

Military Weapons Deployed in Malta During the Second World War

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Abstract

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<p>The Second World War introduced the Maltese Islands to a very new and brutal mechanized siege. The concept of the older ground-based siege warfare made way for a threat from the air and sea. The aim of this long essay is to provide a strategic and tactical assessment of the numerous weapons deployed from both attacking and defending forces. This research examines the type of weapons and effect they had. The logistics of bringing the numerous armaments and munitions to the island. It also examines Malta's shift from the defensive to the offensive. The struggle endured by the aerial fighter planes, and the arrival of the more advanced ones is examined. In terms of surface attacks, the preparations against a ground assault are also investigated. These findings culminate into a better understanding of why certain weapons and tactics were deployed, and how they affected the strategic standing of Malta. Various literature material was researched and accompanied by interviews with experts who filled in the gaps and provided invaluable information when reaching conclusions of the assessments. Out of the information gathered throughout this long essay, a tour was formed to retell the events of the Second World War that led up to the deployment of such weapons. The tour's central focus are the numerous weapons and platforms exhibited in museums across Malta and will also explore certain sites such as defensive lines and forts.</p>	
Keywords WWII, Malta, Weapons, Aircraft, Guns, Armaments	

Declaration of Authenticity



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Research Title : Military Weapons Deployed in Malta During the Second World War

Declaration:

I hereby declare that this research study is based on the outcome of my own research. I, as the author, declare that this research study is my own composition which has not been previously produced for any other qualification.

The research study was conducted under the supervision of Martin Debattista.

16.01.2024

Date

A handwritten signature in black ink, appearing to read 'Nigel Grech', is written over a horizontal line.

Student's Signature

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1. Introduction

Although already being an enemy of Germany. By the end of spring in 1940, Malta was still untouched by the ongoing war that had raged in mainland Europe since September of 1939. The island served as the middle point in a string of British waystations starting from Gibraltar to Alexandria. With the ongoing situation in Europe, there was a great chance that this conflict could spill into North Africa. To add more to this concern, the still neutral Italians felt unjustified with the Treaty of Versailles after WW1. They aimed to expand their occupied Libyan borders. A new figurehead that would fuel this resentment further would climb up the political ranks in Italy. Reaching the title of Prime Minister, Benito Mussolini was never shy to showcase his intentions to oust the British and control the Mediterranean Sea. Italy already had a great number of troops and military assets stationed in occupied Libya. This would mean Malta would be at the epicentre between two enemy-controlled territories. To the Italians, Malta could serve as a deployment point to harass any Italian supply vessels and aircraft to support a North African campaign. With these rising tensions, preparations for the defences in Malta by the British were being carried out as early as 1938. Malta's sole lifeline were the numerous supply convoys sent from Britain itself. Many weapons both offensively and defensively including experimental ones were deployed during the siege.

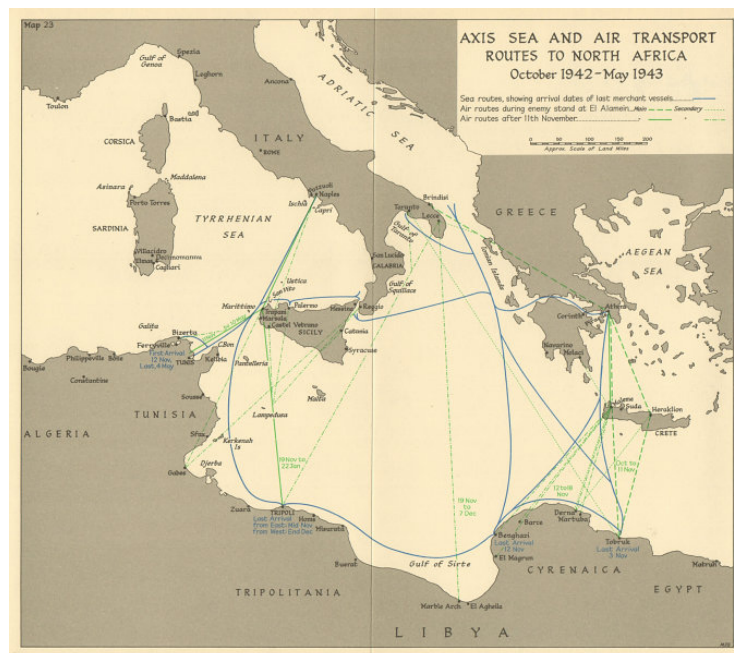


Figure 1.1. Axis sea and air transport routes in the Mediterranean. Source: www.antiquemapsandprints.com

2. Literature Review

A multitude of weapons and tactics were deployed on the Maltese Islands throughout the Mediterranean conflict of World War 2. These include many Allied defensive armaments and measures that were highly utilized. Eventually, the North African struggle ended with an Allied victory, and the situation in the Mediterranean grew more dire for the Axis. Malta's role shifted to the offensive by the end of 1943. A multitude of weapons were then used to harass Axis forces and aid in the Allied invasion of Sicily. With the information available from the below authors, a clear picture can be painted to assess the strategic and tactical situation of the Maltese Islands throughout the conflict and the effects of such weapons. Since weapons fall under different fields, this literature review is split into sections to aid the reader in discerning the topic.

2.1 Land-Based Guns

The land-based guns present in Malta during WW2 played a crucial role as they scored an extraordinarily high rate of hits on enemy aircraft when compared to other countries. However, as author David Wragg points out in his book *"Malta, the Last Great Siege"*, the defences of Malta were quite dismal in the years leading up to the siege. So much so that both the RAF and British Army saw it pointless to defend Malta. Only the Navy along with support from Winston Churchill stepped in and emphasized the strategic importance of the islands (Wragg, 2003, p. 7).

Another author that highlights the evolution of these defences is Denis Rollo, who gives a detailed chronicled look of the assembly of guns deployed in Malta in his 1999 book *"The Guns and Gunners of Malta"*. He explains what was present in Malta before and during the war, dating as far back to the 1930's with the rising tensions in mainland Europe.

Rollo goes into detail into the numerous pre-war and wartime requests made to the War Office in London to procure more defensive assets. Most of these requests were for anti-air guns. This is due to the likelihood that assaults on Malta would most likely come from the air. The aspects of enemy naval bombardments and amphibious assaults were not neglected. As Rollo writes, preparations were underway in the 1930s to bolster the defences for surface combat. From a tactical perspective, the anti-air guns could depress enough to engage surface targets with the appropriate ammunition. Throughout his book, he continues to chronicle the events of the logistics and transportation of such weapons. From light anti-air like the Bofors 40mm and light machine-guns such as AA Lewis gun

posts, to heavy anti-air ones such as the 3-inch, 3.7-inch, 4.2-inch and 4.5-inch guns, to the giant BL 9.2-inch Mk X coastal guns and their accompanying Vickers 0.303-inch heavy machine-guns. The book also provides maps of the batteries, and highly detailed illustrations of the guns themselves. He also notes that any assets including munitions and spare parts were to be imported due to the lack of manufacturing facilities on the island. In addition, the book remarks on the gun-training given to the native islanders both military and civilian. Civilian dockyard workers were assigned military roles as gunners in certain sites, due to a lack of personnel (Rollo, 1999, p. 186).



Figure 2.1.1. An exhibit at the National War Museum showcasing the banner of the Dockyard Defence Battery.
Source: Photo by Author, National War Museum, Valletta, Malta.

All these guns including shipborne ones would be assigned different roles in a combined effort to form an effective defence. One example being the usage of the heavy anti-air guns for high-altitude engagements and concentrated areas of fire. One documented effective effort by the guns came in play in January 1941 with the arrival of the Luftwaffe. The German deployment in Sicily coincided with the arrival of the carrier *HMS Illustrious* in Grand Harbour, which required urgent repairs after being shadowed and attacked by enemy aircraft while escorting supply ships to Malta, Egypt, and Greece. The arrival of such a high-value-target brought unprecedented devastation to the harbour area. In his book *“The Illustrious Blitz”* author Charles J Boffa also explains the combined efforts of the guns in Malta. The book details the introduction of the box-barrage tactic to Malta. A tactic so effective that it forced the enemy bombers to dive so low that the light anti-air guns could not depress enough. This caused many misses by the bombers and devastated the surrounding towns, shrouding the carrier in clouds of smoke and dust. By the 23rd of January, she managed to sail away under the cover of night

and head for Egypt. The strategic assessment of the raids from all three authors deems the defence from the guns a major success as the enemy bombers only managed to score one hit on the carrier while docked, partly thanks to the box-barrage tactic (Boffa, 1995, p. 27).

2.2 Fighter Aircraft

Being an island, aircraft took the centre stage in the conflict as these were the primary means to both defend and attack Malta. With the advent of military aircraft in the early 1900s, strategic and tactical aerial-bombing was the optimal method to neutralize an island. By June of 1940, no meaningful Allied fighter-planes were present in Malta, except for 3 obsolete Gloster Gladiator biplanes. Even though the island was unprepared in terms of aircraft quality and numbers, the Italian Regia Aeronautica also lacked advanced aircraft.

Italy's air force largely consisted of outdated 1930s era aircraft. As authors Brian Cull and Frederick Galea documented in their book *"Hurricanes Over Malta"*, the first waves came on June 11th, 1940. The 3 Gladiators went up against an armada comprising of 55 Savoia-Marchetti SM79 bombers and 18 Macchi C.200 fighters. Cull and Galea highlight that although severely outmatched, they still managed to score some hits and deter bombers away from their targets on some occasions. By late June, Hawker Hurricanes started to arrive and Cull and Galea start documenting their endeavours. As noted by the authors, these were also underpowered when compared to other aircraft of the time but were up to par with their Italian adversaries.

Cull and Galea write that the Germans brought some formidable fighter aircraft to the siege. Messerschmitt Bf-109 fighters were the most common adversary to the Hurricanes, supported by Bf-110 heavy fighters, some with night-fighting capabilities. The E version of the Bf-109 reigned superior to the Hurricanes Mk1 in Malta. The evolution of the aircraft models/variants is also chronologically documented by the authors. One example being the arrival of the MKII variants of the Hurricane by the end of May 1941 (Galea, 2002, p. 106).

An important factor noted in multiple sections of the book are the tally of the aircraft available. The authors always highlight the much lesser number of aircraft available for defence. One example being the HMS Illustrious raids as already discussed in part 2.2 of this review. Rollo's, and Boffa's views that the ground-based guns carried out the bulk of the defence of the HMS Illustrious raids also concur with those of Cull and Galea (Galea, 2002, p. 51).

A major advantage the defenders had in Malta was ground-based radar. This gave the defending fighters and guns a much-needed early warning. The Germans even tried neutralizing the radar in Malta by installing jamming stations in Sicily. As noted by Maj. Kavanaugh who wrote *“Comparison Of The Invasion Of Crete And The Proposed Invasion Of Malta”* in 2014, the Germans’ equipment worked but were deceived into thinking it wasn’t, thus ending their jamming efforts (Kavanaugh, 2014, p. 111).

In his book *“The Air Battle For Malta”*, author James Douglas-Hamilton gives an insight gained through his uncle’s journal, who led a Spitfire squadron in Malta. He highlights the fact that the machine-guns of the Hurricanes in Malta lacked the firepower given by the cannons armed on enemy aircraft, particularly the BF-109E (Douglas-Hamilton, 2000, p. 54).

This eventually prompted the British to replace them with the cannon-armed Supermarine Spitfires. The first Spitfires Mk.V’s arrived on March 7th, 1942. They still faced ferocious resistance by the more numerous German BF109F and Italian C.202 III (Douglas-Hamilton, 2000, p. 57).



Figure 2.2.1. A Spitfire Mk.V aboard USS Wasp enroute to Malta. Source:

<https://www.asisbiz.com/il2/Spitfire/Malta/pages/Spitfire-MkV-aboard-USS-Wasp-bound-for-Malta-1942-web-01.html>

The Spitfire proved vital to the defence efforts as it brought parity in terms of aircraft technological superiority. However, all three authors in this section agree that the Hurricane was the true saviour of Malta, going up against superior enemy aircraft while being vastly outnumbered for two whole years. The Spitfire's Malta combat-record was more orientated towards the offensive period when Fascist Italy was being pushed back in 1943.

2.3 Offensive Weapons

The Axis attempted to neutralize the island through siege warfare. Therefore a multitude of weapons were deployed to pummel the island into submission. At the same time, Malta was also used for Allied offensive operations. The British continuously deployed bomber raids and submarine patrols from the island. Meanwhile, the Axis were busy laying sea mines around Malta to disrupt Allied naval operations.

John A. Mizzi and Mark Anthony Vella's "*Malta At War*" series of books tackle every aspect of the war in different volumes pertaining to several subjects, including the offensive weapons deployed by both sides.

Mizzi and Vella detail the types of bombers deployed by both sides. The Axis forces mainly used Junkers Ju-87 and Ju-88's as tactical bombers. In terms of medium/heavy bombing, they used the German Heinkel He-111's and Italian SM79's. The British deployed Vickers Wellington and B-24 Liberator heavy bombers. Fighter aircraft in tactical bombing roles were also occasionally deployed, mainly by the Axis. One such example of this bombing role is the church incident of April 1942 where a Ju-88 and bomb-armed Bf-109's jettisoned bombs over the town of Mosta, striking the church dome and surrounding area. Mizzi and Vella included the testimonies from the actual Luftwaffe pilots of said aircraft (John A. Mizzi, 2001, p. 1716).

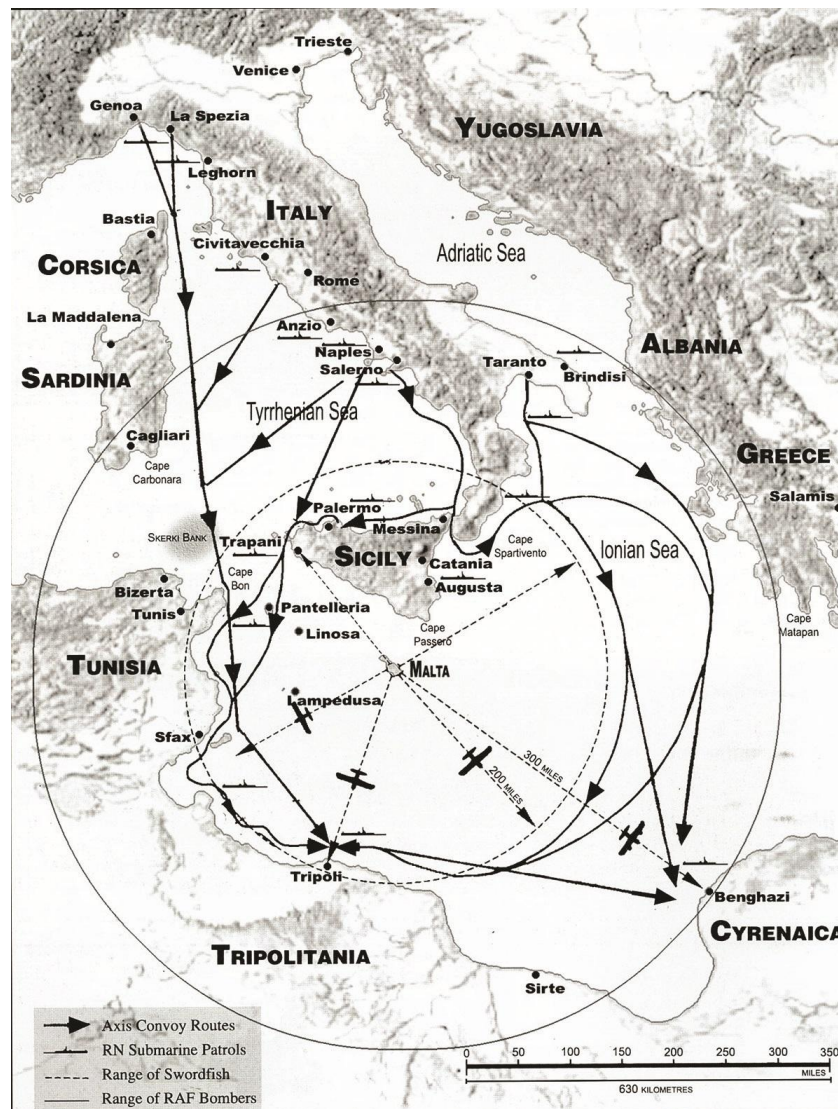


Figure 2.3.1. Central Mediterranean map showing the range of Malta's offensive aircraft against Axis shipping. Source: <https://timesofmalta.com/articles/view/the-axis-powers-heavy-losses-at-sea-during-world-war-ii.915363>

The primary bomber used by the Luftwaffe in Malta was the Ju-87 Stuka. The use of this aircraft is documented by former Stuka pilot Helmut Mahlke's in 1993. In 2013, author John Weal released the English translation of Mahlke's book dubbed "*Memoirs of a Stuka Pilot*". The book chronicles Mahlke's early life and career in the Luftwaffe. He details the training that was required, especially for the physical stress when dive-bombing, the Stuka's primary role. He also notes why the Stuka was the preferred bomber to attack Malta with. One example being the blast-proof aircraft pens in Luqa where only a precise direct hit could cause any damage (Weal, 2013, p. 222).

Mizzi and Vella also mention the desperate measures taken by the Germans to eliminate certain targets in Malta. In Volume II of the series, two incidents of experimental weapons being used are documented: One being the use of rocket-assisted bombs to penetrate the strong bastions of the harbour area, and another incident were a Fritz-X bomb (Figure 2.3.2) was deployed in an attempt to destroy HMS *Illustrious* while docked (John A. Mizzi, 2001, p. 488).

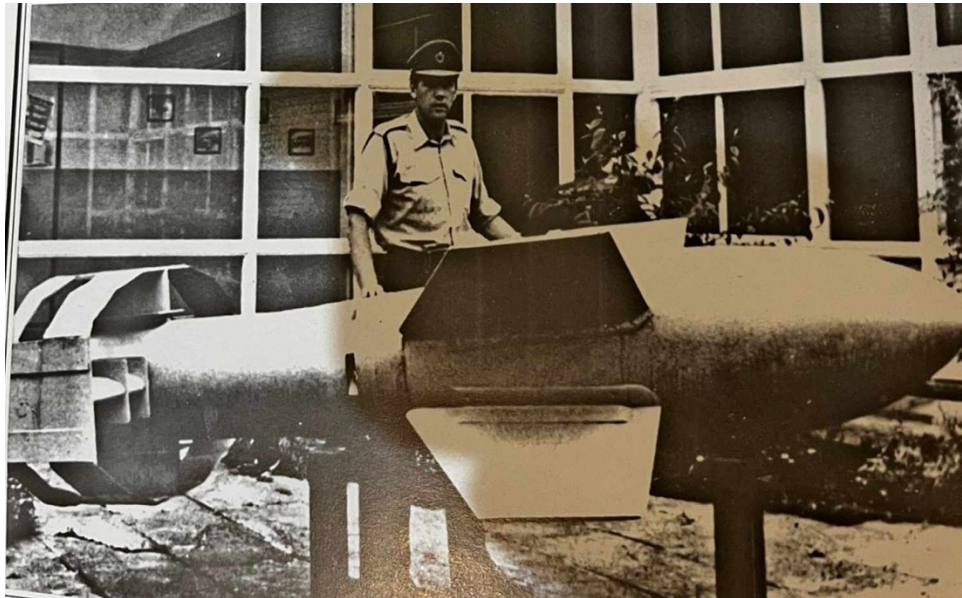


Figure 2.3.2. The actual Fritz-X discovered unexploded in Cospicua, now found at the EOD school in Chattenden, Kent, England. Source: Mizzi & Vella, 2001, p.488.

Only one surface incursion was attempted against Malta throughout the whole war. The raid on Grand Harbour on the 26th of July 1941 was conducted by the Decima Flotilla MAS, a special operations group of the Italian Navy with the objective of sinking Allied vessels while in port. In his 1991 article "*Decima Flotilla Decimated*", Joseph Caruana chronicled the raid and its failures. His research is extremely detailed and is one of the very few documentations ever made about the raid. Details such as the planning of the operation and personnel involved are noted in. The type of crafts used from the mothership *Diana* to the "*Maiale*" human torpedoes are also examined (Caruana, 1991, p. 185).

3. Research Background and Methodology

Semi-structured interviews were the selected method of research to further expand on the below research questions.

Central Research Question.

What were the tactical considerations when deploying weapons in Malta during World War 2?

Sub-Research Questions.

Which major events in Malta were these weapons deployed?

What is the assessment of the tactical deployment of these weapons during these events?

As with the goal of this essay to assess the findings and address some gaps not found in the literature review, the selected participants for these interviews are experts in their fields. Some questions were more opinion-based regarding events that happened or were not executed. Various helpful information was passed to the researcher.

The interviewees are listed below:

1. Ray Polidano, founder of the Malta Aviation Museum in Ta' Qali and expert in the field of aviation.
2. Charles Debono, curator at the National War Museum in Fort St Elmo for his expertise of the Italian E-Boat attack, radar operations, and defensive measures.
3. Matthew Balzan, curator of fortifications at Heritage Malta for his expertise in the evolution of the forts, harbour defences, and armaments they operated.

The full transcript of these interviews can be found in Appendices section.

4. Results, Analysis and Discussion

The interviews filled in some gaps not found in the literature. Certain aspects such as the reasoning behind the high rate of losses for the Axis forces despite having more advanced and numerous aircraft was addressed. The deployment of incendiary weapons was also puzzling in the researched literature, and this also was addressed. Information on certain weapons and platforms was also clarified with these experts. Questions were allocated on the interviewee's expertise, with some questions being opinion-based to compare the results.

4.1 Interview 1 – Ray Polidano

Mr. Ray Polidano accepted to do an interview in person at the Malta Aviation Museum on the 21st of December 2023. The aim of this interview was to clarify some aspects not found in books regarding aircraft operations from both the defender's perspective and that of the attackers. Mr. Ray Polidano gave a very good insight to the aircraft operations in the Malta sector. Highlighting the troubling logistics, and munition shortages on both sides.

The attackers at some points resorted to use any available munition such as concrete bombs, normally used for target practice, and incendiary bombs which do not make sense to be used on the stone buildings of Malta. These bombs were mentioned multiple times in different literature but gave no answer why such weapons were deployed.

Mr. Polidano also remarked on the presence of B-24 Liberator bombers in Malta. He argues that these were here for emergency repairs and not stationed in Malta, as some authors wrote. This info was gathered through his father who actually worked on repairing aircraft during the conflict.

Regarding the Mosta Rotunda bombing of the 9th of April 1942, he confirms the reasoning for the 3 bombs not exploding was that they were jettisoned over Mosta for defensive measures. He emphasizes that the 500kg bomb that pierced the dome was dropped from a JU-88.

4.2 Interview 2 – Charles Debono

Mr. Charles Debono accepted to do an interview in person at Fort St Elmo on 3rd of January 2024. He provided insight on the defensive measures taken by the defenders.

Mr. Debono went into the detail on how conscription worked with the locals. This gave the interviewer a good understanding that the British favoured the Maltese as skilled labourers, not to be wasted with militaristic duties. Even so, Debono remarked that conscripted dockyard workers which solely operated Bofors 40mm guns, were pivotal in the defence of the harbour.

He also told the story of Chief Petty Officer Paul Camilleri who served on the Polish Navy's submarine ORP *Sokół*, making him the only known Maltese to have served throughout the conflict. In terms of anti-submarine defences, before and even after the July 1941 Italian boat raid, interval depth charging, which was standard in some other ports, was not implemented in Maltese ports.

4.3 Interview 3 – Matthew Balzan

Mr. Matthew Balzan accepted to do an interview in person at Fort St Elmo on the 10th of January 2024. The aim of this interview was to identify key aspects of the fortifications around Malta and their effectiveness in case of an amphibious/land assault on Malta.

Mr. Balzan was asked if the forts of Malta would have helped in case of a ground assault. He emphasized that only 2 forts were dedicated to defending against a land assault, Fort Mosta and Fort Tas-Silg. Those built by the Knights of St John were primarily built to defend against naval threats. However, British-built forts were relatively built better to sustain aerial bombardments.

Mr. Balzan also explained the operations of the Boom Defence nets in Marsamxetto and Grand Harbour. The nets had scheduled opening and closing times. The timings were determined with the state of the Mediterranean conflict with some periods having much stricter closing times due to increased Axis naval activity.

4.4 Analysis

All 3 interviewees were asked various questions with regards to their field of expertise and gave solid information. All 3 were also asked if the cancelled invasion of Malta, code-named Operation Herkules/C3, would have succeeded with the defences present in 1942 and the projected invasion force. They were also asked if Malta had a significant effect on Erwin Rommel's defeat in North Africa.

Mr. Polidano believes Operation Herkules/C3 would have been repelled. He compares it to the invasion of Crete with the British mistakenly retreating rather than pushing back the enemy, a mistake that most likely wouldn't have been repeated in Malta. Gliders would also have been unfeasible in the attack due to the terrain and rubble walls.

Mr. Debono is of the opinion that Operation Herkules/C3 would have most likely fail with the defences present in 1942 and beyond. However, it would have most likely been successful in capturing Malta if it was initiated when the island was not well-armed, though still at heavy Axis casualties.

Mr. Balzan believes Operation Herkules/C3 would have failed due to the terrain of Malta being very hilly, which would have been an advantage for the defenders. Landing paratroopers would have also been a challenge as the locals and military personal would have been waiting for them. Concurring with Mr. Polidano's reasoning, gliders would have been very dangerous to land.

All 3 interviewees agree that Malta had a significant impact on Rommel's defeat in North Africa. This comes in part due to around 60% of Axis Mediterranean shipping being sunk by operations from Malta.

5. The Tour

The tour consists of a 4-hour itinerary which will utilize multiple sites and exhibits around Valletta. The objective of the tour is to give out an informative background as to why certain weapons were deployed in the first place based on the information gathered from the literature review and interviews. The functions of such military instruments will be explained in an entertaining form of storytelling. Depending on the audience, technical details will be kept to a minimum. However, certain aspects such as the difference between standard machine guns and aircraft cannons will be explained. The story of events and uses of such weapons will ultimately form a picture that led to the outcome of the Mediterranean conflict. The tour can be catered to either military enthusiasts looking to discover Malta's WW2 story or can also be catered to the average tourist who is interested in the period.

The tour starts off at the National War Museum in Valletta. This is an important starting point to the weapons tour as this museum is located in Fort St Elmo which was used as the primary harbour defence centre. More importantly, the museum itself showcases many types of military equipment and weapons. This will give the group a good understanding of what the guide will mention at other sites throughout the rest of the tour.

The first stop in the fort itself will be on a viewpoint next to the old casemates. From here, a brief history of Fort St Elmo will be told and will lead to an explanation to Malta's importance in the Mediterranean theatre.

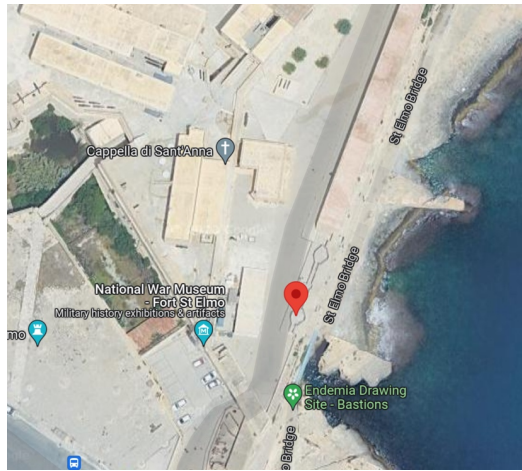


Figure 5.1. The Viewpoint next to the old casemates. Source: Google Maps.

The next stop would be the World Wars-period rooms of the museum. Here there are many showcases with different exhibits of weapons, equipment, and platforms.



Figure 5.2. The World Wars Exhibit rooms. Source: Google Maps.

Explore WW2 aircraft struggles with a Gloster Gladiator and Vickers .303 machine guns. Learn about Hawker Hurricanes' challenges with underpowered guns. Discover ground-based guns, conscription stories, and the formation of the Dockyard Defence Battery that would lead onto the HMS Illustrious bombings. This would link into dive-bombing tactics and the introduction of box barrages. On display is a Luftwaffe flare gun and understand how Axis pilots preferred sea rescues to not face the locals on land. Explore emblems of submarines, including the Polish Navy's role. Learn about the multiple uses

of military bikes as useful assets to navigate damaged roads. The bike on display has the Malta Camouflage and this will be discussed. Discover gas masks and ground warfare items. Explore cannons, especially the Bofors 40mm gun's role in a link with the Dockyard Defence Batteries. Understand the importance of searchlights and how they came into play against the Italian “*Barchino*” MTM boats (Modified Tourism Motorboat), which would kickstart the commentary on the E-boat attack of July 1941. Info here will be more related to how these assets worked and their purpose, with the actual story of the attack will be told at other points during the tour such as Fire Control HQ and Boom Defence station.



Figure 5.3. The HMS Illustrious bell and Dockyard Defence Battery banner. Source: Photo by Author, National War Museum, Valletta, Malta.



Figure 5.4. Emblems and artifacts of the naval vessels that were deployed in Malta. Source: Photo by Author, National War Museum, Valletta, Malta.

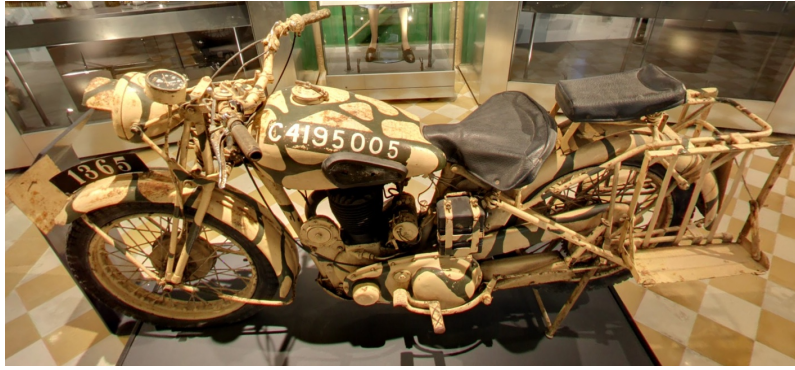


Figure 5.5. The bike on display with the Malta Camouflage. Source: Photo by Author, National War Museum, Valletta, Malta.



Figure 5.6. Ground-based guns, aircraft parts, and MTM. Source: Photo by Author, National War Museum, Valletta, Malta.

The tour party exits the room and head to the other room where showcases related to the 1942-43 period are found.

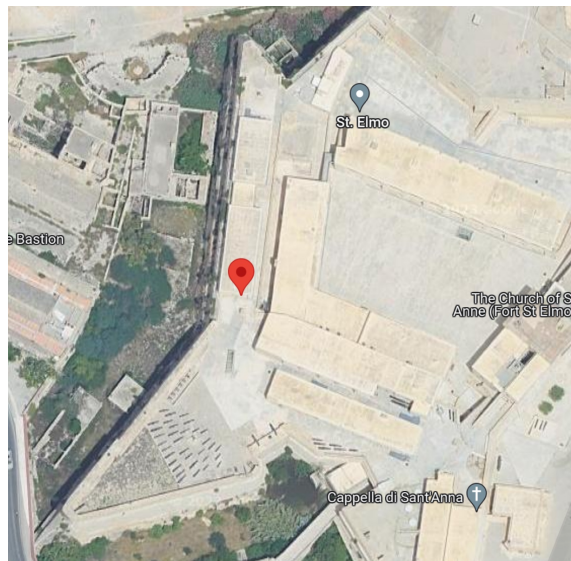


Figure 5.7. The 1942-43 section. Source: Google Maps.

Here the group explores munitions dropped on Malta, including cluster and incendiary bombs, highlighting Axis supply struggles. Visit the Victory Kitchen showcase, connecting to Malta's reliance on Allied convoys. Experience a virtual retelling of Operation Pedestal. Discover the original George Cross and learn about the island's hardships. Conclude with commentary on the invasion of Sicily and Malta's shift to offensive strategy.

Exiting the rooms, the next stop will be the cavalier of the fort. With the view of Marsamxetto. The role of the British/Polish submarine operations will be told here and how the U-Class submarines played a vital role due to their ability to dive further than other British models. This will lead onto the submarines being targeted during the Italian E-boat raid.

From here the group moves to the Harbour Fire Command and an explanation of how the room operates and its purpose is given. This is a good opportunity to explain the operations that repelled the E-boat raid.



Figure 5.8. Harbour Fire Command at Fort St Elmo. Source: Photo by Author, National War Museum, Valletta, Malta.

From there the group moves out of the fort, down to the Boom Defence Station. This location is where the guide will explain the targets of the raid and the outcome with the St Elmo bridge and Boom Defence purposes.



Figure 5.91 (Left). Boom Defence Station Location. Source: Google Maps. Figure 5.92 (Right). The Boom Defence Station

Walk to Lascaris War Rooms, stopping at Siege Bell. Brief commentary on Fort St Angelo and docks.

Short break at a nearby cafe.

At the War Rooms, learn about radar's crucial role, Sector Fighter Control room operations, and its links to other command centres such as the Harbour Fire Command. Conclude with the story of Operation Husky which ultimately ended the siege.

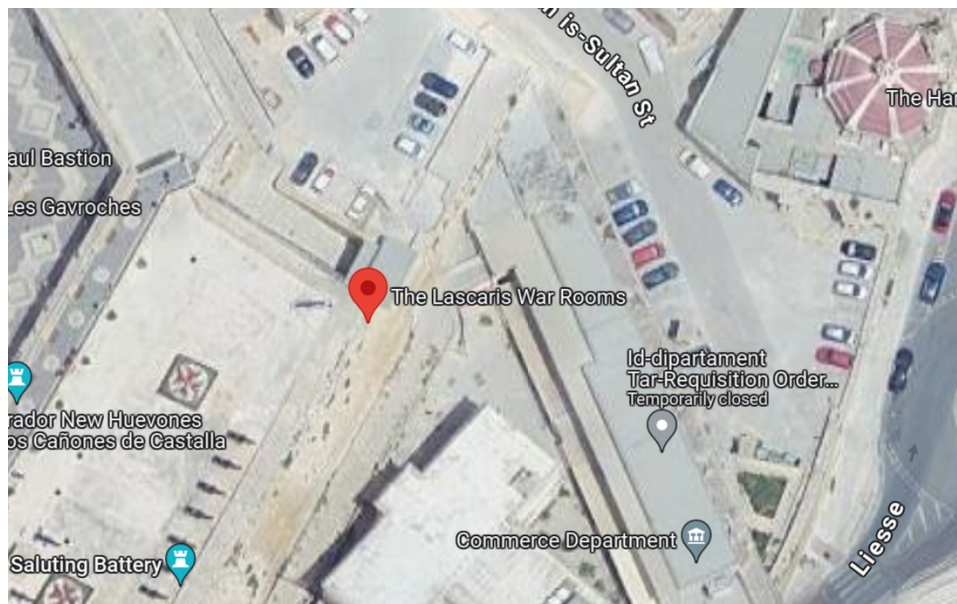


Figure 5.93 Entrance to the Lascaris War Rooms. Source: Google Maps.

6. Conclusion

In summary, the assessment of the deployed weapons in Malta during World War II provided the author with more information regarding the island's pivotal role and reasoning for certain weapons to be used.

This research highlights the critical role of the land-based guns, fighter aircraft, and offensive weapons used. The literature provided valuable information on the evolution of the defences and weapons deployed in Malta from even before the start of the conflict till the end. These culminated in the outcome of the battles waged in Malta, such as the numerous dogfights, HMS Illustrious raids, and Italian E-boat attack.

The information gathered throughout the interviews also identified some issues not addressed in the literature review. Key issues such as the logistical shortages of the Axis powers in Sicily, giving the attackers limited fuel and munition loads. The interviews also gave insight on the measures taken by the defenders such as conscription, tactics, radar, and armaments.

All the information gathered through the literature and interviews have provided a great understanding to form a tour centred around the weapons and platforms deployed in Malta and explain the tactical and strategical assessments in the form of storytelling to form a solid commentary. Events such as the

Italian E-boat attack and the HMS *Illustrious* bombings can be played out in a detailed way but in an entertaining manner.

One must note that there were various other weapons deployed in Malta not mentioned in this essay due to its limitations. The tour is based on a half-day itinerary. It can be enhanced to a full day tour by visiting other sites such as the Aviation Museum, Senglea, Mosta Church, and other sites. New discoveries such as the wreckage of the German Airforce's Bf 109F-4 W.Nr.8668 and the employment of re-enactor groups could enhance the tour.

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8. Appendices

8.1 Tour Structure - Timings, Topics, and Logistics

The tour comprises of mostly indoor areas with a 15-20min walk in between sites. Therefor no vehicle is necessary unless requested by the clients.

Starting point: Entrance to the National War Museum at Fort St Elmo, Valletta.

- 09:00 - Entry and introduction at the viewpoint next to the casemates: 15 minutes
 - a) History of the fort's evolution.
 - b) Importance of the harbour.
 - c) How Malta got involved in WW2.

- 09:15 – Entry and commentary at the World War rooms at the National War Museum: 60 minutes
 - a) Fighter aircraft.
 - b) Defensive measures.
 - c) Ground-based guns and Italian MTM.
 - d) Munitions, Victory Kitchens, Operation Pedestal.
 - e) George Cross, Malta to Yalta, Italian small arms in Malta.

- 10:15 - Exit from World War rooms and move to Fort St Elmo Cavalier with commentary: 15 minutes
 - a) Submarine operations from Marsamxetto.
 - b) Story of the first bombings and casualties.

- 10:30 – Commentary at the Harbour Fire Command atop of the Cavalier: 15 minutes
 - a) Purpose of the Harbour Fire Command.
 - b) How the Harbour Fire Command functions.
 - c) Detection of the Italian E-boat attack.

- 10:45 – Leave the Cavalier and move to the Boom Defence Station: 15 minutes
 - a) Exit the fort and walk down to the Boom Defence Station below Malta Experience.

- 11:00 – Boom Defence Station commentary: 15 minutes
 - a) Boom Defence nets placements and operations.
 - b) Targets of the E-boat attack.
 - c) Damage done to St Elmo Bridge.

- 11:15 - Walk to Siege Bell and commentary: 20 minutes
 - a) The bell's link with the 50th anniversary of the George Cross award.

- 11:35 - Rest stop nearby: 20 minutes
 - a) The Bell Café or Lower Barrakka Gardens.

- 11:55 - Walk to Lascaris War Rooms: 15 minutes

- 12:10 - Lascaris War Rooms tour: 50 minutes
 - a) The war rooms' purpose.
 - b) Radar in Malta.
 - c) Sector Fighter Control room functions.
 - d) Operation Husky and end of the siege.

- 13:00 – End of tour

8.2 Interview Reports

8.2.1 Interview No. 1

Subject Focus: Aviation

21st December 2023

Ray Polidano

- British Hurricane fighters were on par technologically with those of the Italians.
- Orders were given to the Hurricane pilots to ignore the more manoeuvrable Fiat Cr.42 and focus on the bombers. Some pilots were punished for not following this order.
- German BF-109 fighters reigned superior against the Hurricanes in every way but in many cases were supplied with limited fuel loads to properly engage in dogfights.
- The loss rate of Hurricanes was still quite high, but continuous re-supply convoys kept replenishing their numbers.
- B-24 Liberator bombers were only in Malta for emergency repairs and never operated from the island.
- At some points, munition supplies were so low for the attackers that the Italians resorted to deploying concrete bombs, normally used for target practice.
- Incendiary weapons were also deployed due to a lack of high-explosive bombs in Sicily.
- Observers in Spain/Gibraltar and spy reports, along with recon flights reporting on fighter-replenishing convoys to Malta were key in timing the arrival of the exhausted Spitfires to destroy them on the ground.
- In some cases, the exhausted Spitfire pilots were substituted with Hurricane pilots who were not familiar with the Spitfire's performance, resulting in fatal mistakes.
- Hardpoints for Spitfires to carry bombs were invented in Malta.

- A German PC-1800RS Rocket-Assisted bomb was dropped on a dugout aircraft hangar at Ta' Qali Airfield. Earlier, a similar weapon was dropped on a fortification wall in Floriana, this was recovered unexploded and sent to England for a close examination.
- Ta' Lambert Airstrip in Gozo was setup to operate Spitfires piloted by Americans for Operation Husky. It was built with the first bulldozers brought to the Maltese Islands.
- Malta's defences had a good chance to repel Operation Herkules/C3. The attackers would have had a pyrrhic victory similar to the invasion of Crete or be totally defeated. This therefor initiated the change in strategy from military targeting pre-1942, to full-scale bombings to subdue the population.
- The geography of Malta and the rubble walls would have rendered glider assaults unfeasible.
- Malta certainly had a major impact on Erwin Rommel's defeat in North Africa.

8.2.2 Interview No. 2

Subject Focus: Defensive Measures

3rd January 2024

Charles Debono

- *'Il-Widna'* listening array in Naxxar was made obsolete very quickly as Malta received its first radar systems a short while later.
- The Madliena radar site was for coastal surface scanning.
- During the Italian E-Boat raid, the mothership Diana was detected by the Madliena radar a short while after leaving Sicily.
- No interval depth charging was ever put in place in the ports of Malta.
- The Boom Defence was opened at night for incoming Allied vessels.
- Chief Petty Officer Paul Camilleri is the only known Maltese to serve on a submarine during WW2.

- The Dockyard Defence Batteries were trained to primarily operate the Bofors 40mm guns.
- Conscription was introduced to the local Maltese but more focused to acquire skilled laborers to work in maintenance roles in dockyards.
- Farmers were also conscripted but their farming duties were given priority in order to boost food production.
- Captured Italian weapons such as small arms and cannons were brought over from North Africa and later Sicily.
- The Fire Command Post at Fort St Elmo always directed by the radar returns from Lascaris HQ.
- The proposed Operation Herkules/C3 would have had far more difficulty than Crete for the Axis forces to capture Malta.
- German radar-jamming from Sicily took place as a test for Operation Herkules/C3.
- Malta certainly had a major impact on Erwin Rommel's defeat in North Africa. Culminating with around 60% of Mediterranean Axis shipping sunk from operations deployed from Malta.
- Had the Axis initiated Operation Herkules/C3 when Malta was less armed, the invasion would have most likely succeeded.

8.2.3 Interview No. 3

Subject Focus: Fortifications and Weapons

10th January 2024

Matthew Balzan

- All but 2 forts in Malta were solely built for naval defence and later bolstered with anti-air defences.
- Only Fort Tas-Silg and Fort Mosta are purposely built for land combat.
- Many forts would have aided in the ground defence of the island but would have ultimately fell against sustained combined-arms attacks.
- Victorian era forts were more solidly built to take more punishment.
- The Brennan Torpedo System in Fort Tigne and Fort Ricasoli was decommissioned by 1910.

- Some of the captured Italian field artillery were British-built ones sold to Italy before the war. Therefor would have had compatible British shells available.
- The Italians did not abort *Operazione Malta Due* and wait for better conditions (Moon phase being one of them) due to it already have been aborted. Also, mission commander Teseo Tesei was keen to push on with the attack.
- The Italians were aware that Malta possessed radar. They may have assumed that even if *Diana* was detected it would not raise an alert in Malta.
- The 6-inch guns of Fort Tigne and Fort Rocco were the largest ones used in the defence against the raiders.
- The larger coastal guns, the 9.2-inch and above, were not used against the raid.
- The Boom Defence did have a scheduled opening time but was determined with the state of Axis naval activities.
- Malta certainly affected Erwin Rommel's North Africa campaign, mainly due to the wastage of supplies and munitions to siege Malta.
- Malta most likely would have repelled Operation Herkules/C3. Mainly due to the hilly terrain of Malta making the island very defensible.
- Only with continuous amphibious landings and sustained naval bombardment would the island have fallen with the invaders surely suffering heavy casualties.