Non-Coastal Cilician Cities and their Maritime Outlets[1]

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The preparation of the commented edition of the so-called *Stadiasmus Maris Magni*[2] on behalf of Brill's *Neue Jacoby* Vol. 5, due Feb. 2019, has focused my attention on striking connectivity between non-coastal cities and the sea in Asia Minor. The sources used by the *Stadiasmus Maris Magni* between Syria and Caria generally go back to the 2nd century BC and can sometimes be assigned to the reign of Antiochus IV. They are always older than the Roman conquest. They pay much attention to the relationship between non-coastal cities and the sea, considering these cities as maritime cities. The description of Cilicia, combined with other sources, provides us with an interesting set of case-studies for understanding what a maritime city could be, how far from the sea it could be, how it could be linked to the sea and the kind of infrastructure these links relied on, as well as the kind of boats that make these possible. A higher tonnage and draft, using round ships instead of oared merchant-galleys would prevent boats from sailing upstream and impose transhipment somewhere close to the river-mouth and deeper maritime harbours or ports. As long as medium-sized merchant-galleys used to be the most common to merchantmen within the Mediterranean (roughly until the early 1st cent. BC),[3] cities situated rather far inland and upstream such as Rome or Pella could be considered by the ancients as maritime cities. This is an opportunity to revisit part of the Cilician hinterland, its complex relationship to the sea (including piracy) and its evolution. The ERC funded program *PortusLimen* has pointed out that who would seek artificial ports characterized by heavy infrastructure (moles, breakwaters) would miss great parts of the ports. Ports were primarily interfaces that could take a variety of forms: river mouth, beach, or any place where a ship could be loaded and unloaded either directly or using lighters, under legal control. Having an access to the sea was so essential that some cities were depending on very poor anchorages: if correctly located, Kalabantia (Sancaklı liman)[4] in western Lycia was an awful place: just a cliff opened to the meltem. But it is mentioned in the Attic tribute lists as early as 425 BC and was the unique access to the sea that the city of Sidyma could enjoy.[5] The city eventually made the anchorage accessible from land opening a path in the cliff itself.

Towards a Rehabilitation of Rivers in Southern Anatolia and elsewhere

Recent historiography has pointed out that rivers, including some that may seem of minor importance today, were of major economic importance from Spain to Anatolia and from the Nile to the Rhine;[6] these studies partly challenge the once prevailing view that "few (harbours) were on rivers except at their mouths, since few Mediterranean rivers were navigable far upstream in antiquity".[7]

The figures driven from Diocletian's prices edict[8] show that river-borne transportation upstream was 4.5 times cheaper than land transportation using donkeys or camels and five

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times cheaper than using chariots. River-borne transportation downstream used to be twice cheaper than river-borne transportation outside. Transportation through lagoons would stand in between. Notwithstanding this, taking as a reference the route between Alexandria and Rome (calculated along the orthodromic route and therefore likely underestimated in Duncan-Jone's estimates) sea-borne transportation would be 4 times cheaper than river-borne transportation downstream, 6 times cheaper than sailing a lagoon, 8 times cheaper than river-borne transportation upstream, 34 times cheaper than using donkeys or camels, and 42 times cheaper than using chariots on a road. Actual figures would likely show an even major gap.

Even distant from the sea, some cities situated far upstream could be considered maritime ones by ancient authors, especially geographers. In the west, Narbo, Arles, Aquileia, Rome itself, and also Pisa, Minturnae, Terracina, Gela, were accessible only through a river and were sometimes quite distant from the sea: up to 60 stades (or 11 km) for Aquileia,[9] almost 30 km between Arles and the sea, almost 20 km in straight line between Ostia and Rome (much more following the river).

In Asia Minor, Myos lied 30 stades upstream on the course of the Meander,[10] the Lethôon and Xanthos were 10 + 60 stades upstream;[11] such was also the case of Limyra,[12] Myra,[13] Perge, 60 stades upstream,[14] Aspendos, at the same distance from the sea,[15] Side,[16] Séleucia on the Kalykadnos,[17] Tarsus,[18] and Mallos/Antioche du Pyrame…[19] Nonetheless, these cities all were considered maritime ones by ancient writers.

Ancient *periploi* make a distinction between two ways of using rivers marked by different expressions: up to 20 stadia (roughly 4 km), the word *anaplous* is followed by *kata* + name of the river. *Anaplous* is there used in its common meaning of 'channel of entrance to a port'.[20] The river is here just considered as a long channel of entrance to a maritime port. When distance is longer than 20 stadia, *anaplous* is followed by *ana* and name of the river. Ancient authors then considered that the river was more than a channel and that a real navigation upstream was necessary to reach the destination.

There were four main patterns of relationship between a river-city and the sea, which relied on various kinds of boats and relating infrastructure:

- Transhipment between merchant ships and riverboats.
- Towing maritime ships upstream
- Small coasters with special rigging (e.g. spritsails) able to sail upstream
- Maritime merchant galleys able to row upstream

The importance of the latter pattern has been heavily underestimated, as has been the role of merchant galleys in general. Until the early 1st century BC, merchantmen were widely using, and maybe prevailingly merchant galleys.[21] Even later, the Papyrus Bingen 77,[22] dated about 165 AD, shows that all the ships sailing in summer between Pamphylia, Cilicia and Egypt were *akatoï*, which were a type of merchant galleys, usually of small size, although one of these had a capacity of burden of at least 175 metric tons. Having small draft, these boats were able to get through sandbars that mark river mouths, to beach and, to some extent, to row upstream.

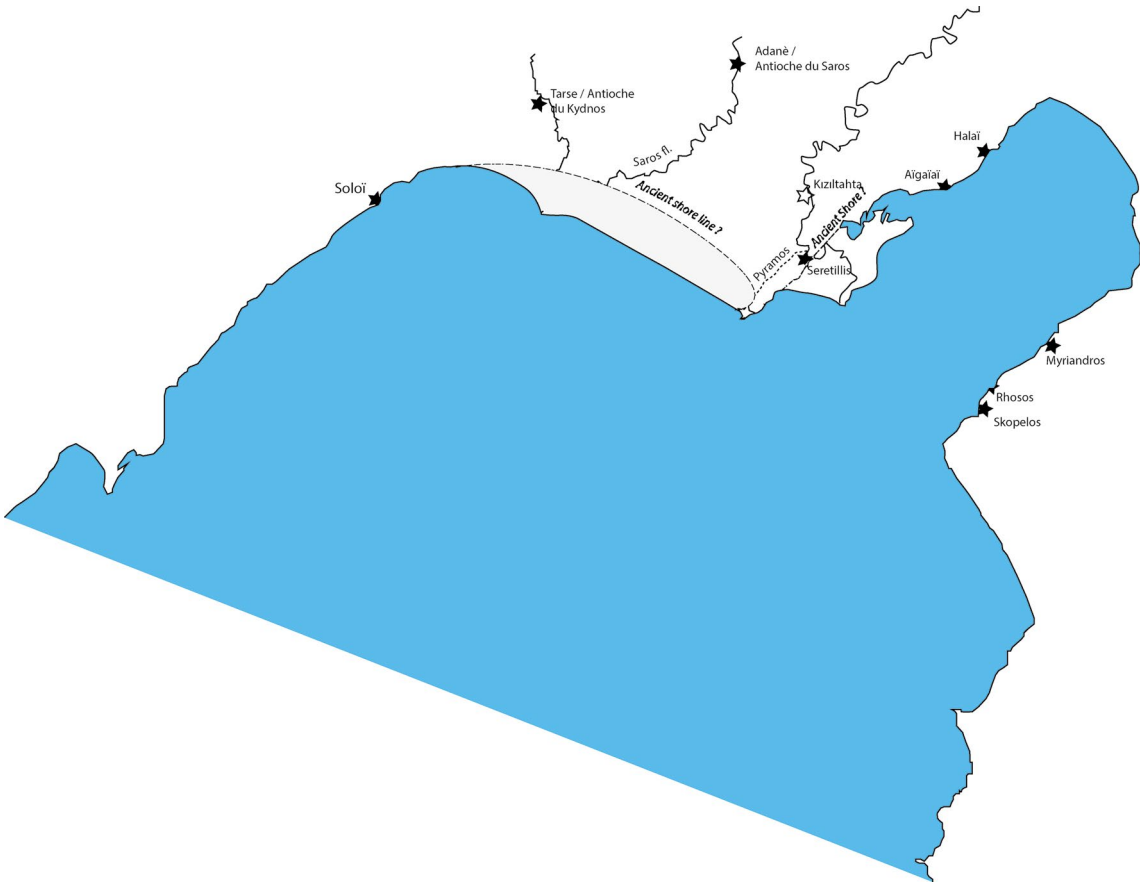

Fig. 1: The coastline between Issus and Tarsus.

Cilicia Pedias: the Lower Course of Pyramos, Saros and Kydnos Rivers – Mallos, Adana and Tarsus

Cilicia Pedias was a complex area, characterised by a high level of quick silting. This was so important that an oracle would predict the day when the sediments brought by the Pyramos would reach the shores of Cyprus.[23] Although a significant amount of coring only will provide us with a clear idea of the coastal paleomorphology of the area, information driven from the *periploi* is enough to allow reconstruction. The sources the Cilician section of the *Stadiasmus* relies on all are older than the Roman conquest of Cilicia. In that section, the *Stadiasmus* combines, with variable success, two or three main sources: a periplus written under Antiochus IV and older, though imprecisely dated, documents.[24]

Although the *Stadiasmus* makes many mistakes, for its compiler did not understand that some of the places it named were baring different names in the two or more sources it was using, it is rather easy to identify a couple of firm points: East, it names the coastal town

Seretile (159–160), likely identical to Ptolemy's *Serraïpolis* or *Serrepolis* on the coast (5.8.4), likely mentioned after the same tradition. This place is undoubtedly modern Sırıntılının Çintlik, as the name itself indicates.[25] In the *Stadiasmus*, it was part of a sketch of coast that started at *Aigeaï*, described as an 'abrupt' one (159), while there is no allusion to any alluvial plain of the *Pyramos* river that side of the *Pyramos*. The ancient landscape would have been quite different from the actual. The *Stadiasmus* nevertheless closely associates Seretile with the *Pyramos* river. This seems to indicate the existence of a mouth of the *Pyramos* east of cape Karataş, also suggested by Pliny the Elder,[26] while the river also emptied itself through another well-documented mouth west of Cape Karataş, close to the sanctuary of *Magarsus*. The idea of the existence of a delta is supported by the coins minted at *Mallos* between Tiberius and the mid-3rd century AD, which represent Mallos seated on two river-gods.[27] This delta would have existed at least between the late Hellenistic period and the mid-3rd century AD.

According to the *Stadiasmus* (161–166), the same cape (Karataş) bore two names: the older *Ianoua* or *Ionia akra* and the more recent Cape *Kephalè* – more likely these were the names of two ends of the rocky promontory that stood between the two arms of the Pyramos.

The *Stadiasmus* then gives the direct distance to Soloi then indicating that by the time of its source, the coast between cape Karataş and *Soloi–Pompeiopolis* formed a gulf and that this was rather deep. It then mentions in between, the mouth of the *Areion* river (usually named *Saros*) and the mouth of the lagoon of *Rhegmoï*, and thence the Kydnos river. This may have emptied itself into the lagoon in the form of a cataract or rapid. This is suggested by the name Rhegmoi as well as by the verb *epipiptei* used by Strabo 'fall into'.

The *Pyramos*,[28] the *Saros*[29] and the *Kydnos* all three are said to have been navigable rivers by various authors relying on second-hand material gathered from various sources. How sustainable was that situation is unclear; to what point, with what kind of boats these rivers were navigable, and whether these were navigable straight from the sea is quite unclear too.

The case of Tarsus and the Kydnos river is the clearest one. The current of the river still was mighty at Tarsus near the Gymnasium of the Youth.[30] This probably was a limit to the navigability of the river, which river emptied itself in the lagoon of Tarsus at Rhegmoï or Rhegma, a word that means a fissure or fracture. The verb *epipiptei* used by Strabo suggests that the river emptied itself into the lagoon through a fall or cataract passing through this fracture. The mouth of the river and that of the lagoon were in theory distinct, but the same name *Rhegmoï* (or *Rhegma*) applies to both the mouth and fall of the river and to the lagoon and relating port infrastructure as described by Strabo.[31] The port of Tarsus was situated at *Rhegmoi*, where the arsenal (*neoria*) of Tarsus once stood. Strabo also considers the whole lagoon as the *epineion* of Tarsus: this word characterises a port used and managed by a distant city. These clues suggest that sea-going ships would not normally sail up to Tarsus. But the river could be sailed

upstream: Cleopatra sailed up the *Kydnos* river to meet Mark Antony for first time.[32] But she did that on a very special kind of boat, named *porthmeion*. This would be some kind of an oared ferry used on rivers, lagoons or between islands. We are typically here in a context where the lagoon was the seaport, where a direct passage from the sea to the river was likely impossible, and where transhipment from sea-going ships to river-boats made it possible to bring the goods upstream, at least up to Tarsus.

The case of *Adana*, now situated 35 km upstream, is very interesting too. *Adana* is named *emporion Adane* by Pseudo-Skylax.[33] The classical meaning of the word *emporion* seems to indicate that Adana then had a maritime outlet that bore its name. The same toponomastic situation does appear at Perge, which is situated in the mainland but was also considered as a port of entry by Roman customs Law of Asia.[34] This port was also the city's *emporion*. *Emporion* eventually became the proper name of this place in late Hellenistic times and this was still the port of Perge in early Byzantine times.[35] At Adana, the *emporion*, likely situated at the mouth of the Saros river (Seyhan), did not apparently have such a good fate. Authors like Strabo do not record the mouth of the river in their periplus and the *Stadiasmus* does not mention any relationship between the mouth of the Saros and Adana and Q. Curtius Rufus only considers the rivers the Kydnos and the Pyramos noteworthy.[36] The fact that like Adana, the city was chosen by Pompey to settle pirates likely makes it a poor maritime city.[37] Ptolemy places the town on the same meridian as the mouth of the Pyramos (Ceyhan), thus implicitly connecting it with the basin of the Pyramos rather than to that of the Saros. The morphology of the mouth area may have been subject to rapid changes: About 400 BC Xenophon describes one mouth, sized 3 plethra or 300 feet (80 m.),[38] but Livy relating events that took place two centuries later mentions several mouths.[39] By the times of Procopius, it is said to be navigable (*nausiporos*).[40]

The location of Mallos is an irritating problem that is being discussed elsewhere.[41] It is usually located upstream at Kızıltahta. But this view is highly debatable. The city was considered a part of the shoreline by all ancient writers. The whole medieval and ancient tradition places Mallos on cape Karataş, and all of the edicts published both under the name of Mallos or under that of Antioch-on-the-Pyramos (the name of Mallos under Antiochos IV) were displayed at Karataş, where Mallos/Antioch is likely to be located. The only epigraphic document mentioning the institutions of Mallos at Kızıltahta belongs to a mausoleum and mentions funerals at public expense of the city of Mallos. It is absolutely irrelevant to support the location of Mallos at Kızıltahta. The only evidence that would support a location upstream is Pseudo-Scylax, where the word anaplous has been misunderstood.[42] It just indicates here that the port of the city was accessible through the river mouth. Mallos likely was surrounded by the two arms of the Pyramos and had a port upstream close to the river mouth just north of cape Karataş and Magarsus. The fact that like Adana, the city was chosen by Pompey to settle pirates likely makes it a poor port.[43]

According to Strabo,[44] the Pyramos was a navigable river. To what point is uncertain. According to Xenophon, the river was one stade large at a point that was likely upstream.[45]

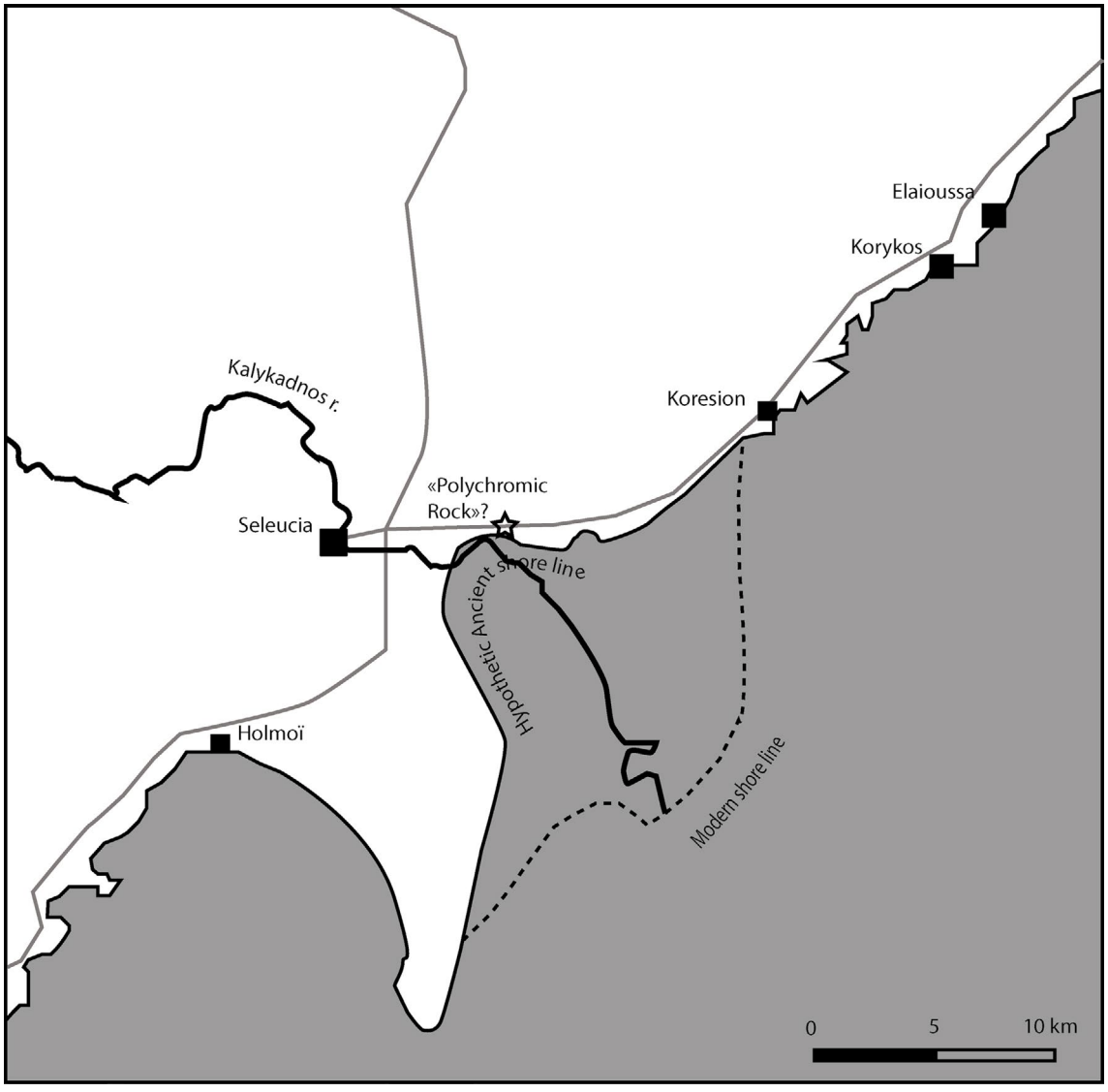

Fig. 2: The coastline around the Kalykadnos.

Rough Cilicia

The only noteworthy river outside Cilicia Pedias was the *Kalykadnos*, once again considered a navigable river.[46]

The topography of the area of the mouth of the river, which also marked cape *Sarpedon* is again a bit confusing. Here again *Holmoï* and *Seleucia-on-the-Kalykadnos* may well be two names for one and a same place.

After *Kalon Korakesion* (same as *Korasion* and likely as *Pseudokorasion* as well), located at Susanoğlu, and before the Kalykadnos, the *Stadiasmus* (175–176) mentions an interesting

feature. At a place called the «polychromic rock», also named by Strabo, there used to be a ladder or stairs cut in the rock that led to the road to Seleucia. As for the interface between land and sea I shall come back soon. At first, this occurrence means that the shoreline was again a rocky one, and that it roughly followed the road, at least at some point between Susanoğlu and the ancient bed of the river. This implies that in that precise area, part of the alluvial plain was not formed when Seleucia already was named.

Seleucia-on-the-Kalykadnos was undoubtedly a port. A *naukleros* who had his origin at Hermione was settled there in the late 3rd – early 4th cent. AD, before he moved to Cyzicus, as one learns from his funerary inscription (IK 18 Kyzikos 184).

Both Strabo and the *Stadiasmus*,[47] likely relying on the same source describe the same staircase cut into a colourful rock that provided access to the road that led to Seleucia. A first interface between the sea and Seleucia-on-the-Kalykadnos was therefore made through a road. It allowed people sailing from the east to drop their passengers or goods off.

The river provided another interface, as Strabo makes it explicit: 'The river has a channel that leads to Seleucia.'[48] Seleucia apparently could be reached directly from the sea by sea-going ships. The distance of 120 stades provided by the *Stadiasmus* is an estimate, not the result of a measurement;[49] and it is given from the edge of cape Sarpedon. It is therefore impossible to state the distance from Seleucia-on-the-Kalykadnos to the mouth of the river. This casestudy is quite illustrative of the complexity of accesses to cities situated upstream either sailing upstream or finding other interfaces with roads.

This quick survey would need confrontation with more reliable paleomorphological information that is an absolute pre-requisite to any attempt in historical topography and geography. It nevertheless allows a certain number of reliable hypothesises for the reconstruction of the ancient maritime landscape and of its evolution, and brings light on the variety of patterns provided by interfaces between sea and rivers and on their importance for the development of coastal cities, in Cilicia and elsewhere.

Notes

[1] The research for this project has received funding from the European Research Council under the European Union's Seventh Framework Programme (FP/2007–2013) / ERC Grant Agreement no. [339123] "PortusLimen".

[2] References to the Stadiasmus Maris Magni (hereafter abridged SMM) are given following Müller 1855, 427–514, although the text edited by Müller is highly debatable.

[3] Arnaud 2015, 112–115.

[4] This identification is being challenged by F. Onur in an article to come. Cavalier – des Courtils 2011, 456. 461–463.

[5] Arnaud 2009, 181.

[6] Adams 2017; Aliquot 2016; Arnaud 2015b; Arnaud 2016; Arnaud 2019; Chic-García 1990; Chic-García 2002; De Boer 2010; De Izarra 1993; Lebreton 2012; Melchor 2002; Mirschenz 2018; Muñoz 1997.

[7] Blackmann 1982, 186.
[8] Duncan-Jones 1974, 366–369. The figures given here have been re-calculated using the value of the modius kastrensis established by Duncan-Jones 1976.
[9] Strab. 5, 1, 8.
[10] Strab. 14, 1, 10.
[11] Ps.-Skyl. 100; Strab. 14, 3, 6.
[12] Ps.-Skyl, 100; SMM, 236.
[13] App. BC, 4, 10, [82].
[14] Strab. 14, 4, 2; SMM, 219.
[15] Ps.-Skyl.101; Strab. 14, 4, 2.
[16] Mela 1, 78.
[17] SMM, 176.
[18] SMM, 168.
[19] Ps.-Skyl.102; SMM, 163 f.; Strab. 1, 3, 7. 12, 2, 4.
[20] Arnaud 2016, 141 f.
[21] Arnaud 2015, 107-113.
[22] Heilporn 2000.
[23] Strab. 12, 2, 4.
[24] Arnaud 2017.
[25] Hild –Hellenkemper 1990, 408.
[26] Plin. nat. 5, 91.
[27] Imhoof-Blumer 1898, 163.
[28] Strab. 12, 2, 4.
[29] Prok. aed. 5, 4.
[30] Strab. 14, 5,12.
[31] Strab. 14, 5, 10.
[32] Plut. vitae parallelae 26.
[33] Ps.-Skyl. 102; Müller 1855, 77.
[34] Cottier et. al. 2000, 37 ; ll. 26 [§ 9].
[35] Hild – Hellenkemper 1990, 529; Grainger 2009, 192; SMM 215 ; Prok. aed. 5, 9, 38.
[36] Curt. 3, 4, 8.
[37] App. Mithr. 96.
[38] Xen. an. 1, 4, 1.
[39] Liv. 33, 41.
[40] Prok. aed. 5, 5.
[41] Arnaud 2019.
[42] Ps.-Skyl. 102; Müller 1855, 77.
[43] App. Mithr. 96.
[44] Strab. 12, 2, 4.
[45] Xen. an. i, 4, 1.

[46] Amm. 14, 8, 1: navigabile flumen Kalykadnos.
[47] Strab. 14, 5, 5 'After the Kalykadnos is the so-called Polychromic Rock that has a staircase cut in the rock that leads to Seleucia' (Μετὰ δὲ τὸν Καλύκαδνον ἡ Ποικίλη λεγομένη πέτρα κλίμακα ἔχουσα λατομητὴν ἐπὶ Σελεύκειαν ἄγουσαν).
SMM 175. 'From the Kora[ke]sion to the Polychromic Rock, that has a staircase, that provides access to the road to Seleucia-on-the-Kalykadnos, 70 stades. 176. From the Polychromic Rock to the Kalykadnos river, 40 stades' (Ἀπὸ τοῦ Κορακησίου ἐπὶ τὴν ποικίλην πέτραν, ἥτις ἔχει κλίμακα, δι' ἧς ἐστιν ὁδὸς εἰς Σελεύκειαν τὴν ἐπὶ Καλυκάδνου σταδίων ο΄. 176. Ἀπὸ τῆς κλίμακος ἐπὶ τὸν ποταμὸν Καλυκάδνον στάδιοι μ΄.).
[48] Strab. 14, 5, 4. "ἔχει δὲ ὁ ποταμὸς ἀνάπλουν εἰς τὴν Σελεύκειαν πόλιν".
[49] Arnaud 1993.

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Fig. 1–2: by the author.

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