

Gammaridea (Crustacea-Amphipoda) Records from Eskişehir Province and It's Near Around*

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Özet: *Eskişehir ili ve yakın çevresinden Gammaridea (Crustacea-Amphipoda) kayıtları.* Bu çalışmada Eskişehir ve çevresindeki 60 farklı tatlı su kaynağından toplanan Gammaridea örnekleri incelenmiştir. Çalışma sonunda Gammaridae familyasından, *Gammarus pulex pulex*, *Gammarus fossarum*, *Gammarus pseudanatoliensis*, *Gammarus balcanicus*, *Echinogammarus ischnus* ve Niphargidae familyasından *Niphargus tauri* olmak üzere toplam 6 tür saptanmıştır. *Niphargus tauri* dışındaki türler bölge için yeni kayıttır. Bununla birlikte *Echinogammarus ischnus* türü ülkemizde ilk kez bir akarsudan kayıt edilmiştir. Tespit edilen türlerin temel taksonomik özellikleri de kısaca verilmiştir.

Anahtar Kelimeler: Amphipoda, Gammaridae, Niphargidae, fauna, Eskişehir.

Abstract: In this study, Gammaridea specimens collected from 60 different freshwater resources in Eskişehir and it's near around were examined. As a result of the study, totally 6 species; *Gammarus pulex pulex*, *Gammarus fossarum*, *Gammarus pseudanatoliensis*, *Gammarus balcanicus*, *Echinogammarus ischnus* from Gammaridae and *Niphargus tauri* from Niphargidae family were determined. All species, except for *Niphargus tauri*, are new records for the region. However *Echinogammarus ischnus* was firstly recorded from running water in Turkey. Brief notes of distinctive taxonomical features of the species were also given.

Key Words: Amphipoda, Gammaridae, Niphargidae, fauna, Eskişehir.

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Introduction

Gammarids are one of the most widespread groups of Malacostraca that occur in freshwaters in all over the world, so they play an important role in freshwater ecosystems. More than 90 percent of freshwater Amphipods are formed by the Gammaridea species on the world (Özbek and Çamur-Elipek 2010).

The first paper dealing with Turkish Gammaridea fauna was published in 1905 by Vavra which firstly described as *Gammarus argeus* found in the Erciyes Mountain (Özbek and Ustaoglu, 2005). After this study, a great number of papers have issued to show about the distribution of Gammaridea species inhabiting inland waters of Turkey (Özbek and Ustaoglu, 2006). The checklist of Turkish inland Malacostraca species written by Özbek and Ustaoglu (2006) reported that there are 76 Gammaridea species living in Turkey. According to the five latest studies on Turkish Gammaridea fauna (Özbek, 2007; Özbek and Ustaoglu, 2007; Fiser et. al., 2009; Özbek and Balık, 2009; Özbek and Çamur-Elipek, 2010), six new species were recorded and the number of Gammaridea species living in Turkish inland waters have risen to 81.

The aim of the present study carried out within a restricted area was to contribute to the knowledge of the distribution of freshwater gammarids in Turkey.

Materials and Methods

Gammarid specimens were collected from totally 60 different freshwater resources which are 38 running waters, 21 fountains and 1 spring between April – September 2007. Figure 1 shows the position of the collecting sides, as well as detailed information about the localities is given in Table 1.

A scoop net having 0.5 mm mesh size was used to sampling the benthic materials. Specimens were fixed in 70% ethyl alcohol in the field, then also kept in same solution in laboratory. All examinations and photographing were made with the help of a monitoring system being from a dissection microscope (Leica MZ 16) and digital camera (Leica DFC 490).

Cărăusu et al. (1955), Karaman and Pinkster (1977a, 1977b, 1987), Barnard and Barnard (1983), Karaman (1973, 1980), Gledhill et al. (1993), Eggers and Martens (2001), Özbek and Ustaoglu (1998), Özbek and Ustaoglu (2005) and Özbek and Balık (2009) were followed for the taxonomic identification.

Results

Family: Gammaridae

Genus: *Gammarus*

***Gammarus pulex pulex* (Linnaeus, 1758)**

Male: Flagellum segments of antenna 2 swollen and

flattened, also each segment bearing a dense row of 12 to 15 setae, together forming a flag-like brush; the first 6-9 ones with calceoli; peduncle segments of antenna 2 with only a few brushes of setae; metasome segments without incisions and not short setae on dorsal surface; posterior margins of pereopods 3-4 with long and convoluted setae; anterior margins of pereopods 5 to 7 with only spines not setae; posteroerior surface of pereopod 7 not bearing setae in basal part; epimeres 2-3 rectangular to weakly pointed; urosome smooth and segments 1-2 not elevated; uropod 3 fairly with setae and inner ramus about 3/4 of outer ones in length.

Female: Except from the usual sexual dimorphism, peduncle segments of antenna 1 and 2 with longer setae than male; propodus of gnathopods much smaller; pereopods 3-4 with shorter and fewer setae than male.

Examined material: Site 4: 11 ♀♀, 13 ♂♂, 18.iv.2007; Site 5: 9 ♀♀, 10 ♂♂, 18.iv.2007; Site 6: 10 ♀♀, 6 ♂♂, 18.iv.2007; Site 7: 23 ♀♀, 31 ♂♂, 18.iv.2007; Site 8: 20 ♀♀,

22 ♂♂, 18.iv.2007; Site 9: 5 ♀♀, 4 ♂♂, 18.iv.2007; Site 10: 10 ♀♀, 7 ♂♂, 18.iv.2007; Site 12: 8 ♀♀, 5 ♂♂, 18.iv.2007; Site 13: 8 ♀♀, 14 ♂♂, 14.vi.2007; Site 14: 2 ♀♀, 19 ♂♂, 14.vi.2007; Site 15: 4 ♀♀, 16 ♂♂, 14.vi.2007; Site 19: 19 ♀♀, 11 ♂♂, 21.vi.2007; Site 20: 4 ♀♀, 7 ♂♂, 26.vi.2007; Site 21: 27 ♀♀, 7 ♂♂, 26.vi.2007; Site 22: 15 ♀♀, 18 ♂♂, 26.vi.2007; Site 23: 50 ♀♀, 29 ♂♂, 26.vi.2007; Site 24: 33 ♀♀, 28 ♂♂, 26.vi.2007; Site 26: 11 ♀♀, 24 ♂♂, 26.vi.2007; Site 27: 28 ♀♀, 32 ♂♂, 26.vi.2007; Site 28: 28 ♀♀, 18 ♂♂, 26.vi.2007; Site 29: 24 ♀♀, 39 ♂♂, 04.viii.2007; Site 37: 5 ♀♀, 1 ♂, 15.viii.2007; Site 41: 7 ♀♀, 13 ♂♂, 15.viii.2007; Site 43: 15 ♀♀, 36 ♂♂, 21.viii.2007; Site 44: 17 ♀♀, 27 ♂♂, 21.viii.2007; Site 45: 28 ♀♀, 14 ♂♂, 21.viii.2007; Site 46: 5 ♀♀, 2 ♂♂, 21.viii.2007; Site 50: 42 ♀♀, 36 ♂♂, 29.viii.2007; Site 51: 13 ♀♀, 14 ♂♂, 29.viii.2007; Site 52: 27 ♀♀, 15 ♂♂, 29.viii.2007; Site 53: 25 ♀♀, 7 ♂♂, 29.viii.2007; Site 54: 17 ♀♀, 9 ♂♂, 30.viii.2007; Site 55: 14 ♀♀, 9 ♂♂, 30.viii.2007; Site 56: 15 ♀♀, 35 ♂♂, 30.viii.2007; Site 58: 8 ♀♀, 11 ♂♂, 06.ix.2007; Site 60: 6 ♀♀, 15 ♂♂, 06.ix.2007.

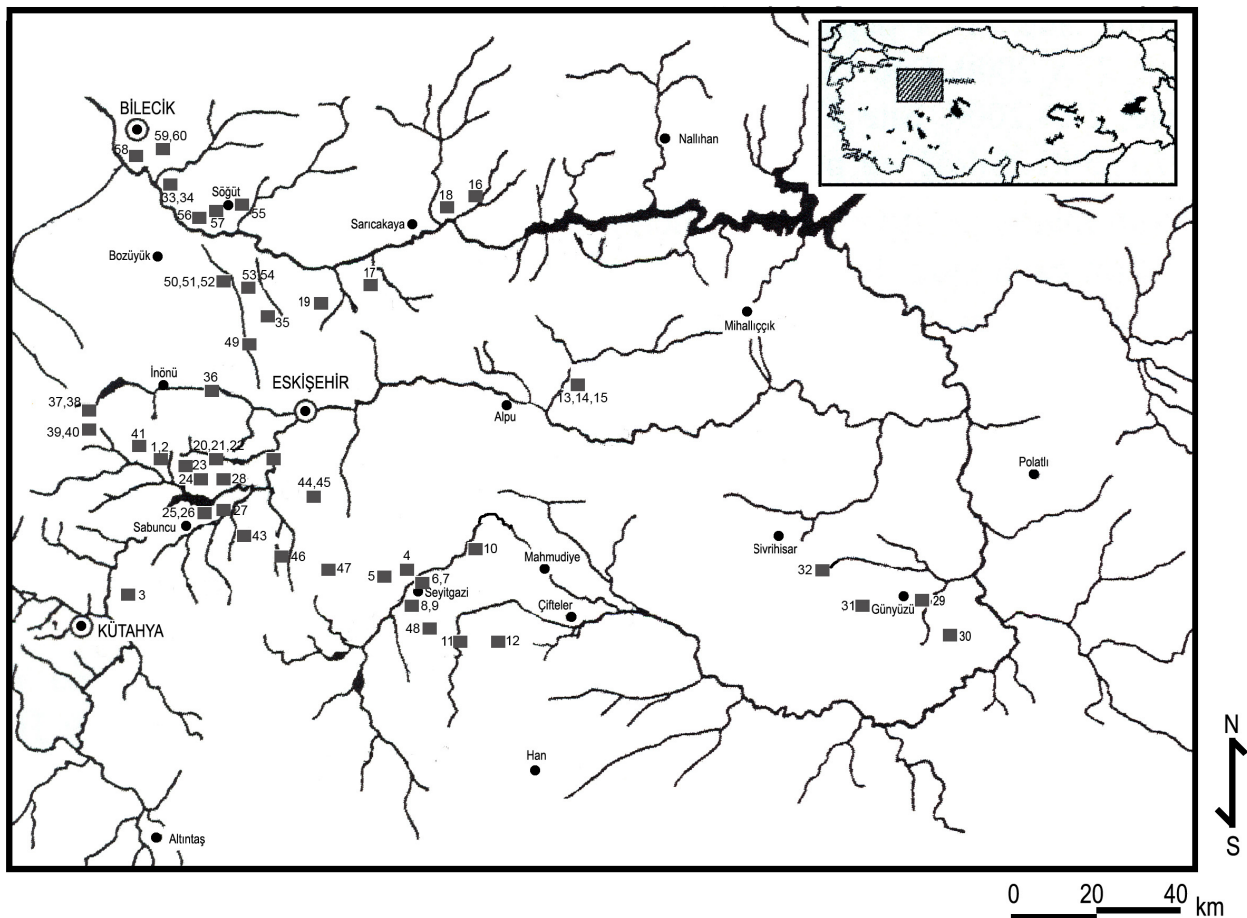


Figure 1. Geographic positions of sampling localities (for the names of the localities see Table 1).

Table 1. Table of sampling localities

Site	Locality	Latitude	Longitude	Altitude	Date
1	Dutluca Stream	39°42' N	30°10' E	945 m	11.04.2007
2	Kümbet Stream	39°42' N	30°42' E	930 m	11.04.2007
3	İnli Stream	39°28' N	30°12' E	1094 m	11.04.2007
4	Ayvalı Stream	39°28' N	30°37' E	1035 m	18.04.2007
5	Ayvalı Stream	39°28' N	30°39' E	981 m	18.04.2007
6	Arslanbeyli Stream	39°27' N	30°40' E	967 m	18.04.2007
7	Seydi Suyu Brooks	39°27' N	30°41' E	964 m	18.04.2007
8	Kırka1 Stream	39°25' N	30°40' E	962 m	18.04.2007
9	Kırka 2 Stream	39°25' N	30°38' E	972 m	18.04.2007
10	Yazıdere Stream	39°29' N	30°44' E	934 m	18.04.2007
11	Ak Stream	39°15' N	30°46' E	1130 m	18.04.2007
12	Gökçekuyu Stream	39°14' N	30°39' E	1107 m	18.04.2007
13	Y. Doğanoglu Stream	39°49' N	31°12' E	859 m	14.06.2007
14	Doğanoglu Stream	39°49' N	31°12' E	903 m	14.06.2007
15	Doğanoglu Village Fountain	39°49' N	31°12' E	903 m	14.06.2007
16	Sakarya River	40°04' N	30°48' E	243 m	21.06.2007
17	Dağküpü Stream	39°58' N	30°40' E	780 m	21.06.2007
18	Mayıslar Stream	40°02' N	30°40' E	252 m	21.06.2007
19	Hekimdağ Stream	39°54' N	30°33' E	1255 m	21.06.2007
20	Takmak Stream	39°42' N	30°19' E	915 m	26.06.2007
21	Takmak Village Fountain	39°42' N	30°19' E	915 m	26.06.2007
22	Akar stream	39°42' N	30°19' E	915 m	26.06.2007
23	Mollaoglu Stream	39°42' N	30°16' E	927 m	26.06.2007
24	Musaözü Stream	39°41' N	30°19' E	929 m	26.06.2007
25	Sabuncupınar Stream	39°37' N	30°20' E	841 m	26.06.2007
26	Yenisofça Village Fountain	39°38' N	30°21' E	839 m	26.06.2007
27	Kalabak Stream	39°38' N	30°24' E	830 m	26.06.2007
28	Kızılınlar Village Fountain	39°42' N	30°24' E	821 m	26.06.2007
29	Acıçay	39°22' N	31°49' E	870 m	04.08.2007
30	Mercan Stream	39°22' N	31°51' E	805 m	04.08.2007
31	Atlas Village spring	39°21' N	31°45' E	1052 m	04.08.2007
32	Kocaş Village Fountain	39°26' N	31°41' E	1005 m	04.08.2007
33	Dömez Village Fountain	40°00' N	30°06' E	817 m	11.08.2007
34	Dömez Stream	40°00' N	30°06' E	817 m	11.08.2007
35	Eğriöz Stream	39°53' N	30°24' E	946 m	15.08.2007
36	Sarısu Stream	39°49' N	30°17' E	813 m	15.08.2007
37	Seyitali Village Fountain	39°45' N	30°02' E	1060 m	15.08.2007
38	Seyitali Stream	39°45' N	30°01' E	1042 m	15.08.2007
39	Erenköy Stream	39°44' N	30°02' E	998 m	15.08.2007
40	Erenköy Village Fountain	39°44' N	30°02' E	993 m	15.08.2007
41	Kümbetapınar Village Fountain	39°43' N	30°07' E	935 m	15.08.2007
42	Kayıpınar Stream	39°41' N	30°28' E	916 m	21.08.2007
43	Beşik Stream	39°30' N	30°25' E	1001 m	21.08.2007
44	Karapazar Stream	39°35' N	30°33' E	1022 m	21.08.2007
45	Karapazar Village Fountain	39°35' N	30°33' E	1022 m	21.08.2007
46	Uçsaray Village Fountain	39°27' N	30°30' E	1245 m	21.08.2007
47	Arslanbeyli Village Fountain	39°27' N	30°36' E	1055 m	21.08.2007
48	Şükranlı Village Fountain	39°16' N	30°40' E	1319 m	21.08.2007
49	Zemzemiye Village Fountain	39°51' N	30°16' E	913 m	29.08.2007
50	Oluklu Village Fountain 1	39°54' N	30°13' E	975 m	29.08.2007
51	Oluklu Village Fountain 2	39°54' N	30°13' E	975 m	29.08.2007
52	Oluklu Village Fountain 3	39°54' N	30°13' E	971 m	29.08.2007
53	Rızapaşa Village Fountain 1	39°55' N	30°14' E	1008 m	29.08.2007
54	Rızapaşa Village Fountain 2	39°55' N	30°14' E	1038 m	30.08.2007
55	Yukarıdere Stream	40°00' N	30°11' E	701 m	30.08.2007
56	Kepen Village Fountain 1	39°58' N	30°07' E	961 m	30.08.2007
57	Kepen Village Fountain 2	39°59' N	30°08' E	920 m	30.08.2007
58	Karasu Stream	40°07' N	30°00' E	292 m	06.09.2007
59	Yeniköy Stream	40°07' N	30°02' E	293 m	06.09.2007
60	Yeniköy Village Fountain	40°07' N	30°02' E	293 m	06.09.2007

Gammarus fossarum Koch, in Panzer, 1836

Male: Antenna 1 and 2 normally developed; flagellum segments of antenna 2 not swollen and without flag-like brush of setae; calceoli absent; peduncle segments of antenna 2 with groups of setae with longer than the diameter of the

segment; metasome segments without incisions and not short setae on dorsal surface; posterior margins of pereopods 3-4 with various long setae; anterior margins of pereopods 5-7 with only spines not setae; posterointerior surface of pereopod 7 not bearing setae in basal part; the range of inner ramus of uropod 3 to outer ramus about 0,4-0,6 in length.

Female: Except from the usual sexual dimorphism, antenna 2 with distinctively longer setae than male; propodus of gnathopods without medial palmar spine; inner ramus of uropod 3 shorter than 40% of outer ramus.

Examined material: Site 2: 11 ♀♀, 13 ♂♂, 11.iv.2007; Site 3: 9 ♀♀, 10 ♂♂, 11.iv.2007; Site 9: 10 ♀♀, 6 ♂♂, 18.iv.2007; Site 20: 23 ♀♀, 31 ♂♂, 26.vi.2007; Site 43: 22 ♀♀, 22 ♂♂, 21.viii.2007; Site 51: 5 ♀♀, 4 ♂♂, 29.viii.2007.

Gammarus balcanicus Schäferna, 1923

Male: Peduncle segment 3 of antenna 1 shorter than peduncle segment 1; peduncle of antenna 1 in sparsely setation, setae shorter than diameter of segments; antenna 2 relatively fine and with few setae; metasome segments 1-3 smooth or with several setae on dorsal surface only and with low, smooth, non-crenulated dorsoposterior margin; pereopods 3-4 with several short setae; basis of pereopod 7 usually less than twice longer than wide and inner surface without setae; uropod 3 with less setation; peduncle segment of uropod 3 shorter than both rami; inner ramus with spine and more longer setae, about 3/5 or 2/3 of outer ramus in length, outer ramus also with many setae on inner surface.

Female: Except from the usual sexual dimorphism, peduncle and flagellum of antenna 2 with shorter setae than male; calceoli absent; gnathopods 1-2 smaller; uropod 3 also relatively shorter than in male.

Examined material: Site 33: 19 ♀♀, 46 ♂♂, 11.viii.2007; Site 34: 8 ♀♀, 11.viii.2007; Site 54: 16 ♀♀, 14 ♂♂, 30.viii.2007; Site 57: 32 ♀♀, 36 ♂♂, 30.viii.2007; Site 58: 5 ♀♀, 5 ♂♂, 06.ix.2007; Site 59: 1 ♀, 3 ♂♂, 06.ix.2007; Site 60: 7 ♀♀, 5 ♂♂, 06.ix.2007.

Gammarus pseudanatoliensis (Karaman and Pinkster, 1987)

Male: Antenna 1 about half of body length and bearing few setae; peduncle and flagellum of antenna 2 with setae but not densely; calceoli present; metasome segments 1-3 with crenulated and often elevated dorsoposterior margin, several setae on dorsal surface only; pereopods 3-4 with several setae; inner surface of basal segment of pereopods 5-7 unarmed; uropod 3 various; inner ramus about 1/3 to 1/2 of outer ones in length; inner ramus of exopodite with many setae.

Female: Except from the usual sexual dimorphism, setation of antenna 1 much fewer like male; setae of pereopods 3-4 longer than in male.

Examined material: Site 1: 21 ♀♀, 10 ♂♂, 11.iv.2007; Site 8: 16 ♀♀, 6 ♂♂, 18.iv.2007; Site 9: 2 ♀♀, 1 ♂, 18.iv.2007; Site 11: 32 ♀♀, 28 ♂♂, 18.iv.2007; Site 13: 3 ♀♀, 8 ♂♂, 14.vi.2007; Site 16: 14 ♀♀, 15 ♂♂, 14.vi.2007;

Site 17: 16 ♀♀, 16 ♂♂, 21.vi.2007; Site 18: 5 ♀♀, 14 ♂♂, 21.vi.2007; Site 19: 21 ♀♀, 31 ♂♂, 21.vi.2007; Site 25: 37 ♀♀, 49 ♂♂, 26.vi.2007; Site 26: 8 ♀♀, 5 ♂♂, 26.vi.2007; Site 30: 23 ♀♀, 43 ♂♂, 04.viii.2007; Site 31: 22 ♀♀, 46 ♂♂, 04.viii.2007; Site 32: 27 ♀♀, 40 ♂♂, 04.viii.2007; Site 35: 46 ♀♀, 53 ♂♂, 15.viii.2007; Site 36: 26 ♀♀, 53 ♂♂, 15.viii.2007; Site 37: 29 ♀♀, 49 ♂♂, 15.viii.2007; Site 38: 27 ♀♀, 43 ♂♂, 15.viii.2007; Site 39: 60 ♀♀, 45 ♂♂, 15.viii.2007; Site 40: 50 ♀♀, 44 ♂♂, 15.viii.2007; Site 41: 13 ♀♀, 26 ♂♂, 15.viii.2007; Site 42: 7 ♀♀, 41 ♂♂, 21.viii.2007; Site 43: 9 ♀♀, 5 ♂♂, 21.viii.2007; Site 46: 20 ♀♀, 20 ♂♂, 21.viii.2007; Site 47: 23 ♀♀, 13 ♂♂, 21.viii.2007; Site 48: 201 ♀♀, 103 ♂♂, 21.viii.2007; Site 52: 12 ♀♀, 6 ♂♂, 29.viii.2007; Site 53: 11 ♀♀, 1 ♂♂, 29.viii.2007; Site 55: 9 ♀♀, 33 ♂♂, 30.viii.2007.

Genus: *Echinogammarus*

***Echinogammarus ischnus* (Stebbing, 1899)**

Male: The lateral cephalic lobes small and obtuse; eyes rather large and about twice as long as wide, reniform; antenna 2 bearing with the many long curled setae implanted on the last two peduncle segments and all (9 to 12) flagellar segments (Fig. 2a); calceoli are absent; segment 3 of mandible palp armed with 6 to 7 groups of A-setae, 1 to 3 groups of B-setae, a very irregular row of up to 30 D-setae, varying in length, and 5 or 6 E-setae (Fig. 2b); propodus of gnathopod 2 little longer and wider than that of propodus 1; medial palmar spine widely separated from a group of palmar angle spines (Fig. 2c); posterior margin with many groups of medium long setae; metasome segments unarmed; pereopod 3 with many groups of setae (Fig. 2d); setation of pereopod 4 little shorter, never exceeding the diameter of the respective segments (Fig. 2e); pereopods 5-7 very spinose; setae, if present are always shorter than the spines (Fig. 2f-g); basal segment of pereopods 6-7 more elongate, without a protruding lobe; urosome segments slightly elevated, armed with a middorsal and two dorsolateral groups of spines; Epimere 1 almost rectangular, but both 2-3 moderately pointed; uropod 3 with well-developed second exopodial segment; armature of the exopodite with many groups of spines and short to medium long setae (Fig. 2h).

Female: Except from the usual sexual dimorphism, antenna 1 with shorter accessory flagellum; setae on the peduncle and flagellum of antenna 2 being straight and short; uropod 3 relatively shorter than in male.

Examined material: Site 17: 23 ♀♀, 48 ♂♂, 21.vi.2007.

Family: Niphargidae

Genus: *Niphargus*

***Niphargus tauri* Schellenberg 1933**

Male: Body delicately; lateral cephalic lobes small, eyes absent (Fig. 3c); flagellum of antenna 1 shorter half of body and with 16-23 segments (Fig. 3a); accessory flagellum of antenna 2 being two segments, main part with 9-12 segments (Fig. 3b); posterior corner of propodus palmar of gnathopod 2

with 2 spines, one of big and the other much smaller, dactylus with setae on dorsal surface (Fig. 3d); pereopods 5-7 relatively long, posterior margin of second segment slightly concave (Fig. 3e); uropods 1-2 with short spine on posterior margin, inner ramus longer than outer ramus (Fig. 3f); inner ramus of uropod 3 very short, two segments of outer ramus equal and bearing plumose setae (Fig. 3g); telson conspicuously short, both lobes with 3-4 spines in distal (Fig. 3h).

Female: Except from the usual sexual dimorphism, uropods 1-2 relatively much longer than male; outer ramus of uropod 3 much shorter.

Examined material: Site 49: 21 ♀♀, 8 ♂♂, 29.viii.2007.

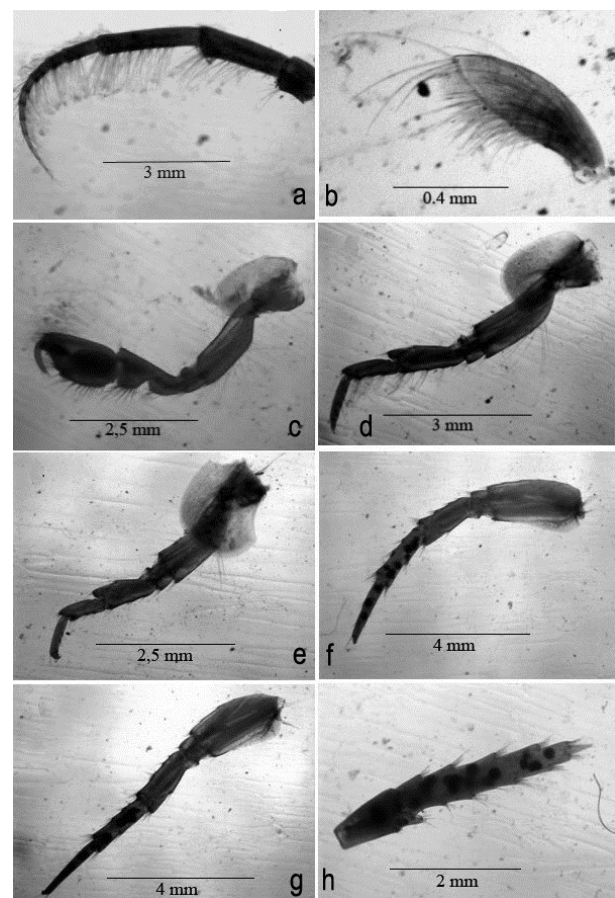


Figure 2. *Echinogammarus ischnus* (Stebbing, 1899) ♂: a. antenna 2; b. mandibular palp; c. gnathopod 2; d. pereopod 3; e. pereopod 4; f. pereopod 5; g. pereopod 7; h. uropod 3.

Discussion and Conclusion

In our study, *Gammarus pulex pulex* was the most common species in study area. This subspecies usually is the characteristic form of stream, middle and lower parts of the rivers together with lake and ponds (Karaman and Pinkster, 1977a). *Gammarus p. pulex* has been reported to be able to

live comfortably in highly organic polluted waters by Karaman and Pinkster (1977a). The subspecies, when the ecological requirements and adaptation capability is considered, can be found in a large part of Anatolia, especially in the western region. Likewise, this subspecies was in a lot of locality by Özbek and Ustaoglu (1998) in İzmir province and its around. Also, the subspecies is found to be quite common especially in Western Anatolia (Karaman and Pinkster, 1977a). So we thought that our results and observations for *G. pulex pulex* must not be surprised.

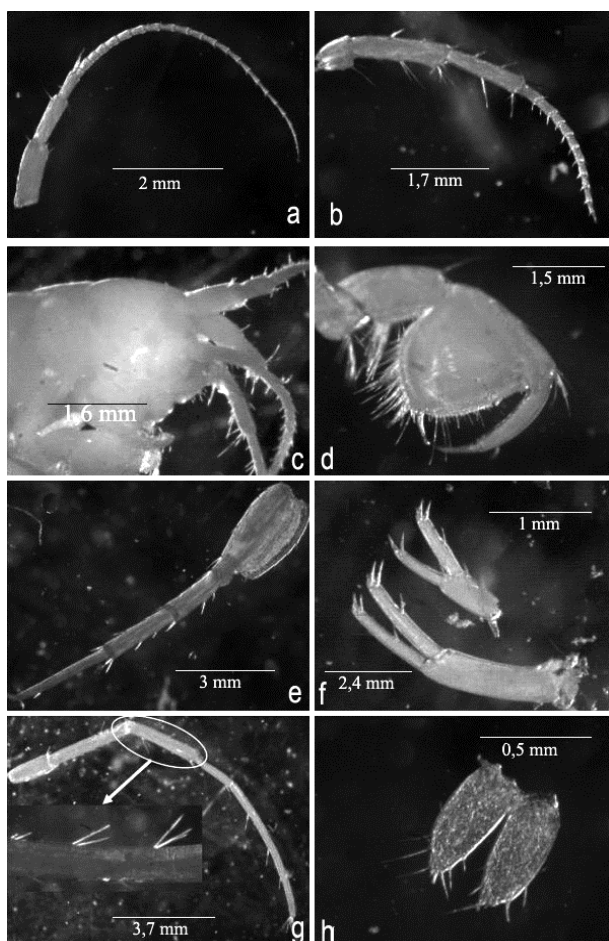


Figure 3. *Niphargus tauri* Schellenberg 1933 ♂: a. antenna 1; b. antenna 2; c. Cephalothorax; d. gnathopod 2; e. pereiopod 7; f. uropod 1-2; g. uropod 3; h. Telson.

Gammarus fossarum, recorded from six localities in our study, has been reported distributions in entire of Europe and North of Turkey by Karaman and Pinkster (1977a). In connection with this species, Yeşilmen and Kirgiz (1996) pointed out new records in their study for Thrace Region. It has been reported that this species usually live in upper parts of running waters and removed by other larger species from their habits, because of its small body (Karaman and Pinkster 1977a). However, in our study, we specified that *G. fossarum* is occasionally together with *G. pulex pulex* or *G. pseudanatoliensis* and also both of in some localities.

Although *Gammarus balcanicus* is one of the widespread Gammaridea species in Palaearctic region, it is frequently confused with other species or reported as a new species because of the high variability observed between populations (Özbek et al., 2009). So, there are many synonyms for this species given in the literature (Karaman and Pinkster, 1987). These authors also considered it as a eurobiont species. In our study, this species was found at temporary streams and fountains total 7 localities and most features of our specimens are got along with the original description. However, some of our male specimens have fewer setae in their fourth pereopods than in the original ones. It can be regarded as population variability.

G. pseudanatoliensis was the second most frequently observed species, found at 29 localities in the region. This species is endemic for Turkey and was firstly described from Kayseri Province by Karaman and Pinkster (1987). Its morphological features is very similar to *G. anatoliensis*. The most important difference from *G. anatoliensis* that interior surface of pereiopod 7 basal segment without setae. It is also separated from *G. balcanicus* which another species in our study with serration in dorsoposterior margins of metasomes.

Echinogammarus ischnus was determined in only one locality in this study. There are several publications dealing with the distribution of this species in Turkey. According to Özbek and Ustaoglu (2005), this species was recorded from the lakes in Marmara Region in 1964 by Mordukhai – Boltovskoi and also reported as *Chaetogammarus ischnus sowinskyi* from Manyas and İznik Lakes in 1980 by Jazdzewski. Özbek and Ustaoglu (2005) recorded to this species from lakes. On the other hand, Pinkster (1993) indicated that this species can be found in lower part of the rivers (Özbek and Ustaoglu 2005). So we firstly recorded this species from a stream in Turkey.

Niphargus tauri specimens which mostly known as living in ground water were also found only at a single locality in study area. This locality is a fountain basin and so the specimens must be drift by water. *N. tauri* was firstly described from Taurus Mountains by Shcellenberg in 1933 (Karaman, 1973). The second record for this species was from Eskişehir, by Trontelj et. al. (2007). In our study, the locality of which *N. tauri* specimens were collected is in boundary of Bilecik, so it was firstly reported from this province.

At the end of this study, It is emphasized that all species, except for *Niphargus tauri*, were new records for Eskişehir and its around. We thought that the number of Gammaridea species living in this region will be increased by future studies.

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