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# Luxury wares in the Red Sea: The Sadana Island shipwreck

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The most ancient story of a shipwreck in the entire world, the early Twelfth Dynasty 'Story of a Shipwrecked Sailor', is set in the Red Sea, and hints of exotic contacts and exchange between the countries bordering the Red Sea have tantalized scholars of all eras. International travel began early in the Red Sea. More than five thousand years ago simple craft braved its waters to bring obsidian, a black volcanic stone valued for its sharpness, from the Arabian peninsula to Egypt (Zarins 1989). About the same time, travellers threaded their way through wadis in the rocky Eastern desert, stopping at rest stops like the one at Wādī Hammamat to inscribe the walls with images of boats, animals and descriptions of the task that brought them there (Winkler 1938: 36-39).

Egypt's pharaohs sent fleets into the Red Sea to visit copper and turquoise mines in Sinai and to sail much farther south, eventually approaching the Bab al-Mandab, to the fabled and nearly mythical land of Punt, where dancing dwarfs, giraffe tails, huge gold rings, and incense sacred to the gods could be obtained for mere trinkets (Kitchen, *supra*; Fattovitch, *supra*). Millennia later, Roman ships left Egyptian ports such as Berenike for Indian cities, sailing with the monsoon winds and returning with heady cargoes of aromatic resins and spices, elephant ivory and silks from the Far East (*Periplus/Casson* ed. 1989). Mamluk merchants used fine glass and imported Chinese and Near Eastern ceramics in medieval Quseir (Whitcomb 1980, 1982), and the Red Sea became a virtual Ottoman lake after the Turks took Cairo in 1517.

By the later eighteenth century, international markets expanded traditional regional trading routes to systems that regularly spanned half the globe. In the Red Sea, Ottoman control limited direct European access to ports and maintained a seasonally timed sailing schedule for large Egyptian-owned and operated ships (Raymond 1974: i, 108; Pearson 1994: 146-153). These ships brought exotic wares into central Egyptian markets which served as redistribution points for the Mediterranean, particularly the Mediterranean provinces of the Ottoman Empire.

Egypt's foreign commerce was divided into two spheres in the Ottoman years: African/Oriental and Mediterranean. The former provided the Egyptians with luxuries they acquired at a deficit, but the re-export of most of these luxury goods to western Mediterranean countries, to the Balkans and other Ottoman lands, and to the Maghrib brought balance, if not a surplus, to the national accounts (Panzac 1992). The markets for Red Sea imports in Cairo allowed Egypt to maintain its

international commercial links even as Ottoman power waned. Wealthy merchants specialising in coffee and the products of the East obtained significant political and social power as a result (Raymond 1974; Hanna 1998; Tuchscherer 2001) although the impact of European and American competition on traditional trade routes and products and a rise in taxation began to have severe consequences by the end of the 1700s.

Strict commercial and cultural zones existed. Egyptian ships and merchants generally did not sail south of Jiddah in the later eighteenth century, in part because Yemen and Arabia controlled the central and southern Red Sea, and in part because sailing south of Jiddah required specialised knowledge of a very different wind regime (Facey, *supra*). Merchants from throughout the Muslim world lived in the port cities of the Red Sea, but Yemeni, Hijazi and Indian Ocean merchants were not at all common in Cairo (Raymond 2002: 51-52), despite the proximity of those regions to Suez and the importance of Egypt to their livelihoods.

The focus of Red Sea trade for Egypt was on the route between Suez and Jiddah. Suez, still a small town of about fifteen hundred inhabitants at this point, was only a twenty-six hour walk and ninety-mile camel ride from Cairo. It had broad sea roads, food, water, and facilities to support both trade and pilgrim travel, all documented for Europeans by Carsten Niebuhr in the early 1760s (Niebuhr 1792, i: 175-177). Although western European ships were rare in Suez until the late 1700s, Indian ships (*markab hindī*) are recorded already in the mid-1600s (Raymond 2002: 52). Most vessels anchored at Suez were owned and operated by Egyptians, and many of these were engaged in the supply of Mecca (Tuschsherer 1994), transport of pilgrims, and the luxury trade made possible by acquiring goods at Jiddah. Despite all this traffic based in Egypt, only a few ships have been scientifically documented (Raban 1971, 1990; Haldane 1996b). Excavation of the Sadana Island shipwreck by the Institute of Nautical Archaeology in cooperation with Egypt's Supreme Council of Antiquities suggests that it was part of this trading network. The exotic cargo, along with the ship's construction, provides a detailed look at part of the Muslim world and its integration into other trade networks of the early modern period.

## The Sadana Island shipwreck

Shortly after 1764, a large ship sank near an eroded section of fringing reef known today as Sadana Island (Fig. 70). Capable of carrying more than 900 tons of cargo, this vessel belonged to the largest class of ships

then operating in the Red Sea. Sea travel, despite the known risks of sailing along a coastline almost continuously lined by coral reefs, proved to be much cheaper and safer than land caravans (Raymond 1974, i: 123-126). Although European ships had been sailing to Suez sporadically since the sixteenth century, they rarely operated north of Jiddah during the mid-eighteenth century. European ships brought Chinese export porcelain designed for the Middle Eastern market from India or China to trade at Mocha and Jiddah for coffee, and Muslim ships took it along the next leg north in the Red Sea to Suez (Brouwer 1991, 1992; Raby 1986; Ward 2000a).



Figure 70: Excavation of the 50-meter-long Sadana Island ship began in 1995. Two archaeologists work in the area of the ship's main deck.  
(Photograph A. Flanigan)

Our international team of archaeologists has recovered thousands of these fragile cups and dishes at Sadana Island in nearly five thousand dives between 28 and 40 m depth. This was the first time such a cargo was scientifically excavated (Haldane 1996b; Ward 2000a, 2001). The porcelain, along with coconuts, black-lipped pearl oyster shells and spices from islands in the Indian Ocean, earthenware vessels, incense, and coffee from the Hadramawt, are proof that the ship sank on a northbound journey. The ship, built in a manner not previously

recorded, its cargo and the few personal items recovered, contribute to the identification of this ship as Egyptian, operated by Muslims and occupied in the northbound luxury trade, much as the vessels André Raymond described in his 1974 study of historical documents.

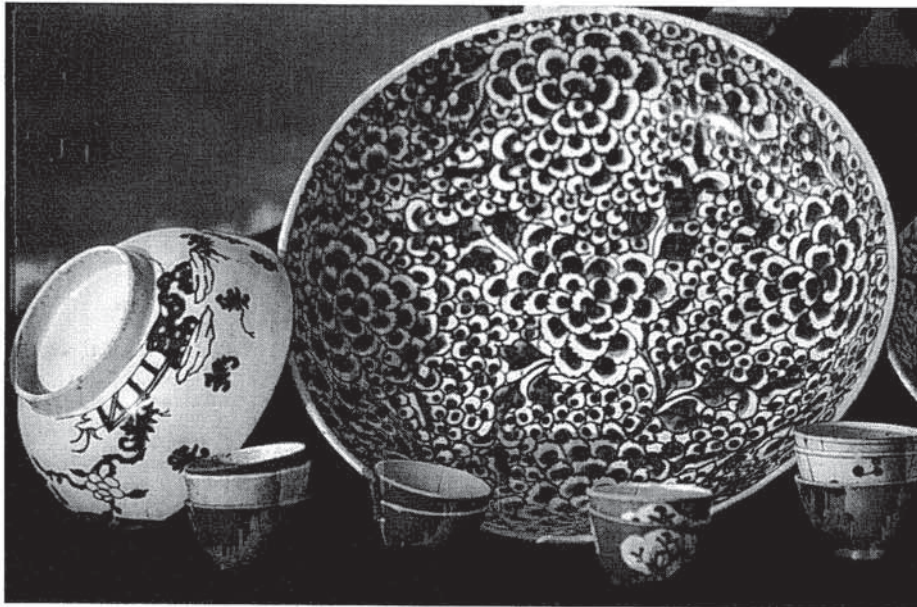
The Sadana Island shipwreck site, discovered by a group of recreational divers in 1991, had been significantly disturbed in the area forward of midships, but the remainder was largely intact (Ward 2000b). The damage caused by the diving group was quite extensive and had resulted in large deposits of recently broken porcelain, glass bottles and timbers. Some of the recreational divers provided photographs and information about the original state of the site and the distribution of the artefacts. For example, in 1991 there were about ten unbroken and unopened boxes each containing around a thousand small cups packed in a leafy substance, which was probably tea. By 1994 on our first visit to the site, these finds had been reduced to several thin wood slats and thousands of porcelain shards. The recreational divers removed some twelve thousand complete pieces from the site. They remain intact, but are currently inaccessible. We hope that the collection will be returned to the national stewardship of Egypt's Supreme Council of Antiquities.

#### Description of cargo

Archaeological work on the site has resulted in the recovery of some thousand complete, nearly complete, or unique examples of Chinese export porcelain (Fig. 71). The assemblage includes blue-and-white, glazed, and enamelled porcelain. About one-quarter of excavated porcelain pieces are in the blue-and-white porcelain category. The most commonly encountered blue-and-white porcelain in our assemblage is a broad, shallow dish with a peony scroll design on the interior. Arabic-speakers have historically referred to this, and still do today, as a *baqdūnis* or parsley dish because of the way the peony leaves and stems are portrayed. The Sadana Island assemblage includes two sizes of the same style, one approximately 34.8 cm in diameter and the other around 37.8 cm in diameter.

Several sizes and shapes of small glazed cups also were common. Light green (celadon) glaze on a cup exterior typically indicated a cup broader than it was tall. Brown glazed (*café au lait*) cups, some with medallions featuring blue designs over the white base, tended to be narrower. A handful of cups bore a rich blue glaze over the exterior, with gold enamel designs in delicate patterns.

More common, and more casually decorated, were several hundred cups and broken remains of cups, which belong to the group of enamelled porcelains with a blue-and-white background. The enamelled colours have mostly disappeared, but include Chinese *Imari* and *Famille Rose* objects. Chinese *Imari* is the term given to blue-and-white wares subsequently enhanced by



*Figure 71: Chinese export porcelain on the ship was typical for the mid-18th century preferences of people living in the Islamic Middle East. (Photograph N. Piercy)*



*Figure 72: Although the cobalt blue underglaze is easy to identify on many of the porcelain pieces, recovering the original enameled design is much more difficult. Pencil lines on this porcelain plate demonstrate part of the recovery process. (Photograph N. Piercy)*

primarily scarlet and gold painted decoration. Only a few traces of reddish brown enamel remain on a handful of pieces to indicate precisely what the overglaze pattern might have been, but careful detective work by Netia Piercy, our expedition artist, revealed that many of the enamel applications had protected the surface beneath them enough to leave a more reflective surface where leaf veins, flower stamens, or other decorative motifs had been applied after the original firing (Fig.72).

Whoever purchased the porcelain we excavated from the Sadana Island ship undoubtedly intended that it would appeal to Muslims. We know from other collections in, for example, Topkapı Saray, that Chinese *Imari* dominated mid-eighteenth century styles for the Islamic market (Krahl & Ayers 1986). Instructions to Europeans whose job it was to purchase porcelain in China or India also made reference to the fact that these particular styles, though more expensive to purchase, could be sold for up to four times more than comparable blue-and-white or *café au lait* styles (Ward 2000a). It is also significant that of the around one thousand decorated pieces, only two small cups have a design that is not floral or geometric (Fig.73). A cultural prohibition against figurative decoration was common in Muslim communities, and differentiates porcelain intended for the Muslim market from that exported to other regions. Narrative porcelains, with humans in a landscape or featuring westerners at sea, for example, were sold to Europeans and Americans, but are extremely rare in Middle Eastern collections (Staniforth & Nash 1998; Wästfelt *et al.* 1991; Zacharchuk & Waddell 1984). Though many of the styles and forms found in the Sadana Island assemblage have strong ties to porcelain from the later seventeenth century, other forms indicate a solid mid- eighteenth century date. It is likely that a strong demand for traditional patterns of decoration for more than a century accounts for this situation.

In addition to porcelain decorative styles that suggest a non-European clientele, archaeologists excavated a number of personal items that contribute to answering the question of the ethnicity of the ships' crew. Mended and unique pieces of Chinese export porcelain found in the stern, earthenware food preparation and table wares, incense burners with char marks, glass liquor bottles, a wide variety of spices and other food remains and items such as pipes and jewellery provide physical evidence for life aboard an indigenous Red Sea trading vessel (Ward 2000a, 2001).

Archaeological excavation of part of the wreck site has provided a number of inscribed copper cooking and serving containers (Willis 2002). Both names and four-digit numbers we assume to be *hijri* dates are present and serve as our primary data for assigning the shipwreck to the period no earlier than 1764 (Fig.74). Three pieces bear Arabic names and dates, but only two of the dates are legible. An Arabic inscription of 1169/1755/6 on a copper basin and 1178/1764 on a copper pan places the ship's final voyage in the third quarter of the eighteenth century. The ship's last voyage took place after 1764, a time of increased foreign activity in the northern Red Sea during a period of economic transition within Egypt.

Several thousand earthenware jars, *qulal*, packed tightly into the stern and into cavities between ship timbers comprised another major cargo. We raised about 850 *qulal* that were made of a thin, yellow-brown to gray fabric with significant inclusions fired at very high temperatures. Shipped empty, the *qulal* functioned to cool water by evaporation through the relatively porous walls, a process still appreciated by people who live in the Red Sea area today; they also functioned as waterpipe bowls or stemmed goblets (Fig. 75). Although there are a number of different designs and shapes (up to thirty styles in three basic body shapes), most of them have a



Figure 73: Only this cup and a fragment of one other similar cup depict living animals; there are no examples of human portraiture in the Sadana Island shipwreck assemblage. (Drawing N. Piercy)



1169  
سأب الرابح  
1178

Figure 74: Arabic inscriptions from copper serving and cooking wares in the stern provide the date of 1765 CE or later for the ship's sinking. a) Damaged monogram including the numerals 1178, presumably a Hijri date equivalent to 1764 CE b) Inscription including the Hijri date 1169, equivalent to 1754/5 CE c) Inscription reading 'Sāhib el ra'īs Mūsā Maḥmūd' followed by what seems to be an illegible date. (Photographs H. Wellman; tracing author)



Figure 75: Qulal, spouted jugs, clay goblets or incense burners, and pipe bowls from the Sadana Island shipwreck. (Photograph M. Kato)

consistent body diameter that allowed them to be efficiently packed throughout the vessel. Although they may have been relatively low-cost in comparison to the porcelain, the care with which they were packed suggests that this cargo was also highly valued.

Organic components of the cargo include coffee beans and coffee berries, at least fifty black-lipped pearl oyster shells from a restricted area low in the hull, about one hundred coconuts packed between ship timbers in the stern, and a yellow aromatic resin spilled by the kilo across several areas of the site. Because only limited numbers of artefacts were present and much of the ship was 'empty' when we arrived, it is likely that it carried a large organic cargo, perhaps coffee, for which we have evidence, and perhaps also cotton muslin and calico cloth imported from India to Jiddah (Raymond 2002: 50; Pearson 1994: 160-161). No evidence of such fabrics was found, but historical documents contain frequent references to textiles imported from India.

### The Sadana Island ship

The largest and most complex artefact is the ship itself. The starboard side of the vessel is well preserved, and archaeologists exposed about 20 percent of it during three seasons of excavation. Study of the hull continues, but it seems to be of a hitherto unrecorded method of construction that is probably indigenous to the northern Red Sea, while at the same time reflecting the influences of Mediterranean, European, and Indian shipbuilding. For its nearly 50 m length, the ship is relatively lightly fastened with iron bolts, and its frames are spaced further apart than comparable Mediterranean or European ships. Built of imported pine and oak, the ship reflects what seems to be a common practice of importing construction materials from the Mediterranean through Alexandria and then transporting them up the Nile to Cairo and across the desert to Suez.

Tuchscherer (1997) describes the complex process required for the Ottoman government to build three similar ships for the Red Sea fleet at about the same time. Each vessel took five to seven months to build, and they were built sequentially because only enough timber for a single ship was available at any given time. The supply problem was so severe that imported teak was bought locally for planking. The vessels built between 1761 and 1766 were among the last of the very large Red Sea ships. By the end of the eighteenth century, the most common type of ship at Suez was built in India, and teak was the dominant wood used for the diminished Red Sea merchant and imperial fleet.

### Conclusions

One of the more surprising things about excavating a ship of this size from the eighteenth century is the near total lack of armament. Only a few musket balls, all retaining casting sprues, were recovered from the site by

archaeologists. A casual visitor to the site had earlier removed a powder flask, but no small or large guns, shot, or other indications of weaponry existed. A lack of guns on the ship suggests that its voyages were confined to the Red Sea, within the boundaries of the Ottoman Empire, and that it had no need to defend itself from pirates or European merchant ships that had few compunctions about appropriating goods from other vessels in the western Indian Ocean and south of the Red Sea (Brouwer 1991, 1992).

Following the many threads in this pattern leads us to a better understanding of the economics of the luxury trade and the lives of the people who conducted it. Analysis of artefacts classed as personal possessions rather than cargo suggests that, like the ship, the crew was non-European. The limited number of finds, their strong Islamic cultural parallels and even Arabic inscriptions point to a Muslim crew.

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