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RESEARCH PAPER

The Latest Status and Distribution of Fishes in Upper Tigris River and Two New Records for Turkish Freshwaters

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Abstract

The fishes of the upper basin of the Tigris River have been surveyed between June 2006 and November 2015. During this survey 40 fish species were determined belonging to 10 families (Cyprinidae, Nemacheilidae, Sisoridae, Siluridae, Heteropneustidae, Bagridae, Salmonidae, Mugilidae, Poeciliidae, Mastacembelidae). One species was not fully identified and currently reported as *Squalius* sp. *Oxynoemacheilus kurdistanicus* and *O. chomanicus* are new records for Turkish inland waters.

Key words: Tigris River basin, ichthyofauna, teleostei, Anatolia.

Yukarı Dicle Nehri Havzası Balık Türlerinin Son Durumu ve Dağılım Alanları ve Türkiye Tatlısuları için İki Yeni Kayıt

Özet

Dicle Nehri'nin yukarı havzasının balık faunasını ortaya koymak amacıyla Haziran 2006 ve Kasım 2015 tarihleri arasında araştırma yapılmıştır. Araştırma sırasında 10 familyaya ait (Cyprinidae, Nemacheilidae, Sisoridae, Siluridae, Heteropneustidae, Bagridae, Salmonidae, Mugilidae, Poeciliidae, Mastacembelidae) 40 tür tespit edilmiştir. Tam olarak tanımlanamayan bir tür *Squalius* sp. olarak bildirilmiştir. *Oxynoemacheilus chomanicus* ve *O. kurdistanicus* türlerinin Türkiye tatlı suları için yeni kayıt oldukları saptanmıştır.

Anahtar Kelimeler: Dicle havzası, balık faunası, teleostei, Anadolu.

Introduction

Tigris River, with 1850 km length, is one of the greatest rivers located in the west Asia. It emerges from Turkey and passes through the territorials of Iraq and finally joins to the Euphrates River from the Shatt al-Arab then flows into Persian Gulf. Taxonomic studies of the Tigris River ichthyofauna started with Heckel (1843) in 19th century. He described 18 species (Table 1) from Tigris River at Mosul, a city located in northern Iraq, very close to the Turkish border. During the following years, Günther (1868, 1874) and Sauvage (1882) provided remarkable contributions to the fish fauna of Tigris River with describing new species as well as giving records (Jawad, 2012). Berg (1918, 1931) described *Glyptothorax kurdistanicus* as well as reported *G. armeniacus* (type locality is Euphtares River) from the Tigris drainages. Banarescu and Nalbant (1964) described *Turcinoemacheilus kosswigi* from Great Zap River. Kuru (1975) reported 29 taxa (Table 1) from the Tigris River. A few years later, Kelle (1978) carried out a detailed survey on fish fauna of Turkish part of Tigris basin and reported 25 taxa (Table 1). Coad (1991) made a checklist of fishes of Tigris-Euphrates basin and recorded 66 species but he did not give Tigris species separately. Ünlü (1999) revealed the morphological differences between *Cyprinion macrostomum* and *C. kais*. Esmaeili *et al.* (2010) reported 69 species from Iranian part of Tigris River basin. Recently two species have been described from upper Tigris drainages. These are: *Salmo tigridis* Turan, Kottelat & Engin, 2011 from Çatak Stream and *Alburnus selcuklui* Elp, Şen & Özuluğ, 2015 from a tributary of Botan River (Turan *et al.*, 2011; Elp *et al.*, 2015).

As pointed out there has not been a study approximately in the last 40 years as to fauna of the Turkish part of the Tigris River. In this study, distribution areas and the recent status of fish species in the upper Tigris River have been revealed.

Materials and Methods

Fish samples were caught at 45 different sampling sites in Tigris River drainages with pulsed DC electro-fishing equipment, cast net and gill net from different sampling sites during June 2006 and November 2015 (Figure 1). Fish samples were fixed in 4% formalin and transferred to the laboratory for morphological investigation. Meristic counts and measurements follow Kottelat & Freyhof (2007). Families are presented in taxonomical order following Nelson (2006), using the valid species names from Catalog of fishes (Eschmeyer and Fricke, 2015) or Fishbase (Froese and Pauly 2015) and species are listed in alphabetical order after grouped within their family names. The common name of most species favored by Fishbase (the others cited where they were obtained). The local names were determined to ask local people or fishermen. The metric and meristic data for *A. idignensis*, *A. nicolausi* are from Bogutskaya and Coad (2009).

Abbreviations: SL, standard length. D, dorsal-fin rays. A, anal-fin rays. P, pectoral-fin rays. V, pelvic-fin rays. LL, lateral line scales. L.trans., transverse scales. Sq, lateral series. GR, gill rakers. SL, standard length. HL, head length. FFR, Zoology Museum of the Faculty of Fisheries, Recep Tayyip Erdogan University, Rize, Turkey.

Comparative material: *Squalius berak*: FFR03821, 25, 82–201 mm SL; Turkey: Kilis Prov.: Sinnep (Kueik) River; D. Turan & Z. Bostancı, 23 May 2008

Results

It is aimed to reveal the fish fauna of the upper Tigris River in present study. The study yielded to 40 fish species (Table 1, 2) belonging to 10 families. Five of these species (*Carassius gibelio*, *Cyprinus carpio*, *Heteropneustes fossilis*, *Oncorhynchus mykiss*, *Gambusia holbrooki*) are exotic. *Oxynoemacheilus kurdistanicus* and *O. chomanicus* are new records for Turkish inland waters.

Furthermore, three species were already recommended with some level of international protection on the IUCN Red List (2015): *Carasobarbus kosswigi* (Vulnerable), *Luciobarbus esocinus* (Vulnerable), *Luciobarbus subquincunciatus* (Critically Endangered).

Family: CYPRINIDAE

***Acanthobrama marmid* Heckel, 1843** (Figure 2a)

Common names: Akçapak (Turkish); Kızılkanat (local name)

Type locality: Kueik River (Aleppo)

Material Examined: FFR01158, 3, 40–93 mm SL, Batman, Batman Stream, 17.08.2010. –FFR01159, 6, 70–130 mm SL, 05.07.2012; FFR01189, 29, 70–146 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR01161, 20, 40–100 mm SL, Diyarbakır, Yenişehir, Tigris River, 05.07.2012. –FFR01183, 1, 100 mm SL, Batman, Suçeken, Tigris River, 02.08.2011. –FFR01193, 5, 140–150 mm SL, Siirt, Botan Stream, 30.07.2011. –FFR02147, 1, 95mm SL, Diyarbakır, Bismil, Tigris River, 25.07.2010.

Meristic characters: D: III 8–9, A: II 15–18, P: I 13–16, V: I 8, GR: 14–17, LL: 61–70, L.trans.: 12–14/5–8

Distribution: Tigris, Euphrates and Kueik river basins.

Remarks: Küçük *et al*. (2014) reported Tigris-Euphrates populations as *Acanthobrama marmid*, after the comparison Tigris, Euphrates and Sinnep (Kueik) river populations.

Alburnoides diclensis Turan, Bektaş, Kaya & Bayçelebi, 2016 (Figure 3c)

Common names: Spirlin; Noktalı inci balığı

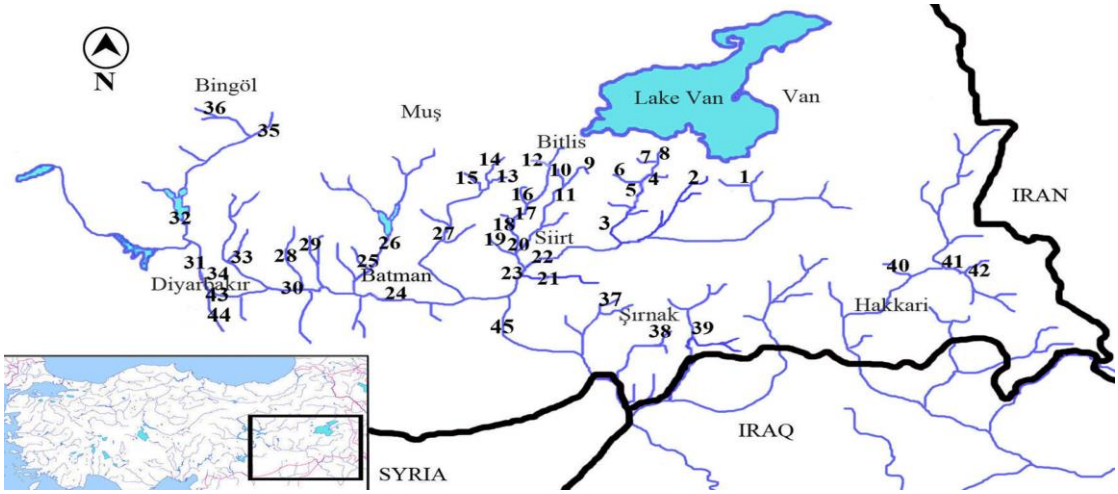

Figure 1. The drainages of the upper Tigris River, Turkey. Numbers refer to sampled sites (see Table 1).

Table 1. List of the taxonomic status of fishes observed upper Tigris drainages and their comparison with former records

	Order	Family	Heckel (1843)	Kuru (1975)	Kelle (1978)	Current Study
1			–	*Acanthobrama marmid*	*Acanthobrama marmid*	*Acanthobrama marmid*
2			–	–	*Alburnoides bipunctatus*	**Alburnoides diclensis*
3			–	–	–	*Alburnus caeruleus*
4			*Alburnus mossulensis*	*Chalcalburnus mossulensis, C. tarichi*	*Chalcalburnus mossulensis*	**Alburnus mossulensis*
5			–	–	–	**Alburnus selcuklui*
6			*Barbus grypus*	*Tor grypus*	*Barbus grypus*	**Arabibarbus grypus*
7			*Aspius vorax*	*Aspius vorax*	*Aspius vorax*	–
8			–	*Barbus capito pectoralis*	–	–
9			–	*B. plebejus lacerta, B. p. kosswigi*	*Barbus lacerta*	*Barbus lacerta*
10			–	–	–	**Barilius mesopotamicus*
11			*Scaphiodon trutta*	*Capoeta trutta*	*Capoeta trutta*	**Capoeta trutta*
12			*Scaphiodon umbla*	*Capoeta capoeta umbla*	*Capoeta capoeta umbla*	**Capoeta umbla*
13		Cyprinidae	–	*Kosswigobarbus kosswigi*	*Cyclocheilichthys kosswigi*	**Carasobarbus kosswigi*
14			*Systomus luteus*	*Carasobarbus luteus*	*Barynotus luteus*	**Carasobarbus luteus*
15			–	–	–	*Carassius gibelio*
16			*Chondrochilus regius*	*Chondrostoma regium*	*Chondrostoma regium*	**Chondrostoma regium*
17			*Cyprinion kais*	–	–	**Cyprinion kais*
18	Cypriniformes		*Cyprinion macrostomus*	*Cyprinion macrostomus macrostomus*	*Cyprinion macrostomus*	**Cyprinion macrostomum*
19			–	–	–	*Cyprinus carpio*
20			–	*Garra rufa obtusa*	*Garra rufa*	*Garra rufa*
21			*Discognathus variabilis*	*Garra variabilis*		**Garra variabilis*
22			*Luciobarbus esocinus*	*Barbus esocinus*	*Luciobarbus esocinus*	**Luciobarbus esocinus*
23			*Luciobarbus mystaceus*	*Luciobarbus rajanorum mystaceus*	*Barbus rajanorum*	**Luciobarbus mystaceus*
24			*Luciobarbus xanthopterus*	–	–	–
25			–	–	–	**Luciobarbus subquincunciatus*
26			*Squalius lepidus*	–	–	**Squalius lepidus*
27			–	*Leuciscus cephalus orientalis*	*Leuciscus cephalus orientalis*	*Squalius* sp.
28			–	*Oxynoemacheilus angorae bureschi*	–	*Oxynoemacheilus bergianus*
29			–	–	–	**Oxynoemacheilus chomanicus*
30			*Cobitis frenata*	*N. tigris*	*Noemacheilus panthera*	**Oxynoemacheilus frenatus*
31		Nemacheilidae	–	*Noemacheilus insignis euphraticus,*	*N. insignis euphraticus, N. tigris*	**Oxynoemacheilus kurdistanicus*
32			–	–	*N. malapterurus malapterurus*	**Paracobitis zabgawraensis*
33			–	*Turcinoemacheilus kosswigi*	*Turcinoemacheilus kosswigi*	**Turcinoemacheilus kosswigi*
34			–	*Glyptothorax armeniacus*	–	*Glyptothorax armeniacus*
35		Sisoridae	–	*Glyptothorax kurdistanicus*	*Glyptothorax kurdistanicum*	**Glyptothorax kurdistanicus*
36	Siluriformes	Siluridae	*Silurus triostegus*	*Silurus triostegus*	–	**Silurus triostegus*
37		Heteropneustidae	–	–	–	*Heteropneustes fossilis*
38		Bagridae	*Bagrus halepensis*	–	*Bagrus halepensis*	**Mystus pelusius*
39			–	–	–	*Oncorhynchus mykiss*
40	Salmoniformes	Salmonidae	–	*Salmo trutta macrostigma*	*Salmo trutta macrostigma*	**Salmo tigridis*
41	Mugiliformes	Mugilidae	*Mugil abu*	*Mugil abu*	–	**Planiliza abu*
42	Cyprinodontiformes	Poeciliidae	–	–	–	*Gambusia holbrooki*
43	Synbranchiformes	Mastacembelidae	–	*Mastacembelus simack*	*Mastacembelus simach*	*Mastacembelus mastacembelus*
Total	6	10	18	29	25	40

* The species originally described from Tigris River drainages

Table 2. Situation of fish sampling sites and distribution of the observed fish species during the survey according to sampling stations

No	Locality	Observed Species
1	Çatak Stream; Van, Çatak; 10.07.2011; 38°01'05"N 43°03'14"E	*Salmo tigridis, Oncorhynchus mykiss*
2	Müküs Stream; Van, Bahçesaray; 10.07.2011, 38°10'02"N 42°48'31"E	*Salmo tigridis*
3	Nazar Stream; Bitlis, Hizan; 08.08.2011; 38°08'19"N 42°25'49"E	*Garra rufa, Turcinoemacheilus kosswigi*
4	Külat Stream; Bitlis, Hizan; 21.09.2010; 38°14'41"N 42°28'45"E	*Glyptothorax armeniacus, Barbus lacerta, Capoeta umbla, Alburnus mossulensis, Oxynoemacheilus chomanicus*
5	Cehennem Stream; Bitlis, Hizan; 19.07.2010; 38°14'27"N 42°28'01"E	*Barbus lacerta, Capoeta umbla*
6	Horozdere Stream; Bitlis, Hizan; 21.09.2011; 38°15'03"N 42°27'18"E	*Barbus lacerta, Capoeta umbla*
7	Anadere Stream; Bitlis, Tatvan; 21.09.2010, 38°18'57 "N 42°33'55"E	*Glyptothorax armeniacus, Barbus lacerta, Alburnus mossulensis, Oxynoemacheilus chomanicus*
8	Kerp Stream; Bitlis, Tatvan; 21.09.2010, 38°21'24"N 42°37'39"E	*Barbus lacerta, Capoeta umbla, Alburnus mossulensis, Oxynoemacheilus chomanicus*
9	Kuşlu Stream; Bitlis; 26.09.2010; 38°17'45"N 42°15'38"E	*Barbus lacerta*
10	Aşağı Ölek Stream; Bitlis; 26.09.2010; 38°18'22"N 42°08'36"E	*Barbus lacerta*
11	Ilıca Stream; Bitlis; 26.09.2010; 38°17'44"N 42°11'08"E	*Glyptothorax armeniacus, Garra rufa, Barbus lacerta, Capoeta umbla*
12	Şetek Stream; Bitlis; 26.09.2010; 38°21'26"N 42°02'47"E	*Oncorhynchus mykiss*
13	Çatalsöğüt Stream; Bitlis, Mutki; 04.08.2011; 38°25'47"N 41°53'39"E	*Barbus lacerta, Capoeta umbla*
14	Taşboğaz Stream; Bitlis, Mutki; 04.08.2011, 38°24'10"N 41°44'22"E	*Glyptothorax armeniacus, Garra rufa, Barbus lacerta, Capoeta umbla*
15	Çıratan Stream; Bitlis, Mutki; 04.08.2011, 19.09.2013; 38°21'17"N 41°46'53"E	*Glyptothorax armeniacus, G. kurdistanicus, Garra rufa, Barbus lacerta, Capoeta umbla, Alburnus mossulensis, Turcinoemacheilus kosswigi, Paracobitis zabgawraensis, Oxynoemacheilus kurdistanicus*
16	Destumi Stream; Bitlis; 08.02.2011; 02.08.2011, 38°13'33"N 41°52'57"E	*Garra rufa, Barbus lacerta, Capoeta umbla, Alburnus mossulensis, Turcinoemacheilus kosswigi, Paracobitis zabgawraensis*
17	Çarpıran Stream; Siirt, Baykan; 01.02.2011; 38°10'33"N 41°49'20"E	*Garra rufa, Alburnus mossulensis*
18	Bitlis Stream; Siirt, Baykan; 08.02.2011, 21.09.2013; 38°07'53"N 41°44'53"E	*Garra rufa, Luciobarbus mystaceus, Capoeta trutta, Capoeta umbla, Alburnus selcuklui*
19	Başur Stream; Siirt; 24.09.2010, 20.09.2013; 37°57'55"N 41°47'21"E	*Mastacembelus mastacembelus, Garra rufa, Cyprinion macrostomum, Cyprinion kais, Luciobarbus mystaceus, Capoeta trutta, Alburnus mossulensis, Alburnus caeruleus*
20	Kezer Stream; Siirt; 02.08.2011, 20.09.2013; 37°57'21"N 41°51'22"E	*Garra rufa, Cyprinion macrostomum, Cyprinion kais, Squalius lepidus*
21	Zarova Stream; Siirt, Eruh; 24.09.2011, 29.06.2012; 37°49'30"N 41°52'51"E	*Mastacembelus mastacembelus, Garra rufa, Cyprinion macrostomum, Cyprinion kais, Alburnus caeruleus, Squalius lepidus*
22	Botan River; Siirt; 24.09.2010, 10.02.2011, 30.07.2011, 29.06.2012; 37°51'09"N 41°53'14"E	*Mastacembelus mastacembelus, Mystus pelusius, Glyptothorax kurdistanicus, Garra rufa, Cyprinion macrostomum, Cyprinion kais, Carasobarbus kosswigi, Arabibarbus grypus, Luciobarbus subquincunciatus, Luciobarbus mystaceus, Capoeta trutta, Chondrostoma regium, Acanthobrama marmid, Alburnus mossulensis, Squalius lepidus*
23	Bağlıca Stream; Siirt; 24.09.2010, 29.06.2012; 37°49'19"N 41°49'41"E	*Planiliza abu, Mastacembelus mastacembelus, Glyptothorax kurdistanicus, Garra rufa, Cyprinion macrostomum, Cyprinion kais, Carasobarbus luteus, Arabibarbus grypus, Capoeta trutta, Alburnus mossulensis, Alburnus caeruleus*
24	Tigris River; Batman, Suçeken; 09.02.2011, 02.08.2011, 25.04.2012; 37°43'48"N 41°17'59"E	*Cyprinus carpio, Carassius gibelio, Cyprinion macrostomum, Carasobarbus luteus, Luciobarbus mystaceus, Capoeta trutta, Capoeta umbla, Chondrostoma regium, Acanthobrama marmid, Alburnus mossulensis*
25	Batman Stream; Batman; 17.08.2010, 25.09.2010, 09.02.2011; 37°44'20"N 41°14'38"E	*Carassius gibelio, Garra rufa, Cyprinion macrostomum, Cyprinion kais, Capoeta trutta, Acanthobrama marmid, Alburnus mossulensis*

Table 2. Continued.

No	Locality	Observed Species
26	Batman Stream; Diyarbakır, Silvan; 09.02.2011, 18.08.2011, 05.07.2012, 18.09.2013; 38°09'09"N 41°12'17"E	*Mystus pelusius, Garra rufa, Chondrostoma regium, Oncorhynchus mykiss, Cyprinus carpio, Carassius gibelio, Cyprinion kais, Barilius mesopotamicus, Arabibarbus grypus, Luciobarbus mystaceus, Capoeta trutta, Alburnus mossulensis, Squalius* sp., *Oxynoemacheilus frenatus, O. kurdistanicus*
27	Yanarsu Stream; Batman, Kozluk; 25.09.2010; 38°09'41"N 41°30'53"E	*Garra rufa, Alburnus mossulensis*
28	Ulaşlı Stream; Diyarbakır; 25.09.2010; 38°07'29"N 40°66'20"E	*Garra variabilis*
29	Salat Stream; Diyarbakır, Bismil; 25.09.2010; 05.07.2012, 18.09.2013 37°52'16"N 40°59'23"E	*Carassius gibelio, Cyprinion macrostomum, Garra variabilis, Garra rufa,Barbus lacerta, Capoeta umbla, Alburnus mossulensis, Squalius sp.*
30	Tigris River; Diyarbakır, Bismil; 25.07.2010; 37°50'28"N 40°39'30"E	*Silurus triostegus, Garra variabilis, Alburnus mossulensis*
31	Tigris River; Diyarbakır, Yenişehir; 17.08.2010, 25.09.2010, 05.07.2012; 38°01'48"N 40°15'14"E	*Garra rufa, Cyprinus carpio, Carassius gibelio, Cyprinion macrostomum, Carasobarbus luteus, Acanthobrama marmid, Alburnus mossulensis, Oxynoemacheilus kurdistanicus*
32	Eğil Dam Lake; Diyarbakır, Eğil; 18.08.2010; 38°15'39"N 40°05'24"E	*Alburnus caeruleus*
33	Ambar Stream; Diyarbakır; 25.09.2010, 05.07.2012, 18.09.2013; 37°99'23"N 40°38'28"E	*Planiliza abu, Mastacembelus mastacembelus, Carassius gibelio, Garra rufa, Cyprinion macrostomum, Garra variabilis, Cyprinion luteus, Luciobarbus mystaceus, Capoeta trutta, Acanthobrama marmid, Alburnus mossulensis, Alburnus caeruleus, Squalius lepidus, Squalius sp.*
34	Ponds in the Dicle University Campus; Diyarbakır; 05.07.2012; 37°93'65"N 40°29'78"E	*Cyprinion macrostomum, Barilius mesopotamicus, Alburnus caeruleus, Gambusia holbrooki*
35	Abalı Stream, Diyarbakır, Lice; 19.08.2010, 38°31'46"N 40°32'44"E	*Glyptothorax kurdistanicus, Garra rufa, Cyprinion macrostomum, Capoeta trutta*
36	Çay Stream; Bingöl, Genç; 18.08.2010; 38°38'29"N 40°23'27"E	*Garra rufa, Cyprinion macrostomum, Barbus lacerta, Capoeta umbla, Alburnus mossulensis, Oxynoemacheilus kurdistanicus*
37	Resor Stream; Şırnak; 30.07.2011; 37°35'28"N 42°23'19"E	*Capoeta umbla*
38	Cudi Stream; Şırnak; 30.07.2011; 37°28'59"N 42°23'32"E	*Barbus lacerta, Capoeta umbla, Oxynoemacheilus chomanicus*
39	Beyazsu Stream; Şırnak, Uludere; 30.07.2011; 37°26'28"N 42°44'54"E	*Barbus lacerta, Capoeta umbla, Alburnus mossulensis, Oxynoemacheilus chomanicus*
40	Eziki Stream; Hakkâri; 07.08.2011, 20.09.2013; 37°40'18"N 43°51'46"E	*Glyptothorax armeniacus, Glyptothorax kurdistanicus, Garra rufa, Barbus lacerta,Capoeta umbla, Alburnoides diclensis, Alburnus mossulensis, Turcinoemacheilus kosswigi, Paracobitis zabgawraensis, Oxynoemacheilus bergianus*
41	Zap Stream; Hakkâri, Yüksekova; 07.08.2011; 37°40'56"N 44°04'22"E	*Barbus lacerta, Capoeta umbla, Alburnoides diclensis, Alburnus mossulensis, Oxynoemacheilus bergianus*
42	Dilektaşı Stream; Hakkâri, Yüksekova; 07.08.2011; 37°39'59"N 44°08'23"E	*Glyptothorax armeniacus, Barbus lacerta, Capoeta umbla, Turcinoemacheilus kosswigi*
43	Tigris River; Diyarbakır; 21.07.2009; 37°51'50"N 40°13'50"E	*Heteropneustes fossilis*
44	Göksu Stream; Diyarbakır, Çınar; 21.07.2009; 37°49'19"N 40°18'08"E	-
45	Tigris River; Şırnak, Ilısu; 25.04.2009; 37°31'07"N 41°50'16"E	*Luciobarbus esocinus*

(Turkish)
Type locality: Eziki and Zap streams, Tigris River drainages.
Material Examined: FFR01055, 4, 35–72 mm SL, Hakkari, Yüksekova, Zap Stream, 07.08.2011. –FFR01056, 4, 42–67 mm SL, 07.08.2011; FFR01118, 26, 53–80 mm SL, 20.09.2013; Hakkari, Eziki Stream.
Meristic characters: D: II–III 7–8, A: III 12–13, P: I 13–15, V: I 6–7, GR: 7–8, LL: 47–53, L.trans. : 9–10/5–6
Distribution: Upper Great Zap River (Tigris drainage)

***Alburnus caeruleus* Heckel, 1843** (Figure 2b)
Common names: İnci balığı (Turkish)
Type locality: Kueik River (Aleppo)
Material Examined: FFR00926, 33, 34–56 mm SL, 05.07.2012; FFR00950, 33, 47–55 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR00929, 14, 40–76 mm SL, Diyarbakır, Dicle University Pool, 05.07.2012. –FFR00932, 15, 33–62 mm SL, Siirt,

Bağlıca Stream, 29.06.2012. –FFR00933, 8, 62–83 mm SL, Siirt, Eruh, Zarova Stream, 29.06.2012. –FFR00967, 11, 51–74 mm SL, Siirt, Başur Stream, 20.09.2013. –FFR04620, 2, Diyarbakır, Eğil, Eğil Dam Lake, 18.08.2010. –FFR03922, 2, 48–54 mm SL, Batman, Batman Stream, 25.09.2010.

Meristic characters: D: III 8–9, A: III 13–15, P: I 11–13, V: I 6, GR: 10–12, LL: 53–55, L.trans.: 11–12/4–5

Distribution: Tigris, Euphrates and Kueik river basins.

***Alburnus mossulensis* Heckel, 1843** (Figure 2c)

Common names: Bleak; İnci balığı (Turkish)

Type locality: Mosul (Tigris River)

Material Examined: FFR00829, 30, 80–125 mm SL, Bitlis, Tatvan, Kerp Stream, 21.09.2010. –FFR00830, 5, 60–91 mm SL, Siirt, Baykan, Başur Stream, 24.09.2010. –FFR00831, 18, 35–76 mm SL, Batman, Batman Stream, 2509.2010. –FFR00832, 13, 35–96 mm SL, Diyarbakır, Bismil, Tigris River, 25.07.2010. –FFR00833, 18, 55–74 mm SL, Batman, Kozluk, Yanarsu Stream, 25.09.2010. –FFR00834, 1, 98 mm SL, Bitlis, Tatvan, Anadere Stream, 21.09.2010. –FFR00835, 28, 48–78 mm SL, Şırnak, Uludere, Şenoba, Beyazsu Stream, 30.07.2011. –FFR00836, 18, 38–85 mm SL, 25.09.2010; FFR00930, 13, 72–110 mm SL, 05.07.2012; Diyarbakır, Yenişehir, Tigris River. –FFR00837, 12, 60–103 mm SL, Bitlis, Hizan, Külat Stream, 21.09.2010. –FFR00838, 15, 59–118 mm SL, Bitlis, Destumi Stream, 02.08.2011. –FFR00839, 7, 59–102 mm SL, Bingöl, Genç, Servi, Çay Stream, 18.09.2010. –FFR00840, 4, 53–101 mm SL, Siirt, Çarpıran Stream, 01.02.2011. –FFR00841, 10, 82–116 mm SL, 04.08.2011; FFR00981, 12, 92–128 mm SL, 19.09.2013; Bitlis, Mutki, Çıratan Stream. –FFR00842, 6, 120–162 mm SL, Siirt, Botan Stream, 30.07.2011. –FFR00844, 2, 120–143 mm SL, Batman, Suçeken, Tigris River, 02.08.2011. –FFR00845, 8, 70–120 mm SL, 07.08.2011; FFR00976, 3, 127–148 mm SL, 20.09.2013; Hakkari, Eziki Stream. –FFR00846, 3, 110–140 mm SL, 18.09.2013; FFR00928, 11, 50–143 mm SL, 05.07.2012; Diyarbakır, Silvan, Batman Stream. –FFR00847, 19, 60–88 mm SL, 25.09.2010; FFR00984, 17, 112–150 mm SL, 18.09.2013; Diyarbakır, Bismil, Salat Stream. –FFR00917, 8, 45–103 mm SL, Hakkari, Yüksekova, Zap Stream, 07.08.2011. –FFR00927, 16, 42–140 mm SL, Diyarbakır, Bismil, Salat Stream, 25.09.2010. –FFR00931, 7, 56–151 mm SL, Siirt, Bağlıca Stream, 29.06.2012. –FFR00982, 14, 45–93 mm SL, Diyarbakır, Ambar Stream, 18.09.2013.

Meristic characters: D: III 7–9, A: III 11–12, P: I 14–16, V: I 7–8, GR: 13–16, LL: 73–87, L.trans.: 14–16/5–7

Distribution: Tigris-Euphrates River system.

***Alburnus selcuklui* Elp, Şen & Özuluğ, 2015** (Figure 2d)

Common names: Selcuklu bleak; İnci balığı (Turkish)

Type locality: A branch of Botan Stream, Tigris River

Material Examined: –FFR00843, 20, 61–98 mm SL, Siirt, Bitlis Stream, 08.02.2011.

Meristic characters: D: III 7–9, A: III 11–12, P: I 14–16, V: I 7–8, GR: 13–16, LL: 73–87, L.trans.: 14–16/5–7

Distribution: Elp *et al.* (2015) described this species from a branch of Botan Stream, Tigris River basin. We examined it only from Bitlis Stream.

***Arabibarbus grypus* (Heckel, 1843)** (Figure 4e)

Common names: Mahseer; Şabut (Turkish)

Type locality: Tigris River (Mosul)

Material Examined: FFR03385, 2, 330–340 mm SL, Diyarbakır, Silvan, Batman Stream, 05.07.2012. –FFR3386, 3, 320–365 mm SL, Siirt, Botan Stream, 30.07.2011. –FFR03387, 1, 69 mm SL, Siirt, Bağlıca, Bağlıca Stream, 24.09.2010.

Meristic characters: D: IV 8, A: III 5, P: I 15–16, V: I 7–8, GR: 16, LL: 36–39, L.trans.: 5/4.

Distribution: Tigris-Euphrates river system.

Remarks: This species formerly placed under the genus *Barbus* or *Tor* by several author (e.g. Karaman, 1971; Kelle, 1978; Geldiay & Balık, 2009). But, Borkenhagen (2014) have revised this species based on molecular and morphological data and placed it under his newly described genus *Arabibarbus* Borkenhagen, 2014.

***Barbus lacerta* Heckel, 1843** (Figure 4a)

Common names: Barb; Bıyıklı balık, Bekir (Turkish)

Type locality: Kueik River (Aleppo)

Material Examined: FFR00140, 14, 72–139 mm SL, Bitlis, Mutki, Çatalsöğüt Stream, 04.08.2011. –FFR00141, 14, 85–150 mm SL, Bitlis, Hizan, Cehennem Stream, 19.07.2010. –FFR00142, 67, 75–145 mm SL, Bitlis, Aşağı Ölek Stream, 26.09.2010. –FFR00143, 25, 70–140 mm SL, Bitlis, Mutki, Çıratan Stream, 04.08.2011. –FFR00144, 10, 60–108 mm SL, Bitlis, Kuşlu Stream, 26.09.2010. –FFR00145, 23, 57–131 mm SL, Bitlis, Ilıca Stream, 26.09.2010. –FFR00146, 30, 60–156 mm SL, Bitlis, Tatvan, Anadere Stream, 21.09.2010. –FFR00147, 25, 60–154 mm SL, Bitlis, Tatvan, Kerp Stream, 21.09.2010. –FFR00148, 1, 153 mm SL, Bingöl, Genç, Servi, Çay Stream, 18.09.2010. –FFR00149, 8, 61–137 mm SL, Hakkari, Eziki Stream, 07.08.2011. –FFR00150, 8, 44–71 mm SL, Şırnak, Cudi Stream, 30.07.2011. –FFR00151, 20, 52–108 mm SL, Şırnak, Uludere, Şenoba, Beyazsu Stream, 30.07.2011. –FFR00152, 15, 61–103 mm SL, Bitlis, Hizan, Külat Stream, 21.09.2010. –FFR00153, 9, 42–107 mm SL, Bitlis, Destumi Stream, 08.02.2011. –FFR00154, 2, 66–68 mm SL, Bitlis, Mutki, Taşboğaz Stream, 04.08.2011. –FFR00155, 1, 171 mm SL, Hakkari, Yüksekova, Dilektaşı Stream, 07.08.2011. –FFR00156, 33, 71–

161 mm SL, Bitlis, Hizan, Horozdere Stream, 21.09.2010. –FFR00203, 4, 43–79 mm SL, Hakkari, Zap Stream, 07.08.2011. –FFR00236, 5, 61–90 mm SL, Diyarbakır, Bismil, Salat Stream, 05.07.2012.

Meristic characters: D: IV 8–9, A: III 5–6, P: I 14–16, V: I 6–8, GR: 6–8, LL: 62–77, L.trans.: 12–16/8–9

Distribution: Tigris, Euphrates and Kueik river basins.

Remarks: Heckel (1843) described *Barbus lacerta* from Kueik River**.** We have not found any *Barbus* specimens from Kueik River although we checked several times. Heckel (1843) reported meristic characters as 60–62 lateral line scales, 12 scale rows between dorsal-fin origin and lateral line and 7 scale rows between anal-fin origin and lateral line. We counted 60–75+1–2 lateral line scales, 12–16 scale rows between dorsal-fin origin and lateral line and 8–9 scale rows between anal-fin origin and lateral line. Besides the figure in Heckel (1843: Taf. 2) is similar to our specimens such as body color and pattern, and shape of body. We considered that *Barbus kosswigi* is synonym of *B. lacerta*.

***Barilius mesopotamicus* Berg, 1932** (Figure 3d)

Common names: Mesopotamian minnow

Type locality: Tigris River

Material Examined: FFR02290, 45, 40–65 mm SL, Diyarbakır, Silvan, Batman Stream, 05.07.2012. –FFR02291, 15, 30–40 mm SL, Diyarbakır, Dicle University Pool, 05.07.2012.

Meristic characters: D: II–III 8–9, A: II–III 11–13, P: 12–13, V: 7, GR: 8–13, LL: 48–53, L.trans.: 8–9/2–3

Distribution: Tigris-Euphrates river basin (Coad, 2010).

***Capoeta umbla* (Heckel, 1843)** (Figure 5b)

Common names: Siraz (Turkish); Sarı balık, Zeruke [=yellow fish] (local names)

Type locality: Tigris River (Mosul)

Material Examined: FFR01683, 8, 162-191 mm SL, Bitlis, Hizan, Cehennem Stream, 19.07.2010. –FFR01684, 15, 80–170 mm SL, 07.08.2011; FFR01858, 10, 108–198 mm SL, 20.09.2013; Hakkari, Eziki Stream. –FFR01685, 30, 83–120 mm SL, Bitlis, Hizan, Külat Stream, 21.09.2010. –FFR01686, 15, 37–160 mm SL, 04.08.2011; FFR01865, 4, 121–222 mm SL, 19.09.2013; Bitlis, Mutki, Çıratan Stream. –FFR01687, 30, 45–115 mm SL, 25.09.2010; FFR01802, 5, 76–110 mm SL, 05.07.2012; FFR01857, 8, 101–168 mm SL, 18.09.2013; Diyarbakır, Bismil, Salat Stream. –FFR01688, 1, 111 mm SL, Bitlis, Mutki, Taşboğaz Stream, 04.08.2011. –FFR01689, 1, 137 mm SL, Hakkari, Yüksekova, Dilektaşı Stream, 07.08.2011. –FFR01690, 2, 60–162 mm SL, Bitlis, Hizan, Horozdere Stream, 21.09.2011. –FFR01691, 10, 47–125 mm SL, Siirt, Bitlis Stream, 08.02.2011. –FFR01692, 1, 130 mm SL, 02.08.2011; FFR01706, 3, 131–213 mm SL, 09.02.2011; Batman, Suçeken, Tigris River. –FFR01695, 1, 80 mm SL, Bitlis, Hizan, Nazar Stream, 08.08.2011. –FFR01696, 5, 30–100 mm SL, Bitlis, Tatvan, Kerp Stream, 21.09.2010. –FFR01697, 8, 80–165 mm SL, Şırnak, Uludere, Şenoba, Beyazsu Stream, 30.07.2011. –FFR01698, 9, 103–170 mm SL, 08.02.2011; FFR01701, 10, 64–154 mm SL, 02.08.201; Siirt, Destumi Stream. –FFR01699, 4, 52–131 mm SL, Hakkari, Yüksekova, Zap Stream, 07.08.2011. –FFR01700, 10, 67–131 mm SL, Şırnak, Cudi Stream, 30.07.2011. –FFR01703, 15, 72–133 mm SL, Şırnak, Resor Stream, 30.07.2011. –FFR01704, 29, 100–175 mm SL, Bitlis, Ilıca Stream, 26.09.2010. –FFR01705, 11, 110–195 mm SL, Bingöl, Genç, Servi, Çay Stream, 18.08.2010. –FFR01708, 10, 91–200 mm SL, Bitlis, Mutki, Çatalsöğüt Stream, 04.08.2011. –FFR01913, 11, 55–92 mm SL, Siirt, Baykan, Çarpıran Stream, 01.02.2011. –FFR02148, 2, 55–70 mm SL, Diyarbakır, Kasımlı, Ulaşlı Stream, 25.09.2010.

Meristic characters: D: III 8–10, A: III 5, P: I 16–19, V: I 8–10, GR: 18–23, LL: 83–99, L.trans.: 16–22/10–14. 2.3.4–4.3.2

Distribution: Tigris, Euphrates and Kueik river basins.

***Capoeta trutta* (Heckel, 1843)** (Figure 5a)

Common names: Lekeli siraz balığı (Turkish); Bara, Berat, Çepiç (local names)

Type locality: Kueik River (Aleppo) and Tigris River (Mosul)

Material Examined: FFR01667, 2, 195–235 mm SL, 09.02.2011; FFR01806, 9, 170–290 mm SL, 25.04.2012; Batman, Suçeken, Tigris River. –FFR01672, 1, 138 mm SL, Batman, Batman Stream, 17.08.2010. –FFR01673, 3, 140–247 mm SL, 10.02.2011; FFR01681, 4, 175–215 mm SL, 30.07.2011; FFR01856, 1, 280 mm SL, 29.06.2012; Siirt, Botan Stream. –FFR01674, 2, 110–225 mm SL, 24.09.2010; FFR01861, 12, 121–200 mm SL, 20.09.2013; Siirt, Baykan, Başur Stream. –FFR01679, 3, 110–147 mm SL, Diyarbakır, Lice, Abalı Stream, 19.08.2010. –FFR01801, 30, 70–168 mm SL, 05.07.2012; FFR01859, 17, 142–211 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR01803, 3, 130–156 mm SL, Diyarbakır, Silvan, Batman Stream, 05.07.2012. –FFR01804, 20, 84–172 mm SL, Siirt, Bağlıca Stream, 29.06.2012. –FFR01872, 2, 105–174 mm SL, Siirt, Bitlis Stream, 21.09.2013.

Distribution: Tigris, Euphrates and Kueik rivers.

Meristic characters: D: III–IV 7–8, A: III 5, P: I 14–15, V: I 6–8, GR: 25–28, LL: 69–83, L.trans.: 14–16/8–11

***Carasobarbus kosswigi* (Ladiges, 1960)** (Figure 6a)

Common names: Kosswig's barb; Kosswig bıyıklı balığı (Turkish)

Type locality: Batman Stream, Tigris River

Material Examined: FFR00416, 17, 142–180 mm SL, 30.07.2011; FFR00417, 1, 170 mm SL,

24.09.2010; FFR00421, 4, 129–168 mm SL, 29.06.2012; Siirt, Botan Stream.
Meristic characters: D: IV 10, A: II–III 6, P: I 14–15, V: II 7–8, GR: 14–16, LL: 32–37, L.trans.: 6–7/5–6
Distribution: Tigris-Euphrates river system.

***Carasobarbus luteus* (Heckel, 1843)** (Figure 6b)
Common names: Sangal, Himri barbel; Bizir (Turkish); Devsor [=redmouth] (local name)
Type locality: Tigris River
Material Examined: FFR00405, 1, 121 mm SL, Diyarbakır, Yenişehir, Tigris River, 25.09.2010. –FFR00406, 1, 93 mm SL, Batman, Suçeken, Tigris River, 02.08.2011. –FFR00410, 6, 75–165 mm SL, 05.07.2012; FFR00420, 9, 76–185 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR00414, 5, 57–92 mm SL, Siirt, Bağlıca Stream, 29.06.2012. –FFR02147, 1, 50 mm SL, Diyarbakır, Bismil, Tigris River, 25.07.2010.
Meristic characters: D: IV 10–11, A: III 5, P: I 14–15, V: I 7, GR: 15–16, LL: 28–30, L.trans.: 5/4
Distribution: Tigris, Euphrates and Kueik river basins.
Remarks: Heckel (1843) described *Carasobarbus luteus* under the name of *Systomus luteus* and listed its type localities as Orontes, Tigris, Aleppo and Mosul. Borkenhagen & Krupp (2013) claimed that Heckel (1843) maybe confused the rivers. Later, they designated a lectotype and fixed the type locality of this species as Tigris near Mosul.

***Carassius gibelio* (Bloch, 1782)** (Figure 3b)
Common names: Prussian carp; Havuz balığı (Turkish)
Type locality: Asia
Material Examined: FFR02201, 1, 120 mm SL, Batman, Suçeken, Tigris River, 09.02.2011. –FFR2203, 5, 130–150 mm SL, 17.09.2010; FFR02205, 2, 110–130 mm SL, 25.09.2010; Diyarbakır, Yenişehir, Tigris River. –FFR02204, 4, 90–140 mm SL, Batman, Batman Stream, 09.02.2011. –FFR02206, 2, 100–119 mm SL, 18.09.2010; FFR02214, 2, 105–143 mm SL, 05.07.2012; Diyarbakır, Silvan, Batman Stream. –FFR02212, 25, 80–110 mm SL, 05.07.2012; FFR02218, 7, 125–156 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR02213, 15, 110–132 mm SL, Diyarbakır, Bismil, Salat Stream, 05.07.2012. –FFR02147, 2, 66–90 mm SL, Diyarbakır, Bismil, Tigris River, 25.07.2010.
Meristic characters: D:III 15–17, A: II–III 5, P: I 13–16, V: I–II 7–8, GR: 32–52, LL: 29–32, L.trans.: 6–7/5–7
Distribution: Widespread in Europe and Asia

***Chondrostoma regium* (Heckel, 1843)** (Figure 5c)
Common names: Nase, brond-snout; Kababurun (Turkish); Zul (local name)
Type locality: Tigris River (Mosul)
Material Examined: FFR02001, 2, 175–220 mm SL, 30.07.2011; FFR02016, 24, 160–205 mm SL, 30.07.2011; Siirt, Botan Stream. –FFR02013, 1, 180 mm SL, 09.02.2011; FFR02014, 2, 140–160 mm SL, 02.08.2011; Batman, Suçeken, Tigris River.
Meristic characters: D: III 8–10, A: III 10–12, P: I 14–17, V: I 8, GR: 21–26, LL: 63–72, L.trans.: 10–12/5–6
Distribution: Tigris-Euphrates river system.

***Cyprinion kais* Heckel, 1843** (Figure 6c)
Common names: Smallmouth lotak
Type locality: Kueik River (Aleppo), Tigris River (Mosul)
Material Examined: FFR02111, 1, 96 mm SL, Siirt, Zarova, Stream, 24.09.2011. –FFR02121, 1, 190 mm SL, 30.07.2011; FFR02122, 8, 65–130 mm SL, 24.09.2010; Siirt, Botan Stream. –FFR02123, 10, 70–170 mm SL, 18.08.2010; FFR02129, 15, 35–119 mm SL 05.07.2012; Diyarbakır, Silvan, Batman Stream. –FFR02124, 2, 120–130 mm SL, Batman, Batman Stream, 17.08.2010. –FFR02125, 1, 90 mm SL Siirt, Kezer Stream, 02.08.2011. –FFR02126, 5, 55–102 mm SL, Siirt, Bağlıca, Bağlıca Stream, 24.09.2010. –FFR02127, 3, 80–100 mm SL Siirt, Baykan, Başur Stream, 24.09.2010. –FFR02136, 5, 50–91 mm SL, Diyarbakır, Ambar Stream, 18.09.2013. –FFR02147, 3, 80–90 mm SL, Diyarbakır, Bismil, Tigris River, 25.07.2010.
Meristic characters: D: IV 13–15, A: III 7, P: I 13–15, V: I 7–8, GR: 9–12, LL: 40–43, L.trans.: 7–8/5–7
Distribution: Tigris, Euphrates and Kueik river basins.

***Cyprinion macrostomum* Heckel, 1843** (Figure 6d)
Common names: Large mouth lotak; Beni balığı (Turkish); Karagöz (local name)
Type locality: Kueik River (Aleppo), Tigris River (Mosul)
Material Examined: FFR02101, 14, 96–134 mm SL, Diyarbakır, Abalı Stream, 19.08.2010. –FFR02102, 15, 110–130 mm SL, Bingöl, Genç, Servi, Çay Stream, 18.09.2010. –FFR02103, 3, 190–200 mm SL, Siirt, Botan Stream, 30.07.2011. –FFR02107, 15, 55–85 mm SL. 25.09.2010; FFR02114, 3, 100–135 mm SL, 18.08.2010; FFR02137, 2, 132–161 mm SL. 18.09.2013; Diyarbakır, Bismil, Salat Stream. –FFR02108, 10, 80–140 mm SL, 17.08.2010; FFR02118, 15, 60–75 mm SL, 25.09.2010; Batman, Batman Stream. –FFR02109, 3, 60–120 mm SL. Siirt, Kezer Stream, 02.08.2011. –FFR02110, 10, 90–120 mm SL, Siirt, Botan Stream, 24.09.2010. –FFR02112, 10, 80–125 mm SL, Siirt, Zarova, Stream, 24.09.2010. –FFR02113, 20, 58–93 mm SL, Siirt, Baykan, Başur Stream, 24.09.2010. –FFR02115, 3, 90–130 mm SL, Batman, Suçeken, Tigris River, 02.08.2011. –FFR02116, 3, 75–140 mm SL, Diyarbakır, Yenişehir, Tigris River, 25.09.2010. –FFR02119, 29, 30–45 mm SL, 24.09.2010; FFR02131, 6, 50–103 mm SL, 29.06.2012; Siirt, Bağlıca, Bağlıca Stream. –FFR02128, 9, 50–96 mm

SL, 05.07.2012; FFR02135, 7, 50–118 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR02130, 5, 60–88 mm SL, Diyarbakır, Dicle University Pool, 05.07.2012. –FFR02148, 27, 30–50 mm SL, Diyarbakır, Kasımlı, Ulaşlı Stream, 25.09.2010.

Meristic characters: D:IV 13–16, A: III 6–7, P: I 14–16, V: I 8, GR: 13–17, LL: 41–45, L.trans.: 7–8/5–6

Distribution: Tigris, Euphrates, Orontes and Kueik river basins.

Remarks: *Cyprinion macrostomum* is distinguished from *C. kais* by having lateral lobes on lower lip (vs. absent) (Figure 6c, d), wider mouth (8.7–11.3% SL, vs. 5–8.8) and wider interorbital distance (40–45% HL, vs. 33–39).

***Cyprinus carpio* Linnaeus, 1758** (Figure 3a)

Common names: Common carp; Adi sazan (Turkish); Sazan (local name)

Type locality: Europe

Material Examined: FFR02747, 1, 134 mm SL, Diyarbakır, Silvan, Batman Stream, 09.02.2011. –FFR02748, 1, 122 mm SL, Batman, Suçeken, Tigris River, 09.02.2011.

Meristic characters: D:III–IV 19, A: III 5, P: I 14–16, V: I 7, GR: 27, LL: 37, L.trans.: 6/5–6

Distribution: Naturally in rivers draining to the Black, Caspian and Aral Sea but introduced throughout the world (Kottelat & Freyhof, 2007)

***Garra rufa* (Heckel, 1843)** (Figure 6e)

Common names: Yağlı balık, Gurik or Herver (local names)

Type locality: Kueik River (Aleppo)

Material Examined: FFR01272, 2, 46–53 mm SL, Bitlis, Hizan, Nazar Stream, 08.08.2011. –FFR01273, 6, 50–109 mm SL, Bitlis, Mutki, Taşboğaz Stream, 04.08.2011. –FFR01274, 3, 61–80 mm SL, 08.08.2011; FFR01348, 17, 74–109 mm SL, 21.09.2013; Siirt, Bitlis Stream. –FFR01275, 3, 73–86 mm SL, Hakkari, Eziki Stream, 07.08.2011. –FFR01276, 12, 70–90 mm SL, 08.02.2011; –FFR01277, 15, 51–97 mm SL, 08.02.2011; Siirt, Destumi Stream, 02.08.2011. –FFR01278, 5, 53–90 mm SL, Diyarbakır, Lice, Abalı Stream, 19.08.2010. –FFR01279, 6, 97–121 mm SL, 18.08.2010; FFR01312, 5, 60–75 mm SL, 05.07.2012; FFR01339, 19, 70–122 mm SL, 18.09.2013; Diyarbakır, Silvan, Batman Stream. –FFR01280, 21, 41–106 mm SL, Siirt, Zarova, Stream, 24.09.2011. –FFR01281, 23, 61–92 Bingöl, Genç, Servi, Çay Stream, 18.09.2010. –FFR01283, 13, 34–128 mm SL, Siirt, Kezer Stream, 02.08.2011. –FFR01284, 35, 45–130 mm SL, Diyarbakır, Yenişehir, Tigris River, 25.09.2010. –FFR01285, 39, 66–133 mm SL, 24.09.2010; –FFR01326, 6, 130–160 mm SL, 10.08.2012; Siirt, Botan Stream. –FFR01286, 40, 45–100 mm SL, 24.09.2010; –FFR01237, 26, 68–122 mm SL, 20.09.2013; Siirt, Baykan, Başur Stream. –FFR01289, 30, 48–75 mm SL, Batman, Kozluk, Yanarsu Stream, 25.09.2010. –FFR01290, 30, 50–95 mm SL, 24.09.2010; FFR01314, 30, 60–96 mm SL, 26.09.2012; Siirt, Bağlıca, Bağlıca Stream. –FFR01291, 30, 60–100 mm SL, 25.09.2010; FFR01303, 20, 100–150 mm SL, 17.09.2010; Batman, Batman Stream. –FFR01294, 73, 40–80 mm SL, 25.09.2010; FFR01310, 10, 50–75 mm SL, 05.07.2012; FFR01338, 12, 70–124 mm SL, 18.09.2013; Diyarbakır, Bismil, Salat Stream. –FFR01302, 10, 93–117 mm SL, 04.08.2011; FFR01344, 28, 69–139 mm SL, 19.09.2013; Bitlis, Mutki, Çıratan Stream. –FFR01307, 3, 85–110 mm SL, Bitlis, Ilıca Stream, 26.09.2010. –FFR01308, 15, 50–70 mm SL, 05.07.2012; –FFR01336, 38, 68–106 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR01913, 1, 78 mm SL, Siirt, Baykan, Çarpıran Stream, 01.02.2011.

Meristic characters: D: III 7–9, A: II–III 5, P: I 11–13, V: I 7–8, GR: 23–29, LL: 34–38, L.trans.: 4–5/4–5

Distribution: Tigris and Euphrates river basins.

Remarks: Type locality of *Garra rufa* is Kueik River. We checked several times Kueik River and could not find any specimens of *G. rufa*. Most probably its Kueik population was extincted. Recently, Hamidan *et al.* (2014) evaluated Tigris-Euphrates populations as *G. rufa*, after the comparison of *Garra rufa* and *G. obtusa* with specimens obtained Orontes and Tigris-Euphrates rivers.

***Garra variabilis* (Heckel, 1843)** (Figure 6f)

Common names: Yapışkan balık or Gurik (local names)

Type locality: Tigris River (Mosul), Kueik River (Aleppo)

Material Examined: FFR01282, 23, 52–80 mm SL, Diyarbakır, Kasımlı, Ulaşlı Stream, 25.09.2010. –FFR01288, 83, 40–105 mm SL, Diyarbakır, Bismil, Tigris River, 25.07.2010. –FFR01309, 9, 80–120 mm SL, 05.07.2012; FFR01342, 1, 130 mm SL, 18.09.2013; Diyarbakır, Ambar Stream. –FFR01311, 10, 60–90 mm SL, 05.07.2012; FFR01345, 17, 58–131 mm SL, 18.09.20113; Diyarbakır, Bismil, Salat Stream.

Meristic characters: D: II 6–7, A: II–III 5, P: I 11–13, V: I 6–7, GR: 20–26, LL: 34–37, L.trans.: 4–5/4–5

Distribution: Tigris, Euphrates Orontes and Kueik river basins (Coad, 2010)

***Luciobarbus esocinus* Heckel, 1843** (Figure 4d)

Common names: Pike barbel (Fricke *et al.*, 2007); cero, manger (local names)

Type locality: Tigris River (Mosul).

Material Examined: FFR00356, 1, 176 mm SL, Tigris River, Şırnak, 25.04.2009.

Meristic characters: D: III 8, A: III 5, P: I 17, V: I 8, GR: 10, LL: 73, L.trans.: 12/8

Distribution: This species is found in the Tigris-Euphrates basin including its Iranian portion and the

adjacent northern Gulf In Iraq found in the southern marshes, in such rivers as the Tigris, Euphrates, Great and Little Zab and Diyala, in lakes such as Habbaniyah, Tharthar and Razzazah, in Al Faw Palace ponds at Baghdad, and reservoirs such as the Dukan and Derbendikhan dams and the Al Qadisiyah Dam Lake on the Euphrates River (Coad, 2010).

***Luciobarbus mystaceus* (Pallas, 1814)** (Figure 4b)
Common names: Sirink (local name)
Type locality: Tigris River (Mosul)
Material Examined: FFR00315, 5, 178–295 mm SL, 09.02.2011; FFR00333, 6, 262–315 mm SL, 25.04.2012; Batman, Suçeken, Tigris River. –FFR00316, 2, 250–273 mm SL, 10.02.2011; FFR00317, 3, 133–243 mm SL, 30.07.2011; FFR00320, 1, 147 mm SL, 24.09.2010; FFR00335, 13, 150–312 mm SL, 29.06.2012; Siirt, Botan Stream. –FFR00332, 1, 155 mm SL, Diyarbakır, Ambar Stream, 05.07.2012. –FFR00338, 7, 95–185 mm SL, Siirt, Başur Stream, 20.09.2013. –FFR00339, 1, 183 mm SL, Siirt, Bitlis Stream, 21.09.2013. –FFR00341, 1, 138 mm SL, Diyarbakır, Silvan, Batman Stream, 18.09.2013.
Meristic characters: D: IV 8–9, A: III 5, P: I 16–19, V: I 7–8, GR: 16–23, LL: 52–57, L.trans.: 9–11/7–8
Distribution: Tigris-Euphrates river system.

***Luciobarbus subquincunciatus* (Günther, 1868)** (Figure 4c)
Common names: Leopard barbel; Leopar sazanı (Turkish); Komando balığı (local name)
Type locality: Mesopotamia.
Material Examined: FFR00336, 1, 510 mm SL, Siirt, Botan Stream, 29.06.2012.
Meristic characters: D: III 8, A: III 5, P: I 18, V: I 7, GR: 12, LL: 77, L.trans.: 17/11
Distribution: Tigris-Euphrates river system.

***Squalius lepidus* Heckel, 1843** (Figure 5d)
Common names: Tigris dace; Akbalık (Turkish)
Type locality: Tigris River (Mosul)
Material Examined: FFR00625, 2, 212–240 mm SL, 10.02.2011; FFR00626, 4, 161–233 mm SL, 30.07.2011; FFR00694, 1, 172 mm SL, 29.06.2012; Siirt, Botan Stream. –FFR00627, 1, 186 mm SL, Siirt, Zarova, Stream, 24.09.2011. –FFR00649, 8, 118–244 mm SL, Siirt, Kezer Stream, 20.09.2013. –FFR06218, 1, 119 mm SL, Diyarbakır, Ambar Stream, 18.09.2013. –FFR02589, 1, 98 mm SL; Batman, Kozluk, Yanarsu Stream, 25.09.2010.
Meristic characters: D: III 8, P: I 16–18, V: II 7–8, A: III 9–10, GR: 10–12, LL: 47–51, L.trans.: 8/4–5
Distribution: Tigris and Euphrates basins. Çiçek *et al.* (2015) also reported this species from Orontes River. Apparently they had a confusion when define distribution areas of *S. lepidus* and *S. kottelati*. They reported both species from Orontes, Tigris and Euphrates rivers, although Turan *et al.* (2009) clearly demonstrated distribution of *S. lepidus* from Tigris-Euphrates rivers and *S. kottelati* from Orontes, Ceyhan and Seyhan rivers.

***Squalius* sp.** (Figure 5e)
Common names: Chub; Tatlısu kefali (Turkish)
Type locality: –
Material Examined: FFR00628, 52, 45-120 mm SL, 09.02.2011; FFR00679, 15, 65–98 mm SL, 05.07.2012; FFR00751, 13, 86–138 mm SL, 18.09.2013; Diyarbakır, Silvan, Batman Stream. –FFR00630, 4, 80–103 mm SL, 25.09.2010; FFR00678, 16, 32–158 mm SL, 05.07.2012; FFR00748, 11, 117–166 mm SL, 18.09.2013; Diyarbakır, Bismil, Salat Stream. –FFR00677, 8, 110–141 mm SL, Diyarbakır, Ambar Stream, 05.07.2012.
Meristic characters: D: III 8, P: I 12–15, V: I 7–8, A: III 7–8, GR: 10–12, LL: 42–44, L.trans.: 7–8/3–4
Distribution: Tigris River
Remarks: This is an unnamed species, distinguished from *Squalius berak* (Type locality is Kueik River) by a shorter head (26–29% SL, vs. 29-31) and a deeper snout (34–40% HL, vs. 26–29).

Family: NEMACHEILIDAE

***Oxynoemacheilus bergianus* (Derjavin, 1934)** (Figure 7a)
Common names: Loach; Çöpçü balığı (Turkish)
Type locality: Shah-Rud River, Safid Rud basin, Iran.
Material Examined: FFR01414, 13, 36-50 mm SL, 07.08.2011; FFR01462, 4, 70-77 mm SL, 20.09.2013, Hakkari, Eziki Stream. –FFR01413, 5, 63-81 mm SL, Hakkari, Yüksekova, Zap Stream, 07.08.2011.
Meristic characters: D: III 7–9, P: 10, V: 6–7, A: III 5
Distribution: Iran and Turkey

***Oxynoemacheilus chomanicus* Kamangar, Prokofiev, Ghaderi & Nalbant, 2014** (Figure 7b)
Common names: Loach; çöpçü balığı (Turkish)
Type locality: Baneh River (Tigris drainage), Baneh, Kurdistan, Iran
Material Examined: FFR01402, 3, 64-7 mm SL, Bitlis, Hizan, Külat Stream, 21.09.2010. –FFR01403, 7, 63-71 mm SL, Bitlis, Tatvan, Kerp Stream, 21.09.2010. –FFR01401, 2, 68–70 mm SL, Bitlis, Tatvan, Anadere Stream, 21.09.2010. –FFR01405, 8, 46–55 mm SL, Şırnak, Uludere, Beyazsu Stream, 30.07.2011. –FFR01412, 10, 32–57 mm SL, Şırnak, Cudi Stream, 30.07.2011.
Meristic characters: D: III 8–9, P: 10–12, V: 6–7, A: II 5
Distribution: Tigris River (Turkey and Iran)
Remarks: This species is a new record for the Turkish inland waters. It has recently been described in Baneh River in Iran.

***Oxynoemacheilus frenatus* (Heckel, 1843)** (Figure 7d)
Common names: Loach; Çöpçü balığı (Turkish)

Type locality: Tigris River
Material Examined: FFR01453, 2, 54-58 mm SL, Diyarbakır, Silvan, Batman Stream, 18.09.2013.
Meristic characters: D: III 8–9, P: 10–12, V: 6–7, A: II 5
Distribution: Tigris River drainages

***Oxynoemacheilus kurdistanicus* Kamangar, Prokofiev, Ghaderi & Nalbant, 2014** (Figure 7c)
Common names: Loach; Çöpçü balığı (Turkish)
Type locality: Choman River (Tigris drainage), Baneh, Kurdistan, Iran
Material Examined: FFR01409, 5, 62–70 mm SL, Bingöl, Genç, Servi, Çay Stream, 10.09.2010. –FFR01473, 45, 61–72 mm SL, 19.09.2013; FFR01416, 44, 55–74 mm SL, Bitlis, Mutki, Çıratan Stream, 04.08.2011. –FFR01472, 20, 45–70 mm SL, Diyarbakır, Silvan, Batman Stream, 18.09.2013. –FFR01407, 2, 55–60 mm SL, Diyarbakır, Yenişehir, Tigris River, 25.09.2010.
Meristic characters: D: III 9–10, P: 9–11, V: 6–7, A: II 5
Distribution: Tigris River (Turkey and Iran)
Remarks: This species is a new record for the Turkish inland waters. It has been recently described in Choman River in Iran.

***Paracobitis zabgawraensis* Freyhof, Esmaeili, Sayyadzadeh & Geiger, 2014** (Figure 7e)
Common names: -
Type locality: Chami Rean River near Ziraran, Iraq (Tigris River)
Material Examined: FFR03650, 3, 52–66 mm SL, Siirt, Destumi Stream, 02.08.2011. –FFR03651, 7, 56–70 mm SL, 04.08.2011; FFR03654, 6, 50–70 mm SL, 19.09.2013; Bitlis, Mutki, Çıratan Stream. –FFR03652, 2, 62–77 mm SL, 07.08.2011; FFR03653, 3, 66–85 mm SL, 20.09.2013; Hakkari, Eziki Stream.
Meristic characters: D: III 6–7, P: 8–9, V: 6–7, A: II 4–5
Distribution: Tigris River drainages (Iraq and Turkey).
Remarks: This species reported as *Paracobitis malapterura* by earlier authors (e.g. Kelle, 1978; Geldiay & Balık, 2009). Freyhof *et al.* (2014) described *Paracobitis zabgawraensis* from Great Zab River in northtern Iraq and reported it also from Habour in border of Turkey. We identified our specimens from Destumi, Çıratan and Eziki streams as *Paracobitis zabgawraensis*.

***Turcinoemacheilus kosswigi* Banarescu & Nalbant, 1964** (Figure 7f)
Common names: Kosswig's loach; Çöpçü balığı (Turkish) (Fricke *et al.*, 2007**)**
Type locality: Tigris River (Hakkari Province)
Material Examined: FFR03600, 1, 66 mm SL, Hakkari, Yüksekova, Dilektaşı Stream, 07.08.2011. –FFR03601, 3, 53–58 mm SL, Hakkari, Eziki Stream, 07.08.2011. –FFR03602, 2, 55–58 mm SL, Bitlis, Hizan, Nazar Stream, 08.08.2011. –FFR03603, 7, 52–58 mm SL Bitlis, Mutki, Çıratan Stream, 04.08.2011. –FFR03604, 1, 50 mm SL, Siirt, Destumi Stream, 02.08.2011.
Meristic characters: D: III 6–7, P: 8–9, V: 6–7, A: II 4–5
Distribution: Tigris River drainages. Formerly, it was reported from Euphrates River by Breil & Bohlen (2001) but recently, Esmaeili *et al.* (2014) described three new species from Turkey and Iran, and placed Euphrates populations as *Turcinoemacheilus minimus*.

Family: SISORIDAE
***Glyptothorax armeniacus* (Berg, 1918)** (Figure 8d)
Common names: Armenian mountain cat; iğneli küçük yayın balığı (Turkish); papaz balığı (local name)
Type locality: Euphrates River (Çat, Erzurum)
Material Examined: FFR03901, 5, 55-86 mm SL, Bitlis, Tatvan, Anadere Stream, 21.09.2010. –FFR03902, 1, 103 mm SL, Bitlis, Mutki, Taşboğaz Stream, 04.08.2011. –FFR03903, 1, 76 mm SL, Bitlis, Hizan, Külat Stream, 21.09.2010. –FFR03904, 7, 71–92 mm SL, Hakkari, Eziki Stream, 07.08.2011. –FFR03905, 8, 70–110 mm SL, Hakkari, Yüksekova, Dilektaşı Stream, 07.08.2011. –FFR03907, 5, 71–110 mm SL, 04.08.2011; FFR03920, 3, 75–100 mm SL, 19.09.2013; Bitlis, Mutki, Çıratan Stream. –FFR03908, 2, 90–107 mm SL, Bitlis, Ilıca Stream, 26.09.2010. –FFR03921, 1, 65 mm SL, Bitlis, Hizan, Nazar Stream, 04.08.2011. –FFR03922, 2, 55–58 mm SL, Batman, Batman Stream, 25.09.2010.
Meristic characters: D: II 6–7, A: III 6–7, P: I 7–8, V: I 5
Distribution: Tigris-Euphrates river system
Remarks: We determined two species of the genus *Glyptothorax* in upper Tigris River drainages. They are distinguished from each other by the shape of the adhesive apparatus. *Glyptothorax armeniacus* have a longer and narrower adhesive apparatus, whereas *G. kurdistanicus* have a wider and shorter one (Figure 8d, e).
***Glyptothorax kurdistanicus* (Berg, 1931)** (Figure 8e)
Common names: Kordestan sisorid (Coad, 2014); Vantuzlu yayın balığı (Turkish)
Type locality: Tigris River
Material Examined: FFR03906, 2, 75–122 mm SL, Bitlis, Mutki, Çıratan Stream, 04.08.2011. –FFR03909, 1, 62 mm SL, Siirt, Bağlıca Stream, 24.09.2010. –FFR03910, 1, 76 mm SL, Diyarbakır, Lice, Abalı Stream, 19.08.2010. –FFR03916, 5, 84–120 mm SL, Hakkari, Eziki Stream, 20.09.2013. –FFR03919, 2, 207–244 mm SL, Siirt, Botan River, 29.06.2012. –FFR03921, 1, 80 mm SL, Bitlis, Hizan, Nazar Stream, 04.08.2011.

Meristic characters: D: II 6, A: III 6–8, P: I 7–8, V: I 5
Distribution: Tigris-Euphrates river system.

Family: SILURIDAE

***Silurus triostegus* Heckel, 1843** (Figure 8c)

Common names: Mesopotamian catfish; Yayın (Turkish)

Type locality: Tigris River (Mosul)

Material Examined: FFR02700, 13, 374–523 mm SL, Diyarbakır, Bismil, Tigris River, 25.07.2010.

Meristic characters: D: I 3–4, A: I 79–91, P: I 11–14, V: 9–10

Distribution: Tigris-Euphrates river system.

Family: HETEROPNEUSTIDAE

***Heteropneustes fossilis* (Bloch, 1794)** (Figure 8a)

Common names: Stinging catfish

Type locality: Tranquebar, India

Material Examined: FFR06870, 1, 220 mm SL, Diyarbakır, Tigris River, 22.06.2006.

Meristic characters: D: I 4, A: I 54, P: I 4, V: I 5

Distribution: Southern Asia; Pakistan, India, Sri Lanka, Bhutan, Nepal, Bangladesh, Myanmar, Thailand and Laos. Also introduced to Iran and Iraq (Eschmeyer and Fricke, 2015). It was reported from upper Tigris River near Diyarbakır, Turkey (Ünlü *et al.* 2011). Recently, Ali *et al.* (2015) reported this species from Al-Khabur River, Al-Hasaka (Syria).

Family: BAGRIDAE

***Mystus pelusius* (Solander, 1794)** (Figure 8b)

Common names: Tigris mystus (Fricke *et al.* 2007); Pisi balığı (local name)

Type locality: Kowick (=Kueik) River (Aleppo)

Material Examined: FFR02730, 1, 177 mm SL, Diyarbakır, Silvan, Batman Stream, 09.02.2011. –FFR02731, 1, 100 mm SL, Siirt, Botan River, 24.09.2010.

Meristic characters: D: II 7, A: II 9, P: I 7, V: I 5

Distribution: Tigris, Euphrates, Kueik and Orontes Rivers (Coad, 2014)

Family: SALMONIDAE

***Oncorhynchus mykiss* (Walbaum, 1792)** (Figure 9c)

Common names: Rainbow trout; Gökkuşağı alabalığı (Turkish)

Type locality: Kamchatka Peninsula (Russia)

Material Examined: FFR03250, 14, 130–150 mm SL, Bitlis, Şetek Stream, 26.09.2010. –FFR03251, 1, 165 mm SL, Van, Çatak, Çatak Stream, 10.07.2011.

Meristic characters: D: III–IV 9–10, A: III 7–8, P: I 11–12, V: I 8, LL: 139–147, L.trans.: 28–32/19–22

Distribution: Native to Pacific Slope from Kuskokwim River, Alaska to Rio Santa Domingo, Baja California (Mexico); upper Mackenzie River drainage (Arctic basin), Alberta and British Columbia (Canada) and endorheic basins of southern Oregon, USA. But widely introduced in cold waters elsewhere in North America and rest of the world especially for farming (Page & Burr, 1991).

***Salmo tigridis* Turan, Kottelat & Bektaş, 2011** (Figure 9b)

Common names: Tigris trout; Dicle alabalığı (Turkish)

Type locality: Çatak Stream, drainage of Tigris River (Van Province)

Material Examined: FFR03139, 6, 90–156 mm SL, Van, Çatak, Çatak Stream, 10.07.2011.

Meristic characters: D:III–IV 9–10, A: III 7–8, P: I 11–12, V: I 8, GR: 17–19, LL: 109–116, L.trans.: 32–35/19–22

Distribution: Çatak and Müküs streams, Tigris River

Family: MUGILIDAE

***Planiliza abu* (Heckel, 1843)** (Figure 9d)

Common names: Abu mullet; Kefal balığı or Sahnik (local names)

Type locality: Tigris River (Mosul)

Material Examined: FFR02580, 5, 100–140 mm SL, 24.09.2010; FFR02582, 1, 109 mm SL, 29.06.2012; Siirt, Bağlıca, Bağlıca Stream. –FFR02584, 2, 113–138 mm SL; Diyarbakır, Ambar Stream, 18.09.2013. –FFR02589, 1, 110 mm SL; Batman, Kozluk, Yanarsu Stream, 25.09.2010.

Meristic characters: D_1:IV, D_2: I–II 7–8, A: III 7–9, P: II 12–14, V: I 5–6, Sq: 49–52

Distribution: Tigris, Euphrates, Kueik, Orontes and Ceyhan rivers.

Remarks: This species formerly placed in the genus *Liza* but Durand *et al.* (2012) placed it in the genus *Planiliza*.

Family: POECILIDAE

***Gambusia halbrooki* Girard, 1859 (**Figure 9e**)**

Common names: Eastern mosquitofish; Sivrisinek balığı (Turkish)

Type locality: Rio Medina and Rio Salado (San Antonio River drainages), Texas, U.S.A

Material Examined: FFR02499, 24, 20-30 m SL, Ponds in the Dicle University Campus, 13.11.2015.

Meristic characters: D: I 5-6, A: I 6–7, P: I 10–14, V: I 5–6, Sq: 30–32

Distribution: The natural distribution is from New Jersey southward to northern Mexico but it has been introduced to all continents except Antarctica (Coad, 2010).

Family: MASTACEMBELIDAE

***Mastacembelus mastacembelus* (Banks and Solander, 1794) (**Figure 9a**)**

Common names: Spiny eel, Dikenli yılan balığı (Turkish), Marmasi (local name)

Type locality: Kueik River **(**Aleppo)

Material Examined: FFR02330, 2, 230–300 mm SL, Siirt, Botan Stream, 24.09.2010. –FFR02332, 7, 145–158 mm SL, 24.09.2010; FFR02336, 10, 168–280 mm SL 29.06.2012; Siirt, Bağlıca, Bağlıca Stream. –FFR02333, 4, 138–160 mm SL, Siirt, Baykan, Başur Stream, 24.09.2010; FFR02340, 5, 270–298 mm SL, 20.09.2013. –FFR02334, 4, 253–395 mm SL, 24.09.2010; FFR02337, 5, 225–295 mm SL, 29.06.2012; Siirt, Zarova Stream. –FFR02342, 1, 250

mm SL, Diyarbakır, Ambar Stream, 18.09.2013.
Meristic characters: D: XXXII–XXXIII 67–81, A: II–III 70–82, P: 17–19
Distribution: Tigris, Euphrates and Kueik rivers.

Discussion

During the study, 5 exotic and 35 native fish species have been identified from upper Tigris River. Five exotic species collected from a few sampling sites (*Cyprinus carpio* [station 24, 26, 31], *Carassius gibelio* [station 24, 25, 26, 29, 31, 33], *Heteropneustes fossilis* [station 31,43], *Oncorhynchus mykiss* [station 1, 12, 26] and *Gambusia holbrooki* [station 34, 43]). Those of 27 species (Table 1) were described from Tigris River. The others were described from adjacent basin (e. g. Euphrates and Kueik rivers). Cyprinidae with 24 species (60% of all

Figure 2. Some Cyprinid species collected in sampling sites. **a**, *Acanthobrama marmid* 102 mm SL; **b**, *Alburnus caeruleus*, 101 mm SL; **c**, *Alburnus mossulensis*, 82 mm SL; **d**, *Alburnus selcuklui*, 100 mm SL.

Figure 3. Some Cyprinid species collected in sampling sites.**a**, *Cyprinus carpio* 134 mm SL; **b**, *Carassius gibelio*, 119 mm SL; **c**, *Alburnoides diclensis*, 69 mm SL; **d**, *Barilius mesopotanicus*, 65 mm SL.

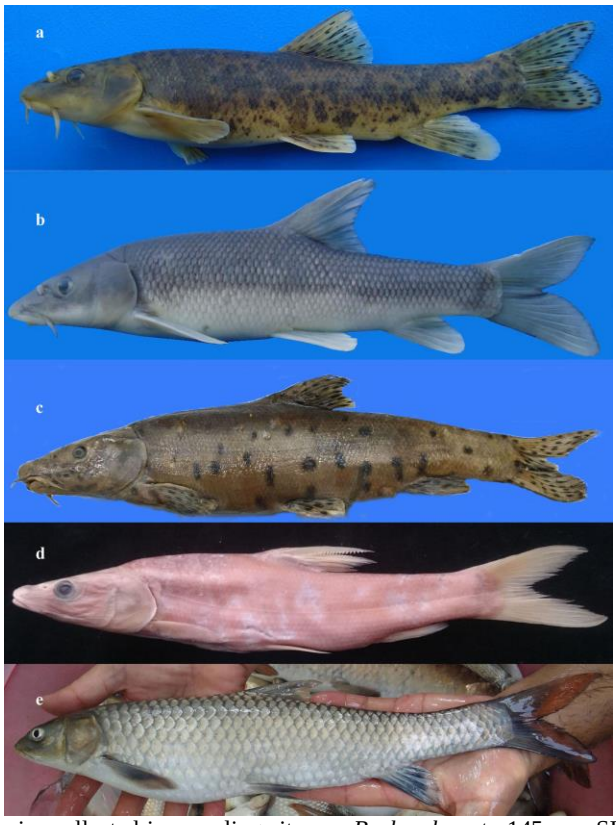

Figure 4. Some Cyprinid species collected in sampling sites. **a**, *Barbus lacerta* 145 mm SL; **b**, *Luciobarbus mystaceus*, 280 mm SL; **c**, *Luciobarbus subquincunciatus*, 183 mm SL; **d**, *Luciobarbus esocinus*, 176 mm SL; **e**, *Arabibarbus grypus*, 365 mm SL.

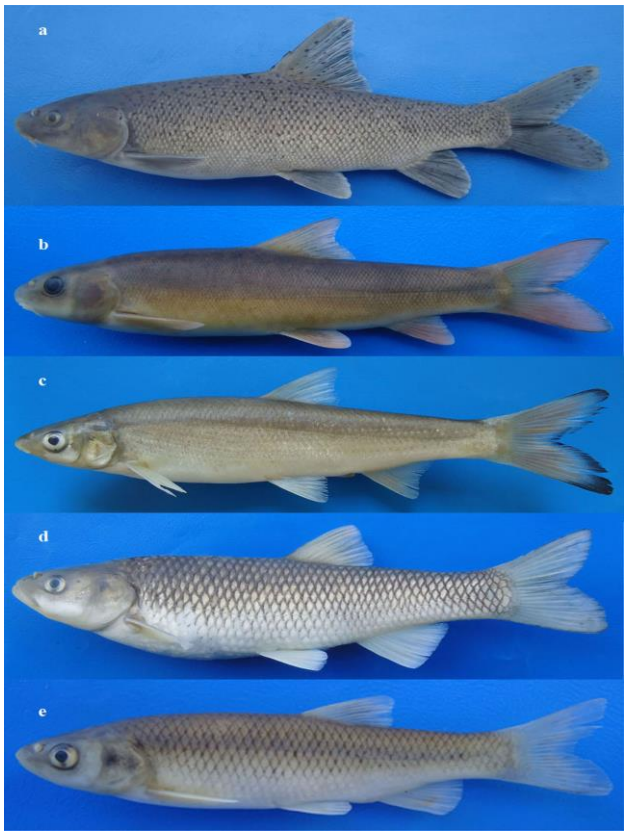

Figure 5. Some Cyprinid species collected in sampling sites. **a**, *Capoeta trutta* 173 mm SL; **b**, *Capoeta umbla*, 117 mm SL; **c**, *Chondrostoma regium*, 183 mm SL; **d**, *Squalius lepidus*, 214 mm SL; **e**, *Squalius* sp., 96 mm SL

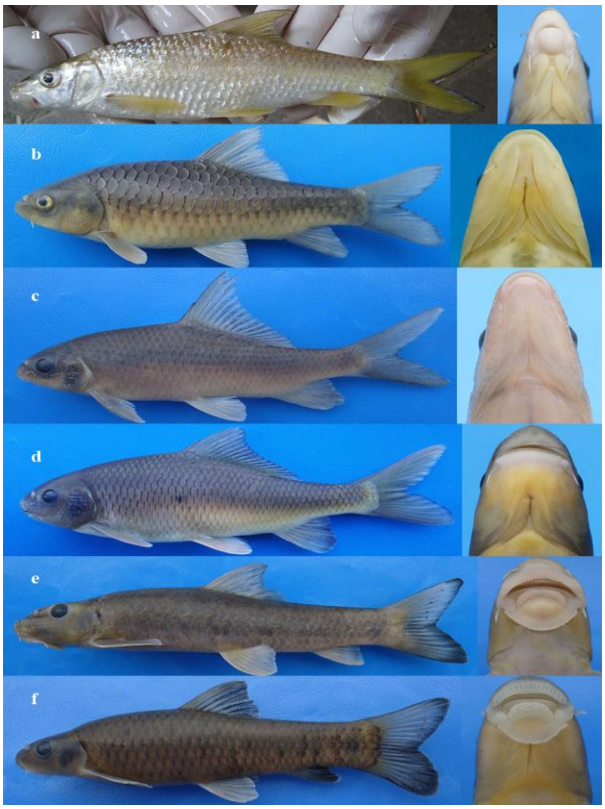

Figure 6. Some Cyprinid species collected in sampling sites. a, *Carasobarbus kosswigi*, 145 mm SL; b, *Carasobarbus luteus*, 121 mm SL; c, *Cyprinion kais*, 124 mm SL; d, *Cyprinion macrostomum*, 134 mm SL; e, *Garra rufa*, 146 mm SL; f, *Garra variabilis*, 95 mm SL.

Figure 7. Nemacheilid species collected in sampling sites. a, *Oxynoemacheilus bergianus*, 81 mm SL; b, *Oxynoemacheilus chomanicus*, 69 mm SL; c, *Oxynoemacheilus kurdistanicus*, 71 mm SL; d, *Oxynoemacheilus frenata*, 60 mm SL; e, *Paracobitis zabgawraensis*, 69 mm SL; f, *Turcinoemacheilus kosswigi*, 56 mm SL

Figure 8. Siluriformes species collected in sampling sites. **a**, *Heteropneustes fossilis* 220 mm SL; **b**, *Mystus pelusius*, 177 mm SL; **c**, *Silurus triostegus*, 485 mm SL; **d**, *Glyptothorax armeniacus*, 130 mm SL; **e**, *Glyptothorax kurdistanicus*, 124 mm SL.

Figure 9. Synbranchiformes, Salmoniformes, Mugiliformes and Cyprinodontiformes species collected in sampling sites. **a**, *Mastacembelus mastacembelus* 220 mm SL; **b**, *Salmo tigridis*, 152 mm SL; **c**, *Oncorhynchus mykiss*, 132 mm SL; **d**, *Planiliza abu*, 109 mm SL; **e**, *Gambusia holbrooki* 30 mm SL.

observed species) is ranked first followed by Nemacheilidae (6), Sisoridae (2), Salmonidae (2), Siluridae (1), Heteropneustidae (1), Bagridae (1), Mugilidae (1), Poeciliidae (1) and Mastacembelidae (1).

Kamangar *et al.* (2014) recently described three *Oxynoemacheilus* species (*O. kurdistanicus* [Choman River], *O. chomanicus* [Baneh River] and *O. zagrosensis* [Shooei River]) from Lower Zap (Kurdistan, Iran) in which a drainage of Tigris River and located in near of Turkish border. In present study, we identified specimens from four localities (station 15, 26, 31 and 36) as *O. kurdistanicus* and five localities (station 4, 7, 8, 38 and 39) as *O. chomanicus.* These two species are first record for Turkish freshwater fish fauna.

Leuciscus vorax (Heckel, 1843) was described from Tigris River (Mossul). Neither local fishermen nor we have not observed this species in the research area. Possibly its Tigris populations have decreased. This species assessed on level of Least Concern on the IUCN Red List (2015). We recommend that it should be included in protected species list.

During the fieldworks, we have not found any specimens of *Petroleuciscus kurui* (Bogutskaya, 1995) (described from Zap Stream, Hakkari), *Schistura chrysicristinae* Nalbant, 1998 (described from Batman Stream, Diyarbakır) and *Cobitis kellei* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998 (described from Göksu Stream, Diyarbakır) although we have checked their type localities several times.

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