

# **Cricket run or Home run? Can a correlation between Emporia and non-Emporia based trade be made using the wreck of the *Lena Shoal*?**

Brian Fahy

## ***Abstract***

Is it possible to look at a shipwreck like the *Lena Shoal* and investigate patterns of emporia and non-emporia trade throughout Southeast Asia? Was the boat simply ferrying cargo from one specific port to another specific one, or was the trade a linear, multi-legged run? By looking at the artifactual assemblage of the boat and its cargo, its construction, as well as the socio-political and economic climate of 15<sup>th</sup> Century Southeast Asia and China, it is the goal of this paper to assess what trading might have looked like from a boat like the *Lena Shoal*.

Both types of trading were most likely happening simultaneously, but there may certain characteristics that the *Lena Shoal* wreck possessed that may stress a specific role or function that it had in the smaller (or larger) scheme of Southeast Asian trade. Construction methods and ship size of the boat may reveal details into the boats' intended role in maritime trade. Can correlations be made between ships of specific sizes having specific purposes? An attempt at comparing ship size and cargo of similar wrecked vessels that share a similar temporal space in the area will be necessary and vital to ascertain such qualities.

Much, but not all of the cargo was Chinese, the whole of which may help reflect a particular course of trade through the area. Planned testing of the metals excavated at the site will hopefully help promote the need for a complete database of metallurgical sources in the region, to help further understand the role that the *Lena Shoal* played in 15<sup>th</sup> Century Southeast Asian Maritime trade.

## ***Introduction***

Shipwrecks are often referred to a "time capsules," whereby the moment a ship sinks and comes to rest on the ground; it produces a pseudo-effect of an event "trapped" outside of time. Everything on that ship (including cargo and hull) in that moment gives us a font of information most importantly due to their connection with each other. Since all these items onboard were deposited in situ at the same time, then they have relatability to one another. While fieldwork methods of mapping, excavating and cataloguing the artifacts will yield a large amount of data, there are a number of other inferential corollaries to be made with the finds. Richard Gould (2000:12) notes that these, "so-called events (the moment a ship wrecks, becoming a potential archaeological site) prove to be embedded in ongoing processes linked to social, economic, and even symbolic activities". There is valued information to be gained not only from looking at the moment of the wreck, but also from the various circumstances preceding and proceeding it. Shipwrecks are part of larger social and cultural landscapes; they are not without a wider set of interpretive contexts.

In the instance of the *Lena Shoal* wreck (or Busuanga), there is a great deal of artifactual evidence to process. Dated to approximately 1490 CE, the wreck carried a various array of materials: metal ingots and cannons, ivory, glass beads with the bulk of the cargo being a large assemblage of Chinese and Southeast Asian ceramics.

The objective of this paper is to attempt to describe the environment of 15<sup>th</sup> century production and exchange in Southeast Asia, as it possibly relates to the *Lena Shoal*, to put the wreck back into the social, cultural and economic systems that created it. Can inferences be made on the cargo of a wreck to determine whether the cargo practicing direct trade between two ports (making a sort of “cricket run”, between two bases), or will the cargo tell us a tale of a linear, port-to-port circuit trade known as “tramping” (like a batter traveling around the bases in baseball)? I plan on addressing this in a two ways; the artifactual assemblage, (ceramics and metals) as well as the material used in the construction of the ship. Other sources located within the assemblage give supporting claims to regional provenances, but are not as concrete as the ceramic wares. Items like ivory tusks, brass arm bangles, brass and iron cannons, bronze gongs and tin ingots reveal their presence in the remains, yet are less distinct in the details. In these cases traditional typological studies can reveal vague regions of production rather than specific production centers.

This paper is also intended to stress the strict need for metallurgical surveys and X-ray Florescence (XRF) catalogues throughout the region, to aid in distinguishing provenances of the ingots (both the iron and tin) and well as the brass workings in the collection.

To achieve these goals, it will be necessary to understand the concepts of what is and what is not an emporium, how this affects and directs trade routes and connectivity, and whether the classical definition of the term applies to the ports of trade in Southeast Asia.

### ***The wreck of the Lena Shoal***

The wreck was discovered in 1996. The book, *Lost at Sea* by Goddio, *et al.* (2000) relates the discovery and subsequent archaeological excavation through the following facts. The research vessel *Kaimiloa*, en route to another archaeological site, was waylaid by reports of fisherman bringing up ceramic shards in their fishing nets. A quick scan and reconnaissance dive by the vessels’ crew revealed a large swath of ceramics and elephant tusks at a depth of about 48 meters. After an impressive feat of organization and logistics, in a matter of weeks the team managed to secure the site, map the wreck in commendable detail, and bring up thousands of artifacts from the wreck.

The bulk of the cargo seems to have been ceramic in nature. Monique Crick (2002:86) notes that there were blue and white porcelains, celadon ware, monochrome and *Fahua* porcelains from China within the wreckage. The cargo also consisted of Thai Sawankhalok and Tao Maenam Noi jars, Siamese Celadons and Vietnamese stonewares. These items clearly have a specific provenance in their creation; ones which archaeologists are able to correlate to definite kiln sites throughout Southeast Asia and China.

Other items uncovered within the wreck include; bronze arm bangles, bronze and iron cannons, iron pots, tin ingots and pig iron, as well as laquerware, iron needles, elephant tusks, glass beads , stone/shell objects and pepper.

Comparative analysis was done on the remainder of the hull (left in situ) to determine the materials used in its construction, and spectrographic samples of the tin, brass and beads were performed.

### ***Concepts of Emporia***

There are varying definitions for the word “emporia”. At its barest definition, the word was used merely as a synonym for “port” (Rouge 1966); Its’ other minimalistic meaning was known as a “place where ships are built” (Rouge 1966). This acts as a “stepping off” point, to be able to define the term in a more elaborate manner. Defined from a purely economical position, emporia is characterized by historian and Indologist Deitmar Rothermund (1991:3) as a:

(M)arket place in which a variety of goods is more or less continually available and in which a plurality of buyers and sellers can meet without undue restraint under predictable conditions of supply and demand.

A synthesis of these base definitions were made by Alain Bresson (1993), using translations and writings from Greek geographer Strabo and analyses of Strabo from Michel Casevitz (1993). He notes the necessity to include geographical terms in the definition of emporia, notably the need for its connectivity to water (i.e. river, canal, and sea). This is useful because it includes both a market function AND connectivity. With the exception of Rothermund, these authors are referring to emporia in the Mediterranean during the Roman period, yet I believe there are similarities in the terms and universals in the concepts that can be used to define emporia globally. Obviously there are some differences in defining Asian emporia and Mediterranean emporia, as well as temporal differences in entrepots between the Roman era (27 BCE - 476 CE) and the Medieval Era (10<sup>th</sup> - 15<sup>th</sup> centuries), further research is needed to properly compare and contrast the two.

In the case of Southeast Asia, an attachment to the sea certainly applies here. The regions’ major centers of civilization come from water rich areas. Riverine locales promoted an agricultural boon and the use of the rivers as trade routes imply that early cities established on these coastal tributaries may embody the very nature of emporia (see Hall 2011).

Strabo notes there are specific activities and structures that contribute to the identity of emporia. Obviously, commercial activity is one aspect that defines an emporium. He stresses that trade can have a single axis (i.e. one way trade, tribute), or dual axes (i.e. forms of exchange, barter). With these commercial activities come commercial structures; buildings like trade offices, storage facilities and market halls. From an agricultural standpoint, it would be necessary to have grain storage of some sort not only for the local populace, but as a tradable commodity.

Technically, an emporium would benefit from places to build or repair one’s ship as well as fabricate certain items. Certain religious structures would be present to cater to the various religions of the local populace as well as the passing sailor and traveler. Institutional and bureaucratic structures like tax

offices and administrative centers would be in place to facilitate profit for the state and establish diplomacy in state matters.

Emporia in Southeast Asia certainly had some of these structures and processes in place to varying degrees. These structures may take form as a “Bund”, built similarly like Shanghai’s port that was established during the 18<sup>th</sup> century steamship era, or something more organic, whereby structures and processes were erected and established in a port as they were needed, and wherever they could fit them. However, some of these structures may not have been necessary in Southeast Asia, certainly depending upon how large or small the emporium was. There are theories in maritime economics that propose varying degrees of emporia, based upon region of connectivity. Some emporia may cater to a local, riverine population; other mid-level emporia operate within small seas or cities along a stretch of coast line, while other, even larger emporia may provide interactions from a multitude of continents. Martin Stopford attempts to place these emporia into different sizeable contexts, based on type of maritime trade. He proposes that there are some ports that specialize in either Interregional trade, Short sea trade, and/or Land/River/Canal based trade. (1988:39) The models are applied by Stopford in a modern framework, defining Interregional trade (or “Deep-Sea shipping”) as economic exchange between continental landmasses; Short Sea trade is defined as the coastal distribution of the cargo delivered to major ports by Deep Sea shippers. Local/River/Canal transport is small scale, localized trade within a series of waterways or river network (Figure 1).

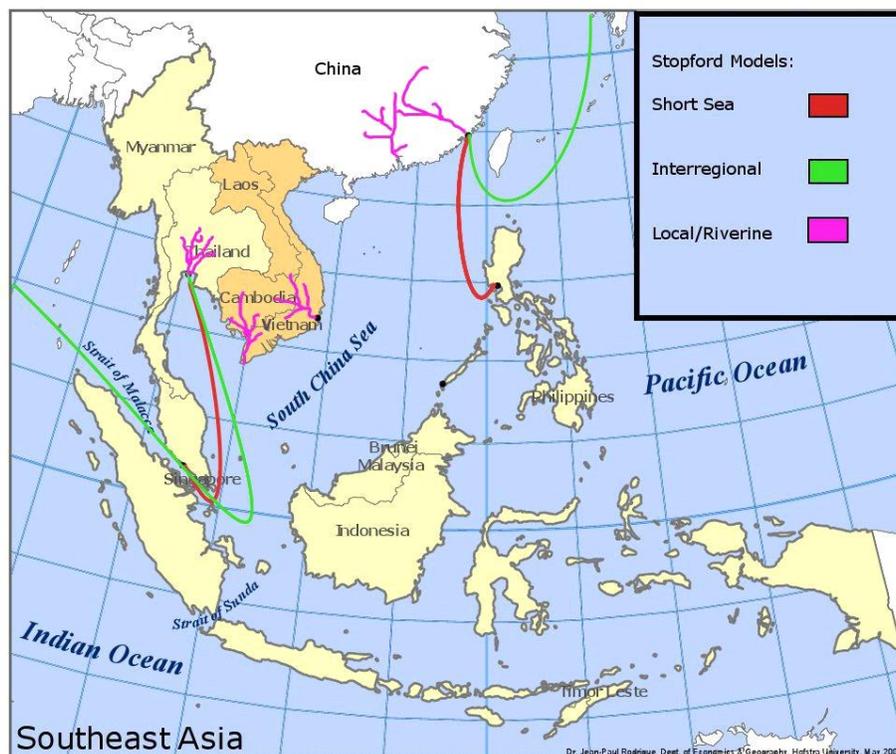


Figure 1. Stopford’s Models of Modern Sea Trade

There are certainly emporia that do some or all of these types of trade, but within these types of emporia one trade method is usually more popular than the others. Within the region of Southeast Asia, and using Stopford's models of trade I suggest breaking and splitting Interregional trade into *Inter-regional* emporia and *Intra-regional* emporia (Figure 2). I believe that these terms would easily assist in defining which ports were catering to ports mostly *within* (Intra) Southeast Asia and those emporia whose region of trade and contact was *between* two regions (Inter). Stopford's "Short Sea" shipping model can apply to vessels that operate *Intra-regionally*, because the largely common practice of following the coast applies to Most of Southeast Asia. Examples of Inter-regional emporia would be cities along the straits of Moluccas and Java in the West and the Chinese cities of Guangzhou and Quanzhou in the East. There are other regional emporia which had some degree of inter-regional contact, depending upon politics and security at that time. Entrepots that typically operate as *Intra-regional* emporia are those that are mostly engaged in trade within the South China Sea, Sulu and Java Seas, including the Gulf of Thailand (Hall 2011).

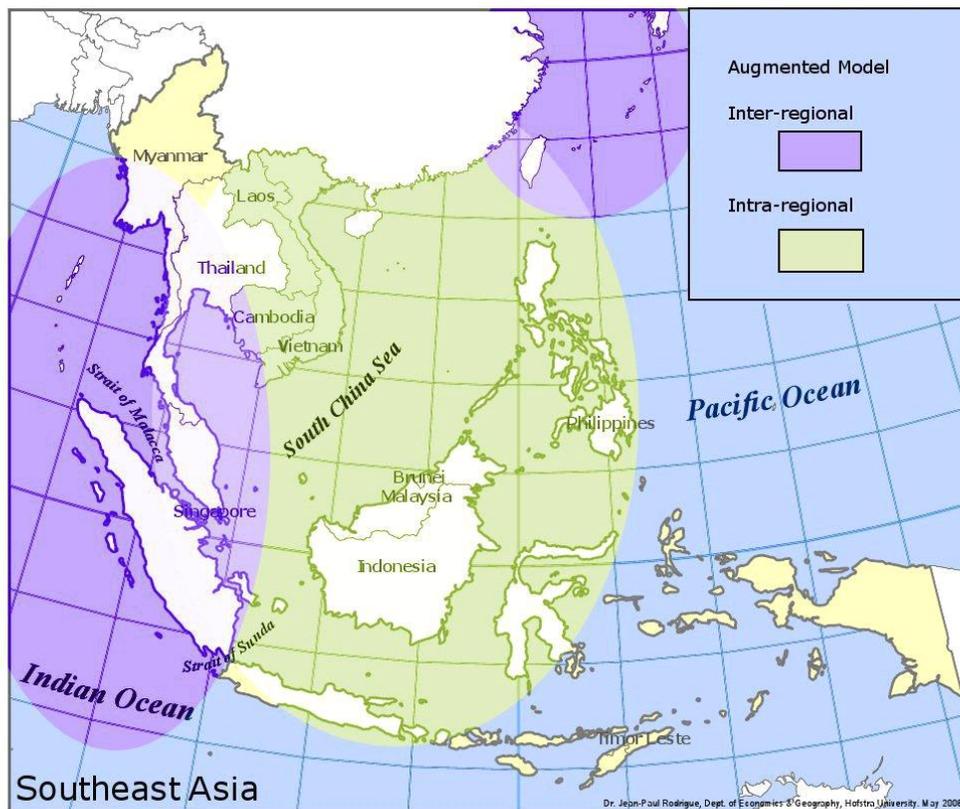


Figure 2: Augmented Inter/Intra regional model for within Southeast Asian context.

## ***Reflections on the wreck of the Lena, as it relates to Southeast Asian emporia***

### **The ship**

It is important to note that while the design of the *Lena* may be Chinese in nature, the ship itself is not. Identification of the planking reveals the type of wood to be a variety of Shorea (*Shorea sp.*) It is a tropical hardwood belonging to the family *Dipterocarpaceae*, and found most commonly in Indonesia, Malaysia and the Philippines. Two taxa of *Shorea* are found in China, but both are rare, and not located near the coastal China.

The pegs/treenails used to connect the planking were identified as Gutta-Percha (*Palaquium sp.*) of the family *Sapotaceae*. Again, this is a wood primarily native to Southeast Asia and Northern Australasia. These factors point to a ship that was most likely constructed in Southeast Asia, in the Southeast Asian junk tradition, and most likely called its home port somewhere in the region.

### **The cargo**

The wreck contained items from all over Southeast Asia and China, the majority of the cargo coming from China. Franck Goddio (2000) surmises that the *Lena Shoal* most likely overshot its port of call in the Philippines, after visiting ports of China, Vietnam and Thailand (in that order), and while attempting to come around, grounded itself along the Palawan Coast. It is most likely that the ships' next port of call was the Philippines. A nearly identical list of commodities that the Philippine elite were importing was documented by E.P. Patanñe (1996:59) in *The Philippines in the 6<sup>th</sup> through 16<sup>th</sup> Centuries*, he states,

(t)he elite [of Tanjay] also possessed [in their burial contexts] status-symbolizing goods such as trade porcelains from China , Annam and Siam, iron and bronze weaponry, brass and copper gongs and drums, silks and fine cotton textiles, elaborate basketry, beaded and gold ornaments.

This shows that there is a clear corollary between the marketable commodities popular in the Philippines at that time, and the cargo on the *Lena Shoal*, deemed as product that never made it to its intended destination.

### **Further Study**

It is conjectured that the *Lena* arrived and traded at ports in China, Vietnam and Thailand before making its last leg of the trip to the Philippines – tramping (Figure 3; Goddio, *et al.* 2000:259).

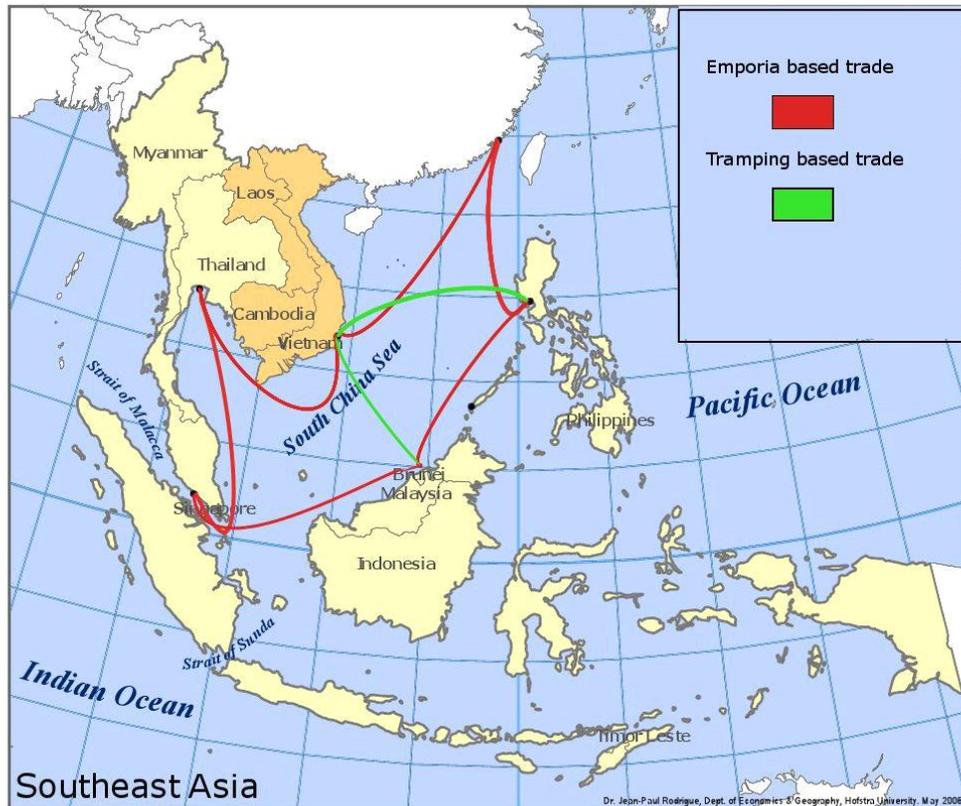


Figure 3. Emporia based “Direct trade” example vs. Non-emporia, “Tramping” model (adapted from Goddio, *et al.* 2000:259).

I wish to propose an alternative pattern of trade that the *Lena* may have taken before its untimely end. As mentioned earlier, the tin was (expertly) analyzed by Energy Dispersive Spectrometer. Without going into great scientific detail about the process, an elemental spectrum is created of the sample, and, with the help of other measured metallic spectra, there may be a chance to source the material being analyzed. The goal is to look at sources of tin throughout Southeast Asia, with the hopes of locating where the tin on the *Lena Shoal* came from.

The island of Mendo Barat, in Indonesia is one of the largest, if not the largest sources of tin in the region. If analysis of these sources of tin is catalogued, then we can cross reference the data from Mendo Barat with the tin ingots found within the *Lena* cargo.

The same holds true for the Brass bracelets located within the wreck. Spectrographic analysis gives us a detailed look at the copper, zinc and tin elements in the arm bangles. Again, if accurate analyses of said sources were measured and catalogued, it might reveal useful information about the arm bangle and bracelet trade as well as the ship(s) that carry them. At that time, India held the largest sources of zinc, and if the spectrographic analysis matched sources from there, it would reveal significant insight into the metallurgy trade of the Indian Ocean and Southeast Asia.

If the tin was from Mendo Barat, it could suggest that the *Lena Shoal* had docked there previously. The ship could have made its way up from Srivijaya, through Thailand and Vietnam, up into China and on its way to the Philippines when it overshot its port. It still remains plausible that the *Lena's* next port was in the Philippines, quite possibly with the intent to unload the whole of its cargo. However, the sheer volume of high quality blue-and-white ceramics on the boat does not coincide with the social atmosphere in 15<sup>th</sup> century Philippines. Studies done by John Miksic (2006) and Laura Junker (1999) show an increase in the demand of high quality porcelain, but not to the extent of what the *Lena Shoal* was carrying. It lends credence to the possibility that the Philippines was at least the intended port of call for a portion of the blue-and-white, with the bulk of the Chinese ceramics destined for points farther West. In that regard, we may envision a ship whose route was forever clockwise, possibly engaging in a cyclical trade pattern throughout Southeast Asia and Southern China.

Clearly identified trading routes would certainly contribute to such a scenario. Goddio (2000:8) put forth the claim of a maritime trading route up and down the Western Palawan coast, stating that although there are no textual sources that mark a trade route via this corridor, he believed that it was a frequently used route since the eleventh century. He backed that up with finding and documenting other wrecks along the coast, showing that indeed the route was a popular one. An original map of the region, recently rediscovered in the Bodleian Library Special Collections in Oxford, dating to the mid-16<sup>th</sup> century further supports his theory.

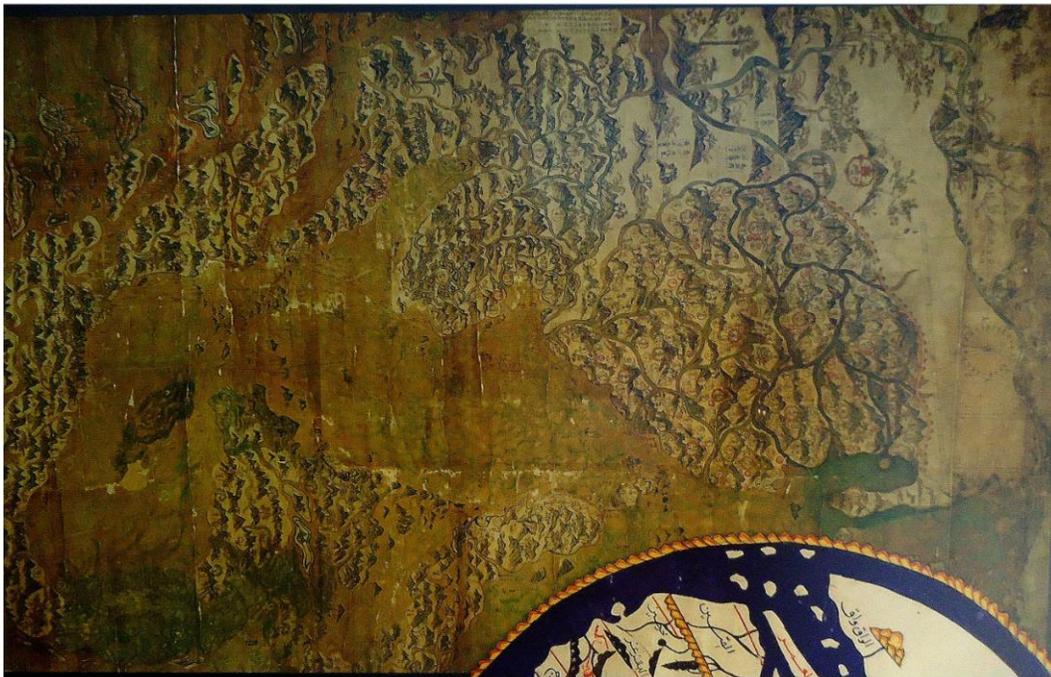


Figure 4. Selden Map. Orientation - North is to the right (photo by author, copyright Ashmolean Museum).

The “Selden Map”, is a detailed map of Southern China and Southeast Asia in the 17<sup>th</sup> Century (Figure 4). Dated to 1653, it was allegedly made by Chinese cartographers and captured during a British military operation. There were two documented independent ventures from Britains to China around that time; One by Henry Bornford made in 1635 and another made in 1637 by William Corteen’s Association. Both were going to Macao, but no mention of the map was in either record (Riddick 2006). The map appears to have been made in Quanzhou, as it appears to be the start of all the sea routes on the map. The map clearly shows Goddio’s suggested Palawan Strait route, supporting his theory regarding that coastal trade route. The map also reveals a direct trade route from Quanzhou to the Philippines, which may help bolster the cyclical route of the *Lena Shoal*.

Certainly, there are a great many other factors to be taken into account to help support this claim. Agents like weather patterns, politics and maritime logistics need to be, and will be, studied to bolster this theory (Fahy *in prep*). I hope though that the paper shows the necessity for a more complete metallurgical spectroscopy catalogue, and a need for continued collaboration supporting the field of maritime archaeology in Southeast Asia.

### ***Bibliography***

Brach, A. R., 2011	“Flora of China, 2004-2010”, in <i>The Flora of China Project</i> , Missouri Botanical Garden Press, accessed June 17 <sup>th</sup> 2011: <a href="http://flora.huh.harvard.edu/china/">http://flora.huh.harvard.edu/china/</a> .
Bresson, A., and Rouillard, P., 1993 Fahy, B., In preparation	<i>L’Emporion</i> , De Boccard, Paris.  <i>Cricket Run or Home Run: Emporia and non-Emporia based trade in Southeast Asia</i> , unpublished DPhil thesis, Oxford Centre for Maritime Archaeology, University of Oxford.
Goddio, F., Pierson, S., and Crick, M., 2000 Goddio, F., Crick, M., Pierson, S., and Scott, R., 2002	<i>Sunken Treasure: Fifteenth Century Chinese Ceramics From the Lena Cargo</i> , Periplus, London.  <i>Lost at Sea: The Strange Route of the Lena Shoal Junk</i> , Periplus, London.
Gould, R. A., 2000 Hall, K. R., 2011	<i>Archaeology and the Social History of Ships</i> , Cambridge, Cambridge University Press. <i>A History of Early Southeast Asia: Maritime Trade and Societal Development, 100-1500</i> , Rowman and Littlefield, Maryland.
Junker, L. L., 1999	<i>Raiding, trading, and feasting: the political economy of Philippine chiefdoms</i> , University of Hawai`i Press, Honolulu.

Miksic, J. N., 2006	“Chinese Ceramics and the Economics of Early Southeast Asian Urbanisation, 14 <sup>th</sup> to 16 <sup>th</sup> Centuries”, in <i>Bulletin of the Indo-Pacific Prehistory Association</i> , 26, pp.147-153.
Patan�e, E.P., 1996	<i>The Philippines in the 6<sup>th</sup> through 16<sup>th</sup> Centuries</i> , LSA Press, San Juan.
Riddick, J. F., 2006	<i>The History of British India: a chronology</i> , Praeger, Connecticut.
Rothermund, D., 1991	“Asian Emporia and European Bridgeheads” in (eds.) Roderich Ptak and Dietmar Rothermund, <i>Emporia, commodities and Entrepreneurs in Asian Maritime Trade, C.1400-1750.</i> , Franz Steiner Verlag, Stuttgart.
Rouge, J., 1966	<i>Recherches sur L’organisation du Commerce Maritime Mediterranee sous L’empire Romain</i> , Service d’Edition et de Vente des Publications de l’Education Nationale (S.E.V.P.E.N.) , Paris.
Selden Map of Southern China and Southeast Asia, 1653	MS Selden Supra 105], Map Collection, Bodleian Library, University of Oxford, Oxford.
Stopford, M., 1988	<i>Maritime Economics</i> , Unwin Hyman, London.