

REVIEW OF TURKISH SPONGE FISHERIES

Bülent Topaloglu

Faculty of Fisheries, University of Istanbul. Türkiye

Abstract

In this study, sponge fisheries in the Turkish seas were reviewed. Turkey had an important place in the world sponge market due to its high quality sponges. Its annual production of 15 tons was mostly exported to Greece. Sponge populations of the Mediterranean Sea including the ones on the Turkish coasts dramatically decreased because of epidemic sponge disease. The sponge production of Turkey decreased to 7 tons per year since 1986 because of this disease. Prior to the epidemic there were 40 boats and 120 fishermen engaged in sponge fisheries in Bodrum in central Aegean Sea. There are 47 boats with 140 fishermen engaged in sponge fisheries in the Çanakkale Strait and in the Marmara Sea which have not been affected by the disease. Sponge fisheries was performed in Anamur, Antalya, Finike, Kas, Fethiye, Marmaris, Gökova Bay, Bodrum, Güllük Bay, Çesme, Edremit Bay, Ayvalık, Gökçeada, Bozcaada, Saros Bay, Çanakkale Strait in the Aegean-Mediterranean region and Imralı Island, Marmara Island and Gelibolu in the Marmara Sea. Sponges have been harvested in a number of ways: skin diving, surface air supply system and special designed beam-trawl.

Key-words: Porifera, Fisheries, Eastern Mediterranean

Introduction:

Due to their skeletons that consist of spongin networks, their soft building and high water containing capacity, sponges have been used since antiquity. Studies of past decades have engendered their use in the fields of pharmacy, medicine and cosmetics.

Turkish sponge is highly sought in the world markets because of its high quality. Turkey possesses a number of sponge centers led by Bodrum in Central Aegean sea. Despite these, Turkey does not dominate in world markets due to its unregulated sponge fisheries and processing. The sponge disease which first appeared in 1986 caused serious damage on stocks and caused sharp reductions in production (1). Aquaculture of sponges has gained impetus following this period. The first sponge study in Turkish waters was published by Forbes in 1844 (2). Devejian (3) mentioned bathing sponge (*Euspongia equina*) and toilet sponge (*Euspongia mollissima*). Places of concentration of these species were given as well. Besides, Kalimnos, Sými and Castellorizo Islands, Bodrum and Kas, were also mentioned as main locations of sponge fisheries. He also paid attention to the fact that sponge diving methods and sponge divers changed after 1867 because of the diving suit. Four different fishing methods were mentioned. These were fishing with a diver suit, skin diving, spear sponge fishing and trawling. Teams that were equipped with diver suits were differentiated to three. The least equipped of these referred to as third class diving teams were mentioned as fishing sponges on the Anatolian coast.

Sponge studies in Turkish seas were mostly focused on possibilities of aquaculture (4-6). Canyigit (7a) gave statistical information on Turkey's sponge production and exports for 1961. The article mentioned that sponge production had continued for a long time due to favorable weather conditions. Bodrum led the production with 15 tons followed by Marmaris 7-7.5 tons and Gökçeada and Bozcaada with 5 tons each. Canyigit (7b) also pointed out four different ways for sponge fisheries: spear fishing, beam-trawl, skin diving and diving suit with surface air supply system.

Arysoy (8) examined Turkish sponge industry based on the conditions of the day, distribution according to different locations and the sponge export of the country between 1951-1962. Attention was drawn to the correlation between sponge and sponge fishing boats registered in Bodrum port and sponge production and sponge export. The author concluded that the most important buyer of Turkish sponges was Greece.

In the magazine of the Ministry of Aquaculture Forestry and rural affairs (9) an article repeated that even though Turkish sponges were sought in all world market Turkey's sponge export plunged from 100 tons in 1910 to 13 tons in 1980. The reasons for this were given as technical insufficiency, negative trends in ecological conditions and unhealthy and unsuitable working conditions of divers. The article pointed out decrease in the number of divers has been observed due to the insufficiency of the diving infrastructure and due to decompression disease.

Atahan *et al.* (10) discussed Turkish sponge fishing, its place in the world market and variations in annual production and related the decrease in sponge production to overfishing. Besides, the author put the sponge disease forward as an important reason, too. He concluded that sponge disease that appeared in Turkish waters in 1986 had effected the economically important species negatively, and added that the

Çanakkale (Dardanelles) Strait and the Marmara Sea were not hit by the same disease. With respect to sponge fishing methods he wrote that surface air supply method was getting prevalent displacing trawl which had caused overfishing and the depletion of sponge stocks. Same author also reported that Bodrum was the center of sponge fisheries until 1986 when the sponge disease was first seen. There were 40 sponge fishing boats with 120 personnel in Bodrum. There were 7 sponge fishing boats and 21 personnel in the Çanakkale Strait and Marmara Sea in the same period. It can be concluded from these data Bodrum was hit worst by the disease. Sponge fishing boats increased to 43 with 144 personnel in the Çanakkale Strait and the Marmara Sea following the appearance of the disease. Other factors that have led to this increase can be started as the prevalence of sponges between depths of 2-15 meters and fisherman substituting sponge fishing instead of fishing in summer. Sponge fishing boats decreased to 8 with 21 personnel in the Aegean and the Mediterranean. Number of sponge fishing boats shown in Table 1. The disease was more destructive where salinity and water temperature were higher according to the author.

Table 1 : Sponge fishing boat registered in Bodrum (Aegean Sea) after Arysoy, (8).

Boat type	number
Trawl boat for sponge fishing	26
Diving equipment sponge boat	12
Surface air supply sponge boat	5
Total	43

Katagan *et al.* (1) evaluated by comparing with the world sponge production accompanied by same figures. It's concluded that even though Turkish sponges were highly sought due to its qualities in the world market, insufficiencies in processing caused Turkey not to exert any influence on the same market. Great losses in sponge stocks engendered by the sponge disease which has led to overstrain on non-diseased stocks and poor working and living conditions of sponge divers which have caused sponge fishing boats to be used in tourism have been pointed out as factors for the decrease of sponge production.

Results and Discussion

Sponge fisheries is prevalent mainly in Bodrum, Anamur, Antalya, Finike, Kas, Fethiye, Marmaris, Gökova Bay, Güllük Bay, Çesme, Edremit Bay, Ayvalık Bay, Gökçeada, Bozcaada, Saros Bay in Aegean Sea and Çanakkale Strait; also in Imralı Island and Marmara Island in the Marmara Sea which was not affected by the disease (Fig 1).

A significant decrease in sponge export is detected from 1960's to present. Between 1960-1993 the highest amount of export was recorded in 1965 (40.3 tons), followed by 1972 (24.8 tons), 1978 (18.9 tons), 1986 (15 tons), 1988-1989 (13.5-13.6 tons). Amount of sponge export is shown in Fig. 2. The sponge disease which was first observed in 1986 effected the export in 1990. The reason for this is the fact that sponge can be stored raw or semi processed products for 3-4 years until good buyer comes. After finishing such stored sponges, in 1990 the annual sponge export of Turkey decreased to 1-5 tons a year.

Heavy working conditions of sponge divers are other factors in the decrease in sponge production. The decompression disease which effects to sponge divers has claimed many lives and injured many