

THE ATTRACTIONS OF GUAR KEPAH ARCHAEOLOGICAL SITE, PENANG, MALAYSIA AS AN ARCHAEOLOGICAL HERITAGE TOURISM SITE

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Abstract: The Guar Kepah archaeological site in Penang, Malaysia, has been the focus of archaeological research since 1860, revealing important insights into the prehistoric maritime community that inhabited the area approximately 5,000 years ago. Excavations at the site have revealed human skeletons, teeth, stone tools, and pottery, providing evidence of the community's burial traditions and material culture. The primary data collected from these excavations has facilitated the development of the site's tourism sector, with plans underway to establish the Guar Kepah Archaeological Center (GKAC). This study emphasises the importance of utilising primary data to create compelling narratives that contribute to the development of archaeological heritage tour packages. The Guar Kepah site serves as a case study for the development of archaeotourism, highlighting the need for a balance between site preservation and providing authentic experience to cultural tourists. The findings from this site have the potential to shed light on human relations with aquatic habitats, the importance of the marine environment in human evolution and ecology, island colonisation, and the establishment of maritime trade networks. The development of the Guar Kepah site as an archaeological heritage tourism location in northern Peninsular Malaysia demonstrates the commitment of the government and stakeholders to promoting sustainable heritage tourism in the region.

Keywords: Guar Kepah, artefacts, archaeotourism, tour packages, facilities tourism

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INTRODUCTION

Archaeological research at Guar Kepah since 1860 allows the classification of the only prehistoric site in Peninsular Malaysia formed by a shell midden on a sand ridge to be recorded (Figure 1). Currently, the Guar Kepah site is around 7.6 kilometers from the coastline and is located in the southern part of the Muda River route (Shahidan et al., 2018). Archaeological excavations at this site also recorded evidence of burial traditions in addition to the material culture findings of the community, such as pottery and food waste. Based on scientific evidence, the development of Guar Kepah in the archaeological heritage tourism sector was carried out. Hence, an effort to create the Guar Kepah Archaeological Center (GKAC) has been planned and is now in the process of construction. All these efforts show the commitment of the government and stakeholders in the process of developing this site as a major heritage tourism location in Penang, Malaysia.

One of aspects of archaeological research at the Guar Kepah site is that it allows data, as interpreted by Rick (2023), related to human relations with aquatic habitats, the important of the marine environment in human evolution and ecology, island colonisation and the establishment of maritime trade networks, social and political dynamics to be systematically recorded. This is because the academic study of the remains of the Guar Kepah community, which was a maritime community in the last 5,000 years ago, can lead to a variety of important information that refers to evidence of sea road use, current human interaction, and trade. Furthermore, river and sea routes have been agreed upon many scholars regarding their importance to the development of life in the past (Marean, 2016), which is also proven through archaeological finds.

From the adjacent regional contact, archaeological studies of the Neolithic era, especially at the Bukit Keplu site in neighbouring state Kedah, have recorded finding of tripod pottery that is similar to the Ban Chiang site, Thailand (Taha, 1983), in addition to the lower general and Kg, Kubang Pak Amin, Pasir Mas, Kelantan (Zuraidi et al., 2022). In addition, archaeological studies in Bukit Tengkorak, Sabah, also recorded evidence of the discovery of stone tools from obsidian taken from the Polynesian Islands (Chia, 2015). This shows that the past has had a close relationship with the surrounding rivers and seas, allowing technological developments to occur.

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Figure 1. The Guar Kepah site was built on a sand ridge near the riverbanks of the ancient Muda River (Source: authors based on data from Tjia, 1991)

Even academic studies conducted thus far have not focused on the need to develop the shell midden site as an archaeological heritage site. This is because if referred in academic writing by Habu et al. (2011), Zugasti et al. (2011), Pawlik et al. (2015), Hausmann et al. (2019), Zangrando et al. (2021), Ranaweera and Adikari (2022), Grono et al., 2022, Young (2022) and Rick (2023), they only focus on the discovery of artefacts, the environment, and the artefacts found at the site. To date, there has been no recorded academic writing that focuses discussions related to the primary data of the shell midden site and the need to develop it as a sustainable heritage tourism site, even though there are already facilities for gallery and museum information at the shell midden archaeological site. Based on this, this paper will conduct a case study of the Guar Kepah archaeological site, which shows effort to develop it as an archaeological heritage tourism location in the northern part of Peninsular Malaysia. The utilisation of primary data could render the historical evidence of ancient civilisations in Guar Kepah more captivating, thereby facilitating the creation of compelling narratives that, in turn, could contribute to the development of archaeological heritage tour packages in the region.

LITERATURE REVIEW

1. Archaeological Heritage Tourism

Archaeological heritage tourism, or archaeotourism, a specialised form of tourism, has garnered significant attention as a means to conserve historical-archaeological sites while providing authentic experiences to cultural tourists. The essence of archaeotourism lies in the delicate balance between site preservation and the provision of quality experiences through effective management, interpretation, and marketing strategies (McGettigan and Rozenkiewicz 2013). As the popularity of heritage tourism grows, the behaviour and needs of tourists become pivotal in the decision-making processes regarding site preservation and presentation. The Archaeological Institute of America (AIA), in collaboration with the Adventure Travel Trade Association (ATTA), has developed guidelines to address the impact of tourism on archaeological sites and involve local communities in the process (Thomas and Langlitz, 2018).

Heritage tourism, encompassing visits to tangible and intangible heritage sites, is a subset of cultural tourism that includes archaeotourism. The management of heritage sites is tasked with adapting these sites for public visits while ensuring an optimal tourist-heritage experience, which can be challenging owing to varying levels of tourist attractions (De La Calle Vaquero and García-Hernandez, 2023). The Archaeological Park of Segóbriga serves as a case study demonstrating the importance of information dissemination and promotion through word-of-mouth (WOM) and electronic word-of-mouth (eWOM) to attract visitors and contribute to regional socioeconomic development (Huete-Alcocer et al., 2018).

Psychological distance has been identified as a factor that influences tourists' intention to visit or revisit archaeological sites. Tourists' religious, social, and historical connections to sites are crucial to shaping their intentions, suggesting that managing institutions should consider these aspects when promoting archaeotourism (Ashraf et al. 2020). Regional historical and cultural heritage, exemplified by archaeological monuments, can be popularised through archaeological tourism, which combines recreational and cultural cognitive activities. A methodology for assessing the archaeological potential of a region, such as that developed for Volgograd Oblast, is essential for understanding and promoting the unique geocultural image of a region (Zolotovskiy and Lysikov, 2022).

The shift from cultural to creative cultural tourism reflects tourists' demand for more interactive and creative experiences. This transition is driven by changes in the production of cultural tourist commodities, skilled tourist activities, and new consumption patterns, suggesting that traditional cultural tourism must reinvent itself to remain attractive (Ababneh and Masadeh, 2019). The academic development of cultural tourism has evolved significantly, with research expanding from anthropology to other disciplines, emphasising the importance of promoting regional development and improving research methodologies (Kevin et al., 2015). The Elderhostel network exemplifies the combination of travel and learning, catering to the leisure learning demands of older adults, particularly the baby boomer generation. This educational travel program highlights the intersection of educational programs and commercial tourism packages (Patterson, 2006). Survey findings from Nova Scotia indicate that tourists' interest in Mi'kmaw cultural tourism activities is influenced by factors such as age, education, and place of origin, with international tourists showing the greatest interest (Lynch et al., 2010). Archaeotourism is a multifaceted domain that requires a nuanced understanding of tourist behaviour, effective site management, and community involvement. The success of archaeotourism packages hinges on the ability to provide authentic experiences while ensuring the conservation of archaeological sites.

2. Research Objective

Archaeological studies at the Guar Kepah site generally have several main purposes. The purposes of the study at this site were as follows:

- Determine the function and contribution of Guar Kepah, especially in the burial tradition of Neolithic society, particularly in the northern part of Peninsular Malaysia;
- Identify lithic technologies and nutritional diets adapted by communities living in estuarine and coastal areas of rivers;
- Incorporation of primary data obtained through archaeological studies on archaeological heritage tourism packages recognized at the national and global levels.

RESEARCH METHODOLOGY

The archaeological investigation at the Guar Kepah site was carried out employing archaeological methods, which ultimately resulted in the development of archeotourism packages. Consequently, this study primarily entails the excavation of the primary data collection site. Upon the comprehensive acquisition of the primary data, a collaborative archaeological heritage tourism development plan was devised and executed in partnership with the relevant stakeholders, including the Chief Minister Incorporated (CMI), local travel agencies, and local communities, thereby facilitating the creation of multiple tour packages at this location.



Figure 2. Guar Kepah archaeological site (Site B), which is still in situ and can be seen and visited by tourists nowadays (a) and a location of the Guar Kepah site located near the flow of the ancient Muda River (b) (Source: Shahidan et al., 2018)

RESULT AND DISCUSSION

1. Excavation and Primary Data of Guar Kepah Site

Archaeological studies at the Guar Kepah site (5°33'28" N and 100°25'27" E) conducted in 1860 by Earl (1863), Huxley (1863), Evans (1930), Callenfels (1935; 1936), Mijsberg (1940), Wales (1947), Jacob (1967), Khairuddin (1994), Bulbeck (2005), Foo (2010) and Saidin (Shahidan et al., 2018) have provided cultural evidence of Neolithic communities on the riverbanks of Muda River (Table 1). Studies by Callenfels (1935; 1936) have recorded a total of three sites, namely Site A on the north coast, Site B, located in the southern part of Site A, and Site C, located opposite Site B in the small bay. However, the remapping by Foo (2010) has been able to provide the coordinate of three Guar Kepah site locations, namely 5.333.2.36" N and 100.2529.55" E for Site A located in the northern part of the Guar Kepah Highway. Site B is located at the coordinate of 5.33'28.32" N and 100.2528.61" E, which is currently under the bird house, while Site C is located at the coordinate of 5.33'24.80" N and 100.25'23.06" E, which is in residential area of the villagers (Figure 2).

Currently, there is only one site that still exists and can be seen and visited, Site B. Site A and C are currently completely destroyed as a result of development and agricultural activities. For the main purpose of saving and preserving the Guar Kepah archaeological site, a series of archaeological studies have been carried out to enable the Guar Kepah Archaeological Center (GKAC) to be established to display every piece of evidence of the culture of the people who once lived at this site in 2010, 2017, and 2022. The excavation concentration in the area that provides a resistance value of approximately 100-200 (Rahman et al., 2019; Muhammad et al., 2020), obtained through geophysical mapping using 2D resistivity and electrical resistivity tomography method. GPR mapping (Mansur et al., 2018) conducted on this footpath also reinforces the study by Rahman et al., (2019), which also shows the potential of deep shell layers around one meter deep.

Table 1. Chronology of archaeological studies at the Guar Kepah site (Source: Compiled by authors, 2024)

No.	Researcher	Year	Findings	Reference
1	Earl	1863	The shell midden was disturbed by an excavator to a depth of 25 feet (7.65 meters) Found hematite, water-worn quartz pebbles, and fragments of human bones and teeth Another shell midden site situated at Lahar Ikan Mati has been completely obliterated	Earl, 1863
2	Huxley	1863	Human bone samples from Earl suggest that they were Melanesoid and closely related to Australian Aborigines; Evidence shows that the bones belonged to either a Malayan race or a people allied with the Andaman Islanders	Huxley, 1863
3	Evans	1930	A site visit was conducted, and a report was published on the location and state of the Guar Kepah shell midden	Evans, 1930
4	Callenfels	1936; 1938	The first excavation in Guar Kepah in 1934; Site A at the northern part of sea shore Site B in the southern part of Site A; Site C opposite to Site B in small bay 88 Neolithic secondary burials (skull and bone) found in difference shell midden; Shell species: cockle (<i>Meretrix meretrix</i>) and small number of other species (<i>Arca granosa</i> , <i>Melongena pugilina</i> , <i>Ostrea (?riyularis)</i> and <i>Turritella attenuata</i>); Human bone and teeth (Melanesoid), pig tusks, a canine tooth of immature rhinoceros, fish bone, and beads from fish vertebrae; Hoabinhian stone tools (a Sumatralith and a Hoabinhian axe), grinding stone slabs, pounding-tones, and Neolithic axe/adze)	Callenfels, 1936; 1938
5	Mijsberg	1940	Analysis on bone sample show that the Guar Kepah remains appear close to Melanesoid range of variation	Mijsberg, 1940
6	Jacob	1967	Bone samples show Mongoloid features based on teeth morphology that have been compared to the Temiar; A total of 37 individuals were identified, with a male-to-female ratio of 8:13 Teeth with hematite coating indicate a mortuary ritual	Jacob, 1967
7	Khairuddin	1994	Guar Kepah coordinate: Site A: 5°33'33.4" N and 100°25'34.5" E Site B: 5°33'31.1" N and 100°25'38.8" E; Site C: 5°33'29.2" N and 100°25'32.3" E	Khairuddin, 1994
8	Bulbeck	2005	The Guar Kepah site was exploited during the Mid-Holocene, based on the Holocene high stand in Peninsular Malaysia; A minimum of 41 individuals were identified (Site A: 1, Site B: 31, and Site C: 9) with a male-to-female ratio of 12:10; Staining on the teeth might reflect moderate to intense staining during life, possibly due to long-term betel nut chewing	Bulbeck, 2005
9	Saidin	2008	Pottery and Sumatralite unifacial and bifacial pebble tools indicate that Guar Kepah belongs to the Early Neolithic Period; The shell sample was dated to 5,700±50 B.P. by the beta Radiocarbon Dating Lab in Florida; Guar Kepah was inhabited during the Mid-Holocene, approximately 5,000 to 6,000 B.P., marking early evidence of human habitation in Penang This habitation was facilitated by easy access to food sources from Muda River and the sea	Shahidan, 2018
10	Guar Kepah	2008	The second excavation at Guar Kepah in 2010 was led by Mokhtar Saidin and the USM team (Site B); It involved opening a 1m x 1m test trench, totalling 70 square meters (unpublished) The coordinate for Site B are 5°33'28.05" N and 100°25'28.29" E The excavation findings include stone tools, animal bones, ornaments, pottery, bones and teeth	Shahidan, 2018
11	Foo	2010	Guar Kepah location and coordinate: Site A is located in the northern part of Guar Kepah road at coordinate 5°33'32.36" N and 100°25'29.55" E; Site B is beneath the ground level of the birds nest house, positioned at coordinate 5°33'28.32" N and 100°25'28.61" E; Site C is situated at the backyard of the farmer house with coordinate 5°33'24.80" N and 100°25'23.06" E	Foo Shu Tieng, 2010
12	Guar Kepah	2017	The 2017 USM excavation successfully opened 80 squares 92m x 2m) and exposed the shell stack on Site B; The excavation resulted in the discovery of seven species of shell, one human skeleton, 1,237 pottery and porcelain fragments, 38 stone tools, 32 animal bones and teeth, and two iron artefacts; Guar Kepah is recorded as a site where both Australomelanesoid and Mongoloid features could be observed within the human remains discovered The sample was dated to 5,710 B.P. by the Radiocarbon Beta Laboratory in Florida	Shahidan et al., 2018

Archaeological excavations at this site have recorded the findings of artefacts that are still *in situ*. An important finding that describes the culture of this site is the discovery of a human skeleton at Site B in 2017 (Abdullah et al., 2020), embedded in a stack of shell consisting mostly of the families *Arcticidae*, *Arcidae*, *Naticidae*, *Turritellidae*, and *Struthiolariidae* (Shahidan et al., 2018). To obtain data related to the race of the human skeleton, a forensic facial study was conducted using a computed tomography (CT) scanner in the Radiology Department of the Hospital Universiti Sains Malaysia using a Light Speed Plus scanner (Abdullah et al., 2022). The analysis found that the Guar Kepah human skeleton revealed characteristics of the Australomelanesoid and Mongoloid races (Figure 3). This suggests that DNA mixing in prehistoric societies was closely related to social relationships that existed 6,000-5,000 years ago. In fact, the multiple burial traditions with the shipment of stone tools and pottery clearly show that the burial traditions of the Guar Kepah community are similar to the discovery of Perak Man in Gunung Runtuh cave, Lenggong Valley, Perak, 11,000-10,000 thousand years ago (Majid, 1994). This shows that the Guar Kepah revealed the same burial tradition that has lasted since the Palaeolithic era, which was adapted and expanded until the Neolithic period. The dating is obtained through a scientific approach that is able to strengthen the interpretation presented as proposed by Nik Abd Rahman (2004).



Figure 3. Evidence of human remains found at Site B of Guar Kepah in 2017 that further clarifies burial traditions dating back to the Neolithic period (a) and the forensic facial analysis conducted has enabled primary information related to the appearance of the Guar Kepah community to be identified more accurately (b) (Source: authors based on data from Abdullah et al., 2022)

In addition, the discovery of stone tools (hammer stones [a], anvils [b], choppers [c], flake tools [d], and hand axes [e]) (Figure 4), pottery (Figure 5), molars (Figure 6), animal bones (Figure 7), fish and fish bone beads (Figure 8) associated with piles of shells also revealed the material culture and diet of people who lived around the mouth of the river.

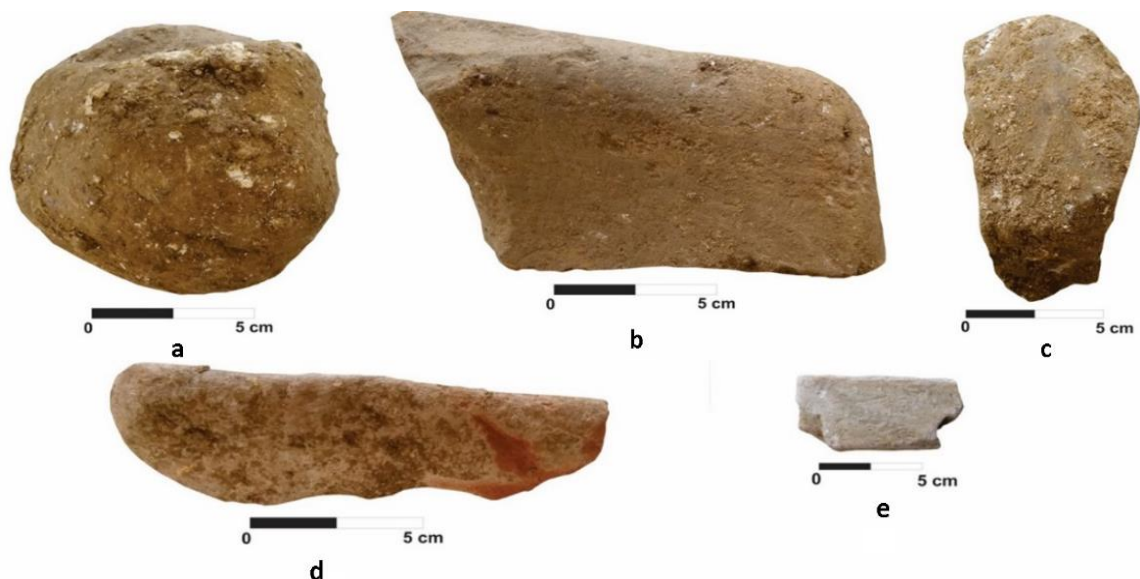


Figure 4. Findings tools such as stone tools (a), anvils (b), chopper (c), flake tools (d) and hands axes (e) at the Guar Kepah site, which are used as aids in the daily lives of the people at this site (Source: authors)

This is because artefacts such as stone tools and pottery are proposed to be used as aids to facilitate the life of the community at this site, while food waste as shells, animal bones, and fish is the nutritional diet of Guar Kepah community. Previous excavations also allowed for the identification of Guar Kepah stone tools, which were taken in the vicinity of Mount Jerai (Ramli, 2014). This is because the mountains of Jerai contain various types of stone, including hornfels, shale,

sis, syis hornblende, hematite, and micropegmetite (Ali et al., 2019). This shows that the Guar Kepah community was skilled in the process of navigation and shipping obtain the raw materials for making this stone tool located in Mount Jerai.

The evidence unequivocally demonstrates that sailing activities have been utilizing the sea route since the Neolithic era, and they have continued to grow until the emergence of maritime kingdoms in Southeast Asia during the age of civilization (Muhamad & Saiffuddin, 2022; Zuhdi et al., 2023). This activity persisted until the British colonial period (Junaidi, 2023). Trade activity in the Southeast Asian region has fostered the development of the trade economy sector, resulting in the discovery and successful development of various archaeological heritage sites.



Figure 5. Among the findings of pottery at the Guar Kepah site (a) during the excavation process, some of the pottery has decorative rope marks (b)

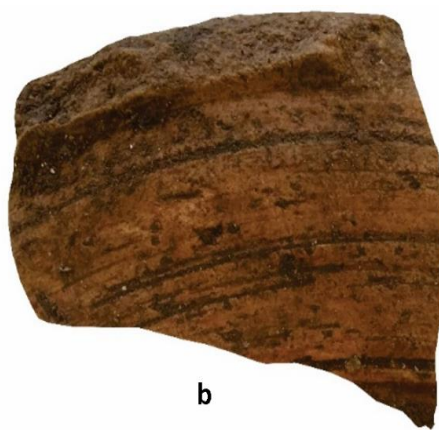


Figure 6. The discovery of molars proves the existence of communities that live around the Guar Kepah site

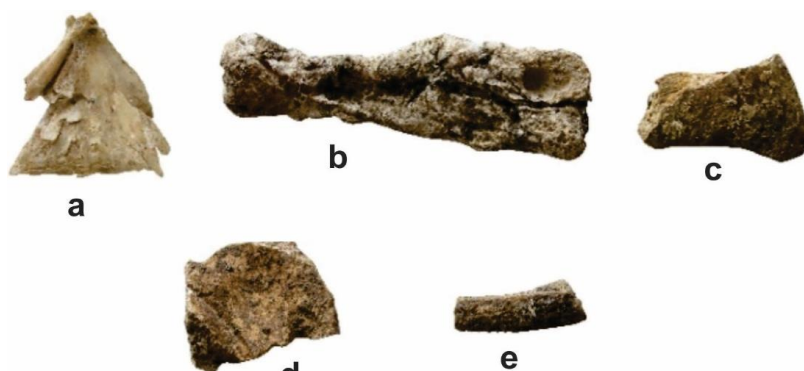


Figure 7. Excavation activities also found bones of fish (a) and animals (b, c, d, e) at Guar Kepah site (Source: authors)



Figure 8. Fish bone bead also found during the excavations at the Guar Kepah site were used as jewelry (Source: authors)

2. Guar Kepah Site Uniqueness

Archaeological investigations conducted at the Guar Kepah site revealed the distinctiveness of the location, which facilitated its development as a prosperous archaeological heritage tourism commodity. This privileges that have been recorded in academic studies are:

2.1 The Site of a Shell Midden that is still *in situ* in Peninsular Malaysia

Ear's report (1863) stated that in addition to the Guar Kepah site, there were also several sites that revealed evidence of shell middens. The sites are Kampung Tuan Said, Kampung Tiga Ringgit and Kampung Lahar Ikan Mati. However, all of these sites have been destroyed, and no archaeological studies have been conducted. Archaeological studies in Guar Kepah recorded three sites: Site A, B, and C. However only Site B is still *in situ* and can be visited. In addition, the Guar Kepah site is also the earliest site for archaeological studies that have a direct connection with Hoabinhian culture (Callenfels, 1936).

Archaeological studies at the Guar Kepah site are very important for preservation because archaeological studies in Peninsular Malaysia until 2024 have not been able to record the findings of shell midden sites, such as the evidence of Guar Kepah site. Cultural evidence of Neolithic communities representing shell middens can only be found in Deli Serdang (Miksic, 1979), East Aceh (Foo, 2019), Aceh Temiang (Glover, 1977), and several other Southeast Asian site (Table 2). This shows the importance and uniqueness of the Guar Kepah site, which needs to be preserved and used as an iconic product in the North Seberang Prai district for archaeological heritage tourism.

Table 2. Shell midden sites in Southeast Asia (Source: Compiled by authors, 2024)

No.	Sites	Country	Discovery	Reference
1	Tandem Hilir	Indonesia	- The shell middens was about thirty meters long, twenty meters wide, and 3½ meter high. Part of the site has been destroyed	Miksic, 1979 and Foo Shu Tieng, 2019
2	Bulu China		- Found a <i>Meretrix</i> species, stone tools, and human skeletons in shell middens	
3	Pasar VIII		- Discovered <i>M. meretrix</i> shells, stone tools, and some burial evidence with “large” quantities of hematite	
4	Perbaungan		- Human skeletons, stone tools, as well as bones of animals such as elephants, bears, deer, and rhinos	
5	Tamiang		- Shell middens are recorded as being on sand ridges, and a fragment of the skull was found	Glover, 1977 and Miksic, 1979
6	Gohor Lama			
7	Tanjung Genteng			
8	Kampung Mesjid			
9	Sungai Hui		- Heaps of shell from the species <i>Meretrix</i> , stone tools, pottery, and human skeletons	
10	Rantau Panjang			
11	Seruwai			
12	Sekapuran			
13	Binjai		- Shell middens with <i>Meretrix</i> species, stone tools, and human skeletons - Based on the discovery of human bones that are mostly in the form of cracks and fragments, it can be interpreted as an indication of cannibalistic practices to extract marrow	Ketut, 2010; 2011
14	Paya Rengas			
15	Sukajadi Pasar III	- The construction of the bridge nearly destroyed the site		
16	Sukajadi IX	- There evidence of burials involving the use of hematite		
17	Pengkalan		- Found a shell middens and pottery	Angel, 1996
18	Lal Lo	Philippines	- Evidence of shell middens from freshwater shells	
19	Gattaran		- Reveal finds of polished stone tools, bones, teeth, and pottery	
20	Bon Bon		- There is a ritual burial with pottery shipments	Attenbrow, 1992
21	Khok Phanom Di	Thailand	- Excavations carried out in 1984-1985 on an area of 100 m ² revealed stratigraphic sequences up to 7 m deep - The formation of such a cultural layer combines areas of shell deposit, occupation and industrial remains, and human burial ground - Radiocarbon dating indicates that the site was occupied between approximately 2,000 and 1,500 cal. B.C.E	Higham, 2014
22	Hang Boi	Vietnam	- Excavations at the site revealed the remains of a pile of mollusc shells consisting of 98% land snails of the species <i>Cyclophorus theodori</i> and <i>Cyclophorus unicus</i> . In addition, excavations also found several animal bones, such as those of squirrels, snakes, birds, and fish - Several stone tools, such as pebbles, flakes, cores, and debitage, were also found at the site	Rabett, 2011
23	Samrong Sen (Stung Chinit)	Cambodia	- Stone tools basically made up of axes, adzes, and chisels - The site also recorded finds of hooks, pottery, jewellery, and arrowheads	Mourer, 1994
24	Anlong Prao (Long Prao and Anlong Phdao)		- The site is approximately 3 km from Samrong Sen	

2.2. Evidence of Neolithic Burials in Shell Middens in Penang, Malaysia

Archaeological evidence from the Guar Kepah site is complemented by discoveries at several other locations, which have unearthed human skeletons, bone fragments, and teeth dating back to prehistoric times. These include a skeleton found at Gua Gunung Runtuh cave, human teeth at Gua Harimau, a fragment of a human jaw with some teeth, and fragments of other parts of the human skeleton at Gua Kajang and Gua Kerbau. Additionally, there were seven human burials at Gua Harimau, 24 burials at Gua Cha, and four human skeletons at Gua Peraling in Kelantan.

Furthermore, there are 200 burial sites in Gua Niah, 16 human teeth in Gua Sireh, seven human skeletons at Niah in Sarawak, several teeth at Melanta Tutup, and three human teeth at Balambangan Cave in Sabah. This array of discoveries provides a comprehensive chronological and cultural sequence of human occupation from the Palaeolithic to late prehistoric period, as outlined by Khong (2009). The northern region of Peninsular Malaysia has yielded only a few human skeleton remains, specifically in the Lenggong Valley, and Perak. This indicated that the discovery of human skeletons through archaeological studies in 2017 was the most complete skeleton found in Penang during the Neolithic era. The study also reveals that there is a belief system related to the afterlife based on the artefacts discovered. The discovery of this evidence highlights the distinctiveness of archaeological studies conducted at this specific site.

2.3. Guar Kepah Site as an Heritage Tourism Product

Currently, there is a need to preserve archaeological sites and community involvement (Douglass et al., 2019) and archaeological heritage tour package offerings (Ali et al., 2023; Abd Halim et al., 2023; Abd Halim et al., 2024). As per Newsom et al. (2021), the development of the tourism sector necessitates close collaboration between the community and government to strengthen storytelling related to heritage sites, particularly the shell midden. To this end, community and government collaboration programs have been initiated to empower primary data on study sites, particularly shell midden

sites (Rick, 2023). Even today, there has been a movement to involve local communities in archaeological research on shell middens at the world level, such as in the Amah Mutsun tribe in central California (Lightfoot et al., 2021). This will directly educate the community on valuing heritage sites and protecting them from being threatened with destruction (Rick, 2023). Even with the community's involvement as a tour guide and facilitator in tourism activities (food-beverage suppliers, accommodation, transportation, and so on), tourism activities can grow faster. This aligns with Mohd Nor's (2024) research, which highlights the crucial role of communities in tourism and how they contribute to the sector's growth. In addition, to ensure that the shell midden site, especially in Guar Kepah, is preserved, the work to promote, embrace, and expand collaboration, consultation, and engagement with descendant communities and put archaeology in service of the needs and desires of those communities must be carried out continuously (Laluk et al., 2022). To accelerate the process of spreading knowledge to the community, the site must be developed into a sustainable archaeological heritage site.

Table 3. Ancient Kedah Geoarchaeological Heritage Expedition and AncKed Sungai Batu Association Tour Package Program at Guar Kepah Archaeological Site

Date	Time	Itinerary
Ancient Kedah Geoarchaeological Heritage Expedition Tour Package		
Day 1	9 am	Arrival, registration at Field Station, Damai Park Resort, Muzium Archeology Road, Merbok, Kedah.
	10 am	Expedition Briefing (Expedition Director, Mazlan Mahmud) Welcoming Speech - (Dato' Dr Mokhtar Saidin); Participant Introduction Session
	10.30 am	Visit Bujang Valley Archaeological Museum and Peagmatite Geosite Bukit Batu Pahat, Merbok
	12 pm	Picnic Lunch at Field Station, Damai Park
	2 pm	Visit Jerai Peak geotrail, Padang Tok Sheikh, Batu kapal; *A 550-480 million year-old Jerai Formation quartzite rock plain, Upper Cambrian. There are trace fossils that represent traces of seabed life
	5 pm	Back to Field Station
	7 pm	Dinner at Field Station
	9.30 pm	Free and Easy
	11 pm	Rest
Day 2	7.30 am	Breakfast at Field Station
	8 am	Visit Guar Kepah Archaeological Heritage Gallery, Seberang Perai; *The only evidence of a Neolithic shell burial in Malaysia. Guar Kepah was also the first excavation site by British officer GW Earl in 1850, which led to the discovery of human skeletons which are now kept in the Netherlands. In 2017, further research by the USM Archaeological Research Center (CGAR) team led by Datuk Dr. Mokhtar Saidin discovered human skulls and ribs, all believed to be from the Neolithic Age which is about 5,000 years old; Visit Kota Kuala Kedah Fort
	10.30 am	Visit Bukit Penjara Geosite (Mahang Formation); *The Mahang Formation reveals 480 million year old red mudstone. This thick layered red massive mudstone is interpreted to have been deposited around the deep sea based on evidence of the existence of fossils such as Graptolites
	12.30 pm	Lunch at Jetty Semeling (Jerai Geopark Discovery Center)
	2.30 pm	Talk 1: Jerai Geopark Introduction by Dr. Amin Ali, Manager Jerai Geopark Visit Kedah Tua, Jerai Geopark and Biodiversity Gallery at Jerai Geopark Discovery Center; Viewing the Merbok River Estuary from the Jerai Geopark Discovery Center; * Kedah Bay played an important role as the main entry route for sea transport during the rapid development of the ancient Kedah Civilization
	5 pm	Back to Field Station
	7.30 pm	BBQ at Field Station
	8.30 pm	Talk 2: Special Geoarchaeology Sharing Session with Dato' Dr Mokhtar Saidin about the Archaeological Discovery of Sungai Batu and the History of the Early Civilization of ancient Kedah Kingdom *A special session with Dato' Dr Mokhtar will reveal discoveries through geological and archaeological evidence of sites, artefacts, ecofacts and how an interpretation process is carried out; Q&A session
11.30 pm	Rest	
Day 3	7.30 am	Breakfast at Field Station
	8.30 am	Session 1, Across the Early Civilization Sites of Southeast Asia since 788 BC, Sungai Batu Archaeological Complex with Dato' Dr Mokhtar Saidin; *This site was dismantled by Dato' Dr Mokhtar Saidin in 2009 until his discovery revealed an iron smelting civilization site 2,800 years earlier than the founding of Rome. This expedition will reveal how iron was smelted, forged and exported to Europe, Yemen, India and China at that time; 2 nd Session at Sungai Batu Site: Brick making, hands on excavation and demonstration of ancient Iron Smelting; *Participants will be involved in the excavation process, artifact conservation and artifact interpretation
	12.30 pm	Lunch at Oyster Farm at Merbok River
	2.30 pm	Program Viewing Session and Presentation of Appreciation Scrolls to Expedition Participants at Field Station, Damai Park; Enjoying a 'Jerai Geofood' meal at Oyster Farm. *Jerai Geofood is a food dish produced from local heritage in the Jerai Geopark area
	4 pm	Back to Field Station and Check Out
AncKed Sungai Batu Association Tour Packages		
Packages 3	9.00 am - 12.00 pm	Sungai Batu Archaeological Complex (full packages): - iron smelting sites; - River jetties sites; - port management sites; - Ritual and Buddhist sites; Living Culture Gallery activities: - Poster explanation; - iron smelting demonstration; - Hands-n excavation; - Hands-on brick making
	12.00-2.00 pm	Rest, Lunch, Prayer
	2-00-3.00 pm	Moving to the Guar Kepah Archaeological Site
	3.00-5.00 pm	Guar Kepah Archaeological Site; - See evidence of the remains of people who lived on the banks of the Muda River from 6,000 to 5,000 years ago; - Evidence of a human skeleton identified as a female Penang

Therefore, the process of developing it as an archaeological heritage tourism product is in full swing. Several tour packages have been designed to ensure that the local community is aware of the existence of this heritage tourism site at the country's tourist locations. One of the attractions is a tour package that involves a 3-day, 2-night tour program to geological, geoarchaeological, and biological tourism sites around the area, organized by Ancient Kedah Heritage Resource in collaboration with Jerai Geopark. In addition to the Kedah Ancient Heritage Resource Association, tour packages to the Guar Kepah archaeological site are offered by the AncKed Sungai Batu Association, which is based on the Sungai Batu Archaeological Complex (Table 3). This was done to maximise the offer of this archaeological heritage tour package to tourists in the area. The package only includes a program of daily visits to tourist sites.

During the tourist's visit to the Guar Kepah archaeological site, a special explanation session by the researchers will be conducted to fully explain each discovery and interpretation submitted based on archaeological findings. This is important so that tourists who come to visit understand the historical framework that has occurred at this site, which makes it an important heritage tourism site. In addition, several hands-on activities are also carried out for visitors who come to take tour packages at this site, such as excavation, colouring and identifying the classification of Neolithic earthenware fragments at this site (Figure 9), and stone tool-making activities. All these activities are designed to maximise the knowledge and excitement of tourists when visiting this site.



Figure 9. A special briefing session by researchers to maximize tourism knowledge (a), hands-on excavations are also being created at this site in its tour packages and colouring and identification of earthenware attributes activity at Guar Kepah site

2.4. Guar Kepah Tourism Facilit

The development of a sustainable world has led to the upgrading of facilities around the Guar Kepah archaeological sites. This initiative is in line with the global preservation of archaeological sites, particularly those related to shell middens, such as the Kasori Shell Mounds Museum, Yoshigo Shell Midden Museum, Moyoro Shell Mound Museum, Irie and Takasago Shell Mound Park, Tobinodai Shell Midden, Japan, Dongsam-dong Shell Midden Museum, South Korea, and others. These successful tourist locations demonstrate the importance of preserving such sites.

As result, the Guar Kepah archaeological site now boast a gallery that showcases artefacts discovered during excavations conducted since the 1860s. The construction of the gallery provides the Guar Kepah Archaeological Site with essential amenities such as car parks, toilets, a surau for prayer, an exhibition space for artefacts, a research room, and a systematic site management system (as illustrated in Figure 10). The site is also equipped with a tour guide to assist in the delivery of information to visitors. Furthermore, the findings of human skeletons from colonial times will be presented in a special area, showcasing the evidence of community-related historiography in Guar Kepah in a comprehensive manner.

Conservation under the museum exhibition concept is required to ensure that the archaeological site area is preserved. Museums have traditionally played a crucial role in the organisation and management of collections and exhibitions, ensuring that they are stored and displayed in an efficient and systematic manner (Barker, 2010; Skeates, 2017). Furthermore, with an organised and up-to-date exhibition system at the museum, the process of disseminating knowledge to

the community can be conducted more dynamically and effectively (Yang, 2021). This means that an archaeological site can be preserved, and at the same time, the process of knowledge dissemination can be carried out effectively.



Figure 10. The process of upgrading the Guar Kepah Archaeological Site with the construction of a systematic archaeological gallery

CONCLUSION

Archaeological studies at the Guar Kepah Archaeological Site have unearthed the exceptional universal value of global significance, making it suitable for development as an archaeological heritage tourism destination. The reason for this is that the research has uncovered the only site in Penang that demonstrates the existence of burial practices from the Neolithic period through the shell midden. Based on the features recorded, several tourism packages have been offered in this area to introduce archaeological heritage tourism products to the public. This allows all findings recorded during the archaeological study to be interpreted and disseminated to tourists through available tourism packages.

Limitations and suggestions for future studies

From the Neolithic period until its use as an archaeological heritage tourist site, the study revealed primary evidence of human adaptation to the marine environment. However, this study does not detail several historical tourism sites (Merdeka Bridge, Sungai Muda British Pillbox, Kampung Tok Soh historic grave, Tunku Haidar tomb, and Kuala Muda Fort), eco and recreation (Merdeka Beach), and culture-heritage (Whisper Market and Kota Kuala Muda Tsunami Memorial) products located near the Guar Kepah Archaeological Site. Therefore, further studies related to the specialty of this tourist location can be carried out so as to create a geotrail in the area.

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REFERENCE

- Ababneh, M. A., & Masadeh, M. (2019). Creative Cultural Tourism as a New Model for Cultural Tourism. *Journal of Tourism Management Research*, 6(2), 109–118. <https://doi.org/10.18488/journal.31.2019.62.109.118>
- Abd Halim, M. H., Mokhtar, N. A. M., Zakaria, I. I., Mohamad, S. N. S., Hamid, N. S. A., Masnan, S. S. K., & Saidin, M. (2023). Ancient Kedah iron Smelting Experiment in Preparing for Offering Archaeological Tourism Heritage Packages at Sungai Batu Archaeological Complex (SBAC), Bujang Valley, Kedah, Malaysia. *Geojournal of Tourism and Geosites*, 47(2), 622-631. <http://doi.org/10.30892/gtg.47230-1062>
- Abd Halim, M. H., Mokhtar, N. A. M., Mohamad, S. N. S., Zakaria, I. I., Hamid, N. S. A., Masnan, S. S. K., & Saidin, M. (2024). Application of Digital Technology in Offering Tourism Packages at Iron Smelting Sites, Sungai Batu Archaeological Complex (SBAC), Bujang Valley, Kedah, Malaysia. *Digital Applications in Archaeology and Cultural Heritage*, 32, e00294. <https://doi.org/10.1016/j.daach.2023.e00294>
- Abdullah, J. Y., Moraes, C., Saidin, M., Rajion, Z. A., Hadi, H., Shahidan, S., & Abdullah, J. M. (2022). Forensic Facial Approximation of 5000 Year-Old Female Skull from Shell Midden in Guar Kepah, Malaysia. *Applied Sciences*, 1-10. <https://doi.org/10.3390/app12157871>

- Ali, C. A., Mohamad, H., & Talib, N. A. (2019). Warisan Geologi [Geological Heritage]. In Saidin, M. & Komoo, I. (eds). *Jerai Geopark Warisan Geologi, Geoarkeologi dan Biologi [Jerai Geopark Geology, Geoarchaeology and Biology Heritage]*, 19-70, Penang: Universiti Sains Malaysia Publisher.
- Ali, M. A., Halim, M. H. A., Masnan, S. S. K., Mokhtar, S., & Narayanan, S. (2023). Geoarchaeosites for Heritage Tourism Product of Kuala Muda District, Kedah, Malaysia. *Geojournal of Tourism and Geosites*, 46(1), 63-69. <http://doi.org/10.30892.gtg.46107-1001>
- Angel, B. (1996). *Field Report on Lal-lo Archaeology Project, August-September 1996*. Typescript, National Museum, Manila.
- Ashraf, J., Ali, S., Nawaz, M. A., & Ghufuran, M. (2020). Tourist Intentions to Visit or Revisit Archaeological Sites in Pakistan. *Asian Journal of Social Science*, 48(5-6), 588-617. <https://doi.org/10.1163/15685314-04805017>
- Attenbrow, V. (1992). Shell Bed or Shell Midden. *Australian Archaeology*, 34, 3-21. <https://www.jstor.org/stable/40287089>
- Barker, A. (2010). Exhibiting Archaeology: Archaeology and Museums. *Annual Review of Anthropology*, 39(1), 293-308. <http://doi.org/10.1146/annurev.anthro.012809.105115>
- Bulbeck, F. D. (2005). The Guar Kepah Human Remains. In Majid, Z. (ed). *The Perak Man and Other Prehistoric Skeletons of Malaysia*, 383-424, Penang: Universiti Sains Malaysia Publisher. ISBN 9833391125, 9789833391127.
- Bulletin of the Raffles Museum (1936). An Excavation of Three Kitchen Middens at Guar Kepah, Province Wellesley, Straits Settlements, B, 1(1), 27-37.
- Chia, S. (2015). *Arkeologi Bukit Tengkorak, Sabah [Bukit Tengkorak Archaeology, Sabah]*. Penang: Universiti Sains Malaysia Publisher, 166p. ISSN: 9674610510, 9789674610517
- Callenfels, V. S. P. V. (1935). An Advance in Far-Eastern Prehistoric: Prehistoric Kitchen Middens in the Straits Settlements-Ancient Shell-Heaps at Guar Kepah, Containing Relics of Australomelanesoid Culture in Malay Peninsula. *The Illustrated London News*, 5, 13-15.
- Callenfels, V. S. P. V. (1936). An Excavation of Three Kitchen Middens at Guar Kepah, Province Wellesley, Straits Settlements. Bulletin of the Raffles Museum, B, 1(1), 27-37.
- Douglass, K., Morales, E. Q., Manahira, G., Fenomanana, F., Samba, R., & Lahiniriko, F. (2019). Toward a just and Inclusive Environmental Archaeology of Southwest Madagascar. *Journal of Social Archaeology*, 19, 307-332. <https://doi.org/10.1177/1469605319862>
- Earl, G. W. (1863). On the Shell-Mounds of Province Wellesley in the Malay Peninsula. *Transactions of the Ethnological Society of London*, 2, 119-129. <www.jstor.org/stable/3014309>.
- Evans, I. H. N. (1929). On Ancient Kitchen-Middens in Province Wellesley. *Journal of the Federated Malay States Museums*, 15, 15-18.
- Foo, S. T. (2010). *Hoabinhian Rocks: An Examination of Guar Kepah Artefacts from the Heritage Conservation Centre in Jurong*. Master Disertation, National University of Singapore, Singapore, 201p. <http://doi.org/10.13140/RG.2.2.28005.29929>
- Foo, S. T. (2019). *Salt-Making and Prehistoric Shell Middens in the Straits of Malaka*. 271-290, Advancing Southeast Asian Archaeology 2019, Selected Papers from the Third SEAMEO SPAFA International Conference on Southeast Asian Archaeology, Bangkok, Thailand.
- Glover, I. C. (1977). The Hoabinhian: Hunter-Gatherer or Early Agriculturalists in Southeast Asian?. In Megaw, J.V.S. (ed). *Hunters, Gatherers and First Farmer beyond Europe*, 145-166, Leicester.
- Grono, E., Friesem, D. E., Dzung, L. T. M., Thuy, N. T., Hamilton, R., Bellwood, P., Piper, P. J., & Denham, T. (2022). Microstratigraphy Reveals Cycles of Occupation and Abandonment at the Mid Holocene Coastal Site of Thach Lac, Northern-Central Vietnam. *Archaeological Research in Asia*, 31, 100396. <https://doi.org/10.1016/j.ara.2022.100396>
- Habu, J., Matsui, A., Yamamoto, N., & Kanno, T. (2011). Shell Midden Archaeology in Japan: Aquatic Food Acquisition and Long Term Change in the Jomon Culture. *Quaternary International*, 239(1-2), 19-27. <https://doi.org/10.1016/j.quaint.2011.03.014>
- Hausmann, N., Meredith-Williams M., Douka, K., Inglis R. H., & Bailey, G. (2019). Quantifying Spatial Variability in Shell Midden Formation in the Farasan Islands, Saudi Arabia. *PLoS ONE*, 14(6), e0217596. <https://doi.org/10.1371/journal.pone.0217596>
- Higham, C. F. W. (2014). Khok Phanom Di, Archaeology of. In Smith, C. (eds) *Encyclopedia of Global Archaeology*, 4275-4281, Springer, New York, NY. https://doi.org/10.1007/978-1-4419-0465-2_983
- Huete-Alcocer, N., Martínez-Ruiz, M. P., & López-Ruiz, V. R. (2018). Assessing the Use of Archaeological Sites as Cultural Tourism Resources. In *Advances in Hospitality, Tourism and the Services Industry (AHTSI) book series*, 173-190. <https://doi.org/10.4018/978-1-5225-2927-9.ch008>
- Huxley, F. W. (1863). Letter on the Human Remains found in the Shell-Mounds. *Transactions of the Ethnological Society of London*, 2, 265 - 266.
- Jacob, T. (1967). *Some Problem Pertaining to the Racial History of the Indonesian Region*. Netherlands Bureau for Technical Assistance, Utrecht, 162p.
- Junaidi, N. I. N. (2023). Perkembangan Aktiviti Perkapalan di Pelabuhan Swettenham, 1091-1919 [Development of Shipping Activities at the Port Swettenham, 1901-1919]. *Jebat: Malaysian Journal of History, Politics & Strategic Studies*, 50(3): 333-349. <http://doi.org/10.17576/jebat.2023.5003.06>
- Ketut, W. (2010). Pentarikhkan Baru Situs Hoabinhian dan Berbagai Kemungkinannya [New Dating of the Hoabinhian Site and Its Possibilities]. *Berkala Arkeologi* 13(26), 222-233. <http://doi.org/10.24832/bs.v13i26.174>
- Ketut, W. (2011). Prasejarah Sumatera Bahagian Utara: Kontribusinya pada Kebudayaan Kini [The Prehistory of Northern Sumatra: Its Contribution to Modern Culture]. (2011). Yayasan Pustaka Obor Indonesia, 317p.
- Khairuddin, A. H. (1994). Tapak Prasejarah Guar Kepah-Satu Catatan [Guar Kepah Prehistoric Site-A Note]. *Malay Archaeological Journal*, 7, 81-84. <https://malaycivilization.com.my/omeka/items/show/138671>.
- Khong, E. N. (2009). *Paleoanthropological Study of Late Prehistoric Human Sceletal Remains in Samporna, Sabah*. Master Disertation, Penang: Universiti Sains Malaysia, 203p.
- Laluk, N. C., Montgomery, L. M., Tsosie, R., McCleave, C., Miron, R., & Carroll, S. R. (2022). Archaeology and Social Justice in Native America. *American Antiquity*, 87, 659-682. <https://doi.org/10.1017/aaq.2022.59>
- Lightfoot, K., Cuthrell, R., Hylkema, M., Gifford-Gonzalez, D., Jewett, R., & Grone, M. (2021). The Eco-Archaeological Investigation of Indigenous Stewardship Practices on the Santa Cruz Coast. *Journal of California and Great Basin Anthropology*, 41, 187-205.
- Lynch, M. F., Duinker, P. N., Sheehan, L. R., & Chute, J. E. (2011). The Demand for Mi'kmaw Cultural Tourism: Tourist Perspectives. *Tourism Management*, 32(5), 977-986. <https://doi.org/10.1016/j.tourman.2010.08.009>
- Ma, Y., Ong, S. F., & Kevin, L. D. (2015). Literature Review of Cultural Tourism. *Proceedings of the 2015 International Conference on Social Science, Education Management and Sports Education*, 1665-1668. <https://doi.org/10.2991/ssemse-15.2015.426>
- Majid, Z. (1994). *The Excavation of Gua Gunung Runtuh and the Discovery the Perak Man in Malaysia*. 149-171, Kuala Lumpur: Department of Museum and Antiquity Malaysia.
- Mansur, H., Rosli, N., Ismail, N. A., Saidin, M., & Masnan, S. S. K. (2018). Mapping Subsurface Structure at Guar Kepah by using Ground Penetrating Radar. *Journal of Physics, Conf. Series* 995, 1-11. <http://doi.org/10.1088/1742-6596/995/1/012081>

- Marean, C. W. (2016). The Transition to Foraging for Dense and Predictable Resources and its Impact on the Evolution of Modern Humans. *Philosophical Transactions of the Royal Society, B* 371, 20150239. <https://doi.org/10.1098/rstb.2015.0239>
- McGettigan, F., & Rozenkiewicz, A. (2013). Archaeotourism - the Past is Our Future? CABI, 118–128. <https://doi.org/10.1079/9781845939236.0118>
- Mijsberg, W. A. (1940). On a Neolithic Palae-Melanesian Ja found in a Kitchen Midden at Guar Kepah, Province Wellesley, Straits Settlements. In Chasen, F.N. & Tweedie, W.W.F. (eds). *Proceedings of the Third Congress of Prehistorians of the Far East 1938*, 100-118, Singapore: Government of the Straits Settlement.
- Miksic, J. N. (1979). *Archaeology, Trade and Society in Northeast Sumatra*. Doctoral Dissertation, Cornell University, 356p.
- Mohd Nor, R. (2024). Sustainability of Community-Based Tourism through the Lens of Homestays Operators in Rural Area of Penang, Malaysia. *Geografia-Malaysia Journal of Society and Space*, 20(1): 121-139. <http://doi.org/10.17576/geo-2024-2001-08>
- Mourer, R. (1994). *Contribution a l'etude de la Prehistoire du Cambodge*. FrancoisBizot ed. Recherches Nouvelles sur le Cambodge, EFEO, 144-187.
- Muhamad, A. & Saiffuddin, A.H. (2022). The Distribution of the Ancient Malay Kingdoms in Indochina from the First Century to the Fourteenth Century from the Context of the Spatial and Ethnoarchaeology. *Geografia: Malaysian Journal of Society and Space*, 18(4): 102-116. <http://doi.org/10.17576/geo-2022-1804-08>
- Muhammad, S., Saad, R., Saidin, M., Mustaza, N. M., Yusoh, R., Sanusi, Y. A., Samuel, Y. M., & Muhammad, M. A. (2020). Subsurface Soil Characterisation at Guar Kepah, Kedah Tua (Malaysia) using Electrical Resistivity Tomography for Archaeological Purpose. *Maejo International Journal of Science and Technology*, 14(02), 119-129. <http://doi.org/10.13140/RG.2.2.12644.40320>
- Newsom, B., Lolar, N. D., & John, St. I. (2021). In Conversation with the Ancestors: Indigenizing Archaeological Narratives at Acadia National Park, Maine. *Genealogy*, 5, 96. <http://doi.org/10.3390/genealogy5040096>
- Nik Abd. Rahman, N.H.S. (2004). Peranan Sains dalam Penyelidikan Arkeologi Protosejarah [The Role of Science in Protohistorical Archaeological Research]. *Jebat: Malaysian Journal of History, Politics and Strategic Studies*, 31: 109-127. ISSN 2180-0251.
- Patterson, I. (2006). Different Travel Markets: Educational Tourism and Older Adults. CABI, 177–194. <https://doi.org/10.1079/9781845930653.0177>
- Pawlik, A. F., Piper, P. J., Wood, R. E., Lim, K. K. A., Faylona, M. G. P. G., Mijares, A. S. B., & Porr, M. (2015). Shell Tool Technology in Island Southeast Asia: An Early Middle Holocene Tridacna Adze from Ilin Island, Mindoro, Philippines. *Antiquity*, 89(344), 292-308. <http://doi.org/10.15184/aqy.2015.3>
- Rabett, R., Appleby, J., Blyth, A. J., & Farr, L. (2011). Inland Shell Midden Site-Formation: Investigation into a Late Pleistocene to Early Holocene Midden from Tràng An, Northern Vietnam. *Quaternary International*, 239(1-2), 153-169. <http://doi.org/10.1016/j.quaint.2010.01.025>
- Rahman, N., Ismail, N. A., & Saidin, M. (2019). Shell Mound Investigation at Guar Kepah (Penang, Malaysia) Using 2D Resistivity Imaging for Archaeological Study. *Journal of Physical Science*, 30(1), 17-23. <http://doi.org/10.21315/jps2019.30.1.2>
- Ramli, Z. (2014). Petempatan Masyarakat Pesisir Prasejarah: Tumpuan Terhadap Masyarakat Prasejarah di Negeri Johor [Prehistoric Coastal Communities Settlement: Focus on Prehistoric Communities in the State of Johor]. In Ramli, Z., Samsudin, M., Nik Abdul Rahman, N. H. S., Zakaria, R. M. A. & Wahab, M. R. A. (eds). *History and Culture in the Malay World*, 3-26, Senate & Council Room, National University of Malaysia, Bangi, 23 - 24 December 2014.
- Ranaweera, L., & Adikari, G. (2022). Human Skeletal Remains Analysis from Pallemalala Shell Midden in Southern Sri Lanka. *International Journal of Morphology*, 40(5), 1386-1394. ISSN 0717-9502
- Rick, T. C. (2023). Shell Midden Archaeology: Current Trends and Future. *Journal of Archaeological Research*, 31(4), 1-58. <https://doi.org/10.1007/s10814-023-09189-9>
- Shahidan, S., Saidin, M., Md Isa, N. A., Talib, N. K., & Masnan, S. S. K. (2018). Tapak Guar Kepah: Bukti Perkuburan Masyarakat Neolitik di dalam Timbunan Cengkerang Laut [Guar Kepah: Evidence of Neolithic Burial in Shell Mound]. *Melayu: Jurnal Antarabangsa Dunia Melayu*, 1(2), 231-251, e-ISSN 2682-8049.
- Skeates, R. (2017). Museums and Archaeology: Principles, Practice and Debates. In Abingdon, O. (ed). *Museums and Archaeology*, 1-54, Routledge, Leicester Readers in Museum Studies.
- Taha, A. (1983). Recent Archaeological Discoveries in Peninsula Malaysia (1972-82). *Journal of the Malayan Branch Royal Asiatic Society*, 56 (1), 47-63.
- Thomas, B., & Langlitz, M. (2019). Archaeotourism, Archaeological Site Preservation, and Local Community. In Comer, D.C., Willems, A. (eds). *Feasible Management of Archaeological Heritage Sites Open to Tourism*, 69-78, Springer, Cham. https://doi.org/10.1007/978-3-319-92756-5_7
- Tjia, H. D. (1991). Pertukaran Garisan Tepi Laut Perak Selama Sembilan Ribu Tahun Terakhir [Exchange of Perak Waterfront Lines over the Last Nine Thousand Years.] *Jurnal Arkeologi Malaysia*, 4, 1-15. ISSN 0128-0732.
- Wales, D. C., & Wales, H. G. Q. (1947). Further Work on Indian Sites in Malaya. *Journal of the Malayan Branch of the Royal Asiatic Society*, 20(1), 1-11. <http://www.jstor.org/stable/41559999>
- Yang, P. (2021). Public Archaeology and Museum: A Humanistic Education. Paper Presenter at 16th Education and Development Conference (EDC2021), Bangkok, Thailand, March 5-7, 2021.
- Young, M. L. (2022). *Sustaining the Shell Middens: A Coastal Vulnerability Assessment of Shell Midden Sites within the Nansemond River Tributary*. Master Dissertations. Collage of William & Mary. Paper 1673281501, 123p. <https://dx.doi.org/10.21220/s2-xphz-y846>
- Zangrando, A. F., Tivoli, A. M., Alunni, D. V., Perez, S. A., Martinoli, M. P., & Vargas, G. P. (2021). Exploring Shell Midden Formation through Tapho-Chronometric Tools: A Case Study from Beagle Channel, Argentina. *Quaternary International*, 584(20), 33-43. <https://doi.org/10.1016/j.quaint.2020.04.050>
- Zolotovskiy, V., & Lysikov, P. (2022). On the Issue of Methodology for Evaluating Resource Potential of Archaeological Sites in the System of Means Aimed at to Popularize Historical and Cultural Heritage of Russia's Regions. *Vestnik Volgogradskogo Gosudarstvennogo Universiteta*, Serii 4, Istoriia, Regionovedenie, Mezdunarodnye Otnosheniia, 5, 254–264. <https://doi.org/10.15688/jvolsu4.2022.5.19>
- Zugasti, I. G., Andersen, S. H., Araujo, A. C., Dupont, C., Milner, N., & Monge-Soares, A. M. (2011). Shell Midden Research in Atlantic Europe: State of the Art, Research Problems and Perspectives for the Future. *Quaternary International*, 239(1-2), 70-85. <https://doi.org/10.1016/j.quaint.2011.02.031>
- Zuhdi, S., Sadi, H. & Pradjoko, D. (2023). The Kingdom of Banggai and the Reorganization of Administrative Regions: A Perspective in Maritime History. *Jebat: Malaysian Journal of History, Politics & Strategic Studies*, 50(3): 18-29. <http://doi.org/10.17576/jebat.2023.5001.02>
- Zuraidi, M. F., Ramli, Z., & Sauman, Y. (2022). Arkeologi Prasejarah di Kedah-Pulau Pinang: Satu Tinjauan Arkeologi, Evolusi Budaya dan Persekitaran [Prehistoric Archaeology in Kedah-Penang: Review on Culture and Environment Chronology and Evolution]. *Jurnal Arkeologi Malaysia*, 35(1), 31-59. ISSN: 0128-0732.