Introduction

Blue-green algae, called Cyanobacteria, which are included in Monera, are widely distributed in fresh water, wet soil, hot water springs and seas. It was reported by Hoek et al. (1997) that there were approximately 150 genera and 2000 species belonging to the class Cyanophyceae. Recent studies in Turkey showed that there are approximately 93 species of this class in the marine environment. These specimens have been determined by researchers studying İzmir and environs and they especially exist in the bay of İzmir (Dural, 1995).

Aysel et al. (1991) reported 11 taxa, 5 of which were new records for Turkey, in a study on the flora of the Sea of Marmara. Zeybek et al. (1993), in the check-list of Turkish marine algae, reported a total of 26 taxa, of which 8 were in the Sea of Marmara, 10 with specimens in the Aegean Sea and 17 specimens in the Mediterranean Sea. However, in the studies done at the Black Sea shores, Öztürk and Öztürk (1988) reported 1 species in Sinop and Aysel et al. (1996) reported 12 specimens in Bartın. In addition, in the list which was given by Aysel and Erduğan (1995) for the Black Sea, 13 blue-green algae specimens were reported. In the study performed by Dural (1995) for the Aegean Sea, 67 taxa were reported, 9 of which were new records for Turkey. Moreover, Aysel and Gezerler (1996) reported 50 taxa in the check-list of Mediterranean Sea flora of Turkey.

Results and Discussion

Materials were collected from the bay of Iskenderun, at the East Mediterranean shores of Turkey (Figure 1). Specimens were fixed with 4% formaldehyde-water solution. For identification of Oscillatoria bonnemaisonii,
Cl-Zn-I solution was used. For identification of specimens we utilized studies of Pankow (1971), Geitler (1925), Frýmy (1934), Fischer et al. (1987), Silva et al. (1996) and Desikachary (1959).

CYANOPHYTA Smith 1930
Cyanophyceae Sachs 1874
Oscillatoriales Anagnostidis & Komárk 1988
Oscillatoriaceae Engler 1898
Oscillatoria bonnemaisonii (P.Crouan & H.Crouan) P.Crouan & H.Crouan 1860
Bas.: Oscillaria bonnemaisonii P.Crouan & H.Crouan in Desmazieres 1858

Trichome varies from dark blue-green to dark violet and they are loose. Trichomes are constricted and do not have a calyptra. The trichomes are 18-30 µm in width, and cells are on average 3 (4-6) µm in height. Height is 1/3-1/6 times the width. Filaments are 1.3-1.5 mm long.

It was sampled on Ceramium flaccidum (Kütz.) Ardissone (Ceramiaceae, Rhodophyta) and determined to be epiphytic (Figure 4).

Phormidiaceae Anagnostidis & Komárk 1988
Microcoleus chthonoplastes (Mertens) Zanardini 1840
Bas.: Conferva chthonoplastes Mertens in Hornemann 1813
Syn.: Chthonoblastus salinus Kützing 1843
Chthonoblastus lyngbyei Kützing 1843
Microcoleus anguiformis Harvey 1846-51
Microcoleus salinus (Kützing) Montagne in Castagne 1851
Microcoleus lyngbyei (Kützing) P.Crouan & H.Crouan 1867

Blue-green or olive green filaments are 8-10 in number, in a mucilage. Cells are 5-6 µm wide and 3.6-10 µm high, so height is one or two times the width. Apex cell is conic, not capitate. When it is dyed with Cl-Zn-I, it does not turn violet. In our investigation region, it was determined to be epiphytic on Codium vermilara (Olivi) Delle Chiaje (Codiaceae, Chlorophyta) (Figure 3).

Nostocales Anagnostidis & Komárk 1989
Rivulariaceae Rabenhorst 1865
Dichothrix spiralis Fritsch 1918
Filaments are irregular, 400-500 (-1500) µm long, fassiculate, widths and lengths of cells are 12 µm. Height is either equal to or shorter than width and filaments are twisted. A heterocyst which has conic or hemispherical shape, is at the base and is 6-7 µm wide. It develops epiphytically on the other algae. In our study it was sampled on Sargassum spp. (Figure 2).

Systematic categorization of blue-green algae has varied among researchers. For example, N’Yeurt et al. (1996) categorized the family Oscillatoriaceae under the order Nostocales but Silva et al. (1996) categorized this family as the order Oscillatoriales. The genus Microcoleus was included in the family Oscillatoriaceae by N’Yeurt et al. (1996) but Silva et al. (1996) put it into the family Phormidiaceae.

Despite differences and difficulties in the classification of blue-green algae, 54 Cyanophyceae specimens for the Mediterranean Sea shores of Turkey and 99
Cyanophyceae specimens for the seas of Turkey have been reported by investigators to date. Also marine algae flora of Turkey have been represented by 779 species. By this investigation on the bay of Iskenderun, specimen numbers have reached 57 for the Mediterranean Sea, 102 for Turkish shores and 782 for the total marine flora of Turkey.

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Figure 4. Photograph of O. bonnemaisonii.

References


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