



# MEDITERRANEAN TRADE IN EARLY TAMIL REGION – A STUDY OF THE ARCHAEOLOGICAL EVIDENCE

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**Abstract:** The trade between early Tamilakam and the Mediterranean region was a significant component of the changes witnessed by the early historic India. The exchange of commodities promoted industrial and urban developments in the Tamil region. Subsequent expansion of the maritime trade networks to Sri Lanka and Southeast Asia not only facilitated economic growth but also promoted cultural interactions. The unevenly distributed resources in diverse physiographic zones necessitated the exchange of commodities for ancient Tamils. The coastal as well as inland centres served as important segments of the trade networks. The present study focuses upon the archaeological remains discovered from recently excavated sites in the Tamil region which add to our information and offer fresh insight into the extension of the Indo-Roman trade.

**Keywords:** Archaeological; Coins; Excavations; Indo-Roman; Inscriptions; Mediterranean; Rouletted Ware; Sangam; Tamil; Trade

Received : 28 July 2023

Revised : 29 August 2023

Accepted : 10 September 2023

Published : 30 December 2023

## TO CITE THIS ARTICLE:

Vikas K. Verma (2023). Mediterranean Trade in Early Tamil Region – A Study of the Archaeological Evidence, *Journal of South Asian Research*, 1: 2, pp. 111-134.

## Introduction

Ancient Tamils were great seafarers who maintained contacts with the Persian Gulf, Mediterranean region, Sri Lanka, Southeast Asia and China through maritime trade. The contacts with these distant lands were facilitated by the development of urban centres and emergence of trade networks. The exchange process, however, involved not only the sea links but also the overland and riverine routes. The integration of these communication channels was essential to obtain commodities from different physiographic zones of the Tamil region as well as its supply to far

and wide. Sangam texts refer to the term *tinai* for the five-fold geographical divisions in ancient Tamilakam, which includes *kurinji* (hilly region), *palai* (dry/arid lands or waste lands), *mullai* (woodland or forest), *marudam* (cultivated plains) and *neydal* (coastal region). (Arokiaswami, 1972:84; Raghunathan, 1997:80-81) The literary works contain significant information with regard to the trading practices in the region. The facts, nevertheless, are supported by the archaeological discoveries in the form of ceramics, coins and other evidence at several sites in Tamilakam as well as those located in other countries connected to this exchange mechanism. Ever since the first systematic excavation of Arikamedu by the Archaeological Survey of India (ASI) under the supervision of Mortimer Wheeler in 1945 and labelling the site as an 'Indo-Roman Trading Station' on the basis of the Mediterranean artefacts found here, extensive researches including the archaeological studies have guided us to understand the various aspects of trade contacts in early south India. (Wheeler *et al.*, 1946:17-124; Wheeler, 1976:43-52) During the recent decades many important archaeological sites in Tamil Nadu underwent fresh seasons of excavations that brought to light notable antiquities with regard to the Indo-Roman trade in early historic period. The objective of this study, however, is to highlight the discoveries in the context of Indo-Roman trade brought to the light either by the fresh seasons of excavations at earlier dug sites or the findings at newer sites in recent times.

### **Arikamedu**

Arikamedu is one of the most important coastal sites in Tamil Nadu that is associated with the Mediterranean trade in ancient period. It was first mentioned in 1734 in a communication from the Consul of the Indo-French colony of Pondicherry (now Puducherry). Later the French scholar Guillaume le Gentil (1779) confirmed the earlier identification of the place and recorded the details of Arikamedu in his account. In 1937, Gabriel Jouveau-Dubreuil collected gems and stones from the site which included the head of Augustus in an intaglio. Subsequently, Madras Museum conducted excavations in 1940 and the findings were reported in local dailies. This was followed by a small-scale excavation at Arikamedu during 1941-44 by Brother L. Fauchaux and R. Sarleau that brought to light the remains of Mediterranean pottery and other artefacts. Thereafter, the excavations by Mortimer Wheeler (1945), J.M. Casal (1947-50), three seasons of excavations from 1989-90 to 1991-92 by Vimala Begley and Steven E. Sidebotham with a joint Indian-American team (Arikamedu Excavation Project) yielded significant remains of many kinds. The examination of imported potteries

at Arikamedu, including rouletted ware, arretine ware belonging to the *terra sigitella* or a class of stamped pottery and a large number of amphorae sherds datable to the period from the second century BCE to the second century CE, by Begley suggest that there existed a settlement of westerners at the site. (Begley, 1993:93-108; Begley et al., 1996:12-41) A large piece of arretine ware sherd was found carrying the potter's stamp in Roman characters – 'VIBII (VIBIE or VIBIF) CAMVRI, ITTA'. This refers to the name of the manufacturer's firm and indicates that the stamps belonged to two families of Arezzo potters, namely VIBII and the VIBIENI. (Wheeler et al., 1946:39-40; Wheeler, 1976:46-47) The discovery of the fragments of Roman jars datable to the first century CE from a trench laid during 2003-04 by the Archaeological Survey of India (ASI) to the north-east of the warehouse identified by Wheeler in the northern sector of the port, also testifies the Mediterranean contact. (Ravitchandirane, 2007:205-323) Besides, the recent exploration in the excavated areas and on the right bank of river Ariyankuppam during 2016-17 yielded rouletted ware sherds, varieties of beads, brick ball in the northern sector of the site, roofing tiles and other remains. (Tripathi et al., 2017:60-67) The antiquities observed at the site furnish significant evidence for the maritime trade with the distant lands.

### Alagankulam

Alagankulam located on the northern bank of river Vaigai in the Ramanathapuram district of Tamil Nadu was excavated by the Tamil Nadu State Department of Archaeology (TNSDA) during six seasons of spreading over 1986-87, 1990-91, 1993-94, 1994-95, 1995-96 and 1996-97 respectively. In total, nineteen trenches were laid. The occurrence of Mediterranean potteries and coins issued by Roman emperors indicate that a Roman settlement existed at the site during the early centuries of the Common Era as observed at Alagankulam. (Majeed et al., 1992:10-15; Kasinathan, 1996:86-92; Sridhar, 2005:23-88) Of the ten coins found here, three are the Roman coins datable to the fourth century CE which were issued by the Valentine II (CE 378-383), Theodosius II (CE 383-393) and Arcadius I (CE 395-408) respectively. (Majeed et al., 1992:14-15; Kasinathan, 1996:80-90) While the ceramics and other artefacts discovered in early excavations led R. Nagaswamy to assign the date from *circa* 250 BCE to CE 500 for the existence of settlement at the site, the antiquities, especially numerous ceramics unearthed during later excavations in 2005 by the TNSDA reflect that there was continuous occupation at the site from at least 400 BC to AD 500. (Nagaswamy, 1991:250-51; Ramachandran, 1996-97:23-26; Odelli et al., 2020:3) One of the most interesting findings from Alagankulam include a rouletted

sherd depicting the figure of a ship on the shoulder portion. A comparative study of this figure with ancient Roman vessels by Lionel Casson shows that the graffito represents a large ship with three masts that was used by Graeco-Roman, Egyptian and Indian navigators sailing during the first three centuries CE. (IAR, 1997-98:160-62; Jayakumar, 1999:76) The evidence, thus, suggest that Alagankulam was an important port of the Pandyas and had trade contacts with the Roman world in early centuries of the Common Era. (Dayalan, 2019:31-32)

### **Kaveripattinam (Pumpuhar/Puhar)**

Kaveripattinam (Puhar/Pumpuhar) located on the confluence of river Kaveri in the Nagapattinam district was another famous port of the Sangam Age which played a very active role in the Mediterranean trade. Besides frequent literary references, the archaeological findings from several seasons of explorations and excavations also provide valuable information in this regard. (Soundararajan, 1994: 8-15; Sridhar, 2011: 83-142) An exploration by the Southern Circle of the ASI in 1961 revealed that the early historic sites are located within the 8 km. stretch along the coast extending from the village of Neidavasal in the north to Vanagiri village in the south. The occurrence of rouletted ware at these coastal sites and a Roman copper coin from Velliyanirrupu (the abode of the White men or the *Yavanas*) village help us to trace the antiquity of the site to the early centuries of the Common Era. (IAR, 1961-62:26-27) Sangam poems also attest the existence of a Roman settlement at Kaveripattinam that was a great emporium of trade. Later, the excavation undertaken at Kaveripattinam by the Southern Circle of the ASI during 1963-64 was resumed in 1964-65 and subsequently in 1972-73 yielded structural remains of a brick wharf (Kilayur site) and a Buddhist *Vihara* (Pallavavanesvaram site) along with square copper coins of the early Cholas and different kinds of potteries. The radiocarbon dating of the remains in nearby area of the wharf platform suggests that it was used in the second century CE. The notable ceramic type in the context of Mediterranean trade found at the site includes the rouletted ware. (IAR, 1964-65:24-25; Soundararajan, 1994: 26-50) A preliminary offshore survey conducted in 1981 jointly by the TNSDA and the National Institute of Oceanography (Goa) highlighted the archaeological potential of the site. This was followed by an exploration in off the shore of Kaveripattinam that begun in 1991. The explorations in the sea continued in subsequent years and brought to light the structural remains of ancient city of Pumpuhar. The evidence found in 1994 led the scholars to infer that encroachment of the sea upon the ancient city resulted in the submersion of an area covering at least 5 km. along the coast and 2

km. seaward from Kadaikkadu to Chinnavanagiri and further south, which must have been the minimum extent of the ancient Chola port. (Kasinathan, 1991:1-6; Soundararajan, 1994; TNSDA, 1994:8-9) Later, the excavation of the site by TNSDA in 1997-98 in twelve trenches in Kilarveli, Kilaiyur, Desaikulamedu in Vanagiri and Melaiyur around Pumpuhar affirmed the cultural periods at the site ranging from 300 BCE to CE 1200 as revealed by earlier investigations. (IAR, 1997-98:159; Soundararajan, 1994: 129-34)

### **Karaikaddu (Kudikadu)**

Karaikaddu is situated in Cuddalore district of Tamil Nadu. Prior to carrying out excavation, a proton-magnetometric investigation was conducted at the site by Yves Martin of the *Institute de Pysique du globe*, Paris (on behalf of the French Institute of Pondicherry). This was followed by a trial excavation at Karaikaddu by the Southern Circle of the ASI which brought to light the remains datable to the first century CE. Although no remains of any regular structure was found here, the site yielded varieties of beads in different stages of manufacture indicating the presence of bead-making industry, and the pottery of many kinds including rouletted ware in pink and grey colour. The antiquities suggest that Karaikaddu was an Indo-Roman trading station. (IAR, 1966-67:21; Gupta and Raman, 1994:167-70) Later, the excavation of Karaikaddu was carried out in the 1988 by the Department of Ancient History and Archaeology, University of Madras. The important discoveries were a brick structure associated with the bead-making workshop, and Mediterranean potteries including rouletted ware and amphorae pieces that have helped in dating the site tentatively from the first century BCE to the second century CE. (IAR, 1987-88:103; IAR, 1988-89:80) The evidence suggests that Karaikaddu was a part of the trade network connecting Arikamedu and functioned as the satellite centre. (Gupta and Raman, 1994:167-70)

### **Marakkanam (Sopatma)**

There are sites which find mentioned as important ports or market centres in the ancient literature but the available evidence due to limited excavations do not supply sufficient information about their antiquity. Further investigations, therefore, are required to provide us with data to reconstruct the proper chronological order since the beginning of the settlement. For example, Marakkanam, located about 30 km. south of Mamallapuram (Mahabalipuram), is a coastal town in Villupuram district of Tamil Nadu. The place is identified with Eyirapattinam mentioned in ancient literary texts. (Pillai, 1932:177)

The foreign accounts such as the *Periplus* (circa first century CE) refers to it as Sopatma along with Camara/Kamara (Kaveripattinam/Poompuhar) and Poduca/Poduke (Arikamedu) as an important port. This commercial centre was connected to the coastal sites on the Coromandel coast extending to the Gangetic area and Chryse (probably Burma, then called Suvarnabhumi) in the first century CE. (Wheeler, 1954:123; Casson, 1989:89; Prasad, 1977:85; Chakraborti, 1966:127) The description in the Sangam poems portray this port as a fortified city and great mart. (Mudaliar, 2000:49; Mahalingam, 1961:111-19; Selvaraj, 1989:10-11) The name Marakkanam is also associated with lord Shiva, the presiding deity of the Bhumisvara temple of Marakkanam belonging to the Chola period. This comes from the brass band on the forehead of the *linga* that resembles the one tied around the 'Marakkal' (measuring jar) used as a unit for measuring grains. (ARE, 1919:95; Selvaraj, 1989:13) A small-scale excavation at the site conducted by the TNSDA in 2005-06 has revealed two cultural periods – medieval and modern periods. (TNSDA, 2005-06) A huge mound located to the east of the Bhumisvara temple, nonetheless, still awaits a systematic excavation.

### **Vasavasamudram**

Vasavasamudram is a coastal site located on the mouth of the river Palar in Kanchipuram district of Tamil Nadu. The place is closely associated with the rule of the Pallavas from the last quarter of the third century CE. The origin of the present village called Vasavasamudram can be traced to the fifteenth–sixteenth centuries CE during the Vijayanagara period. The history of this settlement is constructed primarily on the basis of the archaeological findings. (Nagaswamy and Majeed, 1978:1-6) A salvage excavation at the site was conducted by the TNSDA during 1969-70 after a chance find of conical jar by a resident while digging his field. The digging revealed only one period of occupation and the occupational layers were found on an average deposit of 1.7 m. The antiquities discovered here correspond to those found at Arikamedu, and are datable to the third-fourth centuries CE. The paucity of significant artefacts in the context of trade further indicates that the phase coincided with the decline in trade. Besides the various kind of potteries, beads and imitated objects such as neckless conical jars etc. found here, the remains such as a solitary piece of amphora and two rouletted ware sherds of Mediterranean origin datable to the first century CE were discovered. The evidence although attest the Mediterranean contact, the activities of Romans at Vasavasamudram is traceable to a later date than that of their presence at Arikamedu. The site



seems to have been occupied for a short time during the early centuries of the Common Era and functioned principally as an industrial site for a brief period during *circa* second century CE. (IAR, 1970-71:33; Nagaswamy and Majeed, 1978:7-24) Although the industrial activities at Vasavasamudram and its location to the south of Mamallapuram (Mahabalipuram) suggests that this coastal centre should have played a significant role in the overseas contacts during the Pallava rule, a recent survey conducted by the 'United Nations Ground Water Project' indicates that Vasavasamudram and its surroundings is situated at an elevation of about 6 m. above the sea level whereas the sites of the Pallava period are found at height much below the sea level. This study has led to infer that it was not a port during the Pallava period. (Dayalan, 1987:133-34) Further investigations, therefore, are required to reconstruct the past of this ancient site.

### **Mamallapuram**

Mamallapuram is also mentioned as an important port town in ancient literature including the early foreign accounts. Some scholars identify Punjeri, a village located about 1.5 km. west of Mamallapuram, as the actual site of the ancient seaport. The occurrence of antiquities such as two Roman coins of Theodosius at the site, the remains of rouletted ware and amphorae pieces in the nearby areas further suggest the contact of this coastal centre with the Mediterranean region. (Ramaswami, 1989:23-24; Dayalan, 1987:133-34; Mitchiner, 1995:13) However, the archaeological remains from the site, epigraphic records and literary works of later periods show this as a celebrated port of the Pallavas, which facilitated the contacts with Sri Lanka, Southeast Asia and China. The off-shore explorations at Mamallapuram during 2001-02 by the Underwater Archaeology Wing of the ASI to the east and the north of the shore temple brought to light the submerged structures belonging to ancient temples. (Tripathi, 2002:95-97) But no datable artefact have been found so far to ascertain the chronology of these submerged remains. Therefore, a systematic excavation is required at the site in order to understand the antiquity of the site in a proper chorological framework.

### **Keeladi (Keezhadi)**

Keeladi (Keezhadi) is located on the southern bank of river Vaigai in the Sivaganga district. The archaeological survey conducted in 2013-14 along the river Vaigai valley in Theni, Dindigul, Madurai, Sivaganga and Ramanathapuram districts led to the identification of 293 sites including Keeladi with archaeological

potential. This was followed by four seasons of excavations at Keeladi in 2015, 2016, 2017 and 2018 respectively. The excavations during the first three phases were carried out jointly by the ASI while the fourth was conducted by the TNSDA. These archaeological investigations traced the beginning of the Sangam Age settlement at the site to the sixth century BCE. The cultural periods, on the basis of antiquities datable to the period ranging from the Iron Age (pre-300 BCE) up to the Chola period (tenth century CE) discovered here, is dated from *circa* third century BCE to the tenth century CE. (Ramakrishna et al., 2018:30-72; Sivanantham and Seran, 2019:54; Jesudasan, 2019; Rajan, 2019; Annamalai, 2019) The fourth season of excavations in 2018 brought to light the remains ascertaining the evidence for the 'second urbanisation' in Vaigai plains of Tamil Nadu contemporaneous with the urban developments in Gangetic plains. (Ramakrishna et al., 2018:30-72; Sivanantham and Seran, 2019:9-23; Jesudasan, 2019; Rajan, 2019) The Mediterranean contacts is reflected in the discovery of arretine ware and imitated variety of rouletted ware datable to the second century BCE. Its arrival at the site was probably from Alagankulam, as the latter was a famous port located nearby which had an active role the Indo-Roman Trade. (Sivanantham and Seran, 2019:5; TNSDA, 2019:11; Odelli et al., 2020:2-3)

### **Porunthal**

Porunthal located on the left bank of the river Porunthilaru in the foothills of the Western Ghats in Dindugal (Tintukal) district also served as an important centre in the Mediterranean trade network. After the discovery of this site in 2006, the excavation which was subsequently conducted during 2009-10 yielded archaeological remains beginning from the Iron Age to the medieval period. Three trenches laid on the habitation mound on the left bank of the river revealed a single cultural deposit at the site dated to the period from the first century BCE to the third century CE. (Rajan et al., 2013:62-85; Rajan, 2019:109-20) The literary works and inscriptions also attest the existence of the site since early historic period. The paddy grains in a megalithic burial chamber found here is dated to the fifth century BCE which marks the date of the early historic graves in Tamil region. The merchant guild inscriptions of the Chola period establishes the significance of Porunthal as a trade centre. The archaeological evidence, thus, reflect the occupation at the site from the Megalithic period up to the present time. The location of the site close to the major trade route connecting Madurai and Vanji, the capitals of the early Pandyas and Cheras respectively, and its contacts with the Pandyan port of Alagankulam on the east coast and the Chera port of Pattanam (Muciri/Muziris) on the west coast



also could have facilitated the mobility of traders from different parts of the subcontinent as well as those from the Mediterranean region. (Rajan et al., 2013:62-85; Rajan, 2019:109-20; Cherian, 2015)

## Karur

Karur is located on the bank of the river Amaravati in Karur district of Tamil Nadu. Besides the literary works, the inscriptions and coins of the historical period suggest that Karur was the capital of the Sangam age Cheras. The evidence also indicate that it was a flourishing commercial centre. The town is also referred to in the Pallava and Chola inscriptions. Karur was excavated by TNSDA during 1973-74, 1977-79 and 1996. (Nagaswamy, 1995:89-158; Sridhar, 2011:53-57) The antiquities from the trenches laid at the site revealed four successive occupational periods from second century BCE to fifteenth century CE. In the context of Indo-Roman trade, amphorae pieces, arretine ware and rouletted potsherds of Mediterranean origin were found in different trenches from the layer marked as the Period II dated to first century CE–second century CE. (Nagaswamy, 1995:63-65; Sridhar, 2011:58-66) Besides these excavated remains, the discovery of several hoards of Roman coins from Karur, the earliest belonging to the first century CE, also highlight the foreign contact. More than five thousand late Roman coins of copper or bronze datable to the fourth–fifth centuries CE have been reported from Karur testify the continuation of the Mediterranean linkage in the region. One of the most significant numismatic finds is the inscribed silver coins with portrait head of the king and Tamil-Brahmi legends reading Makkotai and Kuttuvan Kotai who are identified as Chera rulers. The first coin is datable to the first century CE while the other is assignable to the end of third century CE. The resemblance of the portrait to that found on the Roman coins suggest that these were cast by the Roman artists who were present at Karur. This further indicates the continuing presence of the Mediterranean craftsmen in the town towards the end of the third century CE and even later as shown by the availability of the late Roman issues. (Nagaswamy, 1995:12-27) Another notable discovery at Karur is a chance find of a golden signet ring from the Amaravati river bed in 1991, which portrays a couple. The female figure on the ring bears similarities to the figure of a standing lady holding a metallic mirror carved on an imported rouletted potsherd found at Arikamedu. Both of these resembling artefacts are datable to the first century CE and reflect the influence of Graeco-Roman lapidary art of engraving in *intaglio* that was practiced by the Mediterranean artists in Tamil region. (Suresh, 1992:56-57; Nagaswamy, 1995:66-69; Suresh, 2004:142-44)

## Kodumanal

Kodumanal is located on the northern bank of the river Noyal in Erode district of Tamil Nadu. It was situated on the ancient trade route that connected Karur with Pattanam (Muciri/Muziris) on the Malabar coast passing through the Palghat Gap. The favourable geographical position and resource-richness with respect to the availability of semi-precious stones helped it establish as a famous bead-making centre, which is known from various Sangam texts as well as the archaeological discoveries. (Rajan, 1998:73; Rajan and Athiyaman, 2004:385-414) The antiquities in the Coimbatore area were first noticed in 1957-58 and 1961-62 respectively by the Southern Circle of the ASI. (IAR, 1957-58:38; IAR, 1961-62:26) Later a trial excavation was conducted here in 1980 by the TNSDA. But the real breakthrough in this direction was marked by the four seasons of excavations 1985, 1986, 1989 and 1990 respectively by the Department of Epigraphy and Archaeology, Tamil University in collaboration with the Department of Ancient History and Archaeology, University of Madras and the TNSDA. This was followed by further excavations at Kodumanal by the TNSDA during 1992-93, 1996-98 and 1999-2000. (Rajan, 1990: 93-102; Rajan, 1991:111-12; Rajan, 1994; Rajan, 1996:72-86; Sridhar, 2011:1-50)

On the basis of the archaeological remains from the fifteen trenches dug at the site, especially ceramics of different kinds and Brahmi characters on potsherds, two cultural periods with distinguished features have been marked. The Period I is the megalithic phase datable to 300 BCE – 100 CE while Period II is identified as the early historic period dated 100 CE – 300 CE. (Rajan, 1996: 72-77; Sridhar 2011:16-17) The most remarkable find from the excavation in 1997 was two northern black polished ware potsherds which confirm the contacts of ancient Tamils with northern India especially Ganga valley. (IAR 1997-98:154-56) The discovery of Roman potteries including rouletted ware and arretine ware, and a terracotta head with Graeco-Roman features further strengthen the assumption that the site was an important trade centre connecting the east coast with the west coast. (Suresh 1992:37-55; Suresh 2004:111-39) The excavated evidence, thus, indicate the megalithic people of Karur were not nomadic but rather developed an industrial based economy and participated in trade with different regions of the subcontinent as well as in Indo-Roman exchange network.

## Kanchipuram

Kanchipuram is a district town in Tamil Nadu. It is mentioned as a celebrated religious centre in ancient literature. (Mahalingam, 1969:1-24; Pandian,

1989:187; Madhaviah, 2000:75-77; Beal, 1884:228-30; Watters, 1905:226-27) It also served as the seat of power of a Sangam Age chieftain during the rule of Karikala Chola (*circa* 150 CE) and later of the Pallava kings (*circa* sixth-ninth centuries CE). (Raman, 1987:61; Mahalingam, 1969:11; Raman, 1994:225) A trial excavation was conducted by the Southern Circle of the ASI in 1953-54 at Pallavamedu or Palimedu on the outskirts of Kanchipuram. (IAR, 1953-54:70-71; Sridhar, 2004:57-59) This revealed four successive structural periods. The upper three phases could be distinguished only on the basis of the superimposition of structures, and there is no significant difference in the ceramics of these periods. Further, the presence of a large number of shell bangles in different stages of manufacture indicates that the site was a manufacturing centre for their production. (Sridhar, 2004:57) Subsequently, the excavation was carried by the ASI in the premises of the Kamakoti Math during 1962-63 which brought to light the two cultural periods. The early level of Period I yielded the remains of amphorae and rouletted sherds whereas Satavahana copper coins were found from the latter cultural phase. Period II coincided with the medieval period. (Ramachandran, 1980:92-95; Subrahmanyam and Raman, 1967:501-08) Later the excavation at Pallavamedu was carried out in 1970-71 by the TNSDA, which revealed three periods of occupation. The evidence observed were associated with the Pallava rule in this region from the sixth to the ninth centuries CE. (IAR, 1970-71:33; Sridhar, 2004:57-58) The major effort in this direction, however, was a series of excavations at Kanchipuram conducted by the Department of Ancient History and Archaeology, University of Madras from 1969-70 to 1975-76. This revealed six cultural phases containing antiquities ranging from the early historic to the late medieval period. (IAR, 1970-71:32-33; Arasu, 1979:14; Raman, 1994:225-36) The archaeological findings indicate the continuous occupation of the city from at least 300 BCE through the Sangam Age, the Pallava, the Chola, the Vijayanagara and the post-Vijayanagara periods. In the context of Mediterranean trade, the trench in the compound of the Kamakshi Amman temple yielded the remains of rouletted ware and arretine ware. Local imitations of amphorae commonly occur at the site which reflect the influence of Roman pottery on local ceramic tradition. (IAR, 1970-71:32-33; Ramachandran, 1980:95; Raman, 1987:61-72) However, further investigations and a detailed excavation report is required to understand significance of Kanchipuram in history as our information from the archaeological sources is primarily based on the preliminary report of the excavations hitherto.

## Pattaraiperumbudur

*Pattaraiperumbudur in Tiruvallur district was excavated in 2016 by the TNSDA. The antiquities discovered at the site include the remains from the prehistoric period to the early historical period. (TNSDA, 2016) Besides the Stone Age tools and other artefacts, the potteries from the site include perforated conical jars and rouletted ware. In the context of maritime activities, the site has yielded a large number of potsherds bearing graffiti such as the ship symbol, star design and geometrical designs. The discovery of the Roman pottery indicates that this centre functioned as an important inland link in the Mediterranean trade network that connected the nearby towns such as Kanchipuram to the ports. (Sivakumar, 2018)*

## Kottaimedu

Kottaimedu is situated on the north bank of river Pambai Vayyakal in the Union Territory of Puducherry. It is located 25 km. north from the famous site of Arikamedu. The surface findings from the site include the local and imported objects which are datable from the first century BCE onward. The bricks and potteries such as black ware found here bear similarities to those from Arikamedu. Besides the discovery of other antiquities, the remains of Mediterranean origin including amphora sherd, rouletted ware and a Roman glass bowl datable to the first century BCE establish the fact that the Kottaimedu was connected to Arikamedu at least from the early centuries of the Common Era. Furthermore, the resemblance of various artefacts from both these sites suggests their participation in the Indo-Roman trade networks. (Arunraj, 2015:39-43; Ravitchandirane, 1995:3-6) As the ASI has approved excavations at the site in 2022, further investigations would lead us to a clear understanding the trade mechanism in the region.

## Tirukkoyilur

Tirukkoyilur is located on the southern bank of river Thenpennai (South Pennar) in Villupuram district. The excavation at this site was conducted by TNSDA in 1994 that helped locate significant evidence. The beginning of the habitation at the site has been traced to the late megalithic phase (*circa* 100 BCE) which continued till the seventeenth century CE without any break. (Kasinathan and Majeed, 1996:10-11) The rouletted ware and amphora remains from the lowermost layer of a trench laid for excavation belong to Period I (100 BCE – 400 CE) at the site. (Kasinathan and Majeed, 1996:6-16) This attest the existence of Roman contact with the site which is further corroborated by the

discovery of a Roman coin hoard in the year 1991 with 191 gold coins datable to the first century CE from Choraipattu village near Tirukkoyilur of which 183 coins were imitations. The examination of the coins indicates the presence of Roman merchants in this region and their interaction with the local traders. (Kasinathan and Majeed, 1996:37; Santhi, 1998:40-43)

### **Sendamangalam**

Sendamangalam is situated on the southern bank of river Gadilam in Villupuram district of Tamil Nadu. The site was initially excavated during 1992-93. Later it was subjected to two seasons of excavations respectively in 1995 and 1996 by TNSDA which revealed that the site was occupied from the Megalithic period up to the fourteenth century CE. The archaeological evidence, however, show that it played a very significant role in the history of amil region during medieval period. (Sridhar, 2011:1-49) Although its history during the Sangam age is not very clear, the discovery of the rouletted ware sherds from the lowermost layer (Period I B) datable from the first century CE to the fourth century CE at the site suggest the Roman contact. (Sridhar, 2011:19-32)

### **Maligaimedu**

Maligaimedu is located in Cuddalore district of Tamil Nadu. It is surrounded by rivers Pennaiyaru, Gadilam and Malattaru. The site was first explored by TNSDA in the year 1998. The findings such as remains of bricks, potteries, etc. led to the excavations during 1999-2000 which indicate continuous occupation at the site beginning from the first century CE in the Sangam age to the thirteenth century CE. (Sridhar, 2011:51-83) The Period I datable to the period from first century CE to the fourth century CE represents the Megalithic culture. (Sridhar, 2011:59-60) Besides other kinds of pottery, the trenches at the site yielded the rouletted ware of Roman origin as well as imitated types of the same mostly belonging to the black variety. The discovery of a portion of an amphora further establishes the contacts with the Mediterranean Sea. (Sridhar, 2011:68-71)

### **Teriruveli**

Teriruveli in Ramanathapuram district of Tamil Nadu underwent archaeological exploration by TNSDA that brought to light microlithic tools and different ceramic types including rouletted sherds. This was followed by the excavations conducted at the site during 1999-2000 which yielded evidence in the form of a large number of potteries and other kind of antiquities revealing two periods of habitation namely Period I datable to 300 BCE – 100 CE and Period II covering the span of

100CE – 300 CE. (Sridhar, 2011:99-144) The rouletted ware in association with black-and-red ware was discovered in Period II. This kind of pottery assemblage was also found at Alagarai, Tirukampuliyur, Arikamedu and Uraiyyur. Rouletted sherds found here occur in both black as well as red colour. The latter type was also found at Alagankulam. Another important Roman ceramic from the site include amphora sherds. (Sridhar, 2011:106-12) These antiquities suggest linkages between these urban centres and that Teriruvveli was a flourishing trade centre of ancient Tamilakam.

### **Mangudi**

Mangudi is located on the northern bank of river Deviyaaru in Tirunelveli district of Tamil Nadu. The excavation was conducted during 2001-02 in the ancient mounds at Nayakkarpunchai and Lingathidal (Avudaiyapuram) situated 2 km. east of Mangudi. The earliest remains datable to 4000 BCE at the site belong to the microlithic phase of the prehistoric past. (Shetty, 2003:3) The excavation also yielded a few sherds of rouletted ware from the upper levels which are similar to those found at Arikamedu. (Shetty, 2003:20) Furthermore, the graffiti of catamaran and other types of boats drawn on the potteries observed at the site suggest the practice of riverine trade. (Shetty, 2003:49) The remains of rouletted ware, nevertheless, indicate the Mangudi also contributed to the trade activities between Tamil region and Rome. (Shetty, 2003:61)

### **Pattanam (Muziris/Muciri)**

Pattanam (Muziris/Muciri) located near the mouth of river Periyar in the Ernakulam district of Kerala was famous port on the west coast of Tamilakam in the early historic period. Besides numerous references to this trade centre in ancient texts including foreign accounts, recent excavations of the site have yielded significant evidence corroborating its Mediterranean and West Asian contacts. (Selvakumar *et al.* 2005: 57-66, Cherian 2007-8: 5-20)

The recent archaeological investigation at Pattanam by the Kerala Council for Historical Research (KCHR) in 2007 brought to light the antiquities that establish the multicultural and urban nature of the site. (Cherian *et al.*, 2007: 1-10) the earliest settlement at the site is traced to the Iron Age as revealed by the presence of megalithic pottery and iron objects datable to the first half of the first millennium BCE. The discovery of a large quantity of pottery such as rouletted ware, arretine ware, amphora, Roman glassware fragments, etc., is clear indication for the Mediterranean trade. The noteworthy structural evidence excavated here include the remains of a wharf and a warehouse



reflecting the maritime activities at the site. (Shajan *et al.* 2004: 312-20; Cherian *et al.*, 2009: 236-40) In this context, one of the most noteworthy antiquities is a dugout canoe measuring more than 6 m. in length made from a single log of wood located within the wharf complex. This was found to be in a highly decayed state and is datable to *circa* first century CE. (Cherian *et al.*, 2007:1-10; Cherian *et al.*, 2009: 239)

The sites such as Korkai located in Thoothukudi (Tuticorin) district too has been subjected to archaeological investigations since long but no systematic excavation has been carried out so far at the place. The site was first excavated at a small scale by R. Caldwell in 1876. This yielded a number of urns of which one was very large and contained human bones and skull. (Caldwell, 1877:80-82) Much later the excavation by the TNSDA in 1968-69 was conducted to access archaeological potential of the site and its cultural sequence. The three consecutive periods observed at the site are Period I from the third century BCE to the fourth century CE, Period II from the fourth century CE to the tenth century CE and Period III from the tenth century CE to the fourteenth century CE. Although the evidence confirm the continuous existence of conch bangle-making industry and pearl fishery at Korkai, the site has not provided many clues about the maritime activities, but they have revealed this port town existed many centuries even before the common Era. (Majeed, 1987:73-77; Sridhar, 2004:46-56; Arunachalam *et al.*, 2006:278-80)

The evidence in the form of inscriptions, coins and other remains, especially beads, discovered at different places also reflect significant light on the Mediterranean contact with Tamil region. The recent discovery of two short Tamil-Brahmi inscriptions on potsherds referring to a male personal name (Catan or Cattan) found in recent excavations at the coastal site of Quseir al-Qadim (Leukos Limen) on the Red Sea coast in Egypt from the layer coinciding with the period of Roman trade further establish the Mediterranean contacts. This epigraph is datable to the first or second century CE. (Whitcomb, 1979:18-19; Begley, 1983:480-81; Sidebotham, 1991:12-38)

The noticeable numismatic evidence associated with the Mediterranean trade are a number of Greek coins datable to *circa* third century BCE reported from Karur in recent years. (Krishnamurthy, 1995:34-45; Krishnamurthy, 2000:4) Ten Seleucid bronze coins issued during the rule of Seleucus II (246–226 BCE) and four Phoenician copper coins datable to the second–first centuries BCE were also found here. (Krishnamurthy, 1993a:19-28; Krishnamurthy, 1993b:19-27) Furthermore, twenty-seven imitated variety of Indo-Sassanian silver coins belonging to the Sassanian dynasty (CE 226–641) found in a hoard

at Vallimalai in Vellore also reflect about the contact with Persia extending further to the Mediterranean region. (Santhi, 1997:73-75) Two Aksumite copper coins datable to the period from CE 350 to CE 640 were also found from Amaravati riverbed near Karur in 1991 and 1997 respectively, which indicate the existence of trade network connecting Aksumite (Abyssinian) kingdom in Ethiopia (north Africa) to Rome, Greece, Arabia and India. (Krishnamurthy, 1998:58-64) This fact is corroborated by the discovery of a potsherd with Tamil-Brahmi inscription from the Egyptian port of Quseir al-Qadim (then called Leukos Limen) mentioned earlier. (Whitcomb, 1979:18-19; Begley, 1983:481; Siebotham, 1991:12-38).

Several hoards of Roman coins have been found at different places in south India. Tamilnadu has yielded perhaps the largest number of Roman coin hoards. They have been discovered in almost every district of Tamil Nadu from Mambalam (in Chennai) in the the north-east to Alagankulam in the South and Karur and Coimbatore on the west. Early Roman coins datable to the pre-Augustan period (*circa* first century BCE) are found from Kallakinar and Tiruppur both in Coimbatore district. (Suresh, 1992:11; Suresh, 2004:34-35) Roman issues of the first century CE have been also discovered in the south-eastern and southern districts of Tamil Nadu such as Thanjavur, Pudukkottai, Ramanathapuram, Madurai and Tirunelveli. An important discovery in this regard is a hoard of sixty-three Roman gold coins bearing the head of Augustus and other early Roman emperors in an earthen pot found in 1856 at Kalaiyamuttur in Dindugal district. (Elliot, 1956-57:157-58; Turner, 1989:58) Furthermore, a hoard of ten Roman silver *denarii* of the Augustan period (31 BCE - CE 14) found in an earthen pot at Uthamapuram in Madurai district suggests that the Roman traders might have entered through the Kambam valley to reach the Pandya territory. (Santhalingam, 1997:57-59) Besides the early Roman issues of silver and gold, the coins of base metals such as copper and bronze are also found from a few sites in Tamil Nadu such as a copper coin of Augustus from Vellaiyaniruppu (Kaveripattinam), a copper coin of Diocletian from Thanjavur, a bronze coin of Constantine I from Kilakarai (Ramanathapuram) and a few copper coins of Constantine I from Perur (Coimbatore). (Turner, 1989:19-20).

Late Roman and Byzantine coins dated to the period after Constantine I (mid-fourth century CE) are mostly found as single coin or surface finds in lesser number unlike the early Roman issues which occur commonly in hoards. The reason for very few or rare availability of such coins compared to that of the earlier period is assigned to the decline of Indo-Roman trade during the fourth-

fifth centuries CE. This also suggests that the Mediterranean contact reached its zenith in the first century CE and faced decline from the beginning of the third century CE. The trading activities, however, witnessed its revival during the reign of Constantine I or the period following his rule. (Sewell, 1994:591-637; Gupta, 1965:47-53) The recent studies, on the other hand, suggest that there was no decline of trade in the third century CE and consequently no revival in the fourth century CE. The evidence reflect that although there was gradual decrease in the volume of maritime trade from the third century CE onwards, the process of decline that began in the late first century CE continued steadily till the sixth–eighth centuries CE when the Indo-Roman contacts finally come to an end. (Suresh, 1992:19; Suresh, 2004:40) In fact, the change in the pattern of trade can be observed towards the close of the third century CE characterised by the shift in the focus of the Roman trade activities in India to Madurai region in Tamilakam. The discovery of monsoon in the first century CE also encouraged the direct sailing to the east coast ports through circumnavigation of the Cape. Furthermore, the geographical location of Madurai also facilitated the intensification of the contacts with Sri Lanka across the sea. The discovery of a large number of late Roman coins datable to the fourth-fifth centuries CE also validate this change as very few early Roman issues have been found from Madurai region as well as in Sri Lanka, and even those seems to have reached there through the land routes from the west coast which maintained active contacts with the Mediterranean region during the first century CE. (Turner, 1989:5) This also lead us to consider that numerous late Roman coins found at the sites located outside Tamil Nadu, especially in Kerala, Andhra Pradesh, Odisha, could have reached there from Madurai or Coimbatore region through the inland exchange networks while their entry in Gujarat and Karnataka region was through the direct maritime linkages with Rome. (Suresh, 1992:20-23; Suresh, 2004:38-39) Besides, several imitated varieties of these coins have been reported from the sites in central, western and southern India. In this context, an interesting find is a Roman coin die from Karur that was used to manufacture the Roman gold or silver coins to meet the local demand. (Krishnamurthy, 1996:43-48) Such coins datable to the fourth-fifth centuries CE found mostly in the sites of Tirunelveli and Madurai districts also indicate the rising demand of currency that led to the minting of local copies of the foreign issues due to the paucity of indigenous coins of the Sangam dynasties. (Tufnell, 1887-88:160-64; Boppearachchi, 1990:33; Suresh, 1992:23; Suresh, 2004:60-61)

Besides other kinds of material remains, beads have been among the most important items of exchange through the ages. In the context of early Tamil

trade with Mediterranean region, the presence of one mosaic cane bead and three gold-glass beads of Egyptian origin found at Arikamedu is noteworthy. This indicates about the contact with the Roman empire as such beads have been discovered at many sites in India which participated in the Indo-Roman trade, and are also found at a number of sites in other countries. (Francis Jr., 1987:6-7)

## Conclusion

The archaeological discoveries from excavations confirm the long-established practice of trade activities in the Tamil region and its expansion to other countries through the ages. The emergence of new ports and urban centres with the passage of time also indicate vibrancy of trade as well as its reach to different zones. Furthermore, the continuous habitation at the coastal sites on the Coromandel coast for a long period through centuries suggest the significant role played by the east coast in the maritime trade. This also illuminates the dynamic nature of the commercial links with Mediterranean region that helped in the sustenance of trade in early Tamilakam. The archaeological remains in the context of urban development and the intensification of economic activities in the Tamil region, thus, do not reflect the decline of the Mediterranean trade in the third century CE but rather its continuation till the middle of the sixth century CE. The shift in the trade pattern from the west coast to the east coast led to the extension of the trade networks to new areas. The decline of Mediterranean trade followed by the focus of trade activities towards the east yielded in the continuance of our contacts with Sri Lanka, Southeast Asia and China. Archaeological evidence are of immense help in reconstructing the past with regard to the economic development. Further excavations of sites and interdisciplinary approach to study, therefore, are very much needed to get closer to our heritage.

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