ARMA

ARCHAEOLOGIA MAEANDRICA

SAYI / ISSUE - II

ARMA
Archaeologia Maeandrica
SAYI II / ISSUE II (2022)

e-ISSN: 2792-0607

Kurucu ve Yayın Sahibi
Doç. Dr. Emre ERDAN

Aydın Adnan Menderes Üniversitesi, Arkeoloji Bölümü, Aydın, TÜRKİYE.
+90 256 218 20 00 – 3471
www.armadergi.org
armadergi@gmail.com

ARMA
Archaeologia Maeandrica
SAYI II / ISSUE II (2022)

İÇİNDEKİLER

CONTENT

ARMA
ARCHAEOLOGIA MAEANDRICA

www.armadergi.org
ARMA II, (2022), 33-52.

ARE THEY ALL ANCHORS? THOUGHTS ON THE DIFFERENCES BETWEEN ANCIENT DIVING STONE/ SKANDALOPETRAS AND STONE ANCHORS

Hepsi Çapa mı? Antik Dönem Dalma Taşı/ Skandalopetra ve Taş Çapalar Arasındaki Farklar Üzerine Düşünceler

Özgün ÖZ
Aydın Adnan Menderes University, Faculty of Humanities and Social Sciences,
Department of Archaeology. PhD Candidate.
ozgun.oz.adu@gmail.com
Orcid ID: 0000-0003-2651-1610

ABSTRACT

Diving is a activity that started with the desire of people to explore, brought hunting and the economy with it, and became a sports branch today. Diving, which is thought to have been done professionally since the Bronze Age, had to be done by holding one's breath since there was no tube technology at that time. In this regard, diving stones, called "skandalopetra" were used as weights to reach the bottom quickly, especially while diving for sponge fishing. Many ship anchors have been found underwater and on land thanks to modern archaeological studies. In this study, the distinctions of the processed stones, which were classified as anchors in publications but could be skandalopetras, are evaluated in the light of the published works, and thoughts are expressed.

Keywords: Skandalopetra, Diving Stone, Anchor, Stone Anchor.

ÖZET

Dalış, insanın keşfetme arzusu ile başlayan, beraberinde avcılık ve ekonomiyi getiren, günümüzde spor dalına da dönüşmüş bir aktivitedir. Tunç Çağ'dan itibaren profesyonel olarak yapıldığı düşünülen dalışın, günümüz tüp teknolojisi olmaması nedeniyle tutulan nefes ile yapılması gerekmektedir. Bu hususta özellikle sünger avcılığında dibe hızlıca ulaşmak için skandalopetra olarak adlandırılan ve ağırlık olarak kullanılan dalma taşları kullanılmıştır. Modern arkeoloji çalışmaları ile sualtında ve karada birçok gemi çapası tespit edilmiştir. Bu çalışma ile yayınlara çapa olarak geçen ancak skandalopetra olabilecek işlenmiş taşların ayrımları, yayınlanan eserler ışığında değerlendirilerek, düşünceler belirtilmiştir.

Anahtar Kelimeler: Skandalopetra, Dalma Taşı, Çapa, Taş Çapa.

Since the Bronze Age, stone anchors are processed stones that are thrown into the water with ropes attached to the ship and used to keep the sea vehicle motionless[1]. Typologically, stone anchors reflect the size, period, and origin of the ship carrying them. A newly built ship is equipped with local-type anchors made from the local stone of the settlement in which it was built[2].

Stone anchors are grouped as single-hole and composite-hole anchors, and single-hole stone anchors are general-purpose anchors that can be used in rocky or sandy areas[3]. They are quite heavy anchors in the range of 40-300 kg[4]. The hole of the single-hole anchors is for the ropes attached to the ship. It performs the holding on the seabed mission with its weight (Fig.1)[5]. Single-hole stone anchors were used extensively in the Bronze Age, especially in Egypt and the Eastern Mediterranean[6]. Especially the anchors found in Byblos, which are dated to the Bronze Age[7], were similar to Egyptian anchors and more widely used due to the intense relations with Egypt[8]. These anchors were named "Byblos Type" by H. Frost and entered the literature as such[9]. The largest find group of Byblos-type anchors found in the sea is the Newe-Yam anchors[10]. They are all dated to the 19th century BC[11]. In 1983, during the studies conducted by the Haifa University Maritime Studies Center, 15 single-hole stone anchors, thought to belong to the same ship, weighing between 38-155 kg were found underwater in the Newe-Yam offshore south of Haifa (Fig.2)[12]. Although the anchors found were on the same ship, it was determined that they were made in three different types by different craftsmen at different times [13]. On land, Byblos-type anchors are detected from the necropolis area and temples of Byblos (Fig.3)[14]. During the excavations carried out in the Tower Temple, a total of 28 Bronze Age stone anchors were found. The anchors were thought to be left in the temple as votive offerings before expeditions (Fig.4)[15].

[1] Frost 1996, 874; Votruba 2019, 213; Waschsmann 1998, 262. The single-hole anchor dated to the Early Bronze Age and found at Tel Bet Yerah is the earliest dated anchor found in the Eastern Mediterranean.
[2] Frost 1996, 875. As the voyages of the ship increase, the rate of losing the anchors it is equipped with increases. In such cases, they have to buy new anchors from the settlements they travel to. Ships with long voyage hours can thus carry anchors belonging to different regions.
[3] Waschsmann 1998, 262.
[4] Galili 1985: 146; Waschsmann 1998, 262.
[5] Toth 2002, 85.
[6] Galili et. al. 1996, 203.
[7] Artin 2010, 3. Byblos is located 42 kilometers north of Beirut on the Lebanese coastline. It was built on a rocky promontory 30 meters above sea level.
[8] Waschsmann 1998, 272; Francis-Allouche and Grimal 2016, 243.
[9] Galili et. al. 1996, 199.
[10] Galili 1987, 167.
[11] Frost 1996: 875.
[12] Galili 1985, 143.
[13] Galili 1985, 147.
[14] Pinnoch 2007, 124.
[15] Noureddine 2016, 293-297.

Composite anchors are anchors that have one or more holes other than the rope hole and are attached to the sea, lake, or stream bottom with wooden nails driven into the holes (Fig.5). They are lighter anchors than single-hole anchors[16]. The most used composite anchor has three holes (Fig.6). The exact dimensions of the nails are unknown, but are thought to have been kept short for durability [17]. Three-hole stone anchors are anchors weighing at least 40 kilograms or more[18]. The earliest known three-hole stone anchor dates to the 3rd millennium BC and was found in Lothal, India[19].

The earliest three-hole stone anchors found in the Mediterranean belong to the 2nd millennium BC, are of Ugaritic origin, and were found on the island of Crete [20]. Anchors have an average weight of 75 kg (Fig.7)[21]. Stone analyses have shown that the origin of the production of the anchors is Ugarit[22]. Three-hole stone anchors were widely used during the 2nd millennium BC, especially by Levantine sailors[23]. Stone anchors with three holes were found in the Temple of Baal during the excavations in Ugarit. During the excavations, 7 stone anchors offered to the temple were found [24]. They are triangular and have three holes. They do not have rope hole grooves, so they are easily distinguished from Byblos anchors[25]. Similar three-hole stone anchors dedicated to the temple were found in the city of Kition in Cyprus. No traces of rope and wear were found during the examination of the anchors, so it was understood that they were never used in the seas. The anchors are dated to the Late Bronze Age[26]. It is thought that anchors were offered to temples because it was the anchor that protected the ship from drifting, and the sailors dedicated a stone anchor to the Temple of Baal before embarking on an expedition[27].

Similar anchors were found on the Turkish coast during the underwater excavations at Uluburun Shipwreck. 24 single-hole stone anchors belonging to a single ship were found. The anchors originating

[16] Waschsmann 1998, 255; Toth 2002, 85.
[17] Votruba 2016, 223.
[18] Noureddine 2016, 297.
[19] Leshink 1968, 911-913. In India, the Indus Valley Civilization, also known as the Harappan Civilization, was located in the region stretching from present-day northeastern Afghanistan to Pakistan and northwestern India. An important port was identified during the excavations in the city of Lothal, which is located in the region. Rao 1965, 32-35. The port was built of terracotta bricks in 2300 BC to serve as a dock for docking ships and transporting cargo. During the studies carried out in the harbor structure, five stone anchors were found.
[20] Shaw 1995, 279. Three-hole stone anchors dated between 2000-1250 BC in Komnos, a settlement of the Minoan Civilization, are among the early examples.
[21] Shaw 1995, 279. The first of the anchors has a length of 66.5 centimeters, a width of 57 centimeters, and a thickness of 16.5 centimeters. It weighs 74 kilograms. The other anchor is 72 centimeters long, 61.3 centimeters wide, and 14.5 centimeters thick. It weighs 75 kilograms.
[22] Toth 2002, 92.
[23] Votruba 2016, 235.
[24] Öniz 2014, 71.
[25] Noureddine 2016, 294.
[26] Frost 1982, 164.
[27] Votruba 2016, 227.

from the Eastern Mediterranean are like the anchors found in Ugarite and Byblos (Fig.8)[28]. In addition, many stone anchors were found during underwater archaeological surveys on the Turkish coast. Some of these anchors were found in the same region, in areas suitable for ship anchoring, but belong to different periods. Sulu Island, located off the coast of the Kumluca district of Antalya province, is an example of this situation. With the suitable bottom structure for ship anchoring and the sheltered coves, the island is still a frequent destination for ships today. During the dives conducted within the scope of the survey conducted by H. Özdaş around the island in 2007, 38 anchors belonging to different periods were found in an area of 1000 m^2. Two of these anchors are stone anchors with one hole and one with three holes (Fig.9). Within the scope of the same research, during the studies carried out by Özdaş and her team on the Kalaytaşı Island of the Gazipaşa district of Mersin, anchors from different periods were found in a narrow area of 300 m^2[29]. Such areas are called "mooring basins". It is undisputed that the anchors detected in these areas are ship anchors.

In breath-holding free dives, the stone that enables faster sinking to increase the depth and depth of the bottom is called "skandalopetra" or "diving stone" (Fig.11)[30]. The diver dives rapidly to a depth of 70 m, holding a 15 kg flat stone called a skandalopetra, and a net bag slung around his waist (Fig.12). They use the stone as a rudder to steer the descent direction and can make sudden braking by turning the stone straight. When the diver goes down to the bottom, he leaves the stone aside and collects a sponge, when coming out, he gives a signal to the boat with the rope of the stone and is quickly pulled to the surface by pressing on it. (Fig.13)[31]. Divers can dive quickly with skandalopetra, but the diver must descend slowly and perform valsalva/equalize to equalize the high pressure in his ears from the load of the sea every 1.5 m on average. Aristotle refers to divers' equalization problems, saying that divers make a permanent hole in their eardrums[32]. This explains how divers have solved the equalization problem that would arise in fast diving with skandalopetra. Evliya Çelebi[33] and the Fisherman of Halicarnassus[34] also described the use of skandalopetra in his works[35]. Skandalopetra is handed down from father to son because of the great moral value of diving, which is a dangerous profession[36].

Sponge fishing is thought to have been done before 4500 BC. It was an important profession in the Aegean and Mediterranean coasts of Turkey, especially in Bodrum, Marmaris, and Bozburun in the 19th and 20th centuries[37]. Sponging was widely practiced on the Kalymnos and Symi islands of Greece

[28] Pulak 2006, 93.
[29] Özdaş 2009, 264-265.
[30] Kabasakal 2022: 6.
[31] Bernard 1967, 113; Kalafatas 2008, 9; Erdan 2018, 54.
[32] Aristotle 1936, 32. 2-11.
[33] Kabasakal 2022: 7.
[34] A nickname for the famous Turkish writer and poet Cevat Şakir Kabaağaçlı.
[35] Kabasakal 2022: 7.
[36] Kalafatas 2008, 9.
[37] For a detailed study, see Erdan 2018, 10.

(Fig.14)[38]. In 1913, Stathis Hatzis, a diver from Symi, made a quick dive for the lost anchor of the Italian ship Regina Margherita with the help of the other anchor of the ship. The dive, in which the anchor was rescued by diving with another anchor, was made to a depth of 88 m and lasted for 3 minutes 35 seconds (Fig.15)[39].

The main livelihood of the island of Kalymnos [40] is sponge fishing [41]. For this reason, the island is also known as the "*Sponge Divers Island*" and is associated with skandalopetra diving (Fig.14)[42]. It has become one of the most important sponge fishing centers of the Mediterranean since the 18th century AD and has become an important center for modern skandalopetra sport diving[43]. In 2009, the men's free diver, H. Nietzsche, performed a free dive at 107 meters with skandalopetra. In 2010, the women's free diver C. Meyer reached 61 meters with a skandalopetra [44]. Skandalopetra dives are protected by the "*Skandalopetra Apnea International Rules: Version 2015/05 CA-190*" published in 2015 and continue for sporting purposes today (Fig.16)[45].

An oinochoe found in Cyprus, dating to the 7th century BC, includes a depiction of a stone tied to the ship with a rope (Fig.17). H. Frost defined it as a ship docking at the port and described the stone depicted at one end of the ship as an anchor held with the help of a wooden stick. Frost mentions completely useless small anchors located in the stern of the ships. He referred to these anchors as "*the sacred anchors of the ships*". He mentioned that the stern anchor in the depiction is not functional but only has a sacred meaning[46]. This kind of stone anchor which is depicted on vases was also found in Cyprus (Fig.18)[47].

The stone anchors found in the archaeological surveys conducted by *METU-SAT* in Cilicia are interesting. Stones that are too small to be anchors have been evaluated by the research team as anchors for small boats[48]. However, it is also necessary to consider that these anchors may be skandalopetra used

[38] Pronzato and Manconi 2008, 148.
[39] Kalafatas 2008, 10. It is believed that the loss of the anchor of a ship on its maiden voyage is a maritime omen. Therefore, the anchor is not left behind. Hatzis dived to save the anchor.
[40] Bernard 1976, 291. Kalymnos Island is one of the 12 islands located 144 kilometers northwest of Rhodes and 402 kilometers southeast of Athens: Berrnard 1967, 103. The present fishing fleet is one of the largest in Greece. The Kalimnans have been known for their fishing and shipbuilding skills from ancient times to the present day; https://parapona-rodou.blogspot.com/2012/04/blog-post_7948.html.
Today, traditional wooden shipyards still operate in the island's coastal area of Lafassi in Pothia and at Rina Harbor in Vathys. Öniz and Danker, 2022. Ring weights are also diver weights used by former divers to reach the desired depth more quickly for rescue operations or other diving activities such as sponge and oyster harvesting.
[41] Berrnard 1967, 103.
[42] https://parapona-rodou.blogspot.com/2012/04/blog-post_7948.html.
[43] https://parapona-rodou.blogspot.com/2012/04/blog-post_7948.html.
[44] https://bgswim.com/new.php?new_id=4518
[45] CMAS Skandalopetra Apnea International Rules: Version 2015/05 CA-190.
[46] Frost 1982, 161-166.
[47] Frost 1963, 47.
[48] Evrin et. al. 2002, 258.

by divers. The original stones found similar to the description is too small in size to be the anchor to hold the ship (Fig.19).

Another depiction of skandalopetra on a deck, stands independently at the bow of the ship in the ship relief from the tomb of King Sahru-re of the fifth Dynasty in Egypt (Fig.20). In terms of stone type, it is similar to Byblos-type stone anchors (Fig.3)[49]. Frost, who carried out detailed research on these anchors, argues that the anchor depicted in the relief is not of the Byblos type since the Byblos type stone anchors cannot stand upright structurally [50]. Skandalopetra, on the other hand, can be used by leaning against the deck with its lightweight and small size. When the ship's crew and deck are examined, the ship likely symbolizes a sponge hunt or a dive.

It is already mentioned that the sailors dedicated stone anchors to temples before sailing [51]. H. Frost mentioned that the small stone anchors were symbolic anchors made to be offered to the temple [52]. However, it has been determined that both small-sized, light (Fig.4) and large-sized, heavy stones were dedicated to the temples (Fig.3)[53]. I. Noureddine says that the stone anchors weighed 40 kg or more [54] and during the underwater archeology studies carried out by Noureddine, on a reef of Byblos which is suitable for sponge and diving, stones weighing between 20-35 kg, which we think are skandalopetra due to their lightness and size, were found (Fig. 21-22)[55]. Light anchors weighing 15.5 kg and 18 kg have been found in Ochamandal, India [56]. G. F. Votruba said that stones weighing less than 30 kg are skandalopetras [57]. A composite perforated worked stone with an inscription, described as a stone anchor, dated to the end of the 2nd millennium BC, was found during land excavations at Hala Sultan Tekke in Cyprus (Fig.23). The weight of the stone is not specified, but its height is similar dimensions to the skandalopetras and the way it was processed suggest that the stone is skandalopetra [58].

In Crete, undecorated single-hole stones smaller than limestone were found in Makrygialos and Malia. C. Davaras described the stones as stone anchors used for ceremonies because single-hole stone anchors can stop the ships with their weight and because of the lightness of the mentioned anchors (Fig.24)[59]. In addition, a unique single-hole worked stone was found in the Palace of Knossos, on both sides of which was decorated with a low relief octopus. The hard reddish stone is small compared to single-hole anchors

[49] Galili 1985, 149.
[50] Frost 1979, 151.
[51] Noureddine 2016, 295.
[52] Frost 1996: 875.
[53] Noureddine 2016, 295-296.
[54] Noureddine 2016, 297.
[55] Noureddine 2016, 299-303.
[56] Sundaresh et. al. 1999, 232.
[57] Votruba 2016, 227.
[58] Aström 1990, 81.
[59] Davaras 1980, 49.

and weighs 29 kg, measuring 42 cm in height. It is dated between 1450-1300 BC (Fig.25)[60]. Octopus decoration is known to be important in decoration element in the Minoan Civilization. Since the octopus is a sea creature that lives on the rocks and can be hunted by diving, it would be correct to associate the artifact with diving. In addition, it has been determined that the technique of painting with the Hippospongia Communis sponge, which is a round sponge, was used in the frescoes on the walls of the Knossos palace in the Minoan Civilization, proving that sponge fishing existed in Crete[61]. For this reason, we think that the work is a skandalopetra with a sacred meaning. Considering that skandalopetras are stones with spiritual values inherited from father to son, I think that while sailors on expeditions leave anchors before they sail, divers who have a dangerous profession may have also left skandalopetras before diving[62].

Light stones found on a reef off Byblos, which were mentioned above, are among the stones found in the sea and likely to be skandalopetra[63]. A group of anchors found in the city of Ashkelon in the eastern Mediterranean shows the differences between the stone anchor and the skandalopetra. The city is located on the Mediterranean coast, 50 kilometers south of the modern city of Tell Aviv in Israel[64]. It was established as a trade center between Egypt and Byblos in the Bronze Age [65]. Galili listed all anchors in and around the city harbor, with their measurements and weights. In this regard, what is remarkable in our subject is that the stones found in the port are 35 kg and over, while the stones found in an area that is not a harbor in the north of Askchelon are 20 kg and less[66]. Especially the one that weighs 15 kg and has an inscription with a cross motif on it is undoubtedly a skandalopetra (Fig.26)[67].

Stone anchors with three holes and one hole were identified during the underwater surveys carried out by H. Öniz between 2009 and 2010 on the Antalya coast. In the Alanya part of the study, a very small stone anchor was found in Okurcalar Locality (Fig.29)[68]. In particular, the width of the rope hole and the smallness of the other two holes resemble the holes of the skandalopetras used to give direction. Another three-hole stone anchor, which Öniz has found between the Fenike and Demre districts of Antalya province, where he continues his research, draws attention to its small size (Fig.30)[69]. When the bottom structure is examined, its rocky structure is suitable for sponge diving and fishing reinforces the suspicion that this stone may be a skandalopetra rather than a stone anchor dropped by a ship.

[60] Frost 1963, 46; Davaras 1980, 61-66.
[61] Pronzato and Manconi 2008, 146.
[62] Kalafatas 2008, 9.
[63] Noureddine 2016, 299-303.
[64] Schloen 1995, 1.
[65] Kinczyk 2015, 1.
[66] Galili et. al. 2012, 115.
[67] Galili et. al. 2012, 116.
[68] Öniz 2014, 64.
[69] Öniz 2014, 66.

Explorations were carried out on a group of stone anchors in Bodrum Underwater Archeology Museum by METU-SAT. When the measurement chart is examined, it is noteworthy that the weights of the anchors are between 7.5 and 18 kilograms are quite light and they are similar in type to the skandalopetras (Fig.31)[70]. In addition, a stone with a cross depiction dated to the Byzantine Period was found off the coast of Bodrum (Fig.27-28)[71]. Significantly, the stone has a great similarity with a skandalopetra. This situation suggests that these stones, which are quite light and found around Bodrum, where sponge diving is common, maybe skandalopetras.

Conclusion

Skandalopetras are generally mistaken for stone anchors because of their types, but they are lighter and smaller worked stones[72]. Stone anchors are 40 kg and over[73], while skandalopetras weigh 40 kg and less[74]. The task of the stone anchors is to protect the watercraft from being dragged by being thrown into the water with the ropes attached to the ship and clinging to the bottom[75]. Single-hole stone anchors hold on to the bottom with their weights reaching up to half a ton [76]. Composite stone anchors, on the other hand, are lighter than single-hole anchors and hold onto the seafloor with their weight and wooden nails that go into the holes at their bottom[77]. Anchors under 40 kg would only be able to hold small fishing and sponge boats without drifting. This is how skandalopetras must have emerged. The small anchors on the small fishing boats must have been used as diving weights and evolved into skandalopetras over time.

Stone anchors are commonly discovered in underwater archaeological research and underwater excavations in shipwrecks. In underwater surveys, anchors are commonly detected as belonging to different ships and different periods as a result of the dropping from the ships in anchoring areas[78]. In underwater excavations, on the other hand, they generally belong to the same ship and are found in bulk [79]. The processed stones found in the reef areas off Byblos, which are suitable for sponge fishing, should be skandalopetras due to their lightness and dimensions (Fig.21-22)[80]. Light stones weighing 15,5 kg and 18 kg found in Ochamandal, India, should also be skandalopetras [81].

[70] Evrin et. al. 2002, 260.
[71] Frost 1963, 50.
[72] Bernard 1967, 113; Kalafatas 2008, 9; Kabasakal 2022: 6.
[73] Noureddine 2016, 297.
[74] Votruba 2016, 227.
[75] Frost 1996, 874; Votruba 2019, 213; Waschsmann 1998, 262.
[76] Toth 2002, 85.
[77] Waschsmann 1998, 255; Toth 2002, 85.
[78] Özdaş 2009, 264-265.
[79] Galili 1985, 143; Pulak 2006, 93.
[80] Noureddine 2016, 299-303.
[81] Sundaresh et. al. 1999, 232.

Western Anatolian coasts, especially Bodrum, Marmaris, and Bozburun, became important sponge fishing centers in the 19th and 20th centuries [82]. A group of stone anchors measured by METU-SAT at the Bodrum Museum of Underwater Archeology are likely to be skandalopetras due to their lightweight of 7.5 – 18 kg (Fig.32) [83]. The one-to-one similarity between the small-sized worked stone in the form of a stone anchor found during the surveys carried out by METU-SAT in Cilicia (Fig.19)[84] the worked stone in the same form from Cyprus (Fig.18)[85] and the description on the oinochoe on which a fishing scene is staged also found in Cyprus is remarkable (Fig.17)[86]. Another depiction of skandalopetra on deck is found in the relief of King Sahru-Re's tomb in Egypt (Fig.20) This must be a hunting scene similar to the Cyprus depiction that mentioned above[87].

The 15 kg inscribed stone (Fig.26) published by Galili and found in the north of Ashkelon and the stone with similar motifs found in Bodrum, which has great importance in sponge diving (Fig.27), have one-to-one similarities with modern skandalopetras (Fig.28). Although the above-mentioned stones are found in the sea, they are quite light and decorated, and this reinforces the view that these stones must be skandalopetras [88].

Stone anchors have also been found during excavations on land. Anchors dedicated to the Temple of Baal and left in the tombs are found in the Eastern Mediterranean (Fig.3-4)[89]. The reason is that they are sacred because they protect the ship from drifting, and sailors dedicate stone anchors to temples before they set sail [90]. While large and heavy stone anchors were dedicated to the temples, it was determined that small and light anchors were also offered [91]. Although H. Frost said that small-sized stone anchors were symbolic anchors made to be dedicated to the temple[92], the fact that sponge diving is also a dangerous source of livelihood[93], and spiritual values inherited from father to son suggest that divers may have also left skandalopetras before the expedition for sponge diving[94]. Especially the Bronze Age stone found in Knossos, Crete, weighing 29 kg, but resembling an anchor in type, has the depiction of an octopus which is an animal hunted by diving and identified with it, suggesting that the piece is a skandalopetra and reinforcing the sacred quality of skandalopetras (Fig.25)[95].

[82] Erdan 2018, 10.
[83] Evrin et. al. 2002, 260.
[84] Evrin et. al. 2002, 258
[85] Frost 1963, 47.
[86] Frost 1982, 161-166.
[87] Galili 1985, 149.
[88] Frost 1963, 50; Galili et. al. 2012, 115.
[89] Votruba 2016, 227; Pinnoch 2007, 124.
[90] Noureddine 2016, 295.
[91] Noureddine 2016, 295-296.
[92] Frost 1996: 875.
[93] Erdan 2018, 38.
[94] Kalafatas 2008, 9.
[95] Frost 1963, 46; Davaras 1980, 61-66.

It is known that man has been swimming since the Paleolithic Period and has been professionally interested in diving since the Bronze Age [96]. For the reasons I have mentioned above, I think that some of the processed stones, which have been used since the Bronze Age and found in underwater and surface excavations and researches, and which are mentioned as stone anchors in the literature, might be skandalopetras.

[96] Erdan 2018, 13-20.

Bibliography

Aristotle 1936. *Problems*. Cambridge.

Artin 2010 Artin, G., "The Necropolis and Dwellings of Byblos During the Chalcolithic Period: New Interpretations", *Near Eastern Archaeology*, 73, 2-12.

Aström 1990 Aström, P., "An Inscribed Stone Anchor from Hala Sultan Tekke", *Archaeologia Cypria,* 2, 81-83.

Bernard 1967 Bernard, H. R., "Kalymnian Sponge Diving", Human *Biology*, 39(2), 103-130.

Bernard 1976 Bernard, H. R., "Kalymnos: The Island of the Sponge Fishermen", *Annals of the New York Academy of Sciences*, 268, 289-307.

Broodbank 2006 Broodbank, C., "The Origins and Early Development of Mediterranean Maritime Activity", *Journal of Mediterranean Archaeology* 19(2), 199-230.

Broodbank 2013 Broodbank, C., *The Making of the Middle Sea, A History of the Mediterranean From the Begining to the Emergence of the Classical World*. London.

Erdan 2018, Erdan, E., *Ege-Akdeniz'de Sünger ve Süngerciliğin Dip Tarihi*, Ankara.

Evrin et. al. 2002 Evrin, V., Öke, G., Türkmenoğlu, A. G. and Demirci, Ş., "Stone Anchors from the Mediterranean Coasts of Anatolia, Turkey: Underwater Surveys and Archaeometrical Investigations", *The International Journal of Nautical Archaeology* 31, 254-267.

Davaras 1980 Davaras, C., "Une Ancre Minoenne Sacrée?", *Bulletin de Correspondance Hellénique* 104(1), 47-71.

Francis-Allouche and Grimal 2016 Francis-Allouche, M. and Grimal, N., "The Maritime Approaches to Ancient Byblos (Lebanon)", *Journal of Eastern Mediterranean Archaeology and Heritage Studies*, 4, 2-3, 242-276.

Frost 1963 Frost, H., *Under The Mediterranean: Marine Antiquities*. Englewood Cliffs.

Frost 1979 Frost, H., "Egypt and Stone Anchors", *The Mariner's Mirror* 65, 37-61.

Frost 1982 Frost, H., "On a Sacred Cypriot Anchor" In *Archéologie au Levant. Recueil à la Mémoire de R. Saidah*, (ed. J. Pouilloux), 161-166. Lyon.

Frost 1996 Frost, H., “Ports, Cairns and Anchors. A Pharaonic Outlet on the Red Sea”. *Topoi* 6(2), 869-902.

Galili 1985 Galili, E., “A Group of Stone Anchors From Newe-Yam”, *Nautical Archaeology* 14(2), 143-153.

Galili 1987 Galili, E., “Corrections and Additions to ‘A Group of Stone Anchors from Newe-Yam”, *The International Journal of Nautical Archaeology and Underwater Exploration*, 16(2), 167-114.

Galili et. al. 1996 Galili, E., Artzy, M. and Sharvit, J., “Reconsidering Byblian and Egyption Stone Anchors: New Finds From the Israeli Coast” In *Tropis 4* (ed. H. Tzalas) 199-211. Atina.

Galili et. al 2012 Galili, E., Finkielsztejn, G., Ayalon, J. and Rosen, B., “Inscribed Stone Anchors From Ashqelon: Finds From Underwater Surveys (Hebrew)”, *Atiqot* 70, 113-127.

Gibert et. al. 2003 Gibert, J., Gibert, L. and Iglesias, A, “The Gibraltar Strait: A Pleistocene Door of Europe?” *Human Evolution* 18, 147-160.

Hoffecker 2015 Hoffecker, J., “Migration and innovation in Palaeolithic Europe”, *The Cambridge World History* 16, 394 – 413.

Kalafatas 2008 Kalafatas, M. N., *The Bellstone: The Greek Sponge Divers of the Aegean*. London.

Kabasakal 2022 Kabasakal, H., *Artizan Dalgıç*, İstanbul.

Leshink 1968 Leshink, L. S., The Harappan "Port" at Lothal: Another View, *American Anthropologist*, 70, 5, 911-922.

Noureddine 2016 Noureddine, I., “Stone Anchors off The Shore at Byblos”, *BAAL* 16, 293-308.

Öniz 2014 Öniz, H., “Multi-Holed Stone Anchors of Antalya/Turkey-2011”, *Archaeologia Maritima Mediterranea* 11, 63-74.

Öniz and Danker 2022 Öniz, H. and Danker, A. A. “Four Rare Ring-Shaped Artifacts from Antalya and Mediterranean Diver Weights of Antiquity”, *Journal of Maritime Archaeology*.

Özdaş 2009 Özdaş, H., “Akdeniz Bölgesi Sualtı Araştırması 2007 Yılı Çalışmaları”, 27 *AST*, 2, Ankara, 259-272.

Kealy et. al. 2018. Kealy, S., Louys, J., and O'Connor, S., "Least-cost Pathway Models Indicate Northern Human Dispersal from Sunda to Sahul", *Journal of Human Evolution* 125, 59-70.

Kinczyk 2015 Kinczyk, M. J., "Terrain Analysis Applied to The Siting of Ancient Seaport Ashkelon, Israel", *Geological Society of America* 7, 1-3.

Pinnoch 2007 Pinnoch, F., "Byblos and Ebla in the 3rd Millennium BC. Two Urban Patterns in Comparison", *Rosapat* 4, 109-132.

Pronzato and Manconi 2008 Pronzato, R. and Manconi, R., "Mediterranean Commercial Sponges: Over 5000 Years of Natural History and Cultural Heritage", *Marine Ecology*, 29, 146–166.

Pulak 2006 Pulak, C., "Uluburun Batığı", In *Uluburun Gemisi: 3000 Yıl Önce Dünya Ticareti* (eds. Ü. Yalçın, C. Pulak, R. Slotta), 56-104. Bochum.

Rao 1965 Rao, S. R., "Shipping and Maritime Trade of the Indus People", *Expedition* 7, 30–37.

Shaw 1995 Shaw, J. W., "Two Three-holed Stone Anchors from Kommos, Crete: Their Context, Type and Origin", *The International Journal of Nautical Archaeology* 24(4), 279-291.

Sundaresh et. al. 1999 Sundaresh, A. S., Tripati, S., Gaur, A. S. and Vora, K. H., "Stone Anchors from the Okhamandal Region, Gujarat Coast, India", *The International Journal of Nautical Archaeology* 28(3), 229-252.

Toth 2002 Toth, J. A., "Composite Stone Anchors in the Ancient Mediterranean", *Acta Archaeologica Academiae Scientiarum Hungaricae* 53, 85-116.

Votruba 2019 Votruba, G. F., "Building upon Honor Frost's Anchor-Stone Foundations", In *In the Footsteps of Honor Frost* 213-291 (ed. L. Blue). Leiden.

Waschsmann 1998 Waschsmann, S., *Seagoing Ships and Seamanship in the Bronz Age Levant*. London.

List of Figures

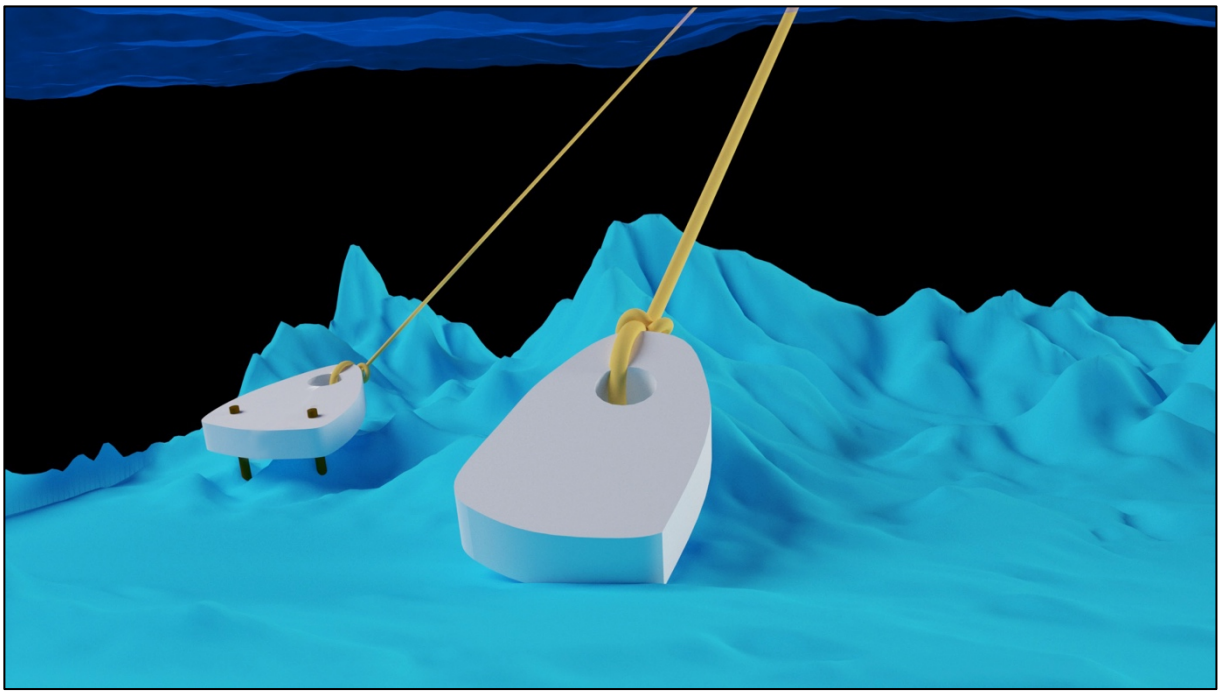

Fig.1

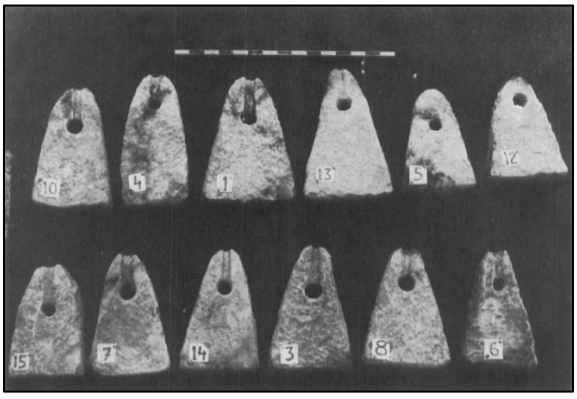

Fig.2

Fig.3

Fig.4

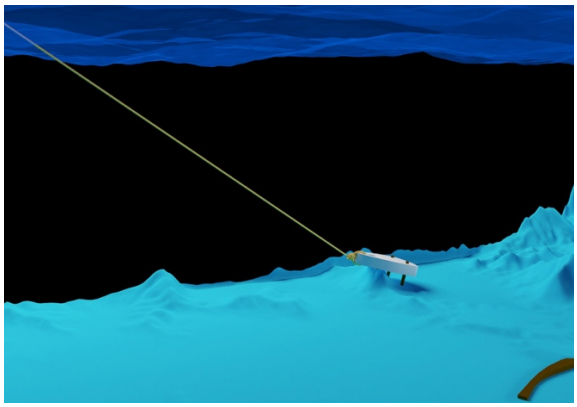

Fig.5

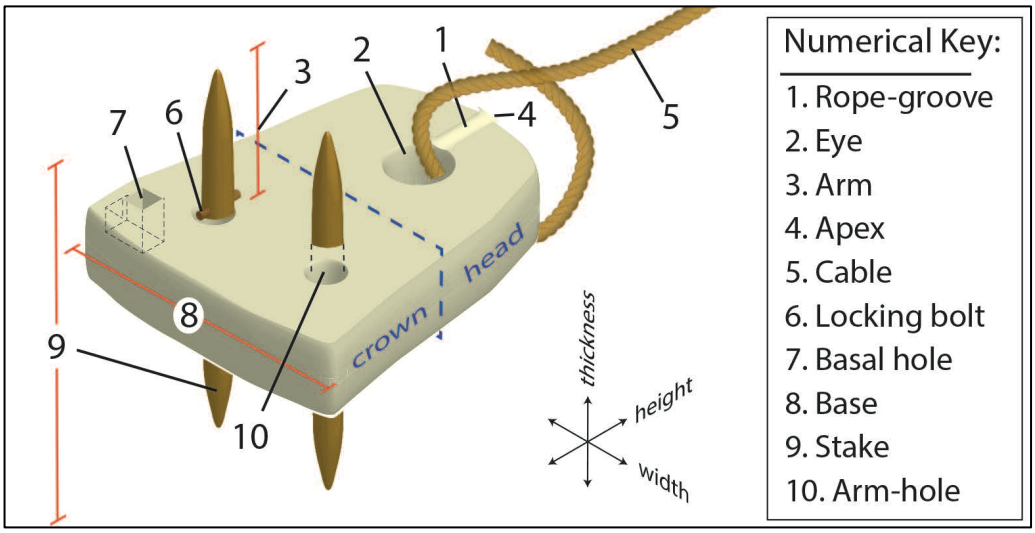

Fig.6

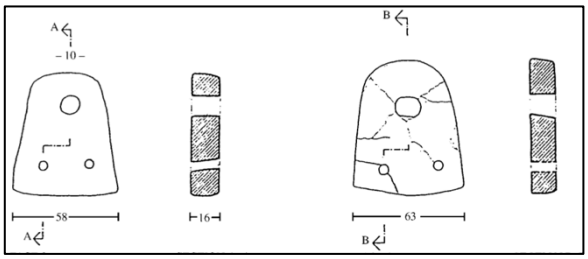

Fig.7

Fig.8

Fig.9

Fig.10

Fig.11

Fig.12

Fig.13

Fig.14


RESISTE DA QUASI 30 ANNI IL RECORD DEL

PESCATORE DI SPUGNE

Un greco col diavolo in corpo

Fig.15

Fig.16

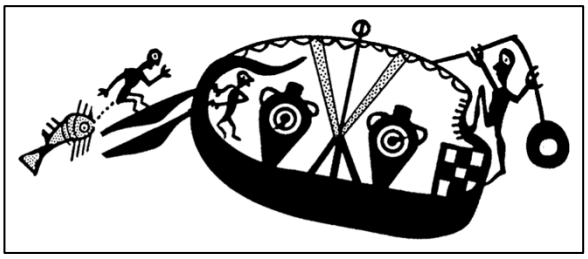

Fig.17

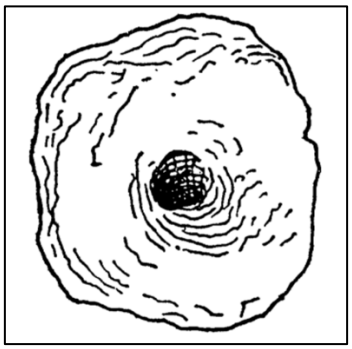

Fig.18

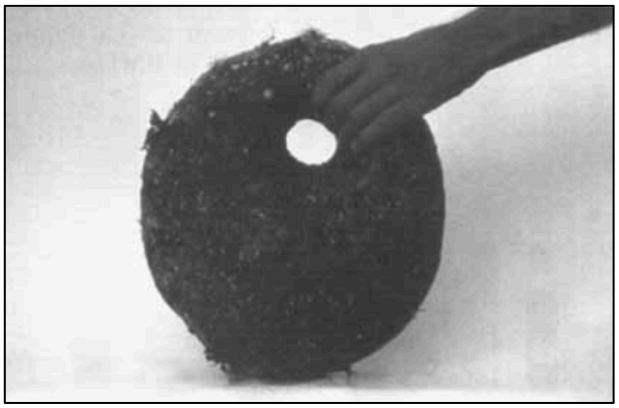

Fig.19

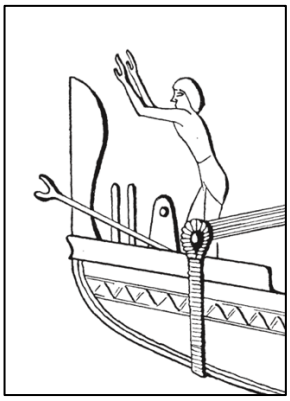

Fig.20

Fig.21

Fig.22

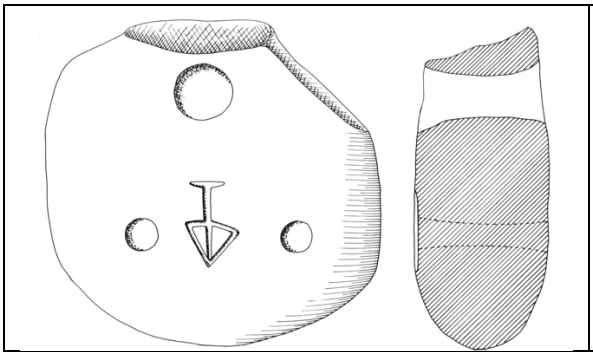

Fig.23

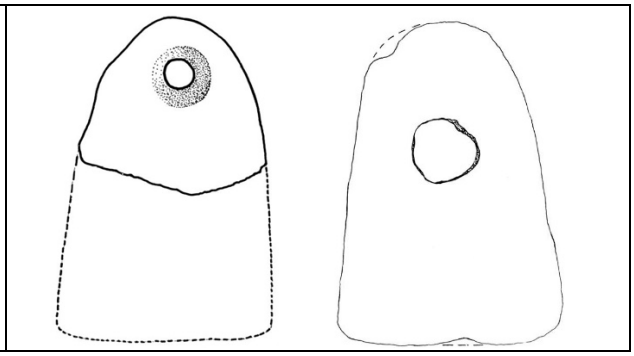

Fig.24

Fig.25

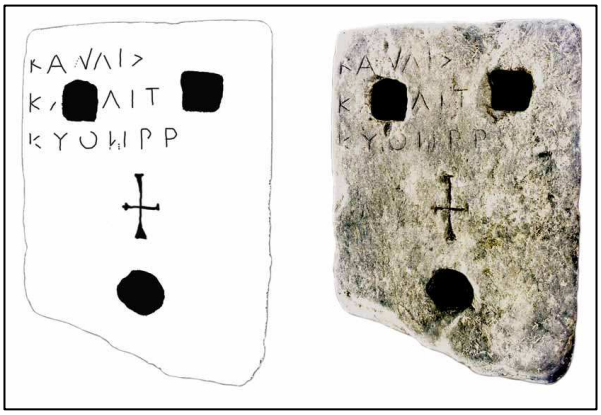

Fig.26

Fig.27

Fig.28

Fig.29

Fig.30

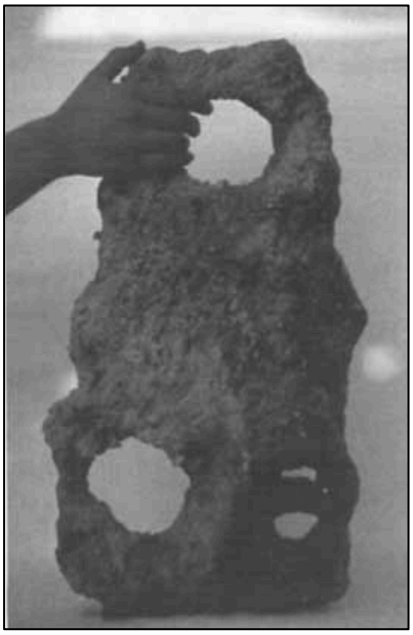

Fig.31

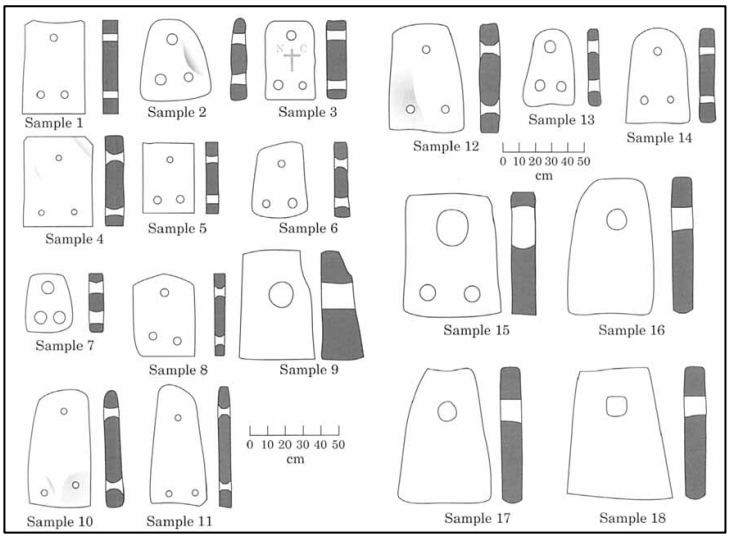

Fig.32