

# SPONGE FAUNA IN THE LITTORAL ZONE OF THE MARMARA SEA

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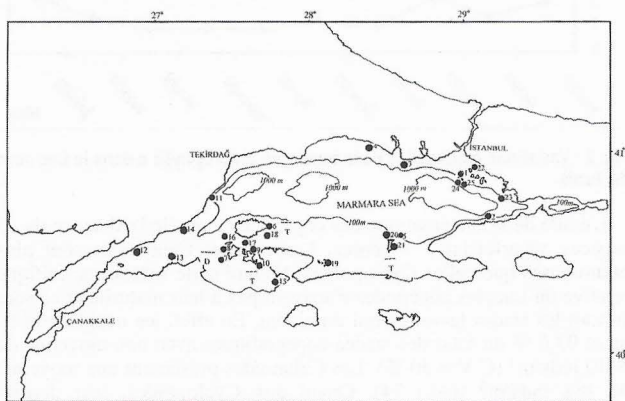
## Abstract

In this study, the samples were collected from 28 stations at depth of 0-65 meters both SCUBA diving and using dredge, grap, and beam trawl. This is first systematical study on sponge fauna in the Marmara Sea. As a result 19 species were found from the Marmara Sea littoral zone. Four of these taxons are new records for the Turkish sponge fauna (*C. penicillus*, *D. plicata*, *M. strepsitoxa* and *P. pulitzeri*).  
**Key Words** : *Porifera*, *Sea of Marmara*.

Although, there are many studies on marine sponges of the Mediterranean Sea, there is little studies in the Marmara Sea. This paper presents results from the research on the sponge fauna of the Marmara Sea.

### Material and method

The samples were collected by SCUBA diving, trawling, beam-trawling, dredging and by using grab by research cruise R/V *Yunus* from 25 sampling stations. Maximum depth was 52 m. for diving and 65 m for trawling (Map 1.). All sampling stations were situated in the upper infralittoral zone. All samples were fixed by formaldehyde solution (4%). Following fixation spicules were isolated by Rützler's standart method and observed by using a binocular microscope. The identification of species was determinate at The Station Marine d'Endoume-Marseille.



Map 1. Sampling stations in the Marmara Sea (T : trawl; D : dredge; o : Scuba diving)

Table 1. Sponge species in the sampling stations

Station Number	1	2	3	4	5 Erdek	6	7	8	9	10	11	12 K.Köy	13
<i>Geodia cydonium</i>							+						
<i>Tethya aurantium</i>	+		+	+		+			+	+	+	+	+
<i>Cliona celata</i>				+									
<i>Suberites carnosus</i>						+							
<i>Ficulina ficus</i>					+	+		+					
<i>Aaptos aaptos</i>						+	+						
<i>Acanthella acuta</i>						+	+						
<i>Axinella cannabina</i>						+	+						
<i>Axinella damicornis</i>							+						
<i>Axinella polypoides</i>							+						
<i>Agelas oroides</i>							+						
<i>Ciocalypa penicillus</i>							+						
<i>Dictyonella plicata</i>							+						
<i>Microciona strepsitoxa</i>		+	+		+							+	
<i>Haliclona mediterranea</i>						+			+	+	+		+
<i>Petrosia pulitzeri</i>							+						
<i>Spongia officinalis</i>											+	+	(S.sp.)

Station Number	14	15	16	17	18 Mar. Isl	19	20	21 Imr. Isl.	22	23	24	25
<i>Tethya aurantium</i>		+	+	+	+	+						+
<i>Cliona celata</i>		+								+	+	+
<i>Suberites domuncula</i>						+					+	+
<i>Ficulina ficus</i>	+		+	+	+	+		+	+			
<i>Aaptos aaptos</i>					+							
<i>Axinella cannabina</i>					+							
<i>Axinella damicornis</i>					+							
<i>Axinella polypoides</i>					+							
<i>Ciocalypa penicillus</i>												+
<i>Haliclona mediterranea</i>							+	+	+	+	+	+
<i>Petrosia ficiformis</i>					+							
<i>Petrosia pulitzeri</i>					+							
<i>Spongia officinalis</i>					+							

## Results and discussion

19 taxons were reported from the Marmara Sea littoral zone in this study. - see Table.1. Four of these taxons are new records for the Turkish sponge fauna; descriptive characters of these species is as follows.

### Halichondriidae - *Ciocalypa penicillus* Bowerbank, 1864

The samples were 8- 9 cm. length, typically palmate. The color is yellow. The spicules are, 200-400  $\mu$ m. length and, 3-13  $\mu$ m. thick fusiform oxea.

### Hymeniacidonidae - *Dictyonella plicata* (Schmidt, 1862)

The samples were an encrusting cover on a hard substratum mostly on the bivalves. The color is orange. The spicules 2000-2300  $\mu$ m. length and, 22  $\mu$ m. thick style.

### Microcionidae - *Microciona strepsitoxa* Hope, 1889

The samples are an easily removable thin cover on a hard substratum. The color is red, The spicules from 350-700  $\mu$ m. to 70-200  $\mu$ m. length and, from 5-7  $\mu$ m. to 4-6  $\mu$ m. thick acanthostyle; 15--500  $\mu$ m. length, 2-3  $\mu$ m. thick subtylostyle; 11-15  $\mu$ m. palmate isochela and 200-400  $\mu$ m., 91-140  $\mu$ m. curved toxa.

### Petrosiidae - *Petrosia pulitzeri* Pansini, 1996

The samples looks likes *P. ficiformis* morphologically. Most marked difference is that the color of the *P. pulitzeri* yellowish-white. Usually lives in the underwater caves. The spicules from 200-240 mm. to 70-90 mm. length and, 15-25 mm. thick. Strongyles; 300 mm. length and; 25 mm. thick oxeas and, 70-200 mm. length, 10 mm. thick small oxeas.

*Petrosia pulitzeri* is reported in the Marmara Sea for the Turkish sponge fauna for the first time. This taxon was mentioned as a new species by Pansini (1). Besides, *Microciona strepsitoxa* was reported as a new record from stations 2., 3., 5. and 12; *Ciocalypa penicillus* from satations 6. and 25.; and *Dictyonella plicata* from station 6.

Besides this, *Ficulina ficus* was found at stations 6., 8., 14., 16., 17., 21. and, Imralı Island. This species was reported by Topaloglu (2) as a new record for the Turkish sponge fauna. 12 sponge species were reported from the north of the Marmara Sea by Demir (3). The results of this study confirm 19 species from the whole Marmara Sea.

Most of the taxon were collected from stations 6 and 18 which were a natural reef with depths of 2 to 60 meters. This sampling point was relatively protected from negative antropogenic effect. On the other hand, species of Mediterranean origin were found deeper than 20 meters of the reef. This situation can explained by oceanographic conditions of the Marmara Sea. The lower layer of the Marmara Sea is consisted of Mediterranean Sea originated waters (4).

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