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The ecology of the Ostracoda (Crustacea) species obtained from the coasts of Iskenderun Bay (Eastern Mediterranean Sea)

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Abstract

The aim of this study was to understand the ecology of the ostracoda species obtained from Iskenderun Bay, the Eastern Mediterranean Sea. Ecological parameters like temperature and salinity, affecting the distribution of the live ostracoda species are considerably higher in Iskenderun Bay than the middle and western parts of the Mediterranean Sea. This study was carried out along the coasts of Iskenderun Bay between 22-26 September 2002. Total of 27 genera and 56 ostracoda species were determined from 28 stations. Abundance of the ostracoda species in each station and the relationships between ostracoda species and ecological parameters were obtained for the first time. Nine ostracoda species (*Costa edwardsii, Cytheridea neapolitana, Cyprideis torosa, Loculicytheretta pavonia, Loxoconcha agilis, Loxoconcha rubritincta, Pontocythere elongata, Pontocythere turbida, Xestoleberis communis)* were determined as dominant species. In conclusion it was observed that nine dominant species were adapted well to the coastal ecosystem of Iskenderun Bay.

Key words: Eastern Mediterranean, Iskenderun Bay, ostracoda, ecology.

Introduction

The Ostracoda are a large and important class of small bivalved crustaceans. They are indicating wide, global dispersion in the fresh waters and seas (Holmes and Chivas 2002; Cohen *et al*. 2007). Nevertheless, ostracods have some important advantages as study organisms. They are very numerous, in a wide range of aquatic and semi-aquatic habitats. They are small to determinate growth and in at least some cases, can be cultured in the laboratory (Butlin and Menozzi 2000). Industrial pollution, urban effluents or buildings can have a strong influence on the fauna with great variation in the natural assemblages. Ostracoda are bioindicators of these changes, with dissapperance, replacement, or the appearance of specific species, the presence of morphological anomalies, or the alteration of population dynamics (Zarikian *et al*. 2000; Ruiz *et al*. 2004).

Ostracod species distribution is controlled primarily by salinity, temperature, oxygen availability and substrate type (Horne and Boomer 2000). Also habitat type, water level, ionic composition, presence and types of aquatic macrophytes, competition and predation are affective (Holmes and Chivas 2002; Kiss 2007).

The Mediterranean Sea, including Iskenderun Bay, is generally characterized by oligotrophic and well-stratified water masses. Strong east-west oriented gradients in surface temperature and salinity are present. Both of these parameters decrease westwards (Ertekin and Tunoğlu 2005).

The ecological information with distribution on ostracods in the Mediterranean Sea has been presented by Masoli (1968), Breman (1975), Bonaduce *et al*. (1975), Yassini (1979), Bonaduce and Pugliese (1979), Bonaduce *et al*. (1983), Montenegro (1995), Montenegro *et al*. (1998), Mazzini *et al*. (1999), Doruk (1979), Nazik (1994), Şafak (2001), Şafak (2003), Ertekin and Tunoğlu (2005), Külköylüoğlu *et al*. (2005), Külköylüoğlu *et al*. (2007).

The list of the determined species used in this study was reported by Perçin and Kubanç (2005). This study was performed in order to examine the ecology of the ostracoda species for the first time that were determined from the Bay of Iskenderun. Changes in the structure of the ostracoda fauna and ecological factors can be monitored by future studies with this study being taken as a reference.

Materials and Methods

The materials were collected from the Bay of Iskenderun between 22 and 26 September 2002 at 28 stations (Figure 1). Coordinates of the stations were obtained with Garmin Etrex 12 channel GPS. Specimens were collected using a hand net of Muller fabric with 200µ of mesh size sweeping an area of 3 m^2 approximately between 0.5-3 m. Materials were fixed with 70% ethanol. The mud and detritus were washed away with pressurized water. Materials of 30 cm^3 per station were observed for individuals of ostracoda under a stereomicroscope. Generic and specific features of carapace and soft parts were examined for species identification. Classification of Hartmann and Puri (1974) was followed. Resulting materials were taken into micropaleontological slights. Ecological parameters (salinity, dissolved oxygen and temperature) were measured in the field using a WTW multiline P4 measurement aparatus (Table 1).

$F=px100/P$ formula was used to obtain the abundance of the ostracoda species in each station (Machado *et al*. 2005).

Bray-Curtis cluster analysis was used to obtain the species similarity in stations (log (x+1) transformation has done before the analysis) (Clarke and Warwic 2001). The ecological relationship between the species numbers and individual numbers were determined with Spearman Correlation Coefficient (Siegel 1956).

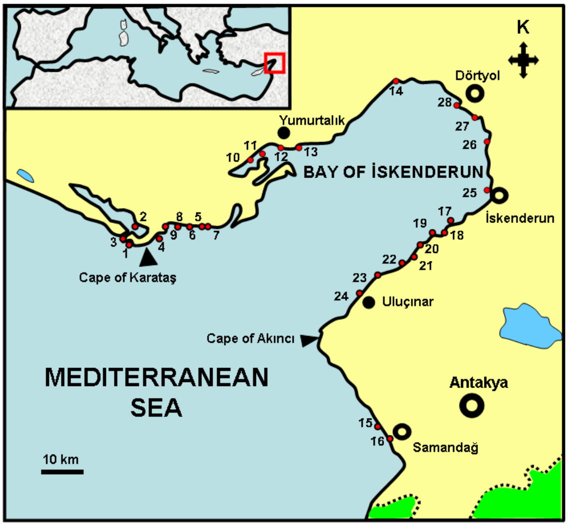

Figure 1. Map of the investigated area.

Results

In this study total of 56 species belonging to 27 genera were determined from Iskenderun Bay. Detailed information on investigated stations, total number of genera and species, as well as dominant species are shown in Table 1.

Nine ostracoda species (*Costa edwardsii*, *Cytheridea neapolitana*, *Cyprideis torosa*, *Loculicytheretta pavonia*, *Loxoconcha agilis*, *Loxoconcha rubritincta*, *Pontocythere elongata*, *Pontocythere turbida*, *Xestoleberis communis)* obtained from Iskenderun Bay were dominant species according to individual number of stations. Dominant species were not observed in 5, 9, 15, 18, 22 and 25 stations, because individual numbers of the different species were the same in this stations. Obtained ostracod species, the abundance of the ostracoda species and their ecology were shown in Table 2

Table 1. Data from sampling stations and dominant species in each station. (DO: Dissolved oxygen, SAL:Salinity)

Stations	Date	Coordinates	Sediment Type	DO (mg/l)	Temperature (°C)	SAL (‰)	Total no. genera	Total no. species	Dominant species
1	22.9.2002	36°33´646´´N- 35°19´433´´E	sand, silt	4,3	25,5	34,2	16	18	*Costa edwardsii*
2	22.9.2002	36°33´741´´N- 35°19´627´´E	sand, silt	5,41	25,7	34,4	14	15	*Cyprideis torosa*
3	22.9.2002	36°33´672´´N- 35°19´465´´E	sand, silt, moss	5,13	26,1	15,5	1	1	*Cyprideis torosa*
4	22.9.2002	36°33´629´´N- 35°22´955´´E	sand	4,23	28,1	37,3	1	1	*Pontocythere turbida*
5	22.9.2002	36°35´645´´N- 35°27´654´´E	sand	3,97	24,2	0,1	2	2	
6	22.9.2002	36°35´463´´N- 35°27´184´´E	sand	4,04	24,5	0,1	3	3	*Cyprideis torosa*
7	22.9.2002	36°35´489´´N- 35°27´540´´E	sand	4,1	29	34,7	6	6	*Loculicytheretta pavonia*
8	22.9.2002	36°35´697´´N- 35°26´098´´E	sand	5,17	28,3	36,4	9	10	*Cytheridea neapolitana*
9	23.9.2002	36°33´720´´N- 35°23´117´´E	sand	3,9	26,7	33,7	4	4	
10	23.9.2002	36°44´376´´N- 35°36´375´´E	muddy, silt				1	1	*Cyprideis torosa*
11	23.9.2002	36°44´948´´N- 35°37´786´´E	sand, cob	4,42	33	43,8	4	6	*Cyprideis torosa*
12	23.9.2002	36°46´575´´N- 35°46´096´´E	sand, gravel, moss	5,42	28,9	36,8	3	3	*Pontocythere elongata*
13	23.9.2002	36°46´832´´N- 35°48´316´´E	sand	5,3	29,8	37,2	22	37	*Pontocythere elongata*
14	23.9.2002	36°55´644´´N- 35°59´487´´E	sand	5,1	28,8	36,9	1	1	*Pontocythere elongata*
15	24.9.2002	36°05´056´´N- 35°56´887´´E	cob	50,4	26,7	31,7	2	2	
16	24.9.2002	36°04´119´´N- 35°57´467´´E	sand, cob	3,92	28,3	26,9	1	1	*Cyprideis torosa*
17	25.9.2002	36°34´683´´N- 36°07´548´´E	sand, cob	4,09	28,4	37,1	1	1	*Xestoleberis communis*
18	25.9.2002	36°33´668´´N- 36°05´345´´E	sand, cob	3,97	28,2	37,1	3	3	
19	25.9.2002	36°32´939´´N- 36°03´886´´E	sand, cob	4,14	29	37,4	6	11	*Xestoleberis communis*
20	25.9.2002	36°31´885´´N- 36°02´269´´E	gravel, big stone	5,16	33,4	34,4	10	18	*Xestoleberis communis*
21	25.9.2002	36°30´792´´N- 36°01´184´´E	sand	4,51	29,2	37,5	2	3	*Loxoconcha agilis*
22	25.9.2002	36°28´984´´N- 35°59´162´´E	sand, cob	4,27	31	36,3	2	2	
23	25.9.2002	36°27´670´´N- 35°56´039´´E	sand	3,97	29,3	37,5	1	1	*Loxoconcha rubritincta*
24	25.9.2002	36°25´067´´N- 35°53´516´´E	sand, cob	3,38	30,1	37,4	6	8	*Xestoleberis communis*
25	25.9.2002	36°38´391´´N- 36°12´608´´E	sand	3,3	29,4	36,5	2	2	
26	25.9.2002	36°45´054´´N- 36°12´242´´E	sand, cob, gravel	3,58	28,6	33,7	1	1	*Xestoleberis communis*
27	26.9.2002	36°49´294´´N- 36°11´024´´E	sand, cob, gravel	3,96	29	36,4	2	2	*Cyprideis torosa*
28	26.9.2002	36°50´491´´N- 36°09´919´´E	sand	2,32	29,4	36	2	2	*Xestoleberis communis*

Table 2. Abundance of the ostracoda species in stations (F%) and their ecology

Species	**Stations Number**	**F (%)**	**Temperature Range (°C)**	**Salinity Range (‰)**	**DO Range (mg/l)**	**Sediment Type**
Cyprideis torosa (Jones, 1850)	1,2,3,5,6,7,8,9,10,11, 13,16,20,27	50	24.2-33.4	0.1-43.8	3.90-5.41	Sand, silt, mass,mud,cob, gravel, stone
Xestoleberis communis Muller,1894	1,2,5,12,13,15,17,19, 20,21,24,25,26,28	50	24.2-33.4	0.1-37.5	2.32-5.42	Sand, silt, mass, cob, gravel, stone
Pontocythere elongata (Brady,1868)	1,7,8,9,12,13,14,24,28	32.1	25.5-30.1	33.7-37.4	2.32-5.42	Sand, silt, gravel,mass,cob
Semicytherura sulcata Muller, 1894	1,2,6,7,8,13,19,22,24	32.1	24.5-31	0.1-37.4	3.38-5.41	Sand,silt,cob
Loculicytheretta pavonia (Bardy, 1866)	1,2,7,8,9,13,19,20	28.6	25.5-33.4	33.7-37.4	3.90-5.41	Sand,silt,gravel,cob, stone
Loxoconcha rhomboidea (Fischer, 1855)	1,11,12,13,20,21,24,25	28.6	25.5-33.4	34.2-43.8	3.30-5.42	Sand,silt,cob,gravel,mass, stone
Loxoconcha agilis Ruggierii, 1967	15,19,20,21,24,27	21.4	26.7-33.4	31.7-37.5	3.38-5.16	Cob,sand,gravel, stone
Aurila convexa (Baird, 1850)	8,13,18,19,20	17.9	28.2-33.4	34.4-37.4	3.97-5.30	Sand,cob,gravel,stone
Basslerites teres (Brady ,1869)	1,2,7,8,13	17.9	25.5-29.8	34.2-37.2	4.10-5.41	Sand,silt
Costa edwardsii (Roemer, 1838)	1,2,8,9,13	17.9	25.5-29.8	34.2-37.2	3.90-5.41	Sand,silt
Neocytherideis cylindrica (Brady,1868)	1,2,13,18,19	17.9	25.5-29.8	34.2-37.4	3.97-5.41	Sand, silt, cob
Xestoleberis decipiens Muller, 1894	13,19,20,22,24	17.9	29-33.4	34.4-37.4	3.38-5.30	Sand,cob,gravel, stone
Cytheridea neapolitana (Kolmann, 1960)	1,2,7,8	14.3	25.5-29	34.2-36.4	4.10-5.41	Sand,silt
Pontocythere turbida (Muller, 1894)	1,2,4,19	14.3	25.5-29	34.2-37.4	4.14-5.41	Sand,silt,cob
Urocythereis colum Athersuch, 1977	13,19,20,24	14.3	29-33.4	34.4-37.4	3.38-5.30	Sand,cob,gravel, stone
Acanthocythereis hystrix (Reuss,1850)	1,2,13	10.7	25.5-29.8	34.2-37.2	4.30-5.41	Sand,silt
Cytheretta adriatica Ruggierii, 1952	2,8,13	10.7	25.7-29.8	34.4-37.2	5.17-5.41	Sand, silt
Cytheretta subradiosa (Roemer, 1838)	13,19,20	10.7	29.8-33.4	34.4-37.4	4.14-5.30	Sand,cob,gravel, stone
Xestoleberis margaritea (Brady,1866)	11,13,20	10.7	29.8-33.4	37.2-43.8	4.42-5.30	Sand,cob,gravel, stone
Callistocythere crispata (Brady ,1868)	1,2	7.1	25.5-25.7	34.2-34.4	4.30-5.41	Sand,silt
Carinocythereis carinata (Roemer, 1838)	1,13	7.1	25.5-29.8	34.2-37.2	4.30-5.30	Sand,silt
Cytherella vandenboldi Sissiingh, 1972	1,13	7.1	25.5-29.8	34.2-37.2	4.30-5.30	Sand,silt
Cytherelloidea sordida Muller, 1894	11,13	7.1	29.8-33	37.2-43.8	4.42-5.30	Sand,silt
Neocytherides complicata (Ruggierii,1953)	20,24	7.1	30.1-33.4	37.4-37.5	3.38-5.16	Sand,cob,gravel, stone
Neocytherideis faveolata (Brady, 1870)	19,20	7.1	29-33.4	34.4-37.4	4.14-5.16	Sand,cob,gravel, Stone
Loxoconcha exagona BonaduceCiampo&Masoli,1975	2,19	7.1	25.7-29	34.4-37.4	4.14-5.41	Sand,silt,cob
Loxoconcha granulata Sars, 1866	19,20	7.1	29-33.4	34.4-37.4	4.14-5.16	Sand,cob,gravel, Stone
Loxoconcha minima Muller, 1894	10,20	7.1	33.4	34.4	5.16	Gravel, stone

Table 2. Continued

Species	Stations Number	F (%)	Temperature Range (ºC)	Salinity Range (‰)	DO Range (mg/l)	Sediment Type
Loxoconcha nea Barbeito-Gonzales,1971	11,18	7.1	28.2-33	37.1-43.8	3.98-4.42	Sand,cob
Loxoconcha rubritincta Ruggieri, 1964	13,23	7.1	29.3-29.8	37.2-37.5	3.97-5.30	Sand
Loxoconcha stellifera Muller, 1894	13,19	7.1	29-29.8	37.2-37.4	4.14-5.30	Sand,cob
Bairdia longevaginata Muller, 1894	13	3.6	29.8	37.2	5.3	Sand
Carinocythereis quadridentata (Baird, 1850)	13	3.6	29.8	37.2	5.3	Sand
Cytherella alvearium Bonaduce Ciampo&Masoli,1975	2	3.6	25.7	34.4	5.41	Sand,silt
Cytheridea acuminata (Bosquet,1852)	1	3.6	25.5	34.2	4.3	Sand,silt
Heterocythereis albomaculata (Baird, 1838)	13	3.6	29.8	37.2	5.3	Sand
Hiltermannicythere rubra (Muller, 1894)	1	3.6	25.5	34.2	4.3	Sand,silt
Krithe reniformis(Brady,1868)	13	3.6	29.8	37.2	5.3	Sand
Leptocythere macella Ruggieri,1975	13	3.6	29.8	37.2	5.3	Sand
Leptocythere rara Muller, 1894	6	3.6	24.5	0.1	4.04	sand
Loxoconcha bairdi Muller, 1912	20	3.6	33.4	34.4	5.16	Gravel, stone
Loxoconcha napoliana Puri, 1963	13	3.6	29.8	37.2	5.3	Sand
Loxoconha ovulata (Costa, 1853)	2	3.6	25.7	34.4	5.41	Sand,silt
Loxoconcha tumida Chapman, 1902	13	3.6	29.8	37.2	5.3	Sand
Neocytherideis fasciata (Brady &Robertson, 1874)	8	3.6	28.3	36.4	5.17	Sand
Neocytherideis subspiralis Brady, Crosskey & Robertson, 1874	13	3.6	29.8	37.2	5.3	Sand
Paradoxostoma fuscum Muller, 1894	20	3.6	33.4	34.4	5.16	Gravel, stone
Parakrithe dimorpha Bonaduce Ciampo&Masoli,1975.	1	3.6	25.5	34.2	4.3	Sand,silt
Paracytheridea parallia Barbeito-Gonzales,1971	13	3.6	29.8	37.2	5.3	Sand
Semicytherura acuminata Muller, 1894	13	3.6	29.8	37.2	5.3	Sand
Semicytherura aenariensis Bonaduce Ciampo&Masoli,1975.	13	3.6	29.8	37.2	5.3	Sand
Semicytherura sella (Sars, 1866)	13	3.6	29.8	37.2	5.3	Sand
Tenodocythere prava Baird, 1850	13	3.6	29.8	37.2	5.3	Sand
Urocythereis distinguenda (Neviani, 1928)	13	3.6	29.8	37.2	5.3	Sand
Urocythereis phantastica Athersuch&Ruggieri, 1975	13	3.6	29.8	37.2	5.3	Sand
Xestoleberis dispar Muller, 1894	13	3.6	29.8	37.2	5.3	Sand

It has been seen that *Cyprideis torosa* and *Xestoleberis communis* (F= 50%) were the most abundant species in the coasts of the Iskenderun Bay. *Pontocythere elongata* and *Semicytherura sulcata* have followed this species (F=32.1%). The most abundant species *Cyprideis torosa*, *Xestoleberis communis* and *Pontocythere elongata* were also dominant species according to individual numbers of the stations. The dispersion of the dominant species to the Mediterranean and Aegen seas was shown in Table 3.

Table 3. Dispersion of the dominant species to the Mediterranean and Aegean Seas. (Med.:Mediterranean, SW:Southwestern)

SPECIES	*South Agean Sea*	*Adriatic Sea*	*Iskenderun Bay*	*Italy Sea*	*Algeria*	*Med. Sea*	*SW Spain*
Costa edwardsii	4,6,16,26	5,7,8,27	10,22	2,11,17,18	9	12	19,20
Cytheridea neapolitana	16,26	5,7,27	10	11	9	12	19
Cyprideis torosa	4,6,16,26	7,8	10,22,25,28	3,15,18	9	13	19,20,23
Loculicytheretta pavonia	4,26		14,22,25,28	1	9	12,21	19,20,23
Loxoconcha agilis	16	7,8,27	10,22				
Loxoconcha rubritincta	4,26	7,8					
Pontocythere elongata	4,16		10,25			13	19,20,23
Pontocythere turbida	26	7		11		12	
Xestoleberis communis	4,16,26	7,8,27	22	3,11,15,17,18	9	12,24	19,20,23

[1]Ruggieri (1954), [2]Ruggieri (1959), [3]Masoli (1968), [4]Barbeito-Gonzales (1971),[5]Uffenorde (1972), [6]Sissingh (1972), [7]Bonaduce *et al*. (1975),[8]Breman (1975), [9]Yassini (1979), [10]Doruk (1979), [11]Bonaduce and Pugliese (1979), [12]Bonaduce *et al*. (1983), [13]Oertli (1985), [14]Nazik (1994), [15]Montenegro (1995), [16]Kubanç (1995), [17]Montenegro *et al*. (1998), [18] Mazzini *et al*. (1999), [19]Ruiz *et al*. (1997) [20]Ruiz *et al*. (2000), [21]Şafak (2001), [22]Şafak (2003), [23] Ruiz *et al*. (2004), [24]Ertekin and Tunoğlu (2005), [25]Külköylüoğlu *et al*. (2005), [26]Akıncı (2006), [27]Zavodnic *et al*. (2006), [28]Külköylüoğlu *et al*. (2007).

It has been seen that *Costa edwardsii*, *Cytheridea neapolitana*, *Cyprideis torosa* and *Xestoleberis communis* have wide distribution in the Mediterranean and Aegean seas.

Bray- Curtis similarity matrix of the ostracoda species according to stations was shown in figure 2.

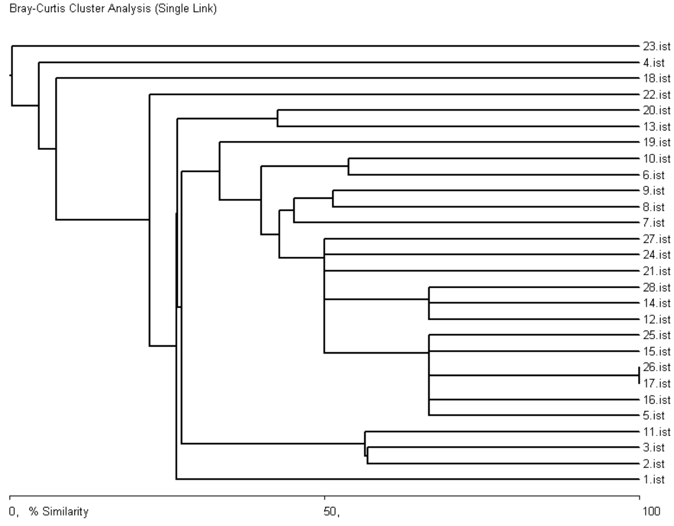

Figure 2. Bray-Curtis similarity matrix of the ostracoda species according to stations. (ist:station)

With respect to figure 2, 17 and 26 stations are showing the highest similarity (100%). Following stations are 5, 15, 16 and 25 with a percentage of 66.7%

The Spearman correlation coefficient (r_s) employed to explain the relationships between species number and individual number of species among some of the ecological parameters themselves are given in Table 4.

Table 4. The Spearman correlation coefficient results between species number, individual number of ostracoda species and some of the ecological parameters (DO:Dissolved oxygen).

	Temperature	Salinity	DO	Species number	Individual number
Temperature	1				
Salinity	0,657**	1			
DO	ns	ns	1		
Species number	ns	ns	0,410*	1	
Individual number	ns	ns	0,446*	0,755**	1

**P<0,01,*P<0,05, ns:not significant

According to Table 4 species numbers and individual numbers were positively correlated with each other (P<0,01) and also they were positively correlated with dissolved oxygen (P<0,05).

Discussion

The results indicated that nine dominant ostracoda species (*Costa edwardsii, Cytheridea neapolitana, Cyprideis torosa, Loculicytheretta pavonia, Loxoconcha agilis, Loxoconcha rubritincta, Pontocythere elongata, Pontocythere turbida, Xestoleberis communis)* were adapted well to the coastal ecosystem of Iskenderun Bay.

Costa edwardsii is associated with a mud or mixed sand mud substrate. This species is widely distributed in the Mediterranean in shallow waters and was observed as a dominant species between 20-60 m depth in the Adriatic Sea (Bonaduce *et al*. 1975, Breman 1975). Kubanç (2005) pointed out that this species was dominant species within sand, gravel and moss sediment. In this study this species was found in five stations (1, 2, 8, 9, 13) and dominant only in the first station with sand- silt sediment. This species also has wide distribution in the Mediterranean and Aegean seas (Table 3).

Cytheridea neapolitana is widely distributed near-shore all around the Mediterranean on very sandy pelite and present on every type of substrate (Bonaduce *et al*. 1975) This species was observed as a dominant species between 20-60 m depth in the Adriatic Sea (Breman 1975). *Cytheridea neapolitana* was obtained from four stations (1, 2, 7, 8) and dominant only in station 8 with sand sediment. This species also has wide distribution in the Mediterranean and Aegean Seas (Table 3).

The other dominant species *Cyprideis torosa* is also a species which tolerates a wide range of salinities from freshwater to hyperhaline waters (Neale 1988). The genus is cosmopolitan and some species including *Cyprideis torosa* have been widely used for palaeoenvironmental studies based on ostracod shell chemistry (Mazzini *et al*. 1999). Mazzini *et al*. (1999) were found *Cyprideis torosa* as a dominant species in their study that was made in Tyrrhenian Sea coast near Orbetello. In this study this species was determined in the fourteen stations (1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 16, 20, 27) and dominant in seven stations (2, 3, 6, 10, 11, 16, 27) with sand, silt, mass, mud, cob, gravel and stone sediments. This species also has wide distribution in the Mediterranean and Aegean Seas (Table 3).

Pontocythere elongata was determined as a dominant species in the Adriatic Sea especially between 5-100 m with sandy, muddy sediment and high salinity environment (Breman 1975). Furthermore *Pontocythere elongata* has been obtained as a dominant species with wide salinity range in the study of coastal Spanish waters (Ruiz *et al*. 1997, Ruiz *et al*. 2000). In this study this species was found in nine stations (1, 7, 8, 9, 12, 13, 14, 24, 28) was dominant only two stations (12, 13) with sandy sediments.

Pontocythere turbida was obtained from four stations (1, 2, 4, 19) and was dominant only in the fourth station with sandy sediment in this study. This near-shore species is common in the Mediterranean on all types of bottom excluding silt, silty pelite and fine sand (Bonaduce *et al.* 1975).

In this study *Loculicytheretta pavonia* was determined in eight stations (1, 2, 7, 8, 9, 13, 19, 20) and was dominant only in the seventh station with sandy sediment. Külköylüoğlu *et al*. (2005) found this species very abundant in the Iskenderun Bay with fine sandy bottoms. *Loxoconcha agilis* was observed as a dominant species between 20-60 m depth in the Adriatic Sea (Breman 1975). This species was found in six stations (15, 19, 20, 21, 24, 27) and was dominant only in the twenty-first station with sandy sediment in this study.

In this study *Loxoconcha rubritincta* was observed in two stations (13, 23) and was dominant only in the twenty-third station with sandy sediment. This species has been found in Adriatic Sea on the medium and fine sand sediments (Bonaduce *et al.* 1975).

Xestoleberis communis was determined at fourteen stations (1, 2, 5, 12, 13, 15, 17, 19, 20,21, 24, 25, 26, 28) and was dominant in six stations (17, 19, 20, 24, 26, 28) with sand, silt, mass, cob, gravel, stone sediments. Kubanç (2005) observed this species as dominant species within gravel, sandy and moss sediments. This species was originated from the Mediterranean Sea and usually encountered in the sandy type of sediment (Breman 1975). This species also has wide distribution in the Mediterranean and Aegean Seas (Table 3).

According to Ellis and Wastefall (1946) dissolved oxygen is not an influential factor within aquatic ecosystem. Similarly, Külköylüoğlu *et al*. (2007) emphasised that dissolved oxygen was the least effective predictor for the ostracoda species. On the other hand, Kubanç (2005) has found positive correlation between individual numbers of the species and dissolved oxygen. In this study the results of Spearman correlation coefficient analysis indicated that species numbers and individual numbers were positively correlated with each other ($P<0,01$) and also they were positively correlated with dissolved oxygen ($P<0,05$).

In conclusion the ecology of the ostracoda species collected from the coasts of Iskenderun Bay was examined. Nine ostracoda species that were obtained as a dominant species were well adapted to coastal ecosystem of Iskenderun Bay. This study can be taken as a reference by the future studies about the structural changes in the ostracoda fauna and ecological factors.

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İskenderun Körfezi (Doğu Akdeniz) kıyılarından elde edilen ostrakod türlerinin ekolojisi

Özet

Bu çalışmada İskenderun Körfezi'inin kıyısal bölgelerinden 22-26.9.2002 tarihleri arasında 28 istasyondan örneklemeler yapılmıştır. Toplamda 56 osrakod türü tesbit edilmiş olup, bu türlerin elde edildiği istasyonlara ait sıcaklık, tuzluluk ve çözünmüş oksijen gibi ekolojik parametrelerle, türlerin yaşadıkları ortamların ekolojik özellikleri bu çalışmayla tesbit edilmiştir. İstasyonlardaki tür ve birey sayılarının ekolojik parametrelerle olan ilişkileri, ayrıca; türlerin istasyonlarda bulunma sıklıkları, ve türlerin istasyonlara göre benzerlikleri belirlenmiştir. Bu çalışmanın sonucunda elde edilen 56 ostrakod türünden dokuzunun (*Costa edwardsii, Cytheridea neapolitana, Cyprideis torosa, Loculicytheretta pavonia, Loxoconcha agilis, Loxoconcha rubritincta, Pontocythere elongata, Pontocythere turbida, Xestoleberis communis)* İskenderun Körfezi kıyı ekosistemine çok iyi adapte olduğu gözlenmiştir.

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