

# Indo-Roman trade: the ceramic evidence from Egypt

ROBERTA TOMBER\*

*Sourcing studies of the ceramics found at Roman Berenike on the Red Sea of Egypt show that India or the neighbouring regions supplied many styles and types of pottery.*

*Key-words:* Egypt, Roman, Berenike, ceramics, sourcing studies, trade

## Introduction

The Egyptian Red Sea site of Berenike has long been recognized as a port of foremost importance for the trade between Egypt, Arabia and India. Established by Ptolemy in the mid-3rd century BC and operational, at differing levels through time, until the early 6th century AD, Berenike's role in long-distance trade is known through historical documents, most explicitly from the 1st-century *Periplus Maris Erythraei* (Casson 1991: 8) and the Nicanor archive (*O. Tait* P220–304/Tait 1930–64; Fuks 1951). The former, dated to the mid 1st century, provides a detailed practical account of the ports and goods in the Red Sea, Gulf of Aden and the western Indian Ocean for traders in Roman Egypt; while the latter, spanning the period between 6 BC–AD 68/69, comprises a group of receipts from a family shipping firm operating between Coptos on the Nile to the Red Sea ports of Berenike and Myos Hormos (see FIGURE 1 for location map).

Excavations undertaken at Berenike since 1994, by Steve Sidebotham and Willeke Wendrich (Sidebotham & Wendrich 1995; 1996; 1998; 1999; in press), have provided tangible archaeological evidence for Indo-Roman trade from a broad spectrum of artefacts, including ceramics, glass beads (Francis in press), textiles (Wild & Wild in press), as well as archaeobotanical remains (seeds, Cappers 1996: 330–31; 1998: 311–19; and wood, Vermeeren 1998: 347) and epigraphic evidence from a single Tamil-Brahmi graffito (Mahadevan 1996). This note concentrates on the pottery, in order to draw attention to the range and quantity of material recovered from Berenike with links to India or South Asia, and highlights the scope for future

analytical work to refine the source areas of these vessels. The pottery is of interest not only for confirming contact between the two regions, but, in conjunction with other classes of artefacts, investigating the nature of this contact and the traders involved. Because of its context, in association with well-dated Roman material, it also complements the dating evidence from the Indian finds. Most, but certainly not all, of the sherds come from early Roman deposits of either late Augustan or mid/late 1st-century AD date; those which occur in late Roman deposits are more difficult to judge since many of these contexts contain a high proportion of residual wares, but evidence from the beads indicates flourishing contact between Egypt and Sri Lanka during the late Roman period (Francis in press). More detailed descriptions of the Berenike sherds, particularly the fabrics, can be found elsewhere (Begley & Tomber 1999; Tomber & Begley in press). This note draws heavily on the evidence from Arikamedu, where both forms (FIGURE 2) and fabrics are well published (Wheeler *et al.* 1946; Begley 1996b), although increasingly new evidence for many ceramic types and interaction between the regions is available from Sri Lanka (e.g. Coningham & Allchin 1995) and South-east Asia (e.g. Ardika & Bellwood 1991).

## Table wares

Table wares are sparsely represented but include vessels which are unequivocally Indian in origin. Included in this category are dishes with in-turned beaked rims (Wheeler *et al.* 1946: Type 1/Begley 1996b: Form 1), belonging to what is commonly known as 'rouletted' ware, due to their bands of 'chattered' decoration on the

\* Museum of London Specialist Services, 46 Eagle Wharf Road, London N1 7ED, England.  
rtomber@museumoflondon.org.uk

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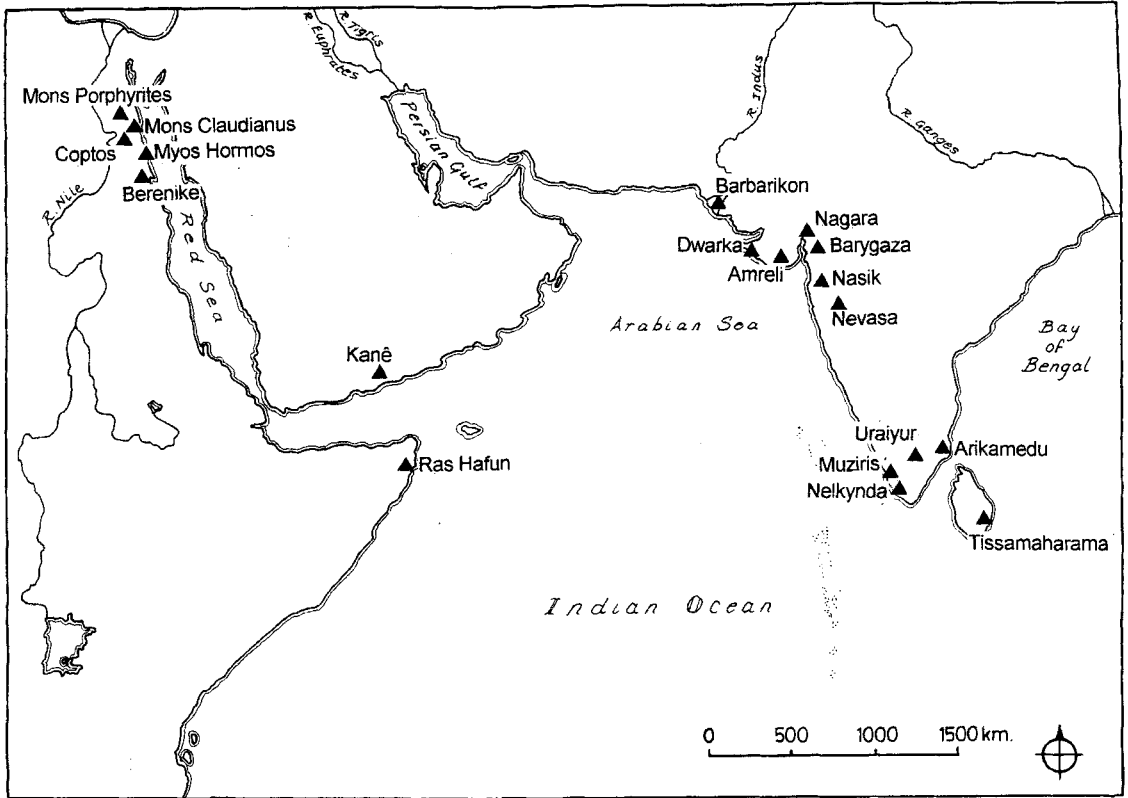


FIGURE 1. Location map of the region and sites mentioned in the text.

base (Ardika *et al.* 1993; Begley 1988). A minimum of six vessels of this type was recovered from the 1997–8 excavations (FIGURE 2.1; FIGURE 3). Four of these occur in a nearly inclusionless, micaceous fabric with good quality glossy slip that can be equated with Arikamedu Fine Ware 1, with the remaining two in a coarser, sandy paste, possibly related to Arikamedu Coarse Ware 1A.

Another table ware represented at Berenike is the small bowl or cup, decorated with bands of parallel incised lines, between which stamped animal motifs are sometimes placed (Wheeler *et al.* 1946: Type 10/Begley 1996b: Form 5). While stamps are absent on the two vessels represented by rims at Berenike (e.g. FIGURE 2.2), one does bear a shallow depression which may have been intended as a stamp: nevertheless, vessels are known in India without the stamp. In addition to these two vessels, a further two are indicated by base and body sherds. Three of these bowls are in the classic Arikamedu Fine Ware 1 fabric, while the

fourth is in a related one of slightly poorer quality.

In South Asia the distribution of rouletted ware, paralleled by much smaller quantities of Wheeler 10, is biased although not restricted to the eastern coast of India and the western coast of Sri Lanka (see Begley 1996b: figure 1.12; Silva 1985), although recently a more widespread distribution is known from Sri Lanka (Coningham & Allchin 1995). No production sites have been located, but Gogte (1997) has proposed the Ganges delta as the source area for these vessels.

**Utilitarian wares**

This group vastly outnumbers table wares in quantity, but their source identification is more problematic. The most common amongst these are cooking wares which are morphologically identical to Indian forms, utilize a similar but not identical technology and range of fabrics and, as a corollary, are distinct from Egyptian forms and fabrics. The forms identified at

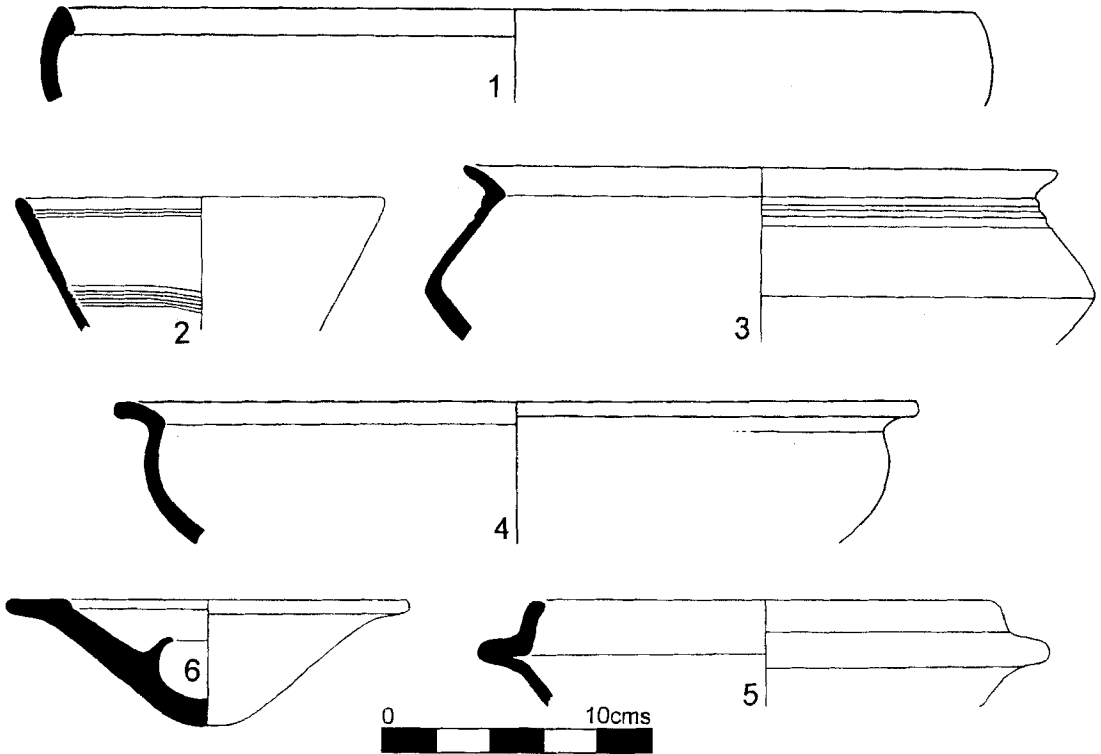


FIGURE 2. Indian and Indian-style pottery types from Berenike.



FIGURE 3. 'Rouletted' decoration on a Wheeler Type 1 dish from Berenike.

Berenike occur both at Arikamedu and at numerous other sites in India both during the period in question (subsumed within the In-

dian 'Early Historic') and the medieval period. The vessels are cooking pots with sharply everted rims and, frequently, carinated shoulders (Wheeler *et al.* 1946: Type 24; FIGURE 2.3); casseroles with over-turned rims (Wheeler *et al.* 1946: Type 25; FIGURE 2.4) and flanged casseroles or lids (Wheeler *et al.* 1946: Types 28–29/Begley 1996b: Form 17; FIGURE 2.5). Although comprising a similar range of inclusions, unlike the finewares, their fabrics cannot be directly equated with ones present at Arikamedu (Begley & Tomber 1999: 180) and their wide distribution means that an origin further afield, particularly in South Asia, remains a possibility.

Wheeler Types 24, 25, 28/29 excavated at Berenike are related in both fabric and surface treatment, comprising a sandy paste, frequently with burnished red slip covering the surfaces either entirely or in part. The sooted condition of many vessels leaves no doubt that they were used over an open fire. Despite being united by shape and surface treatment, closer examination of the clays indicates that more than one as yet unidentified source is represented. Body



FIGURE 4. *Paddle-impressed sherds from Berenike.*

sherds in similar fabrics, which in rare instances can be associated with these forms, frequently exhibit internal wiping marks which result from organic material. Modern potters are known to use bamboo tools for shaping and scraping during the manufacturing process (Saraswati & Behura 1966: 28–31), and it is possible that these marks result from bamboo. Our vessels appear better finished than similar forms seen, for example, from sites in Maharashtra and Gujarat, and superficially more allied to the better-quality vessels from Arikamedu, despite fabric differences already noted. These obser-

ventions, however, are based on the macroscopic examination of a small sample of assemblages, including ones from Nevasa, Dwarka, Nasik, Amreli and Nagara, and do not allow a source area to be suggested for the Berenike vessels. Nevertheless, it is worth observing that the deep organic marks on our vessels were not seen on vessels from these sites, nor from the material excavated by Wheeler from Arikamedu.

Of the cooking vessels, Type 24 (FIGURE 2.3) is the most common, followed by Type 25 (FIGURE 2.4) and finally Types 28/29 (FIGURE 2.5). In aggregate they form between 1–9% of non-



FIGURE 5. *Berenike vessel decorated with slashed, applied strip.*

amphora sherds in large quantified early Roman deposits. Type 24 was also identified at Quseir al-Qadim on the Red Sea coast during the late 1970s (e.g. Johnson 1979: plates 22a (top), 25s, 31j), and David Peacock's new campaign at this site promises a much wider range of Indian-style pottery. Excavation of Roman deposits during the 2000 season included all three of these coarse-ware forms, in a similar fabric and with wiping marks like those found at Berenike (Tomber *in press*). Future excavation will provide further evidence from this site, which has been identified as the ancient port of Myos Hormos (Bülow-Jacobsen *et al.* 1994; Peacock 1993) and, like Berenike, is mentioned in the *Periplus* and Nicanor archive.

Another utilitarian form, Type 38 (FIGURE 2.6), described by Wheeler as a 'cup-and-saucer' shaped lid, is sometimes referred to as a lamp. The vessel from Berenike is sooted both on the inside and outside, adding little to its functional interpretation. Like the previous forms it has a widespread distribution within India, but closer to Berenike variants have been recorded by Smith & Wright (1988: 136, figure 9, i & k) from Ras Hafun in Somalia, and by Sedov (1992: figure 3.6–7; 1996: figure 6.11–12) from Kanê in the Yemen, who also notes its presence at early Christian sites along the Nile in Nubia (Sedov 1992: 114). From a poorly dated context, the Berenike vessel is likely to be 1st- or 2nd-century AD; the Kanê pieces from

its 'middle' period dated from the late 2nd to the 4th century AD; and at Ras Hafun from the 2nd to the 5th century AD; finally, in India the type is known from the 1st century AD into medieval times (Begley & Tomber 1999: 171).

The Berenike fabric is crude and porous with poorly finished surfaces. At Ras Hafun, where the type is common, it occurs in a 'Limestone and Vegetal-tempered Red Fabric' (Smith & Wright 1988: 122), which from published description alone seems similar to the Berenike fabric. The Ras Hafun vessels were examined by B.B. Lal, who equated them with vessels from western India (Henry Wright *pers. comm.*). Western India therefore remains the strongest possible source for the Berenike vessels, although more comparison of the fabrics is needed.

Large vessels externally decorated by grooved paddles constitute another substantial group — over 40 sherds — of potentially Indian pottery excavated from Berenike (FIGURE 4). A few sherds have now also been identified from Roman contexts at Quseir al-Qadim. The type was sparsely represented from Wheeler's excavations at Arikamedu, but a total of 874 were recovered from the 1991–2 excavations in a variety of fabrics, some of which are atypical and therefore probably non-local to Arikamedu (Begley 1996b: Motif 6; Selvakumar *in press*). In India the type has a fairly restricted eastern distribution where they occur from the 1st century BC into the 3rd or 4th century AD, are oc-

asionally found in the medieval period and are produced by modern potters in Mysore, Andra Pradesh, Goa, Kerala, Madras and West Bengal (Begley 1996b: 202–4; Saraswati & Behura 1966: 22). The coarse, sandy fabric of the Berenike sherds corresponds well with those from Arikamedu, and India is the most likely source for them. Nevertheless, other potential sources cannot be entirely ruled out in light of their presence elsewhere during this period, including Tissamaharama in Sri Lanka (H. Schenk-Weisshaar pers. comm.) and Southeast Asia (Begley 1996b: 204 note 10).

A final group of utilitarian vessels from Berenike with applied, thumbled or slashed strips are stylistically less distinct than the paddle grooved ones and have a more ubiquitous distribution, both in India and beyond, including sherds in a black fabric from the Gulf (Haerincx *et al.* 1993). Three vessels from Berenike are decorated in this manner (*cf.* Wheeler *et al.* 1946: Type 145; Begley 1996b: Motif 1), in one case diagonally slashed rather than thumbled (FIGURE 5). They occur in more than one fabric, some of which can be paralleled at Arikamedu, where the type is known from the 1st century BC into the medieval period. Since this is a common motif, detailed fabric descriptions are needed before a clear source area can be suggested for the Berenike sherds.

### Implications

In his account of the trade between India and Egypt, the writer of the *Periplus* described contact with both the east and west coasts of India, but his emphasis suggested that the west coast was the more important of the two. The ports of Barbarikon and Barygaza in the northwest and the twin ports of Muziris/Nelkynda in the southwest on the Malabar coast are therefore integral to this discussion, but archaeological evidence from them is lacking. The *Periplus* also indicated that Western ships did not sail to the east of India, but instead exchanged goods indirectly via the west coast (Casson 1989: 15, 21–7; Ray 1995: 103–11; 1996: 3) either by coastal boats or overland.

Our lack of precision in sourcing the bulk of coarse wares excavated at Berenike is a major obstacle in interpreting trade routes between India and Egypt for this period. A more detailed approach to the study of pottery fabrics from

India, Egypt and sites between could address this issue. Scientific analysis of pottery in thin section undertaken by Krishnan (Krishnan & Coningham 1995) has already demonstrated the potential of this approach for South Asian material, and analysis from additional sites may well allow distinction between fabrics whose aplastic inclusions consist primarily of feldspar and iron-rich minerals such as mica, pyroxenes and amphiboles.

Nevertheless, the distribution of some coarse and fineware Indian types found at Berenike, the rouletted dishes and bowls in Fine Ware 1 and paddle impressed sherds, is relevant. In India both have a heavy bias to the east coast and are apparently absent on the Malabar coast (Begley 1996a: 24), which may point to the east as a major source for goods to Egypt. Although hindered by the lack of any identified sites on the Malabar coast, and other dated sites from the Coromandel coast, Arikamedu is thus far the only site in southern India with Mediterranean finds known to have been active during the Augustan period, the context date for some of the table ware sherds found at Berenike. Arikamedu may therefore have been the point of departure for goods to Egypt (Begley & Tomber: 170). If goods did indeed travel to the west coast via the east coast their route is as yet unclear, although the distribution of Rouletted ware and Russet-coated Painted ware may have implications for this. The latter is relatively common on the Malabar coast but virtually absent on the Coromandel (Begley 1983: 480; Ray 1995: 86) and its distribution — viewed in conjunction with the reversed pattern seen for rouletted ware — suggests that overland communication between the two coasts was indirect, perhaps through central centres such as Uraiyur.

The absence at Berenike of Red Polished ware, a type closely associated with northwest India, may or may not be significant in assessing the role of Barbarikon and Barygaza during this period. Here the botanical remains provide complimentary evidence which reinforces the association between Berenike and southwest India, for at Berenike there is an abundance of black pepper originating on the Malabar coast and an absence of long pepper from the region of Barygaza (Cappers 1998: 311; see also Kajale 1990).

To date, the identification of Indian and Indian-style wares in the Eastern Desert is re-

stricted to the Red Sea ports of Berenike and Myos Hormos. Their absence at other sites in the Eastern Desert, at the imperial quarries of Mons Claudianus and Mons Porphyrites, as well as along the main coastal road terminating at Berenike, the Via Hadriana, strengthens their direct association with Indo-Roman trade and traders. Significantly, three Indian fineware sherds have recently been identified amongst Antiquarian finds from Coptos on the Nile (Elaigne 1999; Reinach 1912), the main trans-shipment point between the Red Sea and Alexandria for Indo-Roman trade.

The small quantity of finewares recovered at present, together with their restricted distribution, may indicate that they were brought by merchants or sailors for personal use, rather than for commercial purposes (Begley & Tomber 1999: 168). This pattern is consistent with the known distribution of Wheeler Types 1 and 10 elsewhere for, although growing in numbers (Coningham & Allchin 1995), apart from the eastern coast of India and its hinterland and the west coast of Sri Lanka where they occur in large quantities, sherds are rare from sites further inland. The greater quantity of coarse wares does not necessarily detract from this argument, for they too could have been brought as personal possessions and would support the existence of Indian merchant communities in Egypt, previously hinted at by the written evidence. If traders from Arikamedu were involved, epigraphic evidence from both Arikamedu, Berenike and Myos Hormos (Johnson 1979: plate

27j; Mahadevan 1996: 207; Saloman 1991: 734–6) would suggest that at least some of them were Tamil speakers (Begley & Tomber 1999: 170).

At present, the evidence suggests that during the period in question south India was of main importance to the trade with Egypt. Both the west and east coasts appear to have played an important role but further evidence, from both India and Egypt, is needed to refine our understanding of the routes and mechanisms employed, and on-going work at both Berenike and Myos Hormos has much to contribute to this debate.

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