



The collection of Lessepsian Fishes in the Istanbul University, Science Faculty, Hydrobiology Museum

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Abstract

The Istanbul University, Science Faculty, Hydrobiology Museum holds the only documented fish collection of Turkey. It contains 318 specimens belonging to 29 Lessepsian fish species. The aim of this paper is to present the collection of Lessepsian fishes in the museum.

Introduction

With the opening of the Suez Canal, Indian and Pacific originated species began to enter the Mediterranean Sea, later to be named as “Lessepsians” (Por, 1978). The number of Lessepsian fishes has reached up to 106 in the Mediterranean Sea (Golani *et al.*, 2017) and over 60 of them are found in the coasts of Turkey (Bilecenoğlu *et al.* 2014).

The scientific collections of species are important resources for taxonomic studies. Nevertheless, the number and the conditions of fish collections in Turkish museums are inadequate. These are mostly formed with personal efforts or embodied in institutions with a few species. The only chained fish collection of Turkey is in the Istanbul University, Science Faculty, Hydrobiology Museum under the acronym IUSHM (Meriç *et al.*, 2007). The aim of this study is to present the catalogue of Lessepsian fish specimens collected from the Turkish waters of the Eastern Mediterranean Sea. Eschemeyer *et al.* (2017) was followed for scientific nomenclature.

Information on the collection

Currently, there are 318 specimens belonging to 29 lessepsian fishes in this collection [Table 1]. All of the specimens are in good conditions, preserved in formalin or ethanol solutions (Fig. 1). The first collected immigrant specimens date back to 1962; samples of *Upeneus pori* and *Callionymus filamentosus*. The majority of the specimens were collected from the Levantine Sea (301 sp.). The number of samples collected in the Iskenderun Bay reaches up to 257. Also, the locations of 44 specimens are undefined. The specimens have been mainly collected by trawl.

Table 1. List of Lessepsian fishes in the Istanbul University, Science Faculty, Hydrobiology Museum

<i>Apogonichthyoides pharaonis</i> Bellotti, 1874	IUSHM 33100-889	1	Iskenderun Bay	Levantine Sea	10.11.2005	Trawl
<i>Callionymus filamentosus</i> Valenciennes, 1837	IUSHM 21400-421	1	Iskenderun Bay	Levantine Sea	April 1962	
<i>Callionymus filamentosus</i> Valenciennes, 1837	IUSHM 21400-433	7	Iskenderun Bay	Levantine Sea	April 1962	
<i>Callionymus filamentosus</i> Valenciennes, 1837	IUSHM 2017-1335	8	Iskenderun Bay	Levantine Sea	10.11.2005	Trawl
<i>Champsodon capensis</i> Regan, 1908	IUSHM 2011-1009	1	Iskenderun Bay	Levantine Sea	6.02.2010	Trawl
<i>Champsodon capensis</i> Regan, 1908	IUSHM 2011-1010	7	Iskenderun Bay	Levantine Sea	31.10.2010	Trawl
<i>Champsodon capensis</i> Regan, 1908	IUSHM 2011-1011	8	Iskenderun Bay	Levantine Sea	31.10.2010	Trawl
<i>Champsodon capensis</i> Regan, 1908	IUSHM 2011-1012	8	Iskenderun Bay	Levantine Sea	31.10.2010	Trawl
<i>Cynoglossus sinusarabici</i> (Chabanaud, 1931)	IUSHM 25100-479	1		Levantine Sea		
<i>Cynoglossus sinusarabici</i> (Chabanaud, 1931)	IUSHM 25100-488	20		Levantine Sea		
<i>Cynoglossus sinusarabici</i> (Chabanaud, 1931)	IUSHM 2017-1340	1	Iskenderun Bay	Levantine Sea	23.04.2005	Trawl
<i>Dussumieria elopsooides</i> Bleeker, 1849	IUSHM 3800-52	1		Levantine Sea	May.77	
<i>Dussumieria elopsooides</i> Bleeker, 1849	IUSHM 3800-521	1		Levantine Sea	May.77	
<i>Dussumieria elopsooides</i> Bleeker, 1849	IUSHM 2017-1320	16	Iskenderun Bay	Levantine Sea	15.11.2005	Purse seine
<i>Dussumieria elopsooides</i> Bleeker, 1849	IUSHM 2017-1327	1	Iskenderun Bay	Levantine Sea	15.10.2004	Trawl
<i>Dussumieria elopsooides</i> Bleeker, 1849	IUSHM 2017-1329	1	Iskenderun Bay	Levantine Sea	14.10.2004	Trawl
<i>Equulites elongatus</i> (Günther, 1874)	IUSHM 2015-1163	1	Gulf of Mersin	Levantine Sea	6.12.2014	Trawl
<i>Equulites elongatus</i> (Günther, 1874)	IUSHM 2015-1164	1	Gulf of Mersin	Levantine Sea	18.04.2015	Trawl
<i>Equulites klunzingeri</i> (Steindachner, 1898)	IUSHM 2017-1332	3	Iskenderun Bay	Levantine Sea	15.10.2004	Trawl
<i>Equulites klunzingeri</i> (Steindachner, 1898)	IUSHM 2017-1333	1	Iskenderun Bay	Levantine Sea	14.10.2004	Trawl
<i>Equulites klunzingeri</i> (Steindachner, 1898)	IUSHM 2017-1334	9	Iskenderun Bay	Levantine Sea	10.11.2005	Trawl
<i>Equulites klunzingeri</i> (Steindachner, 1898)	IUSHM 14400-289	20	Iskenderun Bay	Levantine Sea	22.07.1965	Beam Trawl
<i>Equulites klunzingeri</i> (Steindachner, 1898)	IUSHM 14400-797	1	Iskenderun Bay	Levantine Sea	February 2003	Trawl
<i>Equulites klunzingeri</i> (Steindachner, 1898)	IUSHM 14400-798	1	Iskenderun Bay	Levantine Sea	January 2003	Trawl
<i>Etrumeus golanii</i> DiBattista, Randall & Bowen, 2012	IUSHM 3700-805	1	Iskenderun Bay	Levantine Sea	January 2003	Trawl
<i>Etrumeus golanii</i> DiBattista, Randall & Bowen, 2012	IUSHM 2017-1328	1	Iskenderun Bay	Levantine Sea	15.10.2004	Trawl
<i>Etrumeus golanii</i> DiBattista, Randall & Bowen, 2012	IUSHM 2017-1352	1	Iskenderun Bay	Levantine Sea	February 2004	Trawl
<i>Fisularia commersonii</i> (Rüppell, 1838)	IUSHM 9600-770	1	Iskenderun Bay	Levantine Sea	December 2002	
<i>Fisularia commersonii</i> (Rüppell, 1838)	IUSHM 9600-771	1	Iskenderun Bay	Levantine Sea	December 2002	

Table 1 continued

	IUSHM 9600-771	1	Iskenderun Bay	Levantine Sea	December 2002	Trawl
<i>Hemiramphus far</i> (Forsskal, 1775)	IUSHM 8300-767	1	Iskenderun Bay	Levantine Sea	February 2003	Trawl
<i>Hemiramphus far</i> (Forsskal, 1775)	IUSHM 8300-768	1	Iskenderun Bay	Levantine Sea	February 2003	Trawl
<i>Hemiramphus far</i> (Forsskal, 1775)	IUSHM 8300-793	1	Iskenderun Bay	Levantine Sea	October 2002	Trawl
<i>Jaydia queketti</i> Gilchrist, 1903	IUSHM 31500-655	1	Iskenderun Bay	Levantine Sea	14.10.2004	Trawl
<i>Jaydia queketti</i> Gilchrist, 1903	IUSHM 31500-656	1	Iskenderun Bay	Levantine Sea	23.04.2005	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 26100-507	1	Gulf of Mersin	Levantine Sea	18.05.1967	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 26100-508	5	Iskenderun Bay	Levantine Sea	21.02.1968	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 26100-510	1	Gulf of Mersin	Levantine Sea	18.05.1967	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 26100-511	1	Iskenderun Bay	Levantine Sea	20.05.1967	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 26100-555	5	Iskenderun Bay	Levantine Sea	21.02.1968	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 26100-794	1	Iskenderun Bay	Levantine Sea	January 2003	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 2017-1322	3	Iskenderun Bay	Levantine Sea	14.10.2004	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 2017-1338	2	Iskenderun Bay	Levantine Sea	15.10.2004	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 2017-1341	8	Iskenderun Bay	Levantine Sea	9.11.2005	Trawl
<i>Lagocephalus spadiceus</i> (Richardson, 1845)	IUSHM 2017-1349	4	Iskenderun Bay	Levantine Sea	9.11.2005	Trawl
<i>Lagocephalus suzezensis</i> Clark & Gohar, 1953	IUSHM 33000-888	1	Iskenderun Bay	Levantine Sea	10.11.2005	Trawl
<i>Lagocephalus suzezensis</i> Clark & Gohar, 1953	IUSHM 2017-1326	1	Iskenderun Bay	Levantine Sea	11.11.2005	Trawl
<i>Lagocephalus suzezensis</i> Clark & Gohar, 1953	IUSHM 2017-1339	3	Iskenderun Bay	Levantine Sea	15.10.2004	Trawl
<i>Lagocephalus suzezensis</i> Clark & Gohar, 1953	IUSHM 2017-1342	1	Iskenderun Bay	Levantine Sea	9.11.2005	Trawl
<i>Lagocephalus suzezensis</i> Clark & Gohar, 1953	IUSHM 2017-1350	4	Iskenderun Bay	Levantine Sea	9.11.2005	Trawl
<i>Liza carinata</i> (Valenciennes, 1836)	IUSHM 32700-885	1	Iskenderun Bay	Levantine Sea	16.11.2005	Trawl
<i>Nemipterus randalli</i> Russell, 1986	IUSHM 36000-63	1	Iskenderun Bay	Levantine Sea	8.11.2007	Trawl
<i>Nemipterus randalli</i> Russell, 1986	IUSHM 36000-88	1	Iskenderun Bay	Levantine Sea	8.11.2007	Trawl
<i>Ostorhinchus fasciatus</i> (Shaw, 1790)	IUSHM 2017-1355	7	Iskenderun Bay	Levantine Sea	26.08.2010	Trawl
<i>Parexocoetus mento</i> (Valenciennes, 1847)	IUSHM 32800-886	17	Iskenderun Bay	Levantine Sea	16.11.2005	Purse seine
<i>Saurida lessepsianus</i> Russell, Golani & Tikochinski 2015	IUSHM 5500-95	1		Levantine Sea	August 1968	Beam Trawl
<i>Saurida lessepsianus</i> Russell, Golani & Tikochinski 2015	IUSHM 5500-102	20	Iskenderun Bay	Levantine Sea	21.07.1965	Beam Trawl
<i>Saurida lessepsianus</i> Russell, Golani & Tikochinski 2015	IUSHM 5500-103	1		Levantine Sea	August 1968	
<i>Saurida lessepsianus</i> Russell, Golani & Tikochinski 2015	IUSHM 2017-1344	12	Iskenderun Bay	Levantine Sea	24.04.2005	Trawl
<i>Saurida lessepsianus</i> Russell, Golani & Tikochinski 2015	IUSHM 2017-1347	2	Iskenderun Bay	Levantine Sea	9.11.2005	Trawl
<i>Scomberomorus commerson</i> (Lacepède, 1800)	IUSHM 33300-891	1	Iskenderun Bay	Levantine Sea	16.11.2005	Purse seine
<i>Siganus luridus</i> (Rüppel, 1829)	IUSHM 22800-441	1	Bodrum	Aegean Sea	27.11.1990	
<i>Siganus luridus</i> (Rüppel, 1829)	IUSHM 22800-905	1	Iskenderun Bay	Levantine Sea	15.11.2005	

Table 1 continued

	IUSHM 22800-905	1	Iskenderun Bay	Levantine Sea	15.11.2005	Trawl
<i>Siganus luridus</i> (Rüppel, 1829)	IUSHM 2017-1321	2	Iskenderun Bay	Levantine Sea	15.11.2005	Trawl
<i>Siganus rivulatus</i> (Forsskal, 1775)	IUSHM 22900-440	1	Bodrum	Aegean Sea	29.11.1990	
<i>Siganus rivulatus</i> (Forsskal, 1775)	IUSHM 22900-444	1	Bodrum	Aegean Sea	29.11.1990	
<i>Siganus rivulatus</i> (Forsskal, 1775)	IUSHM 22900-445	2		Aegean Sea	1969	
<i>Siganus rivulatus</i> (Forsskal, 1775)	IUSHM 22900-551	1		Levantine Sea	1.08.1968	
<i>Siganus rivulatus</i> (Forsskal, 1775)	IUSHM 22900-799	2	Iskenderun Bay	Levantine Sea	22.07.2002	
<i>Siganus rivulatus</i> (Forsskal, 1775)	IUSHM 2017-1331	3	Iskenderun Bay	Levantine Sea	10.11.2005	Trawl
<i>Siganus rivulatus</i> (Forsskal, 1775)	IUSHM 2017-1351	1	Iskenderun Bay	Levantine Sea	December 2002	Trawl
<i>Sillago suezensis</i> Golani, Fricke & Tikochinski 2013	IUSHM 12900-772	1	Iskenderun Bay	Levantine Sea	April 2003	Trawl
<i>Sillago suezensis</i> Golani, Fricke & Tikochinski 2013	IUSHM 12900-773	1	Iskenderun Bay	Levantine Sea	April 2003	Trawl
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 2017-1337	3	Iskenderun Bay	Levantine Sea	15.10.2004	Trawl
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 2017-1346	4	Samandagi coasts	Levantine Sea	24.04.2005	Trawl
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 2017-1353	1	Iskenderun Bay	Levantine Sea	December 2002	Trawl
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 18200-364	1		Levantine Sea	1.08.1968	
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 18200-373	5		Levantine Sea	1.05.1977	
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 18200-374	1		Levantine Sea	1.08.1968	
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 18200-375	1	Gulf of Mersin	Levantine Sea	13.02.1968	Trawl
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 18200-376	5	Iskenderun Bay	Levantine Sea	5.04.1962	
<i>Sphyræna chrysotaenia</i> Günther, 1874	IUSHM 18200-663	3	Gokova Bay	Aegean Sea	13.08.1989	Purse seine
<i>Stephanolepis diaspros</i> Fraser-Brunner, 1940	IUSHM 26000-506	1	Gulf of Mersin	Levantine Sea	17.07.1965	Trawl
<i>Stephanolepis diaspros</i> Fraser-Brunner, 1940	IUSHM 26000-606	1	Gulf of Mersin	Levantine Sea	17.07.1965	Trawl
<i>Stephanolepis diaspros</i> Fraser-Brunner, 1940	IUSHM 2017-1336	2	Iskenderun Bay	Levantine Sea	15.10.2004	Trawl
<i>Stephanolepis diaspros</i> Fraser-Brunner, 1940	IUSHM 2017-1348	5	Iskenderun Bay	Levantine Sea	14.10.2004	Trawl
<i>Stephanolepis diaspros</i> Fraser-Brunner, 1940	IUSHM 2017-1354	1	Iskenderun Bay	Levantine Sea	25.11.2005	Trawl
<i>Stolephorus insularis</i> Hardenberg, 1933	IUSHM 2013-1055	1	Iskenderun Bay	Levantine Sea	6.12.2012	Trawl
<i>Trachurus indicus</i> Nekrasov, 1966	IUSHM 36200-62	1	Iskenderun Bay	Levantine Sea	14.10.2004	Trawl
<i>Trachurus indicus</i> Nekrasov, 1966	IUSHM 36200-82	1	Iskenderun Bay	Levantine Sea	14.10.2004	Trawl
<i>Upeneus moluccensis</i> (Bleeker, 1855)	IUSHM 17200-337	1		Aegean Sea	30.08.1991	
<i>Upeneus moluccensis</i> (Bleeker, 1855)	IUSHM 17200-344	4		Aegean Sea	30.08.1991	
<i>Upeneus moluccensis</i> (Bleeker, 1855)	IUSHM 17200-345	4		Aegean Sea	1969	
<i>Upeneus moluccensis</i> (Bleeker, 1855)	IUSHM 17200-783	1	Iskenderun Bay	Levantine Sea	January 2003	Trawl
<i>Upeneus pori</i> Ben-Tuvia & Golani, 1989	IUSHM 17300-338	1	Iskenderun Bay	Levantine Sea	4.04.1962	
<i>Upeneus pori</i> Ben-Tuvia & Golani, 1989	IUSHM 17300-346	1	Iskenderun Bay	Levantine Sea	4.04.1962	
<i>Upeneus pori</i> Ben-Tuvia & Golani, 1989	IUSHM 17300-781	8	Iskenderun Bay	Levantine Sea	February 2003	Trawl
<i>Upeneus pori</i> Ben-Tuvia & Golani, 1989	IUSHM 17300-782	1	Iskenderun Bay	Levantine Sea	February 2003	Trawl
<i>Upeneus pori</i> Ben-Tuvia & Golani, 1989	IUSHM 2017-1343	8	Iskenderun Bay	Levantine Sea	11.11.2005	Trawl



Figure 1. An example of how the samples are stored in the collection

The formation of the fish collection started under the leadership of Muzaffer Demir in the Hydrobiology Research Institute – Istanbul in 1967. While the number of marine fish species in the collection was 266 (Meriç *et al.*, 2007), it has currently exceeded 350. Bilecenoğlu *et al.* (2014) mentioned that the number of marine fishes in Turkish waters is 512. In this case, this catalogue contains about 70% of the marine fish species in the coasts of Turkey. Furthermore, the labelling of collected samples is progressively proceeding.

The IUSHM allows visits for scientific purposes only. Until now, many specimens were lent to various institutions.

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