



ΥΠΟΥΡΓΕΙΟ ΠΟΛΙΤΙΣΜΟΥ ΚΑΙ ΑΘΛΗΤΙΣΜΟΥ
ΤΑΜΕΙΟ ΑΡΧΑΙΟΛΟΓΙΚΩΝ ΠΟΡΩΝ



Βουτιά στα περασμένα



ΕΦΟΡΕΙΑ
ΕΝΑΛΙΩΝ
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ΒΟΥΤΙΑ ΣΤΑ ΠΕΡΑΣΜΕΝΑ

Η Υποβρύχια Αρχαιολογική Έρευνα, 1976-2014



Συντελεστές Οργάνωσης Ημερίδας

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Γενική Διεύθυνση Αρχαιοτήτων
και Πολιτιστικής Κληρονομιάς

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ΕΚΔΟΣΗ ΤΟΥ ΤΑΜΕΙΟΥ ΑΡΧΑΙΟΛΟΓΙΚΩΝ ΠΟΡΩΝ ΚΑΙ ΑΠΑΛΛΟΤΡΙΩΣΕΩΝ

Η σύλληψη της ιδέας της πραγματοποίησης μιας Ημερίδας της Εφορείας Εναλίων Αρχαιοτήτων έγινε ύστερα από την επιθυμία που εκφράστηκε από το προσωπικό της και από τη δική μου βούληση για την ανάδειξη του πολυσχιδούς, υπέροχου και μοναδικού έργου της Υπηρεσίας αυτής.

Από το 1983 έως σήμερα, που υπηρέτησα στην Υπηρεσία αυτή, πήρα ό,τι καλύτερο μου έδωσε και πραγματικά **αυτό ήταν τόσο πολύ**, που όσες ζωές και να είχα θα ήθελα να βρίσκομαι στην Εφορεία Εναλίων Αρχαιοτήτων.

Ένα μεγάλο ευχαριστώ αξίζει στο εξειδικευμένο προσωπικό της που με αυτοθυσία όλα αυτά τα χρόνια συνέβαλε αποτελεσματικά στη λειτουργία της Υπηρεσίας.

Μια "Βουτιά στα Περασμένα" μέσα στις σελίδες του βιβλίου αυτού θα μυήσει όλους του αναγνώστες στα μυστικά του βυθού – του Ελληνικού Βυθού – που είναι το μεγαλύτερο υγρό Μουσείο του Κόσμου.

Θερμές ευχαριστίες οφείλονται στην αντιπρόεδρο του «Ιδρύματος Αικατερίνης Λασκαρίδη», αείμνηστη Μαριλένα Λασκαρίδη, χωρίς την οικονομική υποστήριξη της οποίας η διαξαγωγή της Ημερίδας δεν θα ήταν δυνατή.

*Η Προϊσταμένη της Εφορείας Εναλίων Αρχαιοτήτων
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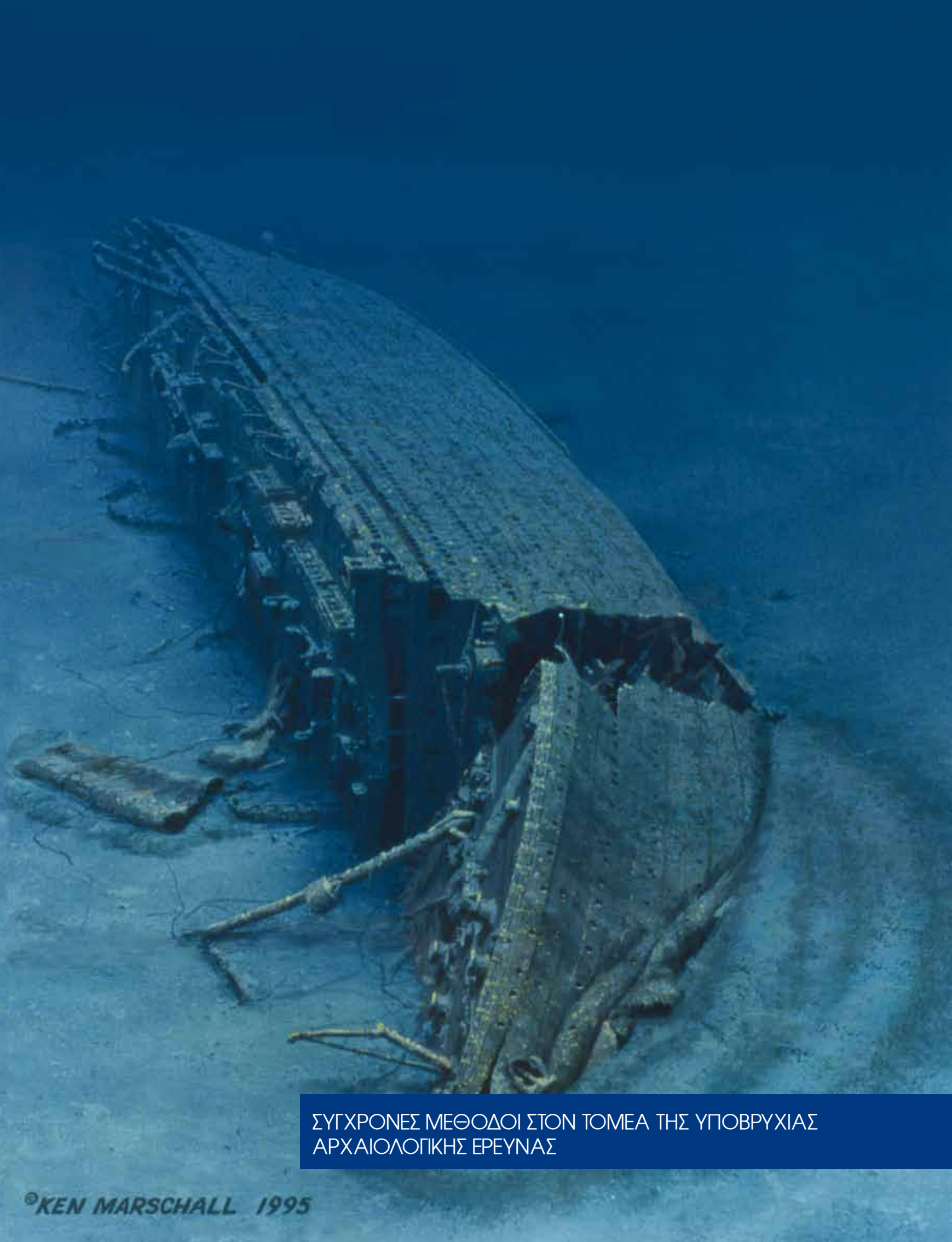
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WESTERN CRETE PROJECT, 2013: PRELIMINARY REPORT. UNDERWATER SURVEY AT KISSAMOS BAY AND THE PROMONTORIES OF RHODOPOS AND GRAMVOUSA

THEOTOKIS THEODOULOU - BRENDAN FOLEY - ALEXANDROS TOURTAS

The Ephorate of Underwater Antiquities (EUA), supported by the American Woods Hole Oceanographic Institution (WHOI), conducted from September 15th to October 15th 2013 an underwater archaeological and geological survey at Kissamos bay and Rhodopos and Gramvousa promontories¹. During the project two days were also dedicated to the mapping of Antikythera coast and the precise mapping and documentation of Antikythera Shipwreck².

The project combined technical diving and sonar mapping for archaeological and geological investigation. The team's underwater archaeologists and technical divers used closed Circuit rebreathers (CCR) supplying Trimix and Nitrox breathing gases for underwater visual survey. Diver propulsion vehicles (DPV) allowed the team to explore more than 25 km of sea floor at depths, sometimes down to 70 m. Apart from diving equipment, a second team from WHOI applied a geological and seismic investigation, using dual-mode sonar, provided by corporate partner of WHOI, EdgeTech (USA). The EdgeTech model 4600, integrating bathymetric and side scan sonar data, recorded an area of 65 km around the coasts of the two peninsulas to almost 120 m depth.

Archaeological discoveries included remnants of eight shipwreck sites, six ancient ones, one probably from the 19th century and a modern iron hull. Beside these sites, the team investigated five anchorages, that have been in use from the Classical period to present time, indicating long historical patterns of navigation through the rough waters of western Crete. The seismically uplifted ancient port of Kissamos was also surveyed. Meanwhile, the sonar map revealed submarine earthquake faults throughout the region. The active seismicity of the Hellenic Arc was demonstrated by a magnitude 6.2 earthquake, which shook the area during the project.

Shipwreck Sites

The first site to be investigated was a stone blocks cargo near cape Choironissi (fig. 1), on the eastern side of Rhodopos peninsula, which was located from the reconnaissance that preceded the project in June, 2013. The cargo consists of stone blocks measuring about 1.50x1x0.50 m. Some of them are half sized, measuring about 1.50x1x0.25 m. It lies on a rocky seabed within depths of 20 to 25 m. The blocks are generally organized in their original loading arrangement. The blocks were counted to a number around 104. The cargo axis runs from north to south counting seven rows of blocks. The middle stones are loaded in piles of at least three strata, while the stones located at both ends are piled in two strata. East and northeast of the stone block cargo there are sand pockets where several amphora sherds were located down to the contour of 30 m. They seem to belong to at least three different types. An almost intact amphora with broken rim can easily be attributed to Lamboglia 2 type, dated to late 2nd-middle 1st c. BC³. A stone ring (BE2013/22-6) recovered from the southern end of the cargo can be attributed to an anchor or fishing line releasing collar, though it could also be a later intrusion. Samples were taken from the stone blocks, in order for them to be further analyzed (BE2013/22-6). According to initial study of the shipwreck, the cargo seems to be a unique example of building elements transportation that could contribute to better understanding of the abilities of Roman stone carriers⁴.

1. The project was under the executive direction of the Head of the EUA Aggeliki Simosi and it is conducted by the archaeologists Brendan Foley (WHOI) and Theotokis Theodoulou (EUA), supported by the PhD Candidate archaeologist Alexandros Tourtas. Beside archaeologists, the fifteen-person team included, geophysicists, geologists, professional divers, engineers, and photographers. Local divers from the "Friends of the Seabed" Diving Club and the Kissamos Diving Center provided valuable assistance by sharing information about sites observed during their many hours underwater. Similarly important was the excellent hospitality offered by direction and staff at the Balos Beach Hotel, the team's operational base. To all (of them) we express our warm thanks.
2. See EUA internet site: http://www.yppo.gr/5/g5111.jsp?obj_id=55532 (visited 29-1-2016). Foley - Theodoulou, present volume. Θεοδούλου 2013a. Θεοδούλου 2013b. Theodoulou 2015.
3. Peacock - Williams 1991, 98-101.
4. See Beltrame - Vittorio 2012; Beltrame - Lazzarini - Medaglia 2012; Willson 2011; Russel 2011.



Fig. 1. General view of the stone blocks cargo near cape Choironissi, Rhodopos peninsula.

The second site with ancient relics was located further north at Rhodopos peninsula, south of Menies cove. The seafloor is rocky, gently inclining to the east down to 28-30 m, where it drops to 38 m sandy bottom. On the contour of 28 m, on a sandy area with some seaweed, an intact amphora (fig. 2) with a couple of similar amphora necks (one of them recovered - BE2013/22-3), a jag (BE2013/22-2) and a plate (BE2013/22-1) were located among some other pottery shards. A similar amphora, semi-buried in the sediment, along with some more necks and another jar were also found deeper, at the sandy bottom of the -40-m contour. The amphorae with their big oval body (0.80 m in height by 0.35 m in diameter), pointed base, high arched strap handles, and simple rounded rim are probably dated to early Roman times. The jag bearing a narrow vertical neck, banded rounded rim, strap handle with three ridges, fusiform body and ring base (0.46 m in height by 0.26 m in diameter) can be dated to 1st c. BC⁵. The number of finds does not indicate a "proper" wreck site. Information from the locals refers to a shipwreck at the western side of Rhodopos peninsula 70 m deep. If this is true, then what the team located could be part of it that was recovered to shallower water in order to be looted. This is possibly the reason that the jag, recovered was sitting on the seaweed.

In the area between Agios Sostis cove and the tip of the Gramvousa peninsula the divers of the team located a small concentration of shards covering an area of about 10 sq.m, at 25 m depth, on the inclining rocky bottom. Among the shards more distinct are 3-4 necks of African Roman amphorae, either of type 1 or 2⁶. Unfortunately, the site was not re-visited, due to weather and time restrictions, so it is not clear if there were more artefacts deeper. If there is no more material in the deeper water, then it can be assumed that the pottery located was either jettisoned cargo or the wreck of a small

5. Robinson 1959, 17, Group F, F.66.

6. Peacock - Williams 1991, 153-165.



Fig. 2. Amphorae from the second site investigated south of Menies cove.



Fig. 3. Penetrated stones of different shapes and sizes located at the southeastern site of Gramvousa peninsula.

boat, if not just a clearance of cargo during anchorage. The site is on the exposed side of Gramvousa, allowing either of the aforementioned suppositions to be true under certain conditions.

The fourth site was located at a small cove at the southeastern site of Gramvousa peninsula. In a sandy seabed with rocky patches, at a depth of 12 to 16 m, several sporadic penetrated stones are found in a large area. The stones are irregularly shaped, but with perfect round hole in their centers. The stones' shapes vary, but generally they are more or less rounded, some of them being like a wheel, discoid, mushroom shaped, drum shaped, with or without ridges, etc. (fig. 3). At least 50 of them were counted, but they are still more to be located. Measurements also vary from 0.45 m to 1 m in diameter and height from 0.15 m to 1 m. The holes measure from 0.12 to 0.20 m. Though, the holes seem like manmade the stone shapes are unparalleled. Furthermore, there are no other artefacts associated with the stones witnessing a shipwreck. Although their interpreta-



Fig. 4. Remnants of a Byzantine cargo at the cove of Agios Ioannis Damialis, west of Kissamos.

tion is not final they could also be natural formations similar to those found in Alikanas at the island of Zante⁷.

At a depth of about 14 m at the western side of the tip of Gramvousa peninsula an extended region is covered with pottery shards inside every sand pocket of the rocky seabed, indicating a wreck. The area is directly exposed to the predominant north-northwestern wind. Therefore, due to the shallow depth, the waves that hit the area have smashed everything into small pieces. Wavy sand ridges are apparent even at the contours beyond 40 m, according to the divers' observations. A couple of amphora necks surviving can be attributed to the Byzantine amphorae (*Magarica*) of Bakirtzis 1.a or 2.a group, dated to 9-11th c. AD⁸.

At the little cove in front of the cave with the chapel of Agios Ioannis Damialis, west of Kissamos, amphorae remnants of the same type testify the wreckage of a ship. Dispersed pottery of different types and variable chronological range shows the use of the cove as an anchorage as well (see below). At the center of the cove at a depth of -7 m, there are the remains of a Byzantine shipwreck cargo (fig. 4). In an area around 40 m in diameter, there is a dense concentration of amphora shards with semispherical bases and ridged surfaces. More than fifteen necks seem to belong to Byzantine amphorae dating from the 9th to the 11th century (*Magarica* of Bakirtzis type 1.a and b, as above). Among them some necks resemble a complete amphora with upward handles delivered to the Ephorate of Byzantine Antiquities of Chania in 2012 by Iacovos Batsakis, which can be attributed to *Magarica* of Bakirtzis type 4, dated between the 9th and 12th c. AD. Additionally, a rim and part of the body of a pithos located among the other vessels, might have been a crew utensil.

In addition to the sites with ancient remains, two more sites with pre-modern and modern remains were located. The first comprised an assemblage of six iron guns (cannons) at the reef extending southeastward from the eastern cape of Imeri Gramvousa islet. The guns are sitting on the rocky slope at 13 m. The slope/reef ends at 16 m on a sandy bottom mostly covered with sea grass. Three of the guns are lying in a shape of "Π", a fourth is a bit to the northwest and shallower and the other two are isolated at the area southeast of the main concentration. The shallower example is of a different style than the others, having a ribbed body. This is curious, as it appears to be a built-up gun of perhaps 17th-century manufacture, when the rest can be dated to the 19th century. The maximum length of the other guns is 2.50 m including the knob at the end. The guns

7. Σταματάκης - Αθανασούλα - Τσαμπουράκης 2013.

8. Μπακιρτζής 2003, 16-17.

were first mentioned by E. Hadjidaki⁹. The islet was used as a base of rebels that were pirating in the area. The guns can be attributed to a wreck of the troublous times of the Greek Revolution. The initial thought that they could belong to HMS *Cambrian* which sank at the site bombarding the pirates in 1928, finally proved to be false, after examining the British National Archives.

The second site was a modern steel shipwreck located at the southwestern side of Agria Gramvousa islet. It lies on the rocky seabed in less than 15 m as a mass of iron elements dispersed around the seafloor. The frame is still visible for the most part, while there are also some pieces of the shell plating left. Obviously, everything was corroded.

Anchorage and Harbour Sites

During the survey several sites providing refuge from the wind proved to have been used as temporary anchorages and navigational stop points, as it is testified by the presence of stacked anchors and dispersed pottery varying in types and dating from ancient times to our era. Most common are artefacts from Classical to Early Byzantine era. Such sites were: a) the cove south of Choironissi, eastern Rhodopos side, with remnants of walls and a spring at the beach, b) the cove of Agios Pavlos, western Rhodopos side, where the homonymous monastery exists just over the landing point, c) the cove of Agios Ioannis Damialis, with the cave springing fresh water and the chapel dedicated to the St. John Damialis, who lived there during the 10th c. AD, and d) the cove of Agios Ioannis Sostis (=savior) just southeast of the Gramvousa promontory tip with the homonymous church and remnants of a settlement at the beach. From the site a clay amphora stand (ὑποστατόν) was recovered (BE2013/22-4).

Quite safer is the little gulf of Menies at the leese, southeast of Rhodopos tip, Spatha. Remnants of a big settlement exist on the river banks guiding to the beach. On top of the hill closing the gulf from the south, there are relics of the sanctuary and the Roman temple of Diktynna, Cretan goddess of fishermen, related also with Artemis¹⁰. The seabed affirms the use of the anchorage from seafarers during the centuries with relevant pottery fragments throughout the cove. The sanctuary was excavated in 1942 during World War II by the Germans (U. Jantzen and G. Welter). Evidences of their presence at the site are several strings of 20 mm cannon shells and 3-inch artillery shells on the sandy bottom. The gulf operated obviously as the sea gate of the rich fertile promontory, especially during the Roman period.

Another interesting harbour site is the area of an uplifted mole of the Roman port of Kissamos, called Mavros Molos (=black mole). The mole measures about 150 m in length, 15 m in width and 6 m in height from the modern sea level (fig. 5). The small enclosure to the west of the mole looks also enhanced with black volcanic boulders similar to those of which the mole was constructed. On top of the cove the straight façade of a construction with Roman mortar could be the base of a wall belonging to a building that was related to the harbour. At the east of the mole, there is a second semi-submerged destroyed construction. It is considered to be a Hellenistic mole. However, given the seismic uplifting of the area in AD 365 and the construction's present elevation, it is most possible that during Hellenistic times it was submerged. Another pile of stones at the middle of the sandy beach (ex harbour basin) may be a cargo of a barge loaded with stones intended for the breakwater or a base for some kind of structure. The massive harbour installations are evidence of the important role of the town during Roman and possibly pre-Roman times.

9. Χατζηδόκη 1999, 1017.

10. Blackman 1976.



Fig. 5. Aerial view of Mavros Molos, the uplifted mole of the Roman harbour of Kissamos. The submerged stones in line are what it is considered to be a Hellenistic mole, when the pile of stones among the umbrellas is what it can be a cargo of a barge loaded with stone boulders or a foundation of a structure.

Conclusions

The 2013 mission to the gulf of Kissamos and the two promontories of Rhodopos and Gramvousa testified the use of the nautical routes of the area throughout history and the dense nautical activity during Roman and Byzantine times. The several shipwrecks that were located give similarly an impression of the harsh weather conditions prevailing at the area. Meantime, the anchorages used define even better the picture of navigation at this important crossroads in between Crete and Peloponnese, Aegean and Ionian seas. Furthermore, the harbour installations of Kissamos and the protected anchorage of Menies are clear evidences of the flourishing settlements related to them.

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Περίληψη

ΘΕΟΤΟΚΗΣ ΘΕΟΔΟΥΛΟΥ - BRENDAN FOLEY - ΑΛΕΞΑΝΔΡΟΣ ΤΟΥΡΤΑΣ

ΠΡΟΓΡΑΜΜΑ ΔΥΤΙΚΗΣ ΚΡΗΤΗΣ, 2013: ΠΡΟΚΑΤΑΡΚΤΙΚΑ ΑΠΟΤΕΛΕΣΜΑΤΑ. ΥΠΟΒΡΥΧΙΑ ΑΡΧΑΙΟΛΟΓΙΚΗ ΕΡΕΥΝΑ ΣΤΟΝ ΚΟΛΠΟ ΤΗΣ ΚΙΣΑΜΟΥ ΚΑΙ ΣΤΙΣ ΧΕΡΣΟΝΗΣΟΥΣ ΤΟΥ ΡΟΔΟΠΟΥ ΚΑΙ ΤΗΣ ΓΡΑΜΒΟΥΣΑΣ

Το άρθρο παρουσιάζει τα προκαταρκτικά αποτελέσματα της υποβρύχιας αρχαιολογικής και γεωλογικής έρευνας που πραγματοποιήθηκε το φθινόπωρο του 2013 στον όρμο της Κισάμου και στις χερσονήσους Ροδοπού και Γραμβούσας, στη δυτική Κρήτη, από την Εφορεία Εναλίων Αρχαιοτήτων και το αμερικανικό Ωκεανογραφικό Ινστιτούτο Woods Hole.

Κατά την έρευνα εντοπίστηκαν κατάλοιπα οκτώ θέσεων ναυαγίων: πέντε αρχαίων, ενός του 19ου αιώνα, ενός σύγχρονου μεταλλικού και μιας θέσης με αταύτιστους, μάλλον φυσικούς, διάτρητους λίθους. Οι τρεις θέσεις με κατάλοιπα ρωμαϊκών χρόνων περιλαμβάνουν κατάλοιπα φορτίου λιθοπλίνθων πέραν των 100 τόνων, φορτίο αμφορέων και επιτραπέζιων αγγείων και φορτίο αφρικανικών αμφορέων. Σε δύο επιπλέον θέσεις εντοπίστηκαν αμφορείς μέσω βυζαντινών χρόνων. Τέλος, μια περιοχή με διάτρητους λίθους που θεωρήθηκαν αρχικά φορτίο αποτελούν μάλλον φυσικές διαμορφώσεις. Εκτός των θέσεων αυτών έγινε προκαταρκτική έρευνα στις θέσεις τεσσάρων αγκυροβολίων, τα οποία βρίσκονταν σε χρήση από την κλασική εποχή μέχρι και το πρόσφατο παρελθόν, ενώ διερευνήθηκε μερικώς και το ανυψωμένο λιμάνι της Κισάμου (Μαύρος Μώλος).

Τα αποτελέσματα της έρευνας είναι ενδεικτικά της αρχαία ναυσιπλοΐας στα δύσκολα νερά της δυτικής Κρήτης, σε μια περιοχή που αποτέλεσε διαχρονικό σταυροδρόμι μεταξύ Αιγαίου και Ιονίου, Κρήτης και Πελοποννήσου.