

Maritime Archaeological Research on the Pulau Melaka Shipwreck

Kajian Arkeologi Maritim ke atas Kapal Karam Pulau Melaka

Amir Husaini Saiffuddin,¹
Asyaari Muhamad,² Ruzairy Arby,³
Termizi Hasni,³ Fairus Mamat³

¹ Faculty of Maritime Studies, Universiti Malaysia Terengganu

² Institute of the Malay World and Civilization, National University of Malaysia, 43600 Bangi, Selangor

³ The National Heritage Department of Malaysia, Block A and B, Bangunan Sultan Abdul Samad, Raja Road, 50050 Kuala Lumpur, Federal Territory of Kuala Lumpur

⁴ Melaka Museum Corporation, Kompleks Warisan Melaka, Kota Road, Banda Hilir, 75000 Melaka

Correspondence:

asyaari@ukm.edu.my

PEER REVIEWED

Received November 27, 2023

Accepted August 10, 2024

Published March 25, 2025

DOI:

<https://doi.org/10.26721/spafajournal.a5prxbe5rm>

Copyright:

©2025 SEAMEO SPAFA and author

This is an open-access article distributed under the terms of the [Creative Commons 4.0 Attribution Non Commercial-No Derivatives License \(CC BY-NC-ND 4.0\)](https://creativecommons.org/licenses/by-nc-nd/4.0/), which permits copying, distribution and reproduction in any medium, provided the original author and source are credited.

Abstract

In late 2020, a group of independent researchers found a pile of wood believed to be part of the structure of a shipwreck in Pulau Melaka, Melaka. The discovery was reported to the Department of National Heritage and Melaka Museum Corporation, which saw Phase 1 and Phase 2 maritime archaeological studies carried out in 2021. The results of the field study revealed a shipwreck filled with various types of artifacts, such as Chinese ceramics and coins. Relative comparisons have identified that the estimated age of the shipwreck is contemporaneous with the transitional period between the Melaka Sultanate and the Portuguese occupation in the late 15th and early 16th centuries. This estimation was based on observations of the Ming porcelain and Melaka Sultanate coins found in the shipwreck. However, this archaeological study also raised several issues, namely the unsatisfactory condition of the artifact findings and difficulties encountered during the implementation of the field study. Therefore, the current article will elaborate on both Phase 1 and Phase 2 of archaeological excavations of the shipwreck site before discussing the findings and correlating them with the significance of this discovery for maritime archaeological studies.

Pada penghujung tahun 2020, sekumpulan pengkaji bebas telah menemukan tumpukan kayu yang diyakini merupakan sebahagian daripada struktur sebuah kapal di Pulau Melaka, Melaka. Penemuan ini kemudiannya dilaporkan kepada Jabatan Warisan Negara dan Perbadanan Muzium Melaka di mana kajian lapangan arkeologi maritim Fasa 1 dan Fasa 2 telah dilaksanakan oleh kedua-dua agensi tersebut pada tahun 2021. Hasil kajian lapangan arkeologi ini telah berjaya membongkar penemuan sebuah rangka kapal yang dipenuhi dengan pelbagai jenis artifak seperti seramik China dan duit syiling. Perbandingan relatif telah mengenalpasti bahawa anggaran usia kapal tersebut adalah sezaman dengan era peralihan Kesultanan Melaka dan Portugis iaitu sekitar penghujung kurun ke-15 hingga awal 16 Masihi. Anggaran ini dilakukan berdasarkan pemerhatian terhadap

longgokan porselin Ming dan duit syiling Kesultanan Melaka di dalam struktur kapal tersebut. Walaubagaimanapun kajian arkeologi ini juga telah mendedahkan beberapa isu iaitu kondisi penemuan artifak yang kurang memuaskan serta kesukaran yang dihadapi semasa pelaksanaan kajian lapangan. Maka, artikel ini memperihalkan secara ringkas latar belakang penyelidikan ekskavasi arkeologi Fasa 1 dan Fasa 2 ke atas tapak kapal karam tersebut, sebelum membincangkan tentang hasil jumpaan arkeologi dan seterusnya mengaitkannya dengan isu serta kepentingan penemuan ini terhadap bidang arkeologi maritim Malaysia.

Keywords: Malaysian archaeology, maritime archaeology, Melaka, Southeast Asian archaeology, reclaimed landscape | arkeologi Malaysia, arkeologi maritim, Malacca, arkeologi Asia Tenggara, landskap penambakan

Introduction

The history of Melaka is recognized for its role as a maritime hub in the Straits of Melaka, given its strategic location and the efficiency of its policies. Its geographic advantage, sitting at the narrow point within the strait (see Figure 1), allowed it to dominate trade activities for centuries, starting from the emergence of the Melaka Sultanate in the 15th century until the beginning of Dutch colonization in the mid-17th century (Hussin 2007; De Witt 2018). For over 200 years, Melaka acted as a bustling maritime hub, concentrating trading activities around its port of Kota Melaka, as stated in *Soma Oriental*, by Tomi Pires (Cortesau 2015). Nonetheless, there is still a lack of crucial physical evidence supporting these historical records related to Melaka maritime activities, apart from unearthed ancient coins and porcelains, which are quite common from the region.

The unexpected discovery of several wooden planks in Pulau Melaka reclaimed land presented an opportunity to bridge these connections. These findings provided some hints regarding Melaka's vibrant maritime trading activities which occurred several centuries ago. Despite being discovered in poor condition, given the potential, the National Heritage Department (JWN) along with the Melaka Museum Corporation (PERZIM) took action to preserve and conserve this discovery. JWN, the country's agency responsible for material cultural findings, exercised authority by implementing immediate actions in accordance with the National Heritage Act (Act 645). This site is listed in the heritage Registry List for temporary protection from threats. Furthermore, a shipwreck can be seen as a time capsule, containing crucial information on past maritime socio-cultural activities such as shipbuilding, navigational routes, and involvement in a maritime trading network, thus justifying the importance in studying any shipwreck through a systematic archaeological study (Bee 1999; Baco and Chia 2020; Mustapa et al. 2023).

Background of Study

In 2020, a team of independent researchers led by Dr. Dionysius Sharma found a few planks projecting from the reclaimed land of Pulau Melaka, which were thought to possibly be part of a shipwreck. This discovery was later reported to the JWN and PERZIM, which are responsible for the preservation of cultural heritage in Melaka. According to Malaysian legislation, these findings were categorized as “Underwater Cultural Heritage”, falling under the jurisdiction of *Section 61: Underwater Cultural Heritage (Act 645)*. However, the fact that it was found on terrestrial landscape justified the research team to conduct a study based on the terrestrial-based guidelines of JWN (2021b). Furthermore, since this is the first archaeological study on reclaimed land, there are no specific guidelines to reference; therefore, terrestrial fieldwork guidelines were used.

In 2021, two archaeological studies were conducted on the shipwreck site, with each phase based on different objectives and with participation of multiple agencies. Both studies encountered similar difficulties when carrying out fieldwork, especially during the excavation process, due to the subsurface condition of the reclaimed land constantly incurring the intrusion of saltwater, causing the soil to become muddy and hindering progress. Nevertheless, both excavations were conducted successfully.

The Study Location

The study site is located on reclaimed land, wedged between the Pulau Melaka and Melaka Tengah mainland (see Figure 1). The original topography of the site was submerged beneath the sea before land reclamation works in the 2010s drastically changed the surrounding area. From a historical perspective, the original surrounding area was known as “Pulau Jawa” (Java Island) or “Ilha das Naos” by the Portuguese (Mamat 2021a). The island was also documented by Reverend Father Rene Eduardo Cardon (1877–1948) in his work entitled *Portugis Melaka* (Cardon 1934).

Historically, this island once played an important role, given its position in proximity to the estuary of the Melaka River and the old town of Kota Melaka (Maxwell 1911; Cardon 1935; Manguin 1988; Mills 1997). The island was believed to have been one of the main stopping points for the anchoring of “Naos de Trato”, or large carracks ships, before disembarking and unloading their goods at the port of Kota Melaka, located 1143 meters to the north (Maxwell 1911). At times of conflict, the island could be extensively used due to its location, which sits close to the city, and its possible geographical advantage, which could block ships from passing through the narrow passage between the island and the mainland during low tide (Maxwell 1911; Manguin 1988; Sanjay 2009).

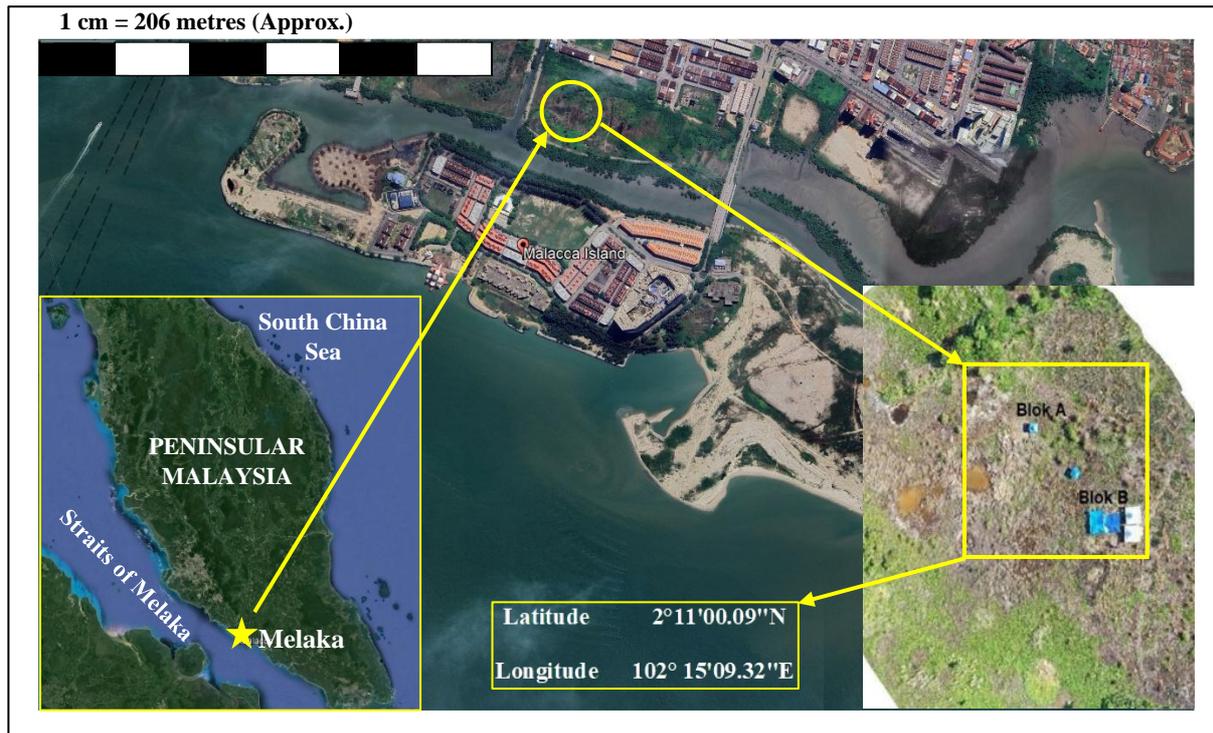


Fig 1. The current geographical state of the study site (yellow circle, enlarged), wedged between the Pulau Melaka Island and Melaka Tengah mainland. Source: JWN 2021a; generated with Google Earth Pro and modified by Saiffuddin.

Phase 1 Excavation

The investigation of the Pulau Melaka shipwreck commenced following a report by Dr. Dionysius Sharma, one of the independent researchers who discovered the wooden planks in the reclaimed area. Upon receiving the report, JWN and PERZIM initiated a series of meetings to discuss the division of roles relating to tasks. JWN, as the permit applicant, was given a mandate to coordinate the excavation, while PERZIM was tasked with correspondence with the state government and the landowner regarding the Pulau Melaka archaeological project. Meanwhile, Universiti Malaysia Terengganu (UMT), a research entity, was invited to join the excavation, along with several other independent researchers.

The main objective of the Phase 1 excavation was to confirm the potential shipwreck, as reported by Dr. Dynosius. Thus, in this phase, the main archaeological assessment consisted of surveys, both on the surface and subsurface, as well as an excavation to expose the shipwreck. Within a week, from the 25 to 31 of March 2021, the research team managed to identify two possible locations of the shipwreck's position, which were designated as Blok A and Blok B (refer to Figure 2). This was achieved by applying multiple survey methods, starting with surface surveys and by using metal detectors and a ground penetrating radar (GPR), which helped to locate the position of the shipwreck. The subsequent excavation successfully exposed the shipwreck structure in Blok B along with other artifacts, such as Chinese porcelains and ancient coins. As a result, the success of the Phase 1 excavation convinced the Melaka State Government to allocated additional resources for the Phase 2 excavation (Mamat 2021a).

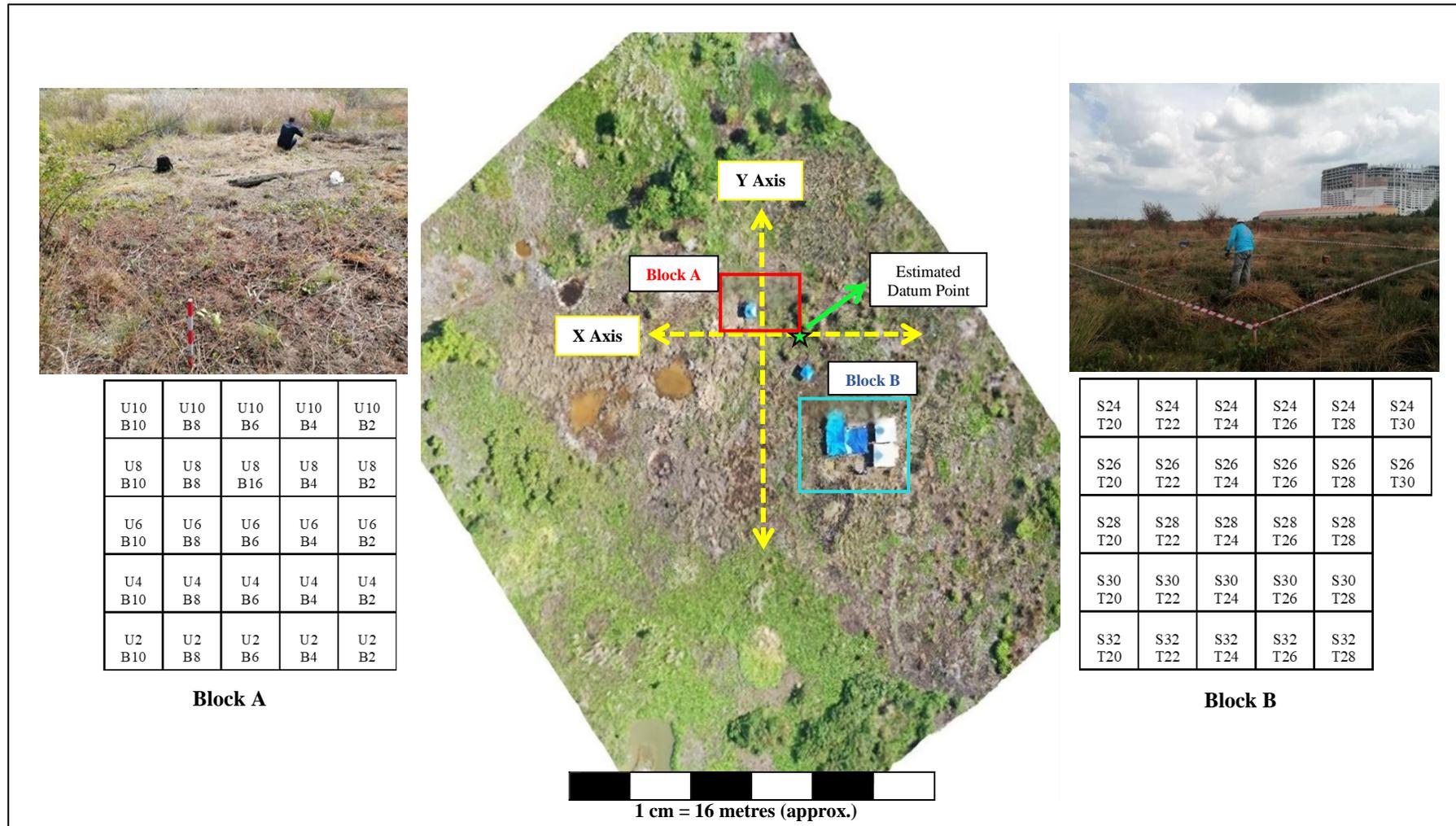


Fig 2. Top view of the site. Included above are pictures of Block A and Block B, with each being divided into 2x2 metre trenches. Source: Adapted from JWN 2021a; modified by Saiffuddin.

Phase 2 Excavation

During Phase 2 of the archaeological study, PERZIM took over the role as the main coordinator from JWN, and took responsibility for carrying out excavations at the site. This takeover was due to a request by PERZIM, who considered the findings to be of significant value to Melaka heritage and that the capabilities within PERZIM were sufficiently adequate to coordinate this project, which was then approved by JWN. However, JWN still acted as a monitoring agency and provided advisory services during this phase. This phase was carried out from 20 October until 2 December 2021, with the lead archaeologist being Assoc. Prof. Dr. Asyaari Muhamad, from the Institute of the Malay World and Civilization (ATMA), National University of Malaysia (UKM). In terms of participation, this phase mainly involved PERZIM technical staff and was assisted by staff from the Melaka Heritage Institute (INSWA) (Mamat 2021a).

This phase concentrated on Block A since the Phase 1 excavation thoroughly excavated Block B (Mamat 2021b). Unlike the previous phase, the main objective of Phase 2 was to dig deeper, to reach the cargo compartment of the ship's hull, where most of the artifacts were presumed to be situated. Although it was uncertain whether the objective was fulfilled due to the poor condition of the remains, the study team managed to discover and retrieve a significant number of Chinese blue and white porcelain, stoneware, and earthenware, along with hundreds of Melaka Sultanate coins and a few Portuguese coins. These findings were presumed to be correlated with the findings from the previous excavation, considering the similar patterns shown in terms of artifactual periodization.

Discussion

Pulau Melaka Excavation Findings

Through both excavations, a number of archaeological findings were recovered from the site, with most of the findings consisting of Chinese ceramics, as well as the shipwreck structure itself and hundreds of Melaka Sultanate coins and Portuguese coins (Muhamad 2021). PERZIM was given the mandate by the JWN Commissioner to retain the shipwreck structure and any artifacts obtained from the excavation. Permission was granted based on PERZIM's capabilities in artifact conservation and preservation, as well as the relevance to the heritage of Melaka.

The Shipwreck Structure

These excavations successfully exposed parts of the shipwreck structure. The unique attributes, which were the presence of multiple peg holes found on some of these structures, strongly indicated that these wooden planks indeed belonged to a shipwreck (see Figure 3). Although research teams on both expeditions were unable to identify specific parts of the ship due to its poor condition, the approximate size was calculated based on readings from ground penetrating radar (GPR) and fieldwork observation. The distance between Block A and Block B was estimated to be around 100 feet long (30 meters) and 25 feet wide (7.5 meters). However, this measurement is only an estimation as the ship's structure, which was partially submerged in mud.

Samples of wood from the ship's structure were analyzed by the Forest Research Institute Malaysia (FRIM), who found that it was built using Merbau wood (*Instia palembanica*), which is a common hardwood used in traditional shipbuilding in Southeast Asia (Standar Nasional Indonesia 2016; Abdullah 2017). In terms of age, the presence of Melaka Sultanate coins and Portuguese coins, as well as the Chinese ceramics, pointed to an earlier estimation of the ship's age, believed to have originated from the transitional period between the Melaka Sultanate and the Portuguese occupation, around the late 15th or early 16th century (Muhamad 2021). However, this estimation cannot be accepted as a basis for the date of the shipwreck due to the fact that carbon-14 dating of the wooden structure itself has not yet been undertaken, which would provide a more reliable date.



Fig 3. Pieces of wooden planks were recovered and cleaned during the excavation, with the last plank containing multiple distinctive peg hole features (bottom). Photos by Hasni.

Chinese Ceramics

The majority of artifacts discovered during both excavations of the Pulau Melaka shipwreck were Chinese ceramics. As visualized in Table 1, these artifacts can be further divided into three ceramic types: blue and white porcelain, stoneware, and earthenware. As shown in Figure 5, the stoneware and earthenware were most likely used as tools for the ship’s crew, as it was common for these lesser value ceramics to be used as storage containers for powder and liquid based items (Cort 2017).

	Type of Ceramic	Estimated Century (Dynasty)	Decorative Patterns	Measurements
1	Blue and white porcelain	15th to 19th century (Ming and Qing)	Fauna: Dragon, Monkey, Stork, Fish, Lion/Tiger Flora: Pistia Stratiotes, Lotuses	N/A (dimensions were not taken as most ceramics were not in complete shape)
2	Stoneware	17th century (Ming and Qing)	-	
3	Earthenware	17th century (Qing)	-	

Table 1 Preliminary classification of ceramics based on type, estimated period/dynasty, and decorative motifs.

Meanwhile, the presence of higher market value of blue and white porcelain wares in the shipwreck indicated that this ship was most likely a merchant ship engaged in the trade of Chinese ceramics. It is speculated that these porcelain wares probably overlap with the Ming Gaps, which happened in two different timelines. The first Ming Gap lasted between 1371 to 1509, followed by the second gap which occurred from 1521 to 1529. These periods saw a shortage of Chinese ceramic in the regional market due to restrictions on the trade of ceramics imposed by the Imperial Ming in China (Brown 1977; Witkowski 2016; Kamarul et al. 2024). In addition, these ceramic discoveries provide a relative dating estimation for the date of the wreck.

Shown in Figure 4, the presence of Chinese blue and white porcelain decorated with various flora and fauna motifs are mostly related to the Jingdezhen kilns in southeast China, which served as China's porcelain production center until the decline of the Ming dynasty (Brown and Sjostrand 2002; Muhamad 2021). Such porcelain began to enter the Southeast Asian market in significant numbers between 1488 and 1505 (Emperor Hongzhi's reign), following the effective end the first Ming Gap (Seng 2012; Witkowski 2016; Brown n.d.). However, further study is necessary to precisely identify the porcelains origins and possible correlations with the Ming Gap period.

This estimation, however, cannot be seen as definitive for several reasons. Among these, there have yet to be any thermoluminescence dating of the ceramic. Furthermore, the condition of the findings is poor, and almost all of the ceramics found were fragmented sherds, which complicates the matter of dating. Moreover, although inconclusive, the possible presence of Qing ceramics could affect the dating of the shipwreck. Despite these reasons, it was still possible to classify these ceramics based on other criteria, such as by type, estimated century, and dynasty of origin, as well as the motifs of decorative patterns, as shown in Table 1.



Fig 4. Chinese blue and white porcelain displaying various decorative floral and faunal patterns. Photos by Saiffuddin.



Fig 5. Earthenware (top) and stoneware (bottom) ceramic fragments found at the study site.
Source: Mamat 2021b.

Ancient Coins

Other items retrieved from the Pulau Melaka shipwreck included several hundred ancient tin coins from various periods. In total, there were around 250 pieces of calains coins that can be traced to the later period of the Sultanate of Melaka, one coin of an unknown square-hollowed Chinese type, and two coins from the Portuguese colonial era, shown in Figures 6, 7 and 8 (Fairus 2021). Almost all of these ancient coins are in perfect or near-perfect condition.

These objects discovered within the shipwreck give an indication that this ship was most likely from the Portuguese occupation period. This is because the Portuguese, during the earlier years of their administration in Melaka (from 1511), still used the Sultanate coins in their transactions, before switching to Portuguese coins. For example, the Bastardo Sebastiao coin (see Figure 8) was issued starting in 1557 (Shaw and Kassim 1970), which might indicate that Malaccan coins were still in use during the early phase of the occupation and were gradually replaced by Portuguese coins starting in the 1550s. The presence of Malaccan and Portuguese coins enable us to narrow down the date of the shipwreck through a relative approach, though being inconclusive. Such findings also provide evidence that the locals at the time were already doing transactions using the official state currency while still maintaining the traditional barter and weight-scale system based on tin ingots (Sabtu 2017).



Fig 6. Tin calains of the Melaka Sultanate from Sultan Mahmud period (1488-1511) found in the shipwreck structure. Photo by Saiffuddin.



Fig 7. An unknown period square-hollowed Chinese coin found in the shipwreck structure. Photo by Saiffuddin.



Fig 8. The Portuguese Dom Bastardo (left) and Bastardo Sebastiao (right) discovered alongside Malaccan coins. Photos by Saiffuddin.

Issues regarding Maritime Archaeological Research in Central Melaka Waters

The Contention of Heritage and Modern Development in Melaka Tengah

Among the issues that arose from this study was the physical condition of the shipwreck and its artifacts. The poor condition of these remains, as shown above in Figures 3-5, is a direct result of the contention between heritage preservation and modern development in Melaka Tengah. These aspects often compete, as they emphasize different ideals. Heritage preservation efforts are intended to preserve historical remains, whereas modern development is based on infrastructure development. This clash occurs for various reasons, such as competition for control of land, different views on how spaces should be used, and failures to recognize the potential reuse of old locations. Contrasting conditions can cause the goals of sustainable development to be neglected, which is arguably what is happening in Melaka Tengah (Rogers 2017; Amat 2019).

This polemic can be related to overlapping interests between the JWN's Maritime Protection Zone and the Melaka State Economic Planning Unit's Melaka Waterfront Economic Zone (M-WEZ) in the waters of Melaka Tengah. M-WEZ is seen as a potential threat to the cultural heritage still hidden in the waters of Melaka Tengah. This development plan has stirred controversy since it overlaps with the protected zone (Figure 9) (JWN 2013). The Maritime Protection Zone was gazetted in 2005, and covers the area from Tanjung Kling to Merlimau due to the potential that this area contains underwater cultural heritage representing Outstanding Universal Value (OUV), such as shipwrecks, ancient ports, and other ancient underwater structures (JWN 2013). According to the website World Heritage (n.d.), OUV has been defined by UNESCO as:

Outstanding Universal Value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community.

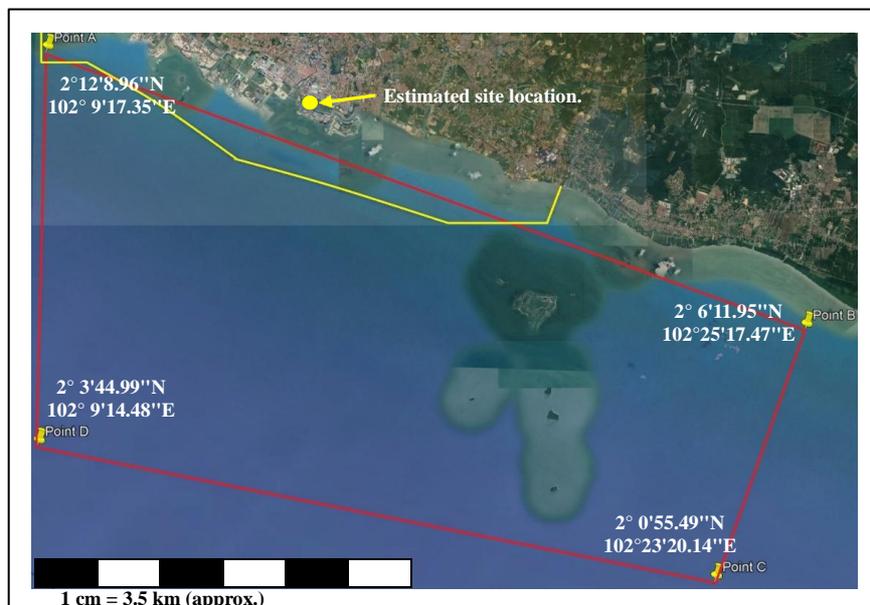


Fig 9. The M-WEZ development plan (yellow) covers the Melaka Tengah coastline, which partially overlaps with the JWN Maritime Protection Zone (red). Source: Adapted from UPEN Melaka 2021; JWN 2013.



Fig 10. The estimated site (marked by yellow dot) within the original topography (top) shows that it was once sunken beneath the sea surface before a land reclamation project drastically changed the area (bottom).
Source: Generated with Google Earth Pro; modified by Saiffuddin.

As can be seen, the situation at the Pulau Melaka research site and the physical condition of the shipwreck and its artifacts are clear examples of how the contention between heritage preservation and modern development have impacted archaeological discoveries in the area. Observations of recovered artifacts from the site have several implications that are estimated to be caused by the land reclamation projects, as shown in Figure 10, namely:

- i. The implications of causing dramatic stratigraphic changes to the original position of artifact at the research site (disturbed area);
- ii. The possible mixing of artifacts between different historical periods;
- iii. The risk of permanent damage and destruction to fragile artifacts (as shown in Figures 11-13);
- iv. The disrupting of analytical studies and further complication to the process of historical interpretation; and
- v. The damage of the historical evidence and subsequently the commercial value of historical artifacts and the heritage site itself (refer to Figure 13).

The degraded condition of the site and artifacts is arguably linked with the reclamation project. From an archaeological perspective, the in-situ condition of the shipwreck is questionable, as reclamation works can cause significant changes in the environment. Definitely, it will contribute to the depreciation of the site's integrity and interfere with the historical context (Hewitt and Allen

2010). As mentioned, the reclamation work has drastically transformed the morphology of the study site, likely affecting the original position of the shipwreck.



Fig 11. The reclamation works caused disturbance to the site's stratigraphic layers.
Photo by Hasni.



Fig 12. The presence of seawater interfering with the fieldwork progress.
Photo by Hasni.



Fig 13. The destruction of blue and white porcelain artifacts recovered from the Pulau Melaka shipwreck, significantly affecting their historical narratives. Photos by Hasni; Mamat 2021b.

The Significances of Archaeological Studies on the Pulau Melaka Shipwreck

Local Capacity Building of Archaeological Fieldwork

Malaysian maritime archaeological research has always been plagued with financial constraints (Muhamad 2018; Malik 2022). This has become a major obstacle as it has caused a lack of archaeological fieldwork exposure to local agencies, subsequently upsetting progress. Therefore, this research on the Pulau Melaka shipwreck is crucial to be fully utilized in building capacity among involved agencies. Furthermore, an archaeologist is expected to be involved with on-site archaeological fieldwork studies, such as surveys, excavations, and efforts to rescue artifacts (Heizer and Graham 1968).

According to MacKintosh (2019), archaeological research is a study that requires cooperation from all parties. The research on Pulau Melaka shipwreck site has shown the collective efforts among all involved agencies and independent researchers (JWN 2021a; Mamat 2021a). While the JWN and ATMA archaeologists' involvement was necessary to ensure that the research objectives could be achieved, it was more crucial to foster cooperation between the agencies involved in this study (refer to Figure 14 and Table 2). Involving academic institutes such as UMT and independent researchers from the local communities is also crucial in building an archaeological environment of academic-led research rather than commercial-led research, which often occurred before the existence of JWN (Giesecke 2002; Amirah and Muhamad 2023). This situation could improve heritage preservation efforts in Melaka through knowledge sharing among the community.

As a whole, this research project has given technical exposure and enhanced the local capacity in the hands-on archaeological research process among local participants, especially for UMT and PERZIM. In addition, capacity building also takes place through the involvement of research assistants in both fieldwork and documentary research, such as supervision, inventory, excavation, conservation, and recording of artifacts and ship structures (Muhamad 2021).



Fig 14. PERZIM and UMT technical team received technical guidance from JWN archaeologist during the Phase 1 excavation. Photos by Hasni, 2021.

Phase	1		2	
	Agency	Personel	Agency	Personel
1	JWN	15	PERZIM	11
2	PERZIM	20	INSWA	3
3	UMT	9		
4	Independent Researcher	7		

Table 2: List of agencies and number of individual participations during Phase 1 and 2 excavations.

Adaptation of Archaeological Standard Operation Procedure on Disturbed Landscapes

This shipwreck discovery on Pulau Melaka marked Malaysia’s first discovery of cultural heritage on reclaimed land. The study of this site can be referred to as an archaeological study in a disturbed environment. This situation posed multiple challenges to the research team in carrying out the field research due to its disturbed environment, which might influence the research process, such as conducting suitable surveying methods, effective excavation techniques, and the analysis of recovered artifacts. This also means that a large-scale systematic archaeological study involving local expertise from state and national agencies has been carried out in the area.

Both Phase 1 and Phase 2 excavations revealed a severely disturbed stratigraphic layering (refer to Figures 11, 12, and 14). As stated, even though the shipwreck discovery is defined as ‘Underwater Cultural Heritage’, being discovered in a reclaimed environment justified the adaptation of terrestrial fieldwork guidelines (JWN 2021b). Thus, this event witnessed how the research team went through the fieldwork research process based on the adaptation of terrestrial standard operation guidelines by JWN, illustrated in Figure 15 (JWN 2021a, 2021b).

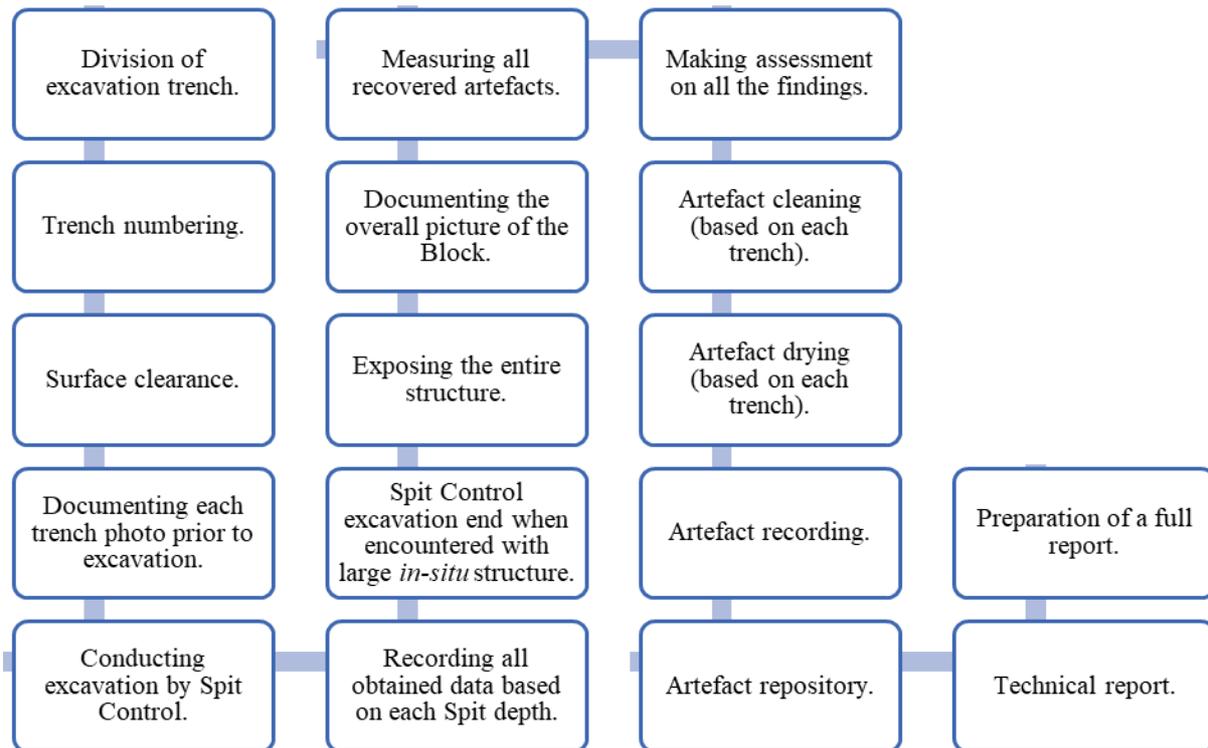


Fig. 15. Simplified conception of archaeological survey and excavation process on the Pulau Melaka shipwreck.
Source: Adapted from JWN 2021a, 2021b.

Historical Value of the Discovery

Archaeological evidence regarding maritime activities during the periods of the Melaka Sultanate and the Portuguese occupation are scarce and only known through historical sources such as *Suma Oriental*, Portuguese documentation, *Hikayat Raja-Raja Melayu*, as well as Chinese records (Orillanelda 2016; Halimi 2021). Although these texts describe the sultanate as the premier polity in the Malacca Straits in the 15th century, the closest physical evidence representing its existence are coins stamped with rulers' names. Hence, physical evidence remains vague. Dr. Nasha Khaw, of Universiti Sains Malaysia (quoted from ISEAS Webinar 2021), stated that the main factor for the absence of archaeological remains in Melaka is the high rate of land usage, especially in Melaka Tengah, which was the main settlement since the Melaka Sultanate period until today.

This situation could potentially change through the Pulau Melaka shipwreck discovery, as this finding can be related to maritime activities during the sultanate period and can be further developed as a pioneering effort in uncovering more potential in the future. Baco and Chia (2020) state that shipwrecks serve as time capsules because they contain narration about human interactions with maritime activities in the past. In the context of the Pulau Melaka shipwreck, it has the potential to prove the existence of maritime trade during the Melaka Sultanate and the Portuguese period.

Such discoveries not only serve as evidence of century-old historical texts, but more importantly, they also reflect the local intellectual value, which has long been involved in maritime-based socio-economic activities since the age of Sriwijaya. The Malaccan Sultans, who viewed themselves as the successors to Sriwijaya through the implementation of maritime trading policies in the Melaka Strait, succeeded in mastering maritime activities in the Melaka Straits through their ability to

manage regional and international trade (Halimi 2021). As previously stated, this shipwreck site was once beneath the sea. Its position sitting between the actual Pulau Melaka (then Pulau Jawa) and the mainland points to the role of major stopping points for ship anchorage or as a passageway during high tides (Maxwell 1911; Manguin 1988). This presents the possibility of the surroundings containing other cultural heritage beneath the sea due, as shown in Figure 16.



Fig 16. The historical map of Melaka Town showing the original coastline and Pulau Melaka (P. Jawa) and Eredia's sketch of the naval battle between the Portuguese and Acehnese fleet near the island (lower left). Source: Sanjay 2009; JWN 2021a; modified by Saiffuddin.

Further studies, such as reconstructing the shipwreck structure, should also be realized. Collaboration between archaeologists, museum management, and traditional shipbuilders is needed to make this effort a success, which to some extent could help foster the spirit of national identity. As stated by Tun Mahathir Mohamad at the National Maritime Conference, held in conjunction with the planning of LIMA 2019, the people of Malaysia have dealt with maritime industry for a long time and have demonstrated such an encouraging adaptation, especially in the form of maritime-based polities that are capable of dominating political diplomacy and navigation in the region (Andrew and Talaat 2021). This highlights the role of archaeological research on the Pulau Melaka shipwreck in producing comprehensive results to further justify the historical value. The existence of this ancient shipwreck could serve as a study platform for researchers to trace the identity of the nation.

Commercial Benefits to the Local Community

The Pulau Melaka shipwreck can be promoted to contribute toward heritage preservation efforts in Melaka. The long-term plan for the shipwreck is to reconstruct the whole structure and display it within the Muzium Kapal Selam in Melaka Tengah District. The shipwreck and its artifacts can be

used as a research and education exhibition for the community (Muhamad 2021). This plan, if realized, will be able to increase income from the tourism sector, a major contributor to the economic development of the region (Omar and Syahrul 2021), while also contributing to downstream industries such as the food, handicrafts, and transportation.

In addition, the shipwreck site should be utilized for on-site training of archaeological excavations. In highlighting the roles of involved agencies and enhancing public awareness, the open participation policy by JWN and the invitation of various agencies to the archaeological study on the shipwreck can be regarded as an effective commercial delivery method. The involvement of local communities in this project can act as a catalyst for cooperation between agencies and the community, further increasing public awareness of the preservation effort of national heritage sites.

The organization of conferences and workshops relating to archaeology or heritage conservation can also be held both on-site and off-site (see Figures 17 and 18). The outcomes from such events could be materialized in the form of publications or exhibitions, thus contributing more products based on archaeo-tourism and subsequently increasing tourism regarding local heritage as well as highlighting the historical value of this discovery. This shipwreck deserves proper attention and provision considering the possible economic benefits, especially in highlighting local maritime culture, which has existed since the days of the Melaka Sultanate, enhancing the cultural value of the World Heritage status held by Bandaraya Melaka.



Fig 17. On-site workshop jointly hosted in October 2023 by JWN, PERZIM, Nuclear Agency Malaysia (NAM) and other agencies, involving both domestic and international participations, demonstrating the full utilization of the shipwreck site. Photo by Fairus Mamat.



Fig 18. Off-site conference seminar “Bicara Warisan” held by PERZIM, featuring field experts and exhibited artifacts from the Pulau Melaka shipwreck site. Photo by Saiffuddin.

Future Planning

Assessing both Phase 1 and Phase 2 excavations, successfully excavating part of the shipwreck structure and recovering Chinese ceramics, a third excavation will take place in the near future. Considering its importance to the state of Melaka, it is crucial that further scientific studies such as carbon-14 and thermoluminescence dating to be carried out to determine the origin and time frame of the shipwreck and its artifacts, as well as their historical interpretation and reconstruction, to the extent for it to be displayable in museums. Furthermore, the study site should be further utilized for both on-site and off-site studies, while incorporating the involvement of various agencies from domestic and international organizations to the local population in Melaka is highly encouraged to foster research knowledge and expert exchange among participating agencies regarding the protection and preservation of underwater cultural heritage.

Conclusion

Through both Phase 1 and Phase 2 excavations on the shipwreck site, a shipwreck was discovered along with hundreds of Chinese ceramics and ancient coins. This discovery is critical because it has not only provided evidence of a maritime trade that once occurred in the region but also presents us with the opportunity to delve deeper into key topics such as ancient shipbuilding technology, cross-cultural interactions, and trade network. However, the degraded conditions of the archaeological remains are also likely linked to the issue of contention between heritage preservation and modern development, leading to damage of the shipwreck structure and related artifacts. As of now, the site has been closed to any development projects due to it being listed on the JWN's National Heritage Register list, providing the site with temporary protection from such threats (Hasni, pers. comm.). Apart from the historical value, this study also contributes to capacity building among local agencies in conducting archaeological excavations in disturbed environments as well as providing economic benefit to the local community.

Acknowledgments

We would like to express our gratitude to the National Heritage Department (JWN) and Melaka Museum Corporation (PERZIM) for granting permission and providing access to the Phase 1 and 2 excavation reports on the Pulau Melaka shipwreck. This study was supported by the research permits granted by the JWN Commissioner to JWN on Phase 1 (JWN.PP.600/3/5, file no. 5/0085) and PERZIM (JWN.PP.600/3/5, file no. 5/0090). The authors would also like to express their appreciation to UMT, UKM, INSWA, and independent researchers for participating in the Pulau Melaka shipwreck excavations.

References

- Abdullah, M.Y. (2017) *Terengganu Malay Maritime, Boats and Navigation*. Perpustakaan Negara Malaysia
<https://www.pnm.gov.my/pnm/resources/pdf%20file/PKMM/ILMU%20KELAUTAN%20PELAUTAN%20DAN%20PELAYARAN%20MELAYU%20TERENGGANU.pdf> [accessed 2 August 2023].

- Amat, R.C. (2019) Historic cities off the Straits of Melaka UNESCO World Heritage Site: threats and challenges. *Journal of World Heritage Studies* (Special Issue 2019): 9-15.
<https://doi.org/10.15068/00157680>
- Amirah, Y. and Muhamad, A. (2023) Malaysian maritime archaeology: Whither in the next decade? *SPAFA Journal* 7: 25-40. <https://doi.org/10.26721/spafajournal.d28144g7j9>
- Andrew, I.M. and Talaat, W.I.A. (2021) *Charting the Passage: Malaysia A Maritime Nation Agenda*. Kuala Lumpur: Royal Malaysian Navy Sea Power Centre.
- Baco, B. and Chia, S. (2020) Underwater archaeological research in Peninsular Malaysia (1902-2015). *Jurnal Arkeologi Malaysia* 33(1): 49-64.
- Bee, B.B.B. (1999) *Maritime Archaeology in Southeast Asia: Development and Problems*. Master's Thesis, Institute of the Malay World and Civilization, National University of Malaysia, Bangi.
- Brown, R. (1977) *The Ceramics of South-East Asia: Their Dating and Identification*. Kuala Lumpur: Oxford University Press.
- Brown, R. (n.d.) *History of Shipwreck Excavation in Southeast Asia*. Available at: https://www.iseas.edu.sg/wp-content/uploads/2016/05/02_brown_040to055.pdf [accessed 15 June 2023]
- Brown, R. and Sjostrand, S. (2002) *Maritime Archaeology and Shipwreck Ceramics in Malaysia*. Kuala Lumpur: Department of Museums Malaysia.
- Cardon, R.E. (1934) Portuguese Malacca. *Journal of the Malayan Branch of the Royal Asiatic Society* 12(2): 1-23.
- Cardon, R.E. (1935) Portuguese Malacca and Aceh. *Malaya Catholic Leader*, May 18. Available at: https://issuu.com/catholicnews/docs/1935_cn20/6 [accessed 15 October 2023]
- Cort, L.A. (2017) Container jars from the Maenam Noi Kilns, Thailand: use and reuse along maritime trade routes in Asia. *Bulletin de l'Ecole française d'Extrême-Orient* 103(1): 267-296. <https://doi.org/10.3406/befeo.2017.6252>
- Cortes, A. (2015) *The Suma Oriental: The voyages from the Red Sea to China and Francisco Rodrigues's book*. Yogyakarta: Penerbit Ombak.
- De Witt, D. (2018) *Legends of the secret tunnels of Malacca*. Selangor: Nutmeg Publishing.
- Giesecke, A. G. (2002) Wrecked and abandoned. In: C.V. Ruppe and J. F. Barstad (eds) *International Handbook of Underwater Archaeology*. Boston: Springer, 573-584.
- Halimi, A. J. (2021) Shipping and trading in Melaka. In: A. Ariffin (ed) *Melaka Malay Sultanate: Heritage, Tradition and History*. Pulau Pinang: Penerbit USM, 177-200.
- Heizer, R. and Graham, J.A. (1968) *A Guide to Field Methods in Archaeology: Approaches to the Anthropology of the Dead*. Palo Alto: The National Press.
- Hewitt, G. and Allen, J. (2010) Site disturbance and archaeological integrity: The case of Bend Road, an open site in Melbourne spanning pre-LGM Pleistocene to late Holocene periods. *Australian Archaeology* 70: 1-16. <https://doi.org/10.1080/03122417.2010.11681907>
- Hussin, N. (2007) *Trade and society in the Straits of Melaka: Dutch Melaka and English Penang, 1780-1830*. Singapore: NUS Press.
- ISEAS Webinar - Yusof Ishak Institute (2021) Reviewing the Sultanate of Malacca: archaeology, history and culture. Available at: <https://www.youtube.com/watch?v=Mqyj1PJ2MkM> [accessed 1 Mac 2022].

- JWN (2013) *Malaysian Archaeological Heritage*. Kuala Lumpur: National Heritage Department of Malaysia.
- JWN (2021a) Pulau Melaka Phase 1 Excavation Report. Unpublished report.
- JWN (2021b) Terrestrial Archaeology: Standard Operating Procedures. Kuala Lumpur: Cawangan Arkeologi Darat.
- Law of Malaysia: National Heritage Act 2005 (Act 645) (2006). Available at: <https://gtwhi.com.my/wp-content/uploads/2020/12/Akta-Warisan-Kebangsaan-2005.pdf> [accessed 12 May 2023].
- MacKintosh, R. (2019) Capacity in maritime archaeology: A framework for analysis. *Journal of Maritime Archaeology* 14: 391-408. <https://doi.org/10.1007/s11457-019-09245-w>
- Malik, M.A. (2022) Absence of Marine Archaeologist. *Harian Metro*, February 1.
- Mamat, F. (2021a) PERZIM continued the excavation. *TINTA* Julai-Disember, July 1.
- Mamat, F. (2021b) Pulau Melaka Phase 2 Excavation Report. Unpublished report.
- Manguin, P. (1988) Of fortresses and galleys the 1568 Acehnese siege of Melaka, after a contemporary bird's-eye view. *Modern Asian Studies* 22(3): 607-628. <https://doi.org/10.1017/S0026749X00009719>
- Maxwell, W.G. (1911) Barretto de Resende's account of Malacca. *Journal of the Straits Branch of the Royal Asiatic Society* 60, 1-24.
- Mills, J.V. (1997) *Eredia's Description of Malacca*. Petaling Jaya: Malaysian Branch of the Royal Asiatic Society.
- Muhamad, A. (2018) Maritime Archaeology in Pulau Bidong waters, Terengganu. In: Muhamad, A. (ed.) *Archaeology in Malaysia: Past and Present*. Bangi: Penerbit UKM, 282-298.
- Muhamad, A. (2021) Pulau Melaka's Maritime Archaeological Report. Unpublished report.
- Muhamad, A. and Saiffuddin, A.S. (2022) Sea reclamation in XLIV urban area, Central Melaka district, Melaka: from the perspective of Heritage Impact Assessment study. *Geografia* 18(2): 115-130. <https://doi.org/10.17576/geo-2022-1802-09>
- Muhamed, K.R., Mustapa, B., Razali, R., Saiffuddin, AH, Ideris, F., Minhat, F, Jeofry, MH, Hamza MI, Ali, A, Rashid, AA, Kiawmas, A, Rahothon, W, Sukkham, A and Shaari, H (2024) The Preliminary Dating of the Bidong Shipwreck, Malaysia. *International Journal of Nautical Archaeology*: 1-15. <https://doi.org/10.1080/10572414.2024.2323984>
- Mustapa, B., Razali, R., Muhamed, K.R., Ghani, B.S.A., Mohamed, M., Arbi, R., Ideris, F., Ghani, K.A.A., Ali, A., Minhat, F.I., Jeofry, M.H., Bee, B.B.B. and Shaari, H. (2023) Discovery and excavation of artifacts from the Bidong Shipwreck, Malaysia. *Advances in Archaeological Practice* 11(2): 1-12. <https://doi.org/10.1017/aap.2022.45>
- Omar, N. and Syahrul, I. (2021) The effects of announcing the historic city of Melaka as a World Heritage Site by UNESCO. *Research in Management of Technology and Business* 2(1): 1443-1458.
- Orillaneda, B.C. (2016) Of ships and shipping: the maritime archaeology of fifteenth century CE Southeast Asia. In: C. Wu (ed.) *Early Navigation in the Asia-Pacific Region: A Maritime Archaeological Perspective*. New York: Springer, 29-57.
- Rogers, A.P. (2017) Assessment: Heritage Impact (HIA). In: L.V. Sandra (ed.) *SAS Encyclopedia of Archaeological Sciences*. New Jersey: Wiley Online Library, 1-7.

- Sabtu, M.S. (2017) Trade currency during the Malacca Sultanate. In: M.Samsudin, Z.A. Rahman, and A. Ujang (eds.) *Malacca Sultanate's Maritime Golden Age*. Bangi: Penerbit UKM, 69-86.
- Saiffuddin, A.H. (2023) The Empowerment of Maritime Archaeology through the Discovery of Pulau Melaka's Ancient Shipwreck. Master's Thesis, Institute of the Malay World and Civilization, National University of Malaysia, Bangi.
- Saiffuddin, A.H., Hasni, M.T., Arbi, R., Mustapa, B., Razali, R., Sharma, D., Chen, K.S. and Shaari, H. (2024) The Discovery and Excavation of Artifacts from the Shipwreck of Pulau Melaka, Malaysia. Unpublished manuscript.
- Sanjay, S. (2009) Pulverized in Aceh: on Luís Monteiro Coutinho and his 'martyrdom'. *Archipel* (78): 19-60. <https://doi.org/10.3406/arch.2009.4142>
- Seng, T.Y. (2012) Ming Gap and the revival of commercial production of blue and white porcelain in China. *Additional Papers from the Hanoi Conference and Others* 31: 85-92.
- Shaw, W. and Kassim, M. (1970) *Melaka Coins*. Kuala Lumpur: Malaysian Museums Department.
- Standar Nasional Indonesia (2016) *Type of wood for shipbuilding*. Jakarta Pusat: Badan Standarnisasi Nasional.
- UPEN Melaka (2021) Melakaku 2035 Strategic Plan. Available at: https://www.melaka.gov.my/Plone/ms/koleksi-media/penerbitan/polisi-prosedur-pelan/lampiran-ppp-penerbitan/laporan_psmm2035_bi.pdf [accessed 2 Julai 2022].
- Witkowski, T.H. (2016) Early history and distribution of trade ceramics in Southeast Asia. *Journal of Historical Research in Marketing* 8(2): 216-237. <https://doi.org/10.1108/JHRM-07-2015-0026>
- World Heritage (n.d.) Outstanding Universal Value. Available at: <https://worldheritage.gsu.edu/outstanding-universal-value/#:~:text=According%20to%20UNESCO%2C%20%E2%80%9COutstanding%20Universal,future%20generations%20of%20all%20humanity> [accessed 1 May 2023].