

# Recent Research in the Southeast Sumatran Region

John N. Miksic

## ***Abstract***

Since 2010, a new threat to the maritime heritage of Southeast Asia has arisen in the form of looting of the bed of the Musi River in Palembang, site of the capital of the maritime kingdom of Sriwijaya in the ninth century. Port archaeology in Southeast Asia is a gravely underdeveloped field. This river has been a major artery of commerce for 2,000 years. The local adaptation to the area's swampy, flood-prone environment has been to live on stilt houses over water, on ships, and on rafts. This pattern of settlement presents special problems for archaeologists. It is likely that a major proportion of the area's archaeological heritage lies on the riverbed. Recent items on the antiquities market include a wide range of items, including Chinese porcelain of the ninth and subsequent centuries, local pottery, and a wide range of metal items including statuary, coins, and jewelry. This source of archaeological data has never been systematically explored, and unless something is done urgently, it will be lost forever. This paper explores the nature of the problem, demonstrates the importance of the subject for maritime archaeology, and proposes a potential methodology for exploring the area.

## ***Riverbeds and Harbors as Sites of Underwater Cultural Heritage***

The study of underwater cultural heritage in this panel focuses mainly on cargoes of shipwrecks beneath salt water. Shipwreck archaeology in Southeast Asia has experienced major advances in the last 15 years, but the archaeology of ports and other sites at the place where land and sea meet, such as shipyards, lags far behind. In Sumatra, seaports can be located over 100 kilometers (km) from the mouths of rivers and estuaries. The east coast of Sumatra is largely tidal swampland, and the influence of the tides extends to these ports. Palembang, ancient capital of Sriwijaya, one of Southeast Asia's greatest maritime kingdoms, lies 90 km up the Musi River. At this point the river is one km wide. Muara Jambi might be considered its sister; it was the capital of the kingdom of Malayu which flourished between the 9<sup>th</sup> to 13<sup>th</sup> centuries. This site lies 120 km up the Batanghari. The coastal plain narrows progressively as one moves north, but other ancient ports such as Kota Cina in northeast Sumatra are still 10 km inland. On the eastern side of the Straits of Melaka, in the state of Kedah, Malaysia, the port sites of Pengkalan Bujang, Sungai Mas, and Sungai Batu, are 10-15 km up the Muda River. The same phenomenon can be observed for sites such as Bago (formerly known as Pegu), Syriam, and Mrauk U in Myanmar.

Very little archaeological research has been carried out in Southeast Asian ports. Such sites pose special challenges to archaeology. Stratigraphy of such sites is rarely well-preserved. Environmental factors include floods, tides, tsunamis, rapid sedimentation interspersed with erosion, river course change, and human activity such as construction of piers and warehouses, which are often built of temporary materials subject to rapid weathering, constant repairs, expansion, and other alterations. The most common artifacts found at ports are pottery fragments and organic materials. Large quantities of such remains are needed in order to draw accurate statistical inferences about the past.



Figure 1. Early Southeast Asian Ports (drawn by Dr. G.Y. Goh)

## ***Archaeology of Ports in Southeast Asia***

### **Bali**

There are a few exceptions to this generalization. Excavations at Sembiran in north coastal Bali have yielded important remnants of port activity on a sandy beach which is now being rapidly eroded. Discoveries include fragments of Romano-Indian rouletted ware made in south India during the period 200 Before Christ - Anno Domini (BC-AD)<sup>1</sup> 200. Diribonucleic acid (DNA) of a 2,000-year-old skeleton found at Sembiran has been identified as possibly Indian, although this conclusion has been disputed (I Wayan Ardika, *et al.* 1997; Lansing, *et al.* 2004; Lansing, *et al.* 2006; McLaughlin and Thomas 2006). In southern Thailand the site of Khao Sam Kaeo has yielded evidence of port activity as early as the 3<sup>rd</sup> century BC (Bellina-Pryce and Silapanth 2006). The site of Oc-èo in south Vietnam, Southeast Asia's largest port of the early historic period (3<sup>rd</sup>- early 7<sup>th</sup> centuries AD) was investigated in the 1940s, and again in the 1990s (Manguin 1998). This site lies 15 km from the ocean, to which it may have been connected by a canal. It lies in a swampy flood-prone area, where some organic remains were fortunately preserved.

<sup>1</sup> Georgian Calendar designation with the year one starting at the birth of Jesus Christ of Nazareth, years in BC are -1 with a negative year added for every year before the birth of Jesus; years in AD are added progressively one by one for each year after his birth.

## **Malaysia**

The oldest dated boat found in Southeast Asia was discovered in peninsular Malaysia, at the site of Pontian, Pahang, where it seems to have been preserved by a sudden slumping of soil of a riverbank in a river about a mile from the coast (Evans 1927:94). The timbers of the Pontian ship belong to varieties found from Cambodia to the Malay Peninsula and Indonesia (Gibson-Hill 1952). Radiocarbon analysis found that the trees for building the ship were felled between 260 and 430 AD (1657±60) (Manguin 1993:256). In Malaysia the Kuala Selinsing site has been under investigation since the 1920s. Recent excavations at this site, which consists of mounds surrounded by mangrove swamp, have shown that the area was inhabited approximately 2,000 years ago, and continued in use for a millennium (Nik Hassan Shuhaimi bin Nik Abdul Rahman *in press*). The Pengkalan Bujang site near the foot of Kedah Peak was investigated in the 1950s; this was apparently an important port in the 12<sup>th</sup> century, but only a preliminary report was ever published (Lamb 1961). In 2010 the Malaysian government allocated a sizeable quantity of funds for research in south Kedah. The site of Sungai Batu has yielded major new discoveries, including large brick structures which Malaysian archaeologists believe were used as landing stages for boats. These seem to date from the early to mid-first millennium AD. The Bujang Valley Museum displays a number of well-preserved hulls from sites in south Kedah. No radiocarbon dates on them have yet been published; this data would be of great potential significance. The boats are of the lashed-lug design characteristic of early Austronesian boat-building.

## **Java**

In the coastal plain of west Java, the site of Batujaya is another waterlogged site which has yielded significant evidence of Buddhist activity in the early first millennium AD (Manguin and Agustijanto 2006). No evidence of a port or non-religious activity has however yet been located there.

## **Singapore**

In Singapore, numerous sites of 14<sup>th</sup>-century activity have been studied. One of these sites, named Empress Place after the colonial-period building which stands there and which is now the Asian Civilisations Museum, lay on the ancient bank of the Singapore River. The area excavated in 1998 consisted of the intertidal zone. Artifacts recovered included a wide range of ceramics, metal objects, and some organic materials including poles which had perhaps been used for tying up boats.

## **Kota Batu, Brunei**

The former capital of the Sultanate of Brunei was a trading site and capital from around 1400 to 1580, when a Spanish attack destroyed it (Harrison 1970). Further study of the site could yield important new understanding of the economy of one of the most important Southeast Asian trading kingdoms of the fifteenth century.

## **Sumatra**

### **Malayu/Jambi**

Somewhere in the Batanghari valley, possibly at a location now called Muara Jambi, the site of the capital of this very rich and cosmopolitan kingdom must exist. Archaeological research in the province has been focused on the site of Muara Jambi, about 25 kilometers down the Batanghari from the modern capital of Jambi Province, where 39 *candi* or brick temples have been recorded (M. Nazir 1980/81:23). Archaeological evidence of trade in Jambi consists of Chinese porcelain ranging from the Five Dynasties through the Yuan period (9<sup>th</sup> through 13<sup>th</sup> centuries), scattered over a number of sites between Muara Jambi and the sea (Edwards McKinnon 1982a; Edwards McKinnon 1982b; Edwards McKinnon 1992; Abu Ridho 1992; Abu Ridho 1995). A survey project in 2006 concentrated on looking at exposures in the banks of the river at low tide, and identified numerous sites of the 11<sup>th</sup> and 12<sup>th</sup> centuries (Miksic N.D.).

### **Kota Cina**

This site lies near the mouth of the Deli River in northeast Sumatra. Abundant remains of entrepot activity of the late 11<sup>th</sup> through mid-13<sup>th</sup> century were recovered, including Buddhist and Hindu brick structures, stone statuary, Chinese coins and pottery, and local ceramics. Preserved house posts and many post molds were recorded. Unfortunately the probable location of the port itself, a silted-in harbor, was destroyed through excavation of soil for a modern construction project. Remains of ceramics of the 11<sup>th</sup>-13<sup>th</sup> centuries, and associated ship timbers were observed (Edwards McKinnon 1984; Miksic 1979).

### **Barus**

This is the only known early port yet excavated on the west coast of Sumatra. The center of activity seems to have shifted between several locales within this general area. Artifacts found here date from the 10<sup>th</sup> through 14<sup>th</sup> centuries, and include many imports from the Persian Gulf and India (Guillot 1998; Guillot 2003).

### **Karangagung**

In the lowlands of southeast Sumatra, the oldest site which may have been that of a port of the period between AD 1 and AD 500 has been located at Karangagung, between the Musi and Batanghari rivers (Endang 2002; Erwan, *et al.* 2008). Excavations there since 2001 have provided important new data for the study of pre-Srivijayan commercial activity. Many artifacts such as beads and gold had been looted from the site, but jewellery, bronze and glass bangles, pendants, and preserved house pillars found in excavations indicate that a large settlement or series of settlements existed here, dated by radiocarbon to 220-440 CE (Manguin 2004:287-288). Artifacts recorded include beads of carnelian, rock crystal, a shiny black stone which may be onyx, and glass beads of several styles.

The discovery of this site has had the salutary effect of inspiring the head of the archaeological office for South Sumatra, Mr. Nurhadi Rangkuti, to establish a website devoted to the development of Wetland Archaeology

([http://nurhadirangkuti.blogspot.com/2009\\_05\\_10\\_archive.html](http://nurhadirangkuti.blogspot.com/2009_05_10_archive.html); accessed 30 August 2011). This website and its reports of archaeological research gives important recognition to the identification of wetlands in Indonesia as a specific focus of archaeological research; the website reads in part:

Lahan basah yang mencakup rawa pasang surut, rawa gambut, rawa bekalang sungai, hutan bakau, danau, lagun, dataran banjir sungai dan lainnya pernah menjadi tempat bermukim manusia masa lalu. Pusat peradaban kuna jug muncul dari lahan basah. Penelitian, pelestarian dan pemanfaatan situs-situs arkeologi di lahan basah sudah waktunya diprioritaskan untuk mengungkap kejayaan maritime bangsa Indonesia” (Wetlands which comprise tidal swamps, swamps with acid soil, back swamps, mangrove forests, lakes, lagoons, flood plains etc. in the past were locales of human habitation. Ancient centers of civilization also arose from wetlands. It is time that research, conservation, and exploitation of archaeological sites in wetlands be given priority to expose the success of Indonesian maritime people.)

This proclamation surely deserves commendation and support where possible.

### ***Palembang and the Musi Riverbed***

Much of Srivijaya's material culture may be permanently lost due to the use of perishable materials and habit of living on rafts or stilt houses above flowing water (Manguin 1987). Enough archaeological remains have now been discovered in and around Palembang to confirm the earlier assumption that Palembang was Srivijaya's capital (Manguin 1992; Manguin 1993) from the seventh to eleventh centuries. Between 682 CE and 686 CE, several large inscriptions were set up in Palembang and vicinity (Manguin 1987). The wetlands around Palembang have yielded remains of two boats of the first millennium AD: one dated to 610-775 CE, with a length estimated to have been 26 meters, and one dated 434-631 CE. Another ship found at Butuan, Mindanao, south Philippines, dating from 1270-1410 CE, is estimated to have been 20 meters long (Manguin 1993:256-258).

Archaeology on dry land has yielded rather unprepossessing results, which do not seem commensurate with the glowing descriptions found in Indian and Chinese sources of a wealthy port kingdom here (Bronson and Wisseman 1976; Wolters 1979). Much settlement of the left bank (termed the *hilir* area in Palembang nomenclature) next to Pulau Kemaro is now occupied by a huge urea fertilizer plant owned by PT Pupuk Sriwijaya (Pusri), the state fertilizer company. Indonesian archaeologists are convinced that the site of the factory was formerly a major area of Sriwijayan activity (Dr. Mundardjito pers. comm.).

Much of the remaining archaeological potential of Palembang probably lies beneath the Musi River. History and ethnography show that whereas the nobility of Sriwijaya lived on dry land, much of Sriwijaya's population lived on water, either on stilt houses or on rafts (van Sevenhoven 1825; Wallace 1869). Evidence of their existence as well as port activity such as warehousing and transshipping of cargo therefore is likely to be in the mud beneath the river.



Figure 2. Musi River, Palembang (Phot by author, June 1, 2011)

In recent years a large quantity of artifacts is reported to have been recovered by local fishermen from the riverbed. A reconnaissance trip to Palembang in May 2011 indicated that a wide range of artifacts is still within easy reach on the riverbed, but that the supply is diminishing. Local men dive in the Musi River, using primitive equipment, when tidal flow is slack, to obtain ancient artifacts. During this trip we were shown a wide assortment of ceramics, beads, bronze articles, coins, old wooden implements, and gold objects. As news of the presence of foreign visitors spread through the neighborhood, groups of divers came to visit to offer wares that they had obtained through diving in the river. It seems that the number of men who pursue this occupation as a regular activity is significant, using only goggles and a hose by which they are fed compressed air. They probe the muddy bottom with iron rods which often cause serious damage by fracturing Chinese porcelain.

We also visited two sites – Candi Gede Ing Suro and Candi Penembahan -- where brick structures dating from the 14<sup>th</sup> century have been converted into graves for Islamic-period rulers and their consorts. These sites are located next to the fertilizer plant noted above. During our visit, laborers were busily erecting a brick wall next to Candi Gede Ing Suro which will form a barrier between the site and the fertilizer plant. We were able however to walk through a gap in the wall and view a complex of earthen ramparts of substantial extent, bounded by a stream which leads directly to the Musi River. This may have been part of an ancient site. As far as we could discern, no research has been directed at this feature.

### ***Archaeological Remains***

It is probable that we were only shown the least valuable items, including broken ceramics. The more salable items were no doubt quickly disposed of through networks leading to Jakarta, where the majority of Indonesian antique collectors and people of means live. Yet even among what are probably the dregs of the treasures lying under 20 meters of water and a meter of river mud are many objects which hold the potential to clarify many details of our knowledge of early shipping activity in Southeast Asia.

The divers had acquired a range of small gold items. Sumatra was known as Suvarnadvipa (“Golden Island”) in ancient India (Wolters 1979), and numerous sources of gold are known to exist in the hinterland of Palembang. These items, including locally-made coins and pieces of jewelry, belong to types found in central Java and dated to the late first millennium AD. Their collections also contained large quantities of beads of glass and stone in addition to gold examples.



Illustration 3. Gold ear ornament, 2 cm high  
(Palembang, Sumatra; no catalogue number)

Religious objects included numerous items associated with Buddhism. In addition to bronze statues of Buddha, there were examples of what appear to be stamps used to print Buddhist texts on clay. More research on these is needed to clarify their significance.



Illustration 4. Head of Buddhist deity, stone. Height approximately 13 cm (Palembang, Sumatra; no catalogue number)

Decorative bronze items were also present, among them several faces of Kala, mirrors, and bells with *vajra* handles for use in esoteric Buddhist rituals. Cylindrical amulet containers meant to be suspended from strings hung around the neck were made of gold. Other rolled-up pieces of heavier metal may have been tin or lead votive objects inscribed with sacred formulae. Utilitarian objects included scale weights. Large quantities of Chinese coins were also collected.

Porcelains spanned a wide range of types of Chinese export wares, from Tang Yue bowls through cobalt blue decorated wares of the middle Ming period. Some examples of fine-paste earthenware, probably from southern Thailand, were also in the assemblage. Quite probably many more examples could be found on the riverbed, but since these are not generally salable, they were probably left there.

### ***Prospects for Future Research***

The form of salvage archaeology project involving the local branch of the Indonesian archaeology department in a controlled dredging operation may be the best way to proceed. The field of underwater excavations in rivers is uncharted territory in Southeast Asian archaeology. Such research would face considerable technical and financial challenges. The conventional approach used by marine archaeologists would be to lay out a grid on the riverbed and excavate using an airlift. Whether this would be feasible in the Musi River would need to be investigated. An alternative which could be considered would be to adopt methods analogous to those used in salvage archaeology, where time is an important factor. Looting of the Musi riverbed in Palembang is rampant, as we observed, and it may be more efficient to use mechanical excavation employing dredging equipment to expedite the recovery of artifacts.



## Bibliography

Abu Ridho, 1992	Survey Keramik di D.A.S. Batanghari. PemdaTingkat I Propinsi Jambi and Kantor Wilayah, Depdikbud Propinsi Jambi, Jambi
Abu Ridho, 1995	"Penelitian Keramik di Situs-Situs Arkeologi Provinsi Jambi", in <i>Laporan: Hasil Penelitian Arkeologi dan Geologi Propinsi Jambi 1994-1995</i> . Pemerintah Daerah Tingkat I Provinsi Jambi, Jambi, pp. 198-231.
Bellina-Pryce, B. and Silapanth, P., 2006	"Weaving cultural identities on trans-Asiatic networks: upper Thai-Malay peninsula: an early socio-political landscape," in <i>Bulletin de l'École Française d'Extrême-Orient</i> . Vol. 93, pp. 257-293.
Bronson, B. and Wisseman, J., 1976	"Palembang as Srivijaya: the lateness of early cities in southern Southeast Asia", <i>Asian Perspectives</i> Vol. 19, No. 2, pp. 220-239.
Edwards McKinnon, E., 1982a	"A Brief Note on Muara Kumpeh Hilir: an Early Port Site on the Batang Hari," in <i>SPAFA Digest</i> , Vol. 3, No. 2, pp. 37-40.
Edwards McKinnon, E., 1982b	"Early polities in southern Sumatra: some preliminary observations based on archaeological evidence," in <i>Indonesia</i> , Vol. 40, pp. 1-36.
Edwards McKinnon, E., 1984	<i>Kota Cina: Its Context and Meaning in the Trade of Southeast Asia in the Twelfth to Fourteenth Centuries</i> . Cornell University Ph.D. Dissertation, Ithaca.
Edwards McKinnon, E., 1992	"Malayu Jambi: interlocal and international trade (11th to 13th centuries)," Paper presented at the Seminar Sejarah Malayu Kuno, Jambi, 7-8 December.
Endang Sri Hardiati Soekatno, 2002	"Catatan tentang temuan manik-manik dari situs Karangagung, Sumatera Selatan," Paper presented to <i>Pertemuan Ilmiah Arkeologi IX</i> , Kediri.
Erwan Suryanegara bin Asnawi Jayanegara et al., 2008	<i>Kerajaan Sriwijaya</i> . Dinas Pendidikan Provinsi Sumatera Selatan, Palembang.
Evans, I.H.N., 1927	"Notes on the remains of an old boat from Pontian, Pahang." <i>Journal of the Federated Malay States Museums</i> , Vol. 12, No. 4, pp. 93-96.
Gibson-Hill, C.A., 1952	"Further notes on the old boat found at Pontian, in southern Pahang." <i>Journal of the Royal Asiatic Society, Malayan Branch</i> , Vol. 25, No. 1, pp. 111-133.
Guillot, C. ed. 1998	<i>Histoire de Barus: Le Site de Lobu Tua. I. Études et Documents</i> . Cahiers d'Archipel Vol. 30, Paris.
Guillot, C., , Dupoizat, M.F., Perret, D., Sunaryo,	<i>Histoire de Barus Sumatra. Le Site de Lobu Tua. II. Étude archéologique et Documents</i> . Cahiers d'Archipel 30, Paris.

U., Surachman, Fadillah, M.A., Kalus, L., Riyanto, S., and Wibisono, S.C., 2003	
I Wayan Ardika, P. Bellwood, I Made Sutaba, and K.C. Yulati 1997	"Sembiran and the first Indian contacts with Bali: an update," <i>Antiquity</i> , Vol. 71, pp. 193-195.
Lamb, A., 1961	"Miscellaneous papers on early Hindu and Buddhist settlement in northern Malaya and southern Thailand," in <i>Federation Museums Journal New Series</i> , Vol. 6.
Lansing, J.S., A.J. Redd, T.M. Karafet, J. Watkins, I Wayan Ardika, S.P.K. Surata, J.S. Schoenfelder, M. Campbell, A.M. Merriwether, M.F. Hammer, 2004	"An Indian trader in ancient Bali?," in <i>Antiquity</i> , Vol. 78, pp. 287-293.
Lansing, J.S., A.J. Redd, T.M. Karafet, J. Watkins, I Wayan Ardika, S.P.K. Surata, J.S. Schoenfelder, M. Campbell, A.M. Merriwether, M.F. Hammer, 2006	"Reply," in <i>Antiquity</i> , Vol. 80, p. 307.
Nazir, M., 1980-81	<i>Benda-Benda Arkeologi Klassik Daerah Jambi</i> , Proyek Pengembangan Permuseuman Jambi, Jambi.
Manguin, P.-Y., 1987	"Palembang et Sriwijaya: anciennes hypothèses, recherches nouvelles," in <i>Bulletin de l'École Française d'Extrême Orient</i> , Vol. 76, pp. 337-402.
Manguin, P.-Y., 1992	"Excavations in South Sumatra, 1988-1990: new evidence for Sriwijayan sites," in I.C. Glover, ed, <i>Southeast Asian Archaeology 1990: Proceedings of the Third Conference of the European Association of Southeast Asian Archaeologists</i> , University of Hull, Centre for Southeast Asian Studies, Hull, pp. 63-73.
Manguin, P.-Y.,	"Palembang and Sriwijaya: an early Malay harbour-city

1993	rediscovered." <i>Journal of the Malaysian Branch of the Royal Asiatic Society</i> , Vol. 66, No. 1, pp. 23-46.
Manguin, P.-Y., 1993	"Trading ships of the South China Sea: Shipbuilding techniques and their role in the history of the development of Asian trade networks," in <i>Journal of the Economic and Social History of the Orient</i> , Vol. 36, pp. 253-280.
Manguin, P.-Y., 1998	<i>Mission Archéologie du Delta du Mékong. Rapport sur la Campagne 1998</i> . EFEO, Paris.
Manguin, P.-Y., 2004	"The early maritime polities," in I. Glover and P. Bellwood, eds., <i>Southeast Asia from Prehistory to History</i> , RoutledgeCurzon, London, pp. 282-313.
Manguin, P.-Y., and Indrajaya, A., 2006	"The archaeology of Batujaya (West Java, Indonesia): an interim report," in E. A. Bacus, I. C. Glover and V. C. Piggott <i>Uncovering Southeast Asia's Past. Selected Papers from the 10th International Conference of the European Association of Southeast Asian Archaeologists</i> , NUS Press, Singapore, Vol. 2, pp. 45-257.
McLauchlan, R. and Thomas, R.G., 2006	"Indian traders in ancient Bali: a reconsideration of the evidence," in <i>Antiquity</i> , Vol. 80, pp. 307.
Miksic, J.N., 1979	<i>Archaeology, Trade, and Society in Northeast Sumatra</i> , Cornell University, Ph.D. Dissertation. Ithaca.
Miksic, J.N., Unpublished Report.	<i>Report on the Survey of the Lower Batanghari River, 2006</i> , N.D.
Nik Hassan Shuhaimi bin Nik Abdul Rahman <i>in press</i>	"The archaeology of later prehistoric ports and pre-Melakan entrepots and evidence of inter-regional trade in Malaysia," in (eds.) John Miksic and G.Y. Goh, <i>The Archaeology of Early Southeast Asian Harbours</i> , SPAFA, Bangkok, accessed 30 August 2011: ( <a href="http://nurhadirangkuti.blogspot.com/2009_05_10_archive.html">http://nurhadirangkuti.blogspot.com/2009_05_10_archive.html</a> )
Van Sevenhoven, J.L., 1825	"Beschrijving van de hoofdplaats van Palembang," in <i>Verhandeling van het Bataviaasch Genootschap voor Kunsten en Wetenschappen</i> , Vol. 9, pp. 41-126.
Wallace, A.R., 1869	<i>The Malay Archipelago</i> , Macmillan, London.
Wolters, O.W., 1979	"Studying Srivijaya," in <i>Journal of the Malaysian Branch of the Royal Asiatic Society</i> , Vol 52, No. 2, pp. 1-32.