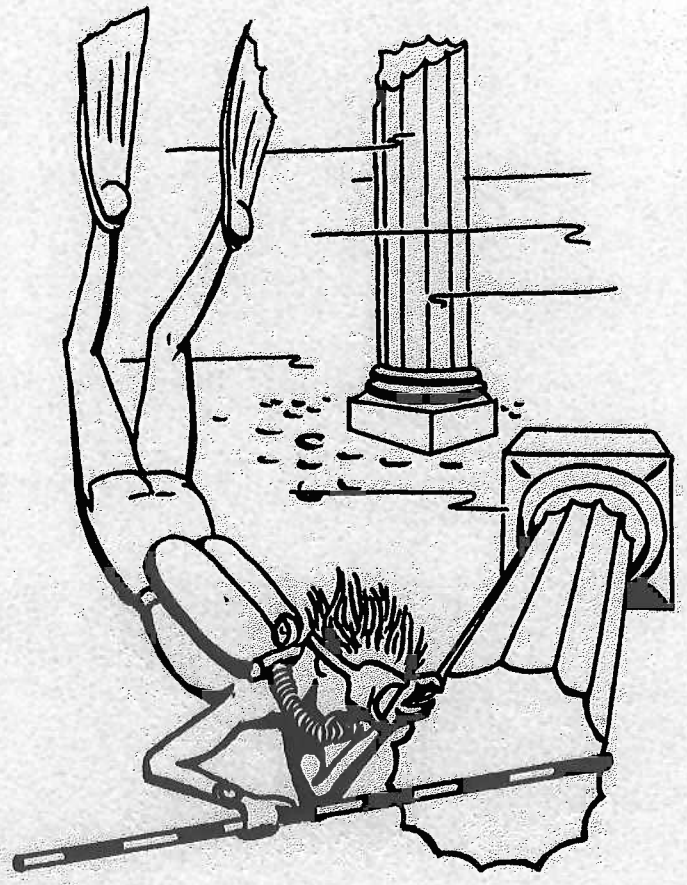
CAMBRIDGE ILLYRICUM EXPEDITION 1967 REPORT



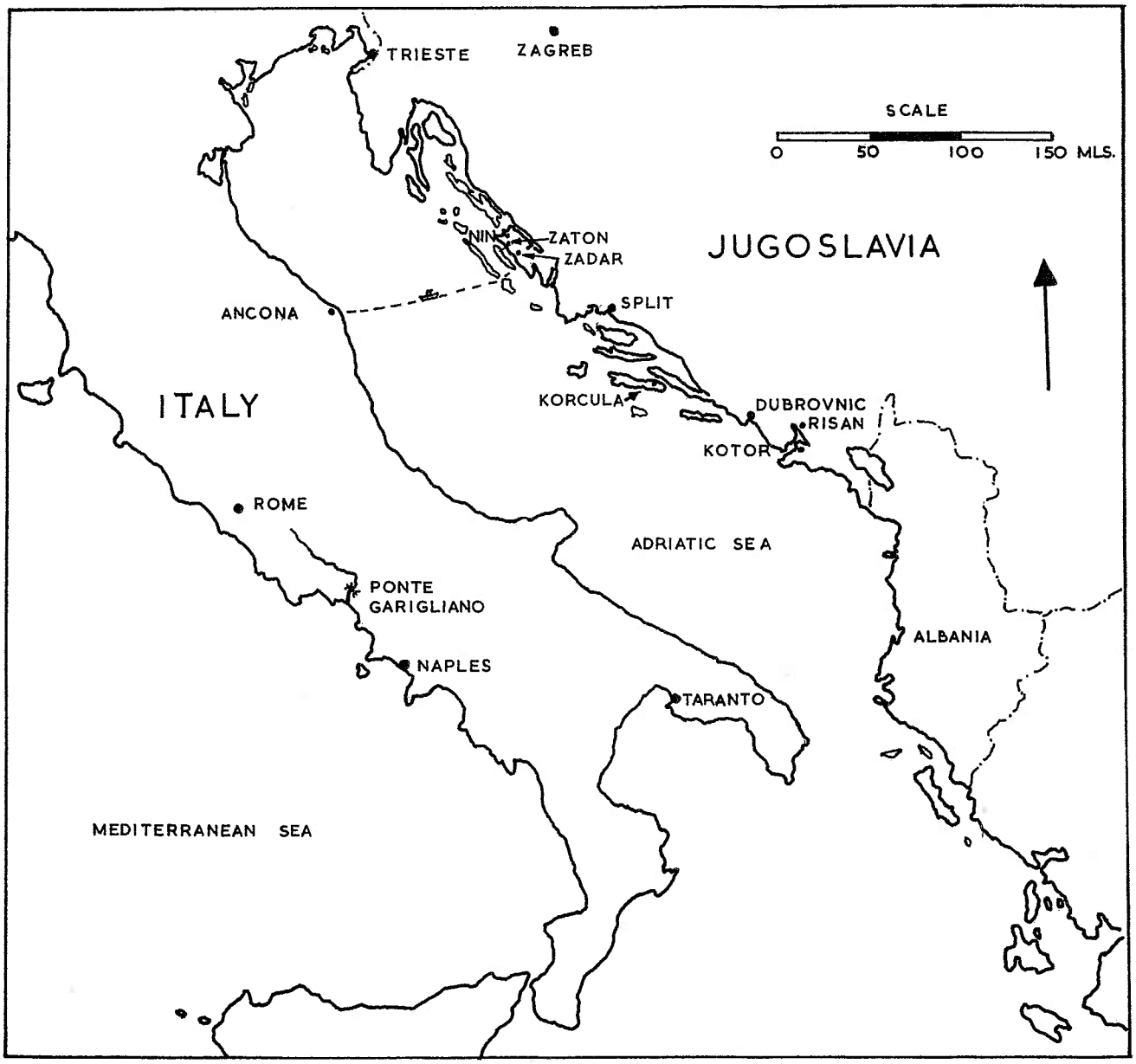
Patrons:

Lady Brogan, M.A., F.S.A.

J.B.Ward Perkins Esq., Director of the British School at Rome.

CAMBRIDGE ILLYRICUM EXPEDITION 1967

(Formerly Cambridge Maghreb Expedition)



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MEMBERS

M.F. Dallas, (Sherborne and Queens'), leader of expedition, surveyor and member of The Cambridge Expedition to Sabratha, 1966. Now working for Howard Humphreys and Sons.

D.P. Davidson, (Oundle and Sidney Sussex), electronics and cook; member of The Cambridge Expedition to Sabratha, 1966. Now working for Rolls Royce Ltd.

J.W. Ward, (Haileybury and Pembroke), mechanic and diving officer; member of The Cambridge Expedition to Sabratha, 1966. Now working for Matthew Hall Engineering Ltd.

R.A. Yorke, (Marlborough and Clare), photographer and surveyor; Leader of Cambridge Expedition to Sabratha, 1966. Now working for Laycock Engineering Ltd. Joined the expedition for four weeks.

N. Chitty, (Bryanston and Magdalene), photographer. Now working for National Opinion Polls.

A.J. Parker, (Portsmouth Grammar, Corpus Christi College and Institute of Archaeology, Oxford), Archaeologist. Now reading for Doctorate in Roman History.

R.A. Dartington, (Highgate and Kings College), surveyor and draughtsman. Now working with Arup Associates.

D.M. Livingston, (Dulwich and St. John's College), surveyor and chief draughtsman.

A.G. Whitelaw, (King's College), Medical Officer. Now in his fourth year at Cambridge doing research in psychology.

W.I. Buxton (Welbeck, Sandhurst and St. John's) diver. Now in his third year at Cambridge reading engineering.

All members of the expedition were experienced divers.

CAMBRIDGE ILLYRICUM EXPEDITION

REPORT

(formerly Cambridge Maghreb Expedition)

1967

INTRODUCTION

The Cambridge Maghreb Expedition was originally formed by members of The Cambridge University Underwater Exploration Group in late 1966 to survey the many classical submerged ports in the Maghreb (the coastal regions of western North Africa) between Cherchel (Algeria) and Tunis. This was to be an extension of the 1966 Survey of Classical ports carried out by C.U.U.E.G.'s "Cambridge Expedition to Sabratha" between Leptis Magna (Libya) and Tunis.

Regrettably, at a stage when almost all necessary preparations had been made, the outbreak of the Middle East War forced the group to abandon these plans. Alternative arrangements were made, in the short time left before the scheduled departure, to carry out a similar project on the Adriatic Coast of Jugoslavia.

The revised plan was to work northwards from Kotor, in Montenegro, to cover the many submerged remains which are believed to exist on the Dalmatian and Croatian coasts. Survey of the Istrian Coast was not contemplated.

The sponsors of the Maghreb project were informed of these plans and very kindly agreed to continue to support the expedition.

The Jugoslav authorities were advised of expedition's plans and, after a careful study of the available literature and discussion with persons knowledgeable on this area of the Mediterranean, the expedition was ready to leave England on June 27th.

JUGOSLAVIA

The expedition travelled in two vehicles, a Land-Rover (with trailer) and a Volkswagen Minibus. After crossing from Dover to Ostend, the group travelled through Germany and Austria to Jugoslavia, arriving in Kotor on July 1st.

Contact was made with Prof. Martinovic of the Maritime Museum, Kotor, and the work of making a preliminary survey of the ancient site of Risinium (Risan) was begun.

RISINIUM (Risan) See Plate 4.

The ancient site of Risinium is now occupied by the small town of Risan situated at the foot of the steep mountains which surround the eastern end of the Gulf of Kotor.

Observations by Sir Arthur Evans in the latter half of the 19th Century, and the size and nature of the remains which lie behind the centre of Risan, suggest that the town was of some size in Roman times. The coastal strip however appears to be too narrow to accommodate such a town and, since the region lies in an earthquake zone, it is possible that remains could have slipped beneath the sea. Local report and Sir Arthur Evans's observation of walls beneath the water tend to support this theory.

The following procedures were adopted for the preliminary search of the bay. Firstly five divers swam in line abreast following the shore line as indicated in the map of the site. (Plate 4). The depth of the water varied between 3–5 m and with a bottom consisting of thick mud. No signs of submerged structures were noted. Secondly a systematic search was made within the rectangular area directly off the quay, and thirdly divers swam compass courses across the bay as indicated on the plan. Lastly several traverses were made with a Ferrograph Offshore Echo Sounder carried in the dinghy. No positive observations were made during any of these searches.

Despite this the possibility of there being submerged Roman remains at Risan cannot be ruled out without making a more detailed search. For this an air-lift or similar equipment should be used to find out what lies beneath the mud. In a similar situation at Epidaurum (Cavtat) a large sector of the Roman town was surveyed by Falcon Barker in 1958 beneath the mud.

After this preliminary search it was learnt that no further work could proceed without the sanction of the naval authorities in Titograd, as the whole of the Gulf of Kotor is a military area. Since such permission was likely to take several weeks to come through, the expedition travelled to Dubrovnic and thence to Split.

At Split the Regional Institute of Protection of Monuments of Culture was consulted and it was learnt that the original application from England for an archaeological diving permit had been refused by the Central Committee in Zagreb.

Discussions with the authorities in the Institute, however, revealed that work might be possible in conjunction with a Jugoslav archaeologist from Zadar Museum.

Accordingly the expedition made its way to Zadar and, after calling at the Archaeological Museum, made camp near the village of Zaton on the western side of the Zadar peninsula.

Zaton (See Plate 5)

The site is situated near the point just north of the village of Zaton on the opposite side of the Zadar Peninsula from Nin (Aenona in ancient times).

A hook shaped artificial mole 120 m long was found to run out westwards from the point, curving toward the south at the seaward end in about 5 m of water.

A shoreward end of the mole was indistinct but the seaward end was more clearly defined; it consisted of smooth boulders (of a crystalline granite-like material) some 30 cm in diameter. In several places these boulders were piled 1 – 1.5 m off the bottom and were cemented together with what appeared to be marine concretions.

Many roof tiles and fragments of amphoras and pottery (See Plate 11) lay on the flat sandy bottom protected by the mole and, close to the seaward end of the mole, two marble columns (1.9 m x .25 m dia. and 2.3 m x .50 m dia.) of pink and grey marble were found. These columns had been cut to a cylindrical shape throughout and thus appeared to have been finished. As it is unlikely that they formed part of a structure standing on the mole, it is possible that they formed part of a seaborne cargo.

Several large white marble blocks (average dimensions 1 m x 0.4 m x 0.7 m) were found near the inshore end of the mole.

Other scattered finds included several cooking pots, a bronze coin (unfortunately unreadable), a glass dish, a lamp, bearing the stamp of the manufacturer Fortis, and the stamped neck of an amphora. These finds all appear to date between AD 0 - 150.

Beneath about 20 cm of sand close to the inshore end of the mole several walnuts and seeds were found fanning away the sand. Nearby several wood planks (about 30 cm x 3 cm thick of undetermined length) were partially uncovered. A small Italian vase of Roman date lay on top of the wood. Unfortunately, it was impossible to investigate further without the use of an airlift.

From the evidence above it seems that the port was in use during the first two centuries A.D. It is thought that the port served the ancient town of Aenona (Nin) at times when the frequent northerly wind, the Bora, rendered its own port unusable. The location of the port at Zaton would also have shortened the journey from the South by some 40 km. Support for this theory is given by the existence of a Roman road, visible in aerial photographs, leading from Aenona to the site.

Thanks are due to Mr. Brusic of the Zadar Museum, with whom the expedition worked at Zaton, and who was responsible for the discovery of the site.

After several days work at Zaton it became apparent that, without a full permit from Zagreb, archaeological work could not be continued in Jugoslavia. For reasons given in the Appendix, this could not be obtained, and the expedition returned to Split to consult The British Consul, Cdr. S. de M. Longsdon, whose help and hospitality deserves special mention.

Mr. J.B. Ward Perkins (Director of the British School at Rome) was contacted and the group was invited to work in southern Italy with Mr. John Huston (President of The Council of Underwater Archaeology, San Francisco).

ITALY

The expedition took the ferry to Ancona, Italy, and on July 26th joined the formal expedition of the Council of Underwater Archaeology which had been working since 1966, in the Garigliano River, about 27 km. from Sessa Aurunca.

From this time the expedition was under the direction of the Council with Brother Dominic Ruegg of St. Mary's College, California, as archaeological director, John Huston, the president of the Council, as general director, and Professor of Archaeology J.K. Anderson of the University of California, Berkeley.

In 1966, a group from the Council including Dr. Hartley Hoskins of the University of Chicago and John Huston, along with Gerhard Kipitan and Fred Harris, a diver, visited the Garigliano with the seismographic sub-bottom profiler, nicknamed "the mud pinger." This instrument developed by Dr. Harold Edgerton of Massachusetts of Technology consists of a sophisticated sonar device which makes profiles to ten meters deep similar to those made by seismographic oil exploration devices. The objective of 1967 was to explore the more than half dozen anomalies seen in the charts and to excavate the most promising.

Note from the Council of Underwater Archeology

The Council of Underwater Archaeology wishes to thank members of the Cambridge University Underwater Exploration Group for their co-operation and participation in the excavations on the Garigliano River in 1967. They worked under difficult circumstances to help complete the program of the Council. Not only did the group add divers who were badly needed, but also their special skills of exploration and surveying techniques which they had developed over a period of years. Exploratory systems such as the pendulum swing were welcome innovations of the University Group. The Cambridge divers were asked to contribute their special skills at the appropriate places and supplemented the Council team at F.G.1., whereas occasionally members of the Council team joined the Cambridge Group at the upper sites which were the heaviest responsibility of the latter. The work at F.G.1. was more in the line of an excavation, whereas the work in the upper river was exploratory.
The report here is that of the Cambridge Group itself. The Council will publish a preliminary, as well as a finished, report of the explorations and excavations.

FIUME GARIGLIANO

The area under investigation consisted of about 250 metres either side of the Ponte Garigliano immediately adjacent to the ancient town of Minturnae (Minturno). It was evident that the river had considerably undermined its banks in places (particularly above the Ponte Garigliano) and it seemed likely that substantial remains lay beneath the water. This idea was supported by many local reports and the existance of these remains was confirmed by a team from the Council using the sub bottom sounder in the summer of 1966.

The aim of the Cambridge Team was, first, to systematically search and survey the riverbed between the campsite (marked on the plan, see Plate 6) and the grid F.G.1. and, second, to assist in the detailed search of F.G.1.

Minturnae was a Roman colony founded in 295 B.C. on the site of a destroyed central Italic city. It lay in the southern part of Latinium, about one mile from the sea on the northern bank of the river Linis (modern Garigliano). It enjoyed its period of greatest prosperity from about 200 B.C. to A.D. 200, and towards the middle of the fifth century A.D. the town was abandoned in favour of the present hilltop site of Minturno.

After preliminary dives to establish the nature of the riverbed and the most likely whereabouts of remains (based on the presence of several walls protruding from the river bank) a grid (F.G.2.) was laid. While this was being examined, the river was systematically searched down to F.G.1. by means of the "pendulum" technique (see later). This search, combined with confirmatory dives, led to the establishment of three more grids F.G.3., F.G.4., and F.G.5.

The nature of the river bed above the bridge was generally as follows. On the inside of the bend (hereafter called the south bank), alluvial deposit had built up to a depth of about 2.5 m and any remains which might have been present were buried from view.

From the middle of the river to within about 2 m of the outer bank (the north bank) the bottom was approximately level at a depth of 7 –8 m, and then rose steeply in a series of hard mud steps (which appeared to be the uneroded bank) to the water's edge.

Several walls protruded from this bank and the tumbled remains of undermined structures were found on the level bottom.