

THE LAST BATTLE OF THE ITALIAN SUBMARINE *SCIRÈ*, IN HAIFA BAY, ISRAEL, AND THE STRUGGLE FOR CONTROL OF THE EASTERN MEDITERRANEAN IN WORLD WAR II

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INTRODUCTION

THE last battle of the WWII Italian submarine *Scirè*, sunk in Haifa Bay, British Palestine (today Israel) in 1942 is recorded in original war reports, documents of the involved parties and books dealing with marine and submarine warfare. However it received little attention in the past 70 years. In Israel remains of WWII military bases and fortifications were not regarded as cultural recourses of historical value until recently. In some cases relics having significant historical value were destroyed to make space for modern developments. Decaying remains of ships and planes lost at sea during the wars attracted few divers, adventure seekers, fishermen and souvenir hunters. Such remains were at time salvaged to be used as scrap metal. By the end of the 20th century, and as a part of an increasing universal awareness such remains in Israel were also recognised as important culturally and as integral part of local history. Several such remains have been protected, preserved and rehabilitated. Studying lost aircraft and ships became a regular part of underwater archaeological research. Additionally a new generation of Italian and Israeli research divers and archaeologists, who didn't witness WWII horrors, emerged. They were ready to recover, study and preserve the legacy of that war and those who participated in it and lost their life in it. The interest in the story of the Italian submarine *Scire* and the mysteries and secrets hidden behind its demise is a part of this process. Recent underwater discoveries and archival research, added to previously known information, revealed new details concerning the British defence systems in Haifa bay (FIG. 1), the hunt of the *Scire*, and the details of its last battle. That story presents a unique view of the naval and submarine battle field along the Israeli coast and the eastern Mediterranean during WWII. The submarine's history and fate are connected with global affairs, important technological developments in underwater warfare, military electronics and underwater detection systems. The research, reported here for the first

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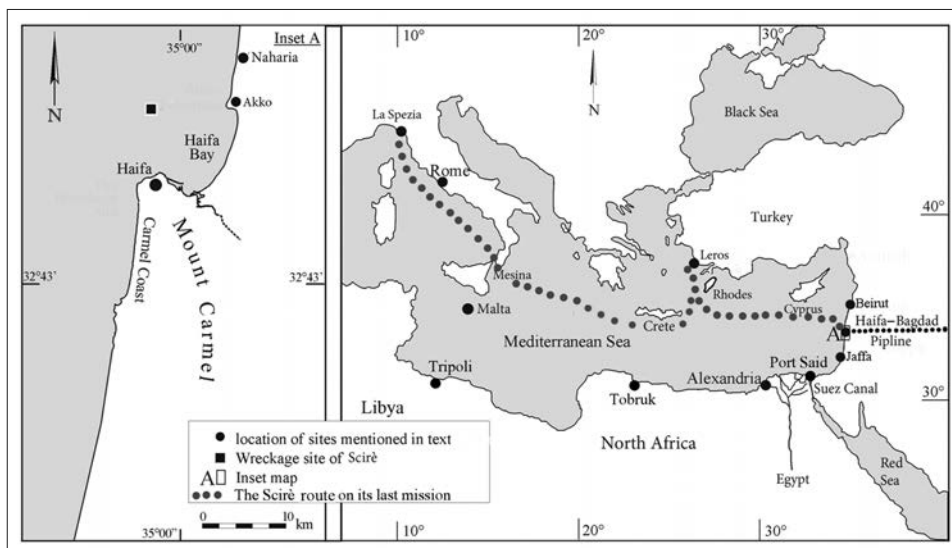


FIG. 1. Location map with sites and locations mentioned (E.G.).

time, reveals the complex anti submarine system that was installed by the British on Haifa bay sea bottom and the adjacent coasts during WWII. In order to reconstruct the story behind the *Scirè*'s demise, several separate events are linked sequentially: First, will be discussed the development of underwater warfare by the Italian and British Navies and their struggle for marine control over the Mediterranean during WWII. Control of the Mediterranean was essential for the British Empire, particularly the connections to her possessions in the east as well as her approaches to Mid Eastern oil supplies. For Italy it was the only seaway to its colony in Libya and later to the German and Italian armies in North Africa.¹ Secondly, the recent discoveries of detection systems and the harbour defence systems installed by the British in Haifa Bay will be discussed. Thirdly, archival materials will be used to present the operational details of what each side knew about the other and what the British planned to do in the event of a submarine attack on Haifa port. Evidences of new discoveries made by underwater archaeologists and by historians are used to connect the preceding pieces of evidence in order to reconstruct the final battle of the submarine. This necessarily entails the recent discovery and repatriation of the *Scirè*'s crew remains by Italian Navy divers and Israeli marine archaeologists.

DEVELOPING ANTI SUBMARINE WARFARE METHODS IN THE BRITISH NAVY SINCE WWI

The need of Italy and Great Britain for a comprehensive Mediterranean strategy increased when both became concerned over each other's competing interests in the

¹ DE BELOT, 1951, *passim*.

region during the 1930's. Preparations for underwater warfare were parts of these activities and the two navies approached that issue in different ways. Anti-submarine defence systems, in particularly indicator loops were already being developed by the British navy. Indicator loops (Fig. 2) are electric cables laid on the seabed.¹ The movement of steel-hulled vessels over such loops is indicated by a galvanometer at a nearby shore station. Anti-submarine vessels are stationed nearby to attack the submarines detected by the loops, usually with depth charges. At the time of WWII indicator loops had been around for more than a hundred years. The British scientist Michael Faraday studied magnetic induction loops already in 1831. However, these were not put to military underwater use until 1918, during the end of WWI.² Already during the early interwar period British military research and development was dealing with anti-submarine warfare techniques in which the use of such loops was an essential part. By 1929, the British had classified the ports of the Empire into three stages of preparedness: "A" – manned in readiness (for example: British home ports, Gibraltar and Malta); "B" – manned within 2 days of the outbreak of war; and "C" – having defence schemes prepared but not installed. By 1929, the indicator loop developed by the Admiralty was based on three parallel cables spaced about 200 metres apart. Earliest trials of this three-legged indicator loop design were undertaken in September 1929 by scientists aboard the *HMS Osprey* and *HMS Vernon* in Valletta harbour in Malta.

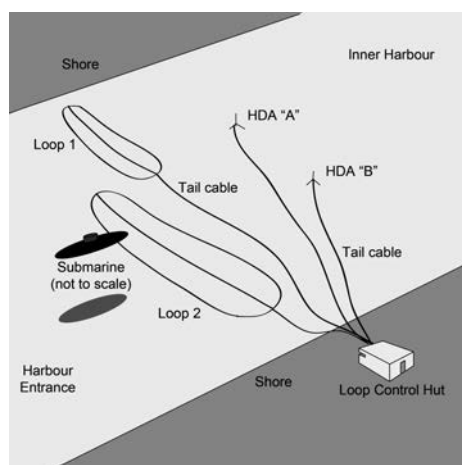


FIG. 2. The common three-legged indicator loop system (R.W.).

DEVELOPING UNDERWATER COMBAT METHODS IN THE ITALIAN NAVY

Italy started considering the British Empire as an enemy during the Abyssinian War of 1935. As a result the Italian Navy increased the rate of development of its underwater naval warfare capacity based on experiences from WWI. It concentrated on underwater war using its submarines and combat divers. One of the active participant in those preparations was the *x^a Flottiglia MAS*, (the 10th Flottilla Motor Torpedo Boat unit) that later attacked Allied ships and ports using commando operations. The underwater detachment of the unit used slow-run human torpedos ("*Operatori SLC*" - *Siluro Lenta Corsa*), and combat swimmers carrying Limpet mines ("*Gamma Men*" or "*Uomini Gamma*"). Later, after the war started, between 1941 and 1943 Italian combat divers from that naval unit sank 28 Allied ships, including 5 warships and 23 merchant ships and tankers. Gibraltar (September 1941) and Alexandria (December 1941) were

¹ WALDING, 2005.

² TERRAINE, 1989, p. 139; THOMAS, 1929, p. 252.



FIG. 3. Submarine *Scirè* launched on 06.06.1938 in La Spezia ship Yard
(By Courtesy of Fincantieri Cantieri Navali Italiani SpA).

successfully attacked by human torpedoes. To reach long-distances, divers were transported by remodelled submarines, like the *Scirè* (FIG. 3).

BRITAIN BUILD HAIFA HARBOR AS A MAJOR OIL SUPPLYING BASE AND FORTIFY IT

In March 1929 the British Cabinet considered a proposal by their Committee for Imperial Defence dealing with providing fuel oil for the Royal Navy by means of a pipeline from Mesopotamia to the Mediterranean. The cabinet noted the prospects of very large production of oil in Iraq in the future. The cabinet believed that the companies licensed to build the pipelines – the Turkish Petroleum Company and the Anglo-Persian Oil Company – could be persuaded to build the line to Haifa. That Government decided to secure the Baghdad-Haifa alignment for a pipeline that its construction was to begin by the end of 1929.¹ The cabinet also allocated funds for

¹ The alignment, it noted, measured 650 miles – the steepest gradient being 2700 feet in 250 miles and syphoning 1000 feet in the Jordan Valley. The route traversed what was then, under British

control, peaceful and protected territory (today's Iraq, Jordan and Palestine). CAB24/202, March 1929, CID Report, 13 June 1928, The National Archives (TNA), London.

THE LAST BATTLE OF THE ITALIAN SUBMARINE *SCIRÈ* IN HAIFA BAY, ISRAEL 97

the construction of a £1,000,000 harbour at Haifa to begin at the end of the 1929. The harbour provided for seven mooring berths and two oiling berths alongside. The pipeline was within territory completely under British influence and protection. Though there were shorter and cheaper alternative pipeline routes to the Mediterranean, the security of supply was paramount, particularly with the assured prospect of good harbour facilities at Haifa.⁶

The British cabinet foresaw three probable forms of attack on Haifa: shore bombardment by a cruiser, an attack by armed merchant vessels using gunfire or mines, and lastly, an attack by submarines, using either gunfire, mines or torpedoes aimed at ships in the harbour and its approaches. Adequate harbour defence against submarines involved an indicator loop system consisting of roughly eight miles of three-legged loops and nine miles of tail cable at a cost of £11,000. To these were added control stations with instruments which cost another £1,000. It was thought that a force of four anti-submarine vessels would be necessary to deal with the submarines detected by the loops. The exact design of the new harbour was not known in 1929, so a final recommendation on the type of anti-submarine defences was not made. Haifa was placed in the category of Class "C" ports: no defences were installed in peacetime, but defence plans were to be prepared to meet probable war requirements".⁷ Until the outbreak of war, the loop cables and equipment were to be stored at the naval depot in Malta.

THE STRUGGLE OVER THE CONTROL
OF THE MEDITERRANEAN IN THE THIRTEENS AND FORTIES

By 1931 indicator loops had proved themselves with friendly ships but performance in war times was uncertain. Although it was the Admiralty's clear intention to use indicator loops extensively for the defence of harbours, and it was their policy to lay them in peacetime due to the time required for such operations, no large laying program was contemplated.⁸ The port at Haifa was declared open on 31 October 1933. In 1934, the Cabinet had decided to complete the defence of all ports East of Suez within five years, but the Mediterranean ports (Alexandria, Gibraltar, Haifa and Malta) and the Cape route ports would not be completed for several years after that.⁹ In 1937 the British Cabinet had reaffirmed that Italy was still not considered a threat to Britain and that while defences at the Mediterranean ports should be increased, no great expenditure was needed.¹⁰ During that time the Admiralty was considered its loop program. By 1938 indicator loops had been laid along the English coast and in the Far East. The Admiralty knew that other loops would be needed, should war begin, but the capacity to lay and maintain additional loops was limited by having only two cable-laying ships available, one of which stayed in home waters to look after the extensive loop defences at Dover. That left just one ship to lay more loops in time of war. In the Mediterranean, the oil pipeline to Haifa was completed in 1939 but loops for Haifa

⁶ CAB24/202, March 1929, CID Report, 13 June 1928, London, TNA.

⁷ Overseas Defence Committee Report, Paper No. C.O.S. 151, London, TNA.

⁸ ADM 1/9848, Maintenance of Indicator Loop

and HDA Cables (refers to letter from Admiralty of 15 June 1934), London, TNA.

⁹ CAB24/247, 28 February 1934, page 23, London, TNA.

¹⁰ CAB24/268. 24 February 1937, London, TNA.

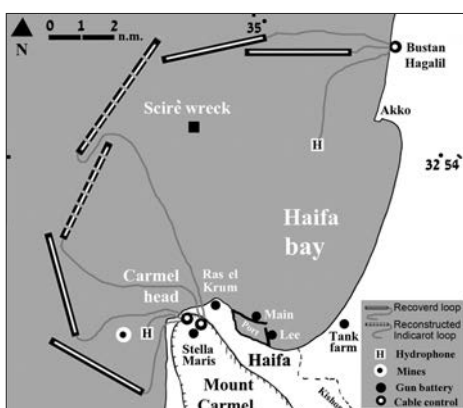


FIG. 4. Haifa Bay region and the location of the anti-submarine defence systems found (E.G.).

were still not even on the agenda.¹ In addition to the loop systems, a device known as a Harbour Defence Asdic (HDA) – a mounted sonar device to counter the penetration of Mediterranean harbours by human torpedoes and midget submarines – was trialled at some Mediterranean ports. It was found ineffective against the small Italian midget submarines² but suitable against the larger ocean-going submarines. With the dramatic escalation of the war, and the bombing of the Italian navy in Taranto by the British (November 1940) and the Japanese attack on us Naval Base at Pearl Harbor (December 1941), the British installed loop protection, in most harbours.³ By 3 September 1939, Britain was

at war with Germany. In early 1940 the Admiralty became seriously worried that the Germans might penetrate into allied ports and attack ships using small demagnetized submarines, against which the indicator loops were not effective. On 11 April, 1940, the British War Cabinet agreed that war with Italy was a real possibility and that defences at its Mediterranean ports of Alexandria, Gibraltar, Haifa and Malta should be brought to a state of readiness and manned.⁴ Assuming hydrographic surveys were up to date and loop layouts planned, there was every possibility that the loop system could have been operated within a few months. The cabinet was well aware that should Britain become involved in war with Italy, “the Germans would quickly get a grip on that country, and we should have to face German aircraft and German submarines operating in the Mediterranean”.⁵

On 10th June 1940, Italy declared war on France and Britain and entered WWII. The Italians had the fourth largest navy in the world. However, in the Mediterranean, the Allies had a technical and operational advantage due to three factors: radar, the deployment of British aircraft carriers and highly developed information gathering and processing organizations including the Ultra secret decrypting systems.⁶ In response, the Italian Navy continued the development and the use of human (manned) torpedoes and others innovative underwater warfare techniques. With the British harbour defences in place and the Italian strategy to destroy British shipping decided upon, the operations between the combatants were to begin. Both sides relied on limited information for their decision-making but some good intelligence and daring manoeuvres made this interaction noteworthy

¹ ADM 1/9848, London, TNA.

² THOMAS, 1929, p. 276.

³ RICHARD WALDING, <http://indicatorloops.com/>.

⁴ CAB/65/6/53, 11 April 1940, page 463, London, TNA.

⁵ CAB/65/6/53, 11 April 1940, London, TNA, p. 469.

⁶ Hinsley & Stripp, 1993.



FIG. 5. One of the Stella Maris gun batteries (E.G.).

In the relevant time Haifa area was protected by Army coastal defence systems and by the Royal Navy. Shore defences were provided by the 14th Coast Regiment Royal Artillery - 17th A.A. Brigade British Army. They manned four batteries positioned at 1. Stella Maris guns (FIGS. 4, 5).¹ These could hit a small watercraft (like the *Scirè*) at a distance of five nautical miles (9.260 meters); 2. The Main and Lee Breakwaters Battery (No. 179) and 3. Ras El Krum Battery (No. 178) which were armed with light anti-aircraft and anti-boat guns and machine-guns. 4. The Tank Farm Battery (No. 17) was armed with MK II medium guns. Additionally, Haifa Bay inland was covered by a net of smoke-making installations intended to mask strategic areas (i.e. oil storage and refineries) during sea or air attacks. Haifa port was under the command of the Royal Navy. The chief officer locally was NOIC (Naval Officer in Charge) Palestinian Ports Captain G. O. Lydekker OBE, DSC, RN. He reported to the Commander-in-Chief (CIC) the Mediterranean Fleet Sir Henry Harwood, KCB, OBE, RN. The intelligence operation against the *Scirè* was directed by the RN OIC (Operational Intelligence Centre). The harbour-protecting ship *HMS Islay* was commanded by Lt C.H.L. Clarke, RNR.

¹ No. 300 equipped with heavy guns, the BL 6 inch MK VII of calibre 152.4 mm of 14450 m range, and QF 4 inch MK V coast defence gun of calibre 100 mm of 15000 m range, both using Range Finder Mk 2.



FIG. 6. The Admiralty pattern 1989 cable from Bustan Hagalil north of Haifa Bay as found (E.G.).

NEWLY IDENTIFIED UNDERWATER BRITISH DEFENCE SYSTEMS AT HAIFA BAY REGION

In the seven decades since the laying of the underwater detection system that took part in the destruction of the *Scirè* most physical remains were expected to be lost. However, the submarine and the cables are in an underwater environment that can be somewhat protective. On land, the concrete cable control bunkers will be generally resistant to decay. However, these remains are not protected against human interference. During the 1970's 1980's tons of metal cables were salvaged from Haifa Bay by fishermen. This section details some of the finds which have escaped salvage and destruction.

Indicator loops systems in Haifa Bay region

Numerous essential parts of the defence system are known now. The electric and acoustic detection systems, as well as marine mines and their launching wagons, were recently identified on the sea floor in Haifa region. Their position indicates that they were parts of an elaborate anti-submarine system. This system reveals previously unknown details of the British defence, bearing on the last battle of the *Scirè*.



FIG. 7. The identification tape of the #1989 cable (E.G.).

Cables were located on the sea bed from Naharia to Haifa, at depths of 15-45 meters. A system of three cables was located at a depth 36 meters northwest of Akko.¹ Additional two systems were located southwest of Haifa at a depth of 15-30 meters (FIG. 4).² Sections of cables were also detected at several places in Haifa Bay. Cables laid on a rocky bottom were immediately observable, while those placed on sand had settled, overlaid by sediments, and become invisible. At the time of discovery these cables were considered to be old telephone cables. Now it is known that a triangular iron block attaching one cable at its top and three cables at its base indicate that these were British anti-submarine defence systems.³ The recent study suggests that the structure of the cables recovered from the Haifa region is consistent with what is known about cables used for indicator loop and additional underwater anti-submarine harbour defences from WWII. The cable recovered is "Admiralty Pattern 1989". According to the manufacturer's logo it was made in London in 1940, by Siemens (FIGS. 6, 7). It consists of a single core of seven copper wires covered with layers of India rubber, tarred jute, hessian mesh, lead and steel wires (FIGS. 8, 9).⁴ The lead in

¹ Located at 32° , 56' , 59" N; 35° , 0' , 4" E

² Located at 32° , 48' , 43" N; 34° , 56' , 31" E; 32° , 47' , 39" N; 34° , 56' 16" E

³ Dimensions about 40 × 30 × 15 cm.

⁴ RICHARD WALDING, <http://indicatorloops.com/cablemakers.htm> (n.d.). The "1989" cable consists of a single core of seven strands of 0.029" tinned copper wire (#1) covered with three layers

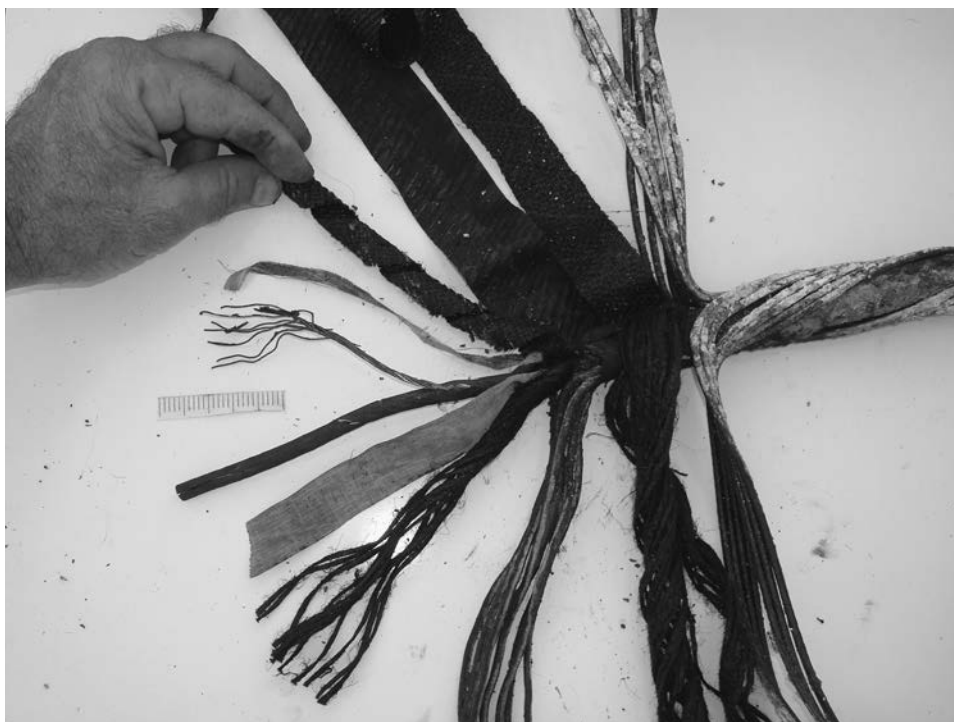


FIG. 8. Details of the #1989 cable components (E.G.).

the cable is pure lead.¹ The Admiralty used a special soft lead alloy of 4% tin to load many loop cables. It is stronger and resists salt water. As the war started the British Government restricted the use of tin to essential products, thus no tin was used for these cables.

Harbour Defence Asdics / Hydrophones

During dives near the cable systems south west of Haifa and northwest of Akko, a former navy diver identified three iron structures on the sea bottom. Such a device

of India rubber (#2 in FIG. 8) on which is attached the manufacturer's identification tape (FIG. 7). Covering this is a layer of thin (0.5 mm) waterproof tape (#3) and wound with 16 strands of jute yarn each about 2 mm in diameter (#4). The jute yarn layer is then covered with a tarred hessian mesh (#5) and a spirally wound anticlockwise layer of eight strands of 3.2 mm diameter pure lead wire (#6). These lead windings are covered with more waterproof tape (#7), 24 strands of a tarred jute serving (#8), and one more layer of hessian tape (#9). The whole is protected with a clockwise winding of 22 steel armour wires (#10), each

about 1.9 mm diameter covered in pure lead 0.8 mm thick (FIG. 9). Then there is a braiding of dressed hemp yarn wrapped over hot pitch and resin (not shown), and finally a preservative coating. The final diameter is 1.35" (34.3 mm). It has a linear density in British imperial units of 6.09 tons per 2000 yard mile in air (6.8 lb per yard) or in metric units: 3.4 tonnes/km (3.4 kg/m). The cost in 1938 was £180 per 1000 yards (which equates to approximately £9000 per 1000 yards in today's money).

¹ Australian Laboratory Services, Brisbane, Australia. Analysis showed > 99.999% Pb.

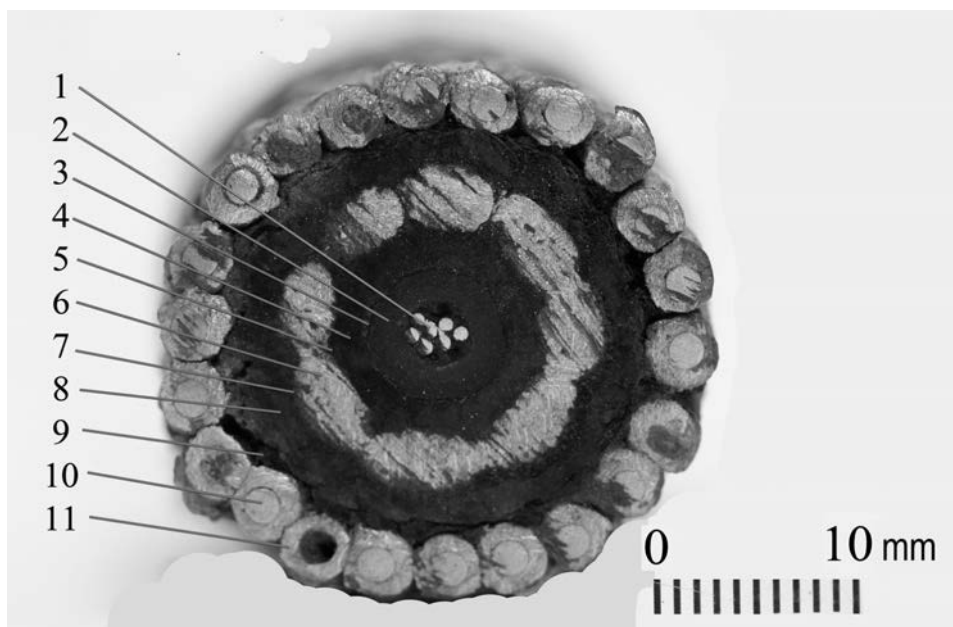


FIG. 9. Cross section of the cable (R.W.).

consists of an underwater transmitter and receiver housed in a waterproof bronze dome about 60 cm long and mounted on a tripod about 3 metres high that sits on the sea bed in a defended harbour. This device is connected to the control station on shore by armoured electrical cables. One was found south-west of Akko at 20 m depth, another was found south west of the Carmel Head at 14 m depth and a third (whole) was west of the Carmel Head at a depth of 40 m (FIG. 4).¹ Cables (3 cm thick) trending coastward were attached to the two tripods. The association of these constructions with adjacent indicator loops suggest that they were part of the underwater detection system known as Harbour Defence Asdic (HDA). An electrical pulse is sent from the shore station to the dome which sends a high frequency sound pulse through the water. The sound pulse reflects from any object in the water and returns to the dome, which sends the returned pulse to the control hut for analysis.²

¹ The locations are, respectively: firstly 32° 54', 32" N; 35° 02', 12" E, secondly 32° 49', 14" N; 34° 56', 35" E and finally 32° 51', 59" N; 34° 54', 41" E. On the upper part of the 3 m high construction, there was a cylindrical metal tank (25 cm in diameter, 60 cm high) covered with a hemispherical cap at its top. While checking the cylinder with a knife it was punctured and oil leaked through the hole.

²⁶ The ship-borne version is known in the UK as *asdic* (for anti-submarine device) or more com-

monly by the American name *sonar*. The HDA was developed along with indicator loops in the late 1920s at *HMS Osprey* (Portland Naval Base, England). It was given low priority and the first model was not ready until March 1932 when placed 1000 metres off the Portland breakwater. An improved HDA was laid three miles off the same breakwater in 1934 in conjunction with indicator loops. By December 1941, the British Admiralty was worried about midget submarines entering ports (against which the standard indicator loop was

Contact mines and their wagons

A spherical/oval mine with detection protrusions was found on the sea bottom some 1900 m south west of Haifa at 24 m depth (FIG. 4). Adjacent to the mine were five heavy duty iron wagons scattered on the sea bottom in an area of ca 50 × 50 m.¹ These wagons were most probably used for carrying and launching the marine mines. No cable that could have connected the mine to a control coast station was identified. Given the protrusions, these mines appear to be “contact” mines. Mines used in “controlled” minefields had no protrusions as they were fired electronically.

Indicator loop control/observation posts

Three well-built concrete observation posts, located in Haifa and Bustan Hagalil (FIG. 4), seem to be associated with the indicator loops of the Haifa harbour defence system. Of special interest is the northernmost one in Bustan Hagalil which may have taken part in the detection of the *Scirè* and in producing the signal given by the British alert systems mentioned above.

Haifa Bay indicator loop control/observation structure: The three-room structure (FIG. 10), partly dug underground, is situated on the steep, north-east facing slope of Mount Carmel some 660 m inland and about 90 m above sea level (FIG. 4).² The middle room is the observer station from which the sea was optically scanned and ships seen matched up with information received from a signal station in the bay and harbour. The upper room housed the loop amplifiers and galvanometers and watch keepers. On the southern inner wall of the upper observation room there are attachments for a missing instrument panel, associated with the detection and the communication systems (FIG. 11).³ A third, basement room was used for the generator supplying power for the instruments, or as a bomb-proof dwelling-shelter.⁴ The structure location offers commanding view of the whole Haifa Bay region. The structure probably served as the control station of the Haifa Bay indicator loops.

ineffective). This was a concern for great alarm for the defenders of Haifa harbour as it was home to vital oil supplies and the entry of Italian submarines was unthinkable. The Type 131 HDA was not effective against these small targets so an improved HDA (Type 135) was designed by the Admiralty scientists. In cases where HDAs were installed they always had to be in conjunction with indicator loops. Usually the loops and HDAs were controlled by the same naval personnel in the same control hut. The maximum range for detecting any echo is 2.25 km.

¹ The mine (about 1.5-2.0 m in diameter with protrusions of about 20 cm long) and the wagons were reported by Mr Kotzer. The wagons were 200 × 150 × 15 m, with rounded ends and were scattered over an area of about 50 × 50 m. Each wagon

has four solid wheels. The wheels were 25 cm in diameter. On the upper platform of each wagon was a rolling device with an iron cable rolled on it. The rolling device consisted of an iron cylinder on a rolling shaft, on which the iron cable was rolled.

² Located at 32°, 49', 34.4" N; 34°, 58', 26.4" E. There are two observation rooms (Dimensions 4 × 4 × 2.5 m and 3 × 3 × 2.5 m) with narrow, elongated windows, facing north-west, north, north-east and east. The structure is entered through massive iron frames which carried the missing iron doors. The observation rooms are on split levels connected by a narrow opening, possibly for cables and communication.

³ The concrete walls of these rooms are 40 cm thick.

⁴ (4 × 4 × 3 m), entered by a steel door, is mostly buried, having no windows.

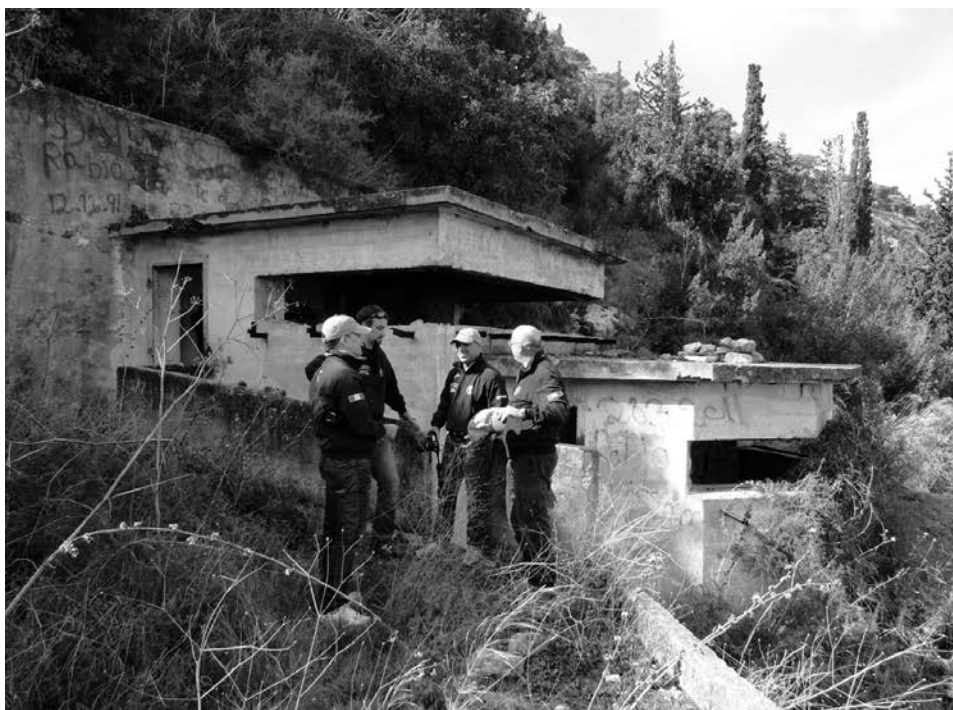
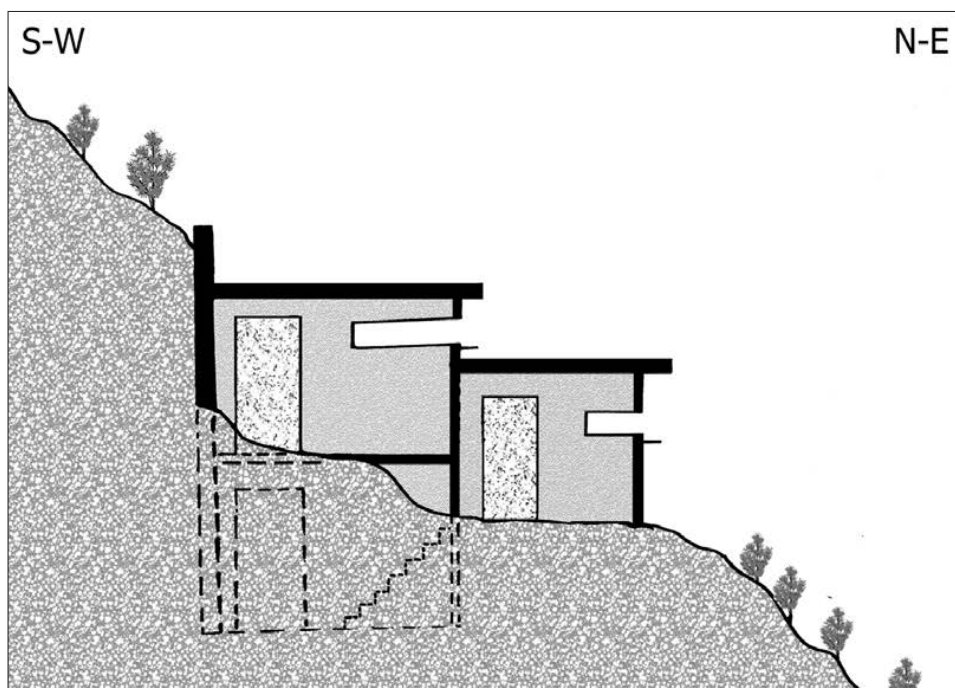


FIG. 10. Indicator loop control/observation structure in Haifa (E.G.).

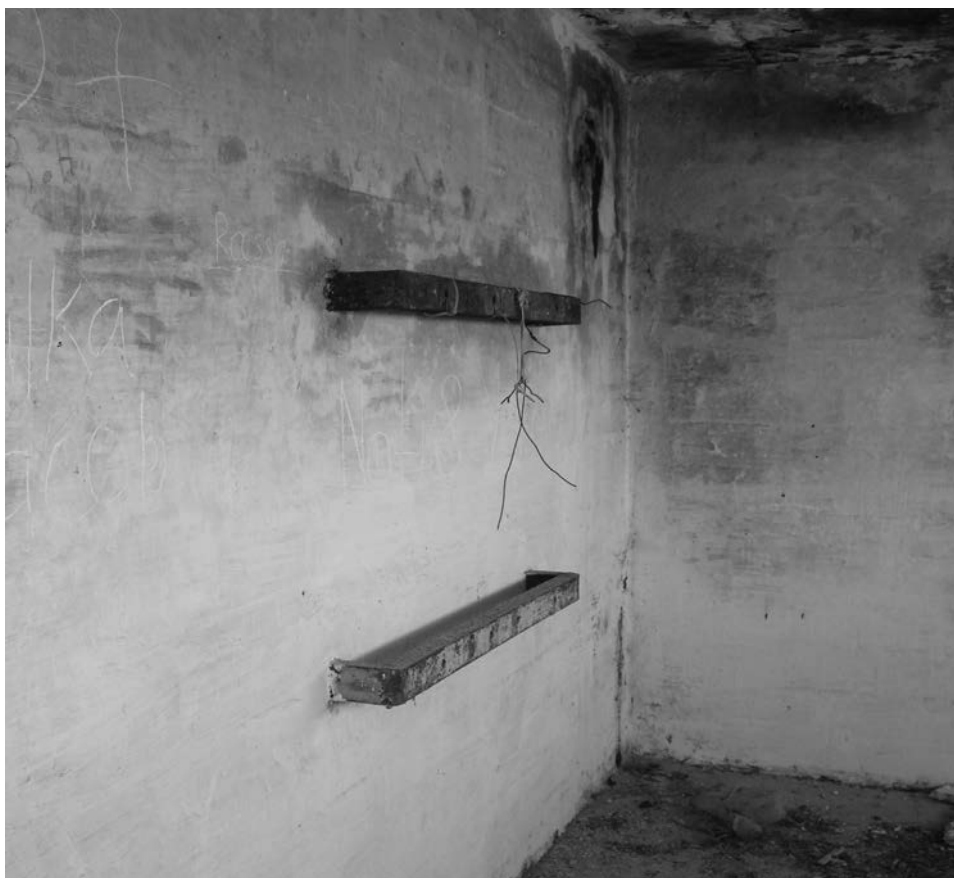


FIG. 11. Indicator loop control/observation structure in Haifa-bars for installing detection instruments (E.G.).

Carmel Head indicator loop control/observation structure: The structure (FIG. 12) is situated on a steep, north-west facing slope of Mount Carmel, some 300 m west of the Carmel Head lighthouse. It is about 280 m inland and at an elevation of 85 m above sea level (FIG. 4).¹ About 20 m north-east of this structure is a one-floor cement structure with several windows.² It probably served as a crew dwelling and a generator room.

Bustan Hagalil indicator loop control/observation structure: The structure (FIG. 13) is located some 58 m inland at about 2.5 m above sea level. It is a two-storey concrete

¹ Located at 32°, 49', 43.3" N; 34°, 57', 58.99" E. The one-floor cement structure is 5 × 5 m and it has an elongated panoramic window facing south-west, west, north-west, north and north-east. The

window was protected with iron plates, similar to the Haifa Bay observation structure above.

² Dimensions 7 × 7 m.

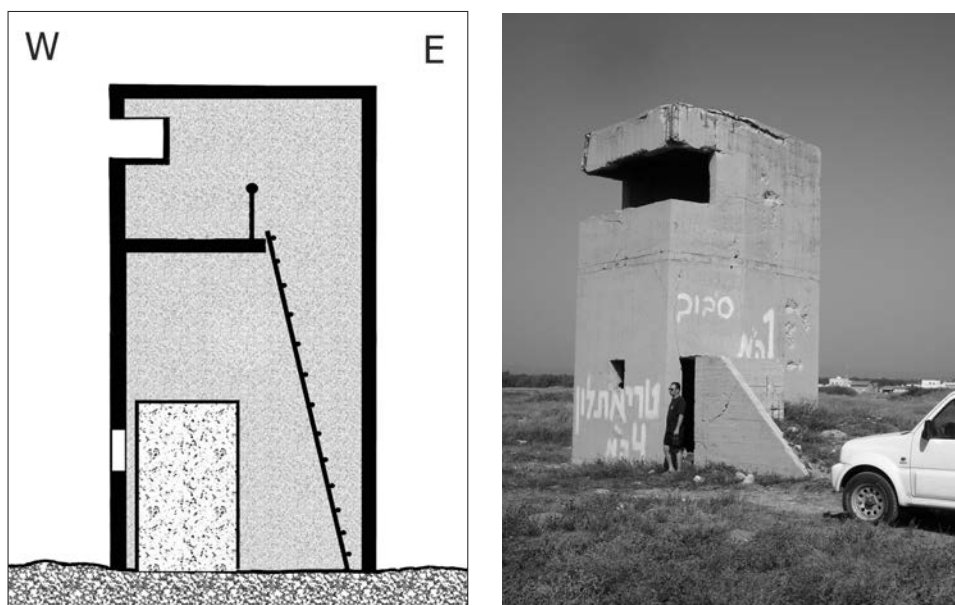


FIG. 12. Indicator loop control/observation structure in Carmel Head (E.G.).

tower with a trapezoid cross section.¹ The indicator loop cable found out at sea opposite this structure associates it with the loop system and thus it was probably used to observe and control this loop.

The Haifa indicator loop system - layout and operation

The commonest loop arrangement by 1939 was the 'three-legged loop'.² Maps of the layout of the loops and other naval defences for Haifa including the installation date have yet to be found. However, the loop and mining defences at Alexandria and Malta and the recent finds at Haifa enable a reconstruction of the system (FIG. 4). Given the production date of the cable, the system was placed after 1940, perhaps during 1941, when the British installed loop protection, in most harbours (see above).

Scirè - submarine of the x^a Flottiglia MAS

The *Scirè*, built in *Cantieri Odero Terni Orlando di Muggiano La Spezia* shipyard was named *Scirè* after a location in Ethiopia, marking an Italian victory in 1936, during the

¹ Located at $32^{\circ}, 57', 8.71''$ N; $35^{\circ}, 4', 30.67''$ E; dimensions $3.75 \times 4.60 \times 6.75$ m. The armed concrete walls are 40 cm thick. The second observation floor was accessed by a missing ladder. The second floor covered only part of the inner space. The second floor had a wide observation window (90×375 cm) pointing seaward with two expansions opening (90×90 cm) to the north, north-west,

west and south. The lower floor had a small (70×70 cm) window facing west and a door at its south-west corner, partly protected from the south and from the east with a partly buried wall.

² RICHARD WALDING, 2005, p. 28. ADM 186/548, Handbook for Indicator Loops, 1938 (London, TNA), p. 1.

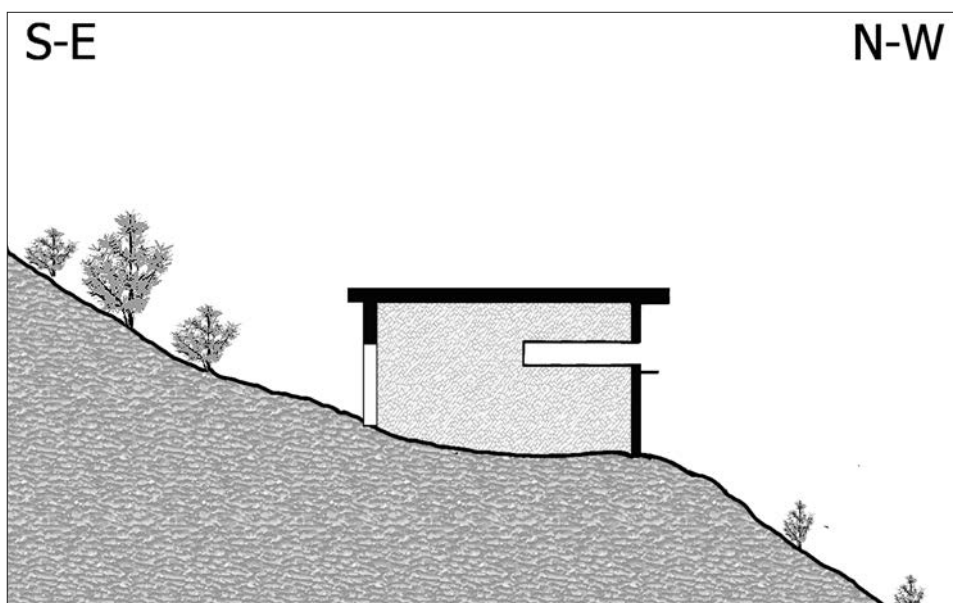


FIG. 13. Indicator loop control/ observation structure in Bustan Hagalil (E.G.).

Abyssinian War.¹ It belonged to the “Series 600 Class Adua” standard 680/698 tons and was launched on 6 January 1938 (FIG. 3), entering the service of the elite *x^a Flottiglia MAS*. After three unsuccessful attack against Gibraltar (operation BG1, 30 September 1940, operation BG2, 30 October 1940, operation BG3 27 May 1941), on 20th

¹ NESI, 2006, p. 201.

THE LAST BATTLE OF THE ITALIAN SUBMARINE *Scirè* IN HAIFA BAY, ISRAEL 109

September 1941 operation BG4 took place in Gibraltar, when *Scirè* divers attacked the tanker *Fiona Shell* (2.444 tons), the armed cargo ship *Durham* (10.893 tons) and the military tanker *Denbydale* (8.145 tons), an action for which they were decorated by the head of the Italian government, the Duce Benito Mussolini.

Operations against the Port of Alexandria

The December 1941 attack on the Port of Alexandria followed two failed operations by the submarines *Iride* (operation GA1 22 August 1940) and *Gondar* (operation GA2 30 September 1940). By the end of 1941, the two Queen Elizabeth-class 15-inch gun battleships, *HMS Queen Elizabeth* and *HMS Valiant*, were the only major British warships left in the Mediterranean. For protection they were transferred to Alexandria Port, which was protected by harbour defences, already enlarged after several Italian attacks in the Mediterranean: on Souda Bay, Crete (by MTM class surface explosive speedboats, nicknamed “*barchini*”), on Malta, (combined attack by MAS-Motor Torpedo Boats, *Barchini*, and “*Operatori SLC*” - *Siluro Lenta Corsa* nicknamed *maiali* (“pigs”) – underwater mini-vessels carrying attack divers) and on Gibraltar again using “pigs”. The *Scirè* left La Spezia on 3 December 1941, simulating an ordinary exercise. She arrived at Porto Lago on the island of Leros (Italian Navy base in the Aegean) (FIG. 1) on 9 December. Divers, flown to Leros to avoid the exhausting voyage, went aboard. She left Leros on 14 December to attack Alexandria which was protected by mines, marine cable systems, hydrophones, net barriers and observation posts.¹ Often depth charges were thrown randomly at the harbour entrance. The *Scirè* managed to approach the port, and three diver teams were sent into it, using slow-run human torpedos. The battleships *HMS Queen Elizabeth* and *HMS Valiant* and one tanker (*Sagona*) were sunk, and much damage was caused to a destroyer (*HMS Jervis*). The Italian crews were captured. Later, after the war they all received the Italian Military Gold Medal. It took the British almost two years to return the warships to service. The Alexandria operation was a daring and successful underwater naval action it changed the strategic balance of naval forces in the Mediterranean for a time. The temporary superiority of the Italian Navy in the Mediterranean helped it moving supplies and men to the axis forces in North Africa but Italy failed to fully exploit the success of Operation Alexandria, allowing the Royal Navy to recover its power in the Mediterranean.²

After the attack on Alexandria, J. Valerio Borghese (*Capitano di Fregata Regia Marina*), the submarine commander, was promoted to commander of the underwater section of the *xª Flottiglia MAS*. The last operation against Alexandria (GA4) was by the submarine *Ambra* (Commander Arillo) on 15 May 1942. It failed due to the British interception of Italian Navy radio communications. The combat divers were captured, but the submarine succeeded in returning to her base in La Spezia.

The planned attack on Haifa port as part of the submarine battle in the east Mediterranean

The battles in North Africa threatened the port of Alexandria and British warships were evacuated to Haifa and the Red Sea. The oil refineries and oil port in Haifa were

¹ BORGHESE, 1950, p. 268.

² *Ibidem*.

major British strategic assets. The Italian Navy high command (“*Supermarina*”) decided to attack Haifa port using divers equipped with mines. They expected it to be under-protected, thinking it was of secondary importance to the British. The Axis naval war in the Eastern Mediterranean was conducted mostly by underwater forces and the *Scirè* attack on Haifa was part of a wider struggle between Axis Naval forces against the Allied forces in that war theatre. During 1940-1941 three Italian submarines were sunk in the East Mediterranean: The *Argonauta* on 28 June 1940 off Alexandria, the *Foca* on 23 October 1940 and the *Fisalia* on 28 September 1941. Additionally, during July 1942 two Italian submarines were lost on patrol against Allied shipping off Beirut, Lebanon (FIG. 1): on 9 July 1942, the Italian submarine *Perla* was captured by the corvette *HMS Hyacinth*. On 11th July, *Ondina* was sunk by the South African armed trawlers *HMS Protea* and *HMS Southern Maid*, working with a Fleet Air Arm Walrus flying boat of 700 Squadron. Furthermore on 30 June 1942 the German *U-372* had sunk the submarine depot ship *HMS Medway* off Alexandria. On 4 August 1942 the *U-372* was sunk near Jaffa by the destroyers *HMS Sikh*, *HMS Zulu*, *HMS Croome* and *HMS Tetcott* and a RAF Wellington of No. 203 Squadron. The *Scirè* was lost on 10th August 1942 off Haifa and the *U-559* was sunk north of the Nile Delta on 30 October 1942. As will be seen below the fate of the *Scirè* was partly due to diligent intelligence work by the Royal Navy. It is of interest to note that an enigma machine and code books that were salvaged by the Royal Navy from *U-559* helped the British in that secret war.

The last battle of Scirè

Much about the fate of the *Scirè* remained unknown. Witnesses who participated in the event told different and contradictory stories. Italian publications in the years immediately of the WWII left doubts concerning the fate of the *Scirè*.¹ It was rumoured that the RN had previous knowledge of the attack. That thesis was based mainly on interviews with the late Israeli statesmen A. Eliav. On 10 August 1942, Eliav was a gunner in the 14th Coast Regiment Royal Artillery of the Haifa defences, participating in the last battle of the *Scirè*.² He stated that about a day prior to the attack harbour defences were alerted, as an attack on Haifa by an enemy submarine was imminent and ships and planes were searching for it.

The operation according to post war Italian and British sources

Operation SL1 – attack on Haifa port – began on 27 July 1942 when the *Scirè* left La Spezia, the operation being managed from the island of Rhodes (FIG. 1). The liaison officer Capitano di Corvetta (Lieutenant Commander) Max Candiani, flew from Brindisi to Rhodes on 1 August. He stopped at Crete and met the Luftwaffe Chief of Staff of the 10 *Fliegerkorps* concerning German air support, which included mainly high altitude air observation and photography by Junker Ju 86. Five Italian attack divers flew to Rhodes on 2 August meeting Candiani there. The same day the *Scirè* arrived at Leros. Seven attack divers, including an MD Doctor Gnecco, flew to Rhodes

¹ BORGHESE, 1950, p. 201, 265.

² 14th Coast Regt. R.A. (Royal Artillery)-17th A.A. Brigade B.A. (British Army).

on 4 August. On the 5th all the divers were in Leros. It was an identical routine to the one used previously in attacking Alexandria. The same day Candiani met the new *Scirè* commander Bruno Zelik (*Capitano di Corvetta*). On 6 August the *Scirè* left Leros. On the 10th the submarine should have released eight attack divers one and a half miles from the port of Haifa entrance. There were eleven combat divers: eight attack divers, a doctor, and two reserve attack divers serving as pre-attack scouts, “civette” (owls). The divers were supposed to attack British ships with limpet mines. Air photographs of Haifa port taken by the Germans on 9 August showed potential target vessels: two cruisers, two destroyers, five escort ships, four tankers and four cargo ships. The *Scirè* was expected to report to base on the 13th. No transmissions were received on that day, and the coming day. The Italian Navy asked the Luftwaffe for assistance in locating the *Scirè*. However, searches carried out on 16 and 17 August between Rhodes and Haifa were unsuccessful. Aerial photos of the port of Haifa revealed no damaged vessels.

British intelligence intercepts Italian transmissions and the expected attack on Haifa port: sources reveal the events days before the attack

According to British documents published after the war,¹ the submarine was traced first south-east of Cyprus on 9 August at 13.00 hours. Later it was observed on the 10th at 11.15 offshore Naharia, by a Walrus seaplane. Following the detection, the hunt by ships, planes and coastal cannon batteries started. When the *Scirè* surfaced, probably because it was damaged by depth charges, or to let the crew escape, it was sunk at 16.10 hours by *HMS Islay* using gun fire and six depth charges.² According to the Royal Navy documents released after the war, the submarine was sunk by the converted trawler *HMS Islay* listed as T 172 MS (Mine Sweeper) equipped with one 12 lb AA gun, three 20 mm AA guns and depth charges. The official report of Commander Lyddaker states: “Submarine, probably Italian, sunk by *HMS Islay* off Haifa sweep channel ... by depth charges and gun fire.” When the *HMS Islay* attacked, the two “owls”: *Secondo capo* Eugenio Dal Ben and *Capitano commissario* (Commissar) Egil Chersi were probably ready to leave the submarine or were in the water and were killed by the depth charges. According to a British report, when found, they wore diving suits and underwater breathing apparatus. The bodies were washed ashore on Haifa Bay beach a few days after the battle and were buried at the Christian cemetery at Kayatt Beach, Haifa.

The events before the battle can be summarised according to British documents:

24 July: A very urgent and secret package containing orders related to an important issue was to be sent from *Supermarina* (Italian Admiralty in Rome) to the *Regia Marina* command in Rhodes. Its arrival had to be confirmed. It is known now that these were the orders for the mission SL1.³

26th July: The *Regia Marina* requested urgent air transportation for the following day from Rome to Rhodes for one navy officer and seven commissioned warrant officers. This message confirmed British suspicions about a possible operation.⁴

¹ RUBERTI, 2010a.

² *Ibidem*, pp. 30-44.

⁴ Interception ZIP/ZTP1/13687 *Regia Marina*

³ Interception ZIP/ZTP1/13518 *Regia Marina* No. 30446, London, TNA.
No. 95075, London, TNA.

27th July 1942: A British document classified “Most Secret”: Naval Headlines No. 388 at 11.00, and the O.I.C. Special Intelligence Summary. The first was addressed to the Admiralty: “A similar request of priority of air transport of 9 officers and men from Rome to Leros via Rhodes on April 28th was followed, on the night of May 14th-15th, by an unsuccessful attack by human torpedoes on Alexandria”.¹ This note refers to the mission G.A. 4 of the submarine *Ambra* against Alexandria on 14 May 1942, when the British intercepted a similar order for air transport of human torpedo crews, but without understanding the meaning until the mission. The British understood that the Italians were using the same routine, meaning that a similar attack was imminent. However, they did not identify the submarine nor its target. The second document, a service note of the O.I.C., summarizes the information in possession of the Royal Navy: “Possible human torpedo attack in Eastern Mediterranean - Submarine *Ametista* arrived at Leros at 1544 July 26th”. The document was addressed to the First Sea Lord, at that time Sir Dudley Pound, and to C. in C. Mediterranean Fleet Sir Henry H. Harwood.² Thus on 27th July, the day the *Scirè* departed from La Spezia for her last mission, the British knew about the planned mission.

29th July: An exchange of messages occurred between Rome and Rhodes regarding the air transport of the combat divers. The *Regia Marina* exposed to the British the request for the air transportation of ten combat divers.³ It was ordered by Admiral Inigo Campioni, Governor of the Dodecanese (the Italian islands in the Aegean Sea). Four divers departed from Rome on 1st August and six on the 4th.⁴ Previous messages associated with the submarine *Ametista* indicated that it was in Leros for repairs. Therefore, the British could have concluded that *Ametista* was not going to carry out the attack⁵ and that they had some time to get organized.

30th July: A note was sent from Supermarina to Rhodes indicating that the *Scirè* was sailing to Leros.⁶ The British deduced that it would carry out the attack and that the operation would have a land-based officer: *Capitano di Corvetta* Max Candiani. From an interception of the same date they knew that Commander Candiani, arriving in Crete on 1 August, would be assisted by a local officer.⁷ A further interception included an urgent request by Supermarina to Rhodes to obtain a high-ranking officer to assist Commander Candiani in liaising with the German authorities on Crete.⁸ Another showed that Candiani needed special air transportation from Crete to Rhodes, otherwise he would be late for the beginning of the operation.⁹ Additionally, the British knew about the requested air transportation of eleven men from Rome to Rhodes on 4 August. This transport was intended for the combat swimmers and for

¹ Hw 1/795, Dispatch Naval Headlines N° 388, 27th July 1942, London, TNA.

² ADM 223/583 037, Dispatch O.I.C. Special Intelligence Summary, 27th July 1942, London, TNA.

³ Interception ZIP/ZTPI/13956E *Regia Marina* No. 02581, London, TNA.

⁴ ADM 223/583 024, interception ZIP/ZTPI/14018, London, TNA.

⁵ ADM 223/583 029, interception ZIP/ZTPI/13760 e ADM 223/583 027, interception ZIP/ZTPI/13845, London, TNA.

⁶ DEFE 3/847 & ADM 223/583 022, interception ZIP/ZTPI/14032, 30th of July, London, TNA.

⁷ DEFE 3/487 & ADM 223/583 021, interception ZIP/ZTPI/14033, London, TNA.

⁸ DEFE 3/487 & ADM 223/583 016, interception ZIP/ZTPI/14068, London, TNA.

⁹ DEFE 3/487 & ADM 223/583, interception ZIP/ZTPI/14038, London: TNA.

THE LAST BATTLE OF THE ITALIAN SUBMARINE *SCIRÈ* IN HAIFA BAY, ISRAEL 113

Lieutenant Pier Ernesto Gnecco, the combat swimmers doctor. His participation was considered by

Supermarina to be: “*indispensable for the previously mentioned operation*”. The British documents indicate that a concentrated information-collecting effort was conducted in following and locating the submarine. The port defences in the Eastern Mediterranean were forewarned, and the observation and defence systems were alerted and reinforced.

31st July: Two additional documents, listed “Most Secret”: the Naval Headlines No. 392 timed 11.00, and the Operational Special Intelligence Centre Summary, probably of the same day, indicate that the British had identified the coming action. Both reported identical information, gained by intercepting Italian messages: “*Scirè is known to have been the submarine which carried human torpedoes for the attack on Alexandria in December 1941 and on Gibraltar in September of the same year*” and that: “*Scirè carried out first human torpedo attack on Gibraltar October 1940 and first attack on Alexandria December 1941*”. Now it was clear to the British that the attacking submarine would be the *Scirè*, but the target and the date were unidentified.

1st August: The British intercepted a *Regia Marina* message communicating to Rome that *Scirè* and the first group of combat divers had arrived at Leros and that the command in Rhodes had provided for an escort of an M.A.S. and an aircraft.¹ Following the interception of that message there was silence and the British analysts spent some days in doubt, at least until 3rd August, when they started to receive Luftwaffe intercepts about the air reconnaissance over Haifa, which until then had received little attention from the Germans.

4 August: The second team of seven combat divers arrived at Rhodes.

5, 7, 8 August: The Luftwaffe reconnaissance of Haifa continued.

8-9 August: Two intercepted Luftwaffe messages reported on the number and type of ships in Haifa² and on its final aerial reconnaissance.³ From the last one the British could deduce that the operation aimed at attacking Haifa harbour. At the foot of the document there is a note that can be considered as an alert to all involved: “*With reference to the above, CX/MSS/1275/T7, the following was also passed at 0218/9/8/42 GMT as MKA 1356 AL 925 WD 255 NC 411 CA 504 SM 86 AIC emergency. Intentions 2100 hours on 8th for 9th were photo recce Haifa,⁴ sea recce with four aircraft*”.

9 August: 0200 hours: An air reconnaissance of the sea was ordered. Additional documents state that at 1300 “*Walrus aircraft reported submarine in position 33°55' N-34°40' E. South-East of Cyprus, Course 180° Speed 6 knots.*” Now the details of the planned attack were clear. The trap for the *Scirè* was set to operate on the coming day. No British document, located so far, explicitly states that the attack was expected in Haifa. However, in the GC&CS Naval History and in the two main British archive collection HW (Government Communications Headquarters) and ADM (Admiralty) the related interception documents of the *Regia Marina* and *Luftwaffe* are always filed

¹ ADM 223/583 012, interception ZIP/ZTPI/14410, London, TNA.

² CX/MSS/1275/T3, London, TNA, p. 2.

³ CX/MSS/1275/T7, London, TNA.

⁴ HW 5/120, interception CX/MSS/1275/T7 da riga 4 a 6: 1JU 88 night photo of Haifa. operation still in progress. E ‘Intentions’ 9/8. Photo recce Haifa, London, TNA.

together affirming that the British used them together to detect the mission of the *Scirè* and its target. Newly exposed archival evidence from British intelligence allows the attack on Haifa port to be traced in depth, thus verifying Eliav's testimony. In 2008, a study in the UK (British Public Record Office, Bletchley Park Trust; Admiralty War Office; Ministry of Defence) revealed documents thus far unknown.¹ The previously published source was the official overview of the battle which appeared in the Special Intelligence Service GC&CS Naval History, Vol. xx "*The Mediterranean 1940-1943*".² It states: "On 10th August [1942], the parent submarine "*Scirè*" was sunk off Haifa with her human torpedoes on board. Her intentions and her approach had been elaborately followed by Special Intelligence, and she was destroyed according to plan."³ In N.O.I.C. *Palestinian Ports 2300c 10.8.42*, the message by Captain G. O. Lydekker, reported the *Scirè* destruction.

The last hours of the Scire

Forty-one unpublished British documents associated with the British Intelligence exposure of the *Scirè*'s last mission, in addition to previous sources, were summarized and studied. They enable a finer reconstruction of the last hours and moments of the submarine.⁴ *Scirè*'s last hours are known mainly from the collection ADM 199 War Diary C-in-C Mediterranean. Also of help are documents in the collection WO 169/4662, concerning the 14th Coast Regiment R.A. - 17th A.A. Brigade War Diary that includes the official report by the Stella Maris Battery that fired at the submarine.⁵ The data, starting at 1300 on 9 August are summarised here.

10 August 1942: 1115 hours: A Walrus aircraft reported U-boat in position 33° 11' N – 35° 08' E near the border of Palestine and Lebanon off the coast of Naharia. Later the plane lost contact with it. The British destroyers *HMS Croome* and *HMS Tetcott* were sent northward from Haifa to search for the sub and patrol boats ML 348 and 354 were sent from Beirut.

¹ RUBERTI, 2010b, pp. 30-44.

² *The Mediterranean 1940-1943*, vol. xx in GC&CS Naval History, Bletchley Park, Milton Keynes UK, HMSO, 1985.

³ N.O.I.C. *Palestinian Ports 2300c 10.8.42*; ZTP1/13518, 13687, 13956, 14018, 14032, 14033, 14068, 14410, 16015; CX/MSS/1258/T19, 1265/T3, 1271/T23, 1275/T7", London, TNA and *The Mediterranean 1940-1943*, Op. cit., p. 216.

⁴ Italian Navy messages ZIP/ZTP1/13518, 13687, 13956, 14018, 14032, 14033, 14068, 14410, 16015, 13687A, 14035, 14038; 14047, 13689, 13760, 13845 (16 documents). Luftwaffe messages mainly about air reconnaissance of Haifa: CX/MSS/1258/T19, 1265/T3, 1271/T23, 1275/T7, 1259/T9, 1275/T3 (6 documents). English documents of ciphered transmission, reports to various commands about intercepted texts of messages, by the *Regia Marina* and Luftwaffe, CX/MSS/ZIP/ZTP1, all of which contain the following opening phrase: "From copy of a telegram seen by the source at...(Rome, Rhodes, etc.) the following report has been compiled", "to

hide the real source of the information and deceive the enemy in case of a re-interception of the message (9 documents)" [FABIO RUBERTI, 2010b]. Naval Headlines of the Naval Section GC&CS addressed to all responsible command chain most probably up to the Premier (Sir W. Churchill) and surely to the First Sea Lord, Sir Dudley Pound (2 documents). Special Intelligence Summary of the Special Intelligence OIC (Operational Intelligence Centre) (2 documents). War Diary C-in-C Mediterranean, Sir Henry Harwood, KCB, OBE, RN (4 documents). War Diary 14th Coast Regt. R.A. - 17th A.A. Brigade (3 documents). Signal messages N.O.I.C. *Palestinian Ports* Captain G. O. Lydekker OBE, DSC, RN to Sir Henry Harwood, C-in-C Mediterranean (4 documents). Signal message from C. in C. Mediterranean to Admiralty (1 document).

⁵ WO 169/4662, War Diary 14th Coast Regt. R.A. - 17th A. A. Brigade. Vol. XXIII, August 1942, *Report on submarine incident - Duty Officers: Lieut. R.S. Walsh, R.A. & BSM. W. Richardson 10.8.42*, London: TNA.

THE LAST BATTLE OF THE ITALIAN SUBMARINE *SCIRÈ* IN HAIFA BAY, ISRAEL 115

1509 hours: The S.M.O. ordered Stella Maris Battery to “stand to” owing to a “disturbance in the water on a bearing of 357°”. This could have been a hint regarding the alarm signal from the indicator loop system. A similar order was most probably directed to *HMS Islay*.

1530 hours: *HMS Islay* informed that they had started depth charging.

1535 hours: Stella Maris battery declared that *HMS Islay* was seen depth charging.

1540 hours: Stella Maris battery declared that the submarine had surfaced.

1545 hours: *HMS Islay* informed that a submarine had been seen on the surface, apparently without a gun, with an inoperative upper deck with three cylinders, presumably for housing human torpedoes.

1550 hours: Stella Maris battery received orders to open fire at the duty officer's discretion allowing for the safety of *HMS Islay*. When *HMS Islay* was observed to be in a safety zone 2° 30' to the right of the submarine, the battery opened fire. Due to the *HMS Islay* turning and closing again on the target, only two rounds per gun were fired. Stella Maris declared that the submarine prow had been hit by at least one shot.

1554 hours: Stella Maris battery was ordered to cease fire and the submarine was seen sinking by the bow. The stern was observed above the surface for about eight minutes before the submarine finally disappeared from view.

At 1610 hours: *HMS Islay* communicated to the command that the submarine had been destroyed, and that is the official hour of the sinking. Some hours afterwards – *HMS Tetcott* and *Croome*, back from the north, were sent to the sinking location to drop more depth charges “till the loss was definitely established”, as stated in Captain Lydder's order.

2300 hours: Captain Lydder officially communicated to C-in-C Mediterranean reports: “Submarine, probably Italian, sunk by *HMS Islay* off Haifa swept channel by depth charges and gun fire, no survivors...etc,”¹ The submarine had a non-operative deck without gun which carried three cylinders apparently used to contain human torpedoes.

From 10 August to 15 October helmet divers were sent to investigate the wreck and to check if the submarine carried human torpedoes or other types of special weapons. The helmet divers reported that no such torpedoes were inside the hangars on the submarine.

STUDY AND REPATRIATION OF THE *SCIRÈ* AND HER CREW
BY DIVERS AND ARCHAEOLOGISTS

The marine cultural heritage of the east Mediterranean including Israel reflects important chapters in the history of humanity. Here the first thalassocracies appeared, as well as the first unification of the Mediterranean, the Roman Mare Nostrum. Later, the major monotheistic religions evolved on these shores. This sea has witnessed naval conflicts, including in World War II. Lately Israel has been interested in preserving cultural heritage sites of national and international significance. The preservation and study of structures, facilities, weapons, aircraft and shipwrecks left by twentieth century hostilities are an important aspect of local underwater and marine

¹ ADM 199/648, Levant Area War Diary, 10th August 1942. Signal N.O.I.C. Palestinian Ports timed 2300C/10.8.42, London, TNA.



FIG. 14. First documentation of human remains found close to the hatch of the back torpedo chamber of the *Scirè* (1982) (E.G.).

archaeology. The *Scirè* location was known and a report on the wreck was submitted by the Israeli Navy to the Italian Navy in 1950.

The 1960s salvage operation

1963-64 an Italian delegation organized by the missing seamen's families and the salvage company "Salvatore Perrotta di Savona" arrived at Haifa.¹ The divers reported that there were no human remains in the submarine and that there was a danger of mines and torpedoes exploding. Parts of the submarine were taken to Italy, memorial monuments were erected and the remains of Eugenio Dal Ben, and another, most probably Egil Chersi, were laid to rest, Eugenio Dal Ben in the family tomb in Gradisca d'Isonzo (Friuli, North-East Italy) and Egil Chersi in the Sacrario Caduti d'Oltremare in Bari (Puglia, Southern Italy). The rest of the *Scirè* seamen were declared missing.

Discovery and repatriation operations during 1982-1995

In 1982 while diving on the *Scirè* wreck (FIG. 4)² human remains were identified and documented in the submarine by E.G. (FIGS. 14, 15). The Italian embassy was notified, and assistance was offered in salvaging the remains and repatriating them.³

¹ NESI, 2006, p. 229.

² Located at 32° 55' 12" N; 34° 58' E.

³ GALILI, 1988.

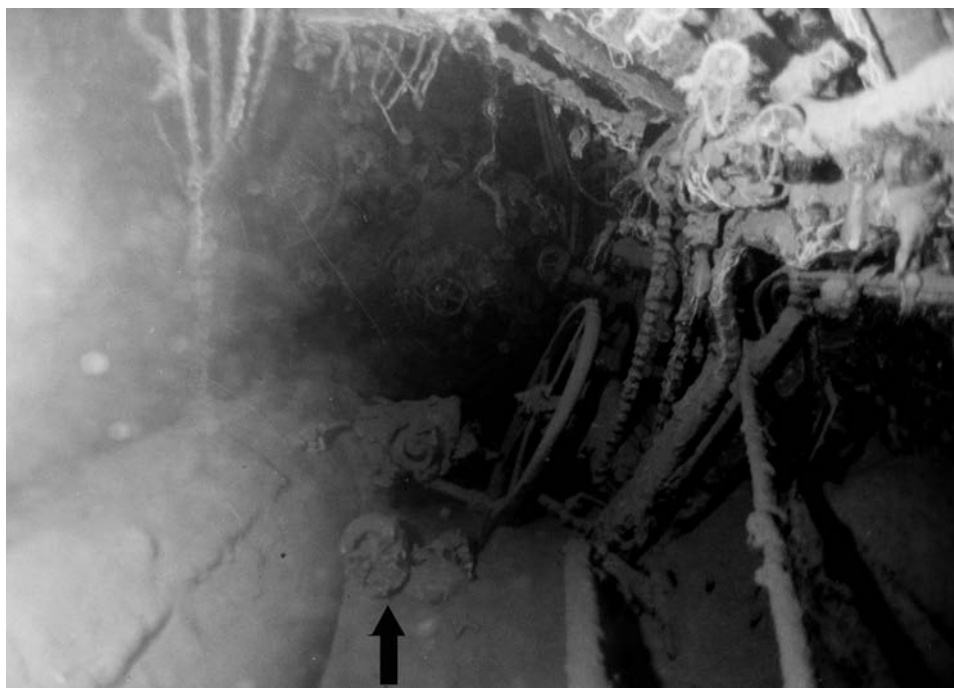


FIG. 15. Human remains in the back torpedo chamber of the *Scirè* (1982) (E.G.).

In 1984, the Italian navy ship *Anteo* arrived at Haifa for salvage and repatriation (FIG. 16). The remains of 42 seamen were recovered and buried beside Egil Chersi in Bari. A total of 44 seamen from the *Scirè* were repatriated to Italy while 16 are still missing. Being a burial place for the 16 seamen, the *Scirè* is considered a war memorial. On 15 October 1995 the Italian destroyer *Francesco Mimbelli* arrived at Haifa to commemorate and honour those who died with the *Scirè*. Two recovered metal tags of the missing crew member, Aurelio Peresson, were presented to the Italian ambassador (FIG. 17).

Events and operations during 2002-2012

On 2nd October 2002 Italian newspapers reported on damage done to the *Scirè* wreck by a US Naval Ship (FIGS. 18, 19, 20). It was suspected that a USNS had attempted salvage training on the *Scirè* wreck during a joint exercise with the Israeli Navy, without knowing that the wreck was a memorial and heritage site. On 3rd October 2002 Italian newspapers reported on an apology given to the Italian authorities and their navy by the American and Israeli Navies during a meeting held in Israel.

On November 2002 the Italian navy ship *Anteo* sealed all entrances to the wreck and placed a memorial plate on the back hatch.

In 2008 and 2011 F.R. organized expeditions to document and survey the wreck. The damage done in September 2002 was photographed, the memorial plate was cleaned and a memorial ceremony was conducted (FIG. 19).



FIG. 16. Italian-Israeli collaboration - Handing over human remains retrieved from the *Scirè* to the team of the Italian Navy ship *Anteo* (J. Galili).



FIG. 17. The two metal tags and a small key, (probably for a personal locker) (J. Galili).

During 2009 items salvaged from the wreckage site were repatriated to Italy (FIG. 21). In the naval base at *La Spezia*, the devices were handed over to the Italian Navy Special Forces Museum.

In August 2012 The state of Israel, F.R. and E.G. received honorary citation for their help, collaboration and contribution to the documentation, research, preservation of the underwater heritage associated with the *Scirè* and their help in repatriating the submariners and associated items from the sunken submarine. The award was given by the Italian association of mariners and the "Brothers of the sea association. The ceremony took place in Galipoly, southern Italy, with the presence of the Israeli ambassador to Italy, the mayor of Galipoly and Italian navy officers.

THE LAST BATTLE OF THE ITALIAN SUBMARINE *SCIRÈ* IN HAIFA BAY, ISRAEL 119

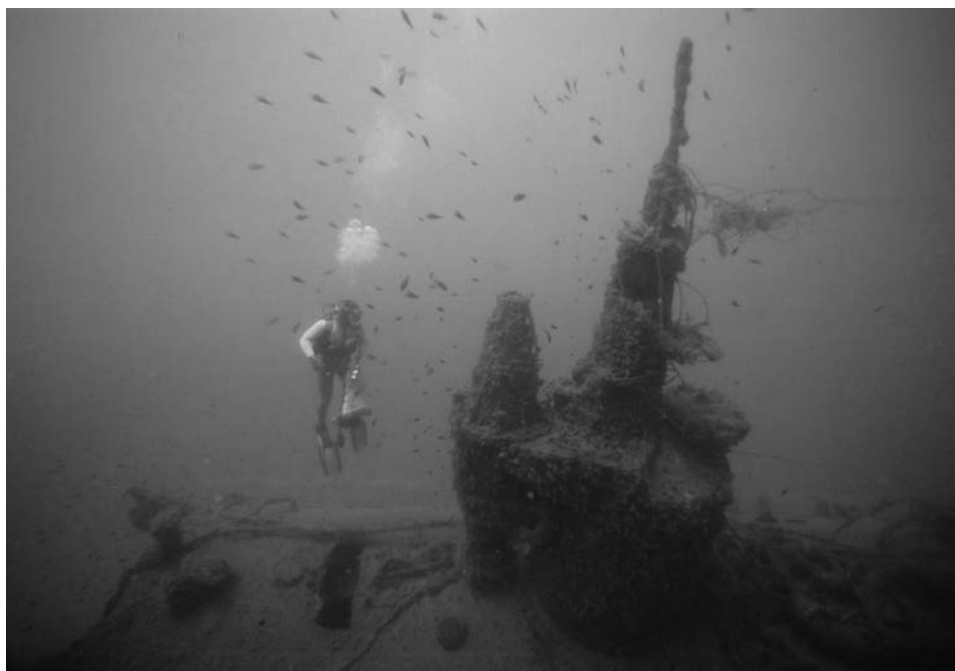


FIG. 18. The *Scirè* tower before the damage, with the periscope masts whole (2001) (E.G.).



FIG. 19. The *Scirè* tower after the damage done in 2002, with the periscope masts broken (F.R.).



FIG. 20. Heavy iron chains around the back of the *Scirè* after the 2002 damage (E.G.).



FIG. 21. Diving equipment from the submarine *Scirè*: a) rebreathing device
b) diver's fin made of rubber (J. Galili).

The Scirè as a protected memorial monument

The *Scirè* is a significant monument for divers and seamen, and an important Italian memorial. It is a heritage site which represents part of Italy, Britain and Israel history. The wreck site should be officially declared as a protected monument and a war memorial, designated in nautical maps and lists of monuments. Restrictions to prevent the site from being disturbed should be established. It seems that the battles of the *Scirè* did not end in August 1942 – her battle for survival on the sea bottom and to stay in human memory is still going on.

ACKNOWLEDGMENTS

To Adam Kotzer, who discovered the tripods, the mines, and some of the indicator loop cables and who helped in the surveying and diving operations and do-

THE LAST BATTLE OF THE ITALIAN SUBMARINE *Scirè* IN HAIFA BAY, ISRAEL 121

nated his diving boat. To the divers Iga'l Shatz and Adib Shehade for their help in the diving operations. To Baruch Rosen for his help in writing and editing the manuscript to Ben Galili and the late Josef Galili for the underwater photography. Additionally, we would like acknowledge the underwater photographers of IANTD expeditions Jurek Lewandowski and Fabio Agostinelli and the members of the diving expeditions on the wreck of the *Scirè* (Carla Binelli, Alessandro Brandetti, Gianni Calandrelli, Mark Feder, Agostino Fortunato, Silvia Grassini, Ivan Incalza, Roberto Masucci, Shai Roth, Jacopo Ruberti). To Admiral Giuseppe Celeste for historical support and his theses on the declaration of Eilav and to Dr Michael Elber. We also thank the Italian Navy Commander (Ret.) Sergio Mura and the Italian Navy Seal (Ret.) Giuseppe Castagnini for organizing the handing over of *Scirè* artefacts to the Italian Navy Museum. We offer acknowledgement to the Italian Foreign Affairs Ministry and the Association of Italian Navy Special Forces (ANAIM - Associazione Nazionale Arditì Incursori Marina) for their commitment and support, to Carla Binelli and John Gallehawk for their help in the archive research, and to Christopher Rogerson for English editing.

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ABSTRACT

The Italian submarine *Scirè* was sunk on 10 August 1942 in Haifa Bay, British Palestine, now Israel. Previously *Scirè* divers successfully attacked twenty eight Allied ships, using innovative underwater warfare. Five of the ships were warships, including HMS *Queen Elizabeth* and HMS *Valiant*, sunk at Alexandria. Consequently the strategic balance in the

Mediterranean temporarily switched and the Allied lost their naval superiority over Germany and Italy. The possible attack on the oil port of Haifa and the danger to the Royal Navy in the Mediterranean made Britain redouble its efforts to destroy the *Scirè*. Communication intercepts allowed the British to track and hunt down the *Scirè* as it ap-

proached Haifa. Underwater electric and acoustic warning systems – discovered and recovered recently – are reported and discussed. These probably enabled the British to locate the *Scirè* and sink it by means of guns

and depth charges. Evidence sourced from original British and Italian documents combined with first-hand underwater investigations have helped to create a modern narrative of the demise of the *Scirè*.

KEYWORDS: marine archaeology, heritage, British Navy, archives, Palestine, intelligence, Ultra Secret, Enigma, x^a MAS – Italian Navy, indicator loop, asdic, anti-submarine, *Scirè*.