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Facoltà di Lettere e Filosofia  
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## Prehistoric Trade Routes In the Black Sea

Preslav Peev

Institute of Oceanology

Department of Marine Geology and Archaeology, Varna, Bulgaria

*The investigation of trade routes used by ancient ships in the Black Sea is crucial if we want to understand the history of the Black Sea area (including the hinterland and Eastern Mediterranean). With research on the economic relations of the tribes and nationalities which lived around these coasts, we can recreate the cultural relationships between them and learn about their contacts with more distant geographic regions of the Mediterranean. The object of this study is to make a map of trade routes in the Black Sea, which will help future underwater archaeological investigators discover, study and excavate shipwrecks. In this paper are retraced economic relations of the Prehistoric cultures during the Late Neolithic, Eneolithic and Bronze ages. There are analysis known data, some new received finds (ox hide lingots) at the Archaeological museum in Varna, Bulgaria as well as the results of the last underwater archaeological explorations on the shallow water along the Southern Bulgarian coast.*

### Neolithic and Eneolithic.

The traces of the most ancient navigation are hidden far away in time. We don't know when people first used the sailing beam, nor when the first raft and dug-out were invented.

#### *Mediterranean shells and clay models of boats.*

High interests provoke adornment from *Spondilus* and *Dentalium*, which were just going into use in the Late Neolithic. At the necropolis near Durankulak, archaeologists found bracelets, necklaces, diadems and dress ornaments made from shells. But where did they get the seashells for these materials? One of the hypotheses is that the shells were obtained from local fossil deposits. But as of yet, no such deposits have been found by archaeologists, paleontologists or geologists. Another hypothesis is that the shells were imported from the Mediterranean. Now the question is: how did this trade take place? It is difficult to believe that the import was done over the Balkan Peninsula, because this was impossible for Neolithic traders with a view to discussed epoch. The native populations were not known to have wheeled transportation. Therefore, it is most likely that the seashells were imported on the sea. Such a trade route was possible after the opening of the Bosphorus, which established a connection between the Black Sea and the Mediterranean more than 7500 years ago. This would explain why, in Bulgaria, no materials made from *Spondilus* are found from the Early Neolithic period, but they do appear after 5250 BC.

The first data for existing navigation comes from the Early Eneolithic Age, in the form of a clay model of a boat. It was found during excavations of the Sava tell, which is situated at the lower reaches of the river Golyama Kamchiya in the Varna district of Bulgaria. The dugout model is made of red clay, roughly mould, 6.1 cm long and 2.5 cm wide (fig. 1). According to the excavators M. Mirchev and D. Zlatarsky, it was a religious object.<sup>1</sup>

One more clay model of boat is known from the Historical Museum in Sozopol but its dated from the Early Bronze Age.

#### *Cooper.*

During the Stone-Copper Age there was significant development of economic relations between the different cultures of the Black Sea coast. Copper and copper tools were traded extensively, mostly by sea.

The crude copper was supplied to the Varna region by Thracia, where the biggest foundry in the Balkan Peninsula was located.

A systematic copper trade was established by the end of the 5th millennium BC (Late Eneolithic period). Trade spread mainly northeast of modern – day Varna and Dobrudja. The cultural center of Varna (with settlements at the Varna and Beloslavsko Lakes) is the most probable starting point for the copper trade, and it was directed towards the territory of another cultural complex, Cucuteni-Trypolia. The sea navigation north of Varna would most likely have been coastwise until the many river mouths were reached, upstream of the ancient rivers (the Danube, the Prut, the Bug and the Dnestr). We have a numerous examples for trade contacts between the bearers of these cultures.<sup>2</sup>

The complex conditions for navigation in the Black Sea (including the absence of islands, the lack of safe bays and frequent storms) means that high requirements were laid upon the navigators. With regard to the means of transportation, Henrieta Todorova suggests that the most realistic scenario is that traders navigated by solid ships equipped with sails and oarsmen.<sup>3</sup> However, this bold assertion can hardly be proved at this stage of investigation.

<sup>1</sup> Mirchev and Zlatarsky 1960: 17.

<sup>2</sup> Todorova 1993: 10-20.

<sup>3</sup> Todorova 1993: 18.

At the very end of the 5th Millennium BC, the cataclysmic flood put an end to the brilliant Balkan Eneolithic cultures.

We can't say for sure if there was sea navigation during the Early Bronze Age, but we can assume that the people who lived in the coastal settlements at that time had a tight relationship with the sea. There are many remains of such coastal hamlets: there are about eight in the vicinity of Varna, at Sozopol, at Cape Atiya, at the mouth of the river Ropotamo, and at Cape Urdoviza (fig. 2).<sup>4</sup>

### Late Bronze Age

We don't have any data on the matter from the Middle Bronze Age (2100/2000 – 1650 BC), but of course this doesn't exclude the possibility of sea navigation during that period. We have found a range of port centers situated along the whole coast, dating from the second half of the 2nd millennium BC (Late Bronze Age) all the way up to the 6th century AD, which is strong evidence of developed sea trade. There are artificial quays and reefs left at these sites, which at certain periods were used also as ports. The oldest, which started functioning about the middle of the 2nd millennium BC, are at Cape Shabla (Karon Limen), Cape Kaliakra (Tirizis), the North port of Messambria, Apollonia, Maslen Cape (Terra), and the North port of Urdoviza.

A metal ingot in the shape of ox leather was found in 1972 at Cape Kaliakra, at a depth of 8 meters,<sup>5</sup> and it has been very helpful in the effort to date these ports. Numerous stone anchors with openings typical for the Late Bronze Age have also been found.

### Stone anchors.

The most ancient stone anchors are those with a groove and one hole (the hole was used for attaching the ship's rope, and the groove was used for tying). This type of anchor was used as a weight, and it works well on rocky bottoms but not sandy ones. For this reason, anchors with more than one hole were created. Sharpened wooden spikes were put in the holes, instead of ropes, and then the anchors would stick in the sandy bottom.

The most common form of these stone-wooden anchors had three holes. There are two varieties of this form found in the Black Sea: the first one is very well-moulded with well-formed sides and edges, usually trapezium-shaped. The holes form an isosceles triangle and are situated in one plane. The other type of anchor is very large and has an irregular form with asymmetric holes.

There are also two-hole anchors that have been found along the Bulgarian coast. They are rectangular, large in size and made of not-well moulded stone. It is believed that both of these holes were used for ropes.

Several reasons, especially comparison with the famous Mediterranean anchors, lead to the conclusion that the anchors found in the Black Sea were used mainly in the 2nd millennium BC, and that they most probably belonged to Phoenician, Egyptian, Cretean and Aegean ships.

Another type of anchor, found in 1974 on the West of the island of St. Kirik, is also of great interest. It is pyramid-shaped with two holes in perpendicular planes. Such an anchor is drawn on an Egyptian bas-relief kept in the tomb of the pharaoh Sahura (dating to the middle of the 3rd millennium BC). The low opening of the Sozopol anchor is rectangular, which shows that it was meant for a wooden spike.

We could make a bold assumption that at least some of the stone anchors with holes that have been found belonged to Thracian ships. The Greek historian Diodorus (who ascribes the talassocrata in the Aegean Sea after the Trojan War to the ancient Thracians) gives us reason to make such a conclusion. It is logical to accept Thracian navigation in the Black Sea, but this is only an hypothesis for now.

### Ingots.

The metal ingot from Cape Kaliakra is closest in form to the copper ingots found near Kime, the Euboea Island.<sup>6</sup> Ingots in the form of ox leather are drawn in an Egyptian tomb from 15th – 14th century BC, in a scene in the tomb showing the inhabitants of the island of Crete giving presents to the pharaoh Thutmose III (1504 – 1450 BC).<sup>7</sup> Ingots with almost the same form but made of copper and tin have also been found near Cape Gelidonia<sup>8</sup> and Uluburun.<sup>9</sup>

Recently, two metal ingots have been found in the Razgrad district which date from the same period (fig. 3). They have been preserved in the Archaeological Museum in Varna. We can ascertain their origin by studying the marine contacts that local inhabitants had with the Eastern Mediterranean. The metal ingot from Cherkovo, in the Bourgas district, is similar to the two from Razgrad.<sup>10</sup> These three metal ingots have found inland. Clearly, the hinterland of the harbors was not just a few kilometers (like it is popular to say in science), but in reality the inland region covered considerable territory. This area was surely included in the people's trade contacts. The future investigations of the Bronze Age economy must account for these tendencies.

At the time of SCUBA divers at the aquatory of cape Maslen nos were found a dozen *plano-convex* (or bun) ingots at depth 20 – 24 m (fig. 4). They are very close to bun ingots found at cape Gelidonya and Uluburun. It is

<sup>6</sup> Toncheva 1973: fig. 3.

<sup>7</sup> Davies 1935: Pl. 23; Davies 1943: 52-3.

<sup>8</sup> Bass 1967.

<sup>9</sup> Bass 1987: 692-733.

<sup>10</sup> Karayotov 1978: fig. 1.

<sup>4</sup> Peev 2004: 161-9.

<sup>5</sup> Toncheva 1973: fig.1.

rather possible that this site may be a bronze age shipwreck.

#### *Legends and myths from Greek mythology.*

The famous voyage of ancient heroes in the ship “Argo”, in search of the Golden Fleece, refers to the Hellenic period. It dates back to the 12th century BC and was glorified by Apollonius Rhodius,<sup>11</sup> who lived in the 3rd century BC. The ship itself was equipped with a sail and ten oars. The earliest penetration of the ancient tribes into the Black Sea is mentioned in “Argonautica”. But, as stated above, there is evidence for the existence of Black Sea navigation as far back as the 16th – 14th c. BC, i.e. several centuries before the Argonauts. But the goal of the difficult voyage of the ancient traders was ultimately reduced to gaining gold, enlarging one’s wealth and treasures through piracy.

Other Greek legends also reference contacts that East-Mediterranean peoples had with the inhabitants of the Black Sea. Such is the story of Odysseus’s stay in the land of the Cimmerians, in the “Odyssey” books X, XI and XII, it is assumed that the action takes place on the Black Sea.<sup>12</sup> There are other references to the region as well, such as Achilles’s stay on the island of Leuka (today called Snake’s island) at the mouth of the river Danube,<sup>13</sup> along with the stay of Agamemnon’s daughter, Iphigeneia, in Tauris.<sup>14</sup> But the mythological stories do not allow us to chronologically identify when Mediterranean ships first penetrated the Black Sea.

Most of the Late Bronze Age material comes from the west coast of the Black Sea. Nine Mycenaean swords, a dagger, shards and a few other objects were recovered from 14 different excavations of prehistoric sites in the Carpathians (Central Romania).<sup>15</sup> The only finds from the South Black Sea coast are a group of Mycenaean vases from a Hittite site in Northern Turkey.<sup>16</sup> Everything said up to now suggests that marine trade was developed only along the west coast of the Black Sea, i.e. territory inhabited by Thracian tribes. The finds from Romania are not an exception to what was found in Bulgaria – the northern Romanian lands were inhabited from Thracians, too.

#### **Conclusion**

Unfortunately we don’t have much material from the beginning of the Iron Age (which would be perfectly incontestable evidence for coastal inhabitant life). But we can determine the routes of ships from this period by studying the locations of different amphorae, anchors and stocks. We can’t forget that navigation was cabotage yet. And a very important part of this research is the speed of ships moving from Mediterranean to Pontic

markets. This depended on the season, wind direction, weight of cargo, experience of crew, etc.

Clearly, the ships from the Mediterranean passing through the Bosphorus are going to follow the shoreline on their way up to West Pontic ports. For a long time, there has been a debate in the literature over the short routes, from Cape Indjeburun to Cape Sarych or from Sinope to Chersonesos Tauric. The idea comes from the configuration of the Black Sea coast. For example, the ancient ships carrying freight from any Mediterranean port must go to Pantikapaion along the southern coast, then the eastern coast, and finally the north-eastern. This distance is about 1800 km. But if they cross the Black Sea from cape Indjeburun to the Crimea, they will shorten their route by half.

The ancient mariners used the power of the breeze. The Sinopean traders also used the short route, and we find evidence of this in Sinopean amphorae stamps. They are found much along the northern coastline and they decrease on south. South of Messambria, they are unknown.

The short route from Crimea to Istria was used by traders coming from Chersonesos Tauric. The diffusion of their amphorae stamps is the same as the Sinopean ones.

When searching for ancient shipwrecks in the Black Sea, there should be a detailed study of the regions where intensive navigation took place. This idea must be supported by more profound investigations of indicated problems, and other issues which weren’t touched upon here.

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<sup>11</sup> Ap. Rh. *Arg.*

<sup>12</sup> Hom. *Od.*

<sup>13</sup> Arrian *Peripl.M.Eux.* 32-34.

<sup>14</sup> Eur. *IT.*

<sup>15</sup> Hartuche and Sirbu 1982: 156-75.

<sup>16</sup> French 1982: 19-28.

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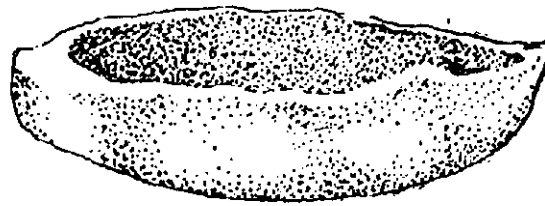


Fig 1 Clay model of boat, from Sava Tell, Varna District, Bulgaria (Mirchev and Zlatarsky 1960: fig 33).

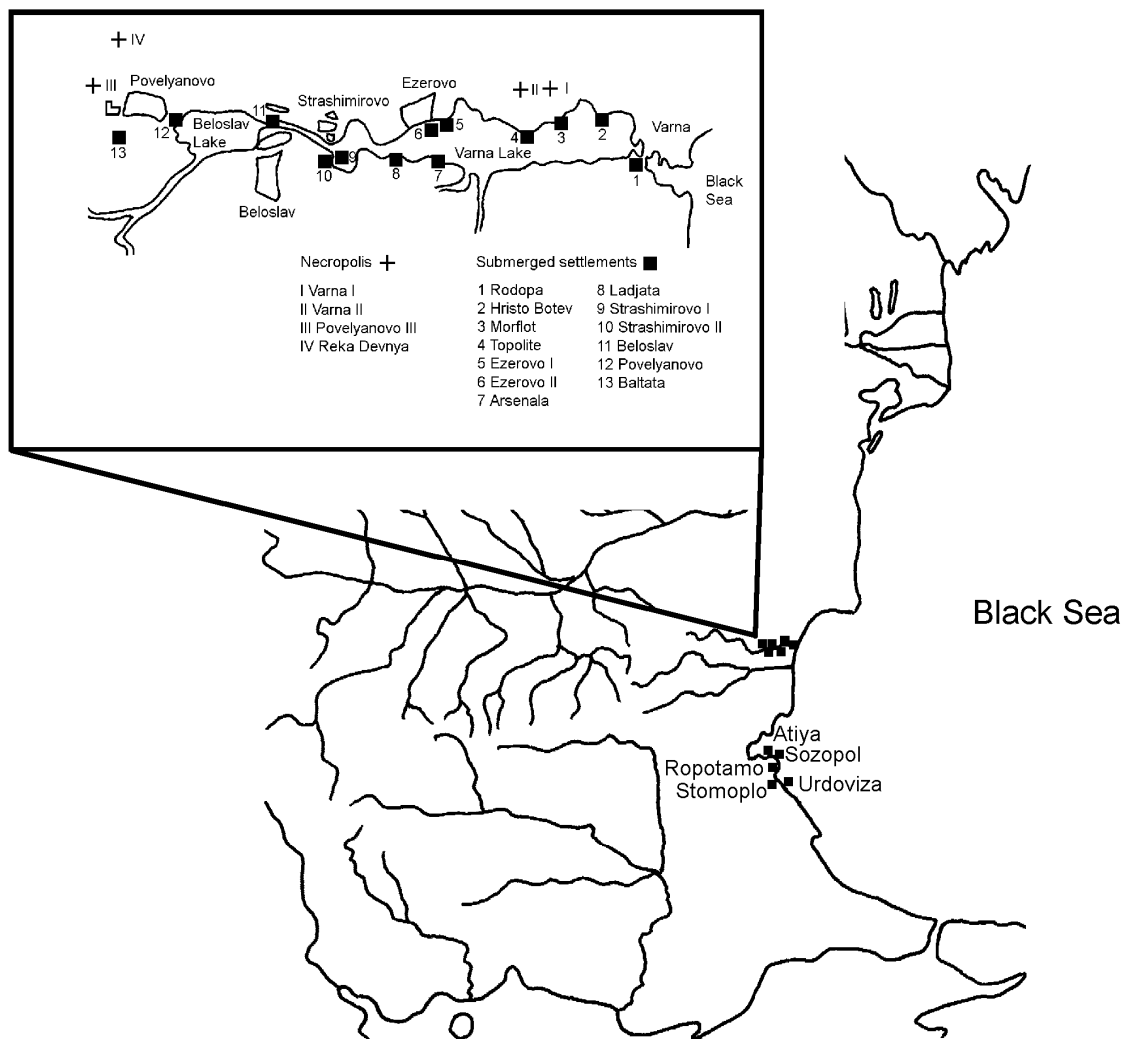


Fig. 2 Map of the Prehistoric settlements along the West Pontic littoral (after Ivanov 1993: fig. 1; Peev 2004: fig. 1)



Fig 3 Oxhide ingots from Razgrad District, Bulgaria (photo: author)

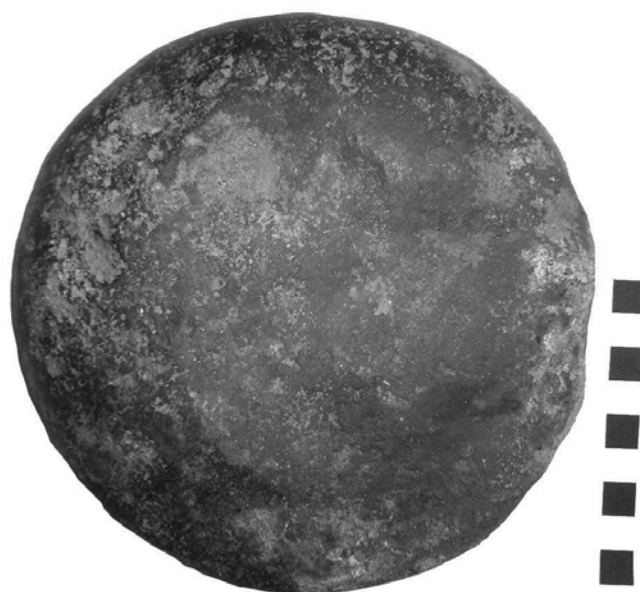


Fig 3 One of the Plano-convex (or Bun) ingots from the Aquatory of Cape Maslen Nos, Bulgaria (photo: author).