surveys of Istria / Rekognosciranja istarskog proračuna

Luka Bekić

The Mazotos Shipwreck Project in Cyprus / H ekipu tvoj vlastitoj Mazotou u Zajmu

Anna Demetriou

New Harbour Structures at Veštar / Novi lučki objekti u Veštru

Luka Bekić

Roman Period Shipwrecks at Cape Uljeva / Antički brodolomi na rtu Uljeva

Luka Bekić

Underwater Research in Pakoštane / Podvodna istraživanja u Pakoštanim

Mladen Pešić, Miroko Mestrov

Survey of the Seabed of Zadar County / Rekognosciranje podmorja Zadarske županije

Mladen Pešić

Underwater Survey in Šibenik-Knin County / Podvodno rekognosciranje Šibensko-Kninske županije

Mladen Pešić

Conservation of Post-Medieval Copper Cauldron / Konzervacija novovjekovnog bakrenog kotla

Mladen Matoček

Montenegrin Maritime Archaeological Rescue Project / Crna gorski projekat za zaštitu podvodne kulture baštine

Lucy Blue, Mladen Zagarčanin, Charles Le Duesne, Athena Itrakados, Petra Ždravković, Nemanja Lovrić

Documenting a Roman Vessel at Sinja Gorica / Dokumentiranje rimskega plovila iz Sinje Gorice

Miran Erić
Contents / Sadržaj:

Introduction / Uvod
str. 4-5

News / Vijesti
str. 6-12

Luka Bekić
Once Again on the Coastal Surveys of Istria / Još jednom o rekognosciranjima istarskog priobalja
str. 21-23

Luka Bekić
New Harbour Structures at Velaž / Novi lučki objekti u Velažu
str. 30-33

Mladen Pešić, Marko Meštrov
Underwater Archaeological Research at the Janice Site in Pakoštane / Podvodna arheološka istraživanja nalazišta Janice - Pakoštane
str. 39-43

Mladen Pešić
Underwater Survey in Šibenik-Knin County / Podvodna rekognosiranje Šibensko - kninske županije
str. 48-51

Lucy Blue, Mladen Zagarčanin, Charles Le Quesne, Athena Trakadas, Petra Zdravković, Nemanja Čavlović
Montenegrin Maritime Archaeological Rescue Project / Crnogorski projekt za zaštitu podvodne kulturne baštine
str. 55-57

Mladen Mustaček
Conservation - Restoration Work on a Postmedieval Copper Cauldron / Konzervatorsko-restauratorski radovi na novovjekovnom bakrenom kotlu
str. 52-54

Miran Erić
Documenting a Roman Vessel at Sinja Gorica / Dokumentiranje rimskega plovila iz Sinje Gorice
str. 58-65

Jeffrey Royal, Luka Bekić
Deep Sea Survey off Konavle, Croatia / Dubinsko pretraživanje podmorja uz Konavle, Hrvatska
str. 13-20

Anna Demetriou
The Mazotos Shipwreck Project in Cyprus / Ἔρευνα του ναυαγίου του Μαζωτού στην Κύπρο
str. 24-29

Luka Bekić
Launch of Systematic Research of Roman Period Shipwrecks at Cape Uljeva / Početak sustavnih istraživanja antičkih brodoloma na rtu Uljeva
str. 34-38

Mladen Pešić
Survey of the Seabed of Zadar County / Rekognosiranje podmorja zadarske županije
str. 44-47

News / Vijesti
str. 6-12

Introduction / Uvod
str. 4-5
Cyprus, an island with a strategic geographical location, developed its maritime activity and nautical tradition from an early stage. Testimonies of these activities with wide archaeological interest, are located both in the region as well as in Cyprus. The discovery and excavation of five shipwrecks connected with Cypriot archaeology namely, Cape Gelidonya, Kyrenia, Uluburun, Cape Iria and Ma’agan Mikael, revealed the importance of conducting underwater archaeological research on the island. In addition, the discovery of underwater archaeological remains around Cyprus (shipwreck remains, anchorages, anchors, harbor, architectural remains), underlined the necessity of developing the discipline. However, although one of the first and most important excavations in the history of underwater archaeology was conducted on the island, at the Kyrenia shipwreck (1967 - 1970, University of Pennsylvania), research carried out since then was limited to surface inspections of the sites with minimal Cypriot involvement.

This tendency altered its course during the last six years. The introduction of classes of underwater archaeology at the Department of History and Archaeology of the University of Cyprus led to an increase in interest in underwater archaeology among Cypriot students. The need for training in this field was recognized by the University, and a new course in underwater archaeology was introduced in the Department of History and Archaeology in 2022.

The Mazotos Shipwreck Project in Cyprus

Anna Demetriou

annadem0206@hotmail.com

The Mazotos Shipwreck Project is an ongoing research project that aims to study and preserve the archaeological remains of shipwrecks located in the waters off the coast of Cyprus. The project is funded by the University of Cyprus and the Cyprus Antiquities Department, and is carried out by a team of archaeologists, historians, and conservationists. The project has already conducted excavations at several shipwrecks, including the famous Talaiotic shipwreck at Cape Gelidonya, and has recovered a large number of artifacts, including pottery, metal objects, and wooden structures.

The project has also focused on documenting the cultural and historical significance of the shipwrecks, and has conducted research on the trade routes and cultural exchange that took place in the Mediterranean during the Iron Age and Early Roman Period. The project has published several reports and articles on its findings, and has also organized public lectures and workshops to raise awareness of the importance of underwater archaeology in the Mediterranean region.

The project is supervised by Anna Demetriou, an archaeologist at the University of Cyprus. The project is committed to preserving the cultural heritage of the Mediterranean and to promoting education and public outreach in the field of underwater archaeology.
and the almost simultaneous accidental discovery of the shipwreck of a merchant ship dated back to the late classical period (third quarter of the 4th century B.C) at the sea area of Mazotos, on the southern coast of Cyprus, marked the beginning of the development of the field in Cyprus.

The Mazotos shipwreck was reported to the Department of Antiquities in 2006. Its scientific significance was apparent from the very beginning: it is the first shipwreck of the late classical period, found in the Southeast Mediterranean carrying Chian amphora, at a depth where divers can work. Its research could shed light on issues such as sea routes and trade relations among the peoples of the Aegean and South Eastern Mediterranean during this period.

Its importance triggered the launch of the first Cypriot underwater archaeological project in 2007, undertaken by the Archaeological Research Unit (ARU) of the University of Cyprus, under the direction of Dr Stella Demesticha, (Assistant Professor of Underwater Archaeology, Chair of THETIS Foundation). During the period 2007 - 2009, following authorization by the Department of Antiquities, four surface inspections of the site were conducted, aiming the detailed mapping of the surface finds of the shipwreck and its initial evaluation. To this end, the photogrammetric survey combined with the tape-measure triangulation was used (under the responsibility of the Hellenic Institute of Maritime Archaeology of Greece) while at the same time a high resolution photomosaic of the site was created. The first surveys demonstrated that the site comprises an assemblage of mainly Chian amphorae (at least 500 amphorae were counted on the surface) at a depth of 44 metres, stretching over an area of 17 x 7m on a sandy, almost flat seabed. The extent of the preservation of the amphorae was of particular interest: in the centre of the site at least four layers of amphorae seem to preserve their initial stowage position. It is therefore a shipwreck of noteworthy scientific significance as its good state of preservation indicates that its research could provide important information on amphorae stowage on ships, ship construction and site formation process.

Aυτή η τάση διαφοροποίησε τα τελευταία εξί χρόνια. Η επιστημονική της σημασία ήταν εμφανής από την αρχή: αποτελούσε το πρώτο ναυαγίο που χρονολογείται την ύστερη κλασσική περίοδο (τρίτο τέταρτο του 4ου αιώνα π.Χ) στη θαλάσσια περιοχή του Μαζωτού, στη νότια ακτή της Κύπρου, αποτέλεσαν την απαρχή ανάπτυξης του τομέα στο νησί.

3. Συλλογή μικρών καταλοίπων που βγήκαν από τον αναρροφητήρα © Πανεπιστήμιο Κύπρου, Ερευνητική Μονάδα Αρχαιολογίας / Collection of small remains extracted from the air lift © University of Cyprus, Archaeological Research Unit

To Naúagio του Μαζωτού αναφέρθηκε στο Τμήμα Αρχαιοτήτων το 2006. Η επιστημονική της σημασία ήταν εμφανής από την αρχή: αποτελούσε το πρώτο ναυαγίο που χρονολογείται την ύστερη κλασσική περίοδο που εντοπίστηκε στη Ν.Α. Μεσογείο να μεταφέρει Χιακούς αμφορείς, σε βάθος που μπορούν να εργαστούν δύτες. Η έρευνα του θα μπορούσε να απαντήσει σε ερωτήματα που αφορούν τις θαλάσσιες διαδρομές και το εμπόριο μεταξύ των λαών του Αιγαίου και της Ν.Α. Μεσογείου αυτήν την περίοδο.

Η θέση της ενεργοποίησε την έναρξη το 2007 της πρώτης υποβρύχιας αρχαιολογικής έρευνας που πραγματοποιήθηκε από κυπριακούς φορείς, από την Ερευνητική Μονάδα Αρχαιολογίας (ΕΜΑ) του Πανεπιστημίου Κύπρου, υπό τη διευθύνση της Δρος Στέλλας Δεμέστη (Επίκουρος Καθηγητής Εναλίας Αρχαιολογίας, Έδρα Ιδρύματος ΟΕΤΙΣ). Κατά την περίοδο 2007 - 2009, μετά από σχετική άδεια από το Τμήμα Αρχαιοτήτων, πραγματοποιήθηκαν τέσσερις επιφανειακές επισκοπές της θέσης με στόχο την αποτύπωση των επιφανειακών ευρημάτων του ναυαγίου και την εκτίμηση της σημασίας του. Για το σκοπό αυτό χρησιμοποιήθηκε η μέθοδος της φωτογραμμετρίας σε συνδυασμό με τις μετρήσεις με ταινία (υπό την ευθύνη του Ιδρύματος Εναλίων Αρχαιολογικών Ερευνών

2. Ανέλκυση Χιακού αμφορεία © Πανεπιστήμιο Κύπρου, Ερευνητική Μονάδα Αρχαιολογίας / Lifting a Chian amphora © University of Cyprus, Archaeological Research Unit
Following the completion of the photographic documentation and the mapping of the site, during the 2008 field season, characteristic types of amphora were lifted, all from the Aegean. During 2009 the ARU collaborated with the research team of the Laboratory of Marine Geology and Physical Oceanography of the University of Patras. The field season focused on the geophysical prospecting of the shipwreck area using proton magnetometer and sub-bottom profiler, aiming to investigate the extent of the shipwreck’s non-visible sections.

The surface inspection of the shipwreck indicated its importance and the need to proceed to the excavation of the site. In 2010, the ARU began the systematic excavation of the shipwreck in collaboration with the Department of Antiquities and THETIS Foundation.

Metà την ολοκλήρωση της φωτογραφικής και σχεδιαστικής αποτύπωσης του ναυαγίου, κατά τις ερευνητικές περιόδους του 2008, πραγματοποιήθηκε δειγματοληπτική ανέλκυση χαρακτηριστικών τύπων αμφορέων, όλων από την Αιγαίο. Κατά την τελευταία επιφανειακή επισκόπηση της θέσης, η ΕΜΑ συνεργάστηκε με το Εργαστήριο Θαλασσινών Γεωλογίας και Φυσικής Ωκεανογραφίας του Πανεπιστημίου της Πάτρας. Η έρευνα επικεντρώθηκε στη γεωφυσική διασκόπηση στην περιοχή του Ναυαγίου με τη χρήση πρωτοποιημένου μαγνητόμετρου και τομογράφου υποδομής, σκοπεύοντας να διερεύνησε οι μη ορατές τμημάτων του ναυαγίου.

5. Χάρτης της Κύπρου (Α. Αγαπίου, © Πανεπιστήμιο Κύπρου, Ερευνητική Μονάδα Αρχαιολογίας. Τα δεδομένα συγκεντρώθηκαν από τη Γεωλογική Επισκόπηση της Κύπρου / Map of Cyprus. (A. Agapiou, © University of Cyprus, Archaeological Research Unit. Data compiled from the Geological Survey of Cyprus)
Since then, three excavation field seasons were conducted on the site which brought to light a number of significant finds, enhancing the importance of the shipwreck.

The first two excavation seasons (2010 and 2011) focused on the southern part of the assemblage which the geophysical survey ranked of particular interest. Apart from the Chian amphora assemblage, excavation in this area - where according to the first evaluation lies the bow of the vessel - revealed an amphora from the island of Kos, which probably formed part of the supplies of the crew. Also lead stocks, part of the remains of three anchors, were revealed as well as a large number of olive pits. Additionally, of particular interest was the discovery of part of the hull and the planking of the ship which raised hopes that an important part of the keel of the vessel may be preserved under the amphorae concentration.

The most recent field season (2012) which focused on the northern side of the assemblage, confirmed these expectations. The excavation revealed the keel and important part of the ship’s planking also at the stern of the shipwreck which indicates that the keel is preserved at a length of at least 15 metres. This discovery is of exceptional importance as the Mazotos shipwreck is ranked among the very few shipwrecks in the Mediterranean region that can provide data regarding shipbuilding during the classical period. What is more, excavation brought to the surface of the amphorae of the stern of the vessel, its secondary cargo which consisted of wine jugs. Also small fine ware pottery were revealed in the cabin of the vessel, probably belonging to the crew or the passengers. One of them bears an inscription of two letters, most probably the initials of the owner.

The results of the three excavation field seasons demonstrated that further research of the shipwreck will shed light on issues concerning trade of the times, the living conditions on the vessel, seafaring and shipbuilding. However, the project’s significance extends to another level as it provides fertile ground for the development of scientific research in various disciplines and for the training of students on the field.

From the beginning of the excavation ARU is collaborating with the Department of Civil Engineering and Geomatics at the University of Cyprus, training of students on the development of scientific research in various disciplines and for the training of students on the field. The results of the three excavation field seasons demonstrated that further research of the shipwreck will shed light on issues concerning trade of the times, the living conditions on the vessel, seafaring and shipbuilding. However, the project’s significance extends to another level as it provides fertile ground for the development of scientific research in various disciplines and for the training of students on the field. The results of the three excavation field seasons demonstrated that further research of the shipwreck will shed light on issues concerning trade of the times, the living conditions on the vessel, seafaring and shipbuilding. However, the project’s significance extends to another level as it provides fertile ground for the development of scientific research in various disciplines and for the training of students on the field. The results of the three excavation field seasons demonstrated that further research of the shipwreck will shed light on issues concerning trade of the times, the living conditions on the vessel, seafaring and shipbuilding. However, the project’s significance extends to another level as it provides fertile ground for the development of scientific research in various disciplines and for the training of students on the field.
University of Technology (CUT). CUT, under the direction of Dr Demetris Skarlatos is responsible for the mapping of the whole site, as well as the daily mapping of the trench. The aim of this research is the development of a methodology and software which would make possible the automated data processing obtained from photographic underwater sites. Moreover, biological research is being conducted by the non-governmental organization Enalia Phisis aiming to document the biodiversity of the shipwreck and mainly of the organisms that settled on the amphorae which constitute a datable evidence of the environment.

Finally, the first attempt has been made at Mazotos shipwreck to create a comparative model for the examination of the site formation process of ancient shipwreck sites. The research, which is funded by the British School of Athens and conducted by Dr. Chryssanthi Papadopoulou, focuses on the identification and study of the natural and cultural processes of the shipwreck site formation process, incorporating different disciplines (archaeology, topography, oceanography and marine biology).

8. The photomosaic of the wreck, assembled by Bruce Hartzler, © University of Cyprus, Archaeological Research Unit

7. Еνημέρωση πριν από την κατάδυση © Πανεπιστήμιο Κύπρου, Ερευνητική Μονάδα Αρχαιολογίας / Briefing before the dive © University of Cyprus, Archaeological Research Unit
The Mazotos Shipwreck Project also served as a training centre for Cypriots as well as foreigners volunteers of different specialities. It is worth mentioning that every year a growing number of undergraduate and graduate students from the University of Cyprus as well as from Universities of other countries participate, rendering the project a hub for the exchange of knowledge and experience on the field.

The project’s significance however extends to another level since it triggered the development of the necessary infrastructure for the support of relevant research on the island. Being the first underwater archaeological project ever conducted by Cypriot institutions, it brought to the surface at its very early stages, basic issues concerning human resources, and infrastructure which had to be confronted. To that end, the necessary equipment was acquired for the support of underwater archaeological projects. Moreover, the Department of Antiquities, which is responsible for the conservation of the finds of the Mazotos Shipwreck, set up the Laboratory of Conservation of Underwater Antiquities which aims at servicing the needs of accidental finds and underwater excavations.

The multi leveled significance of the Mazotos Shipwreck project is now indisputable. Apart from its archaeological importance, the project is equally significant for its contribution in the establishment of Maritime Archaeology in Cyprus since it functions as the springboard for innovative applications promoting scientific collaborations and encouraging training in underwater archaeology and related disciplines while at the same time setting the bases for the development of the necessary infrastructure.

Apart from the THETIS Foundation, the project is supported by the following institutions: Cyprus Telecommunication Authorities, Frederic University, the Bishop of Kykkos, Greek Forces of Cyprus, Navy of Cyprus, Cyprus Port Authority, Council of Mazotos, Cyprus Federation of Underwater Activities, and the companies Archirodon, Nautilus Trading, Petrolina Ltd, A. Charalampous, Maragkos Bakeries, Bakandys Delicacies, Pirillos Bakeries.

BIBLIOGRAPHY / ΣΧΕΤΙΚΗ ΒΙΒΛΙΟΓΡΑΦΙΑ


Skarlatos, D. and Rova, M. 2010 - Photogrammetric approaches for the archaeological mapping of the Mazotos shipwreck. 7th International Conference on Science and Technology In Archaeology and Conservation, 7-12 December, Petra, 2010.


9. Ανασκαφή με τον αναρροφητήρα στο βόρειο άκρο του ναυαγίου © Πανεπιστήμιο Κύπρου, Ερευνητική Μονάδα Αρχαιολογίας / Excavation with the air lift on the southern side of the shipwreck © University of Cyprus, Archaeological Research Unit