

A Single-hole Stone Anchor from Kottapatnam: early historic port site of Andhra Pradesh, India

Sila Tripathi

CSIR-National Institute of Oceanography, Dona Paula, Goa 403 004, India, sila@nio.org

K. P. Rao, S. Kumari, O. Imsong and V. Vanlalhruihuaitluangi

Department of History, University of Hyderabad, Gachibowli, Hyderabad 500 046, India, drkprao@gmail.com

Introduction

Kottapatnam is a lesser-known port lying on the west bank of a lagoon which was once part of the estuary of the River Swarnamukhi, in the district of Nellore, Andhra Pradesh, on the east coast of India. Kottapatnam is now a small fishing village, but during the early historical period ships plied the lagoon, and an artificial navigational channel was dug on the west of the ancient site for berthing them (Rao, 2002; 2001). There are traces of artificial channel showing the connection with the lagoon, but now it is covered with sand, (Fig. 1 a-b). Kottapatnam port was mentioned by Ptolemy (150 AD) as 'Kottis' (McCrinkle, 1885). Ptolemy stated further that 'Manarpha' (Manaliarpha), now called Manara, lay at the mouth of a river and 'Kottis' lay not far due north of it. The site was surveyed by Rao (1999, 2001) who found a variety of pottery including rouletted ware, stamped ware, kaolin pottery, Chinese porcelain, celadon ceramics, glazed ware and glass pieces (Roman?) scattered in an area 1.5 x 0.5 km lying north-south in the sand dunes beside the lagoon. The presence of Chinese pottery and a coin of Emperor Taizong (1403–1424 AD) of the Ming dynasty with Chinese script and a square hole signifies that Kottapatnam had contacts with China from the 3rd century BC until the 15th century AD (Rao, 2001; Rao and Cribb, 2001), afterwards Kottapatnam started losing its importance.

In the year 2012, exploratory studies were carried out at Kottapatnam in view of undertaking underwater surveys. During this fieldwork a stone object, here interpreted as a single-hole stone anchor, was found in the agricultural land close to the lagoon. Stamped ware (Fig. 2a), Rouletted ware (Fig. 2b), celadon ware (Fig. 2c), kaolin ware (Fig. 2d), Chinese ceramic sherds and one Vijayanagar period (1136–1446) coin were also collected from the sand dunes near to the object.

Description of the stone anchor

The partially buried single-hole stone anchor lies about 50 m away from the present western bank of the lagoon, which is locally known as 'voda revu kalava' meaning 'canal of the ship harbour' (Fig. 1). People say that in the past the anchor was used as a mooring stone. When found, a major portion of the anchor was buried in the soil. Soil was removed from one side of the stone and it was measured, photographed and surface features noted (Fig. 3), before being reburied. The maximum dimensions are 760 x 770 x 270 mm. The weight of the anchor is estimated at c.100 kg. Prominent chisel marks are visible on the uncovered surface as well as inside the hole. The anchor has one circular hole on its upper side. Neither the upper nor lower portion of the anchor is even. The anchor tapers upwards and its overall thickness is not uniform. The edges of the anchor are sharp, perhaps indicating that it was not used extensively before being buried. Some pieces of stone have been chipped off from the upper portion, lower side and left side of the anchor. It appears that the anchor is made of charnockite, a high-grade metamorphic rock which has been partly weathered; samples taken show quartz, feldspar, mica and ferromagnesian mineral inclusions. Charnockite is found in the Eastern Ghats (Aswathanarayana, 1964). No growth of moss or algae was noticed on the surface of the stone.

Dating the stone anchor of Kottapatnam

Very few stone anchors have been correlated with dated archaeological evidence in India. Those that have include the stone anchors of Bet Dwarka which were found with amphoras of the 4th and 5th centuries AD (Gaur *et al.*, 2006); anchors in Ghogha found with glazed ware dated to the medieval period; eight used as a lintel in the construction of the parapet wall of the second fortification wall (17th-century) of Vijaydurg fort Vijaydurg fort (Sila Tripathi *et al.*, 1998; Sila Tripathi, 2009); one in Kannur related to Arabic inscription of the Mosque of the 13th and 14th centuries (Sila Tripathi *et al.*, 2005); and anchors in Chilika which have been related to hero stones dated to the 7–9th centuries AD (Sila Tripathi and Patnaik, 2008). In the year 2006-07, stone anchors found with wooden flukes at Dabhol and the radiocarbon-dates suggest the flukes are 500 to 600 years old (Gaur *et al.*, 2009). The finds discovered in proximity to the stone anchor of Kottapatnam might suggest a post medieval date (15th century AD) although no finds were recovered directly from the excavations to uncover it.

Discussion and conclusion

Kottapatnam has been shown to have had contacts with Southeast Asian countries and China from the 3rd century BC until the 15th century AD (Rao, 2004; Rao and Cribb, 2001). Stamped ware has only been reported elsewhere from a very few coastal sites such as Jaugada

(Odisha) and Alagankulam and Arikamedu (Tamil Nadu) (Rao, 2001) and not from the interior regions, which confirms this pottery type was transported by sea. Moreover, the decorative motifs on the stamped pottery of Kottapatnam resemble those of Johore Lama, Kota Tinggi and Tanjong Kubor, Santubong of Southeast Asia (Malaysia and Sarawak) (Gibson-Hill, 1955; Solheim, 1965). Though there were many contemporary ports along the east coast of India, as yet only in Kottapatnam has a stone anchor been recovered in the same locality as other diagnostic finds. The discovery of a single-hole stone anchor at Kottapatnam is a further evidence of maritime activity as suggested by the pottery, coins, clay and metal objects that have been found.

Some 309 composite, Indo-Arabian, ring stone and single-hole stone anchors (Fig. 4 and Table 1) have been discovered in India (Fig. 4 and Table 1), but the vast majority, 292, have been recovered on the west coast (Fig. 5). Of these, single-hole stone anchors are rare: only two have been found on the west coast, while nine of the 17 anchors found on the east coast are of the single-hole type. The size of the stone anchor of Kottapatnam suggests that it was used for small craft; its size excludes its use for crafts involved in overseas trade because bigger and heavier size anchors would have been carried by them. There is evidence that all varieties of anchors could be reused as mooring stones. For instance, the stone anchors of Manapad have been used as mooring stones in very shallow waters for local fishing craft. It appears that the stone anchor of Kottapatnam was used in a similar way according to local tradition. The single-hole stone anchors vary in size and shape: the Chilika anchor looks rectangular; the Manapad anchors are more similar in shape to the composite anchor type; whereas those of Kottapatnam and Periapattinam are nearly square in shape. Is such variation because of raw material or for some specific purpose? It is necessary for scholars to study these anchors in greater number and detail to understand these aspects.

Acknowledgements

Authors are thankful to the Director, NIO for the encouragement and Ch. Praveen Raju and Venkata Rao for help at the site. S. B. Chitari and Ravindra Uchil are also acknowledged for drawings and computer tracing of the figures. This is NIO contribution No. 0000.

References

- Aswathanarayana, U., 1964. Isotopic ages from the Eastern Ghats and Cuddapahs of India. *Journal of Geophysical Research* **69**.16, 3479–3486.
- Gaur, A. S., Sundaresh, and Sila Tripathi, 2006, Evidence for Indo-Roman trade from Bet Dwarka waters, West Coast of India. *IJNA* **35**.1, 117–127. Gaur, A. S., Sundaresh, Sila Tripathi and Vora, K. H., 2009, Radiocarbon dates of the medieval period stone anchors from Dabhol, west coast of India. *Current Science* **96**.2, 299–302.
- Gibson-Hill, C. A., 1955, Johore Lama and other ancient sites on the Johore River. *Journal of Royal Asiatic Society* **28**. 2, 127–194.

- Kimura, J., Sasaki, R., Long, V. T., 2011, Historical Development of Asian Anchors, as Evidenced by Two Wooden Anchors Found in Northern Vietnam. *IJNA* **40.2**, 361–373.
- Li, G., 1998, Ancient Chinese anchors: their rigging and conservation. *IJNA* **21.4**, 301–312.
- McCordle, J. W., 1885, *Ancient India as described by Ptolemy* (reprint), Today and Tomorrow's Printers and Publishers, New Delhi, 66–67.
- Rao, K. P., 1999, Early Trade and Contacts between South India and Southeast Asia (300 BC–AD 200), in Ellen M. Raven (ed.), *Proceedings Volume of the XVth International Conference on South Asian Archaeology*, Leiden University, Leiden.
- Rao, K. P., 2001, Early trade and contacts between South India and Southeast Asia (300 BC–AD 200). *East and West* **51.3–4**, 385–394.
- Rao, K. P., 2002, Kottapatnam: A South Indian Port Trading with Eastern Lands, in Noboru Karashima (ed.), *Ancient and Medieval Commercial Activities in the Indian Ocean: Testimony of Inscriptions and Ceramic-sherds*, 125–130. Taisho University, Japan.
- Rao, K. P., and Cribb, J., 2001, Chinese Coin Found at Kottapatnam, Nellore District, Andhra Pradesh. *Numismatic Digest* **23–24**, 133–138.
- Sila Tripathi, 2009, Stone Anchors from Minicoy Island, Lakshadweep, India. *IJNA* **38.2**, 406–12.
- Sila Tripathi, Gaur, A. S., Sundaresh, and Bandodker, S. N., 1998, Historical period Stone anchors from Vijaydurg on the west coast of India. *Bulletin of the Australian Institute for Maritime Archaeology* **22**, 1–8.
- Sila Tripathi, Manikfan, A., and Mohamed, M., 2005, An Indo-Arabian type of stone anchor from Kannur, Kerala, west coast of India. *IJNA* **34.1**, 131–137.
- Sila Tripathi, and Patnaik, A. P., 2008, Stone anchors along the coast of Chilika Lake: New light on the maritime activities of Orissa, India. *Current Science* **94.3**, 386–390.
- Solheim, W. G., II. 1965, The Prehistoric Earthenware pottery of Tanjong Kubor, Santubong. *Sarawak Museum Journal*, **12**, 2–62.

List of Figures

Fig. 1 a-b Location map of Kottapatnam, showing the stone anchor find-spot.

Fig. 2 a–d Pottery collected from Kottapatnam during onshore survey.

Fig. 3 Single-hole stone anchor found at Kottapatnam.

Fig. 4 Map showing the stone anchor sites in India

Fig. 5 Map showing the stone anchor sites in India.

Table: 1 Various types of stone anchors observed along the Indian coast (North to South).

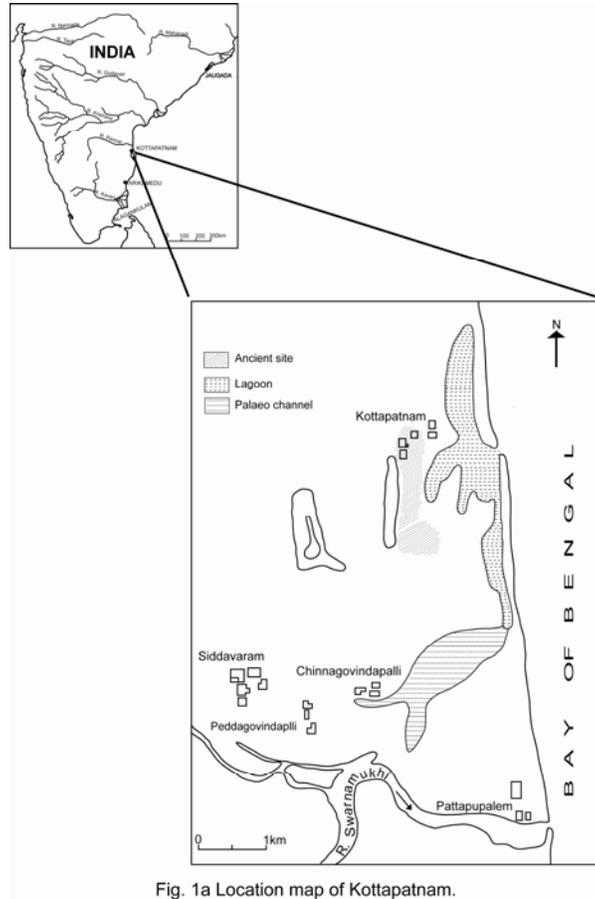


Fig. 1a Location map of Kottapatnam.

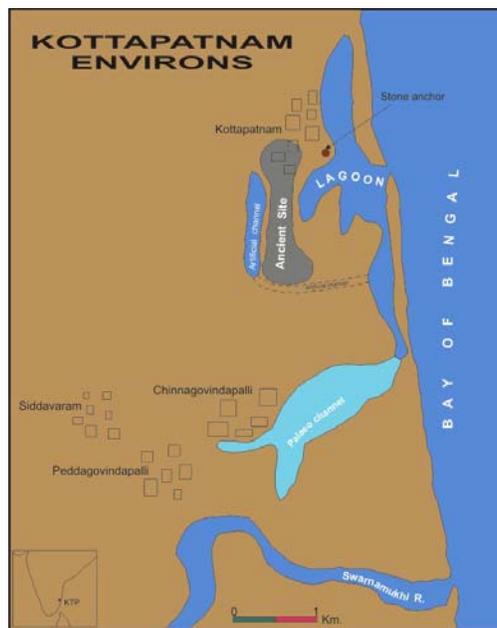


Fig. 1b Location map of Kottapatnam



Fig. 2 a-d Pottery collected from Kottapatnam during onshore exploration.

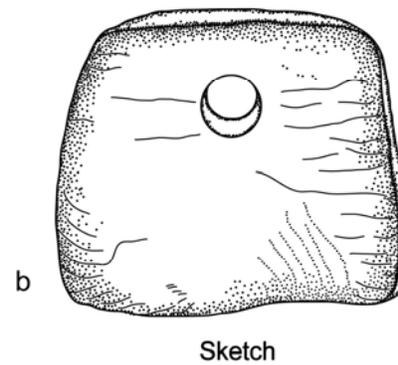
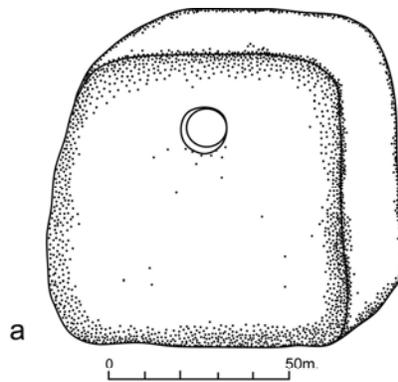


Fig. 3 Single hole stone anchor found at Kottapatnam

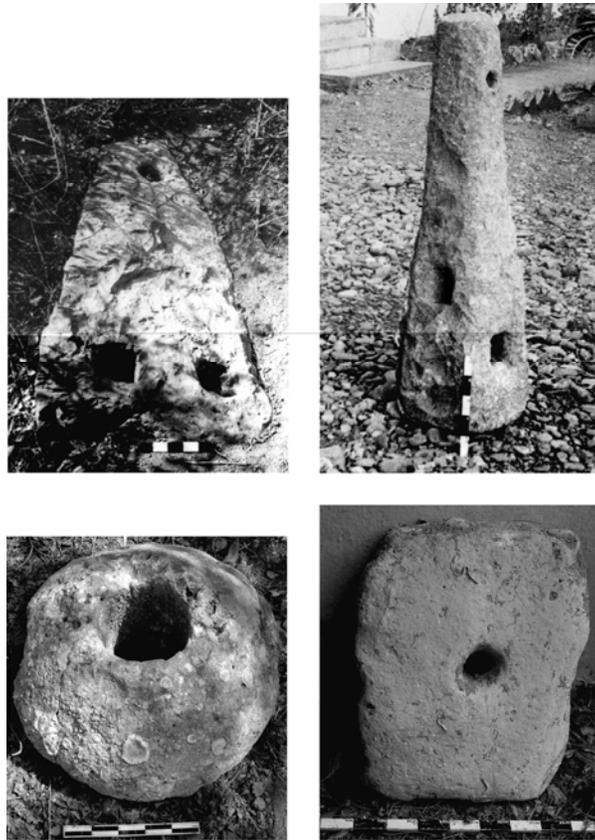


Fig. 4 Composite, Indo-Arabian, ring stone and single hole types of stone anchors recovered from Indian waters.



Fig 5. Map showing the stone anchor sites in India.

Table: 1 Various types of stone anchors observed along the Indian coast (North to South).

Find sites	Composite anchors	Indo-Arabian anchors	Ring stone anchors	Single hole anchors	Total
West Coast					
Gujarat					
Bet Dwarka	13	7	1	-----	21
Aramda	1	1	-----	-----	2
Dwarka	35	63	24	1	123
Miyani	2	6	4	-----	12
Visawada	10	2	1	1	14
Kindar Kheda	1	-----	-----	-----	1
Srinagar	1	-----	-----	-----	1
Ghumli	-----	-----	1	-----	1
Navi Bundar	1	-----	-----	-----	
Somnath	6	2	35	-----	43
Mul Dwarka (Kodinar)	1	-----	-----	-----	1
Gopnath	-----	1	-----	-----	1
Hathab	-----	4	-----	-----	4
Ghogha	1	18	-----	-----	19
Mithi Virdi	-----	4	-----	-----	4
Maharashtra					
Vijaydurg	1	23	-----	-----	24
Sindhudurg	3	5	-----	-----	8
Padmagad	-----	1	-----	-----	1
Dabhol	-----	4	-----	-----	4
Goa					
Baga	-----	1	-----	-----	1
Sunchi Reef	-----	1	1	-----	2
Grande Island	-----	2	-----	-----	2
Kerala					
Kannur	-----	1	-----	-----	1
Lakshadweep Island					
Minicoy Island	-----	1	-----	-----	1
East Coast					
West Bengal					
Harinarayanpur				1	1
Odisha					
Chilika Lake	4	-----	-----	1	5
Andhra Pradesh					
Kottapatnam	-----	-----	-----	1	1
Tamil Nadu					
Manapad	-----	-----	-----	5	5
Kursadi Island		1	-----	-----	1
Poomarichan Island	-----	1	-----	-----	1
Vedalai	-----	1	-----	-----	1
Periapattinam	-----	-----	-----	1	1
Threspuram	-----	1	-----	-----	1