

Article

A contribution to knowledge of the freshwater fish of Orontes River, Hatay, Turkey

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Abstract

The species were collected 157 samples from 11 sampling locations in the Hatay region, Turkey, in the ecological and ichthy-faunal investigations of the Orontes River and catchment; main channel, side branches, streams, and adjacent wetlands from 2011 to 2012. A total of 284 specimens and 16 species, belonging to 15 genera and 9 families, were recorded.

Keywords freshwater; fish; distribution; Orontes River; Turkey.

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1 Introduction

Hatay region is a province in Turkey, bordered by Syria and Mediterranean Sea. The totaly 1654 ha water surface potential (370 ha natural lakes, 430 ha dam reservoirs, 10 ha small dam reservoirs and 844 ha river and streams) and total water potential 3194 hm³/year was estimated for Hatay (Dsi, 2013).

It reserves Orontes River, Karasu, Afrin, Büyük Karaçay and Küçük Karaçay streams etc. Two large tributaries the Afrin and Karasu stream reach Orontes river in the Amik valley. It flows north to the city of Antakya and falls to the Mediterranean Sea just south of Samandağ (Turkey) (Özcan et al., 2012).

The fish of Orontes River and catchment have always been of great interest to ichthyologist, scientists and naturalist. Based on the previous literature, the first study was given by Heckel (1843). So far 50 fish species have been recorded from the Orontes River and catchment of the Hatay region (Krupp and Schneider, 1991; Fricke et al., 2007; Yalçın-Özdilek, 2007). The river basin (8-10 fish species), the Mediterranean coast, the second richest basin in terms of endemic freshwater fish species diversity after the Po River Basin (11-17 species, Italy) (Smith and Darwall, 2006).

The purpose of this study is to report the faunistic results concerning freshwater fish collected in different station in the two years from the Orontes River and catchment of Hatay region. The fish species were identified by using keys and descriptions by Heckel, 1843; Sauvage, 1882; Krupp and Schneider, 1991; Yalçın-Özdilek, 2007; Geldiay and Balık, 2007.

2 Material and Methods

All samples were collected from the Orontes River and catchment (ist 1: Orontes River (estuarine); ist 2: Büyük Karaçay stream; ist 3: Küçük Karaçay stream; ist 4: Güzelburç-Orontes River; ist 5: Orontes River-Karasu stream junction ist 6: Karasu stream (Kırıkhan Kumlu I. Canal); ist 7: Combo canal; ist 8: Kırıkhan-Kumlu IV. Canal; ist 9: Kırıkhan-Kumlu V. Canal; ist 10: Afrin stream; ist 11: Gölbaşı lake) Hatay region of Turkey in 2011 and 2012 (Fig. 1). The samples were caught by electroshocker, small hand net and gill nets. The samples were fixed in a 4% formalin and transferred to the laboratory for processing. The specimens were preserved in 70% ethanol and deposited in the Museum of the Marine Sciences and Technology Faculty, Mustafa Kemal University, Iskenderun-Hatay (MSM).

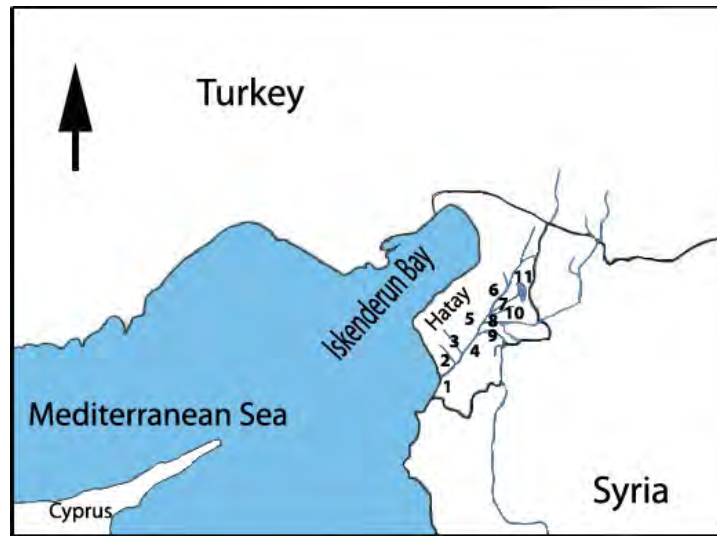


Fig. 1 Location map of the study area.

3 Results

The fish species were listed as follows.

Anguilla anguilla (Linnaeus, 1758)

MSM-PISI/2011-14; 14.12.2011 Güzelburç-Orontes River 2 specimens; **MSM-PISI/2011-20**; 26.04.2012 Küçük Karaçay stream 1 specimen.

Carassius auratus auratus (Linnaeus, 1758)

MSM-PISI/2012-01; 06.01.2012 Güzelburç-Orontes River 3 specimens; **MSM-PISI/2012-05**; 11.02.2012 Orontes River-Karasu stream junction 1 specimen; **MSM-PISI/2012-13**; 02.02.2012 Güzelburç-Orontes River, 1 specimen.

Acanthobrama marmid Heckel, 1843

MSM-PISI/2012-19; 21.12.2012 Güzelburç-Orontes River 3 specimens.

***Luciobarbus pectoralis* (Heckel, 1843)**

MSM-PISI/2011-03; 03.12.2011 Güzelburç-Orontes River 2 specimens; **MSM-PISI/2012-20**; 21.12.2012 Güzelburç-Orontes River 1 specimen.

***Capoeta barroisi* Lortet, 1894**

MSM-PISI/2011-04; 03.12.2011 Güzelburç-Orontes River 2 specimens; **MSM-PISI/2012-10**; 02.02.2012 Güzelburç-Orontes River 1 specimen; **MSM-PISI/2011-09**; 14.12.2011 Büyük Karaçay stream 4 specimens; **MSM-PISI/2012-16**; 21.02.2012 Büyük Karaçay stream 13 specimens.

***Capoeta damascina* (Valenciennes, 1842)**

MSM-PISI/2012-03; 18.02.2012 Güzelburç-Orontes River 4 specimens; **MSM-PISI/2012-09**; 21.02.2012 Küçük Karaçay stream 2 specimens; **MSM-PISI/2012-12**; 02.02.2012 Güzelburç-Orontes River 1 specimen; **MSM-PISI/2011-10**; 14.12.2011 Büyük Karaçay stream 16 specimens; **MSM-PISI/2012-12**; 21.02.2012 Büyük Karaçay River 16 specimens; **MSM-PISI/2012-23**; 15.12.2012 Karasu stream (Kırıkhan Kumlu I. Canal) 1 specimen.

***Carasobarbus luteus* (Heckel, 1843)**

MSM-PISI/2012-02; 21.02.2012 Karasu stream 1 specimen; **MSM-PISI/2011-06**; 20.10.2011 Kırıkhan-Kumlu V. Canal 1 specimen; **MSM-PISI/2011-07**; 14.12.2011 Kırıkhan-Kumlu V. Canal 3 specimens; **MSM-PISI/2011-16**; 14.12.2011 Güzelburç-Orontes River 3 specimens; **MSM-PISI/2012-21**; 15.12.2012 Karasu stream 2 specimens;

***Chondrostoma kinzelbachi* Krupp, 1985**

MSM-PISI/2012-04; 18.02.2012 Orontes River-Karasu stream junction 1 specimen; **MSM-PISI/2012-06**; 11.02.2012 Güzelburç-Orontes River 2 specimens; **MSM-PISI/2012-07**; 21.02.2012 Kırıkhan-Kumlu IV. Canal 1 specimen; **MSM-PISI/2012-11**; 02.02.2012 Güzelburç-Orontes River 4 specimens; **MSM-PISI/2012-14**; 03.03.2012 Tahtakale- Orontes River 7 specimens; **MSM-PISI/2011-11**; 05.07.2011 Güzelburç-Orontes River 1 specimen; **MSM-PISI/2011-15**; 14.12.2011 Güzelburç-Orontes River 1 specimen.

***Garra rufa* (Heckel, 1843)**

MSM-PISI/2012-08; 28.01.2012 Büyük Karaçay stream 22 specimens; **MSM-PISI/2011-05**; 14.12.2011 Büyük Karaçay stream 41 specimens; **MSM-PISI/2011-08**; 14.12.2011 Kırıkhan-Kumlu V. Canal 11 specimens; **MSM-PISI/2012-17**; 21.02.2012 Büyük Karaçay stream 13 specimens; **MSM-PISI/2011-12**; 08.08.2011 Kırıkhan-Kumlu V. Canal 3 specimens.

***Cobitis levantina* Krupp & Moubayed, 1992**

MSM-PISI/2011-24; 26.04.2011 Küçük Karaçay stream 1 specimen; **MSM-PISI/2012-24**; 21.02.2012 Afrin stream 12 specimens; **MSM-PISI/2012-25**; 15.12.2012 Karasu stream (Kırıkhan Kumlu I. Canal) 4 specimens; **MSM-PISI/2011-25**; 08.08.2011 Kırıkhan-Kumlu IV. Canal 5 specimens;

***Oxynoemacheilus argyrogramma* (Heckel, 1848)**

MSM-PISI/2011-30; 15.06.2011 Orontes River 2 specimens; **MSM-PISI/2011-31**; 05.07.2011 Güzelburç-Orontes River 1 specimen; **MSM-PISI/2011-32**; 08.09.2011 Combo Canal 3 specimens.

***Clarias gariepinus* (Burchell, 1822)**

MSM-PISI/2012-36; 15.12.2012 Orontes River 1 specimen; **MSM-PISI/2012-37**; 08.19.2012 Orontes River 3 specimens.

***Aphanius mento* (Heckel, 1843)**

MSM-PISI/2011-26; 24.05.2011 Combo Canal 2♀ 1♂ specimens; **MSM-PISI/2011-27**; 05.07.2011 Karasu stream (Kırıkhan Kumlu I. Canal) 2♀ specimens; **MSM-PISI/2011-28**; 08.08.2011 Karasu stream (Kırıkhan Kumlu I. Canal) 3♀ 2♂ specimens; **MSM-PISI/2011-29**; 08.09.2011 Combo Canal 1♀ 1♂ specimens.

***Gambusia affinis* (Baird & Girard, 1853)**

MSM-PISI/2011-17; 14.12.2011 Orontes River-Karasu stream junction 6 specimens; **MSM-PISI/2011-21**; 08.09.2011 Combo Canal 2 ♀ specimens; **MSM-PISI/2011-22**; 08.08.2011 (Büyük Karaçay) Aknehir-Orontes River 1 ♀ specimen; **MSM-PISI/2011-23**; 05.07.2011 Karasu stream (Kırıkhan-Kumlu I. Canal) 3 ♀ specimens;

***Liza abu* (Heckel, 1843)**

MSM-PISI/2012-18; 28.01.2012 Güzelburç-Orontes River 29 specimens.

***Tilapia zillii* (Gervais, 1848)**

MSM-PISI/2011-13; 08.08.2011 Kırıkhan-Kumlu V. Canal 1 specimen; **MSM-PISI/2011-18**; 08.08.2011 Afrin stream 5 specimens; **MSM-PISI/2011-19**; 08.09.2011 Kırıkhan-Kumlu IV. Canal 2 specimens.

4 Discussion

In the present ichthy-faunal study, 16 species of freshwater fish belonging to 9 families and 15 genera were recorded at 11 sites from Orontes River and catchment. All species have been recorded from this basin so far. More than 50 species have been recorded to date this basin. The detailed distribution of endangered species, including endemic species were not known in region. Also, some of non-native fish species are damaging ecosystem and they established and the increased population has negatively impact on endemic species.

To improve our knowledge on the high number of freshwater biotopes present related to Orontes River. Further studies could greatly improve fish species diversity, biogeography, environmental risk factors and focus on the little known area and specific habitats of the Orontes river basin and adjacent water bodies.

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