

EMPORION AND CHORA IN THE *PERIPLUS OF THE ERYTHRAEAN SEA* AND RELATED SOURCES¹

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Abstract

This paper deals with the references to Indian *emporion* contained in the *Periplus of the Erythraean Sea*, as well as in related sources (Pliny the Elder and Ptolemy). Indian *emporion* were ruled by several political entities that were located inland. These entities controlled the *emporion* to have direct access to imported products and to tax commercial transactions.

Keywords: India, *Periplus of the Erythraean Sea*, emporia, seaborne trade, Indian Ocean.

The last few years have witnessed a resurgence in studies devoted to the *Periplus of the Erythraean Sea*, a fundamental source for learning about trade and relations between Roman Egypt, eastern Africa, southern Arabia and India. Generally dated to the mid-first century AD,² the *Periplus* is traditionally regarded as something like a memorandum book kept in Greek by one or more sea captains or traders from Roman Egypt who had first-hand knowledge of sailing routes and trading practices in the region of the Indian Ocean.³ While the *Periplus* has always been considered a common, vulgar work without a shred of literary value, some very recent studies have pointed to a certain level of literary skill. They have taken a second look and concluded that the *Periplus* contains, side-by-side with its purely

1 This paper is part of Spanish Ministry of the Economy, Industry and Competitiveness project HAR2016-76098-C2-1-P, "Historiography and Ancient Geography: Representation of Space and Transmission of Knowledge."

2 G. FUSSMAN, "Le Périple et l'histoire politique de l'Inde," *Journal Asiatique*, 279, 1991, 31-8; C. ROBIN, "L'Arabie du sud et la date du Périple de la mer Érythrée," *Journal Asiatique*, 279, 1991, 1-30. Among the discordant opinions, see P. ARNAUD, "Le *Periplus Maris Erythraei*: une oeuvre de compilation aux préoccupations géographiques," *Topoi. Orient-Occident Supplément* 11, 2012, 27-61.

3 L. CASSON, *The Periplus Maris Erythraei. Text with Introduction, Translation, and Commentary*, Princeton 1989, 7-8.

practical information, diverse elements that unmistakably link the work to the classic travelogue tradition.⁴

Certain phenomena that have happened or whose historic process has gathered speed in recent decades, such as globalization, have spurred scholars to reexamine the *Periplus* and try and untangle all the elements it contains. A number of significant studies have been devoted to explaining the development of complex societies, with their attendant political evolution, in parallel with the commercial development that involved the creation of far-flung trade networks in the region of the Indian Ocean.⁵

Closely connected to the trade networks in question is the issue of the harbors and infrastructure that were instrumental in exchanges between the Indian political entities of that time and other entities (especially private entities) doing business in the broad environment defined by the coastal states of the Indian Ocean.⁶

In this paper I would like to focus on looking into the main *emporion* and other Indian ports mentioned in the *Periplus of the Erythraean Sea* and other more-or-less contemporary Greco-Roman sources (primarily Pliny the Elder and Ptolemy) to better grasp the role these hubs of commerce played, especially from the political standpoint. The initial hypothesis that I shall develop and endeavor to prove in the pages to follow consists in assessing the role that Indian *emporion* played as the sites hand-picked by the political authorities in charge (whether governing a single *emporion* or several *emporion* at the same time) for safe, controlled trading with the rest of the players operating in the Indian Ocean region. This model of political/trade organization may also have been present in other zones described in

- 4 D. MARCOTTE, “Le Périples de la mer Érythrée dans son genre et sa tradition textuelle,” *Topoi. Orient-Occident Supplément* 11, 2012, 7–25; P. ARNAUD, “Le Periplus Maris Erythraei,” 27–61; F. DE ROMANIS, “An Exceptional Survivor and Its Submerged Background: The Periplus Maris Erythraei and the Indian Ocean Travelogue Tradition,” in G. COLESANTI – L. LULLI (eds.), *Submerged Literature in Ancient Greek Culture. Case Studies*, Berlin-Boston 2016, 97–110; D. MARCOTTE, “Le Périples de la mer Érythrée et les informateurs de Ptolémée. Géographie et traditions textuelles,” *Journal Asiatique* 304.1, 2016, 33–46; D. MARCOTTE, “L’océan Indien dans l’Antiquité: science, commerce et géopolitique,” in P. DE SOUZA – P. ARNAUD – CH. BUCHET (eds.), *The Sea in History. The Ancient World*, Woodbridge 2017, 511–22.
- 5 R. TOMBER, *Indo-Roman Trade. From Pots to Pepper*, London 2008; E.H. SELAND, *Ports and Political Power in the Periplus: Complex Societies and Maritime Trade on the Indian Ocean in the First Century AD*, Oxford 2010; S.E. SIDEBOTHAM, *Berenike and the Ancient Maritime Spice Route*, Berkeley 2011; B. FAUCONNIER, “Graeco-Roman merchants in the Indian Ocean: Revealing a multicultural trade,” *Topoi. Orient-Occident Supplément* 11, 2012, 75–109; J.P. SÁNCHEZ HERNÁNDEZ, “Pausanias and Rome’s Eastern Trade,” *Mnemosyne* 69, 2016, 955–77; E.H. SELAND, *Ships of the Desert and Ships of the Sea. Palmyra in the World Trade of the First Three Centuries CE*, Wiesbaden 2016. For merchant communities in ancient India, H.P. RAY, *The Archeology of Seafaring in Ancient South India*, Cambridge 2003, 188–213.
- 6 M.A. SPEIDEL, “Fernhandel und Freundschaft zu Roms Amici an den Handelsrouten nach Südarabien und Indien,” *Orbis Terrarum* 14, 2016, 155–93; R. SCHULZ, *Abenteurer der Ferne: die grossen Entdeckungsfahrten und das Weltwissen der Antike*, Stuttgart 2016, 355–78.

the *Periplus*, such as southern Arabia and the east coast of Africa, but for reasons of space that subject will have to be dealt with in a future article.

A second hypothesis is entertained as well, one that is trickier to back up but might explain the existence of various *emporion*, primarily on the west coast of the Indian subcontinent, as a result of foreign policy under Augustus, before whom various embassies from India (as well as from other zones outside the Roman Empire) presented themselves to seek his *amicitia*.⁷ *Amicitia*, an ambiguous, vague term by definition, may be interpreted in this context as an agreement or accord to establish trade relations between Rome and the countries that did not belong to the Roman provincial structure.⁸

Before taking up our analysis, let us review the geographic constraints that existed on India's western coast. More specifically, let us recall that an *emporion* did not necessarily have to be a seaport; in fact, there were several *emporion* on rivers.⁹ In addition, evidence indicates there were few high-quality natural seaports in the area. The coastline largely consisted of a continuous plain of sandy beaches, where it was hard to anchor ships. Fortunately for seafarers, in northwestern India ships could be moored at the mouths of rivers. In the particular case of the Indus, the most important river in northwestern India, it was relatively easy to sail upriver, as demonstrated by Alexander the Great's expedition into that area. Other nearby rivers present fewer facilities for shipping; the rivers that flow through the Western Ghats run along jagged courses that fall sharply as they near the coast.¹⁰

The area of the mouth of the Indus is called Scythia¹¹ in the *Periplus*. It is said to throng with snakes that come out of the bottom of the sea, and only the middle of the river's seven mouths is said to be navigable. The middle mouth referred to the central course, along which, near the coast, lay the *emporion* of Barbarikon.

7 *RgdA* 31; Str. XV, 1, 4; XV, 1, 73; Suet., *Aug.* 21, 3; Flor. II, 34, 62–63; D.C. LIV, 9, 8–10; Oros. VI, 21, 19–20; Eutr. VII, 10; Aur. Vict., *Caes.* I, 7. W. SCHMITTHENNER, "Rome and India: Aspects of Universal History during the Principate," *JRS* 69, 1979, 98–101; S.E. SIDEBOTHAM, *Roman Economic Policy in the Erythra Thalassa 30 B.C.–A.D. 217*, Leiden 1986, 129; G. ZIETHEN, "Legationes Externae in der frühromischen Kaiserzeit: INDI – ΑΙΘΙΟΠΙΕΣ – ΣΕΠΕΣ," *Nubica* 3.1, 1994, 141–97; R. MCLAUGHLIN, *Rome and the Distant East. Trade Routes to the ancient Lands of Arabia, India and China*, London-New York 2010, 111–17; M.A. SPEIDEL, "Fernhandel und Freundschaft zu Roms Amici," 175–82.

8 In other contexts *amicitia* could mean acceptance of Roman domination. M.A. SPEIDEL, "Fernhandel und Freundschaft zu Roms Amici," 181.

9 P. COUNILLON, "L'emporion des géographes grecs," in A. BRESSON – P. ROUILLARD (eds.), *L'Emporion*, Paris 1993, 50. See also the example of Naukratis, A. MÖLLER, *Naukratis. Trade in Archaic Greece*, Oxford 2000.

10 E.H. SELAND, *Ports and Political Power in the Periplus*, 48.

11 PME 38.

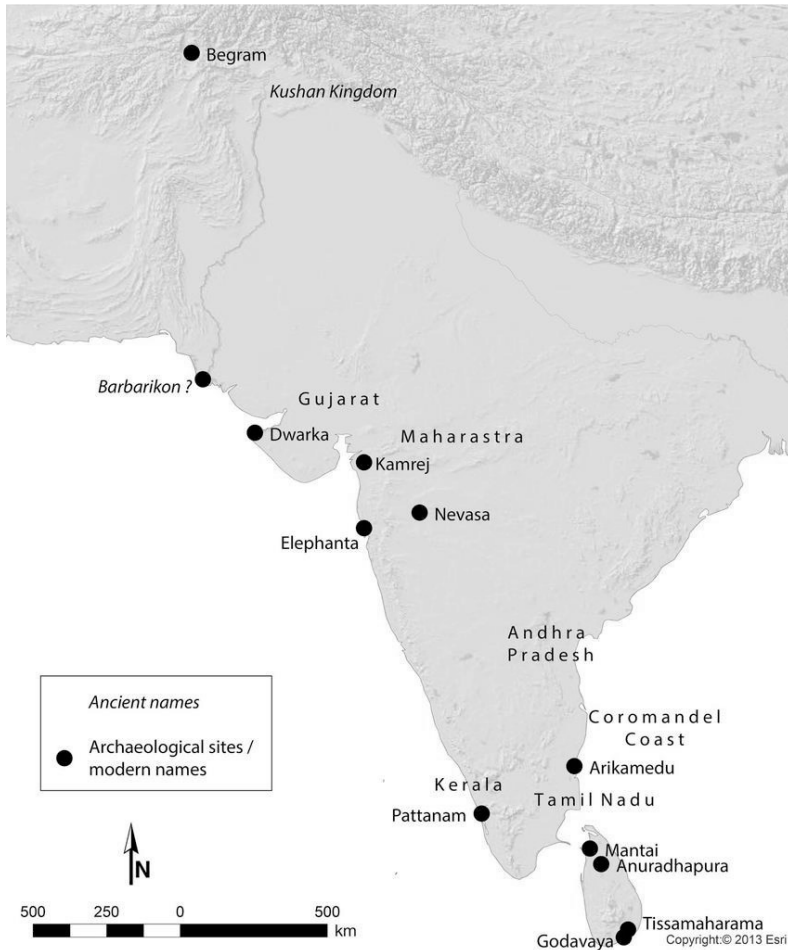


Fig. 1: Indian emporia, based on the map by E.H. SELAND (see note 12)

The name “Scythia” bears no relation to the broad region the Greeks identified with modern Ukraine and southern Russia. Instead, it was the kingdom of the Sakas, a group of invaders from central Asia that reached northwestern India in the late second century and the first century BC.¹² The Scythia depicted in the *Periplus*, however, was governed by monarchs of Indo-Parthian origin.¹³ The last known Saka sovereign was Azes II, a contemporary of Augustus,¹⁴ while the

12 E.H. SELAND, *Ports and Political Power in the Periplus*, 48.

13 O. BOPEARACHCHI – W. PIEPER, *Ancient Indian coins*, Tournhout 1998, 219–23.

14 W.W. TARN, *The Greeks in Bactria and India*², Cambridge 1951, 79; H. KULKE – D. ROTHERMUND, *Geschichte Indiens. Von der Induskultur bis heute*², Munich 1998, 97–99; P.N. PURI, “The Sakas and Indo-Parthians,” in J. HARMATTA – A.H. DANI – G.F. ETEMADI (eds.), *History of Civilizations of Central Asia*, Delhi 1999, 191–207, esp. 194–202.

Indo-Parthian dynasty was founded by the man who would eventually become the dynasty's most famous king, Gondophares or Gundofarr.¹⁵ Gondophares is believed to have reigned between approximately 20 and 45 AD.

The *emporion* of Barbarikon depended on an inland metropolis named Minnagar, which has not yet been accurately identified.¹⁶ The Indo-Parthian monarchs governed Minnagar not without difficulties, as may be gathered from the *Periplus*,¹⁷ possibly in reference to the complicated times after the death of Gondophares.

Fortunately for the modern specialist, we are told that the cargoes of the ships that anchored at Barbarikon were carried upstream to the metropolis,¹⁸ giving us to understand that it was relatively simple to get from Barbarikon to Minnagar thanks to the shipping possibilities afforded by the Indus River. Barbarikon imported many different products, such as textiles (plain garments, printed textiles, fabrics of various colors), in addition to topaz, coral, storax, frankincense, glassware, silver dishes, money (that is, Roman coins, which were highly prized in India) and wine.¹⁹ The *emporion* exported products like costus, bdellium, *lycium*, nard, turquoise, lapis lazuli, Chinese skins, cloth, silk and indigo. Some of the exports, like bdellium and indigo, could be obtained in the area of the river's mouth, but others, like the Chinese skins and silk, clearly indicate long-distance trade. Such trade must necessarily have passed through the Indus Valley and the Afghan mountains to hook up with the overland routes leading to the western regions of China, although we cannot rule out the possibility that there may have been communication between the Indus Valley and the Ganges Valley, which could have given access to Chinese markets through the Bay of Bengal.²⁰ It seems evident that one of the functions of the Indo-Parthian sovereigns seated at Min-

15 In Christian tradition he is portrayed as one of the Three Kings (Caspar or Gaspar), and he is mentioned in the Apostle Thomas's journey to India. E.J. SCHNABEL, *Urchristliche Mission*, Wuppertal 2002, 853–9; J. KURIKILAMKATT, *First Voyage of the Apostle Thomas to India: Ancient Christianity in Bharuch and Taxila*, Bangalore 2005; M. WITZEL, *Das alte Indien*, Munich 2010, 94–7.

16 L. CASSON, *The Periplus Maris Erythraei*, 189; M. KERVRAN, "Multiple Ports at the Mouth of the River Indus: Barbarike, Deb, Daybul, Lahori Bandal, Diul Sinde," in H.P. RAY, *Archaeology of Seafaring*, Delhi 1999, 70–153; S. GHOSH, "Barbarikon in the Maritime Trade Network of Early India," in R. MUKHERJEE (ed.), *Vanguards of Globalization: Port Cities from the Classical to the Modern*, New Delhi 2014, 59–74.

17 PME 38. R. MCLAUGHLIN, *The Roman Empire and the Indian Ocean*, Barnsley 2014, 150–6.

18 PME 39.

19 As E.H. SELAND states in *Ports and Political Power in the Periplus*, 51, some of these products, like the glassware, silver dishes and wine, might have been consumed at the king's court itself, while others would have been distributed more widely to other strata of society or other regions. On Roman coins, Plin., *Nat.* VI, 85.

20 E.H. SELAND, *Ports and Political Power in the Periplus*, 50. On the references in the *Periplus* to the trade in textile products, M. ALBALADEJO VIVERO, "Textile trade in the *Periplus of the Erythraean Sea*," in M. GLEBA – J. PÁSZTÓKAI (eds.), *Making textiles in Pre-Roman and Roman Times. People, Places, Identities*, Oxford 2013, 142–8.

nagar was to hold the reins of this long-distance trade, encourage it and expand it as much as they could, using, as it happens, the resources provided by the huge network of connections they had woven throughout the Indian Ocean thanks to their knowledge of how to sail during the monsoon season.²¹

Southeast of Barbarikon lay the other great *emporion* of northwestern India, Barygaza, in the region of Ariakê, governed by one Mambanos²² (identified with a king of the Indo-Scythian Saka dynasty named Nahapana,²³ who governed in northwestern India in the mid-first century AD). Barygaza is actually one of the ports most often mentioned in the *Periplus*, a fact that speaks loud and clear of Barygaza's intrinsic importance²⁴ and the author or authors' personal knowledge of it. Mention is also made of the country's metropolis, called Minnagara, creating a certain confusion between this Minnagara and the other metropolis, the one that controlled the *emporion* of Barbarikon.²⁵

The *Periplus* does speak of the existence of another city, called Ozênê (Ujjain), which used to be the seat of the local monarchy²⁶ (When the court moved on we do not know). Onyx, agate, fine cotton cloth, mallow cloth and cloths of ordinary quality were shipped from Ozênê to Barygaza. The author or authors of the *Periplus* moreover report that various products from the inland regions, like nard, costus and bdellium, were brought into Ozênê. It is quite probable that the work of monitoring and taxing all the goods moving up- and downriver took place in Ozênê.²⁷

Barygaza imported more-or-less everyday products, the same sorts of products that Barbarikon imported, like wine (Italian, Laodicean and Arabian), metal (copper, tin and lead), coral, topaz, fabric of all kinds, girdles, storax, sweet clover, glass, realgar, antimony for dyeing, Roman coins²⁸ and unguents. There were also special imports for the king, such as high-quality silver objects, slave musicians, maidens destined for concubinage, fine wine, costly garments and unguents, also of fine quality.²⁹

The author or authors of the *Periplus* say that goods from other *emporion* (probably from the Ariakê region) or from far-away lands were exported from Barygaza; the list contains products such as nard, costus, bdellium (mentioned

21 PME 39.

22 PME 41.

23 L. CASSON, *The Periplus Maris Erythraei*, 198; R. MCLAUGHLIN, *The Roman Empire and the Indian Ocean*, 157–71.

24 A. BRESSON, "Les cites grecques et leurs emporia," in A. BRESSON – P. ROUILLARD (eds.), *L'Emporion*, Paris 1993, 196.

25 Both names mean "Saka-town," but the first one had been taken over by the Parthians. W.W. TARN, *The Greeks in Bactria and India*², 235; L. CASSON, *The Periplus Maris Erythraei*, 199.

26 PME 48.

27 E.H. SELAND, *Ports and Political Power in the Periplus*, 53.

28 These gold and silver coins were said to be for exchange into local currency. In this case they were not regarded as luxury goods, unlike the coins mentioned in PME 39.

29 PME 49.

previously in the account), ivory, onyx, agate, *lykion*, all kinds of cloth (Chinese, mallow cloth, linen) and long pepper.³⁰

Quite significant reference is made to the existence of a trade monopoly in the hands of the monarchs who ruled Barygaza in those days. The *Periplus* contains the assertion³¹ that, because of the shallow waters of the river where the *emporion* lay (called Lamnaios), the local fishermen “in the service of the king” would go out with long boats called *trappaga* and *kotymba*.³²

Farther south,³³ in the region named Dachinabadês,³⁴ there were two main *emporion*, Paithana (which lay twenty days’ journey south of Barygaza) and Tagara (which was roughly ten days’ travel east from Paithana). As told in the *Periplus*,³⁵ from Paithana large quantities of onyx were sent to Barygaza by cart over long, hard routes, while from Tagara large quantities of ordinary cloth, fine Indian fabrics and mallow cloth were carried, along with other goods that reached Tagara from the coast.

This region may be identified as the Deccan Plateau, and it seems that at least since the early first century BC the plateau’s interior region was controlled by the Satavahanas, who at some point established their capital in Paithana itself, although the *Periplus* fails to make Paithana’s status clear.³⁶

The *Periplus* makes the striking assertion that the products from Paithana and Tagara were traded in Barygaza after having reached their destination via a long journey over hard-to-travel roads. Offering a solution to this problem is no simple matter, but any attempt to do so must include analysis of the next chapter of the work,³⁷ which mentions the *emporion topika* (local ports) of Akabaru and Suppara and the *polis* of Kalliena, which had become an *emporion enthesmon* by the time of Saraganos the Elder.³⁸ Later, however, Sandanês (sovereign of the Sakas) came

30 PME 49; E.H. SELAND, *Ports and Political Power in the Periplus*, 52.

31 PME 44.

32 “[T]o the entrance as far as Syrastrênê to meet vessels and guide them up to Barygaza. Through the crew’s efforts, they maneuver them right from the mouth of the gulf through the shoals and tow them to predetermined stopping places; they get them under way when the tide comes in and, when it goes out, bring them to anchor in certain harbors and basins. The basins are rather deep spots along the river up to Barygaza.” L. CASSON, *The Periplus Maris Erythraei*, 79. H.P. RAY, *The Archaeology of Seafaring in Ancient South Asia*, 192. This author shows the difficulty of embracing the idea that these rulers had absolute control over commercial activities.

33 PME 50–2.

34 F. DE ROMANIS, “On Dachinabades and Limyrike in the *Periplus Maris Erythraei*,” *Topoi. Orient-Occident Supplément* 11, 2012, 329–40.

35 PME 51.

36 U. SINGH, *A History of Ancient and Early Medieval India. From the Stone Age to the 12th Century*, Delhi 2008, 381–4; E.H. SELAND, *Ports and Political Power in the Periplus*, 54; M. WITZEL, *Das alte Indien*, 105–7.

37 PME 52. L. CASSON, *The Periplus Maris Erythraei*, 214–5.

38 Śatakarni, king of the Satavahana dynasty, who ruled until the first century AD. L. CASSON, “Sakas versus Andhras in the *Periplus Maris Erythraei*,” *JESHO* 26, 1983, 164–77; L. CASSON, *The Periplus Maris Erythraei*, 274.

to occupy the city, and trade became tightly restricted, so much so that Greek ships reaching the area used to be escorted to Barygaza. An *emporion* with the status of *emporion enthesmon* (“lawful port,” “legally authorized port”) must be understood to have been an *emporion* open to foreign trade,³⁹ as we can assume all *emporia* conducted their commercial transactions according to the local law. Once the Sakas took over Kalliena, its port would have been classified as an *emporion topikon*, together with the ports of Akabaru and Suppara. Therefore, in becoming a “local port,” Kalliena would have ceased to be open to foreign trade.⁴⁰ That would explain why any Greek ships reaching this area through navigational error or ignorance of the political situation would have had to be shunted to the port of Barygaza, which, as we have seen before, was open to international trade and furthermore was under the Sakas’ control. Thus, the Sakas could control all commercial trade and collect the pertinent taxes, all at one location.⁴¹

In southern India the *Periplus* refers to the kingdom of Kêprobotos,⁴² which corresponds to the kingdom of Chera,⁴³ on the western coast. To this kingdom belonged the coastal village (*kóme*) of Tyndis and, 500 stadia from Tyndis, Muziris. Muziris is the port on the Malabar (Limyrikê) coast that by far receives the most attention from the author or authors of the *Periplus*, and it is likewise mentioned by Pliny the Elder,⁴⁴ a famous Egyptian papyrus,⁴⁵ the *Tabula Peutingeriana*⁴⁶ and Tamil poetry.⁴⁷ The site where Muziris once stood has been discovered

- 39 A. BRESSON, “*Les cites grecques et leurs emporia*,” in A. BRESSON – P. ROUILLARD (eds.), *L’Emporion*, Paris 1993, 193.
- 40 M.A. SPEIDEL, “*Fernhandel und Freundschaft zu Roms Amici*,” 182.
- 41 L. CASSON, *The Periplus Maris Erythraei*, 215; R. MCLAUGHLIN, *Rome and the distant East*, 47, 117; E.H. SELAND, *Ports and Political Power in the Periplus*, 55–6.
- 42 PME 54. R. MCLAUGHLIN, *The Roman Empire and the Indian Ocean*, 172–95.
- 43 V. SELVAKUMAR, “*The Routes of Early Historic Tamil Nadu, South India*,” in M.-FR. BOUSAC – J.-FR. SALLES – J.-B. YON (eds.), *Ports of the Ancient Indian Ocean*, Delhi 2016, 295.
- 44 Plin., *Nat.* VI, 104–5. Pliny affirmed that Muziris was “*the first trade center of India*.” When he wrote his work, Caelobothras reigned in this *emporion*. “Caelobothras” may be the same as “Kêprobotos,” or it may designate a royal title. On the other hand, Ptol., *Geog.* VII, 1, 86, stated that the monarch was Kerobothros.
- 45 P. *Vindob.* G40822. F. DE ROMANIS, “*Comparative Perspectives on the Pepper Trade*,” in F. DE ROMANIS – M. MAIURO (eds.), *Across the Ocean: Nine Essays on Indo-Mediterranean Trade*, Leiden-Boston 2015, 127–50. The duties the *Hermapollon* (the ship mentioned in this document) had to pay on its return from India are estimated at over 1.7 million sestertii. M.A. SPEIDEL, “*Wars, Trade and Treaties: New, Revised, and Neglected Sources for the Political, Diplomatic, and Military Aspects of Imperial Rome’s Relations with the Red Sea Basin and India, from Augustus to Diocletian*,” in K.S. MATHEW (ed.), *Imperial Rome, Indian Ocean Regions and Muziris: New Perspectives On Maritime Trade*, New Delhi 2015, 104–5.
- 46 Tab. Peut. Seg. 11. M. RATHMANN, *Tabula Peutingeriana. Die einzige Weltkarte aus der Antike*², Darmstadt 2017, 98–9.
- 47 *Pattupattu. Ten Tamil Idylls*. Tamil Verses with English translation. Transl. by J.V. Chelliah, Madras 1962.

in Pattanam⁴⁸ (a place name that, in the Pali language, actually means “port”), only a short distance from the ancient coastline (which also corresponds with the 20 stadia, or 3.5 kilometers, mentioned in the *Periplus* as the distance between Muziris and the sea).

The other great *emporion* of southwestern India was Nelkynda, which lay nearly 500 stadia from Muziris but belonged to a different kingdom, the kingdom of Pandyon (also rendered as “Pandya”). Nelkynda too lay next to a river and roughly twenty stadia from the sea,⁴⁹ and we are told that the kings governing both *emporia* (Muziris and Nelkynda) resided in the interior, as was the norm elsewhere in India as well.⁵⁰ The kingdom of Pandyon/Pandya enjoyed certain fame in Greco-Roman literature; both Pliny the Elder and Arrian of Nicomedia (the latter drawing on the work of Megasthenes) told the story of how the kingdom was founded by Herakles, who placed at its head his own daughter, Pandaea, whose name the state itself assumed.⁵¹ The capital of the real kingdom of Pandya was Madurai,⁵² situated in the country’s interior, as we know; it was mentioned as such also by Pliny⁵³ and Ptolemy.⁵⁴ The archeological remains of its *emporion*, Nelkynda, have not yet been identified for sure, although signs point to modern Kottayam.⁵⁵

- 48 K.P. SHAJAN, R. TOMBER, V. SELVAKUMAR, P.J. CHERIAN, “*Locating the Ancient Port of Muziris: Fresh Findings from Pattanam*,” JRA 17, 2004, 312–20; K.P. SHAJAN – V. SELVAKUMAR, “*Pattanam, the First Indo-Roman Trade Centre on the Malabar Coast, and the Location of Ancient Muziris*,” in A.S. GAUR – K.H. VORA (eds.), *Glimpses of Marine Archaeology in India: Proceedings of the Seventh Indian Conference on Marine Archaeology of Indian Ocean Countries, 6-7 October 2005*, Goa 2006, 15–20; P.J. CHERIAN – G.V. RAVI PRASHAD – K. DUTTA – D.K. RAY – V. SELVAKUMAR – K.P. SHAJAN, “*Chronology of Pattanam: a multi-cultural port site on the Malabar coast*,” Current Science 97.2, 2009, 236–40.
- 49 PME 54. It is also mentioned in Plin., *Nat.* VI, 105, where an uncial lambda is mistakenly changed to a capital “A.” J. DESANGES, “*L’excursus de Pline l’Ancien sur la navigation de mousson et la datation de ses sources*,” Topoi. Orient-Occident Supplément 11, 2012, 63–73, esp. 66.
- 50 PME 55. F. DE ROMANIS, “*Comparative Perspectives on the Pepper Trade*,” 142, compares ancient trade in the zone with 16th-century Portuguese trade and offers a geographic explanation for the presence of two *emporia* within just 500 stadia of each other. The idea is that there were two river basins, and the pepper gathered in the area of the Western Ghats could be transported separately along the two river basins to the two ports.
- 51 Plin., *Nat.* VI, 76 (although Pliny situated the kingdom of Pandya north of India); Arr., *Ind.* 7–11.
- 52 V. SELVAKUMAR, “*The Routes of Early Historic Tamil Nadu, South India*,” 298. The city was praised in the Tamil poem *Maduraikanchi* 372–760. *Patupattu. Ten Tamil Idylls*, 221–79.
- 53 Plin., *Nat.* VI, 105.
- 54 Ptol., *Geog.* VII, 1, 89.
- 55 E.H. SELAND, *Ports and Political Power in the Periplus*, 58. Both Muziris and Nelkynda were connected to Madurai through a land route. V. SELVAKUMAR, “*The Routes of Early Historic Tamil Nadu, South India*,” 299–301.