Research Article

Christian Mifsud*

Revisiting Ramla l-Ħamra Villa – New Discoveries and Observations on the Roman Villa Complex in Xagħra, Gozo

https://doi.org/10.1515/opar-2020-0131
received July 31, 2020; accepted January 25, 2021

Abstract: The discovery of a set of ashlar blocks uncovered at the waters’ edge at Ramla l-Ħamra Bay in Gozo has prompted a series of assessments to understand if the exposed archaeological remains were an already known part of a Roman villa complex investigated in 1911 or whether these were a new addition. The study presents the results of the research undertaken through a series of on-site surveys and desktop studies confirming a new addition to the already known villa complex. The new discoveries are discussed within the light of the published sources and provide additional interpretations of the site. This study also provides an opportunity to reconsider the new discoveries and makes a case for a renewed interest for archaeological investigations which could shed more light on the remains of the Roman bathhouse as well as its environmental setting.

Keywords: Villa Marittima, Gozo, Temi Zammit, Thomas Ashby, Roman archaeology

1 Introduction

Protected under the sand dunes, the remains of a Roman building investigated at Ramla l-Ħamra Bay in Xagħra, Gozo, have last seen the light of day more than a century ago. Subject to archaeological investigations in 1911, details about this site and its investigations remain generic and partial. Over the last decade, remains newly exposed through natural action reignited the need to understand the site’s exact placement, leading to a non-invasive method of investigations being implemented.

The study presents the results of research carried out between 2010 and 2017, undertaken by the author, the then case officer at the Superintendence of Cultural Heritage, to confirm the new extent to the already known villa remains following the discovery of some ashlar blocks. After a series of site surveys, and also desktop studies, it was confirmed that the remains exposed by the sea do indeed form an additional part to the villa complex investigated in 1911. This exercise led to a re-examination of available data, which

Article note: This article is a part of the Special Issue on At the Crossroads of the Mediterranean: Malta and the Central Mediterranean During the Roman Period, edited by Davide Tanasi, David Cardona, & Robert Brown.

* Corresponding author: Christian Mifsud, Department of Curatorial, Principal Curator for Research and Documentation of Historic Buildings, Heritage Malta, Head Office, Ex Royal Naval Hospital, Triq Marina, Kalkara KKR1524, Malta, e-mail: christianmifsud@gmail.com, tel: +356-7935-4036

Open Access. © 2021 Christian Mifsud, published by De Gruyter. This work is licensed under the Creative Commons Attribution 4.0 International License.
together with the newly obtained data form the basis for a broader consideration of the site. A 3D virtual reconstruction of the villa extent was also produced as a tool to aid in the reading of the site remains.

The study proceeds by a reading of the newly made discoveries, making a case for a renewed interest for archaeological investigations of the site with the aim of providing a better picture of the complex through a detailed assessment of its layout. It can also serve as a guide to establish a research agenda, which would need to be compiled should an on-site archaeological investigation be undertaken in the future.

2 The Archaeological Remains

The discovery of the remains of a Roman building on the site dates back to December 1910. The then Curator of the Valletta Museum, Sir Themistocles Zammit (1864–1935) gave direction to investigate a large number of potsherds being collected from a mound close to the seashore at the Ramla l-Ħamra Bay in Xagħra, Gozo (Figure 1). By the end of the works, a Roman building consisting of nineteen rooms had been uncovered with evidence of rich decorative marbles, paintings and also evidence of statues (Figure 2). Yet once the excavation was completed, no follow-up studies were ever undertaken on the site itself. The information available today is from the various reports or articles published in the years following the excavation (Ashby, 1915; Laing, 1912; Zammit, 1912). Since then, the Ramla building complex seems to have passed under the radar and was only mentioned in a general manner in subsequent publications by Bonanno (1980, 2005, 2018) and Buhagiar (1997).

The Annual Report of the Curator of the Valletta Museum (Zammit, 1911) for the years 1910–1911 published in 1911 gave the first official mention of a Roman building identified at Ramla l-Ħamra Bay, just beneath the ruins of the Knights’ battery guarding the bay (Zammit, 1911, pp. 11–12). The entry is a very concise description, barely giving any details. The report gives a generic overview of the site, of some discoveries made and also of hypothetical considerations about the use of the building in antiquity. No visual reference is, however, supplied with the Curator’s report. The National Museum of Archaeology conserves a group of 28 photographs representing shots taken from multiple angles of the site during the various stages of the excavation. It is presumed that the photographs were taken by Temi Zammit or someone in his entourage. In addition to this material, an unsigned and undated plan of the site is also present (Figure 2).

![Figure 1: Showing location of Villa remains at Ramla l-Ħamra Bay, Gozo. Archaeological remains circled in red (Source: Google Earth).](image-url)
The National Museum of Archaeology also conserves Zammit’s personal field notebooks. Among his sketches and annotations, three entries for the Ramla l-Hamra excavation are confined to a few pages in his third notebook. His short entries are, however, meticulously recorded and include dates of his visits, mentions of the discoveries made, some measurements and sketches of artefacts (Zammit, 1909–1912, pp. 81–82, 93). The annotations, however, provide little information about the day to day running of works. On the other hand, the mention of stuccos, marble pieces and the type of tiles provide enough for the reader to engage with a mental reconstruction of what riches the building must have housed in antiquity.

The most descriptive study which has served as the main source of information about this complex is an article entitled “Roman Malta” published in 1915 in the *Journal of Roman Studies*. Written by Thomas Ashby (1874–1931), a British archaeologist and director of The British School at Rome, the excavation was visited in 1911 during one of his frequent visits to Malta. Ashby was involved in archaeological site excavations on the Islands, but did not partake in the Ramla l-Hamra Bay excavations carried out between December 1910 and March 1911. Even though Ashby’s entry in the Ramla l-Hamra complex is considered as the most comprehensive entry, this was never meant to be an official report of the excavations.² Ashby’s study, however, gives details about the excavation and the uncovered spaces at length (Ashby, 1915, pp. 70–74) with several detailed descriptions of each room, occasionally mentioning remains found within. Ashby’s

---

² Zammit notes that a report on the investigation was being prepared, however he fails to clarify if this report is the Curator’s report or other specific report. (Zammit, 1912, pp. 189–194).
study is also illustrated with a plan (Ashby, 1915, Figure 25) (Figure 3) and two pages showing several cross sections of the building (Ashby, 1915, Figures 27 and 28).

A separate group of photographs has also been identified at the British School in Rome. Forming part of the Thomas Ashby Collection, these photos are known to be personally taken by Thomas Ashby. In all, ten photographs relative to the Ramla l-Hamra complex have been identified. Out of these ten, four photographs have been stitched together by this author, providing a new panoramic perspective of the villa remains (Figure 4).

From the sources above, we know that the surviving remains are located on the beach, against a hillside, slightly off from a Knights’ Period battery used for protection of the landing place. Due to subsidence or removal of the sand, the Northern part of the site is no longer there and only the southern part of the complex survives. The building was constructed of rectangular ashlar blocks of local stone. Ashby notes that the construction was of poor quality with no mortar used. The building was not coursed and evidence shows that the interstices were filled up with clay.

The surviving 19 rooms of the complex are likely to have been divided into two areas with Rooms 1–6 serving as the living rooms (Bonanno, 1980, p. 635), while the other rooms forming part of the bath complex. The complex had Rooms 10 and 11 likely serving as apodyteria or dressing rooms. Room 13, on the other hand, was only accessible through room 11, with a second door connecting to Room 10 being

Figure 3: Plan of villa remains published by Ashby in 1915.
blocked by a bath possibly constructed at second stage of the villa’s development. Room 13 has been interpreted to have served as a waiting room. A cold bath marked as 19 was accessible from Room 13, while Rooms 14 up to 18, located to the south of the complex, formed the hypocausts or the hot rooms. The use of Rooms 7, 8, and 11 is not clear.

In addition, two channels have been identified. The channel located on the west of the complex passes directly behind Room 1. This channel has been interpreted by Ashby as the main supply of the baths of the villa which feeds from a spring close by, still visible at the time of his visit. A second channel set to the east of the complex led from a bath in Room 10 down into a waterway which connects the valley behind the complex to the sea. At present, the waterway is only visible when heavy rains flood the valley and a channel is opened through the sand towards the sea.³

The villa had several decorations. Zammit and Ashby report that Room 13 was the finest space that survived with a pavement of various coloured marbles (grey, black, red), red breccia and local stone. Several other rooms presented traces of paintings in imitation of coloured marbles or in red paint, while for the paving numerous coarse tesserae were identified, proof of the presence of lost mosaic floors. A telamón showing a satyr in local stone was also identified. In addition, several other fragments of a draped female statuette, possibly for a fountain, and a circular “oscillum” of white marble were recovered during works.

Sometime after the excavation, the remains of the complex were covered with sand once again, in order to protect it from the elements. An additional source of protection is that the site was scheduled as a Class A Archaeological Monument published in the Government Gazette No 8 of 1997 by the Planning Authority, Malta’s national spatial planning agency.

3 Discovering New Remains

The remains of the Ramla l-Ħamra villa remained in a status quo until late 2010. A storm hitting the Islands in the winter of 2010 exposed an alignment of ashlar blocks on the beach, close to the site (Figure 5). A century after the first report, the Superintendence of Cultural Heritage,⁴ the regulating agency for heritage protection and archaeological investigations, received a report of exposed ashlar blocks of apparent Roman origins close to the Ramla l-Ħamra Villa complex.

---

³ The discussed waterway is clearly identifiable in the LiDAR survey. See Figure 10.
⁴ As a former case officer of the Superintendence of Cultural Heritage, the author was monitoring the development of the case. The case was utilised as a case study for the creation of a 3D virtual reconstruction of lost archaeological sites since it provided the required parameters.
It was presumed that these remains formed part of the complex excavated in 1911 since the blocks were located in close proximity of the complex. Further storms throughout the winter continuously exposed and covered these remains. It was, however, in late 2012 that a series of north-eastern storms hitting the bay directly shifted large quantities of sand and exposed further ashlar blocks, all of which were still in situ and forming corners of a lost structure. In addition, the area was littered with pebbles and angular rocks with traces of plastering. The new remains were documented through photos and a plan of the exposed ashlar blocks alignment was also produced (Figure 6).

**Figure 5:** Ramla l-Mamra Bay with the uncovered ashlar alignment in the foreground in 2010 (Source: Author).

**Figure 6:** A survey plan combining all the various documentation exercises carried out between 2010 and 2013 (Source: Superintendence of Cultural Heritage).
The assumption that the newly exposed blocks had already been excavated in 1911 was immediately questioned. The most recently exposed blocks were located a short distance away from the area of known scheduled remains. A study to accurately locate the placing of the Roman building on the beach was necessary. Understanding the context was key to confirming whether the newly exposed remains were the same remains already investigated in 1911 or whether a new part of the complex had been discovered. Indeed, between 2010 and 2012, the sandy beach had receded extensively, bringing the water line close to the uncovered structures (Figure 7).

A desktop survey of orthographic maps publicly available through the Planning Authority’s GeoServer as well as from Google maps (Figure 7) revealed the extensive change which had taken place as the result of sea action over a period of some years. Regular inspections were programmed to monitor the erosion of the site, pending fears of further coastal erosion impacting the clay mound and damaging the Knights Period remains of the battery as well as the Roman villa complex. These inspections also served to closely monitor the beach for any new remains that would potentially be exposed. Through the winter of 2013, the remains were repeatedly uncovered by occasional storms. No new remains were, however, visible apart from the two sets of ashlar blocks alignments identified in the preceding seasons (Figure 6).

The first set of blocks identified consisted of several ashlar cut blocks aligned to form three sides of a structure. The measurement between the two corners was of 6.5 m in length, while the other two sides of the alignment extended from both corners in an east direction towards the second ashlar alignment for about 4.5 m each. The ashlar blocks alignment survived only in part with some stones having been dislodged and are now missing. The ashlars were also set within a foundation cut in the ground, with the top face of the ashlars being at the same level of the cut within the bedrock. The interstices between the ashlars were bonded together with red hardened clay which also covered the exposed bedrock in which the ashlar blocks were set (Figure 8). While Ashby notes that no concrete was identified, he does mention the use of clay between the blocks (Ashby, 1915, p. 71). His description, however, does not clarify the state or colour of the clay, making it impossible to confirm whether the red hardened clay noted is the same described by Ashby.

---

5 In the Annual Report of the Curator of the Valletta Museum of 1910–1911, Zammit notes that the site was some 42 m away from the sea.
6 The new ashlar blocks alignments were conveniently caught in the satellite imagery taken by Google and are publicly accessible on Google Earth under the 2013 data set. The imagery taken on the 15th of April 2013, clearly shows the alignment of a first set of ashlar blocks, whilst a second alignment is less visible being partially covered by sand.
A second alignment of ashlar blocks forming another corner of a structure was identified. The longer part of the second set of ashlar blocks measured 6 m, while only the length of an ashlar survived from the corner. As in the previous case, the ashlars were also set within a foundation cut in the bedrock. The two sets of alignments ran at a distance of 16.8 m from each other and were parallelly oriented. These alignments have been interpreted as being part of the same space forming a large rectangular structure. In the absence of an archaeological investigation of the structure and fills, the depth of the foundation cut could not be accurately identified. An opportunity, however, presented itself to measure the depth by inserting a rod between the voids of the infilling material. The depth reached was of half a meter, effectively setting the base of the foundation cut beneath the sea level, a few meters away.

Post-survey investigations to understand the nature of the newly documented remains followed. Assuming that the survey of 1911 was accurate, an overlay of the newly surveyed ashlars was attempted. Since it was impossible to overlay the newly uncovered ashlar block alignments with the plan of 1911, it was confirmed that the uncovered alignments were a new structure and that they were not included in the 1911 plan. Indeed, it was noted that these were most likely the parts of the complex mentioned by Ashby toward the North of the excavated remains, which had never been seen again. The overlay, however, also confirmed the difficulty to understand the exact placement of the excavated remains.

A new exercise followed with the aim to plot out the 1911 excavations plan on the dunes covering the site, with the objective of obtaining an accurate geo-referenced location. A series of recognisable landmarks matched from the historic photographs and which are still present in the landscape were utilised to triangulate specifically chosen points within the site. While in theory this was possible, several attempts proved to be still inaccurate mainly due to the considerable landscape transformations which had left the area virtually unrecognisable. More reference points would have been necessary for the exercise to succeed.

A renewed attempt was undertaken in 2015 with the aid of a Ground Penetrating Radar (GPR). Two large areas marked Fields 1 and 2 and several trails were set out to be surveyed with the instrumentation to identify the presence of structures beneath the surface (Figure 9). Though indications of some structures could be made out, not all trails or trenches returned results and therefore an overlay by cross-referencing the 1911 plan with the GPR survey could not be achieved.

Of the structures identified, the GPR survey in Field 1 suggests the presence of a possible additional structure located to the North of Room 10. This would be located beyond the missing part of Room 10 and the corner of the octagonal cold bath (Room 19). With the GPR survey not covering the area further to the

---

Figure 8: Detail of red hardened clay binding the stone and filling some interstices of the newly discovered ashlar blocks (Source: Author).

---

7 The 2015 survey was carried out by Heritage Malta as part of a series of investigations aimed to locate location of historically investigated sites. The author would like to thank David Cardona, Senior Curator of Phoenician, Roman and Medieval sites for facilitating and including the Ramla l-Hamra Bay site as part of the GPR surveying program.
North, the presence of a possible corner and walls closing the rooms remains a conjecture. A second wall alignment also showed up at the edge of Field 1. The wall runs on a West-East orientation, parallel to the waterline. At the time of the GPR survey, the ashlar block uncovered by the sea had been covered again. Field 2 was identified as a control point, with the intention to survey the newly identified remains. Again, the GPR survey produced negative results, even though the exact location of the structure beneath was known.

The various attempts undertaken up to this stage produced several plans of numerous structures, each producing distinct data sets which could not be merged into one survey due to a lack of cross-referenceable sources. A renewed attempt was also made to overlay the data sets using the LiDAR data available from the Planning Authority (Figure 10). An elevation model of the sand dunes covering the remains indeed turned out to be a good basis for comparing the contouring of the model with the 1911 plan. In fact, the sand dunes covering the site had over the years settled, creating minute differences in the levels of the terrain. These differences were legible in the LiDAR model as raised ground and although only a slight difference was perceivable, the location of the ashlar blocks forming the complex could be made out in the raised ground. This process indeed narrowed down the exact location of the ruins to two possibilities, with the difference between them being of about a meter apart. In the absence of on-site investigation, this was more than
enough to allow the compilation of a survey with all the data collected up to that time. A plan was produced indicating the full extent of the site (Figure 11). A 3D digital reconstruction of the plan was also undertaken to better visualise what the new extent translated into in terms of volume (Figure 12).

---

8 The new plan showing the revised extent of the site was produced by utilising the 1911 excavations survey, and overlaying the survey of the new remains and the GPR data. All the surveys could be tied together thanks to an overlay based on the LiDAR model.
4 Revising the Remains Extent

Studying the plan and producing the 3D model provided the possibility to understand the 1911 excavation extents together with the newly identified structures (Figure 15). The new additions effectively suggest that the footprint of the original complex was larger by at least a third of that planned in 1911 (Figure 13). The following observations supplement Ashby’s description of the site and provide a reading of revised extents which include the new data obtained from the surveys.

Starting from the two ashlar blocks alignments, it has already been noted in precedence that most likely these two alignments form the opposite ends of the same space (Figure 6). This new space is located directly to the North of Room 1. The alignment seems to respect the general orientation of the complex. Also, the structure runs parallel to the other walls of the complex as identified in the plans. In his study, Ashby notes that “Room 1 is the highest of all in level” (Ashby, 1915, p. 71). Calculations based on the cross sections available for the excavated site and those obtained from the LiDAR place the height of the floor for room 1 at about 1.15 m above sea level. On the other end, the new structure has been identified to be at least 0.5 m beneath sea level. This also places the new structure as the lowest part of the complex previously considered to be Room 19 on the Eastern part of the site. The difference of at least 1.65 m (possibly if excavated could be even more) between the two rooms further enhances the idea of a terraced complex.

Considering the data obtained from the GPR survey, in Field 1, the possible presence of an additional structure to the North of Room 10 has been interpreted as a second wing of the complex effectively creating a courtyard to the West (Figure 12). A floor pertaining to the courtyard has never been identified, though Ashby implies that most rooms forming the living quarter (Rooms 2, 3, 5 and 6) have direct access to a central space (Ashby, 1915, p. 72). An attentive reading of the excavation’s photographic archives found at

Figure 13: A plan of new areas marked in red as hypothesised from the newly recovered structures and GPR survey (Source: Author).
the National Museum of Archaeology also indicates the presence of what seems to be an access to the courtyard from Rooms 7 and 10.⁹

In Field 1, what seems to suggest the presence of a second wall alignment has also been noted at the edge of the area surveyed. This wall has been interpreted as a possible retaining wall for the levelling fills forming the courtyard. Complementary to the hypothesis of the retaining wall, the considerable quantities of pebbles, angular stone and other debris present in this specific area of the beach must also be taken into consideration. While many pebbles and stones can be noticed well distributed across the beach, in the area

⁹ Room No. 4 is accessible through room No. 5; a doorstep for room No. 7 has been identified in a photo; room No. 10 is not clear however no other access is possible. Not all the doorsteps are however marked on plan possibly a shortcoming of the surveyors.
close to the archaeological remains, where a section of the mound is exposed, such pebbles stones present traces of plaster attached to them (Figures 5, 8, and 14). If deposited by the sea, one would expect such traces to be well-eroded with sharp edges worn off. However, this is not the case and plaster attached on pebbles and stones in well-preserved conditions and with little to no water erosion could be found. A working hypothesis at the time of the study was that the material was in fact being dislodged from the exposed section beneath the remains through wave erosion. If the origins are confirmed, this would effectively mean that the debris originates from the levelling appertaining to the complex’s courtyard. The levels of a courtyard built upon levelling fills would explain the raised levels of the rooms and provide a central space, effectively resolving accessibility around the building.

With regard to the alignments of the ashlar blocks within the foundation cut located at sea level, it is still not clear what use they might have served (Figure 14). Future investigations on site might indicate that these were simple foundations for a superstructure, hence introducing a scenario whereby a closed courtyard was present. Alternatively, a natatio set at the level of the sea water as attestable in several maritime villas of the period could also be an alternative possibility. In the absence of a stratigraphic archaeological investigation, the observations remain nothing but conjecture.

5 Conclusion

The study presented in this paper has long been in the making. It was marked by various limitations, some of which were overtaken through curiosity and sheer determination. Thanks to different persons and entities who provided assistance when needed, the study has grown over time, bringing data together from multiple sources to form a more complete view of the Roman site at Ramla l-Ħamra Bay. It is, however, evident that there is more to discover in relation to this site. This will demand new on-site investigations, without which little more can be obtained, other than that delved into through the method described above.

It is, however, acknowledged that the remains must be further studied in their wider environmental context, within the valley leading to Ramla l-Ħamra Bay. Studies on the lines of Bonanno’s article (1977, 2018) about the distribution of villas should be replicated focusing on intensifying research for specific areas such as the valley leading to Ramla l-Ħamra and investigating strategic placement in the landscape. It is clear that the site for the Roman villa complex was clearly strategically chosen to make use of the natural resources, both as means to supply fresh water from the nearby spring, as well to dispose by means of connecting the complex disposing channel with the valley’s run off water course and into the sea.

Considering the use of the site within this wider context, the Ramla l-Ħamra Villa complex was likely to have functioned within a wider network of built complexes. In fact, Roman remains such as those at Tal-Qassis just beneath Xaghra must be integrated into future studies, which may include yet undiscovered sites beneath the agricultural terraces of the valley.¹⁰ New discoveries on this wider context would shed light on the systems in place across this remote valley in Gozo and would contribute further to our knowledge of how such complexes functioned within the antique landscape. It is being suggested that avenues for investigation include environmental sampling within the beach as well as field-walking surveys, which would contribute towards the understanding of this little studied part of Gozo.

It has been shown that the Ramla l-Ħamra site and other similar historically excavated sites can still provide important contributions to the study of Roman archaeology. Studies of such sites may indeed help to contextualise uses and traditions prevalent in Roman times, within a context physically insular though culturally integrated. The Maltese Islands are rich in history and archaeology, and this period is no less represented than others that form the collage of history. The Roman remains at Ramla l-Ħamra Bay have much embodied potential yet untapped. This paper concludes with a call for action to continue the research and investigation work that was initiated more than a century ago, in order for the site values to be

¹⁰ Personal Communication with Mr George Azzopardi.
reassessed in order for this generation to finalise what may very well be consigned to watery depths in the very near future should we fail to act.

**Acknowledgements:** The author would like to thank Prof. Nicholas C. Vella for bringing to his attention several sources and sharing information, Mr David Cardona and Ms Sharon Sultana from Heritage Malta for providing access to the information including the GPR data, the photographic collection and Temi Zammit’s field notebooks. Appreciation also goes to Mr George Azzopardi, Mr Nathaniel Cutajar and Mr Alessandro Cristina for sharing their time and knowledge to discuss the Roman remains and providing support during the compilation of this research. The author is also indebted to colleagues at the Superintendence of Cultural Heritage for their technical help during several trips to the site.

**Funding information:** The author states no funding involved.

**Author contributions:** The author accepts responsibility for the entire content of this manuscript and approved its submission.

**Conflict of interest:** The author states no conflict of interest.

**Data availability statement:** The data that support the findings of this study are available from the Superintendence of Cultural Heritage and Heritage Malta, but restrictions may apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are, however, available from the authors upon reasonable request and with permission of the concerning entities.

**References**

Ashby, T. (1915). Roman Malta, *Journal of Roman Studies, 5*, 23–80.

Bonanno, A. (1977). Distribution of villas and some aspects of the Maltese economy in the Roman period, *Journal of the Faculty of Arts, 1*(4), 73–81.

Bonanno, A. (1980). Roman Villa at Ramla Bay, Gozo. In *Heritage* (Vol. 32, pp. 634–637).

Bonanno, A. (2005). *Malta Phoenician, Punic and Roman*. Malta: Midsea Books Ltd.

Bonanno, A. (2018). Roman Villas in the Maltese Archipelago. In A. Marzano & G. P. R. Metraux (Eds.), *The Roman Villa in the Mediterranean Basin: Late Republic to Late Antiquity* (pp. 255–265). Cambridge: Cambridge University Press.

Buhagiar, M. (1997). Gozo in Late Roman, Byzantine and Muslim Times. In: *Melita Historica*. (Vol. 12, 2, pp. 113–129).

Laing, J.O. (1912). An Ancient Roman Villa in the Maltese Islands. *Bulletin of the Archaeological Institute of America, 3*, 178–180.

Zammit, T. (1909–1912). Field Notebooks. Unpublished.

Zammit, T. (1911). Annual Report of the Curator of the Valletta Museum in (1910–11). Malta: Government Printing Office.

Zammit, T. (1912). Archaeological discoveries in Malta and Gozo, during the year ending 31st March 1911, *Archivium Melitense, 1* (1911–1912), 189–194.