

# *The Belitung Wreck and the Jewel of Muscat*



*The Jewel of Muscat on display*

In the ninth century CE a ship loaded with wares of ceramic bowls departed the south China coast bound for an Indian Ocean port west of India. Where the ship was bound we cannot be sure but Aden, Siraf and Basra were busy ports at the time receiving goods from as far as China. It had left its Arabian home port probably eighteen months earlier, November or December, when the monsoon winds are favourable for an outbound voyage. Rounding the south of India it may have sailed south of Sri Lanka and made for open water across the Bay of Bengal, or it may have taken the longer journey by hugging the shores. Either way it would have sailed north of Sumatra, through the Straits of Malacca, rounded Singapore and continued to the shores of south

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China where it traded its goods from the west, gold perhaps or precious stones, spices or aromatic woods like frankincense.

Having completed the trade and loading his ship with porcelain wares the Captain would have counted on taking a similar route home. However as the ship approached the Straits of Malacca, it sailed off the route that was familiar to those who made this voyage. Perhaps it was making its way to another port on Java or Palembang on South Sumatra for further trade, or alternatively they lost their way in cloudy skies and stormy winds and drifted off their intended route. Regardless near Belitung Island of modern Indonesia, about midway between Sumatra and Borneo something went terribly wrong. We know this because in 1998, more than a thousand years after its voyage, the wreckage of this ship was discovered by fishermen off the coast of Belitung Island. It is an easy guess that in a storm the ship, known as the Belitung shipwreck, foundered and went to the bottom where the sediment protected much of the cargo and the structure of the ship for greater than eleven hundred years. The ship has been excavated and brought to the surface along with the cargo that it contained, what became of the crew we will never know. The date of the voyage, about 830 CE, has been determined as a bowl that was part of the cargo was dated with the equivalent of 826 CE.

We shouldn't be too surprised that in the ninth century a ship would sail direct from the Arab world to China. Direct sailings to China were rare but they did occur and this ship is evidence of that. Most trade, and trade is the only reason why such a ship would sail such a great distance, was done in shorter segments. A ship would sail from the Persian Gulf to the west coast of India and return with pepper. Another ship crewed perhaps by Indians or Indonesians would then take the cargo to Palembang on Sumatra and from there another ship and crew would take the goods to the south coast of China. At each stop the cargo would have been sold and passed on each time raising the price. There were those who made the direct trip avoiding the duties and costs of each port. Writing from the cafes of the Persian port of Siraf more than a hundred years after the sailing of the Belitung wreck a certain Captain Burzurg wrote in his Wonders of India of an acquaintance who had made the trip to China. Captain Abhara was a shepherd before he went to sea where he worked his way up to captain and sailed the sea in all

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directions. 'He went to China seven times. Only adventurous men had made this voyage before. No one had done it without an accident. If a man reached China without dying on the way, it was already a miracle. Returning safe and sound was unheard of. I have never heard of anyone, except him, who had made the two voyages there and back without mishap.'



*The detailed coir stitching on the Jewel of Muscat on display at the Maritime Experiential Museum in Singapore*

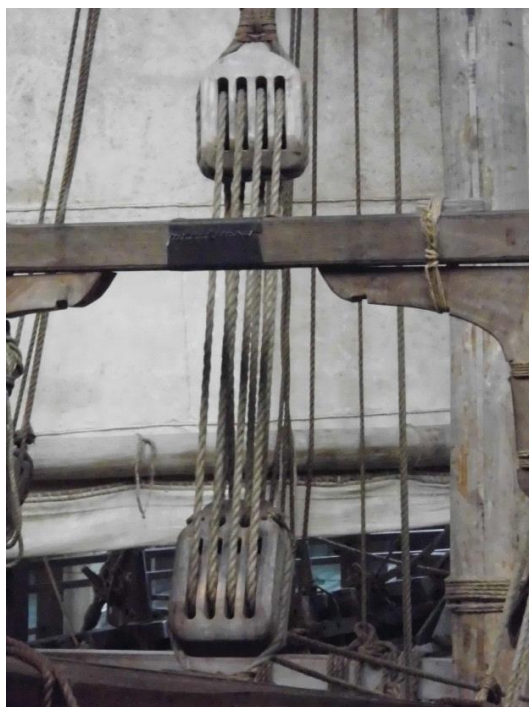
It is the construction of the ship which has drawn a great deal of interest for it is the first ship wreck to provide detailed information as to how an Indian Ocean dhow was assembled in the ninth century. The most interesting feature of its construction is the stitching of the planks which held the ship together. That there was no use of nails was not a surprise as we have accounts that have told us of this since at least the beginning of the Christian era. When the Polos arrived at the Port of Hormos (Hormuz on the Persian coast), at the mouth of the Persian Gulf, their intention was to find a ship and sail to China by way of India for the port received ships from India loaded with spices and other products of that land. Upon arrival they discovered that the 'ships are wretched affairs, and many of them get lost; for they have no iron fastenings, and are only stitched together with twine made from the husk of the Indian nut.' Although these

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ships were seaworthy enough to carry horses to India, the Polos were not willing to try their luck and quickly turned tail through Persia and linked up again the routes of Central Asia.

For centuries it was common practice that no iron should be used in the construction of seagoing vessels which and has been noted by Europeans and others ad nauseam ever since. The unknown author of the Periplus of the Erythraean Sea from the early years of the Christian era encountered sewn ships at the south end of the Red Sea. Friar Jordanus noted the use of coir in the sixth century and accounts have popped up ever since. Ibn Jubayr from Spain sailed on ships assembled with coir in the twelfth century as did Friar Odoric, a contemporary of Marco Polo. It was still widely used up to the time of the arrival of the Europeans as mentioned by Obadiah a Bertinoro in the late 1480s and Hieronimo di Santo Stefano a few years later. The Portuguese saw its use when they arrived on the Ocean after rounding Africa. Ma Huan, the scribe for the Chinese voyages of Zheng He, made note of the use of coir in the 1430s.



*Rigging details on the Jewel of Muscat*

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It is the differences, rather than the similarities, that are noticed and recorded and the use of coir in place of nails has been a matter of intense curiosity throughout the centuries. According to Bhoja, as noted by the historian Mukherjee, if iron nails were used the ship would be affected by magnetic rocks in the sea and bring risk to the vessel. Obadiah Jared da Bertinoro as late as the 1490s related this same information however there seems to be no merit in this as European and Chinese vessels, which used iron nails, were not affected, nor are the modern ships, made of iron, adversely affected by the supposed magnetic rocks. But this is a belief that has held for centuries. George Hourani in *Arab Seafaring* has explored some of the reasons for the belief that coir was used instead of nails. In addition to the idea of magnetic rocks it was believed that the used of hardwoods such as teak would split if nails were used, that sea water would corrode the nails and that ships using coir are more pliant and can better land on a sandy beach. It is his last two explanations that make the most sense for the ongoing use of coir. Iron nails, although available, proved too expensive for use by shipbuilders and in the course of years the current of tradition maintained the use of coir when other options proved available.

Despite the aversion of Europeans to sailing in these coir assembled ships, there were advantages to them. The flexibility of the ships work well on the Indian Ocean and allowed the landing of the smaller ships on the sandy beaches of the region. Ibn Battuta was told that a sewn ship would hold up much better should it strike a coral reef of the Indian Ocean than would a ship held together with nails. They were perhaps easy to repair for if the stitching were to break at any one point the load would spread to the adjoining cords and they could be easily repaired.

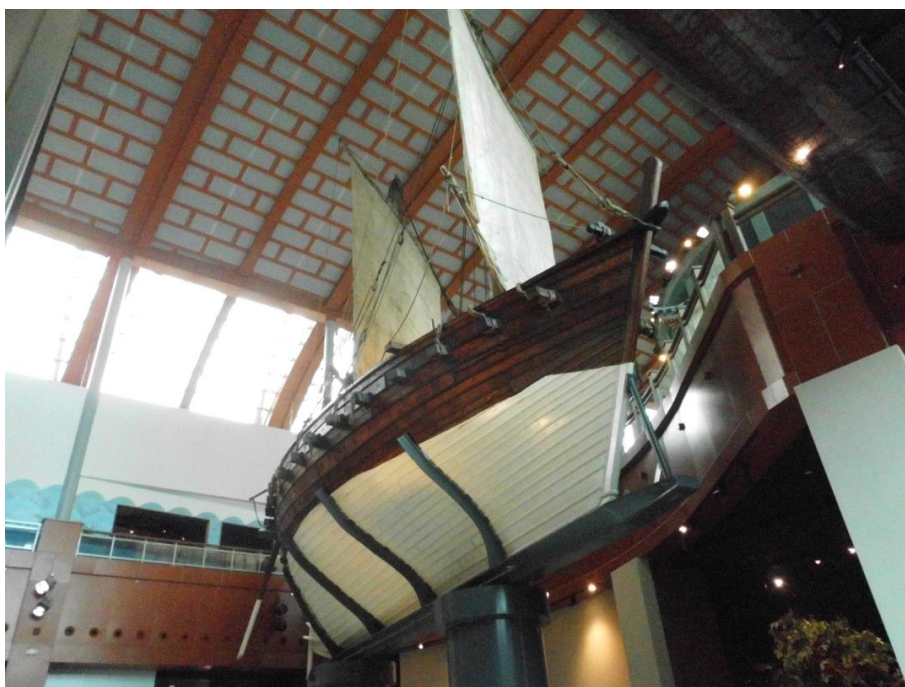
Coir is a rope that comes from the husks of the coconut and was made throughout the Indian Ocean, Ibn Battuta noticed it in the Maldives, Vasco da Gama saw it being made in Melinde on the east coast of Africa. Kerala, on the south west coast of India, has been and still is a major source. However in the decades following the arrival of the Europeans on the shores of the Indian Ocean, the use of coir diminished and is now almost extinct. In the mid twentieth century its use was still found

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on the coast of Africa and upon the Red Sea. In 2013 I saw it still being used on the inland craft of the coasts of Kerala in India.

At the Maritime Experiential Museum in Singapore there is on display a full scale replica of the Belitung shipwreck. Using the information accumulated from the wreck and referring to the comments of others including Marco Polo, Ibn Battuta and Ma Huan the details of the ship were painstakingly gathered and used to assemble the Jewel of Muscat. Using coir rope made from coconuts, hardwood from Africa and the methods, as far as they can be judged, the ship was assembled on the Omani coast just south of Muscat. Started in October 2008 the ship, six and a half meters wide and eighteen meters long, was built in seventeen months using one hundred and thirty kilometers of coir made of coconut fiber and using few modern conventions.



*The hull of the Jewel of Muscat*

In February 2010 the completed ship was launched with a seventeen man crew representing nine nations and set out on its one and only voyage from Muscat to Kochi India, Galle Sri Lanka, across the Bay of Bengal to Penang Malaysia and after one hundred and thirty eight days at sea to the port of Singapore near where the ship is now on display. Robert Jackson, an American member of the crew found that despite Marco

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Polo's concern with sailing on these types of coir sewn ships, 'the Jewel of Muscat proved to be structurally stronger than the designers anticipated. She endured numerous severe storms during the voyage – especially in the Bay of Bengal – but suffered no damage to her hull. She was also subjected to the modern indignities of being towed into and out of ports, bumped and jostled by heavy tugboats while docking, and exposed to pollutants in congested harbors, yet she remained unscathed.'