

The Amphipod (Crustacea) Species at the Coasts of Bozcaada Island (NE Aegean Sea)

Bozcaada (KD Ege Denizi) Kıyıları Amphipod (Crustacea) Türleri

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Abstract

This study was carried out to determine amphipod species of Bozcaada Island (NE Aegean Sea) and some ecological features within their habitat. Samples were collected from 32 stations, situated at the depth of 0.5-35 m by dredge, drift net, bottom trawl and scoop net during 2000- 2001 years. In the investigation 46 amphipod species belonging to 16 families were determined. *Microdeutopus similis* Myers, 1977 was reported for the first time from the entire Turkish Seas. Moreover, *Apherusa mediterranea* Chevreux, 1911 was a new record for the Aegean Sea coasts of Turkey.

Key Words: Amphipod, Bozcaada Island, Aegean Sea

Introduction

Bozcaada Island (lat 39° 47' 30"-39° 50' 90" N and long 25° 57' 80"- 26° 05' 00" E), which has an area of 42 km² and is nearly 5 km away from the Turkish mainland, is located in the lower northern part of the Aegean Sea and is between the Dardanelles Straits and Bababurnu.

In the Aegean Sea, there are three different water masses, namely surface water, an intermediate layer and deep water. The surface water is influenced by the Black Sea brackish water in the north and in the west along the coast of Greece. The salinity of this water is 26-35 psu. Intermediate water, characterised by a salinity maximum, is not distinguished on the shelf areas of the central and northern Aegean Sea, as a result of a vertical mixing process. The deep water mass of the Aegean Sea extends from a depth of approximately 300 m down to the bottom with a salinity of 38.8 psu (Yüce, 1995).

Amphipod crustaceans are peracarid crustaceans, typically ranging in size from 2 to 50 mm, although a few may be larger. Amphipods are common in aquatic ecosystems throughout many parts of the world, inhabiting marine, brackish, and freshwater environments. A few species also live in terrestrial ecosystems. In the sea amphipods can be found burrowing in sandy and muddy sediments, living in tubes on hard surfaces, dwelling among macroalgae and sessile invertebrates, and as part of the plankton. The order Amphipoda, which contains nearly 7,000 described species. The fauna of Mediterranean benthic amphipods consist of 451 species (Bellan-Santini *et al.*, 1998).

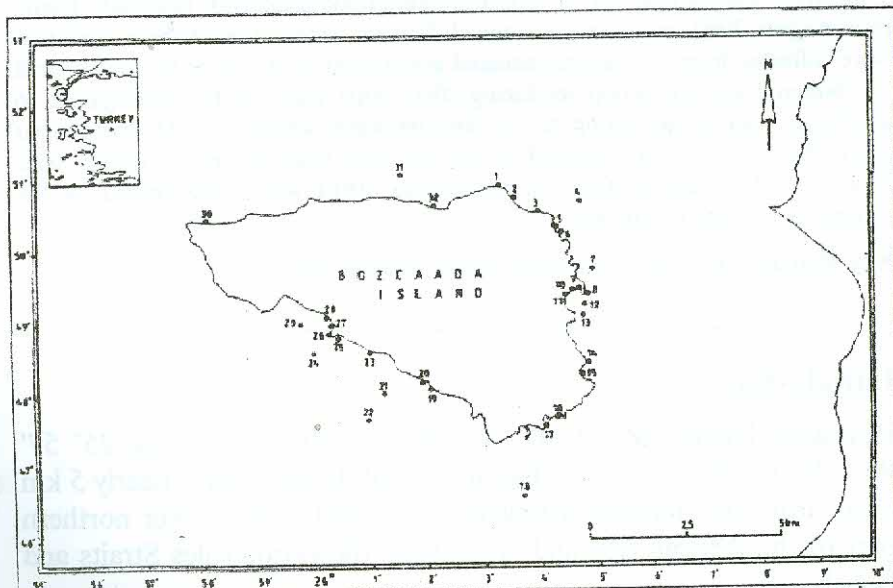


Figure 1- Map of the investigated area

Before this investigation, Geldiay *et al.*, (1970), Kocataş (1976), Kocataş *et al.*, (2001, 2001), Katağan *et al.*, (2001), had studied the Aegean Sea coast of Turkey for amphipod species. Kocataş and Katağan (1978) reported 181 amphipod species in the Aegean Sea of Turkish coast.

The purpose of this study was to determine the amphipod species living at the coasts of Bozcaada Island and to investigate some of their ecological properties.

Materials and Methods

The samples were collected from 32 different stations during 2000 and 2001 (Figure 1). These samples were collected at depths of 0.5-35 m using a dredge, drift net, bottom trawl and scoop net. The material was rinsed in wine sieves. The amphipod species were separated and then fixed and preserved in 5% formaldehyde prepared in seawater. These species have been conserved in the Hydrobiological Museum of the İstanbul University, Faculty of Science, Department of Biology.

The temperature was measured with the reversing thermometer of the Nansen bottle, the salinity by the Mohr-Knudsen method (Ivanoff, 1972); and the dissolved oxygen (DO) by the Winkler method (Winkler, 1888), (Table 1).

The identification of the specimens was carried out with the help of Bellan-Santini *et al.*, (1982, 1989, 1993).

Result

As a result of this study, totally 46 amphipod species belonging to 16 families were determined. Of these, *Apherusa mediterranea* Chevreux, 1911 is reported from the Aegean Sea coasts of Turkey for the first time, and *Microdeutopus similis* Myers, 1977 is a new record for Turkish waters. In addition, 21 species are also a new record for Bozcaada Island. These 46 species have been given below in a table (Table 2).

Table 1- Some information on the sampled stations.

Station number	Date	Depth (m)	Tool	Temp. (°C)	Salinity (psu)	Dissolved oxygen (mg ⁻¹)
1	27.08.2000	0.5	SN	24.0	33.2	6.9
2	25.11.2000	0.5	SN	17.3	36.6	10.3
3	17.02.2001	0.5	SN	13.9	36.9	7.8
4	24.05.2000	20	DR	14.7	37.4	11.9
5	19.02.2001	0.5	SN	13.9	37.5	7.5
6	18.02.2001	5	DN	13.7	37.7	7.2
7	26.05.2000	9	DR	16.3	35.3	9.4
8	27.05.2000	0.5	SN	19.5	32.0	5.4
9	30.08.2000	0.5	SN	25.1	33.7	7.9
10	19.02.2001	0.5	SN	13.8	37.4	7.5
11	22.11.2000	0.5	SN	16.7	30.4	10.6
12	18.02.2001	5	DR	12.8	37.7	7.4
13	18.02.2001	8	DR	13.4	37.3	7.8
14	22.11.2000	0.5	SN	17.8	32.5	11.4
15	27.05.2000	0.5	SN	20.2	33.8	5.9
16	30.08.2000	0.5	SN	23.0	33.7	5.4
17	27.05.2000	0.5	SN	20.0	33.5	6.0
18	23.05.2000	35	DN	14.7	38.2	7.7
19	27.05.2000	0.5	SN	18.0	34.0	8.6
20	30.08.2000	0.5	SN	22.5	34.0	7.6
21	24.11.2000	25	DN	16.8	37.5	8.2
22	18.02.2001	30	BTR	14.1	38.4	7.4
23	19.02.2001	0.5	SN	13.7	37.6	7.8
24	18.02.2001	5	DR	13.6	37.6	7.3
25	22.11.2000	0.5	SN	18.7	34.9	11.2
26	18.02.2001	0.5	SN	13.7	37.6	7.8
27	25.05.2000	0.5	SN	20.0	33.5	8.8
28	19.02.2001	0.5	SN	13.7	37.5	7.7
29	24.11.2000	8	DR	16.8	36.7	8.8
30	31.08.2000	0.5	SN	22.4	32.1	7.5
31	24.11.2000	5	DR	17.1	36.9	8.7
32	25.05.2000	0.5	SN	21.0	32.2	11.0

DN: drift net; DR: dredge; BTR: bottom trawl; SN: scoop net.

Table 2- List of each identified Amphipod species from Bozcaada Island

* The new records for Bozcaada Island

◆ The new record for Turkish coast of the Aegean Sea

The new record for Turkish coast

Species	Depth (m)	Habitat	Station n°
CAPRELLIDAE			
<i>Caprella acanthifera</i> Leach, 1814	0.5	Photophilic algae	3, 15, 16, 17
* <i>Caprella grandimana</i> Mayer, 1882	0.5	Photophilic algae	1, 19, 26
* <i>Caprella hirsuta</i> Mayer, 1890	0.5	Photophilic algae	2
* <i>Caprella rapax</i> Mayer, 1890	0.5	sand	1, 2, 9, 11, 19, 20, 26
<i>Phthisica marina</i> Slabber, 1749	20	<i>Posidonia</i> meadow	4
AMPHILOCHIDAE			
<i>Amphilocheus neapolitanus</i> Della Valle, 1893	0.5	Photophilic algae	26
AMPITHOIDAE			
* <i>Ampithoe ferox</i> (Chevreux, 1902)	0.5	Photophilic algae	19
<i>Ampithoe ramondi</i> Audouin, 1826	0.5-35	Photophilic algae	1, 2, 8, 9, 16, 17, 18, 19, 20, 21, 25, 26, 27, 30, 31
* <i>Ampithoe riedli</i> (Krapp-Schickel, 1968)	0.5	Photophilic algae	16, 19, 20
<i>Cymadusa crassicornis</i> (A. Costa, 1857)	0.5	Photophilic algae	1, 15, 19, 30
AORIDAE			
* <i>Autonoe spiniventris</i> (Della Valle, 1893)	0.5	sand	19
<i>Microdeutopus chelifera</i> (Bate, 1862)	0.5	Photophilic algae	8, 15
* <i>Microdeutopus gryllotalpa</i> Costa, 1853	0.5	Photophilic algae	1
<i>Microdeutopus obtusatus</i> Myers, 1973	0.5	Photophilic algae	9, 16, 19

