

An updated and annotated checklist of the Malacostraca (Crustacea) species inhabited Turkish inland waters

Mehmet İPEK¹, Murat ÖZBEK^{2,*}

¹Faculty of Science and Art, Eskişehir Osmangazi University, Eskişehir, Turkey

²Faculty of Fisheries, Ege University, İzmir, Turkey

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Abstract: The current status and annotated checklist of fresh- and brackish-water amphipod species inhabiting the inland waters (streams, lakes, ponds, lagoons, subterranean waters, etc.) of Turkey is presented. Totally, 171 papers, 3 books, 3 book chapters, 5 conference papers, 2 projects, 3 PhD and 3 MSc thesis were examined in the present study. As the result of the previous records, 201 taxa comprising 121 amphipods (16 families, 31 genera), 27 isopods (9 families, 13 genera), 9 mysids (1 family, 5 genera), 4 tanaids (3 families, 4 genera) and 40 decapods (16 families, 18 genera) were compiled. All the previously recorded localities of each taxon were listed in detail. The endemic taxa and the doubtful records were indicated and discussed. Twenty maps showing the distribution of reported species were also presented.

Key words: Freshwater, brackish water, distribution, lake, stream, benthos

1. Introduction

Malacostraca is the largest class of Crustacea and has economically very important marine and freshwater species such as crabs, shrimps, crayfishes and lobsters. Their bodies are generally composed of 20 segments (rarely 21) and are divided into three main parts: head, thorax and abdomen. To date, some 40,000 species of Malacostraca have been identified, and most of them have marine character. There are also many species living in freshwater, brackish water, groundwater, and terrestrial habitats.

As a result of the studies reported to date from the inland waters of Turkey, the Malacostraca class is represented only by Peracarida (except Cumacea) and Eucarida (excluding Euphausiacea) (Özbek & Ustaoglu, 2005).

The first records of the Malacostraca species from the inland waters of Turkey were reported at the beginning of the 20th century (Vavra 1905; Ninni, 1923; Coifmann 1938). Then, the first studies by the native scientists were reported in the 1970s. In the pioneer study, Geldiay and Kocataş (1970) studied the *Astacus* populations of Turkish freshwaters. Seven years later, the same authors reported a study on the freshwater crabs of Turkey (Geldiay and Kocataş, 1977). The number of studies on the distribution of the Malacostraca species in the inland waters of Turkey has rapidly increased in subsequent years.

* Correspondence: ozbekm71@gmail.com

The only checklist of the Malacostraca species inhabited Turkish inland waters was reported by Özbek and Ustaoglu (2006). Also, there are a few reported checklists on the distribution of Malacostraca species of Turkey, but they have focused to either an order (such as freshwater decapods) or a family or a genus (Özbek, 2011b; Özcan et al., 2012b; Harlıoğlu et al., 2018; Özbek, 2018b).

The aims of the present study are (a) to find out the exact list of the brackish and freshwater Malacostraca species reported from the inland waters of Turkey, (b) to update the current taxonomic positions of the reported taxa, (c) to compile the detailed distribution of the reported taxa, and (d) to indicate the endemic species and doubtful records.

2. Materials and methods

The list of the Malacostraca species and the localities, where they inhabit, have been compiled by examining the previous publications on the subject. In the preparation of the present study, the previous checklist (Özbek and Ustaoglu, 2006) was taken as the basis, and the current taxonomic status of the taxa has been updated following WoRMS Editorial Board (2020).

All the records from various sources (journal papers, MSc and PhD thesis, conference papers) were compiled, and recorded localities of each taxon were listed in detail (Table 1). Totally, 171 papers, 3 books, 3 book chapters,

Table 1. The status of the studies concerning Malacostraca taxa of Turkish inland waters (N: number of the studies).

Period	N	Detail of the study
.....-1900	1	Heller (1863).
1901-1910	2	Rathbun (1904); Vávra (1905).
1911-1920	0	-
1921-1930	1	Ninni (1923).
1931-1940	4	Schellenberg (1933); S. Karaman (1934); Coifmann (1938); Gadeau de Kerville (1939) [from Henry <i>et al.</i> 1996].
1941-1950	5	Băcescu (1948); Geldiay (1949); Ruffo (1949); Bott (1950); S. Karaman (1950).
1951-1960	2	Băcescu (1954); Chappuis (1955).
1961-1970	12	Holthius (1961); Pretzmann (1962, 1963, 1965, 1966, 1967); Mordukhai-Boltovskoi (1964); Deeleman-Reinhold (1965); Stock (1967); Geldiay and Kocataş (1968, 1970); Bott (1970).
1971-1980	22	Karaman (1971, 1973a, 1973b, 1975a, 1975b); Pretzmann (1971a, 1971b, 1972, 1975, 1976); Ruffo (1974); Stock (1974); Tareen (1974); Geldiay and Kocataş (1977); Geldiay <i>et al.</i> (1977); Karaman and Pinkster (1977a, 1977b); Argano and Pesce (1978, 1980); Kocataş and Katağan (1978); Pinkster and Karaman (1978); Veuille and Kocataş (1979).
1981-1990	13	Kocataş (1981); Bellan-Santini <i>et al.</i> (1982); Barnard and Barnard (1983); Kocataş and Katağan (1983); Pretzmann (1983); Kinzelbach (1985); Karaman and Pinkster (1987); 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	17	Kazancı <i>et al.</i> (1992); Pinkster (1993); Henry <i>et al.</i> (1996); Yeşilmen and Kırgız (1996); Koenemann <i>et al.</i> (1998); Önen <i>et al.</i> (1998); Özbek and Ustaoglu (1998); Ustaoglu <i>et al.</i> (1998, 2000); Balık <i>et al.</i> (1999); Egemen <i>et al.</i> (1999); Vonk <i>et al.</i> (1999); Akbulut and Sezgin (2000); Ariani and Wittman (2000); Bat <i>et al.</i> (2000); Brandis <i>et al.</i> (2000); Çamur and Kırgız (2000).
2001-2010	59	Akbulut <i>et al.</i> (2001, 2002, 2009a, 2009b); Bat and Akbulut (2001); Özbek and Ustaoglu (2001, 2005, 2007); Sarı <i>et al.</i> (2001); Balık <i>et al.</i> (2002, 2004, 2006); Ustaoglu <i>et al.</i> (2002, 2004, 2008); Karaman (2003); Kocataş <i>et al.</i> (2003a, 2003b); Özbek (2007, 2008); Özbek <i>et al.</i> (2003, 2004a, 2004b, 2004c, 2004d, 2007, 2009); Can <i>et al.</i> (2004); Gözal (2004); Harlioğlu (2004); Aygen and Balık (2005); Ciğerci (2005); Gülle (2005); Özbek and Güloğlu (2005); Öztürk <i>et al.</i> (2005); Trontelj <i>et al.</i> (2005, 2007); Yıldız <i>et al.</i> (2005); Elipek <i>et al.</i> (2006); Harlioğlu and Güner (2006, 2007); Kırkım <i>et al.</i> (2006); Gülle <i>et al.</i> (2007); Özbek and Topkara (2007); Akyıldız (2008); Çamur-Elipek and Kırgız (2008); Yardım <i>et al.</i> (2008); Acarlı <i>et al.</i> (2009); Fişer <i>et al.</i> (2009); Güner (2009); İpek and Şirin (2009); Öntürk (2009); Özbek and Balık (2009); Özcan <i>et al.</i> (2009); Özkan (2009); Şirin <i>et al.</i> (2009); Özbek and Çamur-Elipek (2010); Özbek and Özkahya (2010); Taşdemir <i>et al.</i> (2010).
2011-2020	54	Alagöz Ergüden <i>et al.</i> (2011); Jesse <i>et al.</i> (2011); Koçak <i>et al.</i> (2011); Özbek (2011a, 2011b, 2012a, 2012b, 2016, 2018a, 2018b); Özbek and Özkan (2011, 2017); Andreev and Kenderov (2012); Çamur-Elipek and Özkan (2012); Karaman (2012a, 2012b, 2012c, 2012d, 2017, 2018); Özcan <i>et al.</i> (2012a, 2013); Özbek <i>et al.</i> (2013, 2015, 2016a, 2016b, 2017, 2018, 2019); Özcan and Ergüden (2013); Apaydın Yağcı <i>et al.</i> (2014); Ayas and Kara (2014); Bakır and Katağan (2014); Akbaba and Boyacı (2015); Özkahya and Çamur-Elipek (2015); Yıldız <i>et al.</i> (2015); Coşkun <i>et al.</i> (2016); Ekinci and Miroğlu (2016, 2017); Rewicz <i>et al.</i> (2016); Altınsoçlu <i>et al.</i> (2017); Baytaşoğlu and Kaya (2017); Chertoprud and Palatov (2017); İpek <i>et al.</i> (2017); Aslan <i>et al.</i> (2018); Baytaşoğlu and Gözler (2018); Davolos <i>et al.</i> (2018); Demirci (2018); Kısımlar (2018); Öntürk and İpek (2018); Özbek and Güloğlu (2019); Özbek and Sket (2019); Arslan <i>et al.</i> (2020); González-Ortegón <i>et al.</i> (2020).

5 conference papers, 2 projects, 3 PhD and 3 MSc thesis were examined in the study. The endemic taxa and doubtful records were indicated and discussed. Twenty maps showing the distribution of the reported species were also presented.

There is a question mark “?” in some records in the text. The reason for this is due to misspelling or

misinformation occurring in the locality names issued by foreign researchers.

3. Results

The examination of previous literature has revealed the occurrence of a total of 201 taxa, comprising 121 amphipods (16 families, 31 genera), 27 isopods (9 families,

13 genera), 9 mysids (1 family, 5 genera), 4 tanaids (3 families, 4 genera) and 40 decapods (16 families, 18 genera) (Figure 1).

There are 121 Amphipoda taxa reported from the inland waters of Turkey, and one-third of them have brackish/marine character. Tanaidaceans were represented by four species, and all of them have a brackish/marine character (Figure 1).

The most common isopod species reported from the inland waters of Turkey is *Asellus aquaticus* (Linnaeus, 1758), which was recorded in various localities covering 29 cities. Similarly, the only freshwater crab genus inhabiting the freshwaters of Turkey is *Potamon*. The genus was represented by twelve species, and two of them are endemic to Turkey.

The current status and the list of the reported taxa are presented in Table 2 with notes on their ecological features and list of their recorded province(s).

Amphipods have a relatively high endemism ratio, which is about 47%. The ratio is the highest especially

in *Bogidiella*, *Medigidiella*, *Synurella*, *Niphargus*, and *Gammarus* genera (Table 2).

Detailed distributional data

Order: Amphipoda Latreille, 1816

Family: Stenothoidae Boeck, 1871 (Figure 2)

Stenothoe elachista Krapp-Schickel, 1975: Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983).

Family: Dexaminidae Leach, 1814 (Figure 2)

Dexamine spinosa (Montagu, 1813): Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a).

Family: Aoridae Stebbing, 1899 (Figure 2)

Aora spinicornis Afonso, 1976: Bafa Lake (Aydın/Muğla) (Sarı et al., 2001).

Microdeutopus algicola Della Valle, 1893: Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999).

Microdeutopus gryllotalpa Costa, 1853: Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983; Bakır and Katağan, 2014); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Bafa

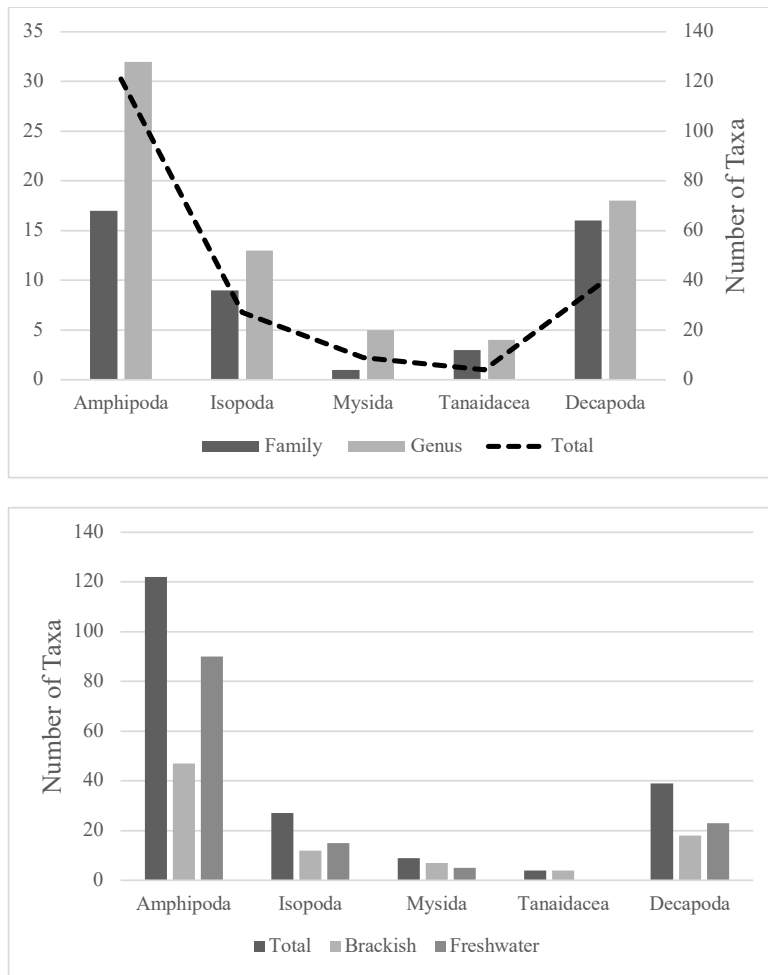


Figure 1. The family, genus, and taxon numbers (up) and ecological characters (down) of the malacostracan members reported from the inland waters of Turkey.

Table 2. Taxonomic positions and list of the reported taxa. Ecological features of the taxon (B: brackish water; F: freshwater; E: epigeic; H: hypogean); endemic species are marked with En*. Doubtful records are marked with D.

Taxonomic position/Taxon name	Ecological Features						Recorded Province(s)
	B	F	E	H	En*	D	
Order: Amphipoda Latreille, 1816 Suborder: Amphilochidea Boeck, 1871 Family: Dexaminidae Leach, 1814							
<i>Dexamine spinosa</i> (Montagu, 1813)	B		E				Aydın
Family: Stenothoidae Boeck, 1871							
<i>Stenothoe elachista</i> Krapp-Schickel, 1975	B		E				Antalya
Suborder: Senticaudata Lowry & Myers, 2013 Family: Aoridae Stebbing, 1899							
<i>Aora spinicornis</i> Afonso, 1976	B		E				Aydın
<i>Microdeutopus algicola</i> Della Valle, 1893	B		E				Muğla
<i>Microdeutopus gryllotalpa</i> Costa, 1853	B		E				Antalya, Aydın, Muğla
Family: Bogidiellidae Hertzog, 1936							
<i>Bogidiella calicali</i> G. Karaman, 1988		F	E		En*		Antalya
<i>Bogidiella longiflagellum</i> S. Karaman, 1959		F		H			Antalya, Burdur, İzmir
<i>Bogidiella turcica</i> Vonk, Seveso & Noteboom 1999		F		H	En*		Muğla
<i>Medigidiella arista</i> (Koenemann, Vonk & Schram, 1998)		F	E		En*		Antalya
<i>Medigidiella minotaurus</i> (Ruffo, 1976)		F		H	En*		Antalya
Family: Caprellidae Leach, 1814							
<i>Caprella equilibra</i> Say, 1818	B		E				İstanbul
<i>Phtisica marina</i> Slabber, 1769	B		E				İstanbul
Family: Corophiidae Leach, 1814							
<i>Chelicorophium curvispinum</i> (G.O. Sars, 1895)	B	F	E				Bursa, Isparta, İstanbul, Konya
<i>Chelicorophium maeoticum</i> (Sowinsky, 1898)	B	F	E				Sakarya
<i>Chelicorophium robustum</i> (G.O. Sars, 1895)	B	F	E				Bahçesir, Bursa, Kocaeli, Sakarya
<i>Corophium orientale</i> Schellenberg, 1928	B		E				Aydın, İstanbul, İzmir, Muğla
<i>Corophium volutator</i> (Pallas, 1766)	B		E				Aydın, Muğla
<i>Leptocheirus pilosus</i> Zaddach, 1844	B		E				Antalya, Muğla
<i>Monocorophium insidiosum</i> (Crawford, 1937)	B		E				Sinop
<i>Monocorophium sextonae</i> (Crawford, 1937)	B		E				Aydın
Family: Crangonyctidae Bousfield, 1973							
<i>Synurella ambulans</i> (F. Müller, 1846)		F	E				Antalya, Aydın, Bolu, Denizli, Isparta, Kırklareli, Konya, Muğla, Sinop
<i>Synurella lepida</i> Mateus & Mateus, 1990		F	E		En*		Adapazarı, Düzce
<i>Synurella osellai</i> Ruffo, 1974		F	E		En*		Giresun, Ordu, Trabzon
Family: Niphargidae Bousfield, 1977							
<i>Niphargus anatolicus</i> S. Karaman, 1950		F	E		En*		İstanbul, Ordu
<i>Niphargus imitator</i> G. Karaman, 2012		F		H	En*		Antalya
<i>Niphargus incus</i> G. Karaman, 2012		F		H	En*		Zonguldak
<i>Niphargus kirgizi</i> Fişer, Çamur-Elipek & Özbek, 2009		F		H	En*		Adana

Table 2. (Continued).

<i>Niphargus orientalis</i> S. Karaman, 1950		F		H	En*	Çanakkale
<i>Niphargus religiosus</i> G. Karaman, 2012		F		H	En*	Kastamonu
<i>Niphargus sertaci</i> Fişer, Çamur-Elipek & Özbek, 2009		F		H	En*	İzmir
<i>Niphargus spoeckeri</i> Schellenberg, 1933		F	E		D	Karaman, Mersin
<i>Niphargus tauri</i> Schellenberg, 1940		F		H	En*	Taurus Mountains (No province data), Bilecik, Eskişehir
<i>Niphargus tauri afioni</i> G. Karaman, 2012		F		H	En*	Afyonkarahisar
<i>Niphargus turcicus</i> Andreev & Kenderov, 2012		F		H	En*	Kastamonu
<i>Niphargus valachicus</i> Dobreanu & Manolache, 1933		F	E	H		Edirne, İstanbul, Kırklareli, Sinop
Family: Gammaridae Leach, 1814						
<i>Amathillina cristata</i> G.O. Sars, 1894	B	F	E			İstanbul
<i>Dikergammarus gruberi</i> Mateus & Mateus, 1990		F	E		D	Adapazarı
<i>Dikergammarus haemobaphes</i> (Eichwald, 1841)	B	F	E			İstanbul
<i>Dikergammarus istanbulensis</i> Özbek & Özkan, 2011	B	F	E		En*	İstanbul
<i>Dikergammarus villosus</i> (Sowinsky, 1894)	B	F	E			İstanbul
<i>Echinogammarus antalyae</i> G. Karaman, 1971	B	F	E		En*	Antalya, Muğla
<i>Echinogammarus baliki</i> Özbek & Ustaoglu, 2007	B		E		En*	İzmir
<i>Echinogammarus foxi</i> (Schellenberg, 1928)	B	F	E			Hatay, İzmir, Mersin, Muğla
<i>Echinogammarus ischnus</i> Stebbing, 1899	B	F	E			Afyonkarahisar, Balıkesir, Bursa, Eskişehir, Isparta, Kocaeli, Konya, Sakarya, Samsun, Sinop, İstanbul
<i>Echinogammarus stocki</i> G. Karaman, 1970	B		E			Aydın, Muğla
<i>Echinogammarus trichiatus</i> (Martynov, 1932)	B		E			İstanbul
<i>Echinogammarus veneris</i> (Heller, 1865)	B	F	E			İzmir, Muğla
<i>Gammarus abscisus</i> G. Karaman, 1973		F	E		En*	Amasya, Kırşehir
<i>Gammarus accolae</i> G. Karaman, 1973		F	E		En*	Antalya
<i>Gammarus aequicauda</i> (Martynov, 1931)	B		E			Antalya, Aydın, Balıkesir, Çanakkale, Edirne, İstanbul, İzmir, Mersin, Muğla, Samsun, Sinop
<i>Gammarus agrarius</i> G. Karaman, 1973		F	E		En*	Adana, Afyonkarahisar, Antalya, Isparta, Kayseri, Konya, Niğde,
<i>Gammarus anatoliensis</i> Schellenberg, 1937		F	E		En*	Adana, Ankara, Afyonkarahisar, Bilecik, Bolu, Burdur, Çorum, Denizli, Eskişehir, Isparta, Konya, Kütahya
<i>Gammarus arduus</i> Karaman, 1975		F	E		En*	Çanakkale, Edirne, İstanbul, Kırklareli, Ordu, Samsun, Tekirdağ
<i>Gammarus argaeus</i> Vávra, 1905		F	E		En*	Aksaray, Burdur, Karaman, Kayseri, Kırıkkale, Kütahya, Niğde
<i>Gammarus balcanicus</i> Schäferna, 1923		F	E			Afyonkarahisar, Antalya, Bayburt, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Erzincan, Erzurum, Eskişehir, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Konya, Kütahya, Mersin, Muğla, Niğde, Ordu, Sakarya, Sinop, Sivas, Trabzon, Tekirdağ, Van

Table 2. (Continued).

<i>Gammarus baysali</i> Özbek, Yurga & Külköylüoğlu, 2013		F		H	En*	Karabük
<i>Gammarus birsteini</i> Karaman & Pinkster, 1977		F	E			Artvin, Bayburt, Bitlis, Erzincan, İzmir, Rize, Trabzon
<i>Gammarus crenulatus</i> Karaman & Pinkster, 1977		F	E		En*	Malatya
<i>Gammarus crinicornis</i> Stock, 1966	B		E			İstanbul, İzmir, Muğla
<i>Gammarus deryae</i> Özbek, 2018		F	E		En*	Isparta
<i>Gammarus dorsosetosus</i> Mateus & Mateus, 1990		F	E		En*	Isparta, Hatay, Karaman,
<i>Gammarus effultus</i> Karaman, 1975		F	E			Ankara, Ordu, Van
<i>Gammarus egmao</i> Özbek & Güloğlu, 2019		F		H	En*	Mersin
<i>Gammarus fossarum</i> Koch, 1836		F	E			Artvin, Bayburt, Bilecik, Bursa, Çanakkale, Eskişehir, Kırklareli, Kütahya, İstanbul
<i>Gammarus goedmakersae</i> G.S. Karaman & Pinkster, 1977		F	E		En*	Kayseri
<i>Gammarus gonensis</i> Özbek, 2016		F	E		En*	Çanakkale, İstanbul, Kütahya, Tekirdağ
<i>Gammarus inopinatus</i> Mateus & Mateus, 1990		F	E		En*	Ankara
<i>Gammarus insensibilis</i> Stock, 1966	B		E			Antalya, Aydın, İzmir, Muğla, Sinop
<i>Gammarus izmirensis</i> Özbek, 2007		F	E		En*	İzmir
<i>Gammarus katagani</i> Özbek, 2012		F	E		En*	Kütahya
<i>Gammarus kesanensis</i> Özbek & Çamur-Elipek, 2010		F	E		En*	Edirne
<i>Gammarus kischineffensis</i> Schellenberg, 1937		F	E			Bayburt, Bitlis, Diyarbakır, Elazığ, Erzincan, Erzurum, Gümüşhane, Kahramanmaraş, Siirt, Tunceli
<i>Gammarus komareki</i> Schäferna, 1923		F	E			Amasya, Bilecik, Bolu, Çanakkale, Çorum, Edirne, İstanbul, Kırklareli, Ordu, Rize, Samsun, Sinop, Tekirdağ, Trabzon, Zonguldak
<i>Gammarus laborifer</i> Karaman & Pinkster, 1977		F	E			Burdur, Isparta, Ordu
<i>Gammarus lacustris</i> G.O. Sars, 1863		F	E			Afyonkarahisar, Artvin, Bitlis, Bolu, Burdur, Isparta, İstanbul, İzmir, Karaman, Konya, Van
<i>Gammarus longipedis</i> Karaman & Pinkster, 1987		F	E		En*	Antalya, Isparta, Konya, Muğla, Sinop
<i>Gammarus mladeni</i> Karaman & Pinkster, 1977		F	E		En*	Aksaray, Hatay, Kırşehir, Konya
<i>Gammarus obnixus</i> Karaman & Pinkster, 1977		F	E		En*	Afyonkarahisar, Denizli, Isparta, Konya
<i>Gammarus obruki</i> Özbek, 2012		F		H	En*	Bartın
<i>Gammarus odettae</i> Mateus & Mateus, 1990		F	E		En*	Ankara, Balıkesir, Bursa
<i>Gammarus osellai</i> Karaman & Pinkster, 1977		F	E		En*	Ankara, Kayseri
<i>Gammarus pageti</i> Mateus & Mateus, 1990		F	E		En*	Erzurum
<i>Gammarus paraorientalis</i> (S. Karaman, 1934)		F	E		En*	Kayseri
<i>Gammarus pavo</i> Karaman & Pinkster, 1977		F	E		En*	Afyonkarahisar, Burdur, Denizli, Isparta
<i>Gammarus pseudanatoliensis</i> Karaman & Pinkster, 1987		F	E		En*	Ankara, Antalya, Bilecik, Burdur, Eskişehir, Kahramanmaraş, Karaman, Kayseri, Konya, Nevşehir, Sivas
<i>Gammarus pseudosyriacus</i> Karaman & Pinkster, 1977		F	E			Afyonkarahisar, Ardahan, Artvin, Bitlis, Elazığ, İzmir, Karaman, Konya, Muş, Niğde, Van
<i>Gammarus pulex</i> (Linnaeus, 1758)		F	E			Denizli, İstanbul, Sakarya
<i>Gammarus pulex gallicus</i> (S. Karaman, 1931)		F	E		D	Denizli

Table 2. (Continued).

<i>Gammarus pulex pulex</i> (Linneaus, 1758)		F	E			Afyonkarahisar, Balıkesir, Bilecik, Bitlis, Bursa, Çanakkale, Edirne, Eskişehir, Giresun, Isparta, İzmir, Konya, Kütahya, Manisa, Ordu, Sakarya, Samsun, Sinop, Trabzon, Yalova
<i>Gammarus rambouseki</i> S. Karaman, 1931		F	E			İstanbul, Kırklareli, Tekirdağ
<i>Gammarus roeselii</i> Gervais, 1835		F	E			Denizli, Isparta
<i>Gammarus subtypicus</i> Stock, 1966	B		E			Adana, Aydın, Balıkesir, Çanakkale, Edirne, İstanbul, İzmir, Kırklareli, Muğla, Sinop
<i>Gammarus syriacus</i> Chevreux, 1895		F	E			Konya
<i>Gammarus topkarai</i> Özbek & Balık, 2009		F	E		En*	Konya, Ordu
<i>Gammarus uludagi</i> G.S. Karaman, 1975		F	E			Balıkesir, Bursa, Çanakkale, İzmir, Kütahya, Manisa, Samsun, Sinop
<i>Gammarus ustaoglu</i> Özbek & Güloğlu, 2005		F	E		En*	Mersin
<i>Gammarus vignai</i> Pinkster & Karaman, 1978		F		H	En*	Konya
<i>Gammarus werner</i> (S. Karaman, 1934)		F	E			Bursa
<i>Rhipidogammarus gordankaramani</i> Özbek & Sket, 2019	B	F		H	En*	Antalya
Family: Pontogammaridae Bousfield, 1977						
<i>Pontogammarus aestuarius</i> (Derzhavin, 1924)	B	F	E			Sakarya
<i>Pontogammarus maeoticus</i> (Sovinsky, 1894)	B	F	E			Kırklareli
<i>Pontogammarus robustoides</i> (Sars, 1894)	B	F	E			Balıkesir, Burdur, Bursa, Denizli, Kocaeli, İstanbul, İzmir, Sakarya, Tekirdağ
<i>Turcogammarus turcarum</i> (Stock, 1974)		F	E		En*	Ağrı
Family: Eriopisidae Lowry & Myers, 2013						
<i>Gammaropisa arganoi</i> Ruffo & Vigna-Taglianti, 1988		F		H	En*	Antalya
Family: Hadziidae S. Karaman, 1943						
<i>Parhadzia sbordonii</i> Vigna Taglianti, 1988		F		H	En*	Antalya
Family: Melitidae Bousfield, 1973						
<i>Melita palmata</i> (Montagu, 1804)	B		E			Antalya, Giresun
Family: Ischyroceridae Stebbing, 1899						
<i>Erichthonius brasiliensis</i> (Dana, 1853)	B		E			Muğla
<i>Erichthonius difformis</i> Milne-Edwards, 1830	B		E			Antalya
<i>Erichthonius punctatus</i> (Spence Bate, 1857)	B		E			Aydın, Muğla
Hyalidae Bulyçeva, 1957						
<i>Hyale pontica</i> Rathke, 1847	B		E			Sinop
<i>Parhyale aquilina</i> (Costa, 1857)	B		E			Antalya
Family: Talitridae Rafinesque, 1815						
<i>Cryptorchestia cavimana</i> (Heller, 1865)	B	F	E			Bursa, Isparta, İstanbul, Mersin, Sakarya, Samsun, Sinop
<i>Cryptorchestia garbinii</i> Ruffo, Tarocco & Latella, 2014		F	E			Bursa, Kırklareli, Sakarya
<i>Cryptorchestia kosswigi</i> (Ruffo, 1949)		F	E		En*	İzmir
<i>Deshayesorchestia deshayesii</i> (Audouin, 1826)	B		E			Sinop
<i>Orchestia bottae</i> H. Milne Edwards, 1840	B	F	E			Bursa, Mersin, Samsun
<i>Orchestia gammarellus</i> (Pallas, 1766)	B		E			Antalya, Mersin, Muğla, Sinop
<i>Orchestia mediterranea</i> Costa, 1857	B		E			Aydın, Çanakkale

Table 2. (Continued).

<i>Orchestia montagui</i> Audouin, 1826	B		E			Aydın, Balıkesir, Çanakkale, Muğla
<i>Orchestia stephenseni</i> Cecchini, 1928	B		E			Aydın, İzmir, Muğla, Samsun, Sinop
<i>Platorchestia platensis</i> (Krøyer, 1845)	B	F	E			Antalya, Mersin, Muğla, Samsun
Order: Isopoda Latreille, 1817 Suborder: Asellota Latreille, 1802 Family: Asellidae Rafinesque, 1815						
<i>Asellus (Asellus) aquaticus</i> (Linnaeus, 1758)		F	E			Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bolu, Burdur, Bursa, Çanakkale, Denizli, Edirne, Erzincan, Eskişehir, Isparta, İstanbul, İzmir, Kahramanmaraş, Kayseri, Kırklareli, Konya, Manisa, Muğla, Ordu, Samsun, Sinop, Tekirdağ, Zonguldak
<i>Asellus (Asellus) hilgendorffii</i> Bovallius, 1886		F	E			Kırklareli
<i>Asellus (Asellus) monticola</i> Birstein, 1932		F	E			Samsun, Sinop
<i>Proasellus coxalis</i> (Dollfus, 1892)		F				Antalya, Mersin
<i>Proasellus infirmus</i> (Birstein, 1936)		F				Kırklareli
<i>Proasellus lykaonicus</i> Argano & Pesce, 1978		F		H	En*	Konya
<i>Proasellus pamphylicus</i> Henry, Magniez & Notenboom, 1996		F				Antalya
<i>Proasellus pisidicus</i> Henry, Magniez & Notenboom, 1996		F				Burdur
Family: Janiridae G.O. Sars, 1897						
<i>Jaera (Jaera) italica</i> Kesselyak, 1938	B		E			Antalya, Aydın, İzmir, Muğla
<i>Jaera (Jaera) nordmanni massiliensis</i> Lemercier, 1960	B		E			Antalya
<i>Jaera (Jaera) sarsi</i> Valkanov, 1936	B		E			İstanbul
Family: Lepidocharontidae Galassi & Bruce, 2016						
<i>Microcharon anatolicus</i> Pesce & Galassi, 1990		F			En*	İzmir, Konya
<i>Microcharon lydicus</i> Pesce & Galassi, 1990		F		H	En*	Antalya, Konya
<i>Microcharon ullae</i> Pesce, 1981		F			En*	İzmir, Muğla
Suborder: Cymothoida Wägele, 1989 Family: Anthuridae Leach, 1814						
<i>Cyathura carinata</i> (Krøyer, 1847)	B					Antalya, Muğla
Family: Cirolanidae Dana, 1852						
<i>Eurydice spinigera</i> Hansen, 1890	B		E			Sinop
<i>Turcolana adaliae</i> Botosaneanu & Notenboom, 1989		F		H	En*	Antalya
<i>Turcolana cariae</i> Argano & Pesce, 1980		F		H	En*	Muğla
<i>Turcolana pamphyliae</i> Botosaneanu & Notenboom, 1989		F	E	H	En*	Antalya
<i>Turcolana smyrnae</i> Botosaneanu & Notenboom, 1989		F			En*	İzmir
Suborder: Oniscidea Latreille, 1802 Family: Ligiidae Leach, 1814						
<i>Ligia italica</i> Fabricius, 1798	B		E			Antalya
Family: Tylidae Dana, 1852						
<i>Tylos latreillii</i> Audouin, 1826 (nomen dubium)	B		E			Antalya, Aydın, Muğla

Table 2. (Continued).

Suborder: Sphaeromatidea Wägele, 1989 Family: Sphaeromatidae Latreille, 1825							
<i>Lekanesphaera hookeri</i> (Leach, 1814)	B		E				Antalya, Aydın, Balıkesir, İzmir, Mersin, Muğla, Sinop
<i>Lekanesphaera monodi</i> (Arcangeli, 1934)	B		E				Aydın
<i>Sphaeroma serratum</i> (Fabricius, 1787)	B		E				Antalya, Aydın, İstanbul, Mersin, Muğla, Sinop
Suborder: Valvifera G. O. Sars, 1883 Family: Idoteidae Samouelle, 1819							
<i>Idotea balthica</i> (Pallas, 1772)	B		E				Antalya, Aydın, Balıkesir, Çanakkale, İstanbul, Muğla, Samsun, Sinop
<i>Synischia hectica</i> (Pallas, 1772)	B		E				Sinop
Order: Mysida Haworth, 1825 Family: Mysidae Haworth, 1825							
<i>Diamysis bahirensis</i> (G.O. Sars, 1877)	B		E				İzmir, Muğla
<i>Diamysis cymodoceae</i> Wittmann & Ariani, 2012	B		E				İstanbul
<i>Diamysis mesohalobia</i> Ariani & Wittmann, 2000	B		E				Balıkesir, Muğla
<i>Diamysis pengoi</i> (Czerniavsky, 1882)	B	F	E				Sakarya
<i>Limnomysis benedeni</i> Czerniavsky, 1882	B	F	E				Bursa, Sakarya, Samsun
<i>Mesopodopsis slabberi</i> (Van Beneden, 1861)	B		E				İstanbul, İzmir
<i>Mysis relicta</i> Lovén, 1862		F	E			D	Burdur, Denizli
<i>Paramysis (Serrapalpis) kosswigi</i> Băcescu, 1948		F	E				Afyonkarahisar, Denizli, Isparta, Konya, Samsun
<i>Paramysis (Serrapalpis) lacustris</i> (Czerniavsky, 1882)	B	F					Konya
Order: Tanaidacea Dana, 1849 Suborder: Tanaidomorpha Sieg, 1980 Family: Leptocheliidae Lang, 1973							
<i>Chondrochelia savignyi</i> (Kroyer, 1842)	B		E				İstanbul, Muğla
<i>Heterotanais oerstedii</i> (Krøyer, 1842)	B		E				Muğla
Family: Tanaellidae Larsen & Wilson, 2002							
<i>Araphura filiformis</i> (Lilljeborg, 1864)	B		E				İstanbul
Family: Tanaididae Nobili, 1906							
<i>Tanais dulongii</i> (Audouin, 1826)	B		E				Aydın, İstanbul, Muğla
Order: Decapoda Latreille, 1802 Suborder: Pleocyemata Burkenroad, 1963 Family: Diogenidae Ortmann, 1892							
<i>Diogenes pugilator</i> (Roux, 1829)	B		E				İstanbul
Family: Grapsidae MacLeay, 1838							
<i>Pachygrapsus marmoratus</i> (Fabricius, 1787)	B		E				Antalya, Mersin
Family: Astacidae Latreille, 1802							
<i>Astacus astacus</i> (Linnaeus, 1758)		F	E			D	Ankara
<i>Astacus colchicus</i> Kessler, 1876		F	E				Ordu
<i>Austropotamobius pallipes</i> (Lereboullet, 1858)		F	E				Balıkesir, Bursa
<i>Austropotamobius torrentium</i> (von Paula Schrank, 1803)		F	E				Kırklareli

Table 2. (Continued).

<i>Pontastacus leptodactylus</i> (Eschscholtz, 1823)		F	E			Ankara, Antalya, Burdur, Bursa, Denizli, Edirne, Eskişehir, Isparta, İstanbul, İzmir, Kayseri, Kırıkkale, Kırşehir, Kocaeli, Konya, Manisa, Sakarya, Samsun
<i>Pontastacus salinus</i> (von Nordmann, 1842)		F	E			Antalya, Balıkesir, Burdur, Isparta, İzmir, Konya
Family: Eriphia Latreille, 1817						
<i>Eriphia verrucosa</i> (Forskål, 1775)	B		E			Ordu
Family: Carcinidae MacLeay, 1838						
<i>Carcinus aestuarii</i> Nardo, 1847	B		E			Adana, Antalya, Aydın, Balıkesir, İstanbul, İzmir, Mersin, Muğla, Samsun, Sinop
Family: Portunidae Rafinesque, 1815						
<i>Callinectes sapidus</i> Rathbun, 1896	B		E			Adana, Antalya, Mersin, Muğla
Family: Potamidae Ortmann, 1896						
<i>Potamon bileki</i> Pretzmann, 1971		F	E		En*	Adana, Karaman, Konya, Mersin
<i>Potamon fluviatile</i> (Herbst, 1785)		F	E			Edirne, Kırklareli
<i>Potamon hippocratis</i> Ghigi, 1929		F	E			Aydın, Denizli, İzmir, Manisa, Muğla
<i>Potamon hueceste</i> Pretzmann, 1962		F	E		En*	Ağrı, Ankara, Bingöl, Diyarbakır, Elazığ, Erzincan, Gaziantep, Kayseri, Kırıkkale, Malatya
<i>Potamon ibericum</i> (Bieberstein, 1809)		F	E			Ankara, Artvin, Aydın, Balıkesir, Bayburt, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çorum, Düzce, Edirne, Erzincan, Giresun, İstanbul, İzmir, Kayseri, Kırklareli, Kocaeli, Konya, Manisa, Muğla, Nevşehir, Niğde, Ordu, Rize, Sakarya, Samsun, Siirt, Sinop, Tokat, Trabzon
<i>Potamon karpathos</i> Giavarini, 1934		F	E			Antalya, Mersin
<i>Potamon magnum</i> Pretzmann, 1962		F	E			Adıyaman, Bingöl, Diyarbakır, Elazığ, Erzurum, Gaziantep, Kahramanmaraş, Malatya, Muş, Sivas, Şanlıurfa
<i>Potamon mesopotamicum</i> Brandis, Storch & Türkay, 1998		F	E			Şanlıurfa
<i>Potamon persicum</i> Pretzmann, 1962		F	E			Ağrı, Ankara, Batman, Bitlis, Diyarbakır, Elazığ, Erzurum, Hakkari, Kars, Kayseri, Malatya, Siirt, Sivas, Van
<i>Potamon potamios</i> (Olivier, 1804)		F	E			Adana, Ankara, Antalya, Aydın, Burdur, Bursa, Denizli, Diyarbakır, Elazığ, Giresun, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Konya, Malatya, Mersin, Muğla, Osmaniye, Samsun, Şanlıurfa, Trabzon
<i>Potamon rhodium</i> Parisi, 1913		F	E			Antalya, Aydın, Burdur, Denizli, Hatay, İzmir, Konya, Manisa, Mersin, Muğla
<i>Potamon setigerum</i> Rathbun, 1904		F	E			Adana, Gaziantep, Hatay, Kahramanmaraş, Konya
Family: Hippolytidae Spence Bate, 1888						
<i>Hippolyte holthuisi</i> Zariquiey Álvarez, 1953	B		E			Aydın

Table 2. (Continued).

Family: Atyidae De Haan, 1849						
<i>Atyaephyra desmarestii</i> (Millet, 1831)		F	E			Adana, Antalya, Hatay, Kahramanmaraş
<i>Atyaephyra orientalis</i> Bouvier, 1913		F	E			Antalya, Hatay, Muğla
<i>Atyaephyra tuerkayi</i> Christodoulou, Antoniou, Magoulas & Koukouras, 2012	B		E			Mersin
Family: Crangonidae Haworth, 1825						
<i>Crangon crangon</i> (Linnaeus, 1758)	B		E			İstanbul, Samsun, Sinop
Family: Palaemonidae Rafinesque, 1815						
<i>Palaemon adspersus</i> Rathke, 1837	B		E			Adana, İzmir, Muğla, Sinop
<i>Palaemon antennarius</i> H. Milne Edwards, 1837		F	E			Adana, Antalya, Aydın, Hatay, İzmir, Kütahya, Muğla
<i>Palaemon elegans</i> Rathke, 1837	B		E			Aydın, İzmir, Mersin, Muğla, Samsun, Sinop
<i>Palaemon longirostris</i> H. Milne Edwards, 1837	B		E			Aydın
<i>Palaemon mesopotamicus</i> Pesta, 1913		F	E			Hatay
<i>Palaemon serratus</i> (Pennant, 1777)	B		E			Adana, İzmir, Muğla
<i>Palaemon turcorum</i> (Holthuis, 1961)	B	F	E		En*	Ankara, Antalya, Eskişehir, Mersin
Family: Dromiidae De Haan, 1833 [in De Haan, 1833-1850]						
<i>Dromia personata</i> (Linnaeus, 1758)	B		E			Muğla
Family: Paguridae Latreille, 1802						
<i>Pagurus cuanensis</i> Bell, 1845	B		E			Muğla
Family: Varunidae H. Milne Edwards, 1853						
<i>Brachynotus gemmellari</i> (Rizza, 1839)	B		E			Muğla
Family: Pandalidae Haworth, 1825						
<i>Plesionika narval</i> (Fabricius, 1787)	B		E			Muğla
Family: Penaeidae Rafinesque, 1815						
<i>Penaeus kerathurus</i> (Forskål, 1775)	B		E			İzmir

Lake (Aydın/Muğla) (Sarı et al., 2001); Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a).

Family: Bogidiellidae Hertzog, 1936 (Figure 2)

Bogidiella calicali G. Karaman, 1988: Karpuzçay River (Antalya, Manavgat) (Koenemann et al., 1998).

Bogidiella longiflagellum S. Karaman, 1959: Bou-Rouch pump (İzmir, Seferihisar) (Vonk et al., 1999); Well (İzmir, Seferihisar) (Vonk et al., 1999); No detail (İzmir, Seferihisar) (Vonk et al., 1999); Kamış Stream (Muğla, Yatağan) (Vonk et al., 1999); Dereboğazı Creek (İzmir, Gümüldür) (Vonk et al., 1999); İnsuyu Cave (Burdur) (Vonk et al., 1999); Draw well (Burdur, İncirhan) (Vonk et al., 1999); Draw well (Antalya, Tilkiler) (Vonk et al., 1999); Draw well (Antalya, Manavgat) (Vonk et al., 1999); Water pump (Antalya, Göynük) (Vonk et al., 1999).

Bogidiella turcica Vonk, Seveso & Noteboom 1999: Bou-Rouch pump (Muğla, Güvercinlik) (Vonk et al., 1999).

Medigidiella arista (Koenemann, Vonk & Schram, 1998): Karpuzçay River (Antalya, Manavgat) (Koenemann et al., 1998).

Medigidiella minotaurus (Ruffo, 1976): Bou-Rouch pump (Antalya, Göynük) (Vonk et al., 1999).

Family: Caprellidae Leach, 1814 (Figure 2)

Caprella equilibra Say, 1818: Kamil Abduş Lagoon (=Balık Lake) (İstanbul, Tuzla) (Altınışçı et al., 2017).

Phtisica marina Slabber, 1769: Kamil Abduş Lagoon (İstanbul, Tuzla) (=Balık Lake) (Altınışçı et al., 2017).

Family: Corophiidae Leach, 1814 (Figure 3)

Chelicorophium curvispinum (G.O. Sars, 1895): Eğirdir Lake (Isparta, Bağören) (Özbek and Ustaoglu, 2005; Apaydın Yağcı et al., 2014); Eğirdir Lake (Isparta, Akkeçili) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Gençali) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Sarıdris) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Akburun) (Özbek and Ustaoglu,



☼ *S. elachista* ○ *D. spinosa* ▲ *A. spinicornis* ⊙ *M. algicola* ◆ *M. gryllotalpa* □ *B. calicali*
 ⊠ *B. longiflagellum* ■ *B. turcica* ● *M. arista* ⊗ *M. minotaurus* ◆ *C. equilibra* □ *P. marina*

Figure 2. Distribution of the members of Stenothoidae, Dexaminidae, Aoridae, Bogdiellidae, and Caprellidae in Turkish inland waters.



⊗ *C. curvispinum* ⊙ *C. maeoticum* ○ *C. robustum* ● *C. orientale* ▼ *C. volutator*
 ⊠ *L. pilosus* ⊙ *M. insidiosum* ◆ *M. sextonae* □ *S. ambulans* ■ *S. lepida* □ *S. osellai*

Figure 3. Distribution of the members of Corophiidae and Crangonyctidae in Turkish inland waters.

2005); Beyşehir Lake (Konya, Gölkaşı) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Gökaya) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Karadiken) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Kuşluca) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Tolca) (Özbek and Ustaoglu, 2005); Apolyont Lake (=Uluabat Lake) (Bursa) (Özbek et al., 2004c); Eğirdir Lake (Isparta, Eğirdir) (Apaydın Yağcı et al., 2014); Eğirdir Lake (Isparta, Gelendost) (Apaydın Yağcı et al., 2014); Eğirdir Lake (Isparta, Yalvaç) (Apaydın Yağcı et al., 2014); Terkos Lake (=Durusu Lake) (İstanbul, Arnavutköy) (Rewicz et al., 2016).

Chelicorophium maeoticum (Sowinsky, 1898): Poyrazlar Lake (Sakarya) (Özbek et al., 2004d; Özbek, 2008).

Chelicorophium robustum (G.O. Sars, 1895): Manyas Lake (Balıkesir) (Mordukhai-Boltovskoi, 1964); Apolyont Lake (=Uluabat Lake) (Bursa) (Mordukhai-Boltovskoi, 1964); İznik Lake (Bursa) (Mordukhai-Boltovskoi, 1964); Sapanca Lake (Kocaeli/Sakarya) (Mordukhai-Boltovskoi, 1964).

Corophium orientale Schellenberg, 1928: Bafa Lake (Aydın/Muğla) (Ustaoglu et al., 1998; Sarı et al., 2001); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Gebekirse Lake (İzmir, Selçuk)

(Ustaoglu et al., 2000; Balık et al., 2006); Köyceğiz Lake (Muğla) (Özbek et al., 2004b); Many localities in Kamil Abduş Lagoon (İstanbul, Tuzla) (=Balık Lake) (Altınışacli et al., 2017).

Corophium volutator (Pallas, 1766): Bafa Lake (Aydın/Muğla) (Geldiay et al., 1977); Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a).

Leptocheirus pilosus Zaddach, 1844: Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999).

Monocorophium insidiosum (Crawford, 1937): Sarikum Lake (Sinop, Sarikum) (Yardımcı et al., 2008).

Monocorophium sextonae (Crawford, 1937): Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a).

Family: Crangonyctidae Bousfield, 1973 (Figure 3)

Synurella ambulans (F. Müller, 1846): Kızılcaadağ (Antalya) (Ruffo, 1974); Abant Lake (Bolu) (Ruffo, 1974; Karaman, 2003); Beyşehir Lake (Isparta/Konya) (Ruffo, 1974); No detail (Sinop) (Ruffo, 1974); Bafa Lake (Aydın/Muğla) (Karaman, 2003); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); No detail (Sinop) (Karaman, 2003); Gavur Lake (Konya) (Ustaoglu et al., 2004); Sırakaraağaçlar Creek (Sinop, Dibekli) (Akbulut et al., 2009b); Hamam Lake (Kırklareli) (Özbek et al., 2017); Erikli Lake (Kırklareli) (Özbek et al., 2017); Saklıgöl Lake (Denizli, Honaz) (Özbek 2018b).

Synurella lepida Mateus & Mateus, 1990: No detail (Düzce/Sakarya) (Mateus and Mateus, 1990).

Synurella osellai Ruffo, 1974: No detail (Giresun, Tirebolu) (Ruffo, 1974; Karaman, 2003); Spring (Ordu, Kösebucağı) (Ekinci and Miroğlu, 2017); Solaklı Stream

(Trabzon, Of) (Özbek 2018b).

Family: Niphargidae Bousfield, 1977 (Figure 4)

Niphargus anatolicus S. Karaman, 1950: No detail (İstanbul, Emirgan) (S. Karaman, 1950); Fountain (Ordu, Kösebucağı) (Ekinci and Miroğlu, 2016).

Niphargus imitator G. Karaman, 2012: Mustanini Cave (Antalya, Döşemealtı) (Karaman, 2012b).

Niphargus incus G. Karaman, 2012: Oğlan Kız Cave (Zonguldak, Ereğli) (Karaman, 2012c).

Niphargus kirgizi Fişer, Çamur-Elipek & Özbek, 2009: Katransekisi (Adana, Pozantı) (Fişer et al., 2009).

Niphargus orientalis S. Karaman, 1950: No detail (Çanakkale, Göksu) (S. Karaman, 1950).

Niphargus religiosus G. Karaman, 2012: Urugavaz (Kastamonu, Ballıdağ) (Karaman, 2012a).

Niphargus sertaci Fişer, Çamur-Elipek & Özbek, 2009: Well (İzmir, Bornova) (Fişer et al., 2009).

Niphargus spoeckeri Schellenberg, 1933: Between Karaman and Mersin provinces (Barnard and Barnard, 1983) (*doubtful record*).

Niphargus tauri Schellenberg, 1940: Cave (Taurus Mountains) (Schellenberg, 1933; Karaman, 1973a); Yeşiltepe (Eskişehir, Tepebaşı) (Trontelj et al., 2007); Fountain (Bilecik, Zemzemiye) (İpek and Şirin, 2009).

Niphargus tauri afioni G. Karaman, 2012: Ground water (4 km to Afyon) (Karaman, 2012d).

Niphargus turcicus Andreev & Kenderov, 2012: Eşek Çukuru Cave (Kastamonu, Pınarbaşı) (Andreev and Kenderov, 2012); Çovurma Tepe Cave (Kastamonu, Pınarbaşı) (Andreev and Kenderov, 2012).

Niphargus valachicus Doboreanu & Manolache, 1933: Sırakaraağaçlar Creek (Sinop, Dibekli) (Akbulut et al., 2001; Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat



○ *N. anatolicus* ▲ *N. imitator* ● *N. incus* ⊗ *N. kirgizi* ⊙ *N. orientalis* ▽ *N. religiosus*
 □ *N. sertaci* ⊛ *N. spoeckeri* ■ *N. tauri* ◻ *N. tauri afioni* ⊛ *N. turcicus* ◻ *N. valachicus*

Figure 4. Distribution of the members of Niphargidae in Turkish inland waters.

and Akbulut, 2001); No detail (Sinop) (Karaman, 2003); Sazlıdere (İstanbul, Çatalca) (Gözal, 2004); Kestanelik Creek (İstanbul, Çatalca) (Gözal, 2004); Pirinççi Creek (İstanbul, Eyüpsultan) (Fişer et al., 2009); Hamam Stream (Kırklareli) (Fişer et al., 2009); Hamam Lake (Kırklareli) (Fişer et al., 2009); Hamzabeyli Well (Edirne, Lalapaşa) (Özkahya and Çamur-Elipek, 2015); Well (Edirne, Ömerbey) (Özkahya and Çamur-Elipek, 2015).

Family: Gammaridae Leach, 1814 (Figures 5–10)

Amathillina cristata G.O. Sars, 1894: Terkos Lake (=Durusu Lake) (İstanbul) (Özbek and Özkan, 2010; Karaman, 2012a; Rewicz et al., 2016; Özbek et al., 2017).

Dikerogammarus gruberi Mateus & Mateus, 1990: Sapanca Lake (Kocaeli/Sakarya) (Mateus and Mateus, 1990) (*doubtful record*).

Dikerogammarus haemobaphes (Eichwald, 1841): Terkos Lake (=Durusu Lake) (İstanbul, Arnavutköy) (Rewicz et al., 2016).

Dikerogammarus istanbulensis Özbek & Özkan, 2011: Çanta Reservoir (İstanbul, Silivri) (Özbek and Özkan, 2011); Çanta Creek (İstanbul, Silivri) (Özbek et al., 2017); Terkos Lake (=Durusu Lake) (İstanbul, Celepköy) (Özbek et al., 2017); Sazlı Bosna Reservoir (İstanbul, Başakşehir) (Özbek et al., 2017); Büyükçekmece Lake (İstanbul, Büyükçekmece) (Özbek et al., 2017).

Dikerogammarus villosus (Sowinsky, 1894): Terkos Lake (=Durusu Lake) (İstanbul, Arnavutköy) (Rewicz et al., 2016).

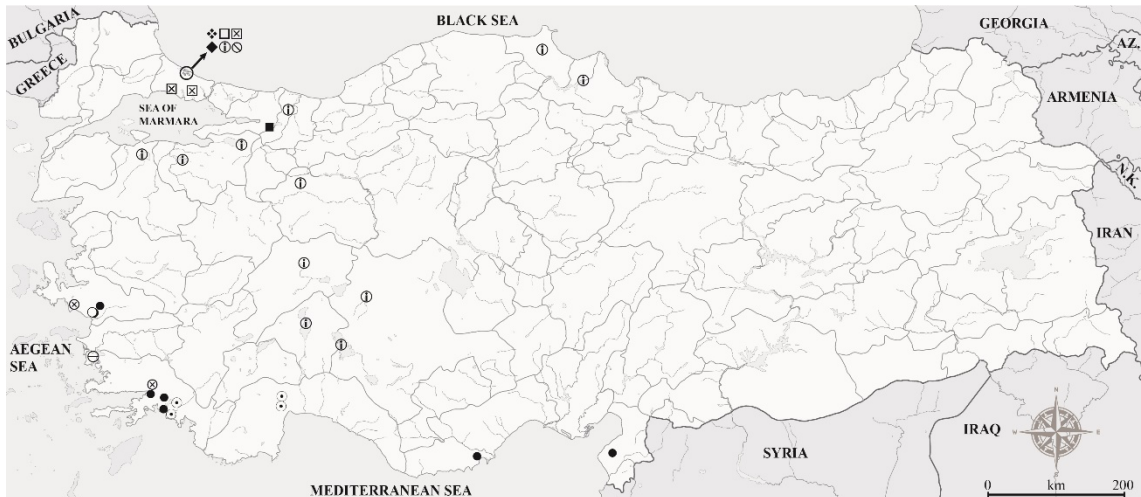
Echinogammarus antalyae G. Karaman, 1971: Kırkgöz Brook (Antalya, Döşemealtı) (Karaman, 1971); Kırkgöz Pond (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005);

Kırkgöz Springs (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005; Özbek et al., 2009); Nasuh Dede Creek (Muğla, Köyceğiz) (Özbek et al., 2003; Özbek et al., 2004b); Köyceğiz Lake (Muğla) (Özbek et al., 2004b); Karaçay Stream (Antalya, Finike) (Özbek et al., 2009); Dimçayı Stream (Antalya, Kestel) (Özbek et al., 2009).

Echinogammarus baliki Özbek & Ustaoglu, 2007: Akgöl Lake (=Barutçu/Çatal Lake) (İzmir, Selçuk) (Özbek and Ustaoglu, 2007).

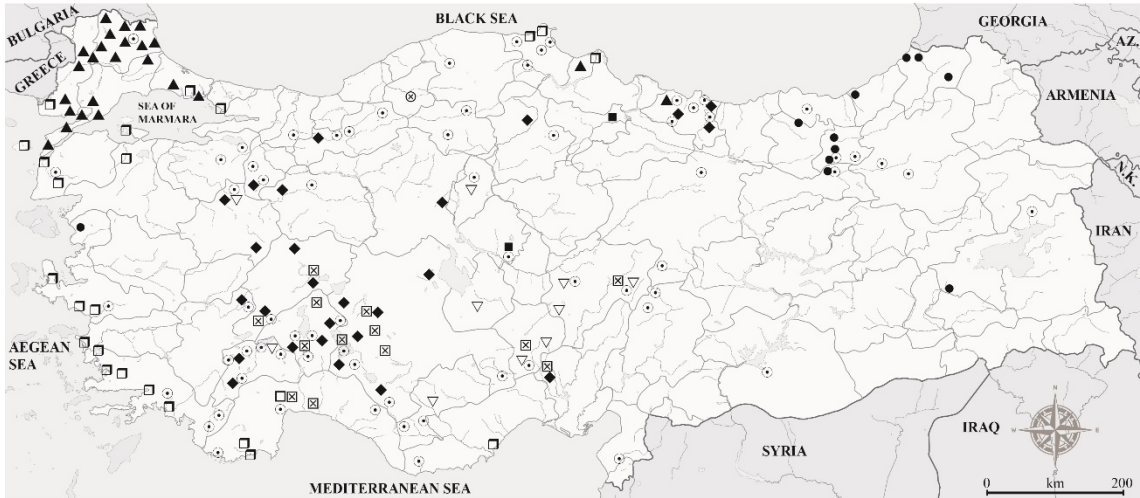
Echinogammarus foxi (Schellenberg, 1928): Köyceğiz Lake (Muğla) (Karaman, 1971); Gökova Lagoon (Muğla, Gökova) (Kocataş and Katağan, 1983); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Spring (Mersin, Taşucu) (Pinkster, 1993); Brook (İzmir, Selçuk) (Pinkster, 1993); Brook (Hatay, Iskenderun) (Pinkster, 1993).

Echinogammarus ischnus Stebbing, 1899: Manyas Lake (Balıkesir) (Mordukhai-Boltovskoi, 1964); Apolyont Lake (=Uluabat Lake) (Bursa) (Mordukhai-Boltovskoi, 1964; Özbek et al., 2004c); İznik Lake (Bursa) (Mordukhai-Boltovskoi, 1964); Sapanca Lake (Kocaeli/Kocaeli) (Mordukhai-Boltovskoi, 1964); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Gebeceler Reservoir (Afyonkarahisar, Kocatepe) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Bağören) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Boyalı) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Gençali) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Kale) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Isparta, Pınarbaşı) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Isparta, Sarıkaya) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya,



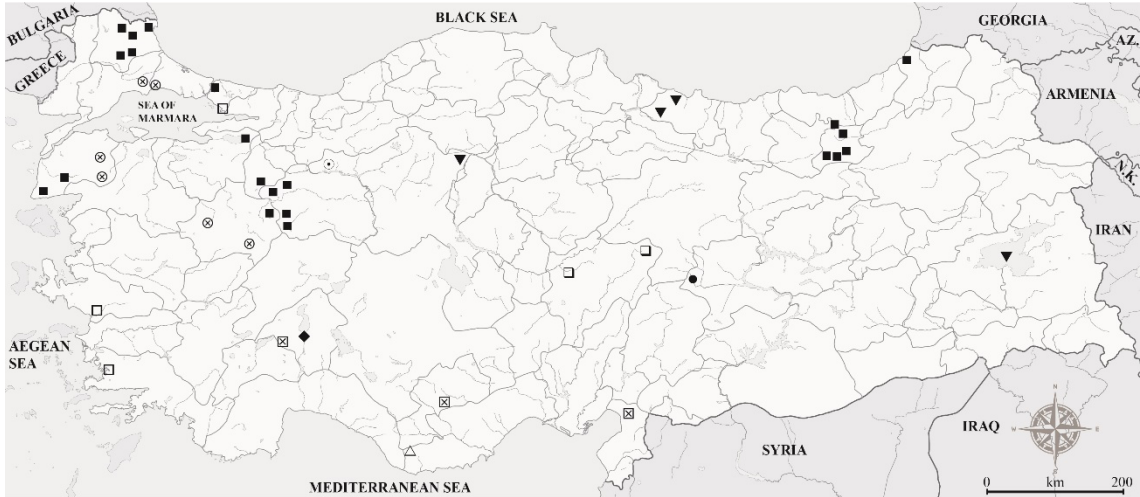
◆ *A. cristata* ■ *D. gruberi* □ *D. haemobaphes* ⊠ *D. istanbulensis* ◆ *D. villosus* ⊙ *E. antalyae*
 ○ *E. baliki* ● *E. foxi* ⊙ *E. ischnus* ⊙ *E. stocki* ⊙ *E. trichiatus* ⊙ *E. veneris*

Figure 5. Distribution of the members of Gammaridae (*Amathillina*, *Dikerogammarus* and *Echinogammarus*) in Turkish inland waters.



■ *G. abscisus* □ *G. accolae* □ *G. aequicauda* ⊠ *G. agrarius* ◆ *G. anatoliensis*
 ▲ *G. arduus* ▽ *G. argaeus* ⊙ *G. balcanicus* ⊗ *G. baysali* ● *G. birsteini*

Figure 6. Distribution of the members of Gammaridae (*Gammarus* partly, species in alphabetical order) in Turkish inland waters.



● *G. crenulatus* □ *G. crinicornis* ◆ *G. deryae* ⊠ *G. dorsosetosus* ▼ *G. effultus*
 △ *G. egmao* ■ *G. fossarum* □ *G. goedmakersae* ⊗ *G. gonensis* ⊙ *G. inopinatus*

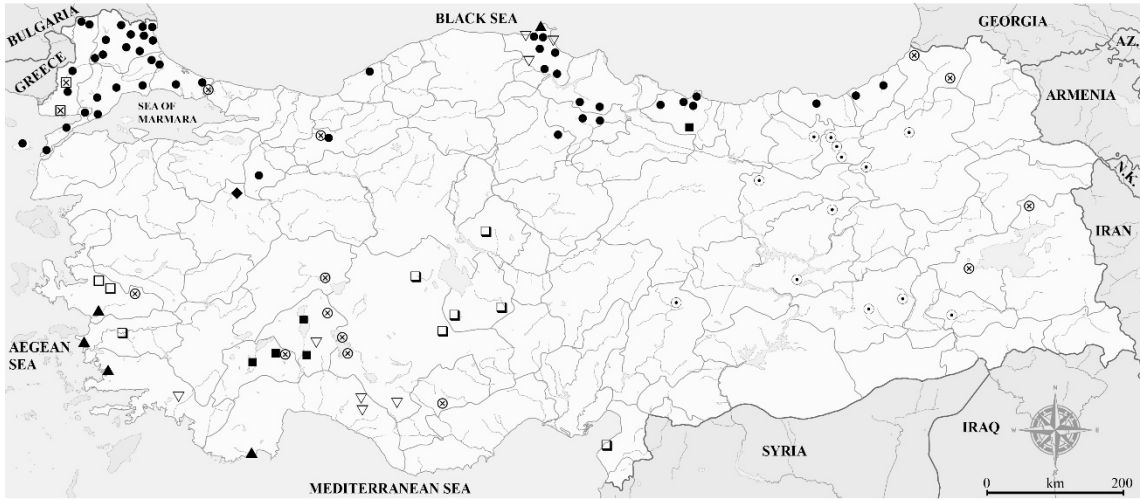
Figure 7. Distribution of the members of Gammaridae (*Gammarus* partly, species in alphabetical order) in Turkish inland waters.

Akburun) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Kuşluca) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Tolca) (Özbek and Ustaoglu, 2005); Çavuşçu Lake (Konya, Iğın) (Özbek and Ustaoglu, 2005); Taşkırsığı Lake (Sakarya, Taşkırsığı) (Özbek, 2008); Dağküplü Creek (Eskişehir, Sarıcakaya) (İpek and Şirin, 2009); Dam lake (Samsun-Sinop) (Akbulut et al., 2009b); Terkos Lake (=Durusu Lake) (İstanbul, Arnavutköy) (Rewicz et al., 2016).

Echinogammarus stocki G. Karaman, 1970: Bafa Lake (Aydın/Muğla) (Karaman, 1971; Geldiay et al., 1977; Kocataş and Katağan, 1978, 1983; Bellan-Santini et al., 1982; Ustaoglu et al., 1998; Sarı et al., 2001).

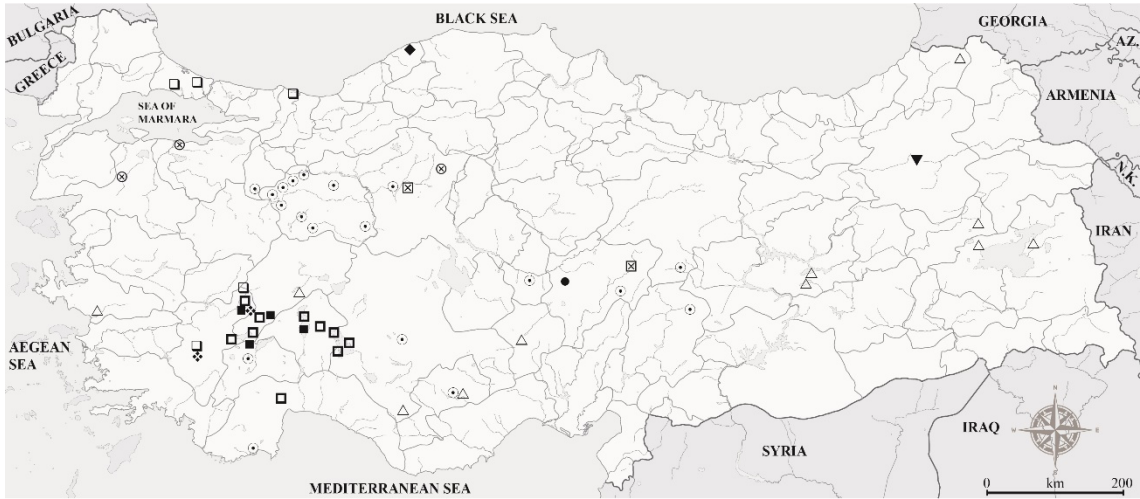
Echinogammarus trichiatus (Martynov, 1932): Terkos Lake (=Durusu Lake) (İstanbul, Arnavutköy) (Rewicz et al, 2016).

Echinogammarus veneris (Heller, 1865): Tahtalı Creek (İzmir, Gümüldür) (Özbek and Ustaoglu, 1998); Akyaka



▲ *G. insensibilis* □ *G. izmirensis* ◆ *G. katagani* ☒ *G. kesanensis* ⊙ *G. kischineffensis*
● *G. komareki* ■ *G. laborifer* ⊗ *G. lacustris* ▽ *G. longipedis* ◻ *G. mladeni*

Figure 8. Distribution of the members of Gammaridae (*Gammarus* partly, species in alphabetical order) in Turkish inland waters.



□ *G. obnixus* ◆ *G. obruki* ⊗ *G. odettae* ☒ *G. osellai* ▼ *G. pageti* ● *G. paraorientalis*
■ *G. pavo* ⊙ *G. pseudanatoliensis* △ *G. pseudosyriacus* ◻ *G. pulex* ❖ *G. pulex gallicus*

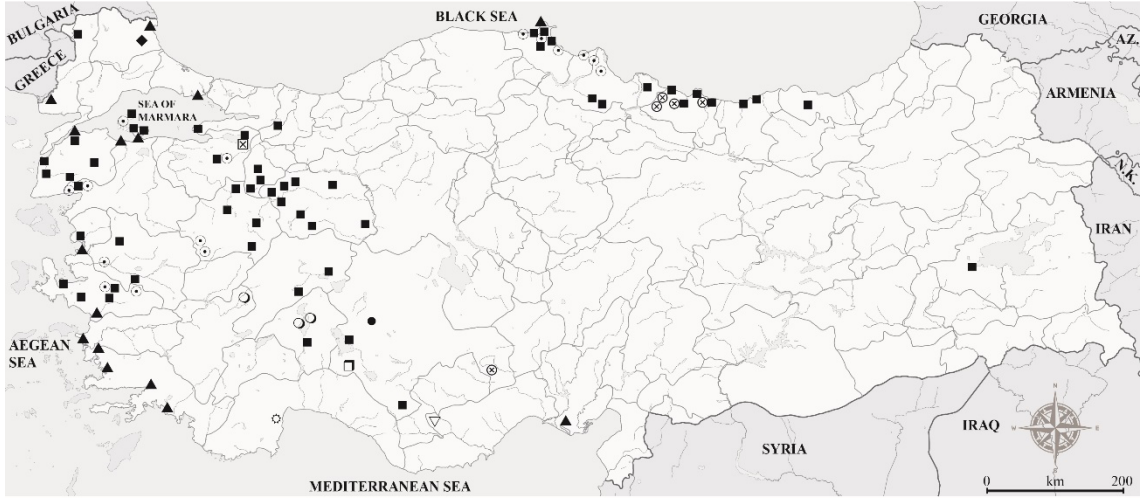
Figure 9. Distribution of the members of Gammaridae (*Gammarus* partly, species in alphabetical order) in Turkish inland waters.

Springs (Muğla, Ula) (Ustaoglu et al., 2002); Azmak (Muğla, Ula) (Ustaoglu et al., 2002).

Gammarus abscisus G. Karaman, 1973: Spring (Kırşehir) (Karaman, 1973b; Karaman and Pinkster, 1987); Kurugöl Lake (Kırşehir, Mucur) (Karaman and Pinkster, 1987); Boraboy Lake (Amasya, Taşova) (Karaman and Pinkster, 1987).

Gammarus accolae G. Karaman, 1973: Kırkgöz Brook (Antalya, Döşemealtı) (Karaman, 1973b).

Gammarus aequicauda (Martynov, 1931): Kızkalesi (Mersin, Erdemli) (Stock, 1967); Gönen (Balıkesir) (Kocataş and Katağan, 1978; Özbek, 2001); Milas (Muğla) (Kocataş and Katağan, 1978); Köyceğiz (Muğla) (Kocataş and Katağan, 1978); Demre (Antalya) (Kocataş and Katağan, 1978); Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Gökova Lagoon (Muğla, Gökova) (Kocataş and Katağan, 1983); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Channel



■ *G. pulex pulex* ◆ *G. rambouseki* ○ *G. roeselii* ▲ *G. subtypicus* ● *G. syriacus* ⊗ *G. topkarai*
 ⊙ *G. uludagi* ▽ *G. ustaoglu* □ *G. vignai* ⊠ *G. wernerii* ☆ *R. gordankaramani*

Figure 10. Distribution of the members of Gammaridae (*Gammarus* partly, species in alphabetical order) in Turkish inland waters.

(İstanbul, Küçükçekmece) (Mateus and Mateus, 1990); Akgöl Lake (=Barutçu/Çatal Lake) (İzmir, Selçuk) (Özbek and Ustaoglu, 1998; Ustaoglu et al., 2000); Gebekirse Lake (İzmir, Selçuk) (Özbek and Ustaoglu, 1998; Ustaoglu et al., 2000; Balık et al., 2006); Zeytinköy (İzmir, Selçuk) (Özbek and Ustaoglu, 1998); Pond (İzmir, Gümüldür) (Özbek and Ustaoglu, 1998); İçmeler (İzmir, Urla) (Özbek and Ustaoglu, 1998); Balıklıova Stream (İzmir, Urla) (Özbek and Ustaoglu, 1998); Ildır Springs-1 (İzmir, Çeşme) (Özbek and Ustaoglu, 1998); Ildır Springs-2 (İzmir, Çeşme) (Özbek and Ustaoglu, 1998); Ildır Springs-3 (İzmir, Çeşme) (Özbek and Ustaoglu, 1998); Bafa Lake (Aydın, Söke) (Ustaoglu et al., 1998; Sarı et al., 2001; Karaman, 2003; Özbek, 2011b); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Sırakarağaçlar Creek (Sinop, Dibekli) (Bat et al., 2000; Akbulut et al., 2009b); Gebelit Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Keçi Creek (Sinop, Sarıkum) (Akbulut et al., 2002); Sarıkum Lake (Sinop, Sarıkum) (Akbulut et al., 2002; Yardım et al., 2008; Akbulut et al., 2009b); Spring (Sinop, Sarıkum) (Akbulut et al., 2002); Gebekirse Lakes (İzmir, Selçuk) (Karaman, 2003); Spring (İzmir) (Karaman, 2003; Özbek, 2011b); No detail (İzmir) (Karaman, 2003); Küçük Menderes River (İzmir, Selçuk) (Balık et al., 2006); Menderes Stream (Çanakkale, Ezine) (Akbulut et al., 2009a; Akbulut et al., 2009b); No detail (Muğla, Dalaman) (Özbek, 2011b); Tuz Lake (Balıkesir, Paşalimanı Island) (Özbek et al., 2015); Karina Lagoon (Aydın, Söke) (Özbek et al., 2016a); Kamil Abduş Lagoon (İstanbul, Tuzla) (=Balık Lake) (Altınışçı et al., 2017); Hacıdere Stream (Çanakkale, Ezine) (Özbek et al., 2017);

Gala Lake (Edirne, Enez) (Özbek et al., 2017); Tuz Lake (Çanakkale, Gökçeda Island) (Özbek and Özkan, 2017).

Gammarus agrarius G. Karaman, 1973: Kırkgöz Brook (Antalya, Döşemealtı) (Karaman, 1973b; Karaman and Pinkster, 1977a); Beyşehir Lake (Isparta/Konya) (Karaman, 1975b); Beyşehir Lake (Konya) (Karaman and Pinkster, 1977a); Çakıtsuyu Creek (Adana, Pozantı) (Karaman, 1975b; Karaman, 2003; Özbek, 2011b); Hendek Suyu Creek (Konya, Iğın) (Karaman, 1973b; Karaman and Pinkster, 1977a); Pınarbaşı (Afyonkarahisar, Karakuyu) (Karaman, 1973b; Karaman and Pinkster, 1977a); Düden Spring (Afyonkarahisar, Karakuyu) (Karaman, 1973b; Karaman and Pinkster, 1977a); Niğde (Karaman, 1973b; Karaman and Pinkster, 1977a); Well on Toros (=Taurus) Mountains skirts (Antalya) (Karaman and Pinkster, 1977a); No detail (Konya, Çumra) (Mateus and Mateus, 1990); Kırkgöz Pond (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005); Kırkgöz Springs (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005; Özbek et al., 2009); Beyşehir Lake (Isparta, Pınarbaşı) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Gölkaşı) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Tolca) (Özbek and Ustaoglu, 2005); İncirli Spring (Afyonkarahisar, Dinar) (Özbek and Ustaoglu, 2005); Eber Lake (Afyonkarahisar, Bolvadin) (Özbek and Ustaoglu, 2005); Stream (Isparta, Yalvaç) (Özbek and Ustaoglu, 2005); Stream (Konya, Derbent) (Özbek and Ustaoglu, 2005); Kocapınar Spring (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Su Gözü Spring (Isparta, Çukurköy) (Özbek and Ustaoglu, 2005); Spring near Gölyaka (Konya, Beyşehir) (Özbek and Ustaoglu, 2005); Karakuyu Pond (Afyonkarahisar, Dinar) (Özbek

and Ustaoglu, 2005); Kurttepe Creek (Kayseri, Pınarbaşı) (Özbek et al., 2007); Köprüçay Stream (Antalya, Serik) (Özbek et al., 2009).

Gammarus anatoliensis Schellenberg, 1937: Creek on Sultan Mountains (Konya, Akşehir) (Karaman and Pinkster, 1987); Körükini (=Balatini) Cave (Konya, Akşehir) (Karaman and Pinkster, 1987); Bozüyük (Bilecik) (Karaman and Pinkster, 1987); Körikini Cave (Konya, Derebucak) (Karaman and Pinkster, 1987); Balatini Cave (Konya, Derebucak) (Karaman and Pinkster, 1987); Torrent (Isparta, Şarkikaraağaç) (Karaman and Pinkster, 1987); Spring near thermal springs (Konya, Iğın) (Karaman and Pinkster, 1987); Tavşanlı (Kütahya) (Karaman and Pinkster, 1987); Creek (Ankara, on D200 highway) (Karaman and Pinkster, 1987); Creek (Afyon) (Karaman and Pinkster, 1987); Tributary of Porsuk Stream (Eskişehir) (Karaman and Pinkster, 1987); Eğirdir Lake (Isparta, Ağlasun) (Karaman and Pinkster, 1987); Kirkpınar Springs (Burdur, Tefenni) (Özbek and Ustaoglu, 2005); Salda Creek (Burdur, Yeşilova) (Özbek and Ustaoglu, 2005); İncirli Spring (Afyonkarahisar, Dinar) (Özbek and Ustaoglu, 2005); Springs of Karamık Marsh (Afyonkarahisar, Çayıryazı) (Özbek and Ustaoglu, 2005); Fountain near Sultan Mountains (Isparta, Yalvaç) (Özbek and Ustaoglu, 2005); İnsuyu Spring (Konya, Cihanbeyli) (Özbek and Ustaoglu, 2005); Creek (Isparta, Kozluçay) (Özbek and Ustaoglu, 2005); Creek (Konya, Derbent) (Özbek and Ustaoglu, 2005); Pınarbaşı Spring (Afyonkarahisar, Eldere) (Özbek and Ustaoglu, 2005); Spring (Afyonkarahisar, Suçikan) (Özbek and Ustaoglu, 2005); Gökböğüt Spring (Isparta, Gökkaya) (Özbek and Ustaoglu, 2005); Zindan Creek (Isparta, Kurtuluş) (Özbek and Ustaoglu, 2005); Akdoğan Spring (Isparta, Akdoğan) (Özbek and Ustaoglu, 2005); Hisarardı Fountain (Isparta, Yalvaç) (Özbek and Ustaoglu, 2005); Kozluçay Fountain (Isparta, Yalvaç) (Özbek and Ustaoglu, 2005); Fele Spring (Isparta, Yassibel Village) (Özbek and Ustaoglu, 2005); Karamurat Lake (Bolu, Mudurnu) (Özbek, 2008); Kali Stream (Afyonkarahisar, Maltepe) (Özbek et al., 2009); Kızılkırtık Creek (Konya, Taşkent) (Özbek et al., 2009); Çarşamba Stream (Konya, Bozkır) (Özbek et al., 2009); Çavuşçu Lake (Konya, Iğın) (Özbek et al., 2009); Sariöz Creek (Konya, Beyşehir) (Özbek et al., 2009); Demirlik Stream (Konya, Iğın) (Özbek et al., 2009); Battal Creek (Konya, Iğın) (Özbek et al., 2009); Deliçay Creek (Konya, Iğın) (Özbek et al., 2009); Cebişli Creek (Konya, Iğın) (Özbek et al., 2009); Kali Creek (Afyonkarahisar, Çay) (Özbek et al., 2009); Avşar Stream (Afyonkarahisar, Incehisar) (Özbek et al., 2009); No detail (Çorum, İskilip) (Özbek, 2011b); Waterfall (Denizli, Gümüşsu) (Özbek, 2011b); Çakıtsuyu Creek (Adana, Pozantı) (Ekinci and Miroğlu, 2016); Çambaşı Pond Spring (Ordu, Kabadüz) (Ekinci and Miroğlu, 2016); Çoban Bağirtan Fountain

Spring (Ordu, Kabadüz) (Ekinci and Miroğlu, 2016); Turnasuyu Creek (Ordu, Osmaniye) (Ekinci and Miroğlu, 2016); Torrent (Ordu, Kabataş) (Ekinci and Miroğlu, 2016); Fountain (Ordu, Koyunculu) (Ekinci and Miroğlu, 2016); Torrent (Ordu, Hisarcık) (Ekinci and Miroğlu, 2016); Creek (Ordu, Güzelyurt) (Ekinci and Miroğlu, 2016); Fountain (Ordu, Alanyurt) (Ekinci and Miroğlu, 2016); Fountain (Ordu, Kösebucağı) (Ekinci and Miroğlu, 2016); Spring (Ordu, Yeşildere) (Ekinci and Miroğlu, 2016); Creek (Ordu, Yukarıkozpınar) (Ekinci and Miroğlu, 2016); Creek (Ordu, Çitlice) (Ekinci and Miroğlu, 2016); Creek (Ordu, Belalan) (Ekinci and Miroğlu, 2016); Fountain (Ordu, Korgan) (Ekinci and Miroğlu, 2016); Fountain (Ordu, Çayırkent) (Ekinci and Miroğlu, 2016); Creek (Ordu, Terzili) (Ekinci and Miroğlu, 2016); Spring (Ordu, Beypınarı) (Ekinci and Miroğlu, 2016); Creek (Ordu, Yokuşdibi) (Ekinci and Miroğlu, 2016); Creek (Ordu, Gümüşdere) (Ekinci and Miroğlu, 2016); Fountain (Kütahya, Altıntaş) (Ipek et al., 2017); Fountain (Kütahya, Saraycık) (Ipek et al., 2017); Creek (Kütahya, Zafertepeçalköy) (Ipek et al., 2017).

Gammarus arduus Karaman, 1975: Fountain (Tekirdağ, Malkara) (Karaman, 1975b; Karaman and Pinkster, 1977a); Fountain (Buru Göl) (Karaman and Pinkster, 1977a); Sazlıdere Creek (Edirne, Kocasalih) (Karaman and Pinkster, 1977a); No detail (Samsun) (Mateus and Mateus, 1990); Akkuş (Ordu, Ünye) (Mateus and Mateus, 1990); Creek (Kırklareli, Çamlık) (Yeşilmen and Kırgız, 1996); Kadıköy Creek (Kırklareli, Merkez) (Yeşilmen and Kırgız, 1996); Ergene River (Kırklareli, Akarca) (Yeşilmen and Kırgız, 1996); Bataklık Creek (Kırklareli, Kofçaz) (Yeşilmen and Kırgız, 1996); Fountain (Kırklareli, Merkez) (Yeşilmen and Kırgız, 1996); Akandere Pond (Kırklareli, Ayvalı) (Yeşilmen and Kırgız, 1996); Ayvalı Pond (Kırklareli, Lüleburgaz) (Yeşilmen and Kırgız, 1996); Karacaoğlan Pond (Kırklareli, Babaeski) (Yeşilmen and Kırgız, 1996); Inece Creek (Kırklareli, Inece) (Yeşilmen and Kırgız, 1996); Istırğa Creek (Kırklareli, Demirköy) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Balaban) (Yeşilmen and Kırgız, 1996); Fountain (Kırklareli, İslambeyli) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Yeniceköy) (Yeşilmen and Kırgız, 1996); Balkaya Creek (Kırklareli, Vize) (Yeşilmen and Kırgız, 1996); Ahmetbey Creek (Kırklareli, Lüleburgaz) (Yeşilmen and Kırgız, 1996); Kazan Creek (Kırklareli, Balkaya) (Yeşilmen and Kırgız, 1996); Bağçıvan Creek (Kırklareli, Kıyıköy) (Yeşilmen and Kırgız, 1996); Papuç Creek (Kırklareli, Kıyıköy) (Yeşilmen and Kırgız, 1996); Mandra Spring (Kırklareli, Kışlacık) (Yeşilmen and Kırgız, 1996); Spring (Kırklareli, Hamidiye) (Yeşilmen and Kırgız, 1996); Findıkpınar Spring (Kırklareli, Kışlacık) (Yeşilmen and Kırgız, 1996); Spring (Kırklareli, Kızılağaç) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Hamzabey) (Yeşilmen and Kırgız, 1996); Kaynarca Creek (Kırklareli,

Pınarhisar) (Yeşilmen and Kırgız, 1996); Çeşme Creek (Kırklareli, Çeşmekolu) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Bayramdere) (Yeşilmen and Kırgız, 1996); Üsküp Creek (Kırklareli, Babaeski) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Ceylanköy) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Eskitaşlı) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Turgutbey) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Minnetler) (Yeşilmen and Kırgız, 1996); Pond (Kırklareli, Babaeski) (Yeşilmen and Kırgız, 1996); Fountain (Kırklareli, Ağayeri) (Yeşilmen and Kırgız, 1996); Kapaklı Village Creek (Kırklareli, Dereköy) (Yeşilmen and Kırgız, 1996); Pond (Kırklareli, Dereköy) (Yeşilmen and Kırgız, 1996); Soğucak Creek (Kırklareli, Dereköy) (Yeşilmen and Kırgız, 1996); Velika Creek (Kırklareli, Dereköy) (Yeşilmen and Kırgız, 1996); Fountain (Kırklareli, Dereköy) (Yeşilmen and Kırgız, 1996); Haydut Fountain (Kırklareli, Demirköy) (Yeşilmen and Kırgız, 1996); No detail (İstanbul, Küçükçekmece) (Karaman, 2003); Soğucak Creek (Kırklareli, Vize) (Gözal, 2004); Kavacık Creek (Edirne, Uzunköprü) (Gözal, 2004); Yerlisu Creek (Edirne, Keşan) (Gözal, 2004); Hallaç Creek (Çanakkale, Gelibolu) (Gözal, 2004); Dupnisa Cave (Kırklareli, Sarpdere) (Özkan, 2009); Creek (Çanakkale, Bayırköy) (Özbek et al., 2017); Fountain (Çanakkale, Bayırköy) (Özbek et al., 2017); Ecelimanı Creek (Çanakkale, Eceabat) (Özbek et al., 2017); Münipbey Creek (Çanakkale, Gelibolu) (Özbek et al., 2017); Burgaz Creek (Çanakkale, Değirmenönü) (Özbek et al., 2017); Creek (Edirne, Havsa) (Özbek et al., 2017); Oğulpaşa Creek (Edirne, Abalar) (Özbek et al., 2017); Creek (İstanbul, Çatalca) (Özbek et al., 2017); Kaynakça Creek (Kırklareli, Lüleburgaz) (Özbek et al., 2017); Gürgenli Creek (İstanbul, Kaleiçi) (Özbek et al., 2017); Ürünli Creek (Kırklareli, Ürünli) (Özbek et al., 2017); Creek (Kırklareli, Evrenli) (Özbek et al., 2017); Fountain (Tekirdağ, Yeniköy) (Özbek et al., 2017); Kasatura Creek (Tekirdağ, Saray) (Özbek et al., 2017); Istranca Mountains (Kırklareli, Tekirdağ) Chertoprud and Palatov, 2017).

Gammarus argaeus Vávra, 1905: Erciyes Mountain (Kayseri) (Vávra, 1905); Creek (Kayseri, Soysallı) (Karaman and Pinkster, 1977b); Spring (Kayseri, Develi) (Karaman and Pinkster, 1977b); Kocayeri (Kütahya, Tavşanlı) (Karaman and Pinkster, 1977b); Creek (Kırıkkale, Balışeyh) (Karaman and Pinkster, 1977b); Near Burdur Lake (Burdur) (Karaman and Pinkster, 1977b); Creek (Karaman) (Karaman and Pinkster, 1977b); Öküzçökerten Spring (Niğde, Ulukışla) (Karaman and Pinkster, 1977b); Spring (Niğde, Ulukışla) (Karaman and Pinkster, 1977b); Çorak Creek (Niğde) (Karaman and Pinkster, 1977b); Ditch (Aksaray) (Karaman and Pinkster, 1977b); Stream near Tuz Lake (Aksaray, Sultanhanı) (Karaman and Pinkster, 1977b); Üçkapılı Creek (Niğde, Çamardı) (Özbek et al., 2007); Akkaya Stream (Niğde, Bor) (Özbek et al.,

2007); Kurttepe Creek (Kayseri, Pınarbaşı) (Özbek et al., 2007); Sultan Sazlığı Marshes (Kayseri, Yeşilhisar) (Özbek et al., 2009).

Gammarus balcanicus Schäferna, 1923: Erciyes Mountain (Kayseri) (S. Karaman 1934; Karaman, 2003); Keklik Creek (Erzurum) (Karaman and Pinkster, 1987); Bozüyük (Bilecik) (Karaman and Pinkster, 1987); Kurugöl Lake (Kırşehir, Mucur) (Karaman and Pinkster, 1987; Karaman, 2003); Akgöl Lake (Sinop, Ayancık) (Akbulut et al., 2009b); Armutlu Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Alıç Creek (Sinop, Gerze) (Akbulut et al., 2009b); Armutlu Creek's Spring's Tributary-1 (Sinop, Çatakörencik) (Akbulut et al., 2009b); Armutlu Creek's Spring's Tributary-2 (Sinop, Çatakörencik) (Akbulut et al., 2009b); Avdullu Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Bakırlı Village Creek (Sinop; Ayancık) (Akbulut et al., 2009b); Çangal Village Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Çangal Creek Spring Water-1 (Sinop; Çangal) (Akbulut et al., 2009b); Çangal Creek Spring Water-2 (Sinop; Çangal) (Akbulut et al., 2009b); Çangal Creek Spring Fountain (Sinop; Çangal) (Akbulut et al., 2009b); Fountain (Sinop, İnalıtı) (Akbulut et al., 2009b); Hamzalar Fountain (Sinop, Çataköney) (Akbulut et al., 2009b); Kösealan Fountain (Sinop, Gökçealan) (Akbulut et al., 2009b); Kuzgece Fountain (Sinop, Çatakörencik) (Akbulut et al., 2009b); Fountain (Sinop, Sazlı) (Akbulut et al., 2009b); Fountain-1 (Sinop, Türkeli) (Akbulut et al., 2009b); Fountain-2 (Sinop, Türkeli) (Akbulut et al., 2009b); Edilli Plateau Spring Fountain (Sinop; Sarımsak) (Akbulut et al., 2009b); Gazi Creek (Sinop, Boyabat) (Akbulut et al., 2009b); İnalıtı Creek's Tributary-1 (Sinop, İnalıtı) (Akbulut et al., 2009b); İnalıtı Creek's Tributary-2 (Sinop, İnalıtı) (Akbulut et al., 2009b); İnalıtı Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Kuzgece Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Sazlı Village Spring (Sinop, Sazlı) (Akbulut et al., 2009b); Sarımsaklı Village Springs (Sinop; Gerze) (Akbulut et al., 2009b); Sazlı Creek (Sinop, Sazlı) (Akbulut et al., 2009b); Ulugürleyik Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Ulugürleyik Creek's Spring (Sinop, Çatakörencik) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Işıklı Springs (Denizli, Çivril) (Aygen and Balık, 2005); Işıklı Lake (Denizli, Çivril) (Karaman, 2003; Akbaba and Boyacı, 2015); No detail (Many localities) (Çankırı, Ilgaz) (Karaman, 2003); Çoruhözü Creek (Kırıkkale, Yukarımahmutlar) (Karaman, 2003); Palandöken (Erzurum) (Karaman, 2003); Kop Mountain Pass (Bayburt, Kop) (Karaman, 2003); Ballı Mountain (Kastamonu, Daday) (Karaman, 2003); Uraganaz Geçidi (Kastamonu, Daday) (Karaman, 2003); No detail (Kastamonu) (Karaman, 2003); No detail (Van) (Karaman, 2003); No detail (Trabzon, Maçka) (Karaman, 2003); Kocaçay Stream (Muğla, Seki) (Karaman, 2003); Spring (Sivas, Yazıyurdu) (Karaman,

2003); Creek (İstanbul Kapı) (Bursa, İznik) (Karaman, 2003); Çeltikçibeli Pass (Burdur, Çeltikçi) (Karaman, 2003); Ulukışla (Niğde, Altunhisar) (Karaman, 2003); Cave (Burdur, Kurna) (Karaman, 2003); Gürgentepe Pass (Ordu, Gürgentepe) (Karaman, 2003); No detail (Çorum, Mecitözü) (Karaman, 2003); Dranaz Pass (Sinop, Boyabat) (Karaman, 2003); No detail (Bilecik, Bozüyük) (Karaman, 2003); Acıgöl Lake (Afyonkarahisar/Denizli) (Karaman, 2003); Burdur Lake (Burdur) (Karaman, 2003); No detail (Çankırı, Yeniceköy) (Karaman, 2003); Creek (Karagöl Plateau) (Sakarya, Taraklı) (Karaman, 2003); Pınar Spring (Muğla, Köyceğiz) (Özbek et al., 2004b); Yuvarlakçay Stream (Muğla, Köyceğiz) (Özbek et al., 2004b); Yeşil Lake (Antalya, Cemre) (Ustaoğlu et al., 2004); Sülüklü Lake (Konya, Seydişehir) (Ustaoğlu et al., 2004); Küllük Lake (Antalya, Gündoğmuş) (Ustaoğlu et al., 2004); Fountain (Taurus Mountains, Macar Plateau) (Ustaoğlu et al., 2004); Fountain (Taurus Mountains, Söğütçük Plateau) (Ustaoğlu et al., 2004); Kırkpınar Springs (Burdur, Tefenni) (Özbek and Ustaoğlu, 2005); Salda Creek (Burdur, Yeşilova) (Özbek and Ustaoğlu, 2005); Yarışlı Lake Springs (Burdur, Yeşilova) (Özbek and Ustaoğlu, 2005); Beyşehir Lake (Isparta, Pınarbaşı) (Özbek and Ustaoğlu, 2005); Beyşehir Lake (Isparta, Sarıkaya) (Özbek and Ustaoğlu, 2005); Beyşehir Lake (Konya, Gölkaşı) (Özbek and Ustaoğlu, 2005); Suçikan Spring (Afyonkarahisar, Dinar) (Özbek and Ustaoğlu, 2005); Pınarbaşı Springs (Isparta, Savköy) (Özbek and Ustaoğlu, 2005); Zindan Creek (Isparta, Aksu) (Özbek and Ustaoğlu, 2005); Akdoğan Pınarı (Isparta, Eğirdir) (Özbek and Ustaoğlu, 2005); Başpınar Spring (Isparta, Köprüköy) (Özbek and Ustaoğlu, 2005); Spring near Milas Pınarı (Isparta, Yakaören) (Özbek and Ustaoğlu, 2005); Küçük Menderes River (İzmir, Torbalı) (Balık et al., 2006); Kurttepe Creek (Kayseri, Pınarbaşı) (Özbek et al., 2007); Ördekli Creek (Kahramanmaraş, Afşin) (Özbek et al., 2007); Kızılıcsuyu Creek (Kahramanmaraş, Göksun) (Özbek et al., 2007); Sarız Creek (Kayseri, Sarız) (Özbek et al., 2007); Pınarbaşı Creek (Kayseri, Pınarbaşı) (Özbek et al., 2007); Örenşehir Creek (Kayseri, Pınarbaşı) (Özbek et al., 2007); Abant Lake (Bolu, Mudurnu) (Özbek, 2008); Gölcük Lake (Bolu) (Özbek, 2008); Yeniçağa Lake (Bolu, Yeniçağa) (Özbek, 2008); Sülüklü Lake (Bolu, Mudurnu) (Özbek, 2008); Nilüfer Stream (Bursa, Uludağ) (Ustaoğlu et al., 2008); Kabalı Creek Spring-1 (Sinop, Kabalı) (Akbulut et al., 2009b); İvriz Creek (Konya, Halkapınar) (Özbek et al., 2009); Balkusan Creek (Karaman, Ermenek) (Özbek et al., 2009); Kervansaray Creek (Karaman, Sarıveliler) (Özbek et al., 2009); Eşen Stream (Muğla, Fethiye) (Özbek et al., 2009); Göksu Stream (Antalya, Konyaaltı) (Özbek et al., 2009); Anamur Stream (Mersin Anamur) (Özbek et al., 2009); Fountain (Bilecik, Söğüt) (İpek and Şirin, 2009); Dömez Creek (Bilecik, Söğüt) (İpek and Şirin, 2009); Fountain (Bilecik, Rızapaşa) (İpek and Şirin, 2009);

Fountain (Bilecik, Kepen) (İpek and Şirin, 2009); Karasu Creek (Bilecik, Aşağıköy) (İpek and Şirin, 2009); Yeniköy Creek (Bilecik, Yeniköy) (İpek and Şirin, 2009); Fountain (Bilecik, Yeniköy) (İpek and Şirin, 2009); Creek (Antalya, Harbiye) (Özbek, 2011b); Dedemli (Konya, Hadim) (Özbek, 2011b); Kızılırmak River (Sivas, Zara) (Özbek, 2011b); Karaağaç (Ordu, Kumru) (Ekinci and Miroğlu, 2016); Torrent (Ordu, Korgan) (Ekinci and Miroğlu, 2016); Creek (Ordu, Altınordu) (Ekinci and Miroğlu, 2016); Çayırkent (Ordu, Korgan) (Ekinci and Miroğlu, 2016); Terzili (Ordu, Korgan) (Ekinci and Miroğlu, 2016); Beypınarı Spring (Ordu, Korgan) (Ekinci and Miroğlu, 2016); Bayadı (Ordu, Altınordu) (Ekinci and Miroğlu, 2016); Karakiraz (Ordu, Kabadüz) (Ekinci and Miroğlu, 2016); Yokuşdibi (Ordu, Kabadüz) (Ekinci and Miroğlu, 2016); Gümüştöre (Ordu, Kabadüz) (Ekinci and Miroğlu, 2016); Gaga Lake (Ordu, Fatsa) (Ekinci and Miroğlu, 2016); Istranca Mountains (Kırklareli) (Chertoprud and Palatov, 2017); Creek (Kütahya, Domaniç) (İpek et al., 2017); Küçükenderes Stream (Çanakkale, Bayramiç) (Özbek et al., 2017); Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Yukarıkişlak) (Baytaşoğlu and Gözler, 2018); Soğulcak Creek (Erzincan, Otlukbeli) (Baytaşoğlu and Gözler, 2018); Creek (Eskişehir) (Öntürk and İpek, 2018).

Gammarus baysali Özbek, Yurga & Külköylüoğlu, 2013: Cumayanı Cave (Karabük, Cumayanı) (Özbek et al., 2013).

Gammarus birsteini Karaman & Pinkster, 1977: Yalnızçam Pass (Artvin, Ardanuç) (Karaman, 1975b; Karaman and Pinkster, 1977a); Torrent (Artvin, Borçka) (Karaman, 1975b; Karaman and Pinkster, 1977a); Creek (Artvin, Hopa) (Karaman and Pinkster, 1977a); Zigana Pass (Trabzon) (Karaman, 1975b; Karaman and Pinkster, 1977a); Torrent (Bitlis, Baykan) (Karaman, 1975a; Karaman and Pinkster, 1977a); Yelköprü Cave (İzmir, Dikili) (Balık et al., 2002); Creek (Rize, Kalkandere) (Karaman, 2003); Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Nişantaşı) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Kemertaş) (Baytaşoğlu and Gözler, 2018); Demirözü Reservoir (Bayburt, Işıkova) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Kırkpınar) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Yukarıkişlak) (Baytaşoğlu and Gözler, 2018); Soğulcak Creek (Erzincan, Otlukbeli) (Baytaşoğlu and Gözler, 2018).

Gammarus crenulatus Karaman & Pinkster, 1977: No detail (Malatya, Darende) (Mateus and Mateus, 1990).

Gammarus crinicornis Stock, 1966: Akgöl Lake (Barutçu/Çatal Lake) (İzmir, Selçuk) (Özbek and Ustaoğlu, 1998; Ustaoğlu et al., 2000); Gebekirse Lake (İzmir, Selçuk)

(Özbek and Ustaoglu, 1998; Ustaoglu et al., 2000; Balık et al., 2006); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Kamil Abduş Lagoon (=Balık Lake) (İstanbul, Tuzla) (Altınşaçı et al., 2017).

Gammarus deryae Özbek, 2018: Pınar Pazarı (Isparta, Eğirdir) (Özbek, 2018a).

Gammarus dorsosetosus Mateus & Mateus, 1990: Amanos Mountains (Hatay) (Mateus and Mateus, 1990); Kavakboğazı Creek (Karaman, Lale) (Özbek and Topkara, 2007; Özbek et al., 2007); Creek (Isparta, Gelincik) (Özbek and Topkara, 2007).

Gammarus effultus Karaman, 1975: Spring (Ankara, Kalecik) (Karaman, 1975b; Karaman and Pinkster, 1977a); Van Lake (Van) (Mateus and Mateus, 1990); Spring (Ordu, Fatsa) (Ekinici and Miroğlu, 2016); Creek (Ordu, Korgan) (Ekinici and Miroğlu, 2016).

Gammarus egmao Özbek & Güloğlu, 2019: Peynirlikönü Cave (EGMA Cave) (Mersin, Anamur) (Özbek and Güloğlu, 2019).

Gammarus fossarum Koch, 1836: Northern Anatolia (Karaman and Pinkster, 1977a); Fountain (Kırklareli, Çamlık) (Yeşilmen and Kırgız, 1996); Pond (Kırklareli, Çamlık) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Dereköy) (Yeşilmen and Kırgız, 1996); Water tank (Kırklareli, Demircihalil) (Yeşilmen and Kırgız, 1996); Fountain (Kırklareli, Düzorman) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Pınarhisar) (Yeşilmen and Kırgız, 1996); Çobandere Creek (Kırklareli, Demirköy) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Ahmetbey) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, İğneada) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Sivrililer) (Yeşilmen and Kırgız, 1996); Fountain (Kırklareli, Vize) (Yeşilmen and Kırgız, 1996); Değirmen Creek (Kırklareli, Sivrililer) (Yeşilmen and Kırgız, 1996); Creek (İstanbul Kapı) (Bursa, İznik) (Karaman, 2003); Anadolu Hisarı (İstanbul, Beykoz) (Karaman, 2003); No detail (İstanbul) (Karaman, 2003); No detail (Artvin, Hopa) (Karaman, 2003); Kümbet Creek (Eskişehir, İnönü) (İpek and Şirin, 2009); İnli Creek (Kütahya, İnli) (İpek and Şirin, 2009); Kırka Creek (Eskişehir, Seyitgazi) (İpek and Şirin, 2009); Takmak Creek (Eskişehir, Takmak) (İpek and Şirin, 2009); Beşik Creek (Eskişehir, Yukarı Kalabak) (İpek and Şirin, 2009); Fountain (Bilecik, Söğüt) (İpek and Şirin, 2009); Creek (Çanakkale, Ayvacık) (Özbek et al., 2017); Bayramiç Stream (Çanakkale, Bayramiç) (Özbek et al., 2017); Sakızlı Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Yukarıkişlak) (Baytaşoğlu and Gözler, 2018); Demirözü Reservoir (Bayburt, Işıkova) (Baytaşoğlu and Gözler, 2018); Fountain (Bayburt, Değirmencik) (Baytaşoğlu and Gözler, 2018); Fountain (Bayburt, Aydıncık) (Baytaşoğlu and Gözler, 2018); Creek (Eskişehir) (Öntürk and İpek, 2018).

Gammarus goedmakersae G.S. Karaman & Pinkster, 1977: Creek (Kayseri, Karpuzatan) (Karaman and Pinkster, 1977b); Örenşehir Creek (Kayseri, Pınarbaşı) (Özbek et al., 2007); Taşlıgeçit Creek (Kayseri, Pınarbaşı) (Özbek et al., 2007).

Gammarus gonensis Özbek, 2016: Gönen Stream (Çanakkale, Yenice) (Özbek, 2016); Creek (Kütahya, Emet) (İpek et al., 2017); Fountain (Kütahya, Altıntaş) (İpek et al., 2017); Fountain (Çanakkale, Yenice) (Özbek et al., 2017); Creek (Tekirdağ, Çorlu) (Özbek et al., 2017); Değirmenköy Creek (İstanbul, Silivri) (Özbek et al., 2017).

Gammarus inopinatus Mateus & Mateus, 1990: Kulu (Ankara, Nallıhan) (Mateus and Mateus, 1990).

Gammarus insensibilis Stock, 1966: Akgöl Lake (Barutçu/Çatal Lake) (İzmir, Selçuk) (Özbek and Ustaoglu, 1998; Ustaoglu et al., 2000); Gebekirse Lake (İzmir, Selçuk) (Özbek and Ustaoglu, 1998; Ustaoglu et al., 2000); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Sarıkum Lake (Sinop, Sarıkum) (Yardım et al., 2008); Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a); Beymelek Lagoon (Antalya, Demre) (Bakır and Katağan, 2014).

Gammarus izmirensis Özbek, 2007: Creek (İzmir, Kemalpaşa) (Özbek, 2007); Creek (İzmir, Kamberler) (Özbek et al., 2018); Gediz River (Manisa) (unpublished data).

Gammarus katagani Özbek, 2012: Dola Creek (Kütahya, Domaniç) (Özbek, 2012b); Büklerler Spring (Kütahya, Domaniç) (İpek et al., 2017).

Gammarus kesanensis Özbek & Çamur-Elipek, 2010: Fountain (Edirne, Keşan) (Özbek and Çamur-Elipek, 2010); Kocabayır Creek (Edirne, İpsala) (Özbek et al., 2017).

Gammarus kischineffensis Schellenberg, 1937: Karasu Stream (Erzurum, Aşkale) (Karaman and Pinkster, 1977a); No detail (Erzurum, Tortum) (Karaman and Pinkster, 1977a); Creek (Elazığ) (Karaman and Pinkster, 1977a); Creek (Gümüşhane, Kale Bucağı) (Karaman and Pinkster, 1977a); Well (Tunceli) (Karaman and Pinkster, 1977a); Akarsu Bucağı (Erzincan, Refahiye) (Karaman and Pinkster, 1977a); Well (Kahramanmaraş, İğde) (Karaman and Pinkster, 1977a); Sıçan Creek (Siirt, Demirkaya) (Karaman and Pinkster, 1977a); Sulfirik Spring (Diyarbakır, Silvan) (Karaman, 2003); Risatlıya (?) (Bitlis) (Karaman, 2003); No detail (Erzurum) (Karaman, 2003); No detail (Erzurum, Aşkale) (Karaman, 2003); No detail (Erzurum, Torum) (Özbek, 2011b); No detail (Elazığ) (Özbek, 2011b); No detail (Gümüşhane) (Özbek, 2011b); No detail (Bayburt) (Özbek, 2011b); No detail (Tunceli) (Özbek, 2011b); No detail (Erzincan, Akarsu) (Özbek, 2011b); Stream (Erzincan, Refahiye) (Özbek, 2011b); Tributary of Dicle River (Diyarbakır) (Özbek, 2011b); Dicle University Campus (Diyarbakır) (Özbek, 2011b; Demirci, 2018);

Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Nişantaşı) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Kemertaş) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Kırkpınar) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Yukarıkişlak) (Baytaşoğlu and Gözler, 2018).

Gammarus komareki Schäferna, 1923: Dranz Pass (Sinop, Boyabat) (Karaman, 1975b); Gürgentepe Pass (Ordu, Gürgentepe) (Karaman, 1975b); Kalkandere (Rize) (Karaman, 1975b); Mecitözü (Çorum) (Karaman, 1975b); Stream (Amasya, Suluova) (Karaman, 1975b); Boraboy Lake (Amasya, Taşova) (Karaman, 1975b); Demirköy (Bilecik, Pazaryeri) (Mateus and Mateus, 1990); Fountain (Kırklareli, Pehlivan köyü) (Yeşilmen and Kırgız, 1996); Creek (Kırklareli, Akarca) (Yeşilmen and Kırgız, 1996); Kocadere Creek (Kırklareli, Pınarhisar) (Yeşilmen and Kırgız, 1996); Spring (Kırklareli, Demirköy) (Yeşilmen and Kırgız, 1996); Değirmen Creek (Kırklareli, Sivrililer) (Yeşilmen and Kırgız, 1996); Bolat Village Creek (Samsun, Ladik) (Akbulut et al., 2009b); Çakıl Creek (Samsun, Ladik) (Akbulut et al., 2009b); İstavroz (=Kıyma) Creek Springs (Samsun, Vezirköprü) (Akbulut et al., 2009b); Tersakan Stream (Samsun) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Akçasu Spring (Sinop, Çolak) (Akbulut et al., 2009b); Alacasu Spring (Sinop, Çolak) (Akbulut et al., 2009b); Alıç Creek (Sinop, Gerze) (Akbulut et al., 2009b); Asarcık Creek (Sinop, Saraydüzü) (Akbulut et al., 2009b); Ayıpçı Creek (=İmamlı Creek) (Sinop, Dikmen) (Akbulut et al., 2009b); Çağlayan Spring (Sinop, Gerze) (Akbulut et al., 2009b); Çağlayan Village Waterfalls (Sinop, Gerze) (Akbulut et al., 2009b); Çeçe Village Creek (Sinop, Gerze) (Akbulut et al., 2009b); Aksu Fountain (Sinop, Ayancık) (Akbulut et al., 2009b); Kızıklı Fountain (Sinop, Dikmen) (Akbulut et al., 2009b); Gökırmak River (Sinop, Boyabat) (Akbulut et al., 2009b); Güzelceçay Creek (Sinop, Dikmen) (Akbulut et al., 2009b); Hamzalar Creek (Sinop) (Akbulut et al., 2009b); İmamlı Creek (Sinop, Boyabat) (Akbulut et al., 2009b); Kabaloğlu Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Karadevret Creek (Sinop, Gerze) (Akbulut et al., 2009b); Kavacık Spring (Sinop, Boyabat) (Akbulut et al., 2009b); Sarımsaklı Spring (Sinop, Gerze) (Akbulut et al., 2009b); Sazlı Creek (Sinop, Sazlı) (Akbulut et al., 2009b); Soğucak Spring (Sinop, Durağan) (Akbulut et al., 2009b); Soğuk Creek (Sinop, Akçakese) (Akbulut et al., 2009b); Subaşı Spring (Sinop, Çulhalı) (Akbulut et al., 2009b); Uyuz Suyu Springs (Sinop, Saraydüzü) (Akbulut et al., 2009b); Kapuz Cave (Zonguldak) (Karaman, 2003); Burgaz Creek (Çanakkale, Gelibolu) (Gözal, 2004); Kemerburgaz Creek (İstanbul, Kemerburgaz) (Gözal, 2004); Kestanelik Creek (İstanbul, Çatalca) (Gözal, 2004); Saray Creek (Tekirdağ, Saray) (Gözal, 2004); Aydınlar Creek (Tekirdağ, Binkılıç)

(Gözal, 2004); Pekmez Creek (Kırklareli, Binkılıç) (Gözal, 2004); Kömürköy Creek (Kırklareli, Kıyıköy) (Gözal, 2004); Pazarlı Creek (Kırklareli, Vize) (Gözal, 2004); Yenice Creek (Kırklareli, Pınarhisar) (Gözal, 2004); Poyralı Creek (Kırklareli, Pınarhisar) (Gözal, 2004); Balaban Creek (Kırklareli, Demirköy) (Gözal, 2004); Değirmen Creek (Kırklareli, Demirköy) (Gözal, 2004); Asker Creek (Kırklareli, Demirköy) (Gözal, 2004; Özbek et al., 2017); Bulanık Creek (Kırklareli, İğneada) (Gözal, 2004); Büyükdere Creek (Kırklareli, Üsküp) (Gözal, 2004); Çukurpınar Creek (Kırklareli, Üsküp) (Gözal, 2004); Koruköy Creek (Kırklareli, Dereköy) (Gözal, 2004); Teke Creek (Edirne) (Gözal, 2004); Ürün köyü Creek (Kırklareli, İnece) (Gözal, 2004); Kayapa Creek (Edirne, Lalapaşa) (Gözal, 2004); Çömlek Creek (Edirne) (Gözal, 2004); Karapına Creek (Edirne, Uzunköprü) (Gözal, 2004); Balabancık Creek (Edirne, Uzunköprü) (Gözal, 2004); Beyköy Creek (Edirne, Keşan) (Gözal, 2004); Şadıllı Creek (Edirne, Keşan) (Gözal, 2004); Çınarlıdere Creek (Tekirdağ, Şarköy) (Gözal, 2004); Allışık Creek (Tekirdağ, Şarköy) (Gözal, 2004); Fındıklı Creek (Çanakkale, Gelibolu) (Gözal, 2004); Koca Creek (Tekirdağ, Malkara) (Gözal, 2004); Kozyörük Creek (Tekirdağ, Malkara) (Gözal, 2004); Faraşköy Creek (Tekirdağ, Malkara) (Gözal, 2004); Taşköprü Creek (Kırklareli, Babaeski) (Gözal, 2004); Yeniköy Creek (Tekirdağ, Şarköy) (Gözal, 2004); Güveçli Creek (Tekirdağ, Malkara) (Gözal, 2004); Beyciler Creek (Tekirdağ, Çerkezköy) (Gözal, 2004); Gölcük Lake (Bolu) (Özbek, 2008); Creek (Sinop, Çağlayan) (Akbulut et al., 2009b); Kabalı Creek Spring-1 (Sinop, Kabalı) (Akbulut et al., 2009b); No detail (Trabzon) (Özbek, 2011b); Zilkale (Rize, Çamlıhemşin) (Özbek, 2011b); Kılıçlı Creek (Ordu, Fatsa) (Ekinci and Miroğlu, 2016); Ilıca River (Ordu, Fatsa) (Ekinci and Miroğlu, 2016); Elmaköy Fountain (Ordu, Çatalpınar) (Ekinci and Miroğlu, 2016); Elmaköy Creek (Ordu, Çatalpınar) (Ekinci and Miroğlu, 2016); Okçulu Spring (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Medreseönü Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Oruçoğlu Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Okçulu Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Kovanlı Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Sarıcaerik Creek (Ordu, İkizce) (Ekinci and Miroğlu, 2016); Kaynar pınar Creek (Ordu, İkizce) (Ekinci and Miroğlu, 2016); Fountain (Ordu, İkizce) (Ekinci and Miroğlu, 2016); Yeşilköy Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Çamlıca Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Halılışağı Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Kuzköy Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Akpınar Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Ormancık Fountain (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Çamlıca Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Kırkgözler Springs (Çanakkale, Ezine) (Ekinci and

Miroğlu, 2016); Behramlı Fountain (Çanakale, Eceabat) (Özbek et al., 2017); Kiremitlik Creek (Çanakale, Gelibolu) (Özbek et al., 2017); Hamzabeyli Creek (Edirne, Lalapaşa) (Özbek et al., 2017); Kaynakça Creek (Kırklareli, Lüleburgaz) (Özbek et al., 2017); Gökçeali Creek (İstanbul, Çatalca) (Özbek et al., 2017); Bulanık Creek (Kırklareli, Balaban) (Özbek et al., 2017); Bulanık Creek (Kırklareli, Demirköy) (Özbek et al., 2017); Kadıkule Creek (Kırklareli, Pınarhisar) (Özbek et al., 2017); Azmakdere Creek (Kırklareli, Demirköy) (Özbek et al., 2017); Dupnisa Creek (Kırklareli, Demirköy) (Özbek et al., 2017); Armutveren Fountain (Kırklareli, Demirköy) (Özbek et al., 2017); Pubuçdere Creek (Kırklareli, Vize) (Özbek et al., 2017); Alabalıkdere Creek (Kırklareli, Demirköy) (Özbek et al., 2017); Madara Creek (Kırklareli, Demirköy) (Özbek et al., 2017); Elmacık Creek (Kırklareli, Kofçaz) (Özbek et al., 2017); Pabuçdere Creek (Kırklareli, Vize) (Özbek et al., 2017); Bahçeköy Creek (Tekirdağ, Saray) (Özbek et al., 2017); Şerefli Creek (Tekirdağ, Çorlu) (Özbek et al., 2017); Osmanlı Creek (Tekirdağ, Süleymanpaşa) (Özbek et al., 2017); Çınarlı Creek (Tekirdağ, Şarköy) (Özbek et al., 2017); Tepeköy Fountain (Çanakale, Gökçeada) (Özbek and Özkan, 2017); Spring (Gökçeada, Dereköy) (Özbek and Özkan, 2017); Eşelek Fountain (Gökçeada, Eşelek) (Özbek and Özkan, 2017); Çınarlı Fountain (Gökçeada, Çınarlı) (Özbek and Özkan, 2017); Fountain (Gökçeada, Dereköy) (Özbek and Özkan, 2017); Ballıdere Creek (Gökçeada, Şirinköy) (Özbek and Özkan, 2017); Spring (Gökçeada, Şirinköy) (Özbek and Özkan, 2017); Dereköy Creek (Gökçeada, Dereköy) (Özbek and Özkan, 2017); Kefaroz Creek (Gökçeada, Eşelek) (Özbek and Özkan, 2017); Çınarlıdere Creek (Gökçeada, Yenibademli) (Özbek and Özkan, 2017); Creek (Gökçeada, Eşelek) (Özbek and Özkan, 2017); Civaki Creek (Gökçeada, Eşelek) (Özbek and Özkan, 2017); Creek (Gökçeada, Uğurlu) (Özbek and Özkan, 2017); Spring (Gökçeada, Deereköy) (Özbek and Özkan, 2017); Fountain (Gökçeada, Şirinköy) (Özbek and Özkan, 2017); Istranca Mountains (Tekirdağ) (Chertoprud and Palatov, 2017); Tuz Lake (Gökçeada, Eşelek) (Aslan et al., 2018) (*doubtful record*).

Gammarus laborifer Karaman & Pinkster, 1977: Eğirdir Lake (Isparta) (Karaman and Pinkster, 1977a); Çeltikçi Beli Creek (Burdur, Çeltikçi) (Karaman and Pinkster, 1977a); Burdur Lake (Burdur) (Karaman and Pinkster, 1977a); Kovada Lake (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Kovada Canal (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Eğirdir, Gençali) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Eğirdir, Mahmatlar) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Isparta, Sarıkaya) (Özbek and Ustaoglu, 2005); Kocapınar Spring (Burdur, Kocapınar) (Özbek, 2011b); Ulugöl Lake (Ordu, Gököy) (Ekinci and Miroğlu, 2016).

Gammarus lacustris G.O. Sars, 1863: Yalnızçam Pass (Artvin, Ardanuç) (Karaman, 1975b; Karaman, 2003); Abant Lake (Bolu, Mudurnu) (Karaman, 1975b; Karaman, 2003); Gölcük Lake (İzmir, Ödemiş) (Tareen, 1974; Özbek and Ustaoglu, 1998); Borçka (Artvin, Ardanuç) (Karaman, 2003); Emir Lake (İstanbul, Emirgan) (Karaman, 2003); Sögütlü Spring (Van, Erciş) (Karaman, 2003); Madir Spring (Van) (Karaman, 2003); Crater Lake (Nemrut Mountain) (Bitlis, Tatvan) (Karaman, 2003); Eber Lake (Afyonkarahisar, Bolvadin) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Kuşluca) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Karadiken) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Tolca) (Özbek and Ustaoglu, 2005); Creek (Isparta, Yalvaç) (Özbek and Ustaoglu, 2005); Kavakboğazı Creek (Karaman, Gökçe) (Özbek et al., 2007); Pond (Burdur, Ağlasun) (Özbek, 2011b).

Gammarus longipedis Karaman & Pinkster, 1987: Su Çıktığı Cave (Konya, Hadim) (Karaman and Pinkster, 1987); Zindan Cave (Isparta, Aksu) (Karaman and Pinkster, 1987); Gökırmak Stream (Sinop, Boyabat) (Akbulut et al., 2009b); Kabalı Creek Spring-1 (Sinop, Boyabat) (Akbulut et al., 2009b); Kabalı Creek Spring-2 (Sinop, Boyabat) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Fountain (Muğla, Köyceğiz) (Özbek et al., 2004b); Karıncalı Lake (Taurus Mountains) (Ustaoglu et al., 2004); Susam Lake (Taurus Mountains) (Ustaoglu et al., 2004); Fountain (Taurus Mountains, Suluçukur Plateau) (Ustaoglu et al., 2004); Fountain (Taurus Mountains, Sarımazı Plateau) (Ustaoglu et al., 2004); Spring near Eğrigöl Lake (Antalya, Gündoğmuş) (Yıldız et al., 2005).

Gammarus mladeni Karaman & Pinkster, 1977: Obruk Subdistrict (Konya, Karatay) (Karaman and Pinkster, 1977b); Between Sultanhanı and Konya (Karaman and Pinkster, 1977b); Eşmekaya (Aksaray, Eskil) (Karaman and Pinkster, 1977b); No detail (Aksaray) (Karaman and Pinkster, 1977b); Kırşehir (Karaman and Pinkster, 1977b); Spring (Kırşehir) (Karaman and Pinkster, 1977b); Arsuz (Hatay, İskenderun) (Karaman and Pinkster, 1977b); İnsuyu Spring (Konya, Cihanbeyli) (Özbek and Ustaoglu, 2005); İnsuyu Canal (Konya, Cihanbeyli) (Özbek and Ustaoglu, 2005); Melendiz Stream (Aksaray, Güzelyurt) (Özbek et al., 2009); Büyük Menderes River (Baytaşoğlu and Kaya, 2017).

Gammarus obnixus Karaman & Pinkster, 1977: Acıgöl Lake (Denizli, Çardak) (Karaman and Pinkster, 1977b); Well (Afyonkarahisar, Karakuyu) (Karaman and Pinkster, 1977b); Düden Spring (Afyonkarahisar, Dinar) (Karaman and Pinkster, 1977b); Near Beyşehir or Eğirdir Lakes (Isparta) (Karaman and Pinkster, 1977b); Işıklı Springs (Denizli, Çivril) (Aygen and Balık, 2005); Acıgöl Lake (Afyonkarahisar, Başmakçı) (Özbek and Ustaoglu, 2005); Akpınar Spring (Afyonkarahisar, Başmakçı) (Özbek and

Ustaoğlu, 2005); İncirli Spring (Afyonkarahisar, Bülüçalan) (Özbek and Ustaoğlu, 2005); Kırkgöz Spring (Antalya, Döşemealtı) (Özbek and Ustaoğlu, 2005); Kırkgöz Pond (Antalya, Döşemealtı) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Akkeçili) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Bağören) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Boyalı) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Gençali) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Kale) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Eğirdir, Mahmatlar) (Özbek and Ustaoğlu, 2005); Beyşehir Lake (Isparta, Sarıkaya) (Özbek and Ustaoğlu, 2005); Beyşehir Lake (Konya, Akburun) (Özbek and Ustaoğlu, 2005); Beyşehir Lake (Konya, Gölkaşı) (Özbek and Ustaoğlu, 2005); Beyşehir Lake (Konya, Kurucaova) (Özbek and Ustaoğlu, 2005); Spring (Denizli, Çardak) (Özbek and Ustaoğlu, 2005); Işıklı Lake (Denizli, Çivril) (Akbaba and Boyacı, 2015).

Gammarus obruki Özbek, 2012: İnderesi Cave (Bartın, Amasra) (Özbek, 2012a).

Gammarus odettae Mateus & Mateus, 1990: Creek between Samsun and Ankara (Mateus and Mateus, 1990); İnkaya Cave (Bursa) (Mateus and Mateus, 1990); Fountain (Balıkesir, Balya) (Mateus and Mateus, 1990).

Gammarus osellai Karaman & Pinkster, 1977: Creek (Ankara) (Karaman and Pinkster, 1977a); Creek (Kayseri, Pınarbaşı) (Karaman and Pinkster, 1977a).

Gammarus pageti Mateus and Mateus, 1990: No detail (Erzurum) (Mateus and Mateus, 1990).

Gammarus paraorientalis (S. Karaman, 1934): Erciyes Mountain (Kayseri, Derbend) (Karaman, 2017; Karaman, 2018).

Gammarus pavo Karaman & Pinkster, 1977: Between Acıgöl and Burdur lakes (Karaman and Pinkster, 1977b); Spring near Karakuyu Pond (Afyonkarahisar, Dinar) (Karaman and Pinkster, 1977b); Düden Spring (Afyonkarahisar, Dinar) (Karaman and Pinkster, 1977b; Özbek and Ustaoğlu, 2005); İncirli Spring (Afyonkarahisar, Bülüçalan) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Akkeçili) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Bağören) (Özbek and Ustaoğlu, 2005; Apaydın Yağcı et al., 2014); Eğirdir Lake (Isparta, Gençali) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Kale) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Eğirdir, Mahmatlar) (Özbek and Ustaoğlu, 2005); Eğirdir Lake (Isparta, Yenice) (Özbek and Ustaoğlu, 2005); Spring (Afyonkarahisar, Suçikan) (Özbek and Ustaoğlu, 2005); Pınar Pazarı (Isparta, Eğirdir) (Özbek and Ustaoğlu, 2005); Işıklı Spring (Denizli, Çivril) (Akyıldız, 2008).

Gammarus pseudanatoliensis Karaman & Pinkster, 1987: Tohma Stream (Sivas, Gürün) (Karaman and Pinkster, 1987); Confluent of Kızılırmak River (Nevşehir, Göre) (Karaman and Pinkster, 1987); Creek (Konya,

Meram) (Karaman and Pinkster, 1987); Finike (Antalya) (Karaman and Pinkster, 1987); Cave (Kahramanmaraş, Elbistan) (Karaman and Pinkster, 1987); Gölbaşı (Ankara) (Karaman and Pinkster, 1987); Yarıklı Lake Springs (Burdur, Yeşilova) (Özbek and Ustaoğlu, 2005); Başharman Creek (Karaman, Başharman) (Özbek et al., 2007); Özlüce Creek (Kayseri, Tomarza) (Özbek et al., 2007); Dutluca Creek (Eskişehir, Kümbet) (İpek and Şirin, 2009); Kırka Creek (Eskişehir, Seyitgazi) (İpek and Şirin, 2009); Ak Creek (Eskişehir, Han) (İpek and Şirin, 2009); Creek (Eskişehir, Beylikova) (İpek and Şirin, 2009); Sakarya River (Eskişehir, Sarıcakaya) (İpek and Şirin, 2009); Dağköplü Creek (Eskişehir, Sarıcakaya) (İpek and Şirin, 2009); Creek (Eskişehir, Mayıslar) (İpek and Şirin, 2009); Creek (Eskişehir, Hekimdağ) (İpek and Şirin, 2009); Sabuncupınar Creek (Eskişehir, Yenisofoça) (İpek and Şirin, 2009); Mercan Creek (Eskişehir, Günyüzü) (İpek and Şirin, 2009); Spring (Eskişehir, Atlas) (İpek and Şirin, 2009); Fountain (Eskişehir, Kocaş) (İpek and Şirin, 2009); Eğriöz Creek (Eskişehir, Eğriöz) (İpek and Şirin, 2009); Sarısu Creek (Eskişehir, Çukurhisar) (İpek and Şirin, 2009); Fountain (Eskişehir, Seytiali) (İpek and Şirin, 2009); Creek (Eskişehir, Erenköy) (İpek and Şirin, 2009); Fountain (Eskişehir, Erenköy) (İpek and Şirin, 2009); Fountain (Eskişehir, Kümbetapınar) (İpek and Şirin, 2009); Creek (Eskişehir, Kayapınar) (İpek and Şirin, 2009); Beşik Creek (Eskişehir, Yukarıkalabak) (İpek and Şirin, 2009); Fountain (Eskişehir, Üçsaray) (İpek and Şirin, 2009); Fountain (Eskişehir, Arslanbeyli) (İpek and Şirin, 2009); Fountain (Eskişehir, Şükranlı) (İpek and Şirin, 2009); Fountain (Bilecik, Söğüt) (İpek and Şirin, 2009); Fountain (Bilecik, Rızapaşa) (İpek and Şirin, 2009); Yukarıdere Creek (Bilecik, Söğüt) (İpek and Şirin, 2009); No detail (Kahramanmaraş) (Özbek, 2011b); Creek (Eskişehir) (Öntürk and İpek, 2018).

Gammarus pseudosyriacus Karaman & Pinkster, 1977: Stream (İzmir, Selçuk) (Karaman and Pinkster, 1977a); Afşan Stream (Muş) (Karaman and Pinkster, 1977a); River (Muş) (Karaman and Pinkster, 1977a); Kuraç (Ardahan, Göle) (Karaman and Pinkster, 1977a); Sultan Seyit Spring (Bitlis, Ahlat) (Karaman and Pinkster, 1977a); Creek (Elazığ, İçme) (Karaman and Pinkster, 1977a); Hazar Lake (Elazığ) (Karaman and Pinkster, 1977a); Creek (Elazığ, Sivrice) (Karaman and Pinkster, 1977a); No detail (Van) (Karaman and Pinkster, 1977a); Karamık Marsh (Afyonkarahisar, Çay) (Özbek and Ustaoğlu, 2005); Başharman Creek (Karaman, Başharman) (Özbek et al., 2007); Akkaya Creek (Niğde, Bor) (Özbek et al., 2007); Kızılkırtık Creek (Konya, Taşkent) (Özbek et al., 2009); Creek (Muş, Kırkgöze) (Özbek, 2011b).

Gammarus pulex (Linneaus, 1758): Creek (İstanbul, Gaziosmanpaşa) (Gözal, 2004); Kızılcaali Creek (İstanbul,

Çatalca (Gözal, 2004); Acarlar Lake (Sakarya, Karasu) (Özbek, 2008); Işıklı Spring (Denizli, Çivril) (Akyıldız, 2008); Sarıçay Stream (Denizli, Pamukkale) (Akyıldız, 2008); Çürüksu Stream (Denizli, Güzelköy) (Akyıldız, 2008); Çürüksu Stream (Denizli, Korucuk) (Akyıldız, 2008).

Gammarus pulex gallicus (S. Karaman, 1931): Işıklı Spring (Denizli, Çivril) (Akyıldız, 2008) (*doubtful record*); Sarıçay Stream (Denizli, Pamukkale) (Akyıldız, 2008) (*doubtful record*); Çürüksu Stream (Denizli, Pamukkale) (Akyıldız, 2008) (*doubtful record*).

Gammarus pulex pulex (Linnaeus, 1758): No detail (Giresun, Tirebolu) (Karaman, 1975b); Small torrent near the river (Giresun, Tirebolu) (Karaman, 1975b); No detail (Giresun, Kesap) (Karaman, 1975b); No detail (Trabzon, Maçka) (Karaman, 1975b); No detail (Bitlis, Tatvan) (Karaman, 1975b); No detail (Bilecik, Bozüyük) (Karaman and Pinkster, 1987); Çukurköy Spring (İzmir, Menemen) (Özbek and Ustaoglu, 1998); Fountain (Manisa) (Özbek and Ustaoglu, 1998); Sarma Creek (Manisa, Muradiye) (Özbek and Ustaoglu, 1998); Sofular Creek (İzmir, Kemalpaşa) (Özbek and Ustaoglu, 1998); Develi Creek (İzmir, Menderes) (Özbek and Ustaoglu, 1998); Oğlananası Pond (İzmir, Menderes) (Özbek and Ustaoglu, 1998); Ilıca Creek (İzmir, Bayındır) (Özbek and Ustaoglu, 1998); Özbek Fountain (İzmir, Urla) (Özbek and Ustaoglu, 1998); Karapınar Creek (İzmir, Urla) (Özbek and Ustaoglu, 1998); Akçasu Spring (Sinop, Çolak) (Akbulut et al., 2009b); Aşağıköy Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Ayıpçı Creek (=İmamlı Creek) (Sinop, Dikmen) (Akbulut et al., 2009b); Aysel Yüksel Fountain (Sinop, Demirci) (Akbulut et al., 2009b); Çakallı Village Creek (Sinop, Gerze) (Akbulut et al., 2009b); Çeçe Village Creek (Sinop, Gerze) (Akbulut et al., 2009b); Edilli Plateau Spring Fountain (Sinop, Sarımsak) (Akbulut et al., 2009b); Flood Water Pool (Sinop; Akçakese) (Akbulut et al., 2009b); Flood Water Pool (Sinop; Turhan) (Akbulut et al., 2009b); Fountain-1 (Sinop, Aloğlu) (Akbulut et al., 2009b); Fountain (Sinop, Bostancılı) (Akbulut et al., 2009b); Fountain (Sinop, Kılıçlı) (Akbulut et al., 2009b); Fountain (Sinop, Korucuk) (Akbulut et al., 2009b); Fountain (Sinop, Yaykıl) (Akbulut et al., 2009b); Fountain (Sinop, Yenikent) (Akbulut et al., 2009b); Gemre Village Creek (Sinop; Ayancık) (Akbulut et al., 2009b); Gökçebel Fountain (Sinop, Erfelek) (Akbulut et al., 2009b); Güzelceçay Creek (Sinop, Dikmen) (Akbulut et al., 2009b); Hacıselli Village Creek (Sinop, Gerze) (Akbulut, 2001; Akbulut et al., 2009b); İnaltı Creek's Tributary-1 (Sinop, İnaltı) (Akbulut et al., 2009b); Karacasu Spring (Sinop, Yaykıl) (Akbulut et al., 2009b); Kızıklı Fountain (Sinop, Dikmen) (Akbulut et al., 2009b); Nisi Reservoir (Sinop) (Akbulut et al., 2009b); Pazarcık Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Sarımsaklı Creek (Sinop, Gerze) (Akbulut et al., 2009b);

Soğuk Creek (Sinop) (Akbulut et al., 2009b); Spring (Sinop, Ağcapınar) (Akbulut et al., 2009b); Spring-1 (Sinop, Çırnık) (Akbulut et al., 2009b); Spring-2 (Sinop, Çırnık) (Akbulut et al., 2009b); Spring-3 (Sinop, Çırnık) (Akbulut et al., 2009b); Spring (Sinop, Karapınar) (Akbulut et al., 2009b); Spring (Sinop, Radar) (Akbulut et al., 2009b); Spring (Sinop, Sarıkum) (Akbulut et al., 2009b); Tasaklar Creek (Sinop, Aloğlu) (Akbulut et al., 2009b); Tatlıca Waterfalls (Sinop, Erfelek) (Akbulut et al., 2009b); Yemişen Fountain (Sinop, Ayancı) (Akbulut et al., 2009b); Karadere Creek (Samsun, Alaçam) (Akbulut et al., 2009b); Küçükızıoğlu Creek (Samsun, Ladik) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Keçi Creek (Sinop, Sarıkum) (Akbulut et al., 2002); Sarıkum Lake (Akbulut et al., 2002); Creek (Sinop, Sarıkum) (Akbulut et al., 2002); No detail (Yalova, Armutlu) (Karaman, 2003); No detail (Sakarya; Sapanca) (Karaman, 2003); İznik Lake (Bursa, İznik) (Karaman, 2003); Kıran Creek (Bursa, İznik) (Karaman, 2003); Ilıcaksu Hot Spring (Manica Akhisar) (Karaman, 2003); No detail (Trabzon) (Karaman, 2003); Su Çıktığı Cave (Konya, Hadim) (Karaman, 2003); Creek (Edirne, Küçükkuyu) (Karaman, 2003); Channel (Manisa, Bozdağ) (Karaman, 2003); Creek (Manisa, Bozdağ) (Karaman, 2003); Creek (Bilecik, Bozüyük) (Karaman, 2003); Karamık Marsh Springs (Afyonkarahisar, Çay) (Özbek and Ustaoglu, 2005); Eber Lake (Afyonkarahisar, Bolvadin) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Akburun) (Özbek and Ustaoglu, 2005); Kocapınar Spring (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Zindan Creek (Isparta, Aksu) (Özbek and Ustaoglu, 2005); Akdoğan Creek (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Pınar Pazarı Creek (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Nilüfer Stream (Bursa, Uludağ) (Ustaoglu et al., 2008); Güvercinlik Creek (Bursa, Uludağ) (Ustaoglu et al., 2008); Several localities in Menderes Stream (Çanakkale, Bayramiç) (Akbulut et al., 2009a); Hamamayağı Thermal Springs (Samsun, Ladik) (Akbulut et al., 2009b); Ayancık Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Fountain (Sinop, Gebelit) (Akbulut et al., 2009b); İnaltı Creek's Tributary-2 (Sinop, İnaltı) (Akbulut et al., 2009b); Keçi Creek Spring-1 (Sinop) (Akbulut et al., 2009b); Keçi Creek Spring-2 (Sinop) (Akbulut et al., 2009b); Müsellem Creek (Sinop) (Akbulut et al., 2009b); Sepetçioğlu Creek (Sinop, Dikmen) (Akbulut et al., 2009b); Spring-1 near Müsellem Creek (Sinop, Boyabat) (Akbulut et al., 2009b); Spring-2 near Müsellem Creek (Sinop, Boyabat) (Akbulut et al., 2009b); Yusufoglu Fountain (Sinop, Çakallı) (Akbulut et al., 2009b); Ayvalı Creek (Eskişehir, Seyitgazi) (İpek and Şirin, 2009); Arslanbeyli Creek (Eskişehir, Seyitgazi) (İpek and Şirin, 2009); Seydisuyu Stream (Eskişehir, Seyitgazi) (İpek and Şirin, 2009); Kırka Creek (Eskişehir, Seyitgazi) (İpek and Şirin,

2009); Yazıdere Creek (Eskişehir, Seyitgazi) (İpek and Şirin, 2009); Gökçekuyu Creek (Eskişehir, Han) (İpek and Şirin, 2009); Yukarı Doğanoglu Creek (Eskişehir, Beylikova) (İpek and Şirin, 2009); Doğanoglu Creek (Eskişehir, Beylikova) (İpek and Şirin, 2009); Fountain (Eskişehir, Beylikova) (İpek and Şirin, 2009); Creek (Eskişehir, Hekimdağ) (İpek and Şirin, 2009); Takmak Creek (Eskişehir, Takmak) (İpek and Şirin, 2009); Fountain (Eskişehir, Takmak) (İpek and Şirin, 2009); Mollaoğlu Creek (Eskişehir, Mollaoğlu) (İpek and Şirin, 2009); Creek (Eskişehir, Musaözü) (İpek and Şirin, 2009); Fountain (Eskişehir, Yenisoğça) (İpek and Şirin, 2009); Kalabak Creek (Eskişehir, Uluçayır) (İpek and Şirin, 2009); Kızılınler Fountain (Eskişehir, Kızılınler) (İpek and Şirin, 2009); Acıçay Creek (Eskişehir, Günyüzü) (İpek and Şirin, 2009); Fountain (Eskişehir, İnönü) (İpek and Şirin, 2009); Fountain (Eskişehir, Kümbetapınar) (İpek and Şirin, 2009); Beşik Creek (Eskişehir, Yukarıkalabak) (İpek and Şirin, 2009); Creek (Eskişehir, Karapazar) (İpek and Şirin, 2009); Fountain (Eskişehir, Üçsaray) (İpek and Şirin, 2009); Fountain (Eskişehir, Oluklu) (İpek and Şirin, 2009); Fountain (Eskişehir, Rızapaşa) (İpek and Şirin, 2009); Yukarıdere Creek (Bilecik, Söğüt) (İpek and Şirin, 2009); Fountain (Bilecik, Kepen) (İpek and Şirin, 2009); Karasu Creek (Bilecik, Aşağıköy) (İpek and Şirin, 2009); Fountain (Bilecik, Yeniköy) (İpek and Şirin, 2009); Ayazma Creek (Çanakkale, Ayazma) (Özbek, 2011b); Sütüven Waterfall (Balıkesir, Edremit) (Özbek, 2011b); Gürpınarı Fountain (Ordu, Ünye) (Ekinci and Miroğlu, 2016); Spring (Ordu, Çatalpınar) (Ekinci and Miroğlu, 2016); Karadere Creek (Ordu, Çatalpınar) (Ekinci and Miroğlu, 2016); Bolaman Creek (Ordu, Çatalpınar) (Ekinci and Miroğlu, 2016); Okçulu Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Medreseönü Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Kovanlı Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Kaynarpınar Creek (Ordu, İkizce) (Ekinci and Miroğlu, 2016); Emenköy Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Çaytepe Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Hoynat Creek (Ordu, Kurtuluş) (Ekinci and Miroğlu, 2016); Ramazan Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Mersin, Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Kaleyaka Creek (Ordu, Perşembe) (Ekinci and Miroğlu, 2016); Bayadı Creek (Ordu, Altınordu) (Ekinci and Miroğlu, 2016); Gaga Lake (Ordu, Fatsa) (Ekinci and Miroğlu, 2016); Yena Creek (Balıkesir, Saraylar) (Özbek et al., 2015); Ballıpınar Creek (Balıkesir, Erdek) (Özbek et al., 2015); Beroma Creek (Balıkesir, Erdek) (Özbek et al., 2015); Eğridere Creek (Balıkesir, Erdek) (Özbek et al., 2015); Rahibeler Creek (Balıkesir, Erdek) (Özbek et al., 2015); Belkıs Creek (Balıkesir, Erdek) (Özbek et al., 2015); Creek (Balıkesir, Yukarıyapıcı) (Özbek et al., 2015); Turan Creek (Balıkesir, Erdek) (Özbek et al., 2015); Kestanelik Creek (Balıkesir, Erdek) (Özbek et al.,

2015); Doğanlar Creek (Balıkesir, Erdek) (Özbek et al., 2015); Creek (Kütahya, Domaniç) (İpek et al., 2017); Orhaneli Creek (Kütahya, Tavşanlı) (İpek et al., 2017); Creek (Kütahya, Gelinkaya) (İpek et al., 2017); Fountain (Kütahya, Saraycık) (İpek et al., 2017); Zafertepeçatalköy Creek (Kütahya, Altıntaş) (İpek et al., 2017); Balçılar Creek (Çanakkale, Lapseki) (Özbek et al., 2017); Fountain (Çanakkale, Lapseki) (Özbek et al., 2017); Ozancık Creek (Çanakkale, Çan) (Özbek et al., 2017); Kafkas Bağları Creek (Edirne, İskender) (Özbek et al., 2017); Creek (Eskişehir) (Öntürk and İpek, 2018).

Gammarus rambouseki S. Karaman, 1931: Istranca Mountains (Kırklareli) (Chertoprud and Palatov, 2017).

Gammarus roeselii Gervais, 1835: Eğirdir Lake (Isparta, Bağören) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Boyalı) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Gençali) (Özbek and Ustaoglu, 2005); Işıkli Springs (Denizli, Çivril) (Akyıldız, 2008) (*doubtful record*); Eğirdir Lake (Eğirdir, Gelendost) (Apaydın Yağcı et al., 2014).

Gammarus subtypicus Stock, 1966: Lapseki (Çanakkale) (Kocataş and Katağan, 1978); Erdek (Balıkesir) (Kocataş and Katağan, 1978); Aliğa (İzmir) (Kocataş and Katağan, 1978); Gebekirse Lake (İzmir, Selçuk) (Kocataş and Katağan, 1978; Özbek and Ustaoglu, 1998; Ustaoglu et al., 2000); Florya (İstanbul) (Bellan Santini et al., 1982); Akyatan Lagoon (Adana, Karataş) (Bellan Santini et al., 1982); Tahirova Lagoon (Balıkesir, Gönen) (Kocataş and Katağan, 1983); Bafa Lake (Aydın, Söke) (Ustaoglu et al., 1998; Sarı et al., 2001); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Akyaka Springs (Muğla, Ula) (Ustaoglu et al., 2002); Azmak Creek (Muğla, Akyaka) (Ustaoglu et al., 2002); Sarıkum Lake (Sinop, Sarıkum) (Yardım et al., 2008); Karina Lagoon (Aydın, Söke) (Özbek et al., 2016a); Gala Lake (Edirne, Enez) (Özbek et al., 2017); Mert Lake (Kırklareli, Demirköy) (Özbek et al., 2017).

Gammarus syriacus Chevreux, 1895: No detail (Konya) (Mateus and Mateus, 1990).

Gammarus topkarai Özbek & Balık, 2009: İvriz Creek (Konya, Halkapınar) (Özbek and Balık, 2009); Gökçeli Fountain (Ordu, Kumru) (Ekinci and Miroğlu, 2016); Turnasuyu Creek (Ordu, Altınordu) (Ekinci and Miroğlu, 2016); Kocuklu Fountain (Ordu, Ünye) (Ekinci and Miroğlu, 2016); Aydıntepe Creek (Ordu, Ünye) (Ekinci and Miroğlu, 2016); Ağcaalan Creek (Ordu, İkizce) (Ekinci and Miroğlu, 2016); Sarıcaerik Creek (Ordu, İkizce) (Ekinci and Miroğlu, 2016); Yoğunluk Fountain (Ordu, İkizce) (Ekinci and Miroğlu, 2016); Çamlıca Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Yeşilköy Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Halılışağı Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Kuzköy Fountain (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Akpınar Creek

(Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Örnece Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Çamlıca Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Kemikgeriş Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Ormancık Fountain (Ordu, Akkuş) (Ekinci and Miroğlu, 2016); Çamlıca Creek (Ordu, Akkuş) (Ekinci and Miroğlu, 2016).

Gammarus uludağı G.S. Karaman, 1975: Uludağ Mountain (Bursa) (Karaman, 1975b; Karaman and Pinkster, 1977a); Gölcük Lake (İzmir, Ödemiş) (Karaman and Pinkster, 1977a); River (İzmir) (Karaman and Pinkster, 1977a); Gürle Fountain (Manisa, Yunussemre) (Özbek and Ustaoglu, 1998); Nif Creek (İzmir, Kemalpaşa) (Özbek and Ustaoglu, 1998); Büyükkızıoğlu Creek (Samsun, Ladik) (Akbulut et al., 2009b); Küçükkızıoğlu Creek (Samsun, Ladik) (Akbulut et al., 2009b); Selemenlik Spring (Samsun, Bafra) (Akbulut et al., 2009b); Ayıpçı Creek (=İmamlı Creek) (Sinop, Dikmen) (Akbulut et al., 2009b); Çakıl Creek (Samsun, Ladik) (Akbulut et al., 2009b); Atbaşı Fountain (Sinop, Ayancık) (Akbulut et al., 2009b); Karadere Fountain (Sinop, Alaçam) (Akbulut et al., 2009b); Pınarbaşı (=Ayı) Stream (Balıkesir, Edremit) (Şirin et al., 2009); Acöldüren Creek (Balıkesir, Edremit) (Şirin et al., 2009); Karaca Creek (Balıkesir, Edremit) (Şirin et al., 2009); Çeyiz Creek (Balıkesir, Edremit) (Şirin et al., 2009); Otlu Creek (Balıkesir, Edremit) (Şirin et al., 2009); Düden Creek (Balıkesir, Edremit) (Şirin et al., 2009); Eşek Creek (Balıkesir, Edremit) (Şirin et al., 2009); Pınarbaşı Creek (Balıkesir, Edremit) (Şirin et al., 2009); Asker Creek (Balıkesir, Edremit) (Şirin et al., 2009); Yosunlu Waterfall (Balıkesir, Edremit) (Şirin et al., 2009); Yayla Creek (Balıkesir, Edremit) (Şirin et al., 2009); Değirmen Creek (Balıkesir, Marmara Island) (Özbek et al., 2015); Gündoğdu Creek (Balıkesir, Marmara Island) (Özbek et al., 2015); Topağaç Fountain (Balıkesir, Marmara Island) (Özbek et al., 2015); Kale (Balıkesir, Marmara Island) (Özbek et al., 2015); Saraylar Spring (Balıkesir, Marmara Island) (Özbek et al., 2015); Çınarlı Creek (Balıkesir, Marmara Island) (Özbek et al., 2015); Saraylar Creek (Balıkesir, Marmara Island) (Özbek et al., 2015); Çınarlı Spring (Balıkesir, Marmara Island) (Özbek et al., 2015); Yaylaköy Fountain (Kütahya, Gediz) (İpek et al., 2017); Akçaalan Fountain (Kütahya, Gediz) (İpek et al., 2017); Aşağıyoncağaç Fountain (Kütahya, Hisarcık) (İpek et al., 2017); Creek in Kazdağı Mountains (Balıkesir, Edremit) (Özbek et al., 2017).

Gammarus ustaoglu Özbek & Güloğlu, 2005: Peynirlikönü (=EGMA) Cave (Mersin, Anamur) (Özbek and Güloğlu, 2005).

Gammarus vignai Pinkster & Karaman, 1978: Çocuk Attıkları Delik Cave (Konya, Derebucak) (Pinkster and Karaman, 1978).

Gammarus werner (S. Karaman, 1934): Creek (İstanbul Kapı) (Bursa, İznik) (Karaman, 2003; Karaman, 2018).

Rhipidogammarus gordankaramani Özbek & Sket, 2019: Göynük Canyon outflow (Antalya, Göynük) (Özbek and Sket, 2019).

Family: Pontogammaridae Bousfield, 1977 (Figure 11)

Pontogammarus aestuarius (Derzhavin, 1924): Taşkırsığı Lake (Sakarya, Taşkırsığı) (Özbek et al., 2004a; Özbek, 2008); Poyrazlar Lake (Sakarya, Poyrazlar) (Özbek, 2008).

Pontogammarus maeoticus (Sovinsky, 1894): İğneada (Kırklareli, Demirköy) (Kocataş et al., 2003a).

Pontogammarus robustoides (Sars, 1894): Manyas Lake (Balıkesir) (Mordukhai-Boltovskoi, 1964); Apolyont Lake (=Uluabat Lake) (Bursa) (Mordukhai-Boltovskoi, 1964; Özbek et al., 2004c); İznik Lake (Bursa) (Mordukhai-Boltovskoi, 1964; Özbek et al., 2004c); Sapanca Lake (Kocaeli/Sakarya) (Mordukhai-Boltovskoi, 1964; Arslan et al., 2020); Karataş Lake (Burdur, Karamanlı) (Özbek and Ustaoglu, 2005); Buldan Reservoir (Denizli, Buldan) (Balık et al., 2004; Özbek, 2011a); Tahtalı Reservoir (İzmir, Menderes) (Taşdemir et al., 2010; Özbek, 2011a); Adıgüzel Reservoir (Denizli, Güney) (Özbek, 2011a; Özbek et al., 2016b); Many localities in Terkos Lake (=Durusu Lake) (İstanbul, Çatalca) (Rewicz et al., 2016; Özbek et al., 2017); Karaidemir Reservoir (Tekirdağ, Malkara) (Özbek et al., 2017); Büyükçekmece Lake (İstanbul) (Özbek et al., 2017); Karademir Reservoir (Tekirdağ, Malkara) (Özbek et al., 2017); Akgöl Lake (Sakarya, Söğütlü) (Arslan et al., 2020); Poyrazlar Lake (Sakarya, Adapazarı) (Arslan et al., 2020); Demirköprü Reservoir (Manisa, Salihli) (Arslan et al., 2020); Çayboğazı Reservoir (Antalya, Kaş) (Arslan et al., 2020); Gördes Reservoir (Manisa, Gördes) (Arslan et al., 2020); Çekerek River (Yozgat, Saraykent) (Arslan et al., 2020); Bakırçayı River (İzmir, Menemen) (Arslan et al., 2020); Kocaçay River (İzmir, Menderes) (Arslan et al., 2020).

Turcogammarus turcarum (Stock, 1974): Küçükağrı Mountain (Ağrı, Doğubeyazıt) (Stock, 1974).

Family: Eriopisidae Lowry & Myers, 2013 (Figure 11)

Gammaropisa arganoi Ruffo & Vigna-Taglianti, 1988: Well (Antalya) (Ruffo and Vigna-Taglianti, 1988).

Family: Hadziidae S. Karaman, 1943 (Figure 11)

Parhadzia sbordonii Vigna Taglianti, 1988: Mustanini Cave (Antalya) (Vigna Taglianti 1988).

Family: Melitidae Bousfield, 1973 (Figure 11)

Melita palmata (Montagu, 1804): Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); No detail (Giresun) (Karaman, 2003).

Family: Ischyroceridae Stebbing, 1899 (Figure 11)

Erichthonius brasiliensis (Dana, 1853): Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999).



⊗ *P. aestuarius* ● *P. maeoticus* ○ *P. robustoides* ▼ *T. turcarum*
 ⊠ *G. arganoi* △ *P. sbordonii* ◆ *M. palmata* ⊕ *E. brasiliensis* ⊖ *E. difformis* □ *E. punctatus*

Figure 11. Distribution of the members of Pontogammaridae, Eriopisidae, Hadziidae, Melitidae and Ischyroceridae in Turkish inland waters.

Erichthonius difformis Milne-Edwards, 1830: Beymelek Lagoon (Antalya, Demre) (Bakır and Katağan, 2014);

Erichthonius punctatus (Spence Bate, 1857): Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Karina (Dil) Lagoon (Aydın, Söke) (Özbek et al., 2016a).

Family: Hyalidae Bulyčeva, 1957 (Figure 12)

Hyale pontica Rathke, 1847: Sarıkum Lake (Sinop, Sarıkum) (Yardım et al., 2008);

Parhyale aquilina (Costa, 1857): Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983).

Family: Talitridae Rafinesque, 1815 (Figure 12)

Cryptorchestia cavimana (Heller, 1865): Sarıkum Lake (Sinop, Sarıkum) (Akbulut and Sezgin, 2000); No detail (Sakarya, Sapanca) (Karaman, 2003); Terme Miliç Forest (Samsun, Terme) (Karaman, 2003); Margins of small freshwater lake (Between silifke and Ancient City of Korykos) (Mersin) (Karaman, 2003); No detail (Narlıca?) (Karaman, 2003); Eğirdir Lake (Isparta, Akkeçili) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Boyalı) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Kale) (Özbek and Ustaoglu, 2005); Apolyont Lake (=Uluabat Lake) (Bursa, Süleymanefendi) (Özbek et al., 2004c); İznik Lake (Bursa, İznik) (Özbek et al., 2004c); Terkos Lake (=Durusu Lake) (İstanbul, Çatalca) (Çamur-Elipek and Kırgız, 2008); No detail (Samsun-Sinop) (Akbulut et al., 2009b); Çanta Stream (İstanbul, Silivri) (Özbek et al., 2017).

Cryptorchestia garbinii Ruffo, Tarocco & Latella, 2014: İznik Lake (Bursa, İznik) (Davalos et al., 2018); Sapanca Lake (Sakarya, Sapanca) (Davalos et al., 2018); Creek (Kırklareli, Kiyıköy) (Davalos et al., 2018).

Cryptorchestia kosswigi (Ruffo, 1949): Harbiye Waterfalls (Hatay, Yayladağı) (Ruffo, 1949); Soğukoluk Plaeau (Hatay, Yayladağı) (Ruffo, 1949); Gebekirse Lake (İzmir, Selçuk) (Ustaoglu et al., 2000).

Deshayesorchestia deshayesii (Audouin, 1826): Keçi Creek (Sinop, Sarıkum) (Akbulut et al., 2002); Creek running from Sarıkum Lake to Black Sea (Sinop, Sarıkum) (Akbulut et al., 2002); Many localities in Sarıkum Lake (Sinop, Sarıkum) (Akbulut et al., 2002).

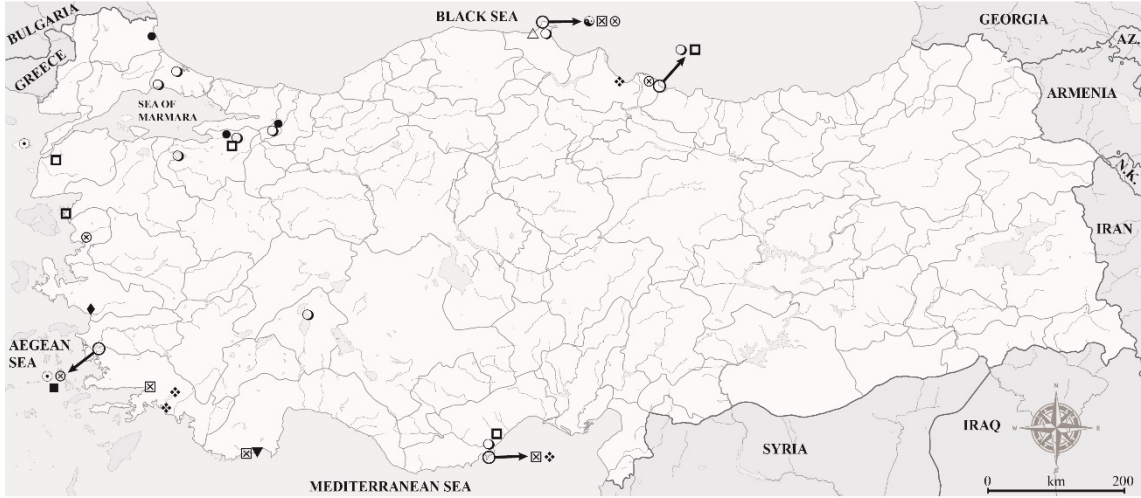
Orchestia bottae H. Milne Edwards, 1840: Terme Miliç Forest (Samsun, Terme) (Karaman, 1971); İznik Lake (Bursa, Orhangazi) (Karaman, 1971); Pond near Korikos (Mersin, Silifke) (Karaman, 1971).

Orchestia gammarellus (Pallas, 1766): Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Gökova Lagoon (Muğla, Gökova) (Kocataş and Katağan, 1983); Paradeniz Lagoon (Mersin, Tarsus) (Kocataş and Katağan, 1983); Sarıkum Lake (Sinop, Sarıkum) (Yardım et al., 2008).

Orchestia mediterranea Costa, 1857: Bafa Lake (Aydın, Söke) (Ustaoglu et al., 1998); No detail (Mediterranean coast of Turkey) (Karaman, 2003); Tuz Lake (Çanakkale, Gökçeada) (Özbek and Özkan, 2017).

Orchestia montagui Audouin, 1826: Bafa Lake (Aydın/Muğla) (Karaman, 1971; Geldiay et al., 1977; Kocataş and Katağan, 1983; Ustaoglu et al., 1998; Sarı et al., 2001); No detail (Balıkesir, Ayvalık) (Karaman, 2003); No detail (Çanakkale) (Karaman, 2003).

Orchestia stephenseni Cecchini, 1928: Bafa Lake (Aydın/Muğla) (Ustaoglu et al., 1998); Miliç-2 River (Samsun, Terme) (Akbulut et al., 2009b); No detail (Samsun-Sinop)



● *H. pontica* ▼ *P. aquilina* ○ *C. cavimana* ● *C. garbinii* ◆ *C. kosswigi* △ *D. deshayesii*
 □ *O. bottae* ⊗ *O. gammarellus* ⊙ *O. mediterranea* ■ *O. montagui* ⊗ *O. stephenseni* ◆ *P. platensis*

Figure 12. Distribution of the members of Hyalidae and Talitridae in Turkish inland waters.

(Bat and Akbulut, 2001); No detail (İzmir, Zeytinadağ) (Karaman, 2003).

Platorchestia platensis (Krøyer, 1845): İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Paradeniz Lagoon (Mersin, Tarsus) (Kocataş and Katağan, 1983); Near coast (Samsun) (Karaman, 2003); Yuvarlakçay Stream (Muğla, Köyceğiz) (Özbek et al., 2004b).

Order: Isopoda Latreille, 1817

Family: Asellidae Rafinesque, 1815 (Figure 13)

Asellus (Asellus) aquaticus (Linnaeus, 1758): Marsh (Ankara) (Gadeau de Kerville, 1939; Henry et al., 1996); Creek in Belgrad Forest (İstanbul, Sarıyer) (Deeleman-Reinhold, 1965); Creek (İstanbul, Üsküdar) (Deeleman-Reinhold, 1965); İznik Lake (Bursa, İznik) (Deeleman-Reinhold, 1965); Lake (Antalya, Döşemealtı) (Deeleman-Reinhold, 1965); Düden (Antalya, Elmalı) (Deeleman-Reinhold, 1965); Pond near Beyşehir Lake (Konya, Beyşehir) (Deeleman-Reinhold, 1965); Pond (Ordu, Fatsa) (Deeleman-Reinhold, 1965); No detail (Antalya) (Argano and Pesce, 1978); No detail (Artvin) (Argano and Pesce, 1978); No detail (Aydın) (Argano and Pesce, 1978); No detail (Burdur) (Argano and Pesce, 1978); No detail (Eskişehir) (Argano and Pesce, 1978); No detail (Konya) (Argano and Pesce, 1978); No detail (Muğla) (Argano and Pesce, 1978); No detail (Ordu) (Argano and Pesce, 1978); No detail (Zonguldak) (Argano and Pesce, 1978); Well (İzmir, Sığacık) (Henry et al., 1996); Well (İzmir, Seferihisar) (Henry et al., 1996); Kamış Stream (Muğla, Yatağan) (Henry et al., 1996); Bafa Lake (Aydın) (Henry et al., 1996); Well (Muğla, Akbük) (Henry et al., 1996); Well (Muğla, Kazıklı) (Henry et al., 1996); Well (Muğla, Yatağan) (Henry et al., 1996); Well (Aydın, Çine) (Henry et al., 1996); İnsuyu Cave (Burdur) (Henry et al., 1996); River

(Konya, Cemeller) (Henry et al., 1996); Spring (Konya, Akçabelen) (Henry et al., 1996); Well (Konya, Seydişehir) (Henry et al., 1996); Gebekirse Lake (İzmir, Selçuk) (Ustaoğlu et al., 2000; Özbek and Ustaoğlu, 2001); Akça Fountain (İzmir, Bergama) (Özbek and Ustaoğlu, 2001); Aşağı Şakran Fountain (İzmir, Aliğa) (Özbek and Ustaoğlu, 2001); İkizgöl Pond (İzmir, Bornova) (Özbek and Ustaoğlu, 2001); Göksu Springs (Manisa, Muradiye) (Özbek and Ustaoğlu, 2001); Oğlananası Pond (İzmir, Menderes) (Özbek and Ustaoğlu, 2001); Gölcük Lake (İzmir, Ödemiş) (Özbek and Ustaoğlu, 2001); Karagöl Lake (İzmir, Seferihisar) (Özbek and Ustaoğlu, 2001); Temporary Pond (İzmir, Urla) (Özbek and Ustaoğlu, 2001); Pınarlı Creek (İzmir, Özbek) (Özbek and Ustaoğlu, 2001); Güzelhisar Stream (İzmir, Aliğa) (Balık et al., 1999); Sırakarağaçlar Creek (Sinop, Dibekli) (Bat et al., 2000); Creek (Edirne) (Çamur and Kırgız, 2000); Gala Lake (Edirne, Enez) (Çamur and Kırgız, 2000); Creek (Edirne, Uzunköprü) (Çamur and Kırgız, 2000); Creek (Edirne, Kavgaz) (Çamur and Kırgız, 2000); Creek (Edirne, Hazsa) (Çamur and Kırgız, 2000); Ergene River (Edirne, Uzunköprü) (Çamur and Kırgız, 2000); Fountain (Edirne, Erikli) (Çamur and Kırgız, 2000); Mecidiye Fountain (Edirne, Keşan) (Çamur and Kırgız, 2000); Many localities in Tunca River (Edirne, Kırkpınar) (Çamur and Kırgız, 2000); Hacıdanışmend Pond (Edirne, Lalapaşa) (Çamur and Kırgız, 2000); Meriç River (Edirne, Kapıkule) (Çamur and Kırgız, 2000); Akçadam Pond (Edirne, Meriç) (Çamur and Kırgız, 2000); Sazlıdere Creek (Edirne, Köşençiftliği) (Çamur and Kırgız, 2000); Pitch (Edirne, Karaağaç) (Çamur and Kırgız, 2000); Fountain (Edirne, Elçili) (Çamur and Kırgız, 2000); Çiftlikköy Spring (Edirne, Uzunköprü) (Çamur and Kırgız, 2000); Karakasım Spring

(Edirne, Elçili) (Çamur and Kırgız, 2000); Gölbaba Pond (Edirne, Meriç) (Çamur and Kırgız, 2000); Spring (Edirne, Değirmenyeni) (Çamur and Kırgız, 2000); Creek (Edirne, Demirhanlı) (Çamur and Kırgız, 2000); Creek (Edirne, Hacumur) (Çamur and Kırgız, 2000); Umurca Spring (Edirne, Keşan) (Çamur and Kırgız, 2000); Fountain (Edirne, Üyükütatar) (Çamur and Kırgız, 2000); Akardere Creek (Edirne, Havsa) (Çamur and Kırgız, 2000); Hasköy Creek (Edirne, Havsa) (Çamur and Kırgız, 2000); Osmanlı Creek (Edirne, Havsa) (Çamur and Kırgız, 2000); Çukurköy Creek (Edirne, Havsa) (Çamur and Kırgız, 2000); Mahmutköy Creek (Edirne, Keşan) (Çamur and Kırgız, 2000); Kadıköy Reservoir (Edirne, Keşan) (Çamur and Kırgız, 2000); Söğütlük Creek (Edirne, Keşan) (Çamur and Kırgız, 2000); Kızkapan Fountain (Edirne, Keşan) (Çamur and Kırgız, 2000); Derbentboğazı Creek (Edirne, Keşan) (Çamur and Kırgız, 2000); Hasköy Creek (Edirne, Enez) (Çamur and Kırgız, 2000); Paşaköy Creek (Edirne, İpsala) (Çamur and Kırgız, 2000); Balabanköy Creek (Edirne, Uzunköprü) (Çamur and Kırgız, 2000); Altınyazı Reservoir (Edirne, Uzunköprü) (Çamur and Kırgız, 2000); Çöpköy Fountain (Edirne, Uzunköprü) (Çamur and Kırgız, 2000); Fountain (Edirne, Yıldırım) (Çamur and Kırgız, 2000); Fountain (Edirne, Yıldırım) (Çamur and Kırgız, 2000); Many localities in Çorlu Creek (Tekirdağ, Sayalar) (Çamur and Kırgız, 2000); Sinanlı Fountain (Tekirdağ, Saray) (Çamur and Kırgız, 2000); Kavaklıdere Creek (Tekirdağ, Kavaklıdere) (Çamur and Kırgız, 2000); Kınıklı Creek (Tekirdağ, Marmaraeğlisi) (Çamur and Kırgız, 2000); Creek (Tekirdağ, Hayrabolu) (Çamur and Kırgız, 2000); Yurtbekler Creek (Tekirdağ, Muratlı) (Çamur and Kırgız, 2000); Çekağıl Creek (Tekirdağ, Hanoğlu) (Çamur and Kırgız, 2000); Arzulu Creek (Tekirdağ, Muratlı) (Çamur and Kırgız, 2000); Banarlı Creek (Tekirdağ, Süleymanpaşa) (Çamur and Kırgız, 2000); Çikköy Creek (Tekirdağ, Ortaca) (Çamur and Kırgız, 2000); Tekke Creek (Tekirdağ, Hayrabolu) (Çamur and Kırgız, 2000); Kandamış Creek (Tekirdağ, Hayrabolu) (Çamur and Kırgız, 2000); Ana Creek (Tekirdağ, Hayrabolu) (Çamur and Kırgız, 2000); Creek (Kırklareli, Kofçaz) (Çamur and Kırgız, 2000); Kuleli Creek (Kırklareli, Babaeski) (Çamur and Kırgız, 2000); Pond (Kırklareli, Çamlık) (Çamur and Kırgız, 2000); Fountain (Kırklareli, Çamlık) (Çamur and Kırgız, 2000); Akarca Creek (Kırklareli, Pehlivanlı) (Çamur and Kırgız, 2000); Creek (Kırklareli, Lüleburgaz) (Çamur and Kırgız, 2000); Şeytan Creek (Kırklareli, Kovanlı) (Çamur and Kırgız, 2000); Dakımhöyük Creek (Kırklareli, Asilbeyli) (Çamur and Kırgız, 2000); Ahmetbey Creek (Kırklareli, Lüleburgaz) (Çamur and Kırgız, 2000); Üsküp Creek (Kırklareli, Bayramdere) (Çamur and Kırgız, 2000); Mert Lake (Kırklareli, İğneada) (Çamur and Kırgız, 2000); Şeytan Creek (Kırklareli, Babaeski) (Çamur and Kırgız, 2000);

Pancarköy Creek (Kırklareli, Babaeski) (Çamur and Kırgız, 2000); Gardilli Creek (Kırklareli, Arızbaba) (Çamur and Kırgız, 2000); Ürünli Creek (Kırklareli, Ürünli) (Çamur and Kırgız, 2000); Söğütlü Creek (Kırklareli, Karıncak) (Çamur and Kırgız, 2000); İslambeyli Creek (Kırklareli, Pınarhisar) (Çamur and Kırgız, 2000); Velika Creek (Kırklareli, Demirköy) (Çamur and Kırgız, 2000); Sivrilere Creek (Kırklareli, Demirköy) (Çamur and Kırgız, 2000); Erikli Lake (Kırklareli, İğneada) (Çamur and Kırgız, 2000); Selimpaşa Creek (İstanbul, Silivri) (Çamur and Kırgız, 2000); Menekşe Creek (İstanbul, Büyükçekmece) (Çamur and Kırgız, 2000); Alibeyköy Creek (İstanbul, Eyüp) (Çamur and Kırgız, 2000); Işıklar Pond (İstanbul, Eyüp) (Çamur and Kırgız, 2000); Oklalı Creek (İstanbul, Çatalca) (Çamur and Kırgız, 2000); Göktürk Creek (İstanbul, Çatalca) (Çamur and Kırgız, 2000); Terkos Lake (=Durusu Lake) (İstanbul) (Çamur and Kırgız, 2000; Çamur-Elipek and Özkan, 2012); Kızılcaali Creek (İstanbul, Çatalca) (Çamur and Kırgız, 2000); Brackish water (Balıkesir, Akçay) (Kırkım et al., 2006); Brackish water (Muğla, Güllük) (Kırkım et al., 2006); Fountain (Sinop, Korucuk) (Akbulut et al., 2009b); Fountain (Sinop, Yenikent) (Akbulut et al., 2009b); Hamsilos Fiyord Creek (Sinop, Aklıman) (Akbulut et al., 2009b); Keçi Deresi Spring (Sinop, Ayancık) (Akbulut et al., 2009b); Sırakaraağaçlar Creek (Sinop, Aklıman) (Akbulut et al., 2009b); Terme Stream (Samsun, Terme) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Keçi Creek (Sinop, Sarıkum) (Akbulut et al., 2002); Many localities in and around the Sarıkum Lake (Sinop, Sarıkum) (Akbulut et al., 2002; Yardım et al., 2008); Akyaka Springs (Muğla, Ula) (Ustaoglu et al., 2002); Azmak Stream (Muğla, Akyaka) (Ustaoglu et al., 2002); Işıklı Lake (Denizli, Çivril) (Aygen and Balık, 2005); Işıklı Springs (Denizli, Çivril) (Aygen and Balık, 2005); Gölhisar Lake (Burdur, Gölhisar) (Özbek and Ustaoglu, 2005); Kırkpınar Springs (Burdur, Tefenni) (Özbek and Ustaoglu, 2005); Salda Creek (Burdur, Yeşilova) (Özbek and Ustaoglu, 2005); Salda Lake (Burdur, Yeşilova) (Özbek and Ustaoglu, 2005); Gölcük Lake (Isparta, Yakaören) (Özbek and Ustaoglu, 2005); Kovada Lake (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Karamık Marsh Springs (Afyonkarahisar, Çay) (Özbek and Ustaoglu, 2005); Eber Lake (Afyonkarahisar, Bolvadin) (Özbek and Ustaoglu, 2005); Many localities in and around the Beyşehir Lake (Konya) (Özbek and Ustaoglu, 2005); Akpınar Spring (Afyonkarahisar, Başmakçı) (Özbek and Ustaoglu, 2005); Suçikan Spring (Afyonkarahisar, Dinar) (Özbek and Ustaoglu, 2005); Karakuyu Pond (Afyonkarahisar, Eldere) (Özbek and Ustaoglu, 2005); Apolyont Lake (=Uluabat Lake) (Bursa, Karacabey) (Özbek et al., 2004c); Küllük Lake (Antalya, Gündoğmuş) (Ustaoglu et al., 2004); Dipsiz Lake (Konya, Seydişehir) (Ustaoglu et al., 2004); Gavur Lake (Konya) (Ustaoglu et

al., 2004); Tunca River (Edirne, Suakacağı) (Elipek et al., 2006); Tunca River (Edirne, Değirmenyeni) (Elipek et al., 2006); Tunca River (Edirne, Sarayıçi) (Elipek et al., 2006); Tunca River (Edirne, Gazimihal) (Elipek et al., 2006); Büyük Menderes River (Denizli, Çıtak) (Akyıldız, 2008); Büyük Menderes River (Denizli, Yahyalı) (Akyıldız, 2008); Büyük Menderes River (Denizli, Kısık) (Akyıldız, 2008); Büyük Menderes River (Denizli, Hançalar) (Akyıldız, 2008); Büyük Menderes River (Denizli, Akkent) (Akyıldız, 2008); Büyük Menderes River (Denizli, Bekilli Santral) (Akyıldız, 2008); Büyük Menderes River (Denizli, Ahmetli) (Akyıldız, 2008); Gölcük Lake (Bolu) (Özbek, 2008); Sülüklü Lake (Bolu, Mudurnu) (Özbek, 2008); Sultan Sazlığı (Kayseri, Yeşilhisar) (Özbek et al., 2009); Çarşamba Stream (Konya, Çumra) (Özbek et al., 2009); Kırkgöz Springs (Antalya, Döşemealtı) (Özbek et al., 2009); Kali Creek (Afyonkarahisar, Çay) (Özbek et al., 2009); Menderes Stream (Çanakkale) (Akbulut et al., 2009a); Yenibademli Creek (Çanakkale, Gökçeada) (Çamur-Elipek and Özkan, 2012); Uğurlu Creek (Çanakkale, Gökçeada) (Çamur-Elipek and Özkan, 2012); Esenyurt Creek (Çanakkale, Gökçeada) (Çamur-Elipek and Özkan, 2012); Kapıkaya Creek (Çanakkale, Gökçeada) (Çamur-Elipek and Özkan, 2012); Ayazma Creek (Çanakkale, Gökçeada) (Çamur-Elipek and Özkan, 2012); Creek (Çanakkale, Gelibolu) (Çamur-Elipek and Özkan, 2012); Creek (Çanakkale, Evreşe) (Çamur-Elipek and Özkan, 2012); Creek (Çanakkale, Kocayayla) (Çamur-Elipek and Özkan, 2012); Aydıncık Pond (Çanakkale, Çan) (Çamur-Elipek and Özkan, 2012); Çınarlı Creek (Çanakkale, Gökçeada) (Çamur-Elipek and Özkan, 2012); Cumhuriyet Fountain (Çanakkale, Bozcaada) (Çamur-Elipek and Özkan, 2012); Ayazma Fountain (Çanakkale, Bozcaada) (Çamur-Elipek and Özkan, 2012); Kösedere Creek (Çanakkale, Ayvacık) (Çamur-Elipek and Özkan, 2012); Babakale Fountain (Çanakkale, Ayvacık) (Çamur-Elipek and Özkan, 2012); Dümrek Creek (Çanakkale) (Çamur-Elipek and Özkan, 2012); Yalova Creek (Çanakkale) (Çamur-Elipek and Özkan, 2012); Yalıköy Creek (İstanbul, Şile) (Çamur-Elipek and Özkan, 2012); Istranca Creek (İstanbul, Ormanlı) (Çamur-Elipek and Özkan, 2012); Büyükdere Creek (İstanbul, Çatalca) (Çamur-Elipek and Özkan, 2012); Karasu Creek (İstanbul, Çatalca) (Çamur-Elipek and Özkan, 2012); İnce Creek (Kırklareli, İnce) (Çamur-Elipek and Özkan, 2012); Değirmencik Creek (Kırklareli, Merkez) (Çamur-Elipek and Özkan, 2012); Dügüncübaşı Creek (Kırklareli, Lüleburgaz) (Çamur-Elipek and Özkan, 2012); Ergene River (Kırklareli, Sinanlı) (Çamur-Elipek and Özkan, 2012); Hıdırca Creek (Kırklareli, Babaeski) (Çamur-Elipek and Özkan, 2012); Ağayeri Creek (Kırklareli, Babaeski) (Çamur-Elipek and Özkan, 2012); Kınalı Creek (İstanbul, Silivri) (Çamur-Elipek and Özkan, 2012); Teke Creek (Kırklareli, Kofçaz

(Çamur-Elipek and Özkan, 2012); Ecelimanı Creek (Çanakkale, Eceabat) (Çamur-Elipek and Özkan, 2012); Mağaralı Fountain (Çanakkale, Bozcaada) (Çamur-Elipek and Özkan, 2012); Aral Creek (Çanakkale, Bozcaada) (Çamur-Elipek and Özkan, 2012); Deliçay Springs (Kahramanmaraş, Onikişubat) (Ayas and Kara, 2014); Deliçay Creek (Kahramanmaraş, Onikişubat) (Ayas and Kara, 2014); Abdurrahim Well (Edirne, Enez) (Özkahya and Çamur-Elipek, 2015); Paşayenice Well (Edirne, Meriç) (Özkahya and Çamur-Elipek, 2015); Hasköy Well (Edirne, Enez) (Özkahya and Çamur-Elipek, 2015); Yapıldak Well (Edirne, İpsala) (Özkahya and Çamur-Elipek, 2015); Hamzabeyli Well (Edirne, Lalapaşa) (Özkahya and Çamur-Elipek, 2015); Büyükaltınağaç Well (Edirne, Meriç) (Özkahya and Çamur-Elipek, 2015); Yağmurca Well (Edirne, Uzunköprü) (Özkahya and Çamur-Elipek, 2015); Istranca Mountains (Kırklareli- Tekirdağ) (Chertoprud and Palatov, 2017); Eşelek Creek (Çanakkale, Gökçeada) (Aslan et al., 2018); Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Fountain (Bayburt, Aydıncık) (Baytaşoğlu and Gözler, 2018); Fountain (Bayburt, Değirmencik) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Kemertaş) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Nişantaşı) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Kırkpınar) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Sarıhan) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Yukarıkişlak) (Baytaşoğlu and Gözler, 2018); Soğulcak Creek (Erzincan, Otlukbeli) (Baytaşoğlu and Gözler, 2018); Demirözü Reservoir (Bayburt, Işıkova) (Baytaşoğlu and Gözler, 2018); Göksun Stream (Kahramanmaraş, Göksun) (Kısımlar, 2018).

Asellus (Asellus) hilgendorffii Bovallius, 1886: Sivrilere Creek (Kırklareli, Demirköy) Çamur and Kırgız, 2000).

Asellus (Asellus) monticola Birstein, 1932: No detail (Samsun-Sinop) (Bat and Akbulut, 2001).

Asellus (Asellus) strinatii Chappuis, 1955: İnönü Cave (Eskişehir, İnönü) (Chappuis, 1955).

Proasellus coxalis (Dollfus, 1892): Tarsus (Mersin) (Deeleman-Reinhold, 1965); Kırkgöz Springs (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005); Kırkgöz Pond (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005).

Proasellus infirmus (Birstein, 1936): Erikli Lake (Kırklareli, İğneada) (Çamur and Kırgız, 2000).

Proasellus lykaonicus Argano & Pesce, 1978: Körükini (=Balatini) Cave (Konya, Derebucak) (Argano and Pesce, 1978); Balatini (Maslıalti-İni) Cave (Konya, Derebucak) (Argano and Pesce, 1978).

Proasellus pamphylicus Henry, Magniez & Notenboom, 1996: Karpuzçay Stream (Antalya, Kızılot) (Henry et al., 1996).

Proasellus pisidicus Henry, Magniez & Notenboom, 1996: Akgöl Lake (Burdur, Yeşilova) (Henry et al., 1996).

Family: Janiridae G.O. Sars, 1897 (Figure 14)

Jaera (Jaera) italica Kesselyak, 1938: Bafa Lake (Aydın/Muğla) (Geldiay et al., 1977; Kocataş and Katağan, 1983); İçmeler Spring (İzmir, Urla) (Veuille and Kocataş, 1979); Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Gökova Lagoon (Muğla, Gökova) (Kocataş and Katağan, 1983); Balıklıova Creek (İzmir, Urla) (Özbek and Ustaoglu, 2001); Ildır Springs (İzmir, Çeşme) (Özbek and Ustaoglu, 2001); Akyaka Springs (Muğla, Ula) (Ustaoglu et al., 2002); Azmak Creek (Muğla, Ula) (Ustaoglu et al., 2002); Brackish water (İzmir, Çeşme) (Kırkım et al., 2006).

Jaera (Jaera) nordmanni massiliensis Lemerrier, 1960: Göynük River estuary (Antalya, Kemer) (Henry et al., 1996).

Jaera (Jaera) sarsi Valkanov, 1936: Alibeyköy Creek (İstanbul, Eyüp) (Çamur and Kırgız, 2000).

Family: Lepidocharontidae Galassi & Bruce, 2016 (Figure 14)

Microcharon anatolicus Pesce & Galassi, 1990: Sığacık Well (İzmir, Seferihisar) (Pesce and Galassi, 1990); Tepecik Well (İzmir, Seferihisar) (Pesce and Galassi, 1990); Hadim Well (Konya, Bozkır) (Pesce and Galassi, 1990).

Microcharon lydicus Pesce & Galassi, 1990: Karpuzçay (Antalya, Taşkesiği) (Pesce and Galassi, 1990); Bozkır Well (Konya, Seydişehir) (Pesce and Galassi, 1990).

Microcharon ullae Pesce, 1981: Keler Creek (İzmir, Menderes) (Pesce and Galassi, 1990); Güvercinlik Spring (Muğla, Bodrum) (Pesce and Galassi, 1990); Kamış Stream (Muğla, Yatağan) (Pesce and Galassi, 1990).

Family: Anthuridae Leach, 1814 (Figure 15)

Cyathura carinata (Krøyer, 1847): Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Köyceğiz Lake (Muğla, Köyceğiz) (Özbek et al., 2004b).

Family: Cirolanidae Dana, 1852 (Figure 15)

Eurydice spinigera Hansen, 1890: Sarıkum Lake (Sinop, Sarıkum) (Yardım et al., 2008).

Turcolana adaliae Botosaneanu & Notenboom, 1989: Oymapınar Well (Antalya, Manavgat) (Botosaneanu and Notenboom, 1989).

Turcolana cariae Argano & Pesce, 1980: Well (Muğla, Çetibeli) (Argano and Pesce, 1980).

Turcolana pamphyliae Botosaneanu & Notenboom, 1989: Karpuzçay Stream (Antalya, Manavgat) (Botosaneanu and Notenboom, 1989); Oymapınar Well (Antalya, Manavgat) (Botosaneanu and Notenboom, 1989).

Turcolana smyrnae Botosaneanu & Notenboom, 1989: Dereboğaz Stream (İzmir, Menderes) (Botosaneanu and Notenboom, 1989).

Family: Ligiidae Leach, 1814 (Figure 15)

Ligia italica Fabricius, 1798: Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983).

Family: Tylidae Dana, 1852 (Figure 15)

Tylos latreillii Audouin, 1826 (nomen dubium): Bafa Lake (Aydın/Muğla) (Geldiay et al., 1977; Kocataş and Katağan, 1983); Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983).

Family: Sphaeromatidae Latreille, 1825 (Figure 15)

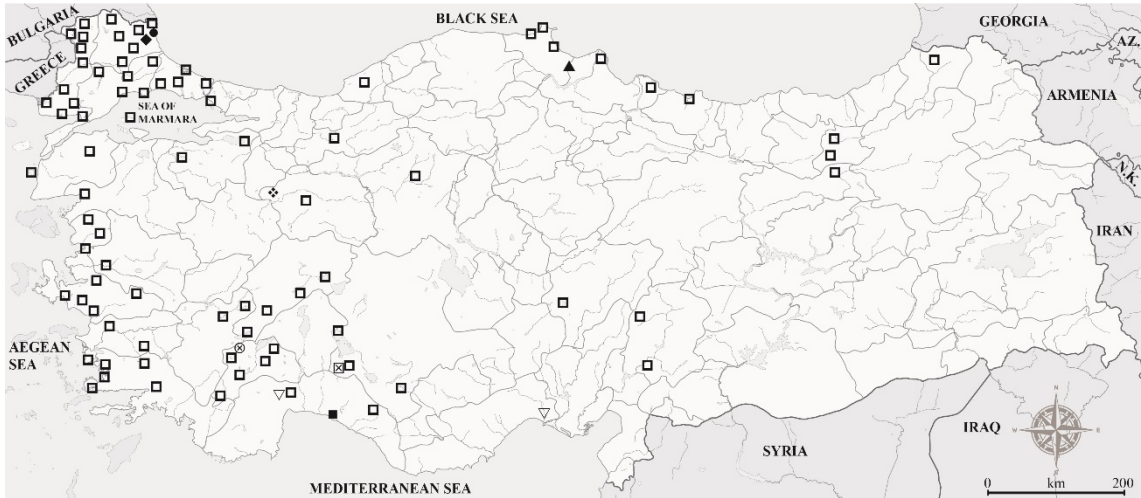
Lekanesphaera hookeri (Leach, 1814): Bafa Lake (Aydın/Muğla) (Geldiay et al., 1977; Kocataş and Katağan, 1983; Ustaoglu et al., 1998; Sarı et al., 2001); Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Gökova Lagoon (Muğla, Gökova) (Kocataş and Katağan, 1983); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Paradeniz Lagoon (Mersin, Tarsus) (Kocataş and Katağan, 1983); Tahirova Lagoon (Balıkesir, Gönen) (Kocataş and Katağan, 1983); Gebekirse Lake (İzmir, Selçuk) (Ustaoglu et al., 2000; Özbek and Ustaoglu, 2001); Zeytinköy Spring (İzmir, Selçuk) (Özbek and Ustaoglu, 2001); Brackish Pond (İzmir, Gümlüdü) (Özbek and Ustaoglu, 2001); İçmeler Springs (İzmir, Urla) (Özbek and Ustaoglu, 2001); Ildır Springs (İzmir, Çeşme) (Özbek and Ustaoglu, 2001); Akyaka Springs (Muğla, Ula) (Ustaoglu et al., 2002); Azmak Stream (Muğla, Ula) (Ustaoglu et al., 2002); Nasuh Dede Creek (Muğla, Köyceğiz) (Özbek et al., 2004b); Yuvarlakçay Stream (Muğla, Köyceğiz) (Özbek et al., 2004b); Köyceğiz Lake (Muğla, Köyceğiz) (Özbek et al., 2004b); Brackish water (İzmir, Çeşme) (Kırkım et al., 2006); Sarıkum Lake (Sinop, Sarıkum) (Yardım et al., 2008); Karina Lagoon (Aydın, Söke) (Özbek et al., 2016a).

Lekanesphaera monodi (Arcangeli, 1934): Karina Lagoon (Aydın, Söke) (Özbek et al., 2016a).

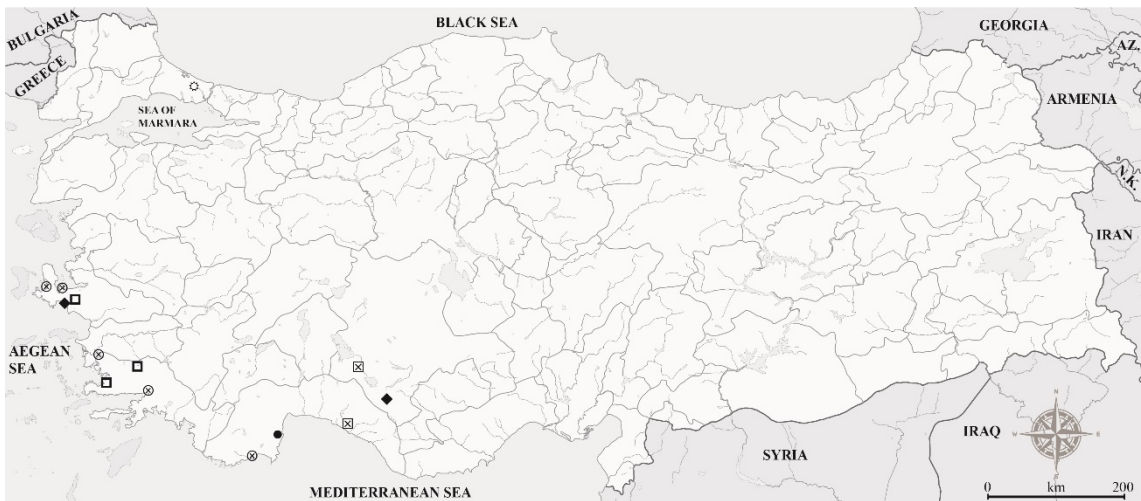
Sphaeroma serratum (Fabricius, 1787): Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Paradeniz Lagoon (Mersin, Tarsus) (Kocataş and Katağan, 1983); No detail (Muğla, Köyceğiz) (Kazancı et al., 1992); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Gebelit Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Karina Lagoon (Aydın, Söke) (Özbek et al., 2016a); Kamil Abduş Lagoon (=Balık Lake) (İstanbul, Tuzla) (Altınışlı et al., 2017).

Family: Idoteidae Samouelle, 1819 (Figure 15)

Idotea balthica (Pallas, 1772): Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Tahirova Lagoon (Balıkesir, Gönen) (Kocataş and Katağan, 1983); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Sırakaraağaçlar Creek (Sinop, Dibekli) (Bat et al., 2000); Gernek Lake (Samsun, Bafra) (Akbulut et al., 2009b); Gebelit Creek (Sinop, Ayancık) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Sarıkum Lake (Sinop, Sarıkum) (Yardım et al., 2008); Many localities at Karina Lagoon (Aydın, Söke) (Özbek et al., 2016a); Kamil Abduş Lagoon (=Balık



□ *A. (Asellus) aquaticus* ◆ *A. (Asellus) hilgendorffii* ▲ *A. (Asellus) monticola*
 ❖ *A. (Asellus) strinatii* ▽ *P. coxalis* ● *P. infirmus* ☒ *P. lykaonicus* ■ *P. pamphylicus* ⊗ *P. pisidicus*
Figure 13. Distribution of the members of Asellidae in Turkish inland waters.



⊗ *Jaera (Jaera) italica* ● *J. (Jaera) nordmanni massiliensis* ✱ *J. (Jaera) sarsi*
 ◆ *M. anatolicus* ☒ *M. lydicus* ■ *M. ullae*
Figure 14. Distribution of the members of Janiridae and Lepidocharontidae in Turkish inland waters.

Lake) (İstanbul, Tuzla) (Altınşaçlı et al., 2017); Tuz Lake (Çanakale, Gökçeada) (Aslan et al., 2018).

Synischia hectica (Pallas, 1772): No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Hamsilos Fiyord Creek (Sinop, Akliman) (Akbulut et al., 2009b).

Order: Mysida Haworth, 1825

Family: Mysidae Haworth, 1825 (Figure 16)

Diamysis bahirensis (G.O. Sars, 1877): Ildır Springs (İzmir, Çeşme) (Özbek and Ustaoglu, 2001); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999).

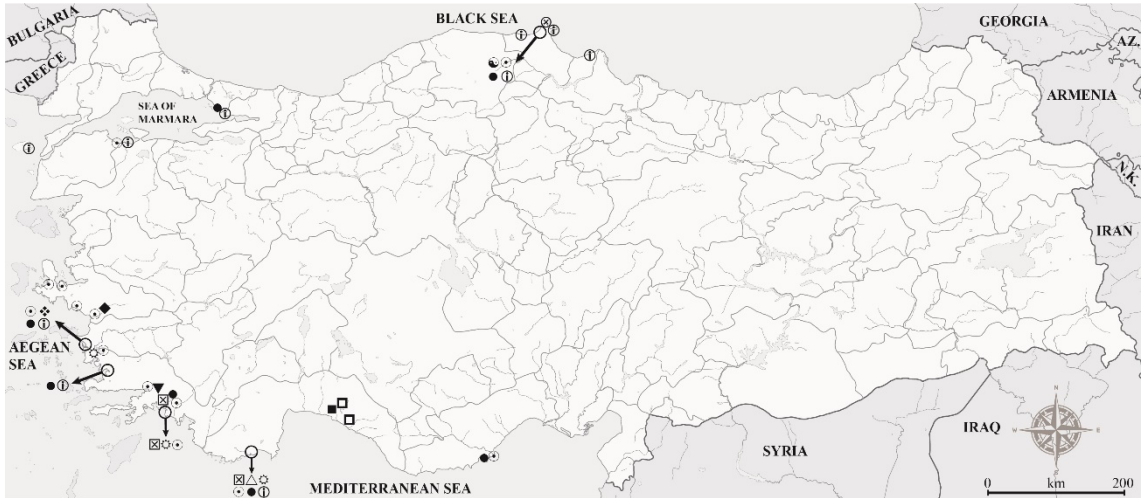
Diamysis cymodoceae Wittmann & Ariani, 2012: Kamil

Abduş Lagoon (İstanbul, Tuzla) (Altınşaçlı et al., 2017).

Diamysis mesohalobia Ariani & Wittmann, 2000: Havran River estuary (Gulf of Edremit, Ören) (Ariani and Wittmann, 2000); Köyceğiz Lake (Muğla, Köyceğiz) (Kocataş et al., 2003b; Özbek et al., 2004b).

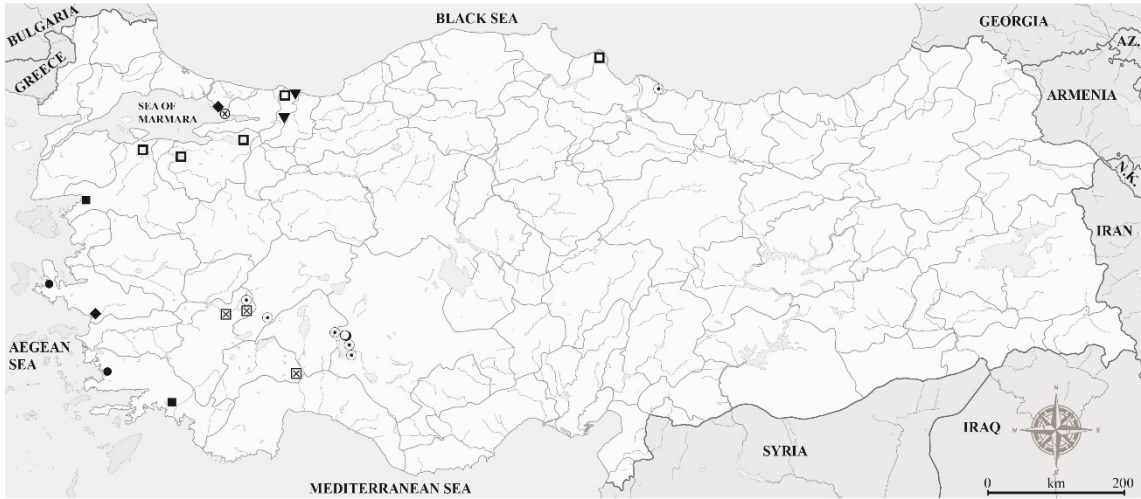
Diamysis pengoi (Czerniavsky, 1882): Acarlar Lake (Sakarya, Karasu) (Özbek, 2008); Taşkırsığı Lake (Sakarya, Taşkırsığı) (Özbek, 2008); Poyrazlar Lake (Sakarya, Poyrazlar) (Kocataş et al., 2003b; Özbek, 2008).

Limnomysis benedeni Czerniavsky, 1882: Gıcı Lake (Samsun, Bafra) (Akbulut et al., 2009b); Ulugöl (=Balık



☒ *C. carinata* ☉ *E. spinigera* ■ *T. adaliae* ▼ *T. cariae* □ *T. pamphyliae* ◆ *T. smyrnae* △ *L. italica*
 ⚙ *T. latreillii* ⊙ *L. hookeri* ❖ *L. monodi* ● *S. serratum* ⓘ *I. balthica* ⊗ *S. hectica*

Figure 15. Distribution of the members of Anthuridae, Cirolanidae, Ligiidae, Tylidae, Sphaeromatidae and Idoteidae in Turkish inland waters.



● *D. bahirensis* ⊗ *D. cymodoceae* ■ *D. mesohalobia* ▼ *D. pengoi* □ *L. benedeni*
 ◆ *M. slabberi* ☒ *M. relicta* ⊙ *P. (Serrapalpis) kosswigi* ○ *P. (Serrapalpis) lacustris*

Figure 16. Distribution of the members of Mysidae in Turkish inland waters.

Lake (Samsun, Bafra) (Akbulut et al., 2009b); Uzungöl Lake (Samsun, Bafra) (Akbulut et al., 2009b); Tatlı Lake (Samsun, Bafra) (Akbulut et al., 2009b); Apolyont Lake (=Uluabat Lake) (Bursa, Karacabey) (Kocataş et al., 2003b; Özbek et al., 2004c).

Mesopodopsis slabberi (Van Beneden, 1861): Gebekirse Lake (İzmir, Selçuk) (Ustaoglu and Balık, 1990; Ustaoglu et al., 2000; Özbek and Ustaoglu, 2001; Kocataş et al., 2003b); Kamil Abduş Lagoon (İstanbul, Tuzla) (Altınışacli et al., 2017).

Mysis relicta Lovén, 1862: Karacaören I Reservoir (Burdur, Bucak) (Gülle, 2005) (*doubtful record*); Işıklı Springs (Denizli, Çivril) (Akyıldız, 2008) (*doubtful record*); Büyük Menderes River (Denizli, Çalkuyucak) (Akyıldız, 2008) (*doubtful record*); Büyük Menderes River (Denizli, Kavakköy) (Akyıldız, 2008) (*doubtful record*); Büyük Menderes River (Denizli, Şapçılar) (Akyıldız, 2008) (*doubtful record*); Büyük Menderes River (Denizli, Yukarıseyit) (Akyıldız, 2008) (*doubtful record*).

Paramysis (Serrapalpis) kosswigi Băcescu, 1948:

Işıkli Springs (Denizli, Çivril) (Băcescu, 1948; Kocataş et al., 2003b; Aygen and Balık, 2005); Miliç-2 (Terme) River (Samsun, Terme) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Beyşehir Lake (Konya, Akburun) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Gölkaşı) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Karadiken) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Kuşluca) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Sarıkaya) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Tolca) (Özbek and Ustaoglu, 2005); İncirli Spring (Afyonkarahisar, Dinar) (Özbek and Ustaoglu, 2005); Düden Spring (Afyonkarahisar, Dinar) (Kocataş et al., 2003b; Özbek and Ustaoglu, 2005); Işıkli Lake (Denizli, Çivril) (Akبابa and Boyacı, 2015); Adıgüzel Reservoir (Denizli, Güney) (Özbek et al., 2016b).

Paramysis (Serrapalpis) lacustris (Czerniavsky, 1882): Beyşehir Lake (Băcescu 1948; Băcescu, 1954; Kocataş et al., 2003b).

Order: Tanaidacea Dana, 1849

Family: Leptocheliidae Lang, 1973 (Figure 17)

Chondrochelia savignyi (Kroyer, 1842): Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Kamil Abduş Lagoon (İstanbul, Tuzla) (Altınşaçlı et al., 2017).

Heterotanaeis oerstedii (Krøyer, 1842): No detail (Muğla, Köyceğiz) (Kazancı et al., 1992).

Family: Tanaellidae Larsen & Wilson, 2002 (Figure 6)

Araphura filiformis (Lilljeborg, 1864): Kamil Abduş Lagoon (İstanbul, Tuzla) (Altınşaçlı et al., 2017).

Family: Tanaididae Nobili, 1906 (Figure 17)

Tanaeis dulongii (Audouin, 1826): Bafa Lake (Aydın/Muğla) (Geldiay et al., 1977); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Kamil Abduş Lagoon (İstanbul, Tuzla) (Altınşaçlı et al., 2017).

Order: Decapoda Latreille, 1802

Family: Grapsidae MacLeay, 1838 (Figure 18)

Pachygrapsus marmoratus (Fabricius, 1787): Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Paradeniz Lagoon (Mersin, Tarsus) (Kocataş and Katağan, 1983).

Family: Diogenidae Ortmann, 1892 (Figure 18)

Diogenes pugilator (Roux, 1829): Kamil Abduş Lagoon (=Balık Lake) (İstanbul, Tuzla) (Altınşaçlı et al., 2017).

Family: Astacidae Latreille, 1802 (Figure 18)

Astacus astacus (Linnaeus, 1758): Apolyont Lake (=Uluabat Lake) (Bursa, Mustafakemalpaşa) (Ninni, 1923) (*doubtful record*); Ankara, Çubuk (Geldiay, 1949) (*doubtful record*).

Astacus colchicus Kessler, 1876: Creek (tributary of a river) (Ordu, Ünye) (Holthius, 1961).

Austropotamobius pallipes (Lereboullet, 1858): Apolyont Lake (=Uluabat Lake) (Bursa, Mustafakemalpaşa) (Ninni,

1923); Manyas Lake (Balıkesir, Manyas) (Ninni, 1923).

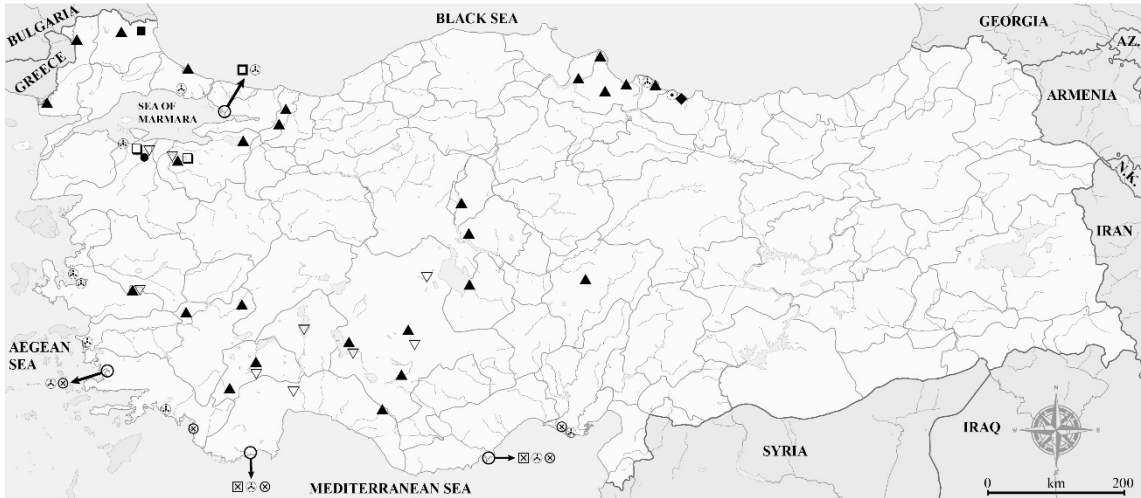
Austropotamobius torrentium (von Paula Schrank, 1803): Velika Creek (Kırklareli, Demirköy) (Trontelj et al., 2005); Velika Creek (Kırklareli, Demirköy), Madara Creek (Kırklareli, Demirköy) (Harlıoğlu and Güner, 2006).

Pontastacus leptodactylus (Eschscholtz, 1823): No detail (Bursa) (Ninni, 1923); No detail (İstanbul) (Ninni, 1923); No detail (Kayseri) (Bott, 1950); Sapanca Lake (Kocaeli, Sapanca) (Tortonese, 1952); Beyşehir Lake (Konya/Isparta) (Tortonese, 1952); Pınarbaşı Lake (Burdur, Kemer) (Pretzmann, 1966); Cori Stream (Samsun, Ünye) (Geldiay and Kocataş, 1970); Gelemen Stream (Samsun; Gelemen) (Geldiay and Kocataş, 1970); Işıkli Gölü (Denizli; Çivril) (Geldiay and Kocataş, 1970); Tunca River (Edirne) (Geldiay and Kocataş, 1970); Pond (Kayseri, Karpuzatan) (Pretzmann, 1973); No detail (Isparta, Eğirdir) (Pretzmann, 1973); İznik Lake (=Darka Lake) (Bursa, İznik) (Pretzmann, 1973); Sapanca Lake (Kocaeli, Sapanca) (Pretzmann, 1973; 1974); No detail (Bursa) (Pretzmann, 1974); Gölçük Lake (İzmir, Ödemiş) (Özbek and Ustaoglu, 2001); No detail (Kocataş, 1981); Altınkaya Reservoir (Samsun, Vezirköprü) (Akbulut et al., 2009b); Gıcı Lake (Samsun, Bafra) (Akbulut et al., 2009b); Kavak Reservoir (Samsun, Kavak) (Akbulut et al., 2009b); Kızılırmak River (Samsun, Bafra) (Akbulut et al., 2009b); Miliç-1 River (Samsun, Terme) (Akbulut et al., 2009b); Miliç-2 River (Samsun, Terme) (Akbulut et al., 2009b); Tatlı Lake (Samsun, Bafra) (Akbulut et al., 2009b); Terme Stream (Samsun, Terme) (Akbulut et al., 2009b); Uluğöl (=Balık Lake) (Samsun, Bafra) (Akbulut et al., 2009b); Uzungöl Lake (Samsun, Bafra) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Işıkli Lake (Denizli, Çivril) (Aygen and Balık, 2005); Buldan Reservoir (Denizli, Buldan) (Balık et al., 2004); Hirfanlı Reservoir (Ankara, Bala) (Harlıoğlu, 2004); Hirfanlı Reservoir (Ankara, Şereflikoçhisar) (Harlıoğlu, 2004); Hirfanlı Reservoir (Ankara, Evren) (Harlıoğlu, 2004); Hirfanlı Reservoir (Kırşehir) (Harlıoğlu, 2004); Hirfanlı Reservoir (Kırşehir, Kaman) (Harlıoğlu, 2004); Balık Lake (Samsun, Bafra) (Harlıoğlu, 2004); Gernek Lake (Samsun, Bafra) (Harlıoğlu, 2004); 19 Mayıs Reservoir (Samsun) (Harlıoğlu, 2004); İznik Lake (Bursa, İznik) (Harlıoğlu, 2004); Apolyont Lake (=Uluabat Lake) (Bursa) (Harlıoğlu, 2004; Özbek et al., 2004c); Apa Reservoir (Konya) (Harlıoğlu, 2004); Çivril Reservoir (Denizli, Çivril) (Harlıoğlu, 2004); Kapulukaya Reservoir (Kırıkkale) (Harlıoğlu, 2004); Uylupınar Reservoir (Burdur, Gölhisar) (Harlıoğlu, 2004); Marmara Lake (Manisa, Gölarmara) (Harlıoğlu, 2004); Sarıyar Reservoir (Eskişehir, Mihalicçık) (Harlıoğlu, 2004); İznik Lake (Bursa, İznik) (Özbek et al., 2004c); Işıkli Lake (Denizli, Çivril) (Harlıoğlu and Güner, 2007); Terkos Lake (=Durusu Lake) (İstanbul, Arnavutköy) (Harlıoğlu and Güner, 2007); Gala Lake (Edirne, Enez) (Harlıoğlu and Güner, 2007); Üsküp



⊙ *C. savignyi* ■ *H. oerstedii* ● *A. filiformis* ▼ *T. dulongii*

Figure 17. Distribution of the members of Leptocheliidae, Tanaellidae and Tanaididae in Turkish inland waters.



⊠ *P. marmoratus* □ *D. pugillator* ● *A. astacus* ⊙ *A. colchicus* □ *A. pallipes* ■ *A. torrentium*
▲ *P. leptodactylus* ▽ *P. salinus* ◆ *E. verrucosa* ⊕ *C. aestuarii* ⊗ *C. sapidus*

Figure 18. Distribution of the members of Diogenidae, Grapsidae, Astacidae, Eriphiidae, Carcinidae and Portunidae in Turkish inland waters.

Reservoir (Kırklareli, Üsküp) (Harlioğlu, & Güner, 2007); Meriç River (Edirne, Karaağaç) (Harlioğlu, & Güner, 2007); Tunca River (Edirne, Yıldırım Beyazıt) (Harlioğlu, & Güner, 2007); Sazlı Creek (Edirne, İskender) (Harlioğlu, & Güner, 2007); Taşkısığı Lake (Sakarya, Taşkısığı) (Özbek, 2008); Poyrazlar Lake (Sakarya, Poyrazlar) (Özbek, 2008); Beşgöz Fountain (Konya, Sarayönü) (Özbek et al., 2009); Eğri Lake (Antalya, Gündoğmuş) (Yıldız et al., 2005).

Pontastacus salinus (von Nordmann, 1842): Apolyont Lake (=Uluabat Lake) (Bursa) (Geldiay and Kocataş, 1970); Beşehir Lake (Konya, Beşehir) (Geldiay and Kocataş, 1970); Eğirdir Lake (Isparta, Eğirdir) (Geldiay

and Kocataş, 1970); Gölcük Lake (İzmir, Ödemiş) (Geldiay and Kocataş, 1970); Manyas Lake (Balıkesir, Manyas) (Geldiay and Kocataş, 1970); Pınarbaşı Lake (Burdur, Kemer) (Pretzmann, 1973); Çarşamba Stream (Konya) (Pretzmann, 1973); Stream (Konya, Cihanbeyli) (Pretzmann, 1973); No detail (Kocataş, 1981); Gölcük Lake (İzmir, Ödemiş) (Özbek and Ustaoglu, 2001); Gölcük Lake (İzmir, Ödemiş) (Yıldız et al., 2015); Kırkgöz Spring (Antalya, Döşemealtı) (Özbek et al., 2009).

Family: Eriphiidae MacLeay, 1838 (Figure 18)

Eriphia verrucosa (Forskål, 1775): Hynat (?) Creek (Ordu) (Pretzmann, 1971b).

Family: Carcinidae MacLeay, 1838 (Figure 18)

Carcinus aestuarii Nardo, 1847: Akyatan Lake (Adana, Karataş) (Holthius, 1961); Büyükçekmece Lake (İstanbul) (Pretzmann, 1971b); Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Paradeniz Lagoon (Mersin, Tarsus) (Kocataş and Katağan, 1983); Tahirova Lagoon (Balıkesir, Gönen) (Kocataş and Katağan, 1983); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Miliç-2 River (Samsun, Terme) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Çakalburnu Lagoon (İzmir, Balçova) (Can et al., 2004); Homa Lagoon (İzmir) (Acarlı et al., 2009; Özcan et al., 2009; Koçak et al., 2011); Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a); Many localities in Kamil Abduş Lagoon (İstanbul, Tuzla) (Altunsaçlı et al., 2017).

Family: Portunidae Rafinesque, 1815 (Figure 18)

Callinectes sapidus Rathbun, 1896: Akyatan Lake (Adana, Karataş) (Holthius, 1961); Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Paradeniz Lagoon (Mersin, Tarsus) (Kocataş and Katağan, 1983); Güllük Lagoon (Muğla, Ekinanbarı) (Önen et al., 1998; Egemen et al., 1999); Ölüdeniz Lagoon (Muğla, Fethiye) (Öztürk et al., 2005).

Family: Potamidae Ortman, 1896 (Figure 19)

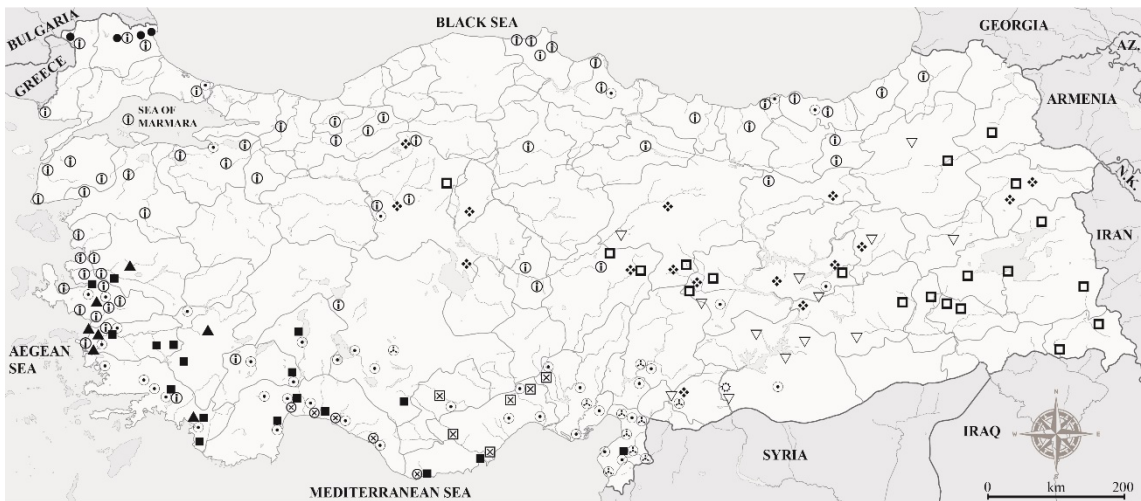
Potamon bileki Pretzmann, 1971: Irrigation Ditch (Karaman) (Pretzmann, 1971a); Many localities in Silifke (Mersin) (Pretzmann, 1983); No detail (Mersin, Mut) (Pretzmann, 1983); No detail (Karaman) (Pretzmann, 1983); Namrun (Mersin, Çamlıyayla) (Pretzmann, 1983); No detail (Adana, Pozantı) (Pretzmann, 1983); No detail

(Karaman) (Brandis et al., 2000); No detail (Konya) (Brandis et al., 2000); Namrun (Mersin, Çamlıyayla) (Brandis et al., 2000); Irrigation Ditch (Mersin, Mut) (Brandis et al., 2000); Springs (Mersin, Silifke) (Brandis et al., 2000); No detail (Karaman) (Jesse et al., 2011).

Potamon fluviatile (Herbst, 1785): Bulanık Creek (Kırklareli, Demirköy) (Güner, 2009); Değirmen Creek (Kırklareli, Ürünlü) (Güner, 2009); Hamam Lake (Kırklareli, Demirköy) (Güner, 2009); Kavaklı Reservoir (Kırklareli) (Güner, 2009); Üsküp Reservoir (Kırklareli, Üsküp) (Güner, 2009); Velika Creek (Kırklareli, Demirköy) (Güner, 2009); Yenice Creek (Edirne, Hasanağa) (Güner, 2009).

Potamon hippocratis Ghigi, 1929: No detail (İzmir, Kuşadası) (Coifmann, 1938); Ecesu (İzmir, Kuşadası) (Coifmann, 1938); Değirmendere (İzmir, Kuşadası) (Coifmann, 1938); No detail (Aydın) (Jesse et al., 2011); No detail (Aydın, Kuşadası) (Jesse et al., 2011); No detail (Aydın, Söke) (Jesse et al., 2011); No detail (Denizli) (Jesse et al., 2011); No detail (İzmir) (Jesse et al., 2011); No detail (Manisa) (Jesse et al., 2011); No detail (Muğla, Fethiye) (Jesse et al., 2011); No detail (Ankara) (Jesse et al., 2011).

Potamon hueceste Pretzmann, 1962: No detail (Ankara, Şereflikoçhisar) (Pretzmann, 1966); Mogan Lake (Ankara, Gölbaşı) (Pretzmann, 1966); No detail (Ankara) (Pretzmann, 1983); Kızılırmak River (Kırıkkale, Çelebi) (Pretzmann, 1983); Tuz Lake (Ankara, Şereflikoçhisar) (Pretzmann, 1983); No detail (Sivas, Kayadibi) (Pretzmann, 1983); No detail (Elazığ) (Pretzmann, 1983); No detail (Kayseri, Pınarbaşı) (Pretzmann, 1983); No detail (Malatya, Darende) (Pretzmann, 1983); No detail (Sivas, Gürün) (Pretzmann, 1983); No detail (Bingöl)



☒ *P. bileki* ● *P. fluviatile* ▲ *P. hippocratis* ❖ *P. hueceste* ⓘ *P. ibericum* ⊗ *P. karpathos*
 ▽ *P. magnum* ⚙ *P. mesopotamicum* □ *P. persicum* ○ *P. potamios* ■ *P. rhodium* ⓘ *P. setigerum*

Figure 19. Distribution of the members of Potamidae in Turkish inland waters.

(Pretzmann, 1983); No detail (Ağrı) (Pretzmann, 1983); No detail (Ağrı, Hamur) (Pretzmann, 1983); No detail (Erzincan, Tanyeri) (Pretzmann, 1983); No detail (Erzincan) (Pretzmann, 1983); No detail (Gaziantep) (Pretzmann, 1983); No detail (Elazığ, Palu) (Pretzmann, 1983); Fırat River (Elazığ) (Pretzmann, 1983); Fırat River (Diyarbakır, Çüngüş) (Pretzmann, 1983); No detail (Ankara) (Brandis et al., 2000); Creek 1 (Ankara) (Brandis et al., 2000); Creek 2 (Ankara) (Brandis et al., 2000); Kızılırmak River (Kırıkkale; Çelebi) (Brandis et al., 2000); Creek (Ankara, Şereflikoçhisar) (Brandis et al., 2000); No detail (Erzincan) (Brandis et al., 2000); No detail (Erzincan) (Brandis et al., 2000); Aras River (Erzurum) (Brandis et al., 2000); No detail (Erzincan) (Brandis et al., 2000); No detail (Ağrı) (Brandis et al., 2000); No detail (Ağrı) (Brandis et al., 2000); No detail (Ankara) (Jesse et al., 2011); No detail (Ankara, Şereflikoçhisar) (Jesse et al., 2011); No detail (Kayseri) (Jesse et al., 2011).

Potamon ibericum (Bieberstein, 1809): Sapanca Lake (Kocaeli) (Pretzmann, 1962; Geldiay and Kocataş, 1977); No detail (Konya; Akşehir) (Pretzmann, 1962); No detail (Bursa) (Pretzmann, 1962); Creek (Bursa, Uludağ) (Pretzmann, 1962); River (Bolu, Aladağ) (Pretzmann, 1962); Kardere Creek (Bolu) (Pretzmann, 1962); No detail (Ankara) (Pretzmann, 1962); Katalak Mountain (Trabzon) (Pretzmann, 1962); No detail (Samsun) (Pretzmann, 1963); Sakarya River (Şehir belirtilmemiş) (Pretzmann, 1963); No detail (Bursa) (Pretzmann, 1963); İnkaya Cave (Bursa) (Pretzmann, 1963); No detail (İstanbul) (Pretzmann, 1963); No detail (Burdur) (Pretzmann, 1966); No detail (İzmir) (Pretzmann, 1967); No detail (Düzce; Kaynaşlı) (Pretzmann, 1967); Magnesia (Aydın, Germencik) (Pretzmann, 1972); Creek (Aydın, Söke) (Pretzmann, 1972); Creek (İzmir) (Pretzmann, 1972); Creek (İzmir) (Pretzmann, 1972); No detail (Aydın, Söke) (Pretzmann, 1972); No detail (İzmir, Torbalı) (Pretzmann, 1972); No detail (Balıkesir, Bigadiç) (Pretzmann, 1972); No detail (Çanakkale, Yenice) (Pretzmann, 1972); No detail (Erzincan, Refahiye) (Pretzmann, 1975); No detail (Ankara, Polatlı) (Pretzmann, 1975); Küçükmenderes Stream (Çanakkale) (Pretzmann, 1975); Apolyont Lake (=Uluabat Lake) (Bursa) (Geldiay and Kocataş, 1977); No detail (Giresun) (Geldiay and Kocataş, 1977); Sarısu Creek (Çanakkale) (Geldiay and Kocataş, 1977); Boğazlıyan Creek (Balıkesir) (Geldiay and Kocataş, 1977); Şeytan Creek (Kırklareli) (Geldiay and Kocataş, 1977); Su hisarı Creek (Artvin) (Geldiay and Kocataş, 1977); Kirazbayramı Creek (İzmir, Kemalpaşa) (Geldiay and Kocataş, 1977); No detail (Kocataş, 1981); Küçükmenderes Stream (Çanakkale, Ezine) (Pretzmann, 1983); No detail (Ankara, Polatlı) (Pretzmann, 1983); No detail (İzmir) (Pretzmann, 1983); Silvan (Şirvan?) (Siirt, Şirvan/Diyarbakır, Silvan) (Pretzmann, 1983); No detail (İzmir) (Pretzmann, 1983);

Creek (Çanakkale, Kirazlı) (Pretzmann, 1983); No detail (Balıkesir) (Pretzmann, 1983); No detail (Bursa) (Pretzmann, 1983); No detail (Bilecik) (Pretzmann, 1983); No detail (Sakarya, Adapazarı) (Pretzmann, 1983); Sapanca Lake (Kocaeli, Sapanca) (Pretzmann, 1983); Abant Lake (Bolu, Mudurnu) (Pretzmann, 1983); No detail (Konya, Akşehir) (Pretzmann, 1983); No detail (Bolu, Gerede) (Pretzmann, 1983); No detail (Bolu, Gerede) (Pretzmann, 1983); No detail (Between Gerede-Kızılcahamam) (Bolu/Ankara) (Pretzmann, 1983); No detail (Bolu, Gerede) (Pretzmann, 1983); National Park (Ankara, Kızılcahamam) (Pretzmann, 1983); No detail (Nevşehir) (Pretzmann, 1983); No detail (Kayseri; Bünyan) (Pretzmann, 1983); No detail (Çorum) (Pretzmann, 1983); No detail (Çorum) (Pretzmann, 1983); No detail (Samsun) (Pretzmann, 1983); No detail (Samsun) (Pretzmann, 1983); Hynat Creek (Ordu) (Pretzmann, 1983); No detail (Ordu, Gököy) (Pretzmann, 1983); No detail (Tokat) (Pretzmann, 1983); No detail (Tokat) (Pretzmann, 1983); No detail (Giresun, Tirebolu) (Pretzmann, 1983); Golden Creek Valley (Trabzon, Maçka) (Pretzmann, 1983); Tributary of Yeşilirmak River (Erzincan, Refahiye) (Pretzmann, 1983); No detail (Rize) (Pretzmann, 1983); No detail (Rize, Hemşin) (Pretzmann, 1983); No detail (Artvin) (Pretzmann, 1983); Gürle Creek (Manisa, Gürle) (Özbek and Ustaoglu, 2001); Sofular Creek (İzmir, Yiğitler) (Özbek and Ustaoglu, 2001); Develi Creek (İzmir, Bulgurca) (Özbek and Ustaoglu, 2001); Künk Creek (İzmir, Arıkbaşı) (Özbek and Ustaoglu, 2001); Akgöl Lake (=Barutçu/Çatal Lake) (İzmir, Selçuk) (Ustaoglu et al., 2000; Özbek and Ustaoglu, 2001); Gebekirse Lake (İzmir, Selçuk) (Özbek and Ustaoglu, 2001); Pınarlı Creek (İzmir, Özbek) (Özbek and Ustaoglu, 2001); Balıklıova Creek (İzmir, Balıklıova) (Özbek and Ustaoglu, 2001); Gediz River (Buruncuk Bridge) (İzmir, Menemen) (Balık et al., 1999); Güzelhisar Creek (İzmir, Aliğa) (Balık et al., 1999); Creek (Rize) (Brandis et al., 2000); Creek (Rize, Hemşin) (Brandis et al., 2000); Creek (Trabzon, Akçaabat) (Brandis et al., 2000); No detail (Bolu, Gerede) (Brandis et al., 2000); No detail (Bolu) (Brandis et al., 2000); Abant Lake (Bolu, Mudurnu) (Brandis et al., 2000); Sapanca Lake (Sakarya, Sapanca) (Brandis et al., 2000); Belgrad Forest (İstanbul, Sarıyer) (Brandis et al., 2000); Demirkaya (Edirne/ Kırklareli) (Brandis et al., 2000); Saraylar (=Palatia) (Balıkesir, Marmara Island) (Brandis et al., 2000); Tuzla Creek (ancient Assos) (Çanakkale, Behramkale) (Brandis et al., 2000); No detail (Çanakkale, Kirazlı) (Brandis et al., 2000); Kaz Dağları (=Mount Ida) (Balıkesir, Edremit) (Brandis et al., 2000); Koca Creek (=Manyas Creek) (Balıkesir, Manyas) (Brandis et al., 2000); No detail (Balıkesir) (Brandis et al., 2000); No detail (Bursa) (Brandis et al., 2000); No detail (Bilecik) (Brandis et al., 2000); No detail (Bilecik) (Brandis et al., 2000); No detail (İzmir)

(Brandis et al., 2000); Meles Creek (İzmir) (Brandis et al., 2000); Dovai Kivi (Yurak Creek ?) (İzmir) (Brandis et al., 2000); No detail (İzmir) (Brandis et al., 2000); No detail (İzmir) (Brandis et al., 2000); Gümüldür Creek (İzmir, Menderes) (Brandis et al., 2000); Sapanca Lake (Kocaeli) (Brandis et al., 2000); Güzelhisar Reservoir (Manisa, Yunussemre) (Brandis et al., 2000); Diana Bath (Historical Halkapınar Lake) (İzmir, Halkapınar) (Brandis et al., 2000); Menderes River (Aydın) (Brandis et al., 2000); Creek (Aydın) (Brandis et al., 2000); Ağla Plateau (Muğla, Köyceğiz) (Brandis et al., 2000); No detail (Ankara) (Brandis et al., 2000); No detail (Nevşehir, Karain) (Brandis et al., 2000); No detail (Niğde, Yeşilova) (Brandis et al., 2000); No detail (Kayseri, Bünyan) (Brandis et al., 2000); Gebekirse Lake (İzmir, Selçuk) (Ustaoğlu et al., 2000); Altinkaya Reservoir (Samsun, Vezirköprü) (Akbulut et al., 2009b); Asmapınar Creek (Samsun, Yakakent) (Akbulut et al., 2009b); Kavak Reservoir (Samsun, Kavak) (Akbulut et al., 2009b); Kozansıkı Creek (Samsun, Kavak) (Akbulut et al., 2009b); Köseli Village Creek (Samsun, Kavak) (Akbulut et al., 2009b); Mert River (Samsun, Kavak) (Akbulut et al., 2009b); Selemenlik Spring (Samsun, Bafra) (Akbulut et al., 2009b); Spring near Yünlüce Creek (Samsun, Asmapınar) (Akbulut et al., 2009b); Ayıpçı Creek (=İmamlı Creek) (Sinop, Dikmen) (Akbulut et al., 2009b); Bolla Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Çağlayan Village Waterfalls (Sinop, Gerze) (Akbulut et al., 2009b); Ebe Creek (Sinop, Erfelek) (Akbulut et al., 2009b); Gebe Creek (Sinop, Yenikent) (Akbulut et al., 2009b); Fountain (Sinop, Boyabat) (Akbulut et al., 2009b); İnalıtı Creek's Tributary-1 (Sinop, İnalıtı) (Akbulut et al., 2009b); İnalıtı Creek's Tributary-2 (Sinop, İnalıtı) (Akbulut et al., 2009b); Kabalı Creek (Sinop, Erfelek) (Akbulut et al., 2009b); Kabalıoğlu Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Karacasu Spring (Sinop, Yaykıl) (Akbulut et al., 2009b); Kemet Village Creek (Sinop, Dikmen) (Akbulut et al., 2009b); Sarımsaklı Spring (Sinop, Gerze) (Akbulut et al., 2009b); Silahçı Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Spring-1 (Sinop, Çırnık) (Akbulut et al., 2009b); Spring-2 (Sinop, Çırnık) (Akbulut et al., 2009b); Spring-1 near Müsellem Creek (Sinop, Boyabat) (Akbulut et al., 2009b); Tasaklar Creek (Sinop, Aloğlu) (Akbulut et al., 2009b); Tatlıca Waterfalls (Sinop, Erfelek) (Akbulut et al., 2009b); Türkeli Creek (Sinop, Türkeli) (Akbulut et al., 2009b); Yenikonak Deresi (Sinop, Ayancık) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Yelköprü Cave (İzmir, Dikili, Yelköprü) (Balık et al., 2002); Salda Creek (Burdur, Yeşilova) (Özbek and Ustaoğlu, 2005); İznik Lake (Bursa, Çakırca) (Özbek et al., 2004c); Kalburt Creek (Bursa, Uludağ) (Ustaoğlu et al., 2008); Creek (Sinop, Otmanlı) (Akbulut et al., 2009b); Creek (Samsun, Çağlayan) (Akbulut et al., 2009b); Menderes Stream (Çanakkale) (Akbulut et al., 2009a); Gala Lake

(Edirne, Hisarlı) (Akbulut et al., 2009a); Tunca River (Edirne) (Akbulut et al., 2009a); No detail (Ankara, Kızılcahamam) (Jesse et al., 2011); No detail (İzmir) (Jesse et al., 2011); No detail (İstanbul) (Jesse et al., 2011); No detail (Kırklareli, Demirköy) (Jesse et al., 2011); Istranca Mountains (=Yıldız Mountains) (Kırklareli/Tekirdağ/İstanbul) (Chertoprud and Palatov, 2017); Aydıncık Creek (Bayburt, Aydıncık) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Değirmencik) (Baytaşoğlu and Gözler, 2018); Çoruh River (Bayburt, Kemertaş) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Kırkpınar) (Baytaşoğlu and Gözler, 2018); Sakızlı Creek (Bayburt, Sarihan) (Baytaşoğlu and Gözler, 2018); Creek (Bayburt, Sarihan) (Baytaşoğlu and Gözler, 2018).

Potamon karpathos Giavarini, 1934: No detail (Antalya, Alanya) (Jesse et al., 2011); No detail (Antalya) (Jesse et al., 2011); No detail (Antalya, Demirtaş) (Jesse et al., 2011); No detail (Mersin, Anamur) (Jesse et al., 2011).

Potamon magnum Pretzmann, 1962: No detail (Elazığ) (Pretzmann, 1963); No detail (between Maden-Ergani) (Diyarbakır/Elazığ) (Pretzmann, 1963); No detail (between Ergani-Diyarbakır) (Diyarbakır) (Pretzmann, 1963); No detail (between Kahramanmaraş-Malatya) (Kahramanmaraş/Malatya) (Pretzmann, 1963); Bingöl Mountains (Bingöl) (Pretzmann, 1963); Fırat River (Şanlıurfa/Elazığ) (Brandis et al., 2000); Fırat River (No locality) (Brandis et al., 2000); Çoruh River (Erzurum, Tortum) (Brandis et al., 2000); No detail (Muş) (Brandis et al., 2000); No detail (Erzurum) (Brandis et al., 2000); Hot Springs (Fırat Rivers tributary) (Bingöl, Agriceli?) (Brandis et al., 2000); No detail (Sivas, Şarkışla) (Brandis et al., 2000); No detail (Elazığ) (Brandis et al., 2000); No detail (Elazığ) (Brandis et al., 2000); No detail (Elazığ, Alişam) (Brandis et al., 2000); Maden Creek (Elazığ, Alişam) (Brandis et al., 2000); No detail (Şanlıurfa) (Brandis et al., 2000); Creek (Çamçayı Creek?) (Şanlıurfa, Hilvan) (Brandis et al., 2000); Fırat River (Şanlıurfa, Birecik) (Brandis et al., 2000); Left bank of Fırat River (Şanlıurfa, Birecik) (Brandis et al., 2000); Small left tributary of Fırat River (Şanlıurfa, Surtepe) (Brandis et al., 2000); No detail (Adıyaman, Kahta) (Brandis et al., 2000); Dicle River (Diyarbakır) (Brandis et al., 2000); Creek (Left tributary of Dicle River) (Diyarbakır, Karpuzlu) (Brandis et al., 2000); No detail (Gaziantep) (Brandis et al., 2000).

Potamon mesopotamicum Brandis, Storch & Türkay, 1998: Creek (tributary of Fırat River) (Diyarbakır, Karpuzlu) (Brandis et al., 2000).

Potamon persicum Pretzmann, 1962: Creek (Upstream of Aras River) (Erzurum) (Pretzmann, 1963); Bitlis Valley (Bitlis) (Pretzmann, 1976); No detail (West of Bitlis) (Bitlis) (Pretzmann, 1976); No detail (Bitlis) (Pretzmann, 1976); No detail (Bitlis, Baykan) (Pretzmann, 1976); No detail (Hakkari) (Pretzmann, 1976); No detail (Hakkari,

Çukurca) (Pretzmann, 1976); No detail (Hakkari, Yüksekova) (Pretzmann, 1976); No detail (Hakkari, Yüksekova) (Pretzmann, 1976); Silvan (Şirvan?) (Siirt, Şirvan/Diyarbakır; Silvan) (Pretzmann, 1976); No detail (Diyarbakır) (Geldiay and Kocataş, 1977); No detail (Siirt) (Geldiay and Kocataş, 1977); Mamiten Creek (Malatya) (Geldiay and Kocataş, 1977); Akay Bridge (Kars) (Geldiay and Kocataş, 1977); No detail (Ağrı, Taşlıçay) (Geldiay and Kocataş, 1977); Elmadağ Spring (Ankara) (Geldiay and Kocataş, 1977); Haydarbey Creek (Van, Erciş) (Geldiay and Kocataş, 1977); No detail (Kocataş, 1981); Van Lake (Van, Timar) (Pretzmann, 1983); No detail (Hakkari) (Pretzmann, 1983); No detail (Hakkari, Yüksekova) (Pretzmann, 1983); No detail (Hakkari, Yüksekova) (Pretzmann, 1983); No detail (Hakkari, Çukurca) (Pretzmann, 1983); No detail (Siirt) (Pretzmann, 1983); No detail (Diyarbakır, Silvan) (Pretzmann, 1983); No detail (Siirt, Baykan) (Pretzmann, 1983); No detail (Bitlis) (Pretzmann, 1983); No detail (Bitlis) (Pretzmann, 1983); No detail (Batman, Tuzlagözü) (Pretzmann, 1983); No detail (Diyarbakır) (Pretzmann, 1983); No detail (Malatya) (Pretzmann, 1983); No detail (Van, Başkale) (Jesse et al., 2011); No detail (Sivas, Gürün) (Brandis et al., 2000); Tuzla Lake (Kayseri, Sarioğlan) (Brandis et al., 2000); Creek (tributary of Göksu River) (Kayseri, Pınarbaşı) (Brandis et al., 2000); No detail (Kayseri, Pınarbaşı) (Brandis et al., 2000); No detail (Malatya) (Brandis et al., 2000); No detail (Malatya, Darende) (Brandis et al., 2000); No detail (Elazığ, Palu) (Brandis et al., 2000); No detail (Diyarbakır, Silvan) (Brandis et al., 2000); No detail (Diyarbakır) (Brandis et al., 2000); No detail (Siirt, Baykan) (Brandis et al., 2000); No detail (Siirt) (Brandis et al., 2000); Van Lake (Van) (Brandis et al., 2000); Mengene Mountains (Van, Başkale) (Brandis et al., 2000); Mermid Creek (Van, Timar) (Brandis et al., 2000); No detail (Bitlis) (Brandis et al., 2000); Hyny (?) (Bitlis) (Brandis et al., 2000); Bitlis Valley (Bitlis) (Brandis et al., 2000); No detail (Hakkari, Çukurca) (Brandis et al., 2000); No detail (Hakkari, Yüksekova) (Brandis et al., 2000); No detail (Hakkari) (Brandis et al., 2000).

Potamon potamios (Olivier, 1804): Düden Creek (Antalya, Kepez) (Holthius, 1961); Lake (Antalya, Döşemealtı) (Holthius, 1961); Pool (Mersin, Tarsus) (Holthius, 1961); Creek (Mersin, Fındıkpınarı) (Holthius, 1961); Creek (Osmaniye, Haruniye) (Holthius, 1961); Aksu Creek (Kahramanmaraş) (Holthius, 1961); Creek (Malatya) (Holthius, 1961); Creek (Elazığ) (Holthius, 1961); Hasar Lake (Elazığ, Maden) (Holthius, 1961); Creek (Elazığ, Maden) (Holthius, 1961); Creek (tributary of Dicle River) (Diyarbakır) (Holthius, 1961); Gilida Creek (Trabzon) (Holthius, 1961); Hendek (Giresun, Görele) (Holthius, 1961); Creek (Samsun, Kavak) (Holthius, 1961); Sakarya River (Ankara, Beylikköprü) (Holthius, 1961); Creek (Bursa, Gemlik) (Holthius, 1961); Creek (İstanbul,

Bahçeköy) (Holthius, 1961); Amanos Mountains (=Nur Mountains) (Hatay) (Pretzmann, 1962); Toros Mountains (Pretzmann, 1962); Baschara Su (Hatay?) (Pretzmann, 1962); Alacadağ (Konya) (Pretzmann, 1962); Eğirdir Lake (Isparta, Eğirdir) (Pretzmann, 1962); No detail (Antalya) (Pretzmann, 1963); No detail (Mersin, Tarsus) (Pretzmann, 1962); No detail (Mersin) (Pretzmann, 1963); No detail (Adana) (Pretzmann, 1963); Maras (Kahramanmaraş) (Pretzmann, 1963); Mountain Creek (Muğla, Fethiye) (Pretzmann, 1965); Irrigation Ditch (Muğla, Köyceğiz) (Pretzmann, 1965); Namrun (Mersin, Çamlıyayla) (Pretzmann, 1965); No detail (Antalya) (Pretzmann, 1966); No detail (Burdur) (Pretzmann, 1966); No detail (İzmir) (Pretzmann, 1967); Irrigation Ditch (Hatay, Harbiye) (Pretzmann, 1967); Toros Mountains (Mersin, Pozantı) (Pretzmann, 1967); Creek (Mersin, Çamlıyayla) (Pretzmann, 1972); Namrun Castle (Mersin, Çamlıyayla) (Pretzmann, 1972); Forest (Mersin, Silifke) (Pretzmann, 1972); Creek (Mersin, Silifke) (Pretzmann, 1972); Spring (Mersin, Silifke) (Pretzmann, 1972); Grassland (Mersin, Anamur) (Pretzmann, 1972); Forest (Mersin, Anamur) (Pretzmann, 1972); Hill (Mersin, Anamur) (Pretzmann, 1972); Anemurium (Mersin, Anamur) (Pretzmann, 1972); Forest (Mersin, Anamur) (Pretzmann, 1972); Spring (Mersin, Anamur) (Pretzmann, 1972); Gazipaşa (Antalya) (Pretzmann, 1972); Creek (Antalya, Manavgat) (Pretzmann, 1972); Topraktepe (Antalya, Manavgat) (Pretzmann, 1972); Forest (Antalya, Alanya) (Pretzmann, 1972); Forest (Antalya, Alanya) (Pretzmann, 1972); Aspendos (Antalya, Serik) (Pretzmann, 1972); Creek Mouth (Antalya, Serik) (Pretzmann, 1972); Termessos (Antalya, Korkuteli) (Pretzmann, 1972); Forest (Antalya) (Pretzmann, 1972); Springs (Antalya) (Pretzmann, 1972); Creek (Burdur, Bucak) (Pretzmann, 1972); Çeltikçi Pass (Burdur, Çeltikçi) (Pretzmann, 1972); Swamp Forest (Muğla, Köyceğiz) (Pretzmann, 1972); No detail (Muğla, Köyceğiz) (Pretzmann, 1972); Irrigation Ditch (Muğla, Fethiye) (Pretzmann, 1972); Creek-1 (Muğla) (Pretzmann, 1972); Creek-2 (Muğla) (Pretzmann, 1972); Magenesia (Aydın, Tekin) (Pretzmann, 1972); Creek (Aydın, Söke) (Pretzmann, 1972); Creek-1 (İzmir) (Pretzmann, 1972); Creek-2 (İzmir) (Pretzmann, 1972); Creek (Aydın, Söke) (Pretzmann, 1972); Creek (İzmir, Torbalı) (Pretzmann, 1972); Kamışlar Village Creek (Aydın) (Geldiay and Kocataş, 1977); Fethiye Spring (Muğla, Fethiye) (Geldiay and Kocataş, 1977); Eğirdir Lake (Isparta) (Geldiay and Kocataş, 1977); Beyşehir Lake (Konya, Gölkaşı) (Geldiay and Kocataş, 1977); Çifteler Spring (Antalya) (Geldiay and Kocataş, 1977); Mut Spring (Karaman) (Geldiay and Kocataş, 1977); Mezarlık Creek (Adana, Ceyhan) (Geldiay and Kocataş, 1977); Pool of Abraham (=Balıklı Lake) (Şanlıurfa) (Geldiay and Kocataş, 1977); No detail (Kocataş, 1981); No detail (Adana) (Pretzmann, 1983);

Sirkeli (Adana, Ceyhan) (Pretzmann, 1983); No detail (Osmaniye) (Pretzmann, 1983); No detail (Osmaniye, Bahçe) (Pretzmann, 1983); No detail (Kahramanmaraş) (Pretzmann, 1983); Harbiye (Kahramanmaraş, Göksun) (Pretzmann, 1983); No detail (Gaziantep, İslahiye) (Pretzmann, 1983); No detail (Hatay, İskenderun) (Pretzmann, 1983); Arsuz (Hatay, İskenderun) (Pretzmann, 1983); Liquidambar (Muğla, Fethiye) (Brandis et al., 2000); Creek (Muğla, Milas) (Brandis et al., 2000); Creek (Muğla, Yatağan) (Brandis et al., 2000); Creek (Muğla, Yatağan) (Brandis et al., 2000); Kargı Creek (Muğla, Fethiye) (Brandis et al., 2000); Üzümlü (Muğla) (Brandis et al., 2000); Creek (Muğla) (Brandis et al., 2000); No detail (Muğla, Köyceğiz) (Brandis et al., 2000); Creek (Muğla, Yanıklar) (Brandis et al., 2000); Kestep (Muğla, Eşen) (Brandis et al., 2000); No detail (Muğla, Fethiye) (Brandis et al., 2000); No detail (Muğla, Yeşilova) (Brandis et al., 2000); No detail (Burdur) (Brandis et al., 2000); No detail (Burdur, Bucak) (Brandis et al., 2000); Eğirdir Lake (Isparta) (Brandis et al., 2000); Kovada Channel (Isparta) (Brandis et al., 2000); No detail (Isparta, Eğirdir) (Brandis et al., 2000); Toros Mountains (No locality) (Brandis et al., 2000); No detail (Antalya) (Brandis et al., 2000); Dim Creek (Antalya, Alanya) (Brandis et al., 2000); No detail (Antalya, Alanya) (Brandis et al., 2000); No detail (Antalya) (Brandis et al., 2000); Creek Valley (Antalya, Çamköy) (Brandis et al., 2000); Düden Creek (Antalya) (Brandis et al., 2000); Çıralı (Antalya, Kemer) (Brandis et al., 2000); Near the gulf (Antalya) (Brandis et al., 2000); Aspendos (Antalya, Serik) (Brandis et al., 2000); Kırkgöz Pond (Antalya, Bıyıklı) (Brandis et al., 2000); Creek (Antalya, Kumluca) (Brandis et al., 2000); Yeniceağa Lake (Antalya?) (Brandis et al., 2000); İlica Creek (Antalya, Manavgat) (Brandis et al., 2000); İncekum Cape/Headland (Mersin) (Brandis et al., 2000); No detail (Adana) (Brandis et al., 2000); Dead arm of Ceyhan River (Adana, Bebeli) (Brandis et al., 2000); Ceyhan River (Adana, Misis) (Brandis et al., 2000); Ceyhan River (Adana) (Brandis et al., 2000); No detail (Adana, Pozantı) (Brandis et al., 2000); No detail (Osmaniye) (Brandis et al., 2000); No detail (Osmaniye) (Brandis et al., 2000); No detail (Hatay, İskenderun) (Brandis et al., 2000); Arsuz (Hatay, İskenderun) (Brandis et al., 2000); Amanos Mountains (=Nur Mountains) (Hatay) (Brandis et al., 2000); Springs of Yarışlı Lake (Burdur, Sazak) (Özbek and Ustaoglu, 2005); Eğirdir Lake (Isparta, Eğirdir) (Özbek and Ustaoglu, 2005); Beyşehir Lake (Konya, Beyşehir) (Özbek and Ustaoglu, 2005); Buldan Reservoir (Denizli, Buldan) (Balık et al., 2004); Yuvarlakçay Stream (Muğla, Köyceğiz) (Özbek et al., 2004b); Eğirdir Lake (Isparta, Eğirdir) (Gülle et al., 2007); No detail (Adana, Bebeli) (Jesse et al., 2011); No detail (Muğla, Üzümlü) (Jesse et al., 2011); No detail (Hatay, Arsuz) (Jesse et al., 2011); No detail (Hatay, İskenderun) (Jesse et al., 2011);

Potamon rhodium Parisi, 1913: Creek (İzmir) (Pretzmann, 1983); Creek (Aydın) (Pretzmann, 1983); Magnesia (Aydın, Germencik) (Pretzmann, 1983); Creek (Aydın, Ortaklar) (Pretzmann, 1983); Creek (Aydın) (Pretzmann, 1983); Creek (Denizli) (Pretzmann, 1983); Creek (Denizli, Kale) (Pretzmann, 1983); Creek (Denizli, Topraktepe) (Pretzmann, 1983);); Creek (Muğla) (Pretzmann, 1983); Creek (Muğla, Köyceğiz) (Pretzmann, 1983); Creek (Muğla, Fethiye) (Pretzmann, 1983); Creek (Muğla, Seydikemer) (Pretzmann, 1983); Creek (Antalya, Kemer) (Pretzmann, 1983); Creek (Antalya) (Pretzmann, 1983); No detail (Many localities) (Antalya) (Pretzmann, 1983); Creek (Antalya, Serik) (Pretzmann, 1983); No detail (Many localities) (Mersin, Anamur) (Pretzmann, 1983); Demirtaş (Antalya, Alanya) (Pretzmann, 1983); Creek (Mersin, Silifke) (Pretzmann, 1983); Creek (Burdur, Bucak) (Pretzmann, 1983); Creek (Burdur) (Pretzmann, 1983); Eğirdir Lake (Burdur) (Pretzmann, 1983); No detail (Konya, Aladağ) (Pretzmann, 1983); Pydna (Muğla, Seydikemer) (Brandis et al., 2000); Springs (Muğla) (Brandis et al., 2000); No detail (Many localities) (Denizli) (Brandis et al., 2000); No detail (Many localities) (Aydın) (Brandis et al., 2000); Creek (Aydın) (Brandis et al., 2000); Creek (Aydın, Ortaklar) (Brandis et al., 2000); Creek (Aydın, Evciler) (Brandis et al., 2000); Creek (Aydın, Karacasu) (Brandis et al., 2000); Creek (Manisa, Yunusemre) (Brandis et al., 2000); Creek (İzmir) (Brandis et al., 2000); Meles Stream (İzmir) (Brandis et al., 2000); Creek (Hatay, Antakya) (Brandis et al., 2000).

Potamon setigerum Rathbun, 1904: Antakya Lake (Hatay, Antakya) (Rathbun, 1904); No detail (Hatay, Reyhanlı) (Geldiay and Kocataş, 1977); Creek (Hatay, İskenderun) (Pretzmann, 1983); Antakya Lake (Hatay, Antakya) (Bott, 1970); No detail (Kocataş, 1981); Asi River (=Orontes River) (Hatay) (Kinzelbach, 1985); Aladağ (Konya) (Brandis et al., 2000); Ceyhan River (Adana, Sirkeli) (Brandis et al., 2000); Ceyhan River (Kahramanmaraş) (Brandis et al., 2000); Springs (Hatay, İskenderun) (Brandis et al., 2000); Many localities in İskenderun (Hatay, İskenderun) (Brandis et al., 2000); Creek (Hatay, Argus) (Brandis et al., 2000); Creek (Hatay, Söğüt) (Brandis et al., 2000); Dry valley near Amanos Mountains (=Nur Mountains) (Hatay) (Brandis et al., 2000); Creek (Hatay, Harbiye) (Brandis et al., 2000); Many localities in Asi River (=Orontes River) (Hatay, Antakya) (Brandis et al., 2000); Spring (Hatay, Defne) (Brandis et al., 2000); Spring, Dam Lake and Creek (Hatay) (Brandis et al., 2000); Spring (Hatay) (Brandis et al., 2000); 4 Spring and 3 Dam Lakes (Hatay) (Brandis et al., 2000); Many localities in Asi River system (=Orontes) (Hatay, Antakya) (Brandis et al., 2000); Asi River (=Orontes River) (Hatay, Samandağ) (Brandis et al., 2000); Creek (Hatay) (Brandis et al., 2000); Büyükkara Stream (Hatay, Samandağ)

(Brandis et al., 2000); Afrin Suyu Stream (Hatay, Müşrûfe) (Brandis et al., 2000); Creek (Gaziantep, Aparlı) (Brandis et al., 2000); Creek (Gaziantep, Zincirli) (Brandis et al., 2000); Afrin River system (Gaziantep) (Brandis et al., 2000); Creek (Gaziantep) (Brandis et al., 2000); Amanos Mountains (=Nur Mountains) (Hatay) (Jesse et al., 2011); Creek (Hatay, Antakya) (Jesse et al., 2011); Channel I (Hatay) (Özcan et al., 2013); Asi River (=Orontes) (Hatay, Güzelburç) (Özcan et al., 2013); Channel II (Hatay, Kumlu) (Özcan et al., 2013); Büyükkara Stream (Hatay, Aknehir) (Özcan et al., 2013); Channel IV (Hatay) (Özcan et al., 2013).

Family: Hippolytidae Spence Bate, 1888 (Figure 20)

Hippolyte holthuisi Zariquiey Álvarez, 1953: Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a).

Family: Atyidae De Haan, 1849 (Figure 20)

Atyaephyra desmarestii (Millet, 1831): Seyhan Reservoir (Adana, Çukurova) (Alagöz Ergüden et al., 2011).

Atyaephyra orientalis Bouvier, 1913: Boğa Stream (Antalya, Konyaaltı) (Holthius, 1961); Lake (Antalya, Döşemealtı) (Holthius, 1961); Aksu Stream (Kahramanmaraş) (Holthius, 1961); No detail (Kocataş, 1981); Springs (Muğla, Akyaka) (Ustaoğlu et al., 2002); Azmak Creek (Muğla, Akyaka) (Ustaoğlu et al., 2002); Kırkgöz Springs (Antalya, Döşemealtı) (Özbek and Ustaoğlu, 2005; Özbek et al., 2009; González-Ortegón et al., 2020); Kırkgöz Pond (Antalya, Döşemealtı) (Özbek and Ustaoğlu, 2005); Nasuh Dede Creek (Muğla, Köyceğiz) (Özbek et al., 2004b); Karasu Stream (Hatay, Kırıkhan) (Özcan et al., 2013); Karasu Stream (Hatay, Muratpaşa) (Özcan et al., 2013); Asi River (=Orontes)

(Hatay, Güzelburç) (Özcan et al., 2013); Creek (Hatay, Özkızılkaya) (Özcan et al., 2013); Gölbaşı Lake (Hatay, Kırıkhan) (Özcan et al., 2013); Creek (Hatay, Kumlu) (Özcan et al., 2013).

Atyaephyra tuerkayi Christodoulou, Antoniou, Magoulas & Koukouras, 2012: Göksu estuary (Mersin, Silifke) (González-Ortegón et al., 2020).

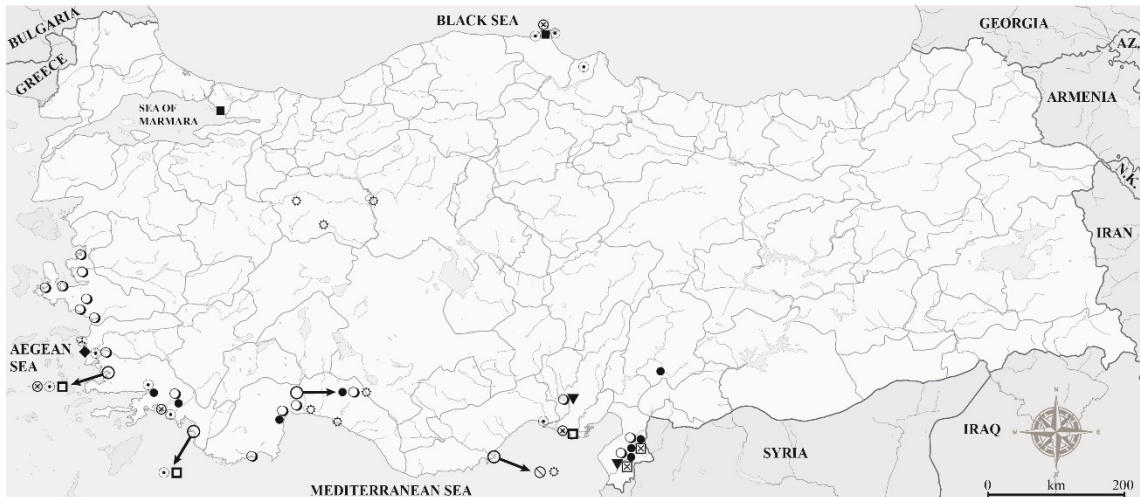
Family: Crangonidae Haworth, 1825 (Figure 20)

Crangon crangon (Linnaeus, 1758): Sarikum Lake (Sinop, Sarikum) (Akbulut et al., 2009b); Sirakarağaçlar Creek (Sinop, Dibekli) (Akbulut et al., 2009b); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Kamil Abduş Lagoon (=Balık Lake) (İstanbul, Tuzla) (Altınşaçlı et al., 2017).

Family: Palaemonidae Rafinesque, 1815 (Figure 20)

Palaemon adspersus Rathke, 1837: Akyatan Lake (Adana, Karataş) (Holthius, 1961); İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Gebelit Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Homa Lagoon (İzmir, Menemen) (Acarlı et al., 2009).

Palaemon antennarius H. Milne Edwards, 1837: Boğa Stream (Antalya, Konyaaltı) (Holthius, 1961); Lake (Antalya, Döşemealtı) (Holthius, 1961); No detail (İzmir) (Geldiay and Kocataş, 1968); Creek (Antalya) (Pretzmann, 1973); Pond (Hatay, Kırıkhan) (Pretzmann, 1973); Carstic Spring (Antalya) (Pretzmann, 1973); Bafa Lake (Aydın/Muğla) (Geldiay et al., 1977; Kocataş and Katağan, 1983; Ustaoğlu et al., 1998; Sarı et al., 2001; Özbek and Ustaoğlu, 2005); No detail (Kocataş, 1981); Beymelek Lagoon (Antalya, Demre) (Kocataş and Katağan, 1983); Gebekirse Lake (İzmir, Selçuk) (Ustaoğlu and Balık, 1990);



◆ *H. holthuisi* ▼ *A. desmarestii* ● *A. orientalis* ⊙ *A. tuerkayi* ■ *C. crangon* ⊗ *P. adspersus*
○ *P. antennarius* ⊖ *P. elegans* ⊕ *P. longirostris* ⊠ *P. mesopotamicus* ◻ *P. serratus* ⊛ *P. turcorum*

Figure 20. Distribution of the members of Hippolytidae, Atyidae, Crangonidae and Palaemonidae in Turkish inland waters.

Ustaoglu et al., 2000; Özbek and Ustaoglu, 2001, 2005); No detail (Muğla, Köyceğiz) (Kazancı et al., 1992); Gediz River (İzmir, Menemen) (Balık et al., 1999); Güzelhisar Reservoir (İzmir, Aliğa) (Özbek and Ustaoglu, 2001); Oğlananası Pond (İzmir, Menderes) (Özbek and Ustaoglu, 2001); Akgöl Lake (=Barutçu/Çatal Lake) (İzmir, Selçuk) (Ustaoglu et al., 2000; Özbek and Ustaoglu, 2001); Spring (İzmir, Zeytinköy) (Özbek and Ustaoglu, 2001); Spring (İzmir, Selçuk) (Özbek and Ustaoglu, 2001); Puddle (İzmir, Gümüldür) (Özbek and Ustaoglu, 2001); Tahtalı Creek (İzmir, Gümüldür) (Özbek and Ustaoglu, 2001); İçmeler (İzmir, Urla) (Özbek and Ustaoglu, 2001); Balıkova Creek (İzmir, Urla) (Özbek and Ustaoglu, 2001); Ildır Springs-A (İzmir, Çeşme) (Özbek and Ustaoglu, 2001); Ildır Springs-B (İzmir, Çeşme) (Özbek and Ustaoglu, 2001); Ildır Springs-C (İzmir, Çeşme) (Özbek and Ustaoglu, 2001); Springs (Muğla, Ula) (Ustaoglu et al., 2002); Azmak Creek (Muğla, Ula) (Ustaoglu et al., 2000); Kırkgöz Springs (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005); Kırkgöz Pond (Antalya, Döşemealtı) (Özbek and Ustaoglu, 2005); Many localities in Nasuh Dede Creek (Muğla, Köyceğiz) (Özbek et al., 2004b); Many localities in Köyceğiz Lake (Muğla, Köyceğiz) (Özbek et al., 2004b); Göksu Creek (Antalya, Konyaaltı) (Özbek et al., 2009); Creek (Antalya, Döşemealtı) (Özbek et al., 2009); Aksu Stream (Antalya, Solak) (Özbek et al., 2009); Yuvarlakçay Stream (Muğla, Köyceğiz) (Özbek and Ustaoglu, 2005); Bardakçı Creek (Kütahya) (Özbek and Ustaoglu, 2005); Gümüldür Creek (İzmir) (Özbek and Ustaoglu, 2005); Seyhan Reservoir (Adana, Seyhan) (Özcan & Ergüden 2013); Gölbaşı Lake (Hatay, Kırıkhan) (Özcan et al., 2013); Karasu Stream Channel I (Hatay, Kırıkhan) (Özcan et

al., 2013); Asi River (=Orontes River) (Hatay, Güzelburç) (Özcan et al., 2013).

Palaemon elegans Rathke, 1837: İztuzu Lagoon (Muğla, Köyceğiz) (Kocataş and Katağan, 1983); Sırakarağaçlar Creek (Sinop, Dibekli) (Bat et al., 2000); No detail (Samsun-Sinop) (Bat and Akbulut, 2001); Gebelit Creek (Sinop, Ayancık) (Akbulut et al., 2009b); Bafa Lake (Aydın, Söke) (Sarı et al., 2001); Springs (Muğla, Ula) (Ustaoglu et al., 2002); Azmak Creek (Muğla, Ula) (Ustaoglu et al., 2002); Ölüdeniz Lagoon (Muğla, Fethiye) (Öztürk et al., 2005); Homa Lagoon (İzmir, Menemen) (Acarlı et al., 2009); Seyhan estuary (Mersin, Tarsus) (González-Ortegón et al., 2020).

Palaemon longirostris H. Milne Edwards, 1837: Karina Lagoon (=Dil Lake) (Aydın, Söke) (Özbek et al., 2016a).

Palaemon mesopotamicus Pesta, 1913: Asi River (=Orontes River) (Hatay, Kumlu) (Özcan et al., 2012a; Özcan et al., 2013); Gölbaşı Lake (Hatay, Kırıkhan) (Özcan et al., 2013); Channel II (Hatay, Kumlu) (Özcan et al., 2013); Karasu Stream (Hatay, Kırıkhan) (Özcan et al., 2013); Creek (Hatay, Özkızılkaya) (Özcan et al., 2013); Comba Channel (Hatay) (Özcan et al., 2013); Channel I (Hatay) (Özcan et al., 2013); Channel V (Hatay) (Özcan et al., 2013).

Palaemon serratus (Pennant, 1777): Akyatan Lagoon (Adana, Karataş) (Holthius, 1961); Ölüdeniz Lagoon (Muğla, Fethiye) (Öztürk et al., 2005); Homa Lagoon (İzmir, Menemen) (Acarlı et al., 2009).

Palaemon turcorum (Holthuis, 1961): Sakarya River (Ankara, Polatlı) (Holthius, 1961); No detail (Kocataş, 1981); Creek (Eskişehir, Yahnikapan) (Öntürk, 2009);



◆ *D. personata* ▼ *P. cuanensis* ● *B. gemmellari* ■ *P. narval* ⊗ *P. kerathurus*

Figure 21. Distribution of the members of Dromiidae, Paguridae, Varunidae, Pandalidae, and Penaeidae in Turkish inland waters.

Table 3. List of the species, which were existed in the previous checklist (Özbek & Ustaoglu, 2006) but not listed in the current study.

Taxa in the previous checklist	Taxa in the present study
Order: Amphipoda Latreille, 1816 Family: Gammaridae Leach, 1814	
<i>Bogidiella arista</i> Koenemann et al., 1998	Listed as <i>Medigidiella arista</i> (Koenemann, Vonk & Schram, 1998)
<i>Bogidiella minotaurus</i> Ruffo & Schiecke, 1976	Listed as <i>Medigidiella minotaurus</i> (Ruffo, 1976)
<i>Chaetogammarus olivii</i> (H. Milne Edwards, 1830)	Marine (WoRMS Editorial Board, 2020)
<i>Echinogammarus pungens</i> (H. Milne Edwards, 1840)	Detailed record can not be found.
<i>Echinogammarus sowinskyi</i> (Behning, 1914)	Listed as <i>Echinogammarus ischnus</i> (Stebbing, 1899)
<i>Lunulogammarus turcicus</i> Krapp-Schickel, Ruffo & Schiecke 1994	Marine
Family: Crangonyctidae Bousfield, 1973	
<i>Synurella donensis</i> (Martynov, 1919)	No record found in Turkey.
Family: Melitidae Bousfield, 1973	
<i>Tegano virgula</i> Krapp-Schickel, Ruffo & Schiecke, 1994 - syn. <i>Melita virgula</i> Krapp-Schickel et al., 1994	Marine
<i>Paraniphargus valesi</i> (Karaman, 1955) - syn. <i>Melita valesi</i> (Stock, 1993)	Marine (WoRMS Editorial Board, 2020)
Family: Niphargidae Bousfield, 1977	
<i>Niphargus illidzensis orientalis</i> G. S. Karaman, 1950	Listed as <i>Niphargus orientalis</i> S. Karaman, 1950
<i>Niphargus tauri tauri</i> Schellenberg, 1940	Listed as <i>Niphargus tauri</i> Schellenberg, 1940
Family: Talitridae Rafinesque, 1815	
<i>Orchestia platensis</i> Krøyer, 1845	Listed as <i>Platorchestia platensis</i> (Krøyer, 1845)
Family: Pontogammaridae Bousfield, 1977	
<i>Obesogammarus turcarum</i> Stock, 1974	Listed as <i>Turcogammarus turcarum</i> (Stock, 1974)
Family: Talitridae Rafinesque, 1815	
<i>Orchestia cavimana</i> Heller, 1865	Listed as <i>Cryptorchestia cavimana</i> (Heller, 1865)
<i>Orchestia kosswigi</i> Ruffo, 1949	Listed as <i>Cryptorchestia kosswigi</i> (Ruffo, 1949)
Order: Isopoda Latreille, 1817 Family: Asellidae Rafinesque, 1815	
<i>Proasellus monodi</i> (Strouhal, 1942)	Marine (WoRMS Editorial Board, 2020)
Family: Janiridae G.O. Sars, 1897	
<i>Jaera massiliensis</i> Lemercier, 1958	Listed as <i>Jaera (Jaera) nordmanni massiliensis</i> Lemercier, 1960
Family: Lepidocharontidae Galassi & Bruce, 2016	
<i>Microcharon adaliae</i> Botosaneanu & Notenboom, 1989	Listed as <i>Turcolana adaliae</i> Botosaneanu & Notenboom, 1989
Family: Microparasellidae Karaman, 1933	
<i>Microparasellus</i> sp.	Omitted (not a species)
Family: Sphaeromatidae Latreille, 1825	
<i>Sphaeroma pulchellum</i> (Colosi, 1921)	Listed as <i>Lekanesphaera hookeri</i> (Leach, 1814)
Order: Mysida Haworth, 1825 Family: Mysidae Haworth, 1825	
<i>Paramysis lacustris turcica</i> (Băcescu, 1948)	Listed as <i>Paramysis (Serrapalpis) kosswigi</i> Băcescu, 1948
Order: Decapoda Latreille, 1802 Family: Atyidae De Haan, 1849	
<i>Atyaephyra desmaresti orientalis</i> Bouvier, 1913	Listed as <i>Atyaephyra orientalis</i> Bouvier, 1913

WoRMS Editorial Board (2020). <http://www.marinespecies.org> at VLIZ [accessed 20 May 2020].

Table 4. The doubtful records and the reasons why we think that they are suspicious.

Doubtful taxa	Reason
<i>Niphargus spoeckeri</i> Schellenberg, 1933	We believe that the report of this species from Turkish inland waters (Barnard and Barnard, 1983) is doubtful because it is an endemic amphipod species for Slovenia.
<i>Dikerogammarus gruberi</i> Mateus and Mateus, 1990	We believe that the identification of this species is doubtful. In their original study (Mateus and Mateus, 1990), the authors presented the figures of the first and second antenna, which are closer to Pontogammarid form than Dikerogammarids (Özbek and Özkan 2011).
<i>Gammarus pulex gallicus</i> (S. Karaman, 1931)	This sub-species has a narrow distribution area, which covers a rather limited area in the southern part of France only (Karaman and Pinkster 1977).
<i>Mysis relicta</i> Lovén, 1862	The authors believe that the records on the presence of this species in Turkish inland waters (Gülle 2005; Akyıldız 2008) are doubtful. The second author (MÖ) has various specimens from both Işıklı Springs and Büyük Menderes River, but none of them belong to <i>M. relicta</i> . In addition, we never found <i>M. relicta</i> specimens in Karacaören I Reservoir. Probably, the reported specimens belong to <i>P. kosswigi</i> , which is common in the Büyük Menderes River Basin and the SW part of Anatolia.
<i>Astacus astacus</i> (L., 1758)	We believe that the records of this species are suspicious because <i>A. astacus</i> is a European species. Most probably, the specimens reported from the Apolyont Lake (=Uluabat Lake) (Ninni 1923) and Ankara, Çubuk (Geldiay 1949) belong to <i>A. leptodactylus</i> , which is the native and dominant species in Anatolia.
* <i>Asellus (Asellus) aquaticus strinatii</i> Chappuis, 1955	This subspecies was reported from İnönü Cave by Henry <i>et al.</i> (1996). The authors gave the location data as Bilecik but the cave is located in Eskişehir. On the other hand, there is neither any information nor an accepted name in WoRMS system. So, the current position of this subspecies is doubtful.
* <i>Asellus (Proasellus) coxalis ciliciensis</i> Deeleman-Reinhold, 1965	This subspecies was reported from Tarsus (Mersin) province by Deeleman-Reinhold (1965). <i>Asellus coxalis</i> is a synonym of <i>Proasellus coxalis</i> (Dollfus, 1892), but there is no information about the current taxonomic status of <i>Asellus (Proasellus) coxalis ciliciensis</i> .

*: (Not listed in Table 2)

Sakaryabaşı Pond (Eskişehir, Çifteler) (Coşkun *et al.*, 2016); Göksu estuary (Mersin, Silifke) (González-Ortegón *et al.*, 2020); Kırkgöz spring (Antalya, Döşemealtı) (González-Ortegón *et al.*, 2020); Yamansaz coastal lake (Antalya, Muratpaşa) (González-Ortegón *et al.*, 2020); Manavgat estuary (Antalya, Manavgat) (González-Ortegón *et al.*, 2020).

Family: Dromiidae De Haan, 1833 [in De Haan, 1833-1850] (Figure 21)

Dromia personata (Linnaeus, 1758): Ölüdeniz Lagoon (Muğla, Fethiye) (Öztürk *et al.*, 2005).

Family: Paguridae Latreille, 1802 (Figure 21)

Pagurus cuanensis Bell, 1845: Ölüdeniz Lagoon (Muğla, Fethiye) (Öztürk *et al.*, 2005).

Family: Varunidae H. Milne Edwards, 1853 (Figure 21)

Brachynotus gemmellari (Rizza, 1839): Güllük Lagoon (Muğla, Ekinanbarı) (Önen *et al.*, 1998; Egemen *et al.*, 1999);

Family: Pandalidae Haworth, 1825 (Figure 21)

Plesionika narval (Fabricius, 1787): Ölüdeniz Lagoon (Muğla, Fethiye) (Öztürk *et al.*, 2005).

Family: Penaeidae Rafinesque, 1815 (Figure 21)

Penaeus kerathurus (Forskål, 1775): Homa Lagoon (İzmir, Menemen) (Acarlı *et al.*, 2009)

4. Discussion

Many marine malacostracan species can also live in brackish water environments such as estuaries and lagoons. About one-third of the present checklist (88 species) consists of the brackish water/marine species that were mainly reported from lagoons or brackish water lakes (such as Bafa Lake) of Turkey.

There is no checklist comprising the whole Malacostraca species inhabited Turkish inland waters except Özbek & Ustaoglu (2006), and they reported 124 taxa. In the present study, we gave more detailed information about the distribution of the representatives of Malacostraca inhabited Turkish inland waters and increased the total number of taxa to 201. Species included in the previous checklist but not listed in the current list, and the reasons for their exclusion are given in Table 3.

In the previous checklist reported by Özbek & Ustaoglu (2006), the only hypogean species among the brackish water taxa is an amphipod species (*Lunulogammarus turcicus* Krapp-Schickel, Ruffo & Schiecke 1994) and reported from the Levantine coast of Turkey. Therefore, we decided to remove the species from the present checklist.

Many amphipod species can live in brackish water environments such as estuaries and lagoons. More than one-third of the present checklist (48 species) consists of the brackish water/marine species that were mainly reported from lagoons or brackish water lakes (such as Bafa Lake) of Turkey.

Although some of the Ponto-Caspian species were reported from the coastal lakes and streams of Anatolia's Black Sea and Marmara regions, it is bizarre their presence in central areas such as Eğirdir and Beyşehir lakes (Özbek and Ustaoglu, 2005). The likely pathways of the ponto-caspian amphipod species into those lakes were documented by Özbek (2011a).

Some of the Ponto-Caspian amphipod species (*Pontogammarus* and *Dikerogammarus*, etc.), can inhabit purely freshwater environments. Indeed, there are several records of these species from freshwater lakes of Turkey. Some of these species are adapted to live in some rivers and lakes in Turkey over time and evolved to a new species, such as *Dikerogammarus istanbulensis* Özbek and Özkan, 2011.

Some amphipod species have adapted to live in groundwater habitats. Such specialized species generally show a limited distribution pattern in a narrow

geographical area. Indeed, the distributional data of several amphipod species identified from Turkey, consist of only their type localities. This may be due to an insufficient number of studies on the subject, or it may be considered as a general feature of those species specially adapted to live in groundwater habitats.

Lunulogammarus turcicus Krapp-Schickel, Ruffo & Schiecke 1994 was the only hypogean amphipod species among the brackish water taxa, in the previous checklist (Özbek and Ustaoglu, 2006). Now, we decide to remove the species from the present checklist because it is a marine species.

During the compilation process of the previous records, we found some doubtful records. These records were added to the checklist, but they were marked with the letter "D" in Table 1. The details of why these records are considered suspicious were given in Table 4.

It is hoped that this study, which contains updated information about the Malacostraca species distributed in Turkish inland waters, will shed light on future studies on the subject. Not only those living in surface waters such as rivers and lakes, but also many species, including those living in groundwater habitats, are adversely affected by many factors such as climatic changes, human pressure, pollution, irrigation, and agricultural activities. In order to reveal the biodiversity of Turkey, biodiversity studies should be supported scientifically and financially, and their number should increase. We would like to state once again that biological diversity is among the natural riches of countries and must be protected.

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