

## **Check-List of the Crustacea Fauna of the Bosphorus**

### **İstanbul Boğazı Crustacea Faunası Tür Listesi**

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#### **Abstract**

This study was carried out to present the species list of the Crustacea fauna of the Bosphorus in the light of the previously conducted research. It was seen that totally 94 crustacean species had been recorded from this region and Amphipoda was the first and Decapoda was the second in respect to the species number, with 37 and 36 species, respectively.

**Key words:** Bosphorus, Crustacea fauna, check-list.

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#### **Introduction**

The Bosphorus is a gateway between the Black Sea and the Sea of Marmara. Through the Bosphorus, brackish waters of the Black Sea flow to the Sea of Marmara by means of a surface current whereas the Mediterranean originated saline waters flow to the Black Sea by means of a bottom current (Yüce and Türker, 1991). The fauna of the Bosphorus is influenced by this two-layered water system and shows a rich diversity. Moreover, the Bosphorus serves as an acclimatization zone for species exchange between the Black Sea and the Sea of Marmara.

In the past, analyses of the Crustacea fauna of the Bosphorus were made by Ostroumoff (1896), Ninni (1923), Devedjian (1926), Demir (1952), Tortonese (1959), Caspers (1968) and more recently by Topaloğlu & Khiara (1993), Albayrak (1994), Balkıs (1994), Balkıs and Albayrak (1994). Moreover, Müller (1986) reviewed decapod crustaceans of the Turkish straits system.

The aim of this study is to present the complete species list belonging to different groups of the Crustacea fauna in the light of the above literature.

### **Material and Methods**

In this study, the species list of the Crustacea fauna of the Bosphorus was reported in the light of the previously conducted research by describing some suspicious species, within the framework of the modern system (Tab. 1).

### **Results**

Totally 94 crustacean species 4 of which belong to Cirripedia, 36 to Decapoda, 3 to Mysidacea, 3 to Tanaidacea, 11 to Isopoda and 37 to Amphipoda were recorded from the Bosphorus (Tab. 1). Groups represented by maximum species number are Amphipoda and Decapoda.

Table 1. Crustacean species announced from the Bosphorus.

L 1: Ostroumoff, 1896; L 2: Ninni, 1923; L 3: Devedjian, 1926; L 4: Demir, 1952; L 5: Tortonese, 1959; L 6: Caspers, 1968; L 7: Topaloğlu and Khiara, 1993; L 8: Balkıs and Albayrak, 1994; L 9: Balkıs, 1994; L 10: Albayrak, 1994.

TAXA	REFERENCES									
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
<b>CIRRIPEDIA</b>										
<i>Balanus crenatus</i> Bruguère, 1789				+						
<i>Chthamalus stellatus</i> (Poli, 1795)				+					+	
<i>Verruca stroemia</i> O.F. Müller, 1776				+						+
<i>Verruca spengleri</i> Darwin, 1854	+									
<b>DECAPODA</b>										
<b>Natantia</b>										
<i>Athanas nitescens</i> (Leach, 1814)				+		+				
<i>Crangon crangon</i> (Linnaeus, 1758)				+						+
<i>Hippolyte holthuisi</i> Z.Alvarez, 1953				+						
<i>Hippolyte inermis</i> Leach, 1815				+						
<i>Palaemon serratus</i> (Pennant, 1777)	+		+	+						
<i>Palaemon elegans</i> Rathke, 1837	+									
<i>Thorulus cranchii</i> (Leach, 1817)				+						
<i>Typton spongicola</i> O.G.Costa, 1844	+									
<b>Macrura Reptantia</b>										
<i>Homarus gammarus</i> (Linnaeus, 1758)		+	+	+						
<i>Palinurus elephas</i> (Fabricius, 1787)			+	+						
<b>Anomura</b>										
<i>Clibanarius erythropus</i> (Latreille, 1818)	+			+						
<i>Diogenes pugilator</i> (Roux, 1829)				+						
<i>Galathea dispersa</i> Bate, 1859	+									
<i>Paguristes eremita</i> (Linnaeus, 1767)	+									
<i>Pagurus cuanensis</i> Bell, 1846	+									
<i>Pisidia bluteli</i> (Risso, 1816)								+		
<i>Pisidia longicornis</i> (Linnaeus, 1767)						+			+	+
<i>Pisidia longimana</i> (Risso, 1816)				+						
<b>Brachyura</b>										
<i>Carcinus aestuarii</i> Nardo, 1847				+						+
<i>Dromia personata</i> (Linnaeus, 1758)	+									
<i>Eriphia verrucosa</i> (Forskål, 1775)				+						
<i>Eurynome aspera</i> (Pennant, 1777)	+									
<i>Inachus dorsettensis</i> (Pennant, 1777)	+									
<i>Inachus leptochirus</i> Leach, 1817	+									

<i>Liocarcinus depurator</i> (Linnaeus, 1758)		+	+				
<i>Macropodia longirostris</i> (Fabricius, 1775)			+				
<i>Macropodia rostrata</i> (Linnaeus, 1761)	+		+				
<i>Maja crispata</i> Risso, 1827	+						
<i>Maja squinado</i> (Herbst, 1788)		+					
<i>Pachygrapsus marmoratus</i> (Fab., 1787)			+				+
<i>Pilumnus hirtellus</i> (Linnaeus, 1761)	+		+	+	+	+	+
<i>Pisa corallina</i> (Risso, 1816)	+						
<i>Polybius arcuatus</i> (Leach, 1814)	+		+		+		
<i>Polybius corrugatus</i> (Pennant, 1777)	+						
<i>Xantho incisus</i> Leach, 1814			+				
<i>Xantho poressa</i> (Olivi, 1792)					+		+
<b>MYSIDACEA</b>							
<i>Leptomysis truncata</i> (Heller, 1863)			+				
<i>Mesopodopsis slabberi</i> (vanBeneden, 1861)			+				
<i>Siriella jaltensis</i> Czerniavsky, 1868			+				
<b>TANAIDACEA</b>							
<i>Apseudes acutifrons</i> G. O. Sars, 1882					+		
<i>Leptochelia savignyi</i> (Krøyer, 1842)		+		+	+		
<i>Tanais dulongii</i> (Audoin, 1826)		+			+		
<b>ISOPODA</b>							
<i>Dynamene bidentatus</i> (Adams, 1800)		+					
<i>Gnathia maxillaris</i> (Montagu, 1804)		+					
<i>Idotea baltica</i> (Pallas, 1772)		+				+	
<i>Idotea metallica</i> Bosc, 1802		+					
<i>Jaera nordmanni</i> (Rathke, 1837)							
<i>Janira maculosa</i> Leach, 1814		+					
<i>Ligia italica</i> Fabricius, 1798		+					
<i>Limnoria lignorum</i> (Rathke, 1799)		+					
<i>Sphaeroma serratum</i> (Fabricius, 1787)		+					+
<i>Synisoma capito</i> (Rathke, 1837)		+				+	
<i>Zenobiana prismatica</i> (Risso)		+					
<b>AMPHIPODA</b>							
<i>Ampelisca diadema</i> (Costa, 1853)		+					+
<i>Ampithoe gammaroides</i> (Bate, 1856)		+					
<i>Ampithoe ramondi</i> Audoin, 1826		+					+
<i>Apherusa bispinosa</i> (Bate, 1857)		+					+
<i>Caprella acanthifera</i> Leach, 1814		+					
<i>Caprella aequilibra</i> Say, 1818							+
<i>Caprella danilewskii</i> Czerniavski, 1868						+	+
<i>Caprella liparotensis</i> Haller, 1879		+					+
<i>Chelura terebrans</i> Philippi, 1839		+					
<i>Corophium acherusicum</i> A. Costa, 1851		+					
<i>Corophium cylindricum</i> (Say, 1818)						+	
<i>Corophium orientale</i> Schellenberg, 1928							+

<i>Cymadusa crassicornis</i> (A. Costa, 1857)	+				
<i>Dexamine spinosa</i> (Montagu, 1813)	+				
<i>Dexamine thea</i> Boech, 1861	+				
<i>Echinogammarus olivii</i> (M. Edwards, 1830)	+		+	+	
<i>Erichthonius difformis</i> M. Edwards, 1830	+		+	+	
<i>Gammarella fucicola</i> (Leach, 1814)			+		
<i>Gammarellus angulosus</i> (Rathke, 1843)	+			+	+
<i>Hyale perieri</i> (Lucas, 1849)	+			+	+
<i>Hyale pontica</i> Rathke, 1837	+			+	+
<i>Jassa marmorata</i> (Montagu, 1808)	+		+	+	+
<i>Jassa ocia</i> (Bate, 1862)	+			+	+
<i>Leptocheirus pectinatus</i> (Norman, 1869)			+		
<i>Maera grossimana</i> (Montagu, 1808)			+	+	+
<i>Melita palmata</i> (Montagu, 1804)	+		+	+	+
<i>Microdeutopus anomalus</i> (Rathke, 1843)				+	+
<i>Microdeutopus gryllotalpa</i> A. Costa, 1853	+		+		
<i>Orchestia gammarella</i> (Pallas, 1766)	+				
<i>Orchestia mediterranea</i> A. Costa, 1853	+				
<i>Orchestia platensis</i> Krøyer, 1845	+				
<i>Parhyale aquilina</i> (A. Costa, 1857)	+			+	+
<i>Phtisica marina</i> Slabber, 1769	+	+		+	+
<i>Podocerus variegatus</i> Leach, 1814				+	
<i>Pseudoprotella phasma</i> (Montagu, 1804)	+			+	+
<i>Stenothoe bosporana</i> Sowinsky, 1898			+		
<i>Stenothoe monoculoides</i> (Montagu, 1815)	+			+	+

## Discussion

The most detailed study about macrobenthos in the Bosphorus was performed by Demir (1952). He reported 65 crustacean species in his research dealing with all invertebrate benthic fauna. Demir (1952) mentioned two different species from the Bosphorus: *Hippolyte cranchii* Leach, 1817 and *H. Bunseni* Pagenstecher. According to Zariquiey-Alvarez (1968), *H. cranchii* Leach, 1817 and *H. bunseni* Neumann, 1878 are synonyms and their recent name is *Thorulus cranchii*. Also, Holthuis (1961) used the *H. Bunseni* Pagenstecher as a synonym of *T. cranchii*. Therefore, this species was placed in our table as *T. cranchii*.

Moreover, Demir (1952) recorded *Porcellana digitalis* Heller and stated that he was not sure of the kind of that species.

Müller (1986) accepted this species as *Pisidia longicornis*, whereas, Geldiay and Kocataş (1970) as *P. longimana*. Identification and figure of *P. digitalis* in Demir (1952) resemble to *P. longimana*. Therefore, it was given in our table like that.

There is a crab species as *Carcinus maenas* (Linnaeus, 1758) in Demir (1952). This species is available only in western Mediterranean and probably it is *C. aestuarii* (Balkıs, 1994). Therefore, it was added to the present table as *C. aestuarii*.

Also, Demir (1952) mentions *Hyale prevosti* Stebbing, 1906 from the Bosphorus. But, under this name, he describes and figures *H. perieri*. Thus, this species was accepted as *H. perieri* and added to the table.

Ostroumoff (1896) reported a species as *Aega ophtalmica* Sch.. The genus is in the Isopoda order but as it was not possible to obtain data about the species in current literature, it could not be included in the table.

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### Özet

Bu araştırma, daha önce yapılmış araştırmaların ışığı altında, İstanbul Boğazı'nın Crustacea faunasının tür listesini sunmak amacıyla yapıldı. Bu bölgeden toplam olarak 94 tür belirlendi. Tür sayısı bakımından Amphipoda 37 türle birinci ve Decapoda ise 36 türle ikinci sırada yer aldı.

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