

Check-list of Malacostraca (Crustacea) Species of Turkish Inland Waters

*Murat Özbek, M. Ruşen Ustaoglu

Ege University, Faculty of Fisheries, Department of Hydrobiology, TR-35100 Bornova, İzmir, Turkey
*E mail: murat.ozbek@ege.edu.tr

Özet: Türkiye içsularının Malacostraca (Crustacea) türlerinin kontrol listesi. Bu güne değin Türkiye içsularından rapor edilen Malacostraca (Crustacea) türlerinin kontrol listesi sunulmuştur. Toplam olarak 37 cinse ait 126 takson tespit edilmiştir.

Anahtar Kelimeler: Kontrol listesi, Amphipoda, Isopoda, Decapoda, Mysidacea.

Abstract: A check-list of Malacostraca (Crustacea) species reported from Turkish inland waters up to now was presented. Totally 126 taxa belonging to 37 genera were presented.

Key Words: Check-list, Amphipoda, Isopoda, Decapoda, Mysidacea.

Introduction

Malacostraca as one of the biggest class of Crustacea, comprises about 20.000 taxa distributing both in marine, fresh and ground water habitats. It has three subclasses which are Eumalacostraca, Haplocarida and Phyllocarida (Özbek and Ustaoglu, 2005). In Turkish inland waters, only peracarid and eucarid crustaceans of Eumalacostraca have been reported to date.

Although many foreign scientists have studied the

taxonomy of Malacostraca taxa of Turkish inland waters since the beginning of the 20th century (Vavra 1905; Coifmann 1938), the first study by native scientists concerning the taxonomy of freshwater Malacostraca species was by Geldiay and Kocataş (1970), which concerned the *Astacus* populations of Turkish freshwaters. Seven years later, the same authors reported a study on freshwater crabs of Turkey (Geldiay and Kocataş, 1977) (Table 1).

Table 1. The status of studies made concerning Malacostraca taxa of Turkish inland waters, with advancing decades of interval.

1905-1910	1	Vavra (1905)
1911-1920	-	
1921-1930	-	
1931-1940	1	Coifmann (1938)
1941-1950	1	Bott (1950)
1951-1960	-	
1961-1970	9	Holthius (1961), Pretzmann (1962; 1963; 1965a, b; 1966; 1967), Mordukhai- Boltovskoi (1964), Geldiay and Kocataş (1970).
1971-1980	18	Karaman (1971; 1973a, b; 1975a, b), Pretzmann (1971; 1975; 1976), Ruffo (1974), Stock (1974), Geldiay and Kocataş (1977), Geldiay et al. (1977), Karaman and Pinkster (1977a, b), Pinkster and Karaman (1978), Argano and Pesce (1978, 1980)
1981-1990	13	Bellan-Santini et al. (1982), Barnard and Barnard (1983), Pretzmann (1983; 1984; 1986), Karaman and Pinkster (1987), Köksal 1988, Ruffo and Vigna Taglianti (1988), Vigna Taglianti (1988), Botosaneanu and Notenboom (1989), Mateus and Mateus (1990), Pesce and Galassi (1990), Ustaoglu and Balık (1990)
1991-2000	14	Kocataş et al. (1991), Kazancı et al. (1992), Pinkster (1993), Krapp-Schickel et al. (1994), Henry et al. (1996), Yeşilmen and Kirgiz (1996), Koenemann et al. (1998), Özbek ve Ustaoglu (1998), Ustaoglu et al. (1998), Balık et al. (1999), Vonk et al. (1999), Bat et al. (2000), Brandis et al. (2000), Çamur and Kirgiz (2000)
2001-	19	Bat et al. (2000), Bat et al. (2001), Özbek and Ustaoglu (2001), Sarı et al. (2001), Balık et al. (2002), Ustaoglu et al. (2002), Kocataş et al. (2003), Özbek et al. (2003), Balık et al. (2004), Balık et al. (2004), Özbek et al. (2004a, b), Özbek et al. (2004), Ustaoglu et al. (2004), Ustaoglu et al. (2004), Harlıoğlu (2004), Yıldız et al. (2005), Özbek and Güloğlu (2005), Özbek and Ustaoglu (2005)

This study aims to present a checklist of Malacostraca taxa inhabiting in Turkish inland waters, based on compilation of previous inventory studies reported up to date.

Malacostraca taxa reported from inland waters of Turkey mainly have been found in epigeal freshwaters. Additionally, some species, which show high endemism, were identified in hypogean freshwaters (16 of 25 species are endemic for

Turkey). There are also some marine species (mainly belonging to Amphipoda) have been reported from brackish waters to date (Table 2).

The examination of previous literature has revealed the occurrence of a total of 126 taxa, comprising 76 amphipods, 26 isopods, 7 mysids and 17 decapods (Table 3). Gammaridae dominated in group of Amphipoda with 48 taxa.

Table 2. Taxonomic status, habitat and general distribution of malacostracans reported from inland waters of Turkey up to date (1: Fresh-water epigean, 2: Fresh-water hypogeal, 3: Brackish-water epigean, 4: Brackish-water hypogeal), (Endemisms marked with an asterisk), (TR.: Turkey; E.: Europe; AS.: Asia; M.: Mediterranean Sea; B.: Black Sea; A.: Atlanto-Mediterranean; H.: Holarctic; P.: Palearctic; C.: Cosmopolitan)

Taxonomic Status	Habitat	Distribution
Phylum: Arthropoda		
Subphylum: Crustacea Brünnich, 1772		
Classis: Malacostraca Latreille, 1802		
Subclassis: Eumalacostraca Grobben, 1892		
Superordo: Peracarida Calman, 1904		
Ordo: Amphipoda Latreille, 1816		
Subordo: Gammaridea Latreille, 1802		
Superfamilia: Gammaroidea Leach, 1814		
Familia: Bogidiellidae Hertzog, 1936		
Genus : <i>Bogidiella</i> Hertzog, 1933		
<i>B. arista</i> Koenemann et al., 1998	4*	TR.
<i>B. longiflagellum</i> S. Karaman, 1959	2	E.
<i>B. minotaurus</i> Ruffo & Schiecke, 1976	4	E.
<i>B. turcica</i> Vonk et al., 1999	4*	TR.
<i>B. calicali</i> G. Karaman, 1988	4	E.
Familia: Gammaridae Latreille, 1802		
Genus: <i>Dikerogammarus</i> Martynov, 1925		
<i>D. haemobaphes</i> (Eichwald, 1841)	3	B.
Genus: <i>Echinogammarus</i> Stebbing, 1899		
<i>E. antalyae</i> G. Karaman, 1971	1*	TR.
<i>E. ischnus</i> Stebbing, 1899	1, 3	B.
<i>E. foxi</i> Schellenberg, 1928	3	B., M.
<i>E. olivii</i> (Milne Edwards, 1830)	3	A., B.
<i>E. pungens</i> (Milne Edwards, 1840)	3	M.
<i>E. sowinskyi</i> (Behning, 1914)	3	B.
<i>E. stocki</i> G. Karaman, 1969	3	M.
<i>E. veneris</i> (Heller, 1865)	3	M.
Genus: <i>Gammarus</i> Fabricius, 1775		
<i>G. absciscus</i> G. S. Karaman, 1973	1*	TR.
<i>G. accolae</i> G. S. Karaman, 1973	1*	TR.
<i>G. aequicauda</i> (Martynov, 1931)	3	M., B.
<i>G. agrarius</i> G. S. Karaman, 1973	1*	TR.
<i>G. anatoliensis</i> Schellenberg, 1937	1*	TR.
<i>G. arduus</i> G. S. Karaman, 1975	1	E.
<i>G. argaeus</i> Vavra, 1905	1*	TR.
<i>G. balcanicus</i> Schäferna, 1923	1	E.
<i>G. birsteini</i> Karaman and Pinkster, 1977	1	AS.
<i>G. dorsosetosus</i> Mateus and Mateus, 1990	1*	TR.
<i>G. effultus</i> G. S. Karaman, 1975	1*	TR.
<i>G. fossarum</i> Koch, 1835	1	E.
<i>G. goedmakersae</i> G. S. Karaman and Pinkster, 1987	1	E.
<i>G. inopinatus</i> Mateus and Mateus, 1990	1*	TR.
<i>G. insensibilis</i> Stock, 1966	3	A., B.
<i>G. kischineffensis</i> Schellenberg, 1937	1	E.
<i>G. komareki</i> Schäferna, 1923	1	E., AS.
<i>G. laborifer</i> G. S. Karaman & Pinkster, 1977	1	AS.
<i>G. lacustris</i> G. O. Sars, 1863	1	H.
<i>G. longipedis</i> G. S. Karaman & Pinkster, 1987	1, 2*	TR.
<i>G. mladeni</i> G. S. Karaman & Pinkster, 1977	1*	TR.
<i>G. obnixus</i> G. S. Karaman & Pinkster, 1977	1*	TR.
<i>G. odettae</i> Mateus & Mateus, 1990	1*	TR.
<i>G. osellai</i> G. S. Karaman & Pinkster 1977	1*	TR.
<i>G. pageti</i> Mateus & Mateus, 1990	1*	TR.
<i>G. pavo</i> G. S. Karaman & Pinkster, 1977	1*	TR.
<i>G. pseudanatoliensis</i> G. S. Karaman & Pinkster, 1987	1*	TR.
<i>G. pseudosyracus</i> G. S. Karaman & Pinkster, 1977	1	AS.
<i>G. pulex pulex</i> (L., 1758)	1	P.
<i>G. roeseli</i> Gervais, 1835	1	E.
<i>G. subtypicus</i> Stock, 1966	3	M., B.
<i>G. uludagi</i> G. Karaman, 1975	1	E.
<i>G. ustaoglu</i> Özbek & Güloğlu, 2005	2*	TR.

<i>G. vignai</i> Pinkster & Karaman, 1977	2*	TR.
Genus: <i>Pontogammarus</i> Sowinsky, 1904		
<i>P. robustoides</i> (Sars, 1894)	3	B.
<i>P. maeoticus</i> (Sowinsky, 1894)	3	B.
<i>P. aestuarius</i> (Derzhavin, 1924)	3	B.
Genus: <i>Lunulogammarus</i> Krapp- Schickel et al., 1994		
<i>L. turcicus</i> Krapp- Schickel et al., 1994	4*	TR.
Genus: <i>Obesogammarus</i> Stock, 1974		
<i>O. turcarum</i> Stock, 1974	3	AS.
Familia: Crangonyctidae Bousfield, 1979		
Genus: <i>Synurella</i> Wrzesniowski, 1877		
<i>S. ambulans</i> (F. Müller, 1846)	1	E., AS.
<i>S. osellai</i> Ruffo, 1974	1*	TR.
<i>S. donensis</i> (Martynov, 1919)	1	AS.
Familia: Corophiidae Leach, 1814		
Genus: <i>Corophium</i> Latreille, 1806		
<i>C. orientale</i> Schellenberg, 1928	3	M.
Genus: <i>Chelicorophium</i> Bousfield & Hoover, 1997		
<i>C. curvispinum</i> Sars, 1895	3	B.
<i>C. maeoticum</i> (Sowinsky, 1898)	3	B.
Familia: Talitridae Rafinesque, 1815		
Genus: <i>Orchestia</i> Leach, 1814		
<i>O. cavimana</i> Heller, 1865	1, 3	M., B.
<i>O. kosswigi</i> Ruffo, 1949	1*	TR.
<i>O. montagui</i> Audouin, 1826	3	M., B.
<i>O. mediterranea</i> Costa, 1857	3	A., B.
<i>O. platensis</i> Krøyer, 1845	3	C.
<i>O. stephensi</i> Cecchini, 1928	3	A.
Familia: Hadziidae Karaman, 1943		
Genus: <i>Parhadzia</i> Vigna Taglianti, 1988		
<i>P. sbordinii</i> Vigna Taglianti, 1988	2*	TR.
Familia: Melitidae Bousfield, 1973		
Genus: <i>Gammaropisa</i> Ruffo & Vigna Taglianti, 1988		
<i>G. arganoi</i> Ruffo & Vigna Taglianti, 1988	2*	TR.
Genus: <i>Melita</i> Leach, 1814		
<i>M. virgula</i> Krapp- Schickel et al., 1994	3*	TR.
<i>M. valesi</i> (Stock, 1993)	4	E.
Familia: Aoridae Walker, 1908		
Genus: <i>Microdeutopus</i> Costa, 1853		
<i>M. gryllotalpa</i> Costa, 1853	3	A., B.
Genus: <i>Aora</i> Krøyer, 1845		
<i>A. spinicornis</i> Afonso, 1976	3	A.
Familia: Niphargidae Bousfield, 1977		
Genus: <i>Niphargus</i> Schiöde, 1849		
<i>N. anatolicus</i> G. S. Karaman, 1950	2*	TR.
<i>N. illidzensis orientalis</i> G. S. Karaman, 1950	2	E.
<i>N. puteanus spoeckeri</i> Schellenberg, 1933	2	E.
<i>N. tauri tauri</i> Schellenberg, 1933	2*	TR.
<i>N. valachicus</i> Dobreanu & Manolache, 1933	1	E.
Ordo: Isopoda Latreille, 1817		
Subordo: Asellota Latreille, 1802		
Super familia: Janiroidea Sars, 1897		
Familia: Janiridae Sars, 1897		
Genus: <i>Jaera</i> Leach, 1814		
<i>J. italica</i> Kesselyak, 1938	3	M.
<i>J. massiliensis</i> Lemerrier, 1958	3	E.
<i>J. sarsi</i> Valkanov, 1936	1	E.
Familia: Microparasellidae Karaman, 1933		
Genus: <i>Microcharon</i> Karaman, 1934		
<i>M. adaliae</i> Botosaneanu & Notenboom, 1989	2*	TR.
<i>M. anatolicus</i> Pesce & Galassi, 1990	2*	TR.
<i>M. lydicus</i> Pesce & Galassi, 1990	2*	TR.
<i>M. ullae</i> Pesce, 1981	2*	TR.
Superfamilia: Aselloidea Latreille, 1802		
Familia: Asellidae Latreille, 1802		
Genus: <i>Asellus</i> Geoffroy, 1762		

<i>A. aquaticus</i> (L., 1758)	1	AS., E.
<i>A. monticola</i> Birstein, 1932	1	AS.
<i>A. hilgendorfi</i> Bovallius, 1886	1	AS.
Genus: <i>Proasellus</i> Dudich, 1925		
<i>P. coxalis</i> (Dollfus, 1892)	2	AS.
<i>P. monodi</i> (Strouhal, 1942)	2	E.
<i>P. infirmus</i> (Birstein, 1936)	2	AS.
<i>P. lykaonicus</i> Argano & Pesce, 1978	2*	TR.
<i>P. pamphylicus</i> Henry, Magniez & Notenboom, 1996	2*	TR.
<i>P. pisidicus</i> Henry, Magniez & Notenboom, 1996	2*	TR.
Genus: <i>Microparasellus</i> Karaman, 1933		
<i>Microparasellus</i> sp.	2	E.
Subordo: Flabellifera Sars, 1882		
Familia: Cirolanidae Dana, 1852		
Genus: <i>Turcolana</i> Argano & Pesce, 1980		
<i>T. adaliae</i> Botosaneanu & Notenboom, 1989	2*	TR.
<i>T. cariae</i> Argano & Pesce, 1980	2*	TR.
<i>T. pamphylicae</i> Botosaneanu & Notenboom, 1989	2*	TR.
<i>T. smymae</i> Botosaneanu & Notenboom, 1989	2*	TR.
Familia: Sphaeromatidae Latreille, 1825		
Genus: <i>Sphaeroma</i> Bosc, 1802		
<i>S. pulchellum</i> (Colosi, 1921)	3	M.
Genus: <i>Lekanesphaera</i> Verhoeff, 1843		
<i>L. hookeri</i> (Leach, 1814)	3	M.
Subordo: Anthuridea Monod, 1922		
Familia: Anthuridae Leach, 1814		
Genus: <i>Cyathura</i> Norman & Stebbing, 1886		
<i>C. carinata</i> (Krøyer, 1847)	3	M.
Ordo: Mysida Haworth, 1825		
Familia: Mysidae Haworth, 1825		
Genus: <i>Paramysis</i> Czerniavsky, 1882		
<i>P. kosswigi</i> Băcescu, 1948	1	B.
<i>P. lacustris turcica</i> (Băcescu, 1948)	1*	TR.
Genus: <i>Diamysis</i> Czerniavsky, 1882		
<i>D. bahirensis</i> (Sars, 1877)	3	B.
<i>D. mesohalobia mesohalobia</i> Ariani & Wittman, 2000	3*	TR.
<i>D. pengoi</i> (Czerniavsky, 1882)	3	B.
Genus: <i>Mesopodopsis</i> Czerniavsky, 1882		
<i>M. slabberi</i> (Van Beneden, 1861)	3	M., A.
Genus: <i>Limnomysis</i> Czerniavsky, 1882		
<i>L. benedeni</i> Czerniavsky, 1882	1	B.
Superordo: Eucarida Calman, 1904		
Ordo: Decapoda Latreille, 1802		
Subordo: Pleocyemata Burkenroad, 1963		
Infraordo: Caridea Dana, 1852		
Familia: Palaemonidae Rafinesque, 1815		
Genus: <i>Palaemon</i> Weber, 1795		
<i>P. elegans</i> Rathke, 1837	3	A., B.
Genus: <i>Palaemonetes</i> Heller, 1869		
<i>P. antennarius</i> (H. Milne Edwards, 1837)	3	A.
<i>P. turcarum</i> Holthius, 1961	1*	TR.
Superfamilia: Atyoidea De Haan, 1849		
Familia: Atyidae De Haan, 1849		
Genus: <i>Atyaephyra</i> de Brito Capello, 1867		
<i>A. desmaresti orientalis</i> Bouvier, 1913	3	E.
Infraordo: Astacidea Latreille, 1802		
Familia: Astacidae Latreille, 1802		
Genus: <i>Astacus</i> Fabricius, 1775		
<i>A. leptodactylus leptodactylus</i> Eschscholtz, 1823	1	AS.
<i>A. leptodactylus salinus</i> Nordmann, 1842	1	AS.
<i>A. colchicus colchicus</i> Kessler, 1876	1	E.
Infraordo: Brachyura Latreille, 1802		
Section: Eubrachyura de Saint Laurent, 1980		
Subsection: Heterotremata Guinot, 1977		
Superfamilia: Potamoidea Ortmann, 1896		
Familia: Potamidae Ortmann, 1896		
Genus: <i>Potamon</i> Savigny, 1816		

<i>P. bileki</i> Pretzmann, 1971	1*	TR.
<i>P. hueceste</i> Pretzmann, 1962	1*	TR.
<i>P. ibericum</i> (Bieberstein, 1808)	1	AS., E.
<i>P. magnum</i> Pretzmann, 1962	1	AS.
<i>P. mesopotamicum</i> Brandis, Storch & Türkay, 1998	1	AS.
<i>P. persicum</i> Pretzmann, 1962	1	AS.
<i>P. potamios</i> (Olivier, 1804)	1	AS.
<i>P. rhodium</i> Parisi, 1913	1	E.
<i>P. setiger</i> Rathbun, 1904	1	AS.
Superfamilia:Portunidea Rafinesque, 1815		
Familia: Portunidae Rafinesque, 1815		
Genus: <i>Callinectes</i> Stimpson, 1860		
<i>C. sapidus</i> Rathbun, 1896	3	A.

Table 3. Numbers of genera and taxa within Malacostraca group.

Group	Familia	Genera	Taxa
AMPHIPODA	Bogidiellidae	1	5
	Gammaridae	7	48
	Crangonyctidae	1	3
	Corophiidae	2	3
	Talitridae	1	6
	Hadziidae	1	1
	Melitidae	2	3
	Aoridae	2	2
	Niphargidae	1	5
ISOPODA	Janiridae	1	3
	Microparasellidae	1	4
	Asellidae	3	10
	Cirolanidae	1	4
	Sphaeromatidae	2	2
	Anthuridae	1	1
MYSIDA	Mysidae	4	7
DECAPODA	Palaemonidae	2	3
	Atyidae	1	1
	Astacidae	1	3
	Potamidae	1	9
	Portunidae	1	1
	Total	37	126

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