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SOME NORTHERN CONSTELLATIONS USED FOR NAVIGATION IN ANTIQUITY

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The text analyses the myth of Arion the citharode and his miraculous deliverance. It is believed that the background of this myth is actually the use of stars from the constellation Delphinus in celestial navigation by ancient sea-farers on the maritime route from Magna Graecia to Greece. The author further analyses the myth of Apollo Delphinius, according to which the god assumed the shape of a dolphin and thus guided a Cretan ship to Delphi. Further he considers the use of stars from the constellation Corona Borealis in celestial navigation; in this context he shortly addresses Theseus' voyage to Crete and interprets it as an expedition to the Otherworld. Next, the author tries to reconstruct the foundation-myth of Tarentum based on Classical sources, in the context of Arion's dolphin-assisted voyage. Associated with this is the analysis of stories with the eponym-hero of the city, Taras, and Phalanthus the Spartan as the main protagonists. The article briefly mentions some other »dolphin-riders« from Antiquity, namely Melicertes and Hermias. The final section discusses foundation-myths of Greek colonies in the Bay of Naples, again in the context of celestial navigation and open-sea voyages.

THE MYTH OF ARION

It is possibile that the famous myth of Arion the citharode is part of the tradition related to open-sea latitude sailing between Magna Graecia and the Peloponnese. We do not need to concern ourselves with a deeper analysis of the structure of this myth and may simply recall that Arion was a musician under the protection of the Corinthian tyrant Periander, historically attested ruler from the end of 7th and the beginning of 6th century BC. After he had successfully demonstrated his artistic skills in Sicily and Southern Italy, he decided to go back to Corinth. During this voyage his fellow-travelers conspired to assassinate him, so he was forced to jump into the sea. He was saved by a dolphin, or dolphins, and in the end the conspirators were severely punished. There are various versions of the story, and the main difference between them is in the nature and motivation of Arion's tormentors, and some minor details, but these aspects are not our concern here – it is enough to say that all of the versions have in common the following fact: Arion arrived in Corinth *before* the ship on which he started his voyage. According to Herodotus Arion set off on his return-voyage to Corinth from Tarentum, situated on 40°30' N (Hdt. I.24), while Hyginus mentions that he had



traveled »from the Sicilian Sea to Taenarum.« (Hyg. Poet. Astr. II.17). Aelian also says that a dolphin saved Arion in Sikelian, that is, Sicilian Sea (Ael. NA XII.45). That Arion finished his voyage on Cape Taenarum in Laconia (36°25' N) can be also found in Herodotus (Hdt. I.24), Strabo (Str. XIII.2.4) – actually Strabo recounts Herodotus' story without mentioning the starting point in Tarentum, similar to Aulus Gellius (Gell. NA XVI.19) – Eusebius (Olympiad 40.2, 619/618 or – in Armenian version – 610/609 BC; ed. Schoene II.91, Helm p. 97; cf. Hieronym. Chron. ed. Fotheringham p. 171), Lucian (DMar 8, although he claims that Arion was traveling from Corinth to Methymna and was saved in the Aegean Sea), Dio Chrysostom (Dio. Chrys. XXXVII.1–4, who probably also considered Tarentum as the starting point of the voyage), and Pausanias (Paus. III. 25.5).

Moreover, Pausanias saw Arion's bronze memorial on Cape Taenarus, which Herodotus describes as »a little bronze memorial... the figure of a man riding upon a dolphin«. Aelian mentions this memorial, and also an epigram which states that a dolphin had saved Arion from the Sikelian Sea, as we have just mentioned (Ael. NA XII.45). Pliny also relates how a dolphin brought Arion on shore at Cape Taenarum (HN IV.8), and Solinus refers to the same event (Solin. VI). He adds a description of a temple dedicated to Arion of Methymna on Cape Taenarum, and a bronze monument on which Arion is represented riding a dolphin (cf. Dio. Chrys. XXXVII.4). The inscription on this monument dates the event in the 29th Olympiad, and also describes how Arion had won some musical contests in Sicily. From Taenarum Arion continued his voyage to Corinth by land and managed to arrive before the ship¹. According to Hyginus (Hyg. Fab. 194) and Plutarch (Plut. Conv. Sept. Sap. 18), Arion, traveling on the dolphin, arrived directly in Corinth, while the conspirators sailed in the harbor some time after his arrival. Hyginus relates that, after Arion had landed there, the ship he was traveling on also arrived on Cape Taenarum, and that is where the conspirators were captured (Hyg. Poet. Astr. II.17). So we have somewhat different versions describing Arion's voyage and the voyage of the ship he was forced to leave: from Tarentum to Taenarum (Arion), from Tarentum to Corinth (the ship) – according to Herodotus – i.e. from 40°30' to 37°55' or 36°25' north; from the »Sikelian Sea« to Taenarum – according to Hyginus – i.e. from 37°–38° to, again, 36°25' north. Let us now emphasize the later version, because Hyginus insists that both Arion and the ship landed on Taenarum. He does not name the exact starting point of Arion's voyage, but his phrase »the Sikelian Sea« suggests it was not Tarentum, situated on the north coast of the gulf that bears the same name. It is more probable that Arion set off from one of the Sicilian harbors on the east coast of the island – Syracuse, Catana, Naxus, Megara, or Zankle. This is collaborated by the fact that only Herodotus refers to Tarentum as the starting point of the voyage, while other authors associate Arion's sojourn on the other side of the Ionian Sea with Sicily. The expression »Sikelian Sea« could be decisive in determining the exact nature of Arion's voyage. Classical authors generally place the Sea of Sicily between the shorelines of that island and the Peloponnese, stretching all the way to Crete. Thus Thucydides makes it extend to the shores of Cythera (Thuc. IV.53.3), explicitly distinguishing it from the Ionian Sea or Gulf, and at the same time associating the former with open-sea voyages, while the latter he connects with coastal sailing: »...the Ionian sea for the coasting voyage, and the Sicilian across the open main...« (Thuc. VI.13.1). Thucydides, along with many other classical authors, associates the name of Ionic Gulf with the Adriatic or, in an even narrower sense, with the Strait of Otranto and its immediate vicinity (Thuc. I.24.1, VI.30.1, 34.4, 44.1, 104.1, VII.33.3). Thus Diodorus calls this part of the Adriatic *Ionion poron*, whe Ionian passage-way (D. S. XV. 13.1). Strabo claims that the Sikelian Sea stretches from Sicily and southern Italy to Crete, Peloponnese, and the Gulf of Corinth, while on the north it reaches all the way to »the mouth of the





¹ Hyg. Fab. 194 erroneously placed the monument in or near Corinth itself.

Ionian Gulf«, i.e. the Strait of Otranto, thus also clearly distinguishing one from the other (Str. II.5.20). Polibius claims Ambracian Gulf to be a branch of Sikelikon pelagos, which extends also to Keffallonia (Plb. IV.63, V.3, 5), while Eratosthenes names thus the sea between Sicily and Crete (apud Plin. HN III.10). These facts led one modern scholar to conclude the following: »Thucydides makes a clear distinction between the waters of the 'Ionic Gulf' (the Strait of Otranto) subject to cabotage between Greece and Sicily, and those of the 'Sicilian Sea,' which is marked by direct routes, and stretches as far as Cythera. As in other examples deriving from the ancient marine terminology, the extension of the Sikelikon pelagos as far as the shores of the Aegean must be due to the fact that it is crossed by those actually going to Sicily... the name is believed to derive from the experience of the high-sea routes, [and] these must have been more frequent than they would appear to have been from the few known episodes regarding this period described in ancient literature.« (PRONTERA 1996: 205). Thus, it is more than probable that the name of *Siculum mare* was initially applied to that stretch of water between Sicily and the Peloponnese which was once traversed by ancient sea-farers, and which now forms the southern part of the Ionian Sea. Therefore, when we read that Arion traveled across »the Sikelian Sea«, we probably have the confirmation of his following an open-sea route. We know that Cape Taenarum was the starting point for the Peloponnesian crossings of the Sicilian Sea during the Peloponnesian War (Thuc. VII.19.4), and that the Lacedaemonian commander Gyllipus completed his crossing of the Ionian Sea at Tarentum (Thuc. VI.104.1). We also know that the ancient geographers estimated the distance between Cape Pachynus on Sicily and Cape Taenarum to be 4500 (Str. II.5.20) or 4600 stadia (Artemidorus apud Str. II.4.3), which also indicates direct crossings of the Sicilian Sea involving either Cape Taenarum or Tarentum.

Whatever be the case, we can see that Arion traveled on one of the routes between the Peloponnese and Magna Graecia we had just described. Nothing in existing stories refers to the nature of the voyage that Arion and his ship were making, but from the context of the story it is clear that they had sailed over the open-sea. Maybe Arion, riding on a dolphin's back, took the direct route over the open-sea, arriving this way faster on the Cape Taenarum, while the conspirators sailed the longer way through Otranto and Corfu along the coast, and so, consequently, arrived later than him in Corinth. Considering Arion's route, the fact that the dolphin brought him on shore on the southernmost point of the Peloponnese, that is, Cape Taenarum, suggests that the ship did not sail along the coastline, and the unfortunate musician probably had to jump into the sea a long way from the shore. If Arion's ship had sailed along the east coast of the Ionian Sea it would be utterly inconvenient – for both the dolphin and Arion – to go first all the way to the southernmost point of the Peloponnese, and from there by land to Corinth. On the other hand, if the ship had traveled on the open-sea, then Taenarum would be a logical goal.

As we have already seen, because of the various descriptions, it is not easy to determine exactly the routes taken by the ship and by Arion. The key might lie in the mentioning of the dolphin. Arion wasn't carried on the back of any ordinary dolphin, but the dolphin that was later, because of his unselfish help to an unfortunate castaway, transferred to the sky as the constellation of the same name (Hyg. Poet. Astr. II.17; according to Hyg. Fab. 194 both Arion and the dolphin were placed among the stars). The hidden meaning behind this mythical story may lie in the fact that Arion actually sailed between Sicily and Cape Taenarum in Laconia or Corinth by observing *the constellation* Dolphin. Delphinus is a constellation on the very edge of the Milky Way, the great celestial water, »the pride of sea and sky, in each revered« (Man. Astr. I.347). How could this constellation help navigators sailing on a vast open-sea about 600 BC between Sicily and the Peloponnese? The stars of the constellation *Delphinus* had the following declinations in the year 600 BC: α *Delphini*, Suoalocin, mag. 3.77, δ 9°52'55"; β *Delphini*, Rotanev, mag. 3.64, δ 8°46'; ψ 2







T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15-58 (2006)

Delphini, mag. 4.27, δ 9°49'54"; δ Delphini, mag. 4.43, δ 8°52'40"; and ε Delphini, Deneb Dulfim, mag. 4.03, δ 5°46' 38" (see table 1). It is immediately clear that none of these stars could be used as a last circumpolar star for the region of the Ionian Sea, and the same goes for their usage as zenith--stars. Neither is observing their upper culminations more probable, because their transits occurred at comparatively high altitudes (altitudes of the upper culminations for these stars in a given year observed from 37° north: 62°52'; 61°46'; 62°49'; 61°52'; 58°46', measured above the southern horizon). But the constellation *Delphinus* was in that time very near the equator, it's head less than 6° away, and the rest of the body at a maximum of 10°, so it rose and set very near the geographical east and west respectively (the azimuth of rising of it's easternmost star, Deneb Dulfim, was in 600 BC, observed from the latitude of 37° north, 82°19'; while the azimuth of setting was 277°40'; the azimuth of rising of it's westernmost star, Sualocin, was in 600 BC, observed from the same latitude, 77°09'; the azimuth of setting for the same star was 282°50'; see also table 1). The constellation's rising was visible above the horizon from the middle of December to the middle of June, and in that part of the year it loosely marked east, while it's setting could be observed from the beginning of August to the end of January, in which period it loosely marked west. At least a part of those periods can be numbered in what is usually termed »the part of the year suitable for sailing«. Although the navigator, sailing between Magna Grecia and the Peloponnese, as we have already noted (BILIC 2006), had much better navigational aids in observing some other stars, a tradition may well have existed of the use of the constellation Delphinus in stellar navigation, perhaps as some kind of corrective, or for determining the general sailing direction.

THE CONSTELLATION DELPHINUS AND APOLLO

Hyginus' story about Arion's dolphin becoming a constellation is not the only explanation connecting this animal with the constellation of the same name. Pseudo Eratosthenes, and after him Hyginus, related how the dolphin was transferred to the sky for his help in acquiring Amphitrite for Poseidon. A little later we shall see the connection between Amphitrite and the dolphin as a rescuer, with the goddess in a negative context. In this story we find Amphitrite as the dolphin's rival. According to the story as related by Pseudo Eratosthenes and Hyginus, Poseidon wanted to marry Amphitrite, but she escaped to Atlas, not wanting to have anything to do with him. The Earth-shaker then sent his envoys to search for her and it was the dolphin that succeded (according to Pseudo Eratosthenes), or rather Delphinus (according to Hyginus). In his version of the story, Oppian mentions dolphins (Opp. Cyn. I.38). Whatever be the case, he managed to found her »among the islands of Atlas« and to convince her to marry Poseidon. As a reward, his form was transferred to the stars for eternity (Eratosth. Cat. 31; Hyg. Poet. Astr. II.17). Pseudo Eratosthenes acknowledges Callimachus' pupil Arthemidorus' elegies Peri Erotes as his source. In the same chapter of his book Hyginus relates the story about Tyrrhenian sailors who had tried to capture Dionysus, but were transformed into dolphins – the dolphin among the stars commemorating their unfortunate fate. The animal and the constellation are also mentioned in association with the epithet Delphinius of Apollo, which is an allusion to the shape assumed by this god when he led the Cretans to Delphi (schol, ad Arat. 318; CONDOS 1997: 99–100, 237). It is believed that Apollo showed the Cretan colonists the way to Delphi, while riding on a dolphin or metamorphosing himself into one (Tzetz. ad Lyc. Alex. 208; SMITH 1870: 956). According to the Homeric Hymn to Apollo (388-501), Phoebus guided a Cnossian ship, which was sailing to »sandy Pylos«², assuming the shape of a dolphin, to Phocis. His reason for taking the passengers to Delphi was the need to have somebody to

2 On the question of three different Pyloi on the Peloponnese, see BILIĆ 2006: 140–142 and below.





minister sacrifices. He spotted »the black ship« probably somewhere between Crete and Cape Malea in Laconia, and decided to guide it to Delphi. We are given a rather detailed itinerary of the ensuing voyage: first the ship passed by Cape Malea, and than sailed along the Laconian coast to Cape Taenarum. Further Apollo guided the ship, still in the shape of the dolphin, along the East coast of the Peloponnese, passing by the cities Arene³, »lovely« Argyphea⁴ and »Thryon, the ford of Alpheus«⁵. Next the ship passed by »well-built Aepy«⁶ and (Triphylian) Pylos⁷. Let us pause for one moment, and consider the question of this geographical location. Classical sources mention as many as three Pyloi on the western Peloponnese: Messinian, Elean, and Triphylian. We could see that the author of this Homeric hymn mentioned the city of Pylos after the river Alpheus. That means, if we take into account the general direction of the voyage, that the city was situated north of the river. This eliminates at once the Messinian Pylos, located much further south. But even the Triphylian Pylos is south of Alpheus. Maybe the *Elean* Pylus is meant – at least that is what Pausanias was led to believe in Elea (Paus. VI.22.5-6). As much as three cities of the same name situated in the western Peloponnese raise the question of the origin of that name. The word pylos probably originally designated ** the door of the Otherworld*. At an early point in Greek mythology the entrance to the Otherworld was obviously placed in the western Peloponnese (NILSSON 1932: 87-88, 203-204). Homer related the story how Heracles harrowed the land of Pylians and murdered eleven out of twelve Neleus' sons, spearing only Nestor (Il. XI.690-693). He also mentioned how Heracles had wounded Hades »in Pylos amid the dead« (en Pylô en nekyessi; Il. V.394-400; also Clem. Alex. Protrept. II.36). Hera (II. V.392–293; Panyasis⁸ apud Clem. Alex. Protrept. II.36) and Ares (Hes. Scut. Her. 359–364) were also wounded in the battle. The word pylos here, according to Aristarchus (apud T schol. ad II. V.393; LEAF 1900), with whom we must agree, means »the door of the Otherworld«, and is not intended to stand for the name of the city. Aristarchus gives analogies in cholê = cholos and hesperoi = hespera to pylos = pylê, the standars Greek word for »the gates«. Maretić, in his Croatian translation of the *Iliad*, translates II. V.397 thus: »He [Heracles] wounds amid the dead by the door... the god Hades.« Pausanias relates how the Eleans are the only people to worship Hades, and they worship him because he came to their aid when they were attacked by Heracles (Paus. VI. 25.2–3). According to this version Heracles attacked the Elean Pylos, of course. Apollodorus also states that Heracles wounded Hades during the battle with Pylians (Apollod. Bibl. II.7.3). Pindar mentioned the god of the Underworld involved in the battle (Pi. O. IX.33–35), while schol, ad Pi. O. IX.30 claimed that the battle with Hades occured by the Elean Pylos, but as a part of Heracles' other Labour, the one in which he had to drag Cerberus from Hades. We can conclude that the story of Heracles' expedition to Neleus' Pylos is an attempt to euhemerize more ancient myth describing Heracles' expedition to Otherworld, which he had entered »at the gates of the Otherworld«, located somewhere in the western Peloponnese. This fact is of outmost interest, but not the subject of this work.

- 3 Probably Samos/Samia in Triphylia (Str. VIII.2.18; Paus. V.6.2), or perhaps located between Cyparissia and Pylos, therefore in Messinia (Str. VIII.3.23, 4.6). It was already mentioned by Homer (II. II.592, XI. 722–723). The itinerary of the voyage is somewhat inconsistent, mostly because of the uncertanties in the identification of Homeric localities. The logic of the voyage speaks for the Messinian location of Arena.
 - 4 Probably on the Messinian or Triphylian coast.
- 5 Probably Homeric Thryum (II. II.592) or Thyroessa (II. XI.711–712), somwhere in Triphylia, maybe the same
- as Epitalium (Str. VIII.3.24). Cf h.Herm. 397–398 where Pylos itself is associated with the ford.
- 6 Homeric Aepy (Il. II.592), probably Triphylian city of Epeium (Epeum, Aepium), between Macistus in Triphylia and Herae in western Arcadia, maybe the same as Epitalium, or Margalae (Xen. Hell. III.2.30; Str. VIII.3.24; Plb. IV.72.9; 80.13; Mimner. fr. 9 West *apud* Str. XIV.1.4).
- 7 Str. VIII.3.14, 24–29. See also note 1. Both times the poet used the expresion »sandy Pylos and the Pylian men«.
- 8 Greek 5th century BC epic poet, author of the epos $H\hat{e}rakleia$.









Returning to the voyage of the Cretan ship, we are informed that it had passed Crounoi and Chalcis⁹. The voyage continued North past Dyme¹⁰ and »fair (holy) Elis, where the Epei rule«¹¹, going towards Pherae¹². At this point the travelers spotted the Ionian Islands, »the steep mountain of Ithaca, and Dulichium and Same and wooded Zacynthus«13. Then Apollo made the ship turn eastward, towards the Crisaean Gulf, and it finally landed in the harbor of Crisa, which will be again mentioned later: »Then, like a star at noonday, the lord, far-darting Apollo, leaped from the ship.« Later on Apollo says since he »sprang upon the swift ship in the form of a dolphin« they should »pray to him as Apollo Delphinius«. Thus, the dolphin is again mentioned in association with navigation, although not in the same sense as before. The voyage of the Cretan ship from Cape Malea to Crisa can be divided in three sections: first, the section from Cape Maleas to Cape Acritas (which is not mentioned), where the ship followed the westerly course; second section, from Cape Acritas along the western coast of the Peloponnese to Cape Araxus (which is also not mentioned), where the ship sailed almost directly north; finally, from Cape Araxus to the harbor of Crisa, when the ship followed an easterly course. The Homeric Hymn to Apollo explicitly states that the ship was guided by a dolphin, or rather Apollo in the shape of this marine animal. Now we have already seen that the scholiast associated Apollo's appellation Delphinius with this incident, and this appellation and the whole story must be in some way connected with the constellation. The image of Apollo Delphinius, associated in one way or the other with the lyre, was most probably the prototype of Arion the citharode, or rather the myth associated with him. »And when they [the Cretans] had put away craving for drink and food, they set forth on their way, and lord Apollo, the son of Zeus, guided them, holding a lyre [actually he holds a phorming, an ancient form of cithara, or a special variety of that instrument] in his hand [although in his human form], and playing sweetly as he stepped high and featly. So the Cretans followed him to Pytho...« (h.Apoll. 513–517). The lyre was also placed in the heavens as a constellation (Eratosth. Cat. 24; Hyg. Poet. Astr. II.7; for the constellation Lyra see table 3).

THE NORTHERN CROWN AND THE LABYRINTH

It is clear from the stories given by Pseudo Eratosthenes and Hyginus that the goddess Amphitrite is often associated with dolphins. This will became even clearer when we later mention her connection with these marine creatures that saved Enalus and his companion on Lesbos. Both times the goddess is advanced in the position of the dolphin's antagonist. But in the story of Theseus and the ring of Minos the goddess and dolphins appear to be on the same side. Pausanias relates how Minos challenged Theseus' divine ancestry as the son of Poseidon, and threw his gold ring into the sea, challenging the hero to get it back. Theseus managed to get to the ring and even brought, as a

- 9 The river (and settlement) Chalcis and the source Cruni are also in Triphylia (Str. VIII.3.13, 26, 27; X.1.9). Homer mentions those places in the description of Telemachus' return voyage from Messinia to Ithaca: »And they went past Cruni and fair-flowing Chalcis.« (Od. XV.295).
- 10 A town in Achaea, east of Cape Araxus (Str. VIII. 3.9; Paus. VII.17; Hdt I.145; Plb. II.41; HN IV.5.13; Thuc. II.84.3). Dyme should have been mentioned after Elis, of course.
- 11 Cf. Od. XV.297–298. By Elis we should understand the province, rather than the city, which did not exist in Homer's time (Str. VIII.3.2).
- 12 Probably the Achaean city (Str. VIII.7.4–5; HN IV. 5.13; Paus. VII.22; Hdt I.145; Plb. IV.6), rather then the

Messinian or Arcadian. It is an odd statement, since Pherae is an inland town. However, in Od. XV.297 Aristarchus and Strabo (VIII.3.26) read *Pheas*, while nearly all of the mss. read *Pheras*, as here. If we accept the first reading, this place could be identical with the Pheia of II. VII.135 (but to complicate the matter further Didymus after Pherecydes here reads Phêras; schol. A ad II. VII.135). Thuc. II.25.3–5 mentioned Pheia north of the cape Ichthys in Elis, or rather Pisatis (also Od. XV.297; Str. VIII.3.12, 26; Steph. Byz. s. v. Phea; Plb. IV.9). If Pisatian city was meant, it should have been mentioned before Dyme and Elis. We have already mentioned how the itinerary of the voyage is not consistent with the geographical facts.

13 Cf. Od. IX.21-24.





gift from Amphitrite, the golden crown from the depths (Paus. I.17.3). He was conveyed to Poseidon's court by dolphins (Bacchyl. Dith. XVII.97-101). Bacchylides adds that Amphitrite gave to Theseus the garland she had received from Aphrodite as her wedding-gift (Bacchyl. Dith. XVII. 114-116). According to Hyginus the hero was carried by dolphins to Nereids, and the crown was given to him by Thetis or Amphitrite – both received the crown from Aphrodite as a wedding-gift (Hyg. Poet. Astron. II.5). In any case the crown, the work of Hephaestus, was given to Ariadne, whether by Theseus or by Dionysus, for her wedding ceremony. The crown was also transferred into the sky, as the constellation of the Northern Crown, Corona Borealis (Eratosth. Cat. 5; Hyg. Poet. Astr. II.5; A. R. III.997–1004; Ov. Trist. V.3.41–42; Ov. Fas. III.513–516; V.345–346; Ov. Met. VIII.176–182; Arat. 71–73; schol ad Arat. 71; Man. Astr. I.319, 323; Serv. ad Verg. Georg. I.222; D. S. IV.61.5; VI.fr. 4 apud Tert. De Cor. VII.4; Ptol. Heph. apud Phot. Bibl. 190; Prop. III.17; III.20; Nonn. D. XLVII.451–452, 466–469; XLVIII.969–973; Hor. Carm. II. 19.13–14; Lucian Deo. Conc. 5). Hyginus says that the crown was »wrought of gold and Indian gems. With it, Theseus reportedly emerged from the darkness of the labyrinth, because the gold and gems produced a glow in the darkness.« This implies, although not very convincingly, the use of the crown/Corona Borealis for orientation of some kind. Hyginus actually ascribes this tradition to »the author of the Cretica«. The authorship of this work is attributed to the 7th century BC poet and philosopher Epimenides of Cnossos (the author of the famous »all Cretans are liars« paradox), so the story is both ancient and of local origin. The Welsh name for this constellation is Caer Arianrhod, meaning »Castle of the goddess Arianrhod«. The name of the goddess itself can be translated as »Silver disk« or »wheel« (MACCULLOCH 1911: 110; MACKILLOP 2004: 24), which connects her with the Moon, but the similarity of names »Ariadne« and »Arianrhod« and their association with the same constellation cannot be accidental. The use of the Northern Crown in navigation is not the subject of this article – I have already written about this subject in BILIĆ 2005: 88-89 - but I would like to emphasize one should take the whole story cum grano salis. Let us only add that Corona Borealis was at the zenith for the observer on latitudes already discussed (37–38°) in given epoch (see table 2). Therefore, latitude could be determined by observing this constellation. The latitude of some location is the same as the declination of a star that passes through the zenith above that location. Aristotle correctly related how the Northern Crown, observed from northern temperate zone, when transiting the meridian, is at the zenith (Arist. Mete. II.5).

In a well-known story of Minotaurus, the Labyrinth represents an Otherworld stronghold or location, which makes Thesus' adventure on Crete actually an expedition to Otherworld¹⁴. A part of this is his diving in the depths of the sea which we already described. It is interesting that Theseus was led to Crete by Phaeax¹⁵, the ancestor of Phaeacians, an Otherworldly people *par exellance* (Plut. Thes. 17). When we consider this fact in the context of the aim of Theseus' expedition, this is not unusual, on the contrary – it is logical in mythological sense. According to the report of Cleidemus, Theseus was led to Crete by Daedalus himself, along with Cretan exiles (Plut. Thes. 19). Daedalus, architect of the most famous labyrinth in Antiquity (Apollod. Bibl. III.1.4, 15.8; D. S. IV.77.4; Hyg. Fab. 40; Ov. Met. VIII.157–169; Serv. ad Verg. Aen. VI.14), was a smith, an architect, and an inventor¹⁶. It is less known that Minos, after Theseus' escape, imprisoned Daedalus himself

14 See figure 1.

15 Phaeax is the son of Poseidon and Corcyra, and the Phaeacians received their name from him. He is also the father of Alcinoüs (D. S. IV.72.4–5; Steph. Byz. s.v. Faiaks; Con. 3).

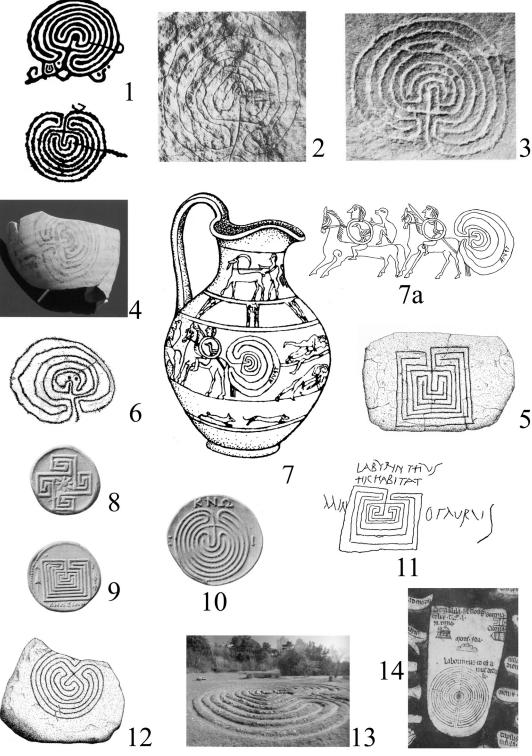
16 Pliny (HN XXXVI.19) and Diodorus Siculus (D. S. I.61.3, 97.5) specifically state that Daedalus' Labyrinth is a

copy of the Egyptian one, described by many ancient authors (HN XXXVI.19; Hdt. II.148; Str. XVII.1.37; D. S. I.61. 66.1–6, 89.3, 97.6). It is of interest that there was one labyrinth on Lemnos, Hephaestus' island (HN XXXVI. 19). We will not discuss the connection between Daedalus the smith and the origin of the labyrinthine dance, which is a matter of the highest importance, but not the subject of this work.















in the Labyrinth (Apollod. Epit. II.4/I.12 Frazer; Serv. ad Verg. Aen. VI.14). This fact makes the smith both the architect and the resident of the Labyrinth, besides being the guide of Theseus. Let us emphasize that mythological concept requires that Daedalus should also represent Theseus' principal adversary, i.e. Minotaurus, but we don't find this conjunction anywhere in Greek mythology. Both names of Theseus' antagonists in the Labyrinth, Asterios (»Starry«, see below) and Minotaurus (»The Bull of Minos«) are descriptive in character and certainly do not reveal the true name of the resident of the wonderful Daedalus' edifice. This is not the place to relate numerous mythological examples of the story in which the lord of the Otherworld fortress, palace, or any other location is also both the hero's challenger and his main adversary. Let us just observe that in the myth of Theseus' expedition to Crete we can find a number of incidents, which confirm the argument that this is actually an expedition to the Otherworld. A very similar attempt to euhemerize Theseus' expedition to the Otherworld can be found in the story of the abduction of Persephone. According to Plutarch, Theseus and Pirithous attacked the Molossian king Aidoneus in Epirus, who »called his wife Phersephone, his daughter Cora, and his dog Cerberus«. Aidoneus had killed Pirithous, and kept Theseus imprisoned until he was released by Heracles (Plut, Thes. 31, 34; also Ael, VH IV.5). Pausanias relates a similar euhemerized version of this incident, but locates the raid in the land of Thesprotians, in which are situated Acherusian Lake and the rivers Acheron and Cocytus. The woman the heroes are attempting to abduct is "the wife of the Thesprotian king". (Paus. I.17.4–5). But the majority of Classical authors refer to the story in its, undoubtedly more archaic, mythological version. The expedition to Hades is the result of a pact between Theseus and Pirithous concerning mutual assistance in abducting their future wives; the latter desired to obtain the Queen of Hades, Persephone herself. The two companions enter the Underworld through the Taenarian Cave, thus avoiding crossing the Lethe in Charon's boat. After he had listened to their bold demands they advanced in his palace, and Hades bade them sit on – as it will immediately became clear – the Throne of Forgetfulness, to which they instantly became fixed. Heracles was able to free Theseus from the Throne during his visit to Hades (while he was attempting to capture Cerberus), but not without some consequences to the hero, while Pirithous remained captured (Hyg. Fab. 79¹⁸; D. S. IV.26.1, 63.1-5; Hor. Carm. III.4.79-80, IV.7.27; Paus. IX.31.5, X.29.9; Verg. Aen. VI.392-397; Serv. ad Verg. Aen. VI.617; Gell. NA X.16.13; Sen. Hipp. 835–837; Eur. HF 619; AR I.100–104 and schol. ad AR 101; Suda s.v. lispoi; Apollod. Epit. II.9/I.24 Frazer; Apollod. Bibl. II.5.12 and sources cited by Frazer, note 5: schol. ad Aristoph. Kn. 1368; Apostolius, Cent. III; Myth. Vat. I.48). According to Virgil (Verg. Aen. VI.617-618) and Diodorus Siculus (D. S. IV.63.5) Theseus had also remained imprisoned in Hades, while Odysseus encountered both Theseus and Pirithous in the Realm of the Dead (Od. XI.631). From the stories recounted above, it is clear that Theseus was the main character in a number of myths centered on the harrowing of the Otherworld. The motif of his expedition, as related in the second story is the abduction of a girl, albeit not for his enjoyment, which is at first glance at variance with the patriotic motivation of the first expedition; but it must be remembered that Theseus brought with him from Crete Minos' daughter Ariadne. Ariadne possesses the means with which the hero can defeat the Otherworldly monster and escape from it's dwelling, and this implies that she is of divine lineage, which is, of course, already stressed by her ancestry, namely her grandfathers Zeus and Helios.

Ritual dance is closely connected with »the finding of a way out« from the Labyrinth, which, on the other hand, as we have seen, can be associated with the constellation of the Northern Crown. From the writings of Classical authors we know that Daedalus had made a dance floor for Ariadne in Cnossos, ornamented with labyrinthine pattern, the copy of the Egyptian Labyrinth (Paus. IX.40.2;

17 See also Paus. I.18.4, II.22.6, III.18.5. Frazer, Apollod. Bibl. II.5.2, note 5, also cites Tzetz. Chil. II.406ff.

18 He claimed that Heracles had freed both heroes unharmed from Hades.





T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

II. XVIII.590-592; HN XXXVI.19; Schol. ad II. XVIII.590; Eust. II. p. 1166; Verg. Aen. V.588-591). Lucian mentions the following themes of Cretan dances, or rather mythological themes available to a dancer associated with the island: »Europa's bull, Pasiphae's, the Labyrinth, Ariadne, Phaedra, Androgeos; Daedalus and Icarus; Glaucus, and the prophecy of Polyides; and Talos, the island's brazen sentinel.« (Lucian Salt. 49) This dance floor was out in the open, in front of the palace, and could be used for ritual dances (GRAVES 1992:346). We will not discuss any further different interpretations of the origin of this dance, which we may call the Labyrinthine dance. It will suffice to remember that it was performed, under the name Trojan Game, in imperial Rome (Suet. Calig. 18, Tib. 6, 12, Aug. 43, Ner. 7, Iul. 39, Claud. 21; Tac. An. XI.11; Dio Cass. XLIII.23, XLIX.43). The description of the Trojan Game is found in Virgil. The spectacle was enacted by Trojan youths divided in three companies of twelve, with three leaders, and it was performed in honor of Aeneas' father Anchises. Following the signal for the beginning of the Game, the companies commenced to perform coordinated maneuvers. »As once in Crete, the lofty mountain-isle, that-fabled labyrinthine gallery wound on through lightless walls, with thousand paths which baffled every clue, and led astray in unreturning mazes dark and blind: so did the sons of their courses weave in mimic flights and battles fought for play...« (Verg. Aen. V.553-603). Then Virgil goes on to describe how Ascanius taught the Latins in Alba Longa this Game, and from them it was taken over by Romans. The celebrated depiction on an Etruscan vase from Tragliatella (Ca. 630 BC), consisting of foot soldiers, horsemen, and a labyrinth with the inscription TRVIA, probably depicts »Roman« Trojan Game (see figure 1). One more dance is associated with Theseus' escape from the Labyrinth. Landing on the island of Delos on his return voyage to Athens, Theseus and Athenian youths performed a dance which imitated winding and twisting corridors of the Labyrinth, and consisted of some rhythmic »involutions and evolutions« (greek parallaxeis kai anelixeis; the words indicate some sort of alternate motions; cf. Callim. hDel. 310-313 who sings of »the coiled habitation of the crooked labyrinth« after whose design the youths »danced the round dance«). Delians call this dance »the Crane« (Plut. Thes. 21; also Hesych. s.v. geranos; Poll. Onom. IV.101 who adds that the dance-floor was around the Delian altar). It was associated with the depiction on the Achilles' shield of Ariadne's dance-floor already by Eustathius. Eustathius also reports that the tradition of the crane-dance was still observed in his lifetime (12th century), particularly among seafarers. He also suggests a possible connection of this festival with Cybernesia, the Pilot's festival. Plutarch informs us that Theseus had built memorial shrines for his pilots Nausithous¹⁹ and Phaeax in Phaleron, and dedicated the festival of Cybernesia in their honor (Plut. Thes. 17). It is interesting to notice that the Scandinavian »Troytowns« (»Trojeborgar«) in form of a labyrinth were often associated with »maiden's dances« (see figure 1). The same could not be said for Welsh shepherd-made labyrinths called Caerdroia (»Castle of Troy«), but the Serbian folk-dance »Trojanac« can be etymologically linked with the famous city of Priam! (MATTHEWS 1922: 162). In the end, let us mention the dance of the Tyrian sailors in honor of Tyrian Heracles, although in no way connected with the Labyrinth, but performed by sailors, which is important. The dance is described thus in Heliodor's Aethiopica: »Now they leap spiritedly into the air, now they bend their knees to the ground and revolve on them like persons possessed.«

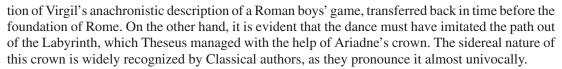
Those dances, connected with Theseus' escape from the Labyrinth, may have originated in certain navigational techniques used by Bronze-age sailors on the Mediterranean. It is impossible to reconstruct precisely the nature of this navigation, from the simple reason that, unfortunately, we do not have any specific information regarding dances associated with the Labyrinth, with the excep-

19 This Nausithous is probably the father of Alcinoüs, the king of the Phaeacians, according to Od. VI.7, VII.56,

VIII.564-565; A. R. IV.547. He is second Otherwordly Theseus' navigator, besides Phaeax.

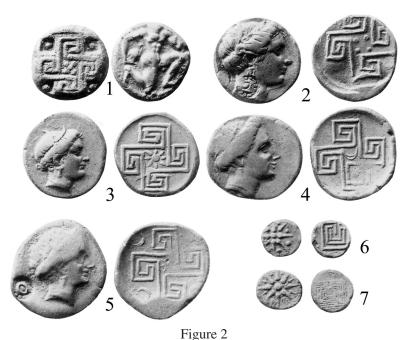






It is worth mentioning that Lucian expressed his opinion concerning the origins of dancing in general thus: »The best antiquarians, let me tell you, trace dancing back to the creation of the universe... in the dance of the heavenly bodies, in the complex involutions whereby the planets are brought into harmonious intercourse with the fixed stars, you have an example of that art in its infancy...« (Lucian Salt. 7) It seems that for Lucian dancing evolved from observation and imitation of the movements of heavenly bodies.

The astral character of the Cretan Labyrinth is moreover emphasized with symbols which sometimes occur in its centre on some Cnossian coins²⁰. This might be a reflection of the tradition that made Minos' son Asterion the inhabitant of the Labyrinth (Paus. II.31.1), who is, according to Apollodorus, identical with Minotaurus (Apollod. Bibl. III.1.4). Pausanias' report, describing Asterion as ** the bravest of those killed by Theseus**, but avoiding any of his monstrous characteristics, is probably the attempt to further euhemerize Theseus' expedition. In any case, according to this variant of the story, in the centre of the Labyrinth there was a ** starry** hero, exactly as shown on Cnossian coins. The antiquity of Cretan concepts of the Labyrinth and it's creator Daedalus is well-attested by Linear B references to $da-pu_2-ri-to-jo\ po-ti-ni-ja$, the Lady of the Labyrinth (KN Gg(1) 702), and to ** the sanctuary of Daidalos** in KN Fp(1) (PALAIMA 2004: 444, 446, 448). Both tablets are dated ca. 1400–1200 BC.



20 See figure 2.





THE FOUNDATION-MYTH OF TARENTUM

We have already seen that Herodotus insists on determining the exact point of departure for Arion's return voyage; but we have also seen that Sicily is a more appropriate location for the start of his voyage than Tarentum. There might be an explanation for Herodotus' claim, based in mythology. The Lacadaemonian colony of Tarentum was founded, better to say conquered, by a hero named Phalanthus, who was the leader of a group of Spartan exiles composed of illegitimate offspring of Spartan women. During the Messenian War all Spartan adults were engaged warring in Messenia; so the chosen visitors from the battle-field or, in some accounts, youths that were left behind in the homeland, fathered children on Spartan women and girls – and those children were called Partheniae (Antiochus apud Str. VI.3.2; Ephorus apud Str. VI.3.3; Just. III.4, XX.1; Arist. Pol. V.7; D. S. VIII.21, XV.66.3; Dion. Hal. Ant. Rom. XIX.1; Serv. ad Verg. Aen. III.551; Serv. ad Verg. Georg. IV.125; Hor. Carm. II.6.11-12; Ps. Scymn. Perieg. 330ff; Eusebius dates the event in the 18th Olympiad; cf. Hieronym. Chron. ed. Fotheringham p. 159²¹). All Classical commentators generally agree when describing the essence of this popular story; but only Pausanias mentions key details that could, at least to a certain extent, throw some light on the story. After relating the fortunes of Phalathus and his followers, in which he generally agrees with others, Pausanias recounts a short comment considering the eponym hero of an older, pre-Greek city; »They say that the hero was a son of by a nymph of the country, and that after this hero were named both the city and the river. For the river, just like the city, is called Taras.« (Paus. X.10.8; also Isid. Etym. XV.1.62). So the city, and also the near-by river, both got their names after Poseidon's son Taras, who was begotten on some local Nymph. This must also be the unnamed hero who is mentioned by Strabo: »The city was named from a certain hero.« (Str. VI.3.2). Servius comments on Virgil's assertion that Hercules built Tarentum (Verg. Aen. III.551), and claims that it was actually founded by Taras, Neptune's son, after whom the city was named, and who was later wrongly assumed to be related to Hercules, on account of Phalanthus the Lacadaemonian, the »second« founder of the city – but both he and Virgil nowhere mention the dolphin (Serv. ad Verg. Aen. III.551; also Serv. ad Verg. Georg. IV.125). Pliny, in a chapter containing curious stories concerning dolphins and men, after relating the story of a boy from Iasos in whom the dolphin had fallen in love, and a similar story of a boy Hermias from the same city, who used to ride the same animal - before recounting the story of Arion, – notes that »the Amphilochians and the Tarentines have similar stories also about children and dolphins« (HN IX.8). This is certainly an allusion to the Tarentinian myth of Taras and the dolphin. In another chapter Pausanias gives us one more piece of information: while describing the statues which the Tarentinians had sent to Delphi, wrought from the bounty they had gained from the barbarian Peucetii, he arrives at a group of figures which represent foot-soldiers, horsemen, and the Japygian king Opis, an ally to the Peucetii, and »on his prostrate body stand the hero Taras and Phalanthus of Lacedaemon, near whom is a dolphin. For they say that before Phalanthus reached Italy, he suffered shipwreck in the Crisaean Sea, and was brought ashore by a dolphin.« (Paus. X.13.10). Crisaean Sea is a minor gulf and a part of the Corinthian Gulf in front of Kyra, Delphian harbor on the boundary of Phocis and Locris. Crisa, the city already mentioned, and Kyra (Cirrha) are not the same localities; the latter was founded as a harbor of the former, and when Crisa begun to decay, Kyra gained more and more in importance until, eventually, it completely replaced Crisa's function. Actually, the original name of the Gulf of Corinth east of the promontories Rhium and Antirrhium was the Crisaean Gulf (h.Apoll. 431; Thuc. I.107.3; II.69.1, 83.1, 86.3, 92.6, 93.1; IV.76.3). While Strabo called the entire bay, from the promontory of Araxus to the Isthums, by the

21 Hesychius, on the other hand, claimed they were the children of Spartan citizens and female slaves. Theopom-

pus apud Ath. VI.271c also gives a slightly different account.





general name of the Corinthian Gulf, to the inner sea, east of those promontories, he gave the specific designation of the Crisaean Gulf (Str. VI.1.7; VIII.1.3, 2.3, 6.21; VII.fr. 13; IX.1.1, 3.3). His report on this question is rather obscure. Pliny gives the name of the Corinthian Gulf to the entire inner sea, but calls the bay near the town of the Crisaean Gulf (HN IV.3.7). This is the narrow meaning of the name Crisaean Gulf. In the light of this information, we are led to believe that Pausanias had in mind the entire Corinthian Gulf, when referring to Phalanthus' shipwreck, so we are not confined to just one section of the Gulf when trying to locate the exact point of the shipwreck.

Let us return to the description of the statues in Delphi. First, the presence of Taras is an obvious anachronism – an anachronism implying that the pre-Greek and Greek settlement were founded at the same time - although his presence could be explained as some sort of »moral support« to the Lacadaemonians in his role as a local, and in the same time, eponym hero. Second, the dolphin represented as standing by Phalanthus, and the description of the latter's shipwreck and eventual rescue, closely resemble Arion's experience, but also the fate of the Corinthian hero-god Palaemon or Melicertes. We shall return to him a little later. Third, it is important to draw attention to the fact that the Greek city of Tarentum issued, from 6th century BC onwards, coins that depicted a hero riding on a dolphin's back on the reverse and the inscription TAPA Σ^{22} . On Tarentine coins Taras is sometimes depicted holding a Trident, the symbol of Poseidon, and it is more than obvious that this character represents pre-Greek Taras, the eponym-hero of Tarentinians, Poseidon's son. On some coins the father-son relationship of Poseidon and Taras is evident. It is more than likely that a myth existed relating Taras' arrival to Tarentum on a dolphin's back, probably setting off from Greece. This is strongly corroborated by Pliny's (above cited) short reference. How to accord this with the story of Poseidon's union with a local Nymph is a different matter, and also where this union took place. Did the Sea-god abduct the Nymph and carry her somewhere East (the most likely candidate is Corinth and, especially, Taenarum), after which Taras came from there to Italy, or is the story more complex - which is always a likely possibility - this is not of our main concern here. But from Pausanias we know that there was a tradition, according to which the hero Phalanthus was saved by a dolphin after shipwreck. The fact that Pausanias emphasizes that Phalanthus' shipwreck occurred before his departure for Italy and gives the exact location for it, is not decisive. It seems too much of a coincidence that the eponym pre-Greek founder of Tarentum rode on the dolphin's back just like the later Spartan hero, without these stories being in some way connected. It is most likely that the Greeks simply took over the story of a local hero, Poseidon's son, who came to Italy riding a dolphin, and attached it to their hero and founder of the colony. Probably someone – maybe Pausanias, or one of his predecessors – simply erroneously interpreted the Delphian statues, associating the dolphin with Phalanthus instead of Taras, who is, according to numismatic evidence, undoubtedly associated with that animal.

As the most likely »candidates« for Taras' point of departure from Greece, Corinth and Cape Taenarum were already mentioned. It is a known fact that on Taenarum once stood a Temple of Poseidon (Thuc. I.128.1, 133; Str. VIII.5.1; Plb. IX.34; Eur. Cyc. 292; Paus. III.25.4, IV.24.5–6, VII.25.3). Furthermore, Poseidon's son Euphemus, one of the Argonauts, »the swiftest among men«, is associated with Taenarum as his dwelling-place (Pi. P. IV.44–45, 174–175; A. R. I.179–181; schol. ad Pi. P. IV.15, 45; Tzetz. ad Lyc. Alex. 886; Val. Flac. Argon. I.363–365; Hyg. Fab. 14; SMITH 1870: 97). The fact that Arion dedicated to Poseidon the hymn in which he celebrates his rescue on Taenarum, must not be overlooked: »Highest of gods, gold-tridented Poseidon of the sea...« (Ael. NA XII.45). Whatever be the case, it is certain that Taenarum was one of Poseidon's

22 See figure 3.







Figure 3

cult-places, although it seems that the first god to be worshipped there was Helios (h.Apoll. 410–413). Interestingly, very similar story seems to be associated with the Corinthian Isthmus: »The Corinthians say that Poseidon had a dispute with Helius about the land, and that Briareos arbitrated between them, assigning to Poseidon the Isthmus and the parts adjoining, and giving to Helius the height above the city.« (Paus. II.1.6). On Poseidon's cult in Corinth and on the Isthmus see Paus. II.1.7–2.2, 2.3, 3.4–5, V.2.3; Str. VIII.6.4, 22; Callimachus *apud* Plut. Quaest. Conv. V.3. So it would seem that the cult of Helios existed – or at least had preceded Poseidon's – on the Corinthian





Isthmus as well as on Cape Taenarum. But Poseidon's dominant place cannot be overlooked; it is evident that his son Taras departed on his voyage from Hellas from precisely one of this two locations.

SOME OTHER DOLPHIN-MYTHS: HERMIAS

It is interesting to note that Arion's hometown Methymna on Lesbos minted money on which this mythical citharode is depicted riding the dolphin and holding a cithara under his arm²³. This depiction is merely illustrative, since Methymna is not in any way part of the Arion-myth, except for the place where he was born²⁴. The earliest coins from Methymna with the depiction of Arion may date from 6th century BC. On the obverse they show a young man lying on the dolphin, and it is believed they were minted in Methymna or in Iasos in Carya (BMC Troas, Aeolis, and Lesbos: lxxv; BMC Caria and Islands: lix). If these indeed represent Arion, than his myth traveled very quickly to the island of his birth, Lesbos, and also instantly became so important, at least locally, that his image - along with the myth associated with him - was struck on coins. Herodotus confirms that the Lesbians were familiar with this myth, and that it was related by both Corinthians and Lesbians (Hdt. I.23, 24). The reason why these coins are believed to be of Iasian origin lies in the legend associated with this Carian city. Athenaeus quoted one Duris of Samos (4th/3rd century BC) who related how Alexander the Great summoned before him a boy named Dionysius from Iasos, who was carried on a dolphin's back (Duris apud Ath. XIII.606c-d)²⁵. Pliny adds that Alexander appointed this boy high priest of Neptunus at Babylon, but does not explicitly say he was carried on dolphin's back, and he doesn't even mention his name (HN IX.8). The story is also related by Solinus (Solin. XII), but he misunderstood the boy's name as *Babylon*. The story is not very clear, and it is difficult to understand what Babylon has to do with Carya at all. In the next sentence Pliny relates Hegesidemus' story of another Iasian boy, who in a similar manner used to traverse the sea on a dolphin's back.« His name was Hermias, and his story is somewhat different in that he was killed during the incident. After it carried him to shore, the dolphin »committed suicide« (Hegesidemus apud HN IX.8; c.f. Solin. XII). Plutarch also mentions the boy from Iasos named Hermias who similarly rode on dolphin's back and was killed doing it; his story is in complete agreement with Hegesidemus' report as quoted in Pliny and Solinus (Plut. De Soll. An. 36). The unfortunate boy is also mentioned, under the name of Hermias, in inscriptions (BMC Caria and Islands: lx-lxi), and the boy on the dolphin is mentioned as a type of Iasian coins by Plutarch (Plut. De Soll. An. 36), Aelian (Ael. NA VI.15), and Pollux (Poll. Onom. IX.84; BMC Caria and Islands: lx-lxi). The longest and fullest report we have on this matter comes from Aelian, who emphasizes the love between an unnamed boy and the dolphin. He explicitly says that the boy rode the dolphin, and as a cause of his death relates falling on the spike of the dolphin's fin. The dolphin carried the boy to the shore, and then died of grief (Ael. NA VI.15). The inhabitants of Iasos erected a stele commemorating this unfortunate incident, with a depiction of a boy riding the dolphin, while on coins he is represented lying on it's back. But those are only two different aspects of the same event, both part of one story. It is not perfectly clear whether there are two different Iasian boys, both dolphin-riders;

23 See figure 4, 8-12.

24 One more myth, containing some common elements with Arion's, and also associated with the island of Lesbos, is also worth noticing. According to this story, it was prophesized to the first colonists of Lesbos, the Penthelides, they have to sacrifice a bull to Poseidon, and a virgin to Amphitrite. Young man Enalus, desperately in love with

the maiden, jumped to the sea with her. Young lovers were saved by dolphins, and these animals carried them to Lesbos (Plut. Conv. Sept. Sap. 20). This incident raises the question whether the similarity of Arion's myth and the story of the colonization of Lesbos is purely coincidental. It is likely that some kind of association existed.

25 See figure 5, 1-4.





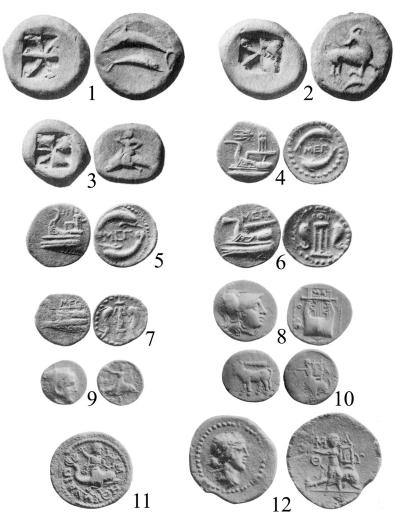


Figure 4

Athenaeus, Pliny, and Solinus refer to an event that took place during the reign of Alexander the Great, and from the context of the story is evident that that boy, called Dionysius by Athenaeus, did not die playing with his dolphin friend. Pliny and Solinus name the »second« boy Hermias, as well as Plutarch – his story is identical with Hegesidemus' as we find it in Pliny and Solinus, as well as with Aelian's story of an unnamed boy. From all this it is possible to conclude that Hermias had some sort of relationship with a dolphin, was killed while playing with him, was than carried ashore by it, after which the dolphin decided to depart from life himself (Hegesidemus *apud* Pliny and Solinus, Plutarch, Aelian's unnamed boy), while Dionysius had only one-time incident with a dolphin (Duris *apud* Athenaeus, Pliny's and Solinus' unnamed boy). It is most probable that there was only one variant of this story, but it came to Pliny by two different intermediaries; it remains open whether the event should be dated exclusively by Alexander's reign.









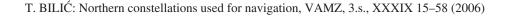




Figure 5

SOME OTHER DOLPHIN-MYTHS: MELICERTES

As we have already mentioned, Taras' or Phalanthus' experience is paralleled with that of Palaemon-Melicertes. We have now spoken enough of Arion – so let us look into Melicertes' unfortunate fate. The boy was a son of Athamas, king of Thebes, and Ino, daughter of Cadmus. As a revenge for Ino's nursing of little Dionysus, her sister Semele's son, Hera inflicted madness on her husband Athamas. Escaping from her deranged husband, who had just murdered their other son, Learchus, Ino jumped to the sea from the Molurian Rock, on the road from Megara to Corinth, therefore on the Corinthian Isthmus. Up to this moment most reports agree, with minor differences, in recounting the story. But eventual fate of Melicertes is described differently. Most of the authors believe that Ino and Melicertes, after jumping into the sea, were transformed into marine deities Leucothea and Palaemon, later Roman Matuta and Portunus (Orph. Hymn. ad Palaem.; Paus. I.42.7, 44.7–8, IV. 34.4; Hyg. Fab. 2, 4, 224, 243; Stat. Theb. IX.401–403; Cic. ND III.15; Ov. Fas.





T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

VI.495-504; Ov. Met. IV.532-542; Nonn. D. IX.80-91, X.111-125, XX.378-380, 386-393; XXI. 173-184, XXXIX. 101-105, XLIII. 305-306, 327-328; Plut. Quaest. Conv. V.3; Serv. ad Verg. Aen. V.241; Pi. O. II.31-33; Verg. Georg. I. 437; Parthenius apud Gell. NA XIII.27.1; cf. Macr. Sat. V.17.18; Apollod. Bibl. III.4.3 and sources cited by Frazer, note 6: Zen. Cent. IV.38; Tzetzes, schol. ad Lyc. Alex. 107, 229-231; schol. ad Il. VIII.86, Od. V.334; schol. ad Eur. Med. 1284; Lactantius Placidus ad Stat. Theb. I.12; Myth. Vat. II.79). Not only did Melicertes become a sea-god, but also Poseidon's charioteer (Nonn. D. XXXIX.375–376, XLIII.86–89, 196–202). One interesting detail is often associated with this story: Melicertes was carried ashore by a dolphin. The exact location of his coming ashore was placed near Cromios, again between Megara and Corinth. The Isthmian Games in Corinth were instituted in honor of the unfortunate boy and Corinth and its territory were the main region where this boy-hero was worshipped, and he was often icnographically depicted with a dolphin (Paus. I.44.8, II.1.3, 8, 2.1, 3.4; Stat. Theb. I.120-122, II.380-381, VI.10-14, IX. 328-331; Apul. Met. IV.31; Val. Flac. Argon. VIII.21-23; Plut. Thes. 25.4; Plut. Quaest. Conv. V.3; Hyg. Fab. 2, 273; Nonn. D. 37.152–153; Iambl. VP 10; Clem. Alex. Protrept. II.34; Philostr. Imag. II.16; Philostr. Her. 19; Tzetz. ad Lyc. Alex. 107, 229–231; shol. ad Eur. Med. 1274; schol. ad Pind. I. Arg., p. 514–515, ed. Boeckh; schol. ad Eur. Med. 1284; Zen. Cent. IV.38; schol. ad Lyc. Alex. 107, 229–231; Lucian Navig. XIX; DMar 8, 9; SMITH 1870: 88; FRAZER: Apollod. Bibl. III.4.3, note 7). The nature of this »games« is well-attested by Plutarch, who mentions how Theseus instituted, or rather re-established, them in honor of Poseidon. Until than the Games in honor of Melicertes had been celebrated in the night, and took a form which better befits mysteries than spectacles and public assemblies. But that side of Melicertes' character does not concern us here; let us again emphasize that there existed a tradition associating Melicertes with Corinth (Pausanias described Poseidon's Temple in Corinth in which won the car stand Amphitrite and Poseidon, and there is the boy Palaemon upright upon a dolphin«; and on the road from Corinthian main square towards the harbor of Lechaum »after the image of Hermes come Poseidon, Leucothea, and Palaemon on a dolphin«), and this tradition is again closely associated with the Palaemon's dolphin incident. Let us also underline the frequent occurrence of Corinthian coins with depictions of the dolphin carrying Palaemon – iconographical connection with Tarentinian coins is here more that obvious²⁶. On some Megaran coins, dated as early as the end of 7th century BC, a boy riding the dolphin is depicted²⁷. The boy is probably Palaemon, although not in his typical pose, lying on the dolphin's back. We have seen there is a similar ambiguity concerning Iasian coins. Megara is in no way associated with Arion, and even less with the Iasian boy, so the assumption that the dolphin--rider represents Melicertes is more then valid, taking into account that he was both thrown into the sea and brought back ashore near Megara. Palaemon is directly associated with sea-voyaging as a guardian of sailors. In LXXV Orphic Hymn to Palaemon we read that »ships their safety ever owe to thee [Palaemon], who wanderest with them through the raging sea.« (Orph. Hymn. Ad. Palaem.) Apollodorus explicitly says: »And she [Ino] herself is called Leucothea, and the boy is called Palaemon, such being the names they get from sailors; for they succour storm-tossed mariners« (Apollod. Bibl. III.4.3). In Euripides' *Iphigenia in Tauris* the god is entreated with the following words: »O son of the sea-goddess Leukothea, guardian of ships, lord Palaemon, be propitious to us!« (Eur. Iph. 270–271). Statius addresses him in a similar fashion: »But above all others thou, Palaemon, with the goddess mother [Leukothea], be favourable [on this sea-voyage], if 'tis thy desire that I [the poet Statius] should tell of thine own Thebes...« (Stat. Silv. III.2.39-41). In Nonnus' Dionysiaca we find Hermes' prophesizing to Ino that "the merchant seaman trusting in you shall have a fineweather voyage over the brine; he shall set up one altar for the Earthshaker and

26 See figure 6.

27 See figure 4, 1-7.







Melicertes and do sacrifice to both together...« (Nonn. D. IX.85–91), as well as Ariadne's cursing of a sailor that had left her stranded on Naxos: »May that sailor never see a favourable wind; if he rides the raging storm, may Melicertes never look on him graciously or bring him a calm sea« (Nonn. D. XLVII.357–363).

Thus far we have examined several connected stories and their protagonists:

- A. The poet Arion: he lives in Corinth, travels between Tarentum or Sicily and the Peloponnese; part of his voyage is on a dolphin, which saves him from drowning. It is interesting to find in schol. ad Pi. O. XIII.25 that Arion's father is Poseidon the father of Taras himself! His birth-place, Lesbian Methymna, struck coins that depicted him riding on a dolphin while holding a cithara.
- B. The boy and sea-deity Melicertes-Palaemon: he is saved by a dolphin, which took him a-shore on the Corinthian Isthmus; Corinth is the principal place of worship of this newly-made sea-deity and a guardian of sailors; often depicted on Corinthian (and also Megaran) coins riding a dolphin.



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- C. Taras, son of Poseidon: according to the pre-Greek tradition, the founder of Italian Tarentum, the city that is the point of departure of Arion's voyage, according to Herodotus; frequently depicted riding the dolphin on his city's coins. On some coins he has a lyre in his hand!
- D. Lacadaemonian hero Phalanthus: the founder of Tarentum; Pausanias claimed he once survived a shipwreck in the Gulf of Corinth; he was saved by a dolphin (it is possible that the story was transferred from Taras on Phalanthus, but Pausanias explicitly associated the dolphin on Delphian monument with Phalanthus.)

All these characters have in common their association with Corinth, although in the case of Phalanthus the association is not very obvious, and in the case of Taras its existence is conjectured through his father Poseidon. Also, the most notable episode in lives of those otherwise diverse characters – mythological and semi-mythological – is precisely their traveling on a dolphin's back. They are all, except Palaemon, in some way associated with the city of Tarentum in Southern Italy, and also with sailing from the Peloponnese to Magna Gracia and vice versa. Palaemon in a way compensates for the non-existence of stories associating him with this sailing by being the guardian of sailors and sailing in general. It is worth mentioning that Arion, according to most reports, as we have already seen, completed his voyage on Cape Taenarum, which is, of course, in Laconia. Lacadaemonian colonists led by Phalanthus therefore sailed in the opposite direction from Arion; he traveled from Tarentum to Laconia, they from Laconia to Tarentum. In the vicinity of the sacred enclosure of Poseidon Taenarius in Sparta, Tarentinian colonists had erected a statue of Athena (Paus. III.12.5–6). It could be even assumed that they, just like Arion – only in the opposite direction -traveled exactly from Cape Taenarum to Tarentum. One more association is the fact that Arion is referred to as the son of Poseidon, the same as Taras (shol. ad Pi. O. XIII.25). Let us bear in mind that the poet Arion should not be confused with the fabulous horse of the same name, who is also Poseidon's son. This could lead the scholiast to give the poet the same lineage, but if we associate Arion with Taras, we can see that this construction is no more needed as an explanation. In any case, there seem to be too many coincidences which cannot simply be ignored.

Beside the fact that Tarentinian immigrants erected a commemorative statue in the vicinity of the sanctuary of Poseidon with the appellative Taenarius, it is intriguing to know that the Spartans once violated the sanctity of the Temple of Poseidon on Cape Taenarum as a refuge, dragging from the altar »certain Lacedaemonians who had been condemned to death on some charge« or »certain Helots who had taken refuge in the temple of Poseidon at Taenarus«, who they later executed (Paus. IV.24.5-6; Thuc. I.128.1; Plb. IX.34; about the earthquake that followed see also D. S. XI.63, XV.66.4–5). This episode cannot in any way be connected with the exodus led by Phalanthus – it had occurred after the First Messenian War, which ended about 723 BC, while the violation of the refuge occurred in the 79th Olympiad, or in 464 BC – but it shows how Taenarum could be used as a refuge for renegade Lacadaemonians or helots. Ephorus (apud Str. VI.3.3) relates how »the Partheniae, leaguing with the Helots, conspired against the Lacedaemonians«, which can be connected with above mentioned descriptions of insurgents on Taenarum. Diodorus states that the revolt was due »in the market place« in Sparta itself (D. S. VIII.21.1). Antiochus (apud Str. VI.3.2) described how the Phalanthus' rebellion and the ensuing conflict arose during the Hyacinthine Games, which were celebrated at the famous temple in Amyclae. After the revolt was discovered, »some fled, and others supplicated mercy« (supposedly, they found refuge in the temple). The later were thrown into prison, but were released to Italy, rather than anything worse. Two stories show certain similarities – the incident from the 79th Olympiad was referred to as to show how Taenarum could serve as a refuge, what is more, how it did serve as one for the rebels. Antiochus names Amyclae as an exact location of the Partheniae revolt, but this is not in explicit connection with the point of departure for Italy.





One very interesting depiction on Tarentinian coins shows Taras, but not on the dolphin – he is kneeling, with a lyre under is left arm, the instrument of Arion. Actually, Arion played the cithara (Hdt I.23; Hyg. Poet. Astr. II.17; Paus. III.25.5; H.N. IX.8 Str. XIII.2.4; Procl. Chrest. apud Phot. Bibl. 320 a 33 calls him »both poet and singer to the lyre (kitharôdos)«), while on this Tarentinian coin *chelys*-lyre is depicted. Whatever be the case, those instruments are similar enough to allow their use in a similar context. Chelys is actually a lyre consisting of a tortoise-shell sound compartment with skin stretched over the opening – its inventor is Hermes (h.Her. 20–67; Eratosth. Cat. 24; Hyg. Poet. Astr. II.7; Apollod. Bibl. III.10.2; Man. Astr. V.324–325; Arat. 268–269; Ov. Fas. V.103-106; D. S. I.16.1; V.75.3; Orph. Argon. 386; Hor. Carm. I.10.6; III.11.3-4; Paus II.19.7; V.14.8; VIII.17.5; Philostr. Imag. I.10; Stat. Silv. II.7.6; Nonn. D. XLI.373) - while a cithara is a somewhat larger instrument, usually used by professional musicians, invented by Apollo (Paus. V.14.8). Although the difference between the lyre and cithara certainly existed – they are indeed two different instruments – it seems that in the myth of sailing on a dolphin's back between the Peloponnese and Magna Graecia a »change« of instruments carried by the traveler, whoever he might be, occurred at some moment. In this context we shall assume that the similarity between the lyre and the cithara is sufficient enough to allow them to be exchanged. The difference between those two instruments, supported also by their mythological inventors, forms a very interesting subject, but is outside of the scope of this work (about the lyre and cithara see also Plat. Resp. 399d; Arist. Pol. 1341a.18).

From the above information we can perhaps reconstruct the foundation-myth of pre-Laca-demnonian Tarentum: Taras, son of Poseidon, riding on a dolphin's back, arrived in the Bay of Tarentum, after departing from Cape Taenarum in Laconia, and there founded a city that would bear his name. He came to Italy because his mother was from Ausonia, the Nymph enamored by Poseidon.

It seems undisputable that a strong tradition existed, or a number of traditions, in the area of Corinth and in Laconia on the one side, and in Tarentum in Southern Italy, probably also Sicily, on the other, containing as an important constituent the motif of a hero traveling on a dolphin. Let us reinforce this with another argument. In one of our earlier articles (BILIC 2006) we described nautical routes between the Peloponnese and Magna Graecia which Hellenic navigators could traverse using the technique known as latitude sailing. The outline of the reconstruction of those marine routes has been found in the myth of Alpheus and Arethusa. This myth relates the escape of the Nymph from the offensive river-god and the chase across the Ionian Sea, which ended before Syracuse itself²⁸. We have explained the myth as an imaginative description of an open-sea nautical route between two locations: the mouth of the Peloponnesian river Alpheus in the Ionian Sea and an islet Ortygia off the coast of Syracuse on Sicily, on which there was a spring bearing the name of the unfortunate Nymph. The existence of the open-sea route between those two locations is explicitly confirmed by Philosthratus, an author from the 3rd century AD, who described the voyage of his

28 To the list of classical authors reffered to in our preceeding article concerning the myth of Alpheus and Arethusa we should add Polybius' refutation of Timaeus' assertions also refuted by Strabo (Plb. XII.4d.5–8), as well as 6th c. poet Ibycus' description of an under-sea connexion of Alpheus and Arethusa, by which a *phiale* thrown into the river at Olympia reappeared at Syracuse (fr. 323 Campbell *apud* schol. ad Theocr.; DUNBABIN 1948:62–63). There is also a love poem on the subject of Alpheus and

Arethusa ascribed to Musaeus in *Anthologia Palatina* IX. 362. Further, the story is also related (in different versions) by Stat. Silv. I.203–207, Theb. I.271–272, IV.239–240; Serv. ad Verg. Ecl. X.4; Fulgent. Myth. III.12; schol. ad Pi. N. I.3; Claud. de rap. Pros. II.60–61. Finally, schol. ad Pi. P. II.12 makes the goddess Artemis – not the Nymph – the object of Alpheus' desire. According to this version, she fled before him on Ortygia, where she had a temple under the name of Alphaea (SMITH 1870:133–134).





T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

hero Apollonius of Tyana precisely from Syracuse to the mouth of Alpheus (Philostr. VA VIII.15)²⁹. This is not the place to demonstrate the reconstruction of voyages between those and other locations in this part of the Mediterranean. It will suffice to note that it is more than likely that ancient Hellenes sailed across the open-sea between Magna Graecia and the Peloponnese using the navigational technique known as latitude sailing, in this way avoiding a much longer coastal-voyage, which was actually a round-trip. The fact is that in the myth of Alpheus and Arethusa dolphins are nowhere mentioned, although, as we have already seen, traveling on dolphins was widely popular in Antiquity. Nonetheless, on Syracusan coins (the islet Ortygia with its source Arethusa is a part of this Sicilian city), the head of the Nymph Arethusa encircled by dolphins is regulary depicted. We already find this depiction on the earliest Syracusan coins³⁰, and it is actually a dominant motif on the coins of this most powerful Sicilian city. In later periods, sometimes the head of Athena or Persephone is depicted, but mostly the depictions show the local Nymph³¹. Of course, it is possible that the dolphins represent symbolically her oversea journey, i.e. her escape from the Peloponnese towards west, but it is somewhat peculiar that the symbols of this voyage are always these marine creatures and these only. It is important to understand that according to tradition, Arethusa escaped Alpheus by an underground passage, and not over the sea (Alpheus' voyage is described either way), so her escape does not give a direct cause for the appearance of dolphins. This, naturally, does not exclude the presence of dolphins as a general symbol of the sea which divides the Peloponnese and Sicily. So, again we find the dolphin associated with the voyage over open sea between the Peloponnese and Magna Graecia. We may add that Polybius explicitly mentions that the Alpheus goes under the Sicilian Sea (Plb. XII.4).

THE FOUNDATION MYTH OF CUMAE AND GREEK OPEN-SEA VOYAGES

On the general question concerning the open-sea voyages of the ancient Greeks and their predecessors, modern scholars usually tend to take a definitive and at the same time very negative stand: »Rather than venture out across the large open expanse of the Ionian Sea, ancient skippers

29 Also, we would like to point to Dion's direct open--sea voyage from Zacynthus to Cape Pachynus, south-eastern extremity of Sicily, which took as much as twelve days, as a further proof of high-sea voyages on this route (357 BC). It is explicitly stated that Dion wanted to avoid any touch with the land on his way to Sicily, due to hostility of the local inhabitants (Plut. Dion XXV; PRONTERA 1996: 205). »When estimating the distance between the Peloponnese and Sicily, toward the end of the fourth century BC, the points of reference are the mouth of the Alpheus River (which flows into the sea slightly south of Zacynthus) and Syracuse.« (PRONTERA ibid.). We can also mention Alcibiades' flight from Thurii (near Tarentum) to Cyllene in Elis, who crossed the open-sea in »a trading vessel« (Thuc. VI.61.6-7, 88.9); furthermore, it is safe to presume that the ships transporting corn from Sicily to the Peloponnese took the direct route across the Sea of Sicily, since the Athenians, who controlled at that time the Gulf of Corinth as well as Corcyra, could not prevent them; some of the Peloponnesian troop-ships bringing relief to Syracuse also crossed directly (Thuc. III.86.4, VII.17); finally, the description of an unsuccessful attempt of a fraud, carried out by Zenothemis and Hegestratus, suggests that their

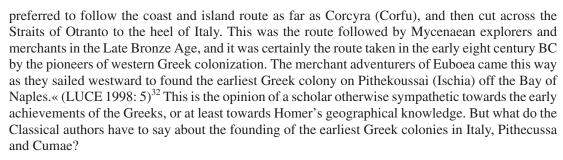
ship sailed directly from Syracuse towards the Peloponnese, finally landing on Kephallonia (Dem. XXXII.4–8). »They must have been nearly across in three days [they tried to scuttle the ship after two or three days of sailing], and apparently making for the mouth of the Corinthian Gulf« (DUNBABIN 1948:195).

30 SELTMAN 1955: 73–74. The earliest Syracusan coins, from the beginning with the depictions of Arethusa, were coined in 530–485 BC. See figure 5, 5–11.

31 »The head appearing on most of the coins of the great Sicilian city is to be identified as that of the city goddess of Syracuse, Artemis Ortygia, who was generally called Arethusa. What Pallas Athene was to the Athenian Acropolis, Artemis Arethusa was to Ortygia the citadel of Syracuse... The head of the goddess-nymph of this fresh spring [Arethusa on Ortygia] is therefore [because of her underwater journey] surrounded by dolphins, creatures of the salt sea.« (SELTMAN 1955: 74–75). Depictions of Arethusa were dominant until the 340s BC and the »re-establishment« of the city. Thereafter Arethusa almost never appears on Syracusan coins any more (SELTMAN 1955: 191–192).







Strabo related how Pithecussa was founded by colonists from Eretria and Chalcis on Euboea (Str. V.4.9). Earlier in his work he claimed that the oldest Greek settlement in Italy and Sicily was Cumae, founded jointly by Chalcidians and Aeolian Cymaeans. He related the story of an agreement between Hippocles the Cymaean and Megasthenes of Chalcis, by which the city would bear the name of the former nation, while the latter would have the management of the city (Str. V.4.4). Livy stated only that the city was founded by Chalcidians (Liv. VIII.22), while Dionysius of Halicarnassus claimed that it was founded by Eretrians and Chalcidians, which agrees with Strabo's report on the foundation of Pithecussa (Dion. Hal. VII.3). Velleius Paterculus also mentioned only Chalcidians as the founders of the colony, but called their leaders Hippocles and Megasthenes, the former, as we have seen, being termed Cymaean by Strabo (Vellei. I.4). In the *Periegesis* associated with the name of Scymnus of Chios it is represented as colonized by Chalcidians and the Aeolians, probably referring to the Cymaeans (Ps. Scymn. Perieg. 236–239)³³. Pliny mentioned »Cumae, a Chalcidian colony« (HN III.5.61), therefore agreeing with Velleius and Livy. Thucydides refers to it as »Cuma, the Chalcidian town in the country of Opicans« (Thuc. VI.4.5). As to the date of the foundation, later chroniclers (that is, Eusebius and his translator in Latin Jerome) carried it back as far as 1050 BC (Hieronym. Chron. ed. Fotheringham p. 115; Euseb. Chron. ed. Seal. p. 135; SMITH 1854 s.v.; DUNBABIN 1948:439, 445, n. 2), and Velleius Paterculus mentioned the foundation of Cumae next to that of Magnesia, and the Aeolic and Ionic migrations which implies, although the exact date is not given, roughly the same period. General agreement between modern scholars is that Cumae was founded ca. 750 BC (DUNBABIN 1948:3, 5, 446, 485; WOODHEAD 1966:16; PUGLIESE CARRATELLI 1996:145). Now Velleius Paterculus alone had recounted the mythical story behind the foundation of Cumae. He mentioned two sources which related different versions of the voyage from which the foundation issued. Both explanations are rather mythical, and from the second, relating how the colonists were guided »by the sound at night of a bronze instrument like that which is beaten at the rites of Ceres«, we learn nothing as to the nature of the voyage itself, except it was performed by night as well as by day. According to the first explanation »the voyage of this fleet was guided by the flight of a dove which flew before it« (Vellei. I.4). Now the mythical content of the stories points to their ancient origin. Both versions are probably derived from local traditions, as they explain the mythical nature of the foundation.

32 »The regular route to the west from any Greek port lay up the coast to Korkyra, across to the Iapygian promontory, and down the coast to Italy« (DUNBABIN 1948: 194). »Usually ships stuck to the shore, sailing from one landfall to the next. When they had to travel at night they steered by the stars, but they avoided such voyages as much as possible« (CASSON 1960: 38, cf. 127).

33 For the reasons why the Aeolian Cyme and not the Euboean one should be considered as the more appropriate candidate for the mother-city of Cumae, see DUNBABIN 1948: 6–7; PUGLIESE CARRATELLI 1996:145; but if this is indeed an invention of Ephorus, a native of the Aeolian Cyme, than the first Greek colony on the Italian mainland received its name after a rather insignificant Euoboean settlement.







Let us recount what we have learned of the foundation of Pithecussa and Cumae:

- 1. Both cities were founded by colonists from Euboea, more exactly from the cities of Chalcis and Eretria:
- 2. Some sources add that the colonists from Aeolian Cyme were also present during the foundation of Cumae;
- 3. According to local tradition, the colonists were led to Cumae by a dove.

Velleius' report is corroborated with an allusion found in Statius' *Silvae*. He mentioned Apollo guiding the settlers from Euboea (Abantia) to Italy (Ausonia) and alluded to the dove while describing the god's statue with a bird perched on his left shoulder (Stat. Silv. IV.8.47–49). Although he never mentioned the dove as the guide for the settlers, this could well be the reason for its appearance on Apollo's shoulder. It is probable that Velleius and Statius were familiar with similar tradition(s) concerning the foundation myth of Cumae. This is clear from the fact that Statius, after the above reference to Apollo, immediately mentioned the goddess Ceres as revered by Cumaeans (Stat. Silv. IV.8.50), who is, as we have already seen, also associated with the foundation myth of Cumae by Velleius. Therefore the connection of Apollo and Ceres with the foundation of Cumae is attested twice, although Statius did not mention the goddess in direct association with it.

There is one more complication in this mythical story of the foundation of Greek colonies in the Bay of Naples. It seems that at one point may have had occurred a conflation of two foundation myths: those of Cumae, as related by Velleius Paterculus with that of Neapolis, which had to do with the Siren Parthenope (MOZLEY 1967:258; FRERE et al. 1961:167). The native of Neapolis, Roman poet Statius, mentioned the statue of one Eumelus or Eumelis who adores Apollo's bird perched on god's left shoulder (Stat. Silv. IV.8.47–49). Apollo's bird is probably the dove that guided the colonists from Euboea (Abantia) to Cumae, which is clear from the verse 47, which mentions »Apollo, guide of your far-wandering people«³⁴. If we accept the reading *Eumelis*, this means that the statue depicts one daughter of Eumelus, which could be the Siren Parthenope. This statue, or rather the Siren's tomb, is mentioned by various Classical authors and is placed in Neapolis (Str. I.2.13; V.4.7; Tzetz. ad Lycoph. Alex. 732; HN III.5.62; Suda v 115 s.v. Neapolis; Steph. Byz. s.v. Neapolis; Serv. ad Verg. Georg. IV.563; Solin. II.9). Dionysius Periegetes designates the city of Neapolis as the abode of Parthenope (Dionys. Perieget. 358). She is regularly associated with the foundation myth of this city. Lycophron calls her ** the bird goddess* (Lycoph. Alex. 720–721); he says that »ashore the tower of Phaleros shall receive [her]« (Lycoph. Alex. 717–721). Phalerum was the ancient name of Neapolis, from the hero Phalerus (Steph. Byz. s.v. Phalêron)³⁵. There the inhabitants shall build a tomb for her, Lycophron continues, which shows us that he also knew about the tomb, mentioned later by Strabo and Pliny. Calling her »the bird goddess« shows us that he might have known something about the version of the foundation myth of Neapolis containing the dove. On the other hand, it is more probable that this reference alludes to the widely accepted bird-like appearance of Sirens, of which Lycophron was well aware (Lycoph. Alex. 670, 715).

34 »Tu, ductor populi longe migrantis, Apollo, cuius adhuc volucrem laeva cervice sedentem respiciens blande felix Eumelus adorat.« (Stat. Silv. IV.47–49)

35 Phalerus was one of the Argonauts, son of Alcon and grandson of Erechteus, also the founder of Gyrton in Thessaly (A. R. I.97; Paus. I.1.4; Val. Flacc. Argon. I.398–401, IV.653–655; VI.217–218; Hyg. Fab. 14; Orph. Argon. 144). He is said to have emigrated to Chalcis, and the Chalcidians refused to deliver him up when his father de-

manded he should be sent back (schol. ad. A. R. I.97; SMITH 1870: 236). The Athenian harbor of Phalerum probably derived its name from this hero, where an altar was dedicated to him and his children (Paus. I.1.4). He was also said to have founded the town Soli on Cyprus (Str. XIV.6.3). The name Phalerum probably reflects the tradition for Chalcidian (again) or even Thessalian origin of the city. Maybe Strabo's Athenians (see below) were also connected with this »Athenian« colonisation.





Nevertheless, it is unfortunate that Lycophron did not give us more information on this subject, which could clarify the difference between the foundation myths of Cumae and Neapolis, if any existed. Statius in another place explicitly associates the dove, although not Apollo's, with the Nymph Parthenope and the foundation myth of Neapolis. He claims that his home town was named after Parthenope, »to whom Apollo pointed out this gentle land when she was borne across the waters by Dione's dove.« (Stat. Silv. III.5.78–80). Therefore the dove is actually Aphrodite's, but the foundation of the colony is explicitly associated with Apollo. This, of course, reminds us of the foundation myth of Cumae. But who were the founders of Neapolis in the first place? Strabo claimed that it was founded by Cumaeans, and afterwards peopled by Chalcidians, Pithecussaeans, and Athenians (Str. V.4.7). Tzetz. ad Lycoph. Alex. 732-737 cites Timaeus who mentioned some Athenians migrating into Italy under the command of Diotimus; those were probably Strabo's Athenians. They are also alluded to by Lycophron who mentions how "the ruler of all the navy of Mopsops« performed sacrifice to Parthenope and established a torch-race in her honor (Lycoph. Alex. 732–737). The *Periegesis* associated with the name of Scymnus of Chios mentioned both the Phocaeans and Cumaeans as its founders (Ps. Scym. Perieg. 253), while Livy claimed that ** the original inhabitants [of Neapolis] came from Cumae« (Liv. VIII.22). Velleius Paterculus also mentioned Cumaeans as founders of Neapolis (Vellei. I.4), and Serv. ad Verg. Georg. IV.563 claimed, naming the historian Lutatius as his source, that Cumaeans had founded the city and named it Parthenope after the Siren; the city founded later, near the original site was named Neapolis. Its Chalcidic or Euboean origin is repeatedly alluded to by Statius, who was himself a native of the city, as has already been pointed out (Silv. I.2. 263, II.2. 94, III.5. 12, IV.4.78, 8.46; V.3.111, 226), and Pliny calls it the colony of Chalcidians (HN III.5.62). But Stephanus of Byzantium claimed that Rhodians founded Neapolis, which accords with Strabo's report given elsewhere (Str. XIV.2.10). Strabo mentioned the city founded by Rhodians under the name of Parthenope, while Pliny said that the city is called Parthenope after the Nymph (HN III.5.62; also Steph. Byz. s.v. Parthenope; Stat. Silv. III.5.78–79; Isid. Etym. XV.1.60; Serv. ad Verg. Georg. IV.563; Solin. II.9). It is obvious that there were two main explanations for the foundation of Neapolis: according to one, it was founded by the colonists from Euboea, or Chalcis, to be more exact; according to the other by the colonists from the nearby Cumae, itself the colony of Euboeans (see above). The third version associated the foundation with Rhodians, and it is not clear how this can in any way be connected with the initial colonisation of the Bay of Naples. Two or even three versions of the foundation myth suggest that two cities might have existed on the site of the future Naples, an old city and a new one. Livy mentioned the city of Paleopolis »not far from the present site of Neapolis« (Liv. VIII.22). Philargyrius cites the historian Lutatius who also mentioned two colonies of Cumaeans, older and younger, on the site of Naples (Philargyr. ad Verg. Georg. IV.564; SMITH 1854 s.v. Neapolis). The same story is also related by Serv. ad Verg. Georg. IV.563 (see above). Maybe the name of the first colony was Parthenope, as mentioned by Pliny, Strabo, Statius, Isidore, Servius and Stephanus of Byzantium, and the name was later used by Roman poets as a poetical appellation for Neapolis (e.g. Verg. Georg. IV.564; Ov. Met. XV.711)³⁶. But whether it was founded by Rhodians, Euboeans, or Cu-

36 Claudius Donatus, 4th or 5th century grammarian, in his *Interpretations of Virgil (Interpretationes Vergilianae)*, drew extensively on Suetonius' *Life of Virgil (De vita Vergili)* from his collection *De viris illustribus*. Here we find cited Virgil's celebrated verses in which he used the poetic name Parthenope for Neapolis, in association with his burial-place. In the same work we find that the famous poet was called Parthenias in Neapolis (we again find this nickname in Servius' prologue to his *Commentary on Vir-*

gil's Aeneid), which is usually explained with his delicate and rather effeminate nature (parthenos meaning »virgin« in Greek). But the word used was not parthenos – rather it was parthenias, which is exactly the word Aristotle, Diodorus and Strabo used when referring to the Spartan exiles who had founded Tarentum. Of course, this could mean that initially Virgil's nickname meant something as »the son of a concubine«, or in plain words, »bastard«, but the fact that this word was not commonly used in Greek leads







maeans, remains uncertain. Returning to the foundation stories of Neapolis, the second including Cumae does not confirm the appearance of the dove in the myth, because it is completely superfluous; but the founders of Cumae themselves were guided there by the bird. That Neapolis was founded by Euboeans, the same as Cumae but independently from it, seems highly unlikely. The Chalcidic or Euboean origin of Neapolis, alluded to by Statius probably reflects the origin of the city through Cumae itself. The subsequent arrival and reception of an additional body of settlers from the neighbouring island of Pithecussa, also founded by Euboeans, and Chalcidians themselves, mentioned by Strabo, probably added the strength to Statius' allusions. The foundation myth of Cumae, with Apollo's dove guiding the colonists from Euboea, probably strongly influenced the foundation myth of Neapolis, or Paleopolis/Parthenope/Phalerum, with the Siren-goddess Parthenope, resulting in a new myth, in which »the bird goddess« Parthenope in form of a dove guided the founders of Neapolis, or the Apollo's dove guided them, same as it had guided Cumaean colonists, or maybe the Siren herself was led there by a dove. This resulted in Statius' verses mentioning »Apollo, whose bird perched on your left shoulder fortunate Eumelis [Parthenope] still fondly eyes and adores...«

In terms of celestial navigation, what asterism could represent the dove which had guided the Chalcidians to the Bay of Naples? There are only two legitimate celestial doves, although the sky is filled with bird constellations. The first is the constellation Columba, south of the Hare, below Orion, next to the constellation(s) that represent the ship Argo. It is a modern constellation, created in the 17th century, and even Allen could not find any lore associated with it, except for one very dubious reference from Clement of Alexandria's *Paedagogus* (Clem. Alex. Paedagog. III.11; ALLEN 1963: 166). This does not mean that the ancients did not recognize this asterism as such, but for lack of any references, we must for now consider it thus. Yet the position of the constellation, right next to the celebrated ship of the Argonauts, suggests that it existed in Antiquity. The fact is that the stars of *Columbae* could very well serve as a guide on the voyage from Euboea to the Bay of Naples, if observed in their upper culminations on the southern sky³⁷. But the navigators could use any number of more convenient stars, so this is only a suggestion.

The second dove, or rather, *doves*, is much more familiar to any average star-gazer. The former constellation of the Pleiades, now termed an asterism within the constellation Taurus, which is an undeserved degradation, was once known as a flock of doves. Thus we find related in schol. ad Arat. 254–255 that the Seven Sisters received their name because they were transformed into doves, Greek *peleias*, while fleeing Orion, before being placed amid the stars (CONDOS 1997: 173, 254; also schol. ad A. R. III.226; schol. ad Il. XVIII.486). This is one explenation for the origin of the name, and the rest are beyond our concern here. A few of the Classical authors use the name Peleiades, thus likening the stars to doves. For example, the name is used by Simonides (Simon. fr. 555 Campbell *apud* Ath. XI.490 ef), Alcman (Alcm. fr. 1.60 Campbell P. Louvr. E 3320 and schol. B. in P. Oxy. 2389 fr. 6 col ii), and Pindar (Pi. Nem. II.1). Lamprocles (fr. 2 Edmonds *apud* Ath. XI.498c) and Hesiod in the *Astronomy* (frr. 288, 289, 290 Markelbach-West *apud* Ath. XI.491cd) explicitly state that the name of the asterism is the Doves, Peleiades, and *not* Pleiades. Although this is probably »a secondary folk-etymology,« (WEST 1978: 255), the concept was present in Greek thought from a very early period, and is well-documented, as we have just seen. Aeschylus (fr. 312

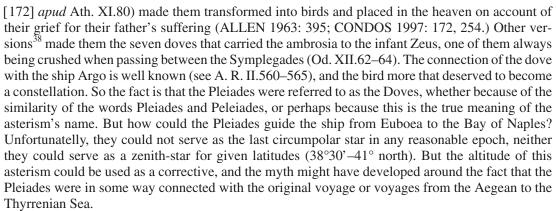
us to look elsewhere for explanation. The ancient name of Neapolis, Parthenope, could well had been the decisive reason in giving the poet this nickname, which could, initially meant something like **the young man from Parthenope** or something similar. Probably later biographers

and grammarians misunderstood the word and made it more »virgin-like«, but the connection with Spartan Partheniae should not be overlooked.

37 See table 4; for the use of southern stars in celestial navigation see BILIĆ 2006: 137–138.







The use of Pleiades in navigation was widespread in Antiquity. They were used in two ways: first, their heliacal risings and settings marked the beginning and the end of the sailing season, respectively (Hes. Op. 618-630; HN II.123, 125; Veget. Mil. IV.39). For this reason they were often mentioned by Roman authors in connection with storms that occurred during maritime voyages (e.g. Val. Flacc. Argon I.647, II.357, V.305; Stat. Silv. I.6.22, 3.95, III.2.76; Ov. Trist. I.11.14; also Q. S. V.366–370, VII.303–304; Theocr. Ep. IX; Dem. L.23; Democr. B XIV.3). One tradition even derives their name from the Greek word plein, »to sail«, obviously because of their importance for marine travelling (schol. ad Arat. 254-255; WEST 1978: 255; CONDOS 1997: 173, 254). On the other hand, they were used as an important navigational guide. Virgil goes so far to claim that sailors named some of the constellations, among them the Pleiades, probably because they were the ones who used them the most (Verg. Georg. I.137–138). Ovid explicitly claimed how familiarity with the Pleiades, among other skills, was important for sailors (Ov. Met. III.595). Several Classical authors refer to them as being observed by navigators (Nonn. D. II.16-17; Val. Flacc. Argon. V.45-47; Marinus apud Ptol. Geog. I.7). But the most convincing evidence comes from Homer. He described how Odysseus had monitored the Pleiades, as well as the Bear and Boötes, while sailing from Calypso's Ogygia to the land of the Phaeacians (Od. V.271). Following Calypso's instructions, he kept the Bear on his left, thus navigating east. Although it is impossible to precisely locate Calypso's island, clearly a mythological location³⁹, which also applies for Scheria of the Phaeacians, Odysseus was clearly sailing from west to east. Calypso's island was often placed on the coast of Bruttium, near the Lacinian promontory (HN III.96), but also in the island of Gaudos (modern Gozo) near Malta (Callimachus apud Str. I.2.37, VII.3.6). Apollonius Rhodius alone placed the island of Calypso in the Adriatic, naming it Nymphaea, near the island of Melita (modern Mljet; A. R. IV. 572–575); this could be due to the Malta/Melita confusion, although his preceding description strongly favours the Adriatic. Scheria, on the other hand was generally taken to represent the island of Corcyra, modern Corfu (e.g. Callimachus apud Str. I.2.37, VII.3.6; A. R. IV.982–992; Thuc. I.2.2; HN IV.52). Therefore, whatever identification we consider, even if we put aside the evidence which provides us the reference to celestial navigation, Odysseus was still sailing east. This is, of course, the opposite direction from that taken by the Euboean colonists when navigating to the Bay of Naples, but the principle is the same. Thus Odysseus had sailed from Magna Grecia to Corcyra observing the Pleiades, while the Euboeans did the same while sailing in the opposite direction.

38 Referred to by ALLEN 1963: 395 and CONDOS 1997: 173; Moiro fr. 1 Powell *apud* Ath. XI.80; cf. Ath. XI.79, 82.

39 Thus Strabo placed both Calypso's Ogygia, »the navel of the sea« (Od. VII.44) and the island of Phaeacians, where »in the surging sea, the furthermost of men« live (Od. VI.204–205) in the Atlantic Ocean (Str. I.2.18).





Ther is one more point to consider. The town of Cyme in Aetolia had to be associated with the foundation of Cumae for some reason. The site of the city is yet to be precisely located, but the leading candidate (Cenderli) is on the latitude 38°56'30" north. If this is not the precise location, the city had to be somewhere on the Aeolian coast, which had extended from Cape Lectum to the river Hermus (Str. XIII.1.2), thus between 38°30' and 39°30' north (Euboean Cyme was on 38°37'50" northern latitude, so if this was the city which gave the name to the Italian colony, the argument still stands). The latitude of the Euboean cities Chalcis and Eretria is 38°27'06" and 38°23'11" north respectively, thus very close to Cyme. The latitude of the island of Ischia, ancient Pithecussa, is 40°43'00", while Cumae was situated on 40°51'00", and Neapolis on 40°50'23" north. The difference in latitudes of those locations is around 2°, which is a significant divergence, yet within what we can reasonably expect from those ancient sailors.

In conclusion, we can not agree with the opinion that the Euboean (and Aeolian) sailors insisted on »the coast and island route« on their travel to the Bay of Naples. It would be more convenient for them to sail across the Ionian Sea along the 38th parallel from Keffalenia to the Straits of Messina, and then further north along the Ausonian coast. They were more than able to conquer the open sea, as we have shown earlier (BILIĆ 2006), and this they could do with the help of celestial navigation. The dove mentioned by Velleius Paterculus and Statius which guided the founders of Cumae may refer to the asterism of Pleiades, or Peleiades (the Doves), and this asterism may have been used as some kind of corrective in combination with some other, more convenient stars, by Euboean navigators, while sailing the open-sea. Finally, let us mention the opinion of a modern scholar, differing from the one quoted at the beginning of this section, and sympathetic to the possibility of Greek open-sea voyages: »Although at that time [the beginning of the colonization period] their [Greek] knowledge was essentially limited to the eastern Mediterranean, even there this involved crossing the open sea, far out of sight of the shore and more a challenging experience than the relatively easy traversal of the Otranto Channel... despite the importance of coastal navigation, the time had come when it was necessary to abandon small coastal vessels in order to confront open-sea crossings... It was here that a good knowledge of the stars came into play... Since night navigation was necessary on certain routes – as documented by many texts, from Homer onward, depicting the helmsman keeping a lonely watch on the bridge – by night the route was plotted in relation to the position of the stars and to the movements of the constellations.« (POMEY 1996: 133, 137).

LIST OF ILLUSTRATIONS

Figure 1: various labyrinths throughout history: 1 – Labyrinth petroglyphs from Pedra do Labirinto and Pedra do Outeiro Cribo, Galicia. Ca. 2000 BC (but perhaps 750–500 BC; SAWARD 2003: 38); 2 – An image on an inner wall of »Domus de Janas«, an underground tomb at Luzzanas, Sardinia. Dated in Neolithic (Ca. 4000-2500 BC), but the carving style is quite different from other decoration of that time in similar tombs – it may have been made in Roman times, or perhaps even later (SAWARD 2003: 37); 3 - An image of a labyrinth carved in a rock. Rockey Valley, Tintagel village, Cornwall, Great Britain. Dated in 1800–1400 BC, but also much later (18th–19th century) (SAWARD 2003: 37); 4 – Pottery shard from Tel Rifa' at, Syria. The earliest securely dated image of a labyrinth (Ca. 1300 BC, but perhaps as late as Roman period) (SAWARD 2003: 42); 5 – An image on a clay tablet from Nestor's Palace in Pylos (PY Cn 1287). Ca. 1200 BC (SAWARD 2003: 41); 6 – Labyrinth from Nequana, Val Camonica, Italy. Probably Early Iron Age (Ca. 750–500 BC) (SAWARD 2003: 48); 7 – An Etruscan vase ornamented with labyrinthine motif. Tragliatella, Italy. Ca. 630 BC. Inscription: mirror-imaged TRVIA. In front of the horsemen are foot soldiers, and the scene suggests that the Roman »Troy game« is depicted (SAWARD 2003: 49); 7a – Same as above, detail (SAWARD 2003: 13); 8 - Cnossian coin depicting the Labyrinth. Silver, 432-350 BC (BMC





Crete and the Aegean Islands: plate IV.11). 9 – Cnossian coin depicting the Labyrinth. Silver, 350–220 BC (BMC Crete and the Aegean Islands: plate V.11). 10 – Cnossian coin depicting the Labyrinth. Silver, 200–67 BC (BMC Crete and the Aegean Islands: plate VI.5); 11 – "House of the Labyrinth«, Pompeii, 1st century AD (SAWARD 2003: 46); 12 – Hollywood stone, Ireland. 400–1400 AD (SAWARD 2003: 85); 13 – Photo of a stone labyrinth from Visby, Gotland. Scandinavian "Troytowns«, as they are called, were probably used in navigation as signal-marks, but were also associated with »maiden's dances«. They are roughly dated to the Middle Ages and later (SAWARD 2003: 142); 14 – Hereford map, detail: Crete depicted in the form of a labyrinth. End of 13th century (SAWARD 2003: 90).

Figure 2: Cnossian coins depicting the Labyrinth with astral symbolism: 1–500–431 BC (BMC Crete and the Aegean Islands: plate IV.7); 2, 3, 4, 5–431.–350. pr. Kr. (BMC Crete and the Aegean Islands: plate IV.10–13); 6, 7–350–220 BC (BMC Crete and the Aegean Islands: plate V.17–18).

Figure 3: Tarentinian coins depicting Taras on the dolphin; in 1 Taras holds a *chelys* in his hand: 1, 2– archaic style (BMC Italy: 165); 3, 4– intermediate style (BMC Italy: 169); 5– the period of the finest art (BMC Italy: 172; Taras holds a trident); 6– BMC Italy: 174; 7– the boy Taras with his father Poseidon (FRANKE-HIRMER 1966: T. X); 8, 9– BRETT 1955: tab. III.47, 49; 10– BRETT 1955: tab. IV.74.

Figure 4: Megaran coins depicting a dolphin (1–7), a dolphin-rider (3), and coins of Methymna (8–12) depicting a dolphin-rider holding a lyre: 1, 2, 3–610–570 BC (SELTMAN 1955:table III.1–3); 4, 5, 6, 7–307–243 BC (BMC Attica, Megaris, Aegina: plate XXI.10–13); 8, 9–330–240 BC (BMC Troas, Aeolis, and Lesbos: plate XXXVI.14–15; a variant exissts on which a dolphin is depicted instead of a bee – as in 8 – next to the lyre; BMC Troas, Aeolis, and Lesbos: 179); 10, 12–2nd/1st century BC; BMC Troas, Aeolis, and Lesbos: XXXVII.1, 4); 11– reign of Alexander Severus (BMC Troas, Aeolis, and Lesbos: XXXVII.8).

Figure 5: Iasian coins depicting a boy on a dolphin (1–4), and Syracusan coins depicting the head of Arethusa encircled by dolphins (5–11): 1, 2, 3, 4–250–190 BC (BMC Caria and Islands: table XXI.1, 3, 4, 6); 5–405–345 BC (with the inscription ARETHOSA; BMC Italy: 177); 6– Kimon (BMC Italy: 175); 7– Phrygillos (BMC Italy: 168); 8– Eumenos (BMC Italy: 167); 9– the reign of Gelo 485–478 BC, maybe even 530–485. BC (SELTMAN 1955: 73–74) (BMC Italy: 146); 10–BRETT 1955: tab. XVIII.331; 11– BRETT 1955: tab. XX.376.

Figure 6: Corinthian coins depicting the head of Athena encircled by dolphins (1–2), and Melicertes-Palaemon lying (3–5, 7), or riding (6, 8–9) on a dolphin's back: 1, 2–400–338 BC (BMC Corinth, Colonies of Corinth, etc: plate IV.4–5); 3– Hadrian's reign (BMC Corinth, Colonies of Corinth, etc: plate XIX.14); 4– Claudius' reign (BMC Corinth, Colonies of Corinth, etc: plate XVII.5); 5– reign of Lucius Verus (BMC Corinth, Colonies of Corinth, etc: plate XX.21); 6– reign of Marcus Aurelius (BMC Corinth, Colonies of Corinth, etc: plate XX.11); 7– reign of Septimius Severus (BMC Corinth, Colonies of Corinth, etc: plate XXII.2); 8, 9– unnamed emperor (BMC Corinth, Colonies of Corinth, etc: plate XXIII.4, 6).







TABLES 1 AND 1A

ven 16th ngs The following table features stars from the constellation Delphinus, their declinations, upper culminations in respect to the southern horizon, and azimuths

of rising and setting in different epochs. It is clear that none of these stars could be used as the last circumpolar star on given latitudes (35-40°) in give period, nor as the zenith star. The stars from this constellation reached the southernmost point in their 25800 years long precessional journey between 16 and 12 th century BC, and they could serve as last circumpolar stars on given latitudes only millenniums before. But azimuths of their risings and setting could have loosely marked east and west, respectively. They could also have been used in a combination with some other stars.	ifferent epocastar. The star they could ed east and	chs. It is clear the rs from this const serve as last circ west, respectivel	at none of these tellation reached umpolar stars on y. They could als	stars could be used as the the southernmost point in given latitudes only mill so have been used in a co	last circumpolar their 25800 year enniums before. mbination with s	r star on given la rs long precessic But azimuths of come other stars.	titudes (35-40°) in give nal journey between 16 their risings and setting
star	mag	8 1800 BC	Alt _{uc} 38°/37°/36°	AZ _{rising} / AZ _{setting} 38°/37°/36°	8 1300 BC	Alt _{uc} 38°/37°/36°	$rac{AZ_{ m rising}'}{AZ_{ m setting}}$ $38^{\circ}/37^{\circ}/36^{\circ}$
α <i>Delphini</i> , Suoalocin	3.77	9°34′48″	61°34' 62°34' 63°34'	77°21'/282°38' 77°32'/282°27' 77°42'/282°17'	9°30'32"	61°30' 62°30' 63°30'	77°26′/282°33° 77°37′/282°22° 77°47′/282°12°
β <i>Delphini</i> , Rotanev	3.64	8°35'47"	60°35' 61°35' 62°35'	78°36'/281°23' 78°46'/281°13' 78°55'/281°04'	8°25'05"	60°28' 61°28' 62°28'	78°46′/281°13′ 78°56′/281°03′ 79°05′/280°54′
γ2 Delphini	4.27	9°22'23"	61°22' 62°22' 63°22'	77°37'/282°22' 77°47'/282°12' 77°57'/282°02'	9°22′08″	61°22' 62°22' 63°22'	77°37'/282°22' 77°48'/282°11' 77°58'/282°01'
8 Delphini	4.43	8°29′58″	60°29' 61°29' 62°29'	78°44′/281°15′ 78°53′/281°06′ 79°03′/280°56′	8°27'34"	60°27' 61°27' 62°27'	78°47'/281°12' 78°57'/281°02' 79°06'/280°53'
s <i>Delfini</i> , Deneb Dulfim	4.03	5°48'45"	57°48' 58°48' 59°48'	82°10'/277°49' 82°17'/277°42' 82°23'/277°36'	5°35'39"	57°35' 58°35' 59°35'	82°26/1277°33° 82°33'1277°26° 82°39'1277°20°





T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

star	mag	\$ 800 BC	Alt _{uc} 38°/37°/36°	AZrising/ AZsetting 38°/37°/36°	8 600 BC	Alt _{uc} 38°/37°/36°	$AZ_{ m nising}/AZ_{ m setting}$ $38^{\circ}/37^{\circ}/36^{\circ}$
α <i>Delphini,</i> Suoalocin	3.77	9°43'09"	61°43' 62°43' 63°43'	77°10' /282°49' 77°21' /282°38' 77°31' /282°38'	9°52′55″	61°52' 62°52' 63°52'	76°57'/283°02' 77°09'/282°50' 77°19'/282°40'
β <i>Delphini,</i> Rotanev	3.64	8°37'28"	60°37' 61°37' 62°37'	78°34'/281°25' 78°44'/281°15' 78°53'/281°06'	8°46'	60°46' 61°46' 62°46'	78°23'/281°36' 78°33'/281°26' 78°42'/281°17'
γ2 Delphini	4.27	9°38'38"	61°38° 62°38° 63°38°	77°16'/282°44' 77°26'/282°33' 77°37'/282°22'	9°49'54"	61°49' 62°49' 63°49'	77°01'/282°58' 77°12'/282°47' 77°23'/282°36'
8 Delphini	4.43	8°42'07"	60°42' 61°42' 62°42'	78°28'/281°31' 78°38'/281°21' 78°47'/281°12'	8°52'40"	60°52' 61°52' 62°52'	78°14'/281°45' 78°25'/281°34' 78°34'/281°25'
ε <i>Delfini</i> , Deneb Dulfim	4.03	5°40'01''	57°40' 58°40' 59°40'	82°21' /277°39' 82°27' /277°32' 82°34' /277°25'	5°46'38"	57°46' 58°46' 59°46'	82°12'/277°47' 82°19'/277°40' 82°25'/277°34'











T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

TABLES 2 AND 2A

The following table features stars from the constellation Corona Borealis and their declinations in different epochs. It is clear that they could be used as zenith-stars on given latitudes, especially in later epochs. Some of the stars, i.e. θ , β , and ι , could have also served as a last circumpolar star in somewhat earlier epoch, in 2500 BC for example, their declinations being 52°36′13″, 50°33′15″, and 49°17′55″, respectively.

star	mag	δ 1800 BC	δ 1300 BC	δ 1000 BC
θ Coronae Boreali	4.14	48°42'41''	46°00'40''	44°26′11′′
β Coronae Boreali, Nusaken	3.66	46°39'43''	43°57'03''	42°21'58''
α Coronae Boreali, Alphekka	2.22	44°14'06''	41°30'09''	39°54'28''
γ Coronae Boreali	3.81	43°10′57"	40°30'45"	38°57'34''
δ Coronae Boreali	4.59	42°41'38"	40°02'19''	38°29'52''
ε Coronae Boreali	4.14	42°59'21"	40°22'52''	38°52'21"
ι Coronae Boreali	4.98	45°33'10''	42°59'37''	41°30′59′′

star	mag	δ 800 BC	δ 600 BC	δ 400 BC
θ Coronae Boreali	4.14	43°24'12''	42°23'27''	41°24'02''
β Coronae Boreali, Nusaken	3.66	41°19'30''	40°18'13''	39°18′13"
α Coronae Boreali, Alphekka	2.22	38°51'42"	37°50′10′′	36°49'59''
γ Coronae Boreali	3.81	37°56'33"	36°56'50"	35°58'33"
δ Coronae Boreali	4.59	37°29'24''	36°30'19''	35°32'42"
ε Coronae Boreali	4.14	37°53'16"	36°55'37"	35°59'32"
ι Coronae Boreali	4.98	40°33'13"	39°36′53"	38°42'09''









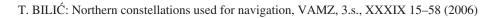


TABLE 3

The following table features stars from the constellation Lyra and their declinations in different epochs. It is clear that they could be used as zenith-stars on given latitudes.

mag	δ 1800 BC	δ 1300 BC	δ 800 BC
4.33	40°12'39''	39°00'08''	37°59'02''
0.03	41°00'38''	40°03'10''	39°17'21''
4.34	39°25'49''	38°31'12"	37°48'21''
4.22	37°56'41"	37°07'26''	36°30'15"
3.25	33°45'19''	32°53'02"	32°13'40''
4.94	33°09'46''	32°17'28''	31°18′12"
3.52	35°09'18''	34°12'07''	33°27'30''
4.35	37°08'49''	36°35'33"	36°14'34''
4.43	38°16′54"	37°43'28"	37°22'04''
4.59	41°13'20''	40°21'53''	39°41'48''
	4.33 0.03 4.34 4.22 3.25 4.94 3.52 4.35 4.43	4.33 40°12'39" 0.03 41°00'38" 4.34 39°25'49" 4.22 37°56'41" 3.25 33°45'19" 4.94 33°09'46" 3.52 35°09'18" 4.35 37°08'49" 4.43 38°16'54"	4.33 40°12'39" 39°00'08" 0.03 41°00'38" 40°03'10" 4.34 39°25'49" 38°31'12" 4.22 37°56'41" 37°07'26" 3.25 33°45'19" 32°53'02" 4.94 33°09'46" 32°17'28" 3.52 35°09'18" 34°12'07" 4.35 37°08'49" 36°35'33" 4.43 38°16'54" 37°43'28"

TABLE 4

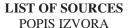
The following table features stars from the (modern) constellation Columba and their declinations in three different epochs. The star η could be especially well used as the mark for the given latitudes.

star	mag	δ 750 BC	Alt _{uc} 40°/39°/38°	δ 1050 BC	Alt _{uc} 40°/39°/38°	δ 1300 BC	Alt _{uc} 40°/39°/38°
α <i>Columbae</i> , Phaet	2.65	-38°37'09''	11°22' 12°22' 13°22'	-39°29'03''	10°30' 11°30' 12°30'	-40°15'23''	9°44' 10°44' 11°44'
β Columbae, Wezn	3.12	-39°49'29''	10°10' 11°10' 12°10'	-40°37'50''	9°22' 10°22' 11°22'	-41°21'12''	8°38' 9°38' 10°38'
δ Columbae	3.85	-35°14'10''	145' 15°45' 16°45'	-35°49'35''	14°10' 15°10' 16°10'	-36°22'34''	13°37' 14°37' 15°37'
η Columbae	3.96	-45°37'09''	4°22' 5°22' 6°22'	-46°14'55''	3°45' 4°45' 5°45'	-46°49'13''	3°10' 4°10' 5°10'









Ael. VH Claudius Aelianus: Poikilê historia.

Aelian: Historical Miscellany. Trans. N.G. Wilson. LCL, Harvard University

Press, Cambridge, Mass - London, 1997.

Ael. NA Claudius Aelianus: Peri zôôn idiotêtos.

Aelian: On the Characteristics of Animals. 3 vols. Trans. A.F. Scholfield. LCL,

Harvard University Press, Cambridge, Mass - London, 1958-1959.

Alcm. Alkman.

Greek Lyric, vol. II: Trans. D.A. Campbell. LCL, Harvard University Press,

Cambridge, Mass - London, 1988.

Antologija stare lirike grčke. Trans. Koloman Rac. Matica Hrvatska, Zagreb, 1916.

Pp. 23-33.

Apollod. Bibl. Ps.-Apollodoros: Bibliothêkê.

Apolodor: Knjiga grčke mitologije. Trans. Igor Brajković. Cid-Nova, Zagreb,

2004

Apollodorus: The Library. Trans. J.G. Frazer. 2 vols. LCL, Harvard University

Press, Cambridge, Mass - London, 1921.

Apoll. Epit. Ps.-Apollodoros: Epitomê.

Apolodor: Knjiga grčke mitologije. Trans. Igor Brajković. Cid-Nova, Zagreb,

2004.

Apollodorus: The Library. Trans. J.G. Frazer. 2 vols. LCL, Harvard University

Press, Cambridge, Mass – London, 1921.

A. R. Apollonios Rodion: Argonaytika.

Apollonius: The Argonautica. Trans. R. C. Seaton. LCL, Harvard University Press,

Cambridge, Mass - London, 1990. (1st ed. 1912).

Apul. Met. L. Apuleius: Metamorphoses.

Apuleius: Metamorphoses, or The Golden Ass. 2 vols. Trans. J.A. Hanson. LCL,

Harvard University Press, Cambridge, Mass – London, 1989. Apulej. Zlatni magarac. Trans. A. Vilhar. Stvarnost, Zagreb, 1969.

Arat. Aratos: Phainomena.

Callimachus, Lycophron, Aratus. Trans. A. W. Mair, G. R. Mair. LCL, Harvard

University Press, Cambridge, Mass – London, 2000. (1st ed. 1921).

Arist. Mete. Aristoteles: Meteôrologika.

Aristotle: Meteorologica. Trans. H. D. P. Lee. LCL, Harvard University Press,

Cambridge, Mass – London, 1975. (1st ed. 1921).

Arist. Pol. Aristoteles: Politikês akroasis.

Aristotle: Politics. Trans. H. Rackham. LCL, Harvard University Press, Cam-

bridge, Mass - London, 1932.

Ath. Athênaios: Deipnosophistai.

Athenaeus: The Deipnosophists, vol. V-VI. 7 vols. Trans. C.B. Gulick. LCL,

Harvard University Press, Cambridge, Mass – London, 1933–1937.

Bacchyl. Dith. Bakhylidês: Dithyramboi.

Anthology of Classical Myth. Ed. and Trans. by S.M. Trzaskoma, R.S. Smith, S. Brunet. Hackett Publishing Company, Indianapolis – Cambridge. 2004. Pp. 69–72.

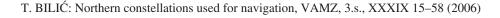
Greek Lyric, vol. IV: Bacchylides, Corinna, and Others. Trans. D.A. Campbell.











LCL, Harvard University Press, Cambridge, Mass - London, 1992.

Antologija stare lirike grčke. Trans. Koloman Rac. Matica Hrvatska, Zagreb, 1916.

Pp. 257-262.

Cic. ND M. Tullius Cicero: De natura deorum.

Cicero: The Nature of the Gods. Trans. H. C. P. McGregor. Penguin, 1972.

Clem. Alex. Protrept. Titos Phlabios Klêmês Alexandreys: Protreptikos.

Trans. S. Thelwall. The Ante-Nicene Fathers, vol. II. Edited by A. Cleveland Coxe, Alexander Roberts, James Donaldson. T&T Clark, Edinburgh; Wm. B. Eerdmans

Publishing Company, Grand Rapids, Michigan, 1956.

Clem. Alex. Paedagog

Titos Phlabios Klêmês Alexandreys: Paidagôgos.

Trans. S. Thelwall. The Ante-Nicene Fathers, vol. II. Edited by A. Cleveland Coxe, Alexander Roberts, James Donaldson. T&T Clark, Edinburgh; Wm. B. Eerdmans

Publishing Company, Grand Rapids, Michigan, 1956.

D. S. Diodoros: Bibliothêkê.

> Diodorus Sicilus: Library of History. Vol 1-3. Trans. C. H. Oldfather. LCL, Harvard University Press, Cambridge, Mass – London, 2004. (1st ed. 1933).

Dio Cass. Diôn Kassios Kokkêianos: Rômaikê historia.

Dio Cassius: Roman History, vols IV-V. 9 vols. Trans. E. Cary, H.B. Foster. LCL,

Harvard University Press, Cambridge, Mass – London, 1916–1917.

Dion. Hal. Dionysios: Rômaikê arhaiologia.

Dionysius of Halicarnassus: Roman Antiquities, vol. IV, VII. 7 vols. Trans. E. Cary. LCL, Harvard University Press, Cambridge, Mass – London, 1943–1950.

Eratosth. Cat. Pseudo-Eratosthenês: Katasterismoi.

Star Myths of the Greeks and Romans: A Sourcebook. Trans. Theony Condos.

Phanes Press, Grand Rapids, Michigan, 1997.

Eur. HF Euripidês: Hêraklês.

Euripides: The Complete Greek Drama. 2 vols. Ed. W.J. Oates, E. O'Neill. Trans.

E.P. Coleridge. Random House, New York, 1938.

Euripides: vol. III. Trans. D. Kovacs. LCL, Harvard University Press, Cambridge,

Mass-London, 1998.

Grčke tragedije II: Euripid. Trans. K. Rac, N. Majnarić. Mladinska knjiga, Lju-

bljana - Zagreb, 1990.

Eur. Cyc. Euripidês: Kyklôps.

Euripides: The Complete Greek Drama. 2 vols. Ed. W.J. Oates, E. O'Neill. Trans.

E.P. Coleridge. Random House, New York, 1938.

Euripides: vol. I. Trans. D. Kovacs. LCL, Harvard University Press, Cambridge,

Mass - London, 1988.

Grčke tragedije II: Euripid. Trans. K. Rac, N. Majnarić. Mladinska knjiga, Lju-

bljana – Zagreb, 1990.

Gell. NA Aulus Gellius: Noctes Atticae.

Aulus Gellius: Attic Nights. 3vols. Trans J.C. Rolfe. LCL, Harvard University

Press, Cambridge, Mass - London, 1927.

Hdt. Herodotos: Historiai.

Herodot: Povijest. Trans. Dubravko Škiljan. Matica Hrvatska, Zagreb, 2000.





T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

Herodotus: Histories. Trans. A.D. Godley. LCL, Harvard University Press, Cam-

bridge, Mass - London, 1920.

Hes. Op. Hêsiodos: Erga kai hêmerai.

Hesiod, the Homeric Hymns, and Homerica. Trans. H. G. Evelyn-White. LCL, Harvard University Press, Cambridge, Mass – London, 1981. (1st ed. 1914).

Hes. Scut. Her. Hêsiodos: Aspis Hêrakleous.

Hesiod, the Homeric Hymns, and Homerica. Trans. H. G. Evelyn-White. LCL, Harvard University Press, Cambridge, Mass – London, 1981. (1st ed. 1914).

II. Homeros: Ilias.

Homerova Ilijada. Trans. Tomo Maretić. Matica Hrvatska, Zagreb, 1921.

Homer: The Iliad. Trans. A.T.Murray. 2 vols. LCL, Harvard University Press,

Cambridge, Mass - London, 1924.

Od. Homeros: Odysseia.

Homer: Odiseja. Trans. Tomo Maretić. Matica Hrvatska, Zagreb, 1950.

Homer: The Odyssey. Trans. A.T. Murray. 2 vols. LCL, Harvard University Press,

Cambridge, Mass - London, 1924.

h.Apoll. Ps.-Homeros: Hom. Hymn. Apoll.

Anthology of Classical Myth. Ed. and Trans. by S.M. Trzaskoma, R.S. Smith, S. Brunet. Hackett Publishing Company, Indianapolis-Cambridge. 2004. Pp. 178–187. Hesiod, the Homeric Hymns, and Homerica. Trans. H. G. Evelyn-White. LCL, Harvard University Press, Cambridge, Mass – London, 1981. (1st ed. 1914). Hesiod: Poslovi i dani, Postanak bogova; Homerove himne. Trans. B. Glavičić.

Demetra, Zagreb, 2005.

h.Herm. Ps.-Homeros: Hom. Hymn. Herm.

Anthology of Classical Myth. Ed. and Trans. by S.M. Trzaskoma, R.S. Smith, S. Brunet. Hackett Publishing Company, Indianapolis-Cambridge. 2004. Pp. 187–197. Hesiod, the Homeric Hymns, and Homerica. Trans. H. G. Evelyn-White. LCL, Harvard University Press, Cambridge, Mass – London, 1981. (1st ed. 1914). Hesiod: Poslovi i dani, Postanak bogova; Homerove himne. Trans. B. Glavičić.

Demetra, Zagreb, 2005.

Hor. Carm. Q. Horatius Flaccus: Carmina.

Horace, Odes and Epodes. P. Shorey, G.J. Laing. Benjamin H. Sanborn & Co.,

Chicago, 1919.

Horace: Odes and Epodes. Trans. H.C.E. Bennett. LCL, Harvard University Press,

Cambridge, Mass - London, 1914.

Hyg. Fab. C. Julius Hyginus: Fabulae.

The Myths of Hyginus. Trans. M. L. Grant. University of Kansas Publications,

1960.

Anthology of Classical Myth. Ed. and Trans. by S.M. Trzaskoma, R.S. Smith, S. Brunet. Hackett Publishing Company, Indianapolis – Cambridge. 2004. Pp. 216–276.

Hyg. Poet. Astr. C. Julius Hyginus: Poetica Astronomica.

Star Myths of the Greeks and Romans: A Sourcebook. Trans. Theony Condos.

Phanes Press, Grand Rapids, Michigan, 1997.

Iambl. VP Iamblichos: Vita Pythagorae.

The Pythagorean Sourcebook and Library. Trans. K.S. Guthrie. Phanes Press,

Grand Rapids, Michigan, 1988.









T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

Isid. Etym. Isidorus: Etymologiae.

Isidori Hispalensis Episcopi Etymologiarum sive Originum libri XX. Ed. W. M.

Lindsay. Oxford, 1911.

Just. M. Iunianus Iustinus: Epitome Historiarum Philippicarum.

Marcus Junianus Justinius: Epitome of the Phillipic History of Pompeius Trogus.

Trans. J.S. Watson. Henry G. Bohn, London, 1853.

Con. Konôn: Diêgêseis.

The Narratives of Konon: Text, Translation and Commentary of the Diegeseis.

Trans. M. Brown. K. G. Saur Verlag. München – Leipzig, 2002.

Titus Livius: Ab urbe condita. Liv.

Livy: History of Rome. Trans. C. Roberts. E.P. Dutton & Co. New York, 1912.

Luc. Salt. Lukianos: Peri orhêseôs.

The Works of Lucian of Samosata. Trans. H.W. Fowler, F.G. Fowler. 4 vols. The

Clarendon Press, Oxford, 1905.

M. Manilius: Astronomica. Man. Astr.

Manilius: Astronomica. Trans. G.P. Goold. LCL, Harvard University Press, Cam-

bridge, Mass – London, 1997 (1. ed. 1977).

Nonn. D. Nonnos: Dionysiaka.

Nonnos: Dionysiaca. 3 vols. Trans. W. H. D. Rouse. LCL, Harvard University

Press, Cambridge, Mass – London, 2004. (1st ed. 1940.)

Opp. Cyn. Oppianos: Kynêgetika.

Oppian. Trans. A.W. Mair. LCL, Harvard University Press, Cambridge, Mass -

London, 1928.

Orph. Hymn. ad Palaem.

Ps.-Orpheus.

The Hymns of Orpheus. Trans. Thomas Taylor. Philosophical Research Society

Inc., 1987. (1st ed. 1792).

Ov. Trist. P. Ovidius Naso: Tristia.

Ovid: Tristia & Ex Ponto. Trans. A.L. Wheeler. LCL, Harvard University Press,

Cambridge, Mass - London, 1924.

Ov. Fas. P. Ovidius Naso: Fasti.

Ovid: Fasti. Trans. J.G. Frazer. LCL, Harvard University Press, Cambridge, Mass

- London, 1931.

Ov. Met. P. Ovidius Naso: Metamorphoses.

Publija Ovidija Nasona Metamorfoze. Trans. Tomo Maretić. Matica Hrvatska,

Zagreb, 1907.

Ovid: Metamorphoses. Ed. Hugo Magnus. Friedr. Andr. Perthes. Gotha, 1892.

Ovid: Metamorphoses. Trans. B. Moore. Cornhill Publishing Co., Boston, 1922.

Pausanias: Periêgêsis tês Hellados. Paus.

Pauzanija: Vodič po Heladi. Trans. Uroš Pasini. Logos, Split, 1989.

Pausanias: Description of Greece. Trans. W.H.S. Jones, H.A. Ormerod. 4 vols.

LCL, Harvard University Press, Cambridge, Mass - London, 1918.

Philostr. Imag. Phlaouios Philostratos: Eikones.

Philostratus the Elder, Imagines. Philostratus the Younger, Imagines. Callistratus,

Descriptions. Trans. A. Fairbanks. LCL, Harvard University Press, Cambridge,

Mass - London, 1931.





Philostr. VA Phlaouios Philostratos: Ta eis Tyanea Apollônion.

Philostratus: Life of Apollonius of Tyana. Trans. F. C. Conybeare. LCL, Harvard

University Press, Cambridge, Mass – London, 1912.

Phot. Bibl. Photios: Bibliothêkê.

The Bibliotheca of Photius. Trans. J.H. Freese. The MacMillan Co., New York,

1920.

Photius: The Bibliotheca. Trans. N.G. Wilson. Gerald Duckworth & Co. Ltd.

London, 1994.

Pi. O. Pindaros: Olympionikai.

The Odes of Pindar. Trans. J. Sandys. LCL, Harvard University Press, Cambridge,

Mass - London, 1990. (1st ed. 1937).

Antologija stare lirike grčke. Trans. Koloman Rac. Matica Hrvatska, Zagreb, 1916.

Pp. 117-151.

Pi. P. Pindaros: Pythionikai.

The Odes of Pindar. Trans. J. Sandys. LCL, Harvard University Press, Cambridge,

Mass - London, 1990. (1st ed. 1937).

Plat. Resp. Platôn: Politeia.

Plato: Republic. Trans. R. Waterfield. Oxford University Press, Oxford - New

York, 1993.

H.N. C. Plinius Secundus Maior: Naturalis Historia. Ed. Karl Friedrich Theodor May-

hoff. Leipzig, Teubner, 1906.

The Natural History of Pliny the Elder. Trans. J. Bostock, H.T. Riley. Taylor and

Francis, London, 1855.

Plut. Conv. Sept. Sap. Plutarchos: Tôn hepta sophôn symposion.

Plutarch: Moralia, vol. II: The Dinner of the Seven Wise Men. Trans. F.C. Babbitt.

LCL, Harvard University Press, Cambridge, Mass – London, 1928.

Plut. Thes. Plutarchos: Thêseus.

Plutarch: Parallel Lives, vol. I: Theseus and Romulus. Trans. B. Perrin. LCL,

Harvard University Press, Cambridge, Mass-London, 1914.

Plutarh: Usporedni životopisi, vol. I. 3 vols. Trans. Z. Dukat. August Cesarec,

Zagreb, 1988.

Plut. Quaest. Conv. Plutarchos: Symposiaka problêmata.

Plutarch: Moralia, vol. VIII: Table-talk. Trans. P.A. Clement, H.B. Hoffleit. LCL,

Harvard University Press, Cambridge, Mass - London, 1969.

Plut. De Soll. An. Plutarchos: Potera tôn zoon phronimôtera ta chersaia ê ta enydra.

Plutarch: Moralia, vol. XII: Whether Land or Sea Animals are Cleverer. Trans. H.

Cherniss, W.C. Helmbold. LCL, Harvard University Press, Cambridge, Mass -

London, 1957.

Plb. Polybios: Historiai.

The Histories of Polybius. 2 vols. Trans. E. S. Shuckburgh. MacMillan, New York

- London, 1899.

Prop. Sextus Propertius: Elegiae.

Propertius: Elegies. Trans. G.P. Goold. LCL, Harvard University Press, Cam-

bridge, Mass – London, 1990.









T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)

Ptol. Geog. Klaudios Ptolemaios: Geôgraphikê hyphêgêsis.

Claudius Ptolemy: The Geography. Trans. E. L. Stevenson. Dover Publications,

New York, 1991. (1. izd. 1932).

Sen. Hipp. L. Annaeus Seneca Minor: Phaedra (Hippolytus).

Seneca the Younger: Tragedies, vol. I. Trans. J.G. Fitch. LCL, Harvard University

Press, Cambridge, Mass - London, 1917.

Serv. ad Verg. Georg

Serv. ad Verg. Aen. Servius Maurus/Marius/Honoratus: Expositio/explenatio in Bucolicon et un librum/

libros Georgicon atque Aeneadum.

Servius Maurus Honoratus Grammaticus: Servii Grammatici qui feruntur in Vergilii carmina commentarii. Ed. Georg Thilo, Hermann Hagen. 3 vols. Leipzig, B.

G. Teubner, 1881–1902.

Simon. Simonides.

> Greek Lyric, vol. III: Stesichorus, Ibycus, Simonides, and Others. Trans. D.A. Campbell. LCL, Harvard University Press, Cambridge, Mass – London, 1991.

Solin. C. Iulius Solinus: Collectanea rerum memorabilium.

Ed. T.H. Mommsen. Berlin, 1864.

Stat. Theb. P. Papinius Statius: Thebais.

Statius: Thebaid. 2 vols. Trans. J. H. Mozley. LCL, Harvard University Press,

Cambridge, Mass – London, 1928.

Stat. Silv. P. Papinius Statius: Silvae.

Statius: Silvae. Trans. J. H. Mozley. LCL, Harvard University Press, Cambridge,

Mass - London, 1928.

Str. Strabon: Geôgraphika.

Strabo: The Geography. Trans. H. C. Hamilton, W. Falconer. George Bell & Sons,

London, 1903-1906.

Suet. Calig., Tib., Aug., Ner., Iul.,

Claud. C. Suetonius Tranquillus: De vita Caesarum.

Suetonius: The Lives of the Twelve Caesars. Trans. J.E. Reed, A. Thompson.

Gebbie & Co., Philadelphia, 1889.

Suetonius: The Lives of the Caesars. 2 vols. Trans. J.C. Rolfe. LCL, Harvard

University Press, Cambridge, Mass - London, 1914.

Gaj Svetonije Trankvil: Dvanaest rimskih careva. Trans. S. Hosu. Naprijed, Za-

greb-Rijeka, 1978.

Tac. An. C. Cornelius Tacitus: Annales.

Tacit: Anali. Trans. Jakov Kostović. Matica Hrvatska, Zagreb, 1970.

Complete Works of Tacitus. Trans. A.J. Church, W.J. Brodribb. Random House

Inc., New York, 1942.

Tert. De Cor. Quintus Septimium Florens Tertullianus: De Corona Militis.

> Tertullian: On the Crown. Trans. S. Thelwall. The Ante-Nicene Fathers, vol. III. Edited by A. Cleveland Coxe, Alexander Roberts, James Donaldson. T&T Clark, Edinburgh; Wm. B. Eerdmans Publishing Company, Grand Rapids, Michigan,

1885.





Thuc. Thukydides: Ksyggraphê peri tu polemu tôn Peloponnêsiôn kai Athênaiôn.

The Peloponnesian War by Thucydides. Trans. Richard Crawley. Dover Publi-

cations, New York, 2004. (1st ed. 1874).

Val. Flacc. Argon. C. Valerius Flaccus Setinus Balbus: Argonautica.

Valerius Flaccus: Argonautica. Trans. J. H. Mozley. LCL, Harvard University

Press, Cambridge, Mass - London, 1978. (1st ed. 1934).

Veget. Mil. F. Vegetius Renatus: Epitoma rei militaris.

Publije Flavije Vegecije Renat: Sažetak vojne vještine. Trans. Teodora Shek

Brnadić, Golden marketing, Zagreb, 2002.

Vellei. C. Velleius Paterculus: Historia Romana.

Velleius Paterculus: The Roman History. Trans. F.W. Shipley. LCL, Harvard

University Press, Cambridge, Mass - London, 1924.

Verg. Aen. P. Vergilius Maro: Aeneis.

Vergilije: Ekloge, Georgike, Eneida. Trans. Tomo Maretić. Zagreb, 1932.

Bucolics, Aeneid, and Georgics of Vergil. Ed. and trans. J.B. Greenough. Ginn &

Co. Boston, 1900.

Vergil: Aeneid. T.C. Williams. Houghton Mifflin Co., Boston, 1910.

Verg. Georg. P. Vergilius Maro: Georgica.

Vergilije: Ekloge, Georgike, Eneida. Trans. Tomo Maretić. Zagreb, 1932.

Bucolics, Aeneid, and Georgics of Vergil. Ed. and trans. J.B. Greenough. Ginn &

Co. Boston, 1900.

Xen. Hell. Xenophôn: Hêllênika.

Xenophon; Hellenica. 2vols. Trans. C.L. Brownson. LCL, Harvard University

Press, Cambridge, Mass – London, 1918–1921.

Suda Anonymus. Suidae Lexicon. 5 vols. Ed. A. Adler. Stuttgart, 1928–1938.

BIBLIOGRAPHY POPIS LITERATURE

ALLEN, R. H. 1963 - Star Names: Their Lore and Meaning. New York 1963: Dover Publications.

BILIĆ, T. 2005 – Navigacija prema zvijezdama u prethistoriji i antici II. *Naše More*, 52 (1–2)/2005: 88–95. Dubrovnik, 2005.

BILIĆ, T. 2006 – Plovidba po geografskoj širini na Mediteranu. *Opuscula archaeologica* 29/2006: 121–156. Zagreb, 2006.

BRETT, A. B. 1955 - Museum of Fine Arts Boston: Catalogue of Greek Coins, Boston, 1955.

CASSON, L. 1960: The Ancient Mariners. London 1960: Victor Gollancz Ltd.

CONDOS, T. 1997 – Star Myths of the Greeks and Romans: a Sourcebook. Grand Rapids, Michigan, 1997: Phanes Press

DUNBABIN, T. J. 1948 - The Western Greeks. Oxford, 1948: Oxford University Press.

FRANKE, P. R., HIRMER, M. 1966 - La Monnaie Grecque. Paris, 1966: Flammarion.

FRERE, H. et al. 1961 – *Stace, vol. II.* Collection de Universités de France. L'Association Guillaume Budé. Paris: Les Belles Lettres, 1961.









- T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)
- GRAVES, R. 1992 The Greek Myths. London, 1992: Penguin Books.
- HEAD, B. V. 1888 A Catalogue of the Greek Coins in the British Museum. Attica, Megaris, Aegina. London, 1888.
- HEAD, B. V. 1889 A Catalogue of the Greek Coins in the British Museum. Corinth, Colonies of Corinth, etc. London, 1889.
- HEAD, B. V. 1897 A Catalogue of the Greek Coins in the British Museum. Caria and Islands. London, 1897.
- LEAF, W. 1900 Commentary on the Iliad. The Iliad, edited, with apparatus criticus, prolegomena, notes, and appendices. London, 1900: Macmillan.
- LUCE, J. V. 1998 Celebrating Homer's Landscapes: Troy and Ithaca Revisited. New York, 1998: Yale University.
- MATTHEWS, W. H. 1922 Mazes and Labyrinths. London, 1922: Longmans, Green and Co.
- NILSSON, M. P. 1932 The Mycenaean Origin of Greek Mythology. Sather Classical Lectures vol. 8. Berkeley, 1932: University of California Press.
- MACCULLOCH, J. A. 1911- The Religion of the Ancient Celts. Edinburgh, 1911: T. & T. Clark.
- MACKILLOP, J. 2004 Oxford Dictionary of Celtic Mythology. Oxford, 2004: Oxford University Press.
- MOZLEY, J. H. (ed. and trans.) 1967 Statius. Silvae. Thebaid I–IV. Vol. I. Cambridge, Mass London, 1967: LCL, Harvard University Press.
- PALAIMA, T. G. 2004 Linear B Sources. In Anthology of Classical Myth. Ed. and trans. by S.M. Trzaskoma, R.S. Smith, S. Brunet. Pp. 439-454. Indianapolis Cambridge, 2004: Hackett Publishing Company.
- POMEY, P. 1996 Navigation and Ships in the Age of Greek Colonization. In G. Pugliese Carratelli (ed.), The Western Greeks, 133–140. Milano, 1996: Bompiani.
- PRONTERA, F. 1996 Maritime Communications. In G. Pugliese Carratelli (ed.), The Western Greeks, 201-208. Milano, 1996: Bompiani.
- PUGLIESE CARRATELLI, G. 1996 An Outline of the Political History of the Greeks in the West. In G. Pugliese Carratelli (ed.), The Western Greeks, 141–176. Milano, 1996: Bompiani.
- POOLE, R. S. 1873 A Catalogue of the Greek Coins in the British Museum. Italy. London, 1873.
- SAWARD, J. 2003 Labyrinths and Mazes. London: Gaia Books.
- SELTMAN, C. 1955- Greek Coins (2nd ed.). London, 1955: Methuen & co.
- SMITH, W. (ed.) 1854 Dictionary of Greek and Roman Geography. London.
- SMITH, W. (ed.) 1870 Dictionary of Greek and Roman Biography and Mythology. 2vols. London.
- WEST, M. L. 1978 Hesiod, Works and Days, Edited with Prolegomena and Commentary. Oxford, 1978: Oxford University Press.
- WOODHEAD, A. G. 1966 The Greeks in the West. London, 1966: Thames and Hudson.
- WROTH, W. 1886 A Catalogue of the Greek Coins in the British Museum. Crete and the Aegean Islands. London, 1886.
- WROTH, W. 1894 A Catalogue of the Greek Coins in the British Museum. Troas, Aeolis, and Lesbos. London, 1894.







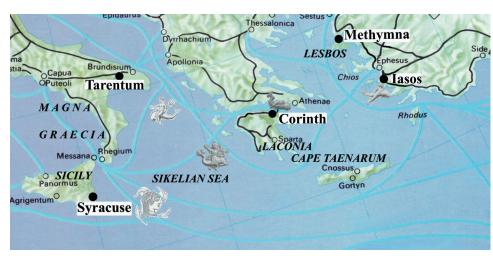
ANTIČKA NAVIGACIJA PREMA SJEVERNIM ZVIJEŽĐIMA SAŽETAK

U tekstu se analizira mit o sviraču Arionu i njegovu čudesnom spasenju. Smatra se kako je u pozadini mita navigacija između Velike Grčke i Helade prema zvježđu Delfina. Analizira se i mit o Apolonu Delphiniusu, prema kojem je bog u liku delfina vodio krećanski brod do Delfa. Zatim se dotiče pitanje orijentacije prema zviježđu Sjeverne Krune u navigaciji. U kontekstu toga se ukratko interpretira Tezejev put na Kretu kao pohod na Onostrano. Pomoću nekoliko navoda klasičnih autora pokušava se rekonstruirati mit o osnutku Tarenta u kontekstu Arionovog putovanja na delfinu. U vezi s tim analiziraju se priče o eponimnom heroju grada Tarasu te Spartancu Falantu. Ukratko se spominju i drugi antički »putnici« na delfinima, poimence Melikert i Hermija. Na kraju se razmatraju mitovi o osnutku grčkih kolonija u Napuljskom zaljevu u kontekstu astralne navigacije i plovidbe preko otvorenog mora.

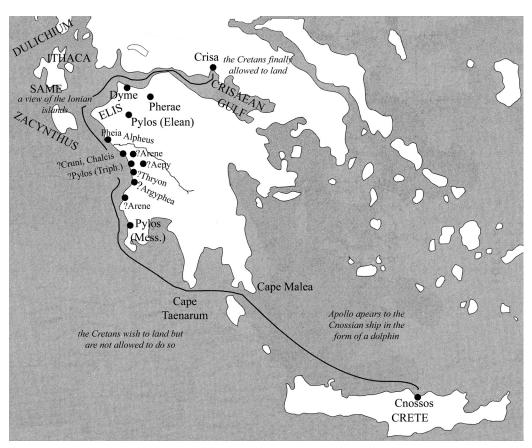
Rukopis primljen: 18.VIII.2006. Rukopis prihvaćen: 10.IX.2006.







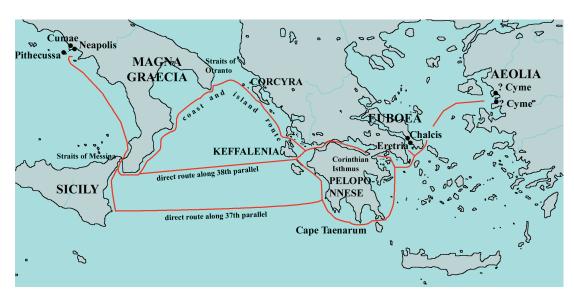
MAP 1: Geographical background of Arion's myth. Nautical routes from the Roman period are also depicted (*The Times: Atlas svjetske povijesti*, Cankarjeva založba, Ljubljana – Zagreb, 1988, map on p. 91; adapted by T. Bilić).



MAP 2: The voyage of a Cnossian ship guided by Apollo. It is clear that the majority of localities mentioned in the *Homeric Hymn* are situated on the Triphylian coast (T. Bilić 2006).



T. BILIĆ: Northern constellations used for navigation, VAMZ, 3.s., XXXIX 15–58 (2006)



MAP 3: Possible marine routes between Aetolia and the Bay of Naples. Latitude sailing could shorten the voyage considerably (T. Bilić 2006).

