

## **Ancient and Medieval ports of the Gulf of Mannar Coast, East coast India and their Maritime Connections across Indian Ocean Countries**

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### **Abstract**

*The Gulf of Mannar lies in the south-eastern corner of India, bordered by Sri Lanka on the south east. It covers the coast of Tamil Nadu from the island of Rameswaram to Kanniyakumari. This region witnessed extensive long distance maritime activities from the Early Historic period; from 500 BCE to 500 CE. Like other ports of this region, Korkai was part of the Indo-Roman trade activities and literally mentioned in Greek sources. Evidence of Roman contact has been found at the ports of Korkai and Alagankulam. In the Medieval period, Kayal and Periyapattinam were important ports of this region, which is also rich in underwater marine resources and famous for their coral reefs. Stone anchors have been found in this region during surveys by the author. This region has one of the important marine resources venerated by Indians from the ancient period: Turbinella Pyrum. Pearl harvesting was very active in this region for several centuries. It was commercially exploited and exported to many regions in India and beyond. The proposed paper seeks to study the marine archaeological evidence and their importance from the Early Historic period to the medieval period; from 500 BCE to 1600 CE.*

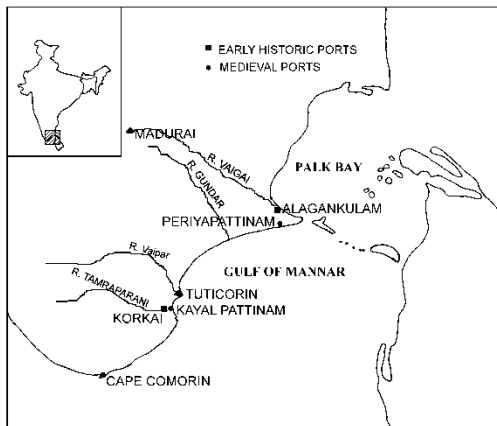
**Key words:** Ancient ports, Gulf of Mannar, Korkai, Alagankulam, Pearl fishery, Trade network

## Introduction

Even before the Christian era, a vibrant trade network between Southeast Asia and Mediterranean region was present in the Indian subcontinent as a transit marketplace. The Indian subcontinent, rich in resources, played a major commercial role between its double-sided counterparts of Southeast Asia and the Red Sea region. More studies are being attempted to view the trade dynamics of these regions from a holistic perspective as maritime contacts cross both cultural and political boundaries. This paper is an attempt to view the active role played by the Southeast Indian coast, a part of the maritime gateway extending between Cape Comorin and Rameswaram Island. Studying this 300 km stretch of land could be useful for understanding the maritime importance of this region (Fig. 1).

## Sources

To understand the maritime trade process of this region for the study period, ancient



*Fig. 1 Map showing the Early Historic and Medieval Ports of the study Area. (Athiyaman, 2014)*

Tamil Literature, specifically the two Sangam Epics, *Silapatikaram* and *Manimekalai*, foreign accounts and sporadic archaeological excavations carried out form the basic sources of the study. The temple inscriptions and foreigners' accounts of the medieval period are used for the later periods. Sources available from Southeast Asia and the Red Sea region

are also taken in to account. Marine archaeological studies by the author around the Rameswaram region as well as previous studies made by the author on pearl fishing were also used as sources for this article.

## The Hinterland and the resources for Maritime relations

The inland region of the study area is a dry plain region shadowed by the Western Ghats of the subcontinent in the west. This region has many rivers; the Vaigai in the

north and the Gundar, Vaippar and Tamraparani in the south. The main source of water flow in these rivers comes from the Southwest monsoon and to a lesser extent during the Northeast monsoon. All of these rivers except the Vaigai are not perennial. However the deltaic area is not as vast as compared to the river Kaveri which flows in central Tamil Nadu. Except for the regions near the river banks, all the regions are semi-arid in nature. Archaeological sites found in this region are few compared to sites found in the northern parts of Tamil Nadu. Those that are found are located along the river course (Rajan, 2011). As these regions were ruled by the Pandiya Kings, spices and forest products available in the Western Ghats could be traded through the ports of Bacare and Nelkynda situated south of Muziri on the west coast, a famous emporium. Only the pearl and Conch shells were the only local resources from this region contributing to trade. However, being situated centrally between the east and west, this coast played a lead role in trade activities.

## **Ports**

The presence of ports indicates the maritime activities of the particular region and their possible connections with the hinterland. At the very least, resources should be available the region for ships to come and replenish their food stocks and water. Usually the river mouths were used as anchorages for the large boats and ships in the east coast of India. The available evidence suggests that no permanent port structure existed in the early historic period of the *Tamizhakam*. However, small boats were used to carry the goods from the ships to shore and vice versa. In the present study area the ports or the coastal habitations of considerable importance could be culled out from the foreigners' accounts, literature and the inscriptions. During the early historic period, from the south, the Cape Comorin, the Korkai at the confluence of River Tamraparani and Alagankulam at the mouth of River Vaigai played a major role in maritime activities. During the early medieval period and medieval period the newly formed ports of Kayal and Periyapattinam played a significant role in the maritime activities. Smaller coastal settlements also were active during this period. The ports of the early historic and medieval period from the south to the north are briefly discussed here.

## **Early Historic Ports**

## Comorin

This is the southernmost tip of the subcontinent which is the meeting point of three seas; the Indian Ocean, the Arabian Sea and the Gulf of Mannar. As the wave travels along these three seas in different seasons, for the most part the weather in this region could be rough. The possibility of the existence of a port for maritime trade is remote, since the place for anchorage and cargo transfer is not conducive. However, in foreigner accounts, one finds mention of this place invariably as it was considered a holy place well before the Christian era. Ptolemy mentions this place as Komaria, a cape and town (McCrinkle, 1927). *Periplus* accounts for it as a cape and harbour and also mentions that "(T)here come those men who wish to consecrate themselves for the rest of their lives, and bathe and dwell in celibacy; and women also do the same; for it is told that a goddess once dwelt here and bathed" (Schoff, 1912). So far, no archaeological study around this region has been made.

## Korkai

Korkai, now 6 km east of the coast, where the sea has receded, was one of the important emporia of the Pandiyan Kingdom during Christian era. It lies on the bank of the river Tamraparani. Adichanallur was another contemporary important early historic settlement lying 15 km west of Korkai. Adichanallur was excavated by Rea and ASI (Rea, 1915; Nambirajan et al., 2009). Ancient Tamil literature alludes to Korkai as the place of a fishing community that also dived for pearls and conch shells. One of the anthologies, *akanaanuuRu* (130:11), refers to it as a coastal town. *Periplus* (59) mentions, "from Comari toward the south this region extends to Colchi, where the pearl-fisheries are; (they are worked by condemned criminals); and it belongs to the Pandian Kingdom..." (Schoff, 1912). Ptolemy accounts 'Kolkhoi' as an emporium (Renou, 1925). Korkai was famous for pearl fishing until very recently. The pearls obtained from this place acquired great trade importance. The importance of the pearl fishery is discussed elsewhere in this paper.



Fig. 2 Anchor salvaged off Rameswaram, Gulf of Mannar. (Athiyaman, 2001)

During the 1870's, Caldwell made an exploration and sporadic excavations at Korkai and Kayal (east of Korkai) and published an article in *Indian Antiquary*. He made a thorough survey and found only the pearl oysters and conch shells on the surface and beneath the soil (Caldwell, 1982). He also came across two Buddha images, two Singhalese coins and sepulchral urns. He discussed in detail about the sea receding to the east and the formation of a new port called Kayal during the medieval period. Based on the literary evidence, the State Department of Archaeology of Tamil Nadu excavated Korkai in the 1969 and found evidence for the cultural sequence of three periods ranging from the 3rd century BCE–4th centuries CE, the 4th–10th centuries CE and between the 10th–14th centuries CE (Sridhar, 2004). The excavations revealed indigenous pottery with early Tamil scripts, sawed conch shells, bangle pieces, and

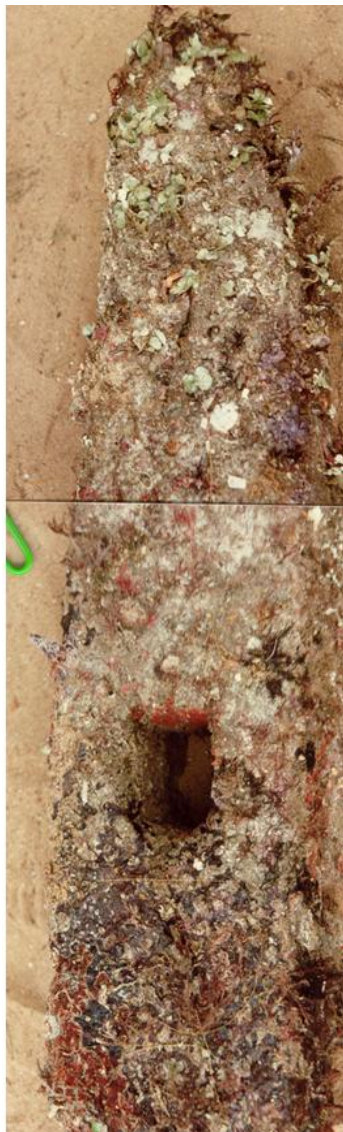


Fig. 3 Anchor Salvaged at Gulf of Mannar. (Athiyaman, 2001)

semi-precious stones of the early historic period. A brick structure was also found along with the ring well. The excavation revealed the uninterrupted activity of this place.

### **Alagankulam**

This site is situated near the river mouth of Vaigai at the extreme north of the present study area. The place mentioned in *Periplus* as 'Argaru' could be identified with present Alagankulam rather than Uraiyur which is far inland as proposed by the scholars (Sastri, 1972; Athiyaman, 2013). As this port was situated in Palk Bay the transfer of cargo from ships coming from the south was made through a land crossing about twenty kilometres north. This site was excavated by the State Department of Archaeology of Tamil Nadu during 1990's in five seasons (Sridhar, 2005). It yielded a cultural sequence of four periods ranging from 500 BCE to 1200 CE after which the site lost its importance probably due to the emergence of the port Periyapattinam during this period. The site has yielded indigenous as well as western wares, particularly roulette wares. The site has yielded Terracotta dice, spindle whorls, and measuring weights. A

remarkable piece of Red Roulette ware dated to 1st-2nd centuries CE was unearthed with the symbol of ships with oars identified as the depiction of a Roman vessel by Lionel Casson (Sridhar, 2005). The Roman coins of 4th-5th centuries CE were also unearthed in this place. This signifies the active role of this port during early historic and early medieval period.

## **Medieval Ports**

### **Kayal**

As the sea receded along the Gulf of Mannar, Korkai lost its importance around the 10th century. Another port settlement near the sea at the mouth of the River Tamraparani was established. This is due to the importance of the pearl and conch shell fishery and their related activities. This place was also explored by Caldwell during the 1870's. He reported Chinese porcelain wares of many varieties, broken pieces of Arabian ware and Arabian gold coins of 13th century implying the east-west contact in this region (Caldwell, 1982). The Chinese wares of the 13th century found during the exploration at old Kayal and the absence of them in later periods suggest that another settlement south of this place established in the later period since the Chinese ware found south of Kayal, at a site called Punnaikayal, yielded the wares of later periods (Karashima et al., 2004). So far no excavations have been made in this region. However, the Colonial records provide ample information regarding this place which implies that the area was busy with maritime activities.

### **Periyapattinam**

Periyapattinam, one of the late medieval ports, lies in the Gulf of Mannar region 15 km south of Alagankulam. During excavations conducted by Tamil University with Noboru Karashima in 1987, many Chinese wares have been unearthed and studied for their provenance and possible dating (Karashima et al., 2004). It flourished during 13-14th century CE. It has been mentioned in a Chinese source as 'Dabadan' and Ibn Battuta described it as 'Fattan' (Karashima, 1989; Karashima, 2004).

## **Other minor settlements and ports**

During the early historic period Ptolemy mentions some other places which were on the south east coast: Sosikourai, on the Mouth of the River Solen and Kory, also called Kalligikon (McCrindle, 1927). Of these, Kory could be identified with Rameswaram with some certainty. Other places are not as clearly understood. During the Medieval period Kulsekarapattinam, Virapandianpattinam were situated south of Kayal and Kilakkarai (alias Ninaithathumudittan pattinam), west of Periyapattinam has also been identified from the Tamil Inscriptions (Jayakumar, 2001). These places must also have played a considerable role in maritime trade.

### **Marine Archaeological Studies**

Offshore and onshore explorations conducted in the Gulf of Mannar region of India, by the Centre for Underwater Archaeology of Tamil University have yielded two grapnel type (Indo-Arabian) stone anchors under the shallow waters in the Gulf of Mannar (Figs. 2 and 3). From the region where these two anchors were collected, two more were also found onshore, one a grapnel type and another trapezoidal type. These three grapnel-type anchors are now exhibited in the Tamil University museum. Apart from this, a mooring stone, presumably a grapnel type anchor has also been noticed near Tuticorin coast, which even now is used for mooring the fishing boats (Athiyaman, 2001). Though they were dated to between 13th and 14th centuries CE a petrographic analysis may push the date further into the Christian era. Surveys conducted by National Institute of Oceanography around Manapad area, north of Kayalpattinam revealed single holed stone anchors indicating the continuance of indigenous navigation technology (Sundaresh, 2013).

### **Ships and boats of this region**

The Tamil literature clearly suggests that several varieties of crafts were in use during the early historic *Tamizhakam*, which proves the extensive nature of its maritime activities. The crafts *ambi*, *mithavai*, *naavaay*, *pahri*, *punai*, *thimil* and *toni* were medium or small sized crafts. *Thimil* may have been well-designed since it served as a fishing craft. The crafts *naavaay*, *vankam* and *kalam* were deep ocean vessels. Not a single clue into the shape of these crafts could be found. *Pahri* and *toni* were coastal crafts that plied between the big vessels anchored offshore and were also used in the lagoons. It can be inferred that all the crafts mentioned in the literature except *kalam*,

which is associated with the *Yavanas*, were indigenous (Athiyaman, 2011a). Since references to the ship builders are also available, it is clear that the various crafts were built by local craftsmen. The author of *Periplus* mentions ships named *sangara* which travelled up to Malacca (Schoff, 1912). This could be the *vankam* mentioned in the Tamil text. Archaeological excavations conducted at port towns of Alagankulam (Sridhar, 2005), Korkai (Sridhar, 2004) and Periyapattinam (Karashima et al., 2004) in *Tamizhakam* prove beyond doubt that busy trade activities were undertaken in ancient *Tamizhakam*. The volume of trade carried out with the Red Sea region was so huge (Selvakumar, 2011), that for the exchange of various commodities there was need to build various crafts. The early historic *Tamizhakam* had indigenous knowledge on navigation and shipbuilding. Although this idea is based on the literary evidence, the terms of crafts must be studied in comparison with Greek, Sanskrit and other languages of Southeast Asia. The crafts in the literature of the early historic period were scantily referred to up to the medieval period and lost their names over the course of history. The study clearly highlights that several categories of watercrafts were used for different purposes and the indigenous crafts too had an active role in the long distance trading (Athiyaman, 2011b).

### **Pearl and conch shell fishery**

Rich in pearl oysters and conch shells the Gulf of Mannar was an attraction not only to traders but too many writers as well. A great deal of importance was given to the pearl and chank fishery and references to this industry off Korkai and Kayal are many. Throughout history, the Gulf of Mannar enjoyed busy trade activities due to the pearl industry (Table. 1). Besides conch shell diving also had its importance each year. A detailed study of this Industry has already been documented by scholars (Arunachalam, 2011; Stephen, 1998; Athiyaman, 2000; Decla, 2008).

Table 1. Account of Pearl and Chank Fishery on Indian Coast of Gulf of Mannar

<b>Account of</b>	<b>Period</b>	<b>Reference</b>
Megasthenes	3rd century CE	McCrimdley, 2008
Strabo	21 CE	McCrimdley, 1979



<i>Periplus</i>	60 CE	Schoff, 1912
Pliny	77 CE	McCrinkle, 1979
Pan Kou	end of the first century CE	Sastri 1972
Cosmos	6th Century CE	McCrinkle, 1979
Ma Twan Lin	550 - 600 CE	Sastri, 1972
Yuan Chwang	645 CE	Sastri, 1972
Chau Ju-Kua	1225 CE	Hirth and Rockhill, 1966
Marco Polo	1260 -1300 CE	Yule and Cordier, 1993
Account of embassies between China and India	1279-1292 CE	Sastri, 1972
John of Montecorvino	1292-1293 CE	Sastri, 1972
Wang Ta Yuan	1330 CE	Rockhill 1915
Friar Jordanus	1323-1330 CE	Sastri, 1972
Ibn Battuta	1333-1345 CE	Sastri, 1972
Duarte Barbosa	1516-1517 CE	Dames, 1967
Caesar Frederic	1563-1581 CE	Caldwell, 1982
Perdro Teixeira	1568 CE	Sinclair and Ferguson, 1967
Van Linschoten	1576-1592 CE	Arunachalam, 2011

This industry was worked by the local fishing community, namely *Paratavar*, from time immemorial as the conch shell collection is carried out even today by them without any intervention (Athiyaman, 2000). This industry around Korkai and then Kayal region has attracted many traders from east and west and this enhanced its influence in the socio-political environment of the inland region (Arunachalam, 2011; Stephen, 1998).

### Horse Trade

Arabian horses were traded along the West and East Coast of South India in the early historic period. The horses making voyages along the Arabian Sea reached the South east coast of Tamil Nadu and were much sought after up to the Vijayanagar period. The inscriptions recounting horse trading and the sculptures and paintings on maritime activities depicted in the medieval temples

of Tamil Nadu are striking examples. The Nayak period painting depicting an Arab ship arrival with horses was found at Thirupudaimarudur Temple, Thirunelveli District and sculptural representation of Arab merchants landing in a ship at Thirukkurungudi temple provide authentic evidence regarding the maritime activities of this region (Deloche, 2011; Athiyaman, 2011, Figs. 4-5). This trade was mainly carried out by the Arab merchants as the inscriptions and the art representations suggest (Jayakumar, 2001; Athiyaman, 2011; Rajavelu, 2011).

### Maritime Trade with Southeast Asia and China

Since Sri Lanka is nearest the study region, the maritime trade contact was very frequent and almost uninterrupted from 3rd century BCE. The evidence of the existence of early contacts is covered in recently edited volumes (Manguin et al., 2011). The earliest Tamil inscription is found at Khuan Luk Pat of Thailand, a touch stone belonging to the goldsmith of the third century CE (Chaisuwan, 2011). Medieval Tamil Inscriptions



Fig. 4 Mosaic of Thirupudaimarudur painting of Horse Trade. (Athiyaman and Rajavelu, 2011)

at various places of Southeast Asia prove beyond doubt that the contact between Gulf



*Fig. 5 Sculptural representation of Horse Trade (Thirukkurungudi). (Athiyaman, 2011)*

of Mannar region and Southeast Asia was prolific (Subbarayalu, 1998; Karashima, 2002). It continued as one could glean from the accounts of pearl fishing in the Gulf of Mannar even during the Colonial period.

### **Maritime Trade with Western world**

Many studies have been made by scholars on the Indo-Roman trade after Warmington (1974). The ports of India, trade goods, shipping and navigation have been studied in the light of the foreign accounts, archaeological excavations conducted at Indian ports of Pattanam, Pumpuhar, Arikamedu, Alagankulam and Korkai, pottery inscriptional evidences and the Vienna Papyrus as well. It is beyond the scope of this present paper. However, the western trade with this region was continued, without break and this region played an active role in it (Young, 2001; De Romanis, 2012).

### **Potential region for Marine Archaeological Studies**

The Gulf of Mannar has more marine archaeological potential than the northern coast of Tamil Nadu of India. The Marine Archaeological studies carried out at various places of the Northern Tamil Coast like Pumpuhar, Arikamedu and Mamallapuram did not yield much evidence except for the 18th century shipwreck explored by CSIR-NIO, Goa, off Pumpuhar (Sila Tripathi et al., 1996; and Sila Tripathi et al., 2003). The excavation conducted by the Archaeological Survey of India, also did not yield any concrete

evidence due to the nature of seabed. In northern Tamil Nadu a lot of sediments are carried by the rivers throughout the year and they are deposited in the littoral and shallow water region. The clay formation is so high that a fairly good marine archaeological exploration is not at all possible. However, the Gulf of Mannar is protected by Sri Lanka from the onslaught of huge waves and cyclones. Hence the shipwrecks and lost anchors could be found with more convenience. The sea is relatively calm for long periods. Moreover, the stone anchors found off Rameswaram can be taken as a precursor for marine archaeological studies. The busy trade activity throughout history allows one to presume that this region should be probed intensively in future.

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## **Biography**

**N. Athiyaman** working as a Professor in the Department of Maritime History and Marine Archaeology of Tamil University, Thanjavur, India has about 30 years of service in research organisations at various levels. He has participated in marine archaeological investigation off Pampuhar, in collaboration with National Institute of Ocean Technology, Chennai. He has salvaged four stone anchors and two metal anchors of medieval period in Gulf of Mannar. He has participated in excavations of early historic settlement sites conducted by Tamil University. He has authored four books and edited 13 volumes on Archaeology, History and Maritime History. He is the life member of Indian History congress, Society for Marine Archaeology and Tamil Nadu Archaeological Society.