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Check – list of Bony Fish Collected from the Coast of Syria

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Abstract

A check- list of bony fish in the Mediterranean coast of Syria was carried out. It appeared that the marine fish fauna in this area is dominated by the family of Sparidae (9.82%) represented by 22 species, followed by Blennidae (5.80%) represented by 13 species, then Carangidae and Gobiidae (4.90%) with 11 species each, Labridae and Serranidae (4.45%) with 10 species each, Scombridae (4.05%) represented by 9 species, and finally Clupeidae, Mugilidae and Triglidae (3.12%) with 7 species each. Among the listed families, there are 36 families represented by a single species and 14 families by 2 species. The total number of species is 224 belonging to 155 genuses pertaining to 75 families and 18 orders. The present study reported 37 migrant species from the Red Sea and 14 species originating from the western Mediterranean and the Atlantic Ocean.

Key Words: Fish Biodiversity, Osteichthyes, new record, Mediterranean, Levantin basin, Lessepsian migration, Syria

Introduction

Gruvel (1931) was the first who reported on the marine ichthyofauna of Syria recording 88 species of bony fish and 15 species of cartilaginous fish. Only one local study was made during the second half of the last century before 1980 (Anon, 1976) in which 93 species of bony fish recorded, but no specimens conserved was found. During the last decades of the last century, some other studies were made such as the concentrate on fish inventory (Saad, 1994; 1995; 1996; 1998; Saad and Sbaihi, 1992; Sbaihi, 1994), and the survey of Indo-pacific species (Ali and Saad, 2003; Golani and Ben-Tuvia, 1989; Saad, 1998; Saad and Sbaihi, 1992; Sbaihi and Saad, 1992a; 1992b; Sbaihi and Saad, 1995). And finally, Saad *et al.* (2004) reported 37 cartilaginous species from the Syrian marine waters.

The purpose of this paper is to update the species check-list and to report new record of species inhabiting the Mediterranean coast of Syria, in order to facilitate further studies on this fauna by interested researchers. This list aims at building up faunistic information about the species available in the Syrian marine waters. It is impossible to assume that the whole body of the Mediterranean has the same species composition. Regional specificity is evident in the Mediterranean (Quignard and Tomasini, 2000; Whithesd *et al.,* 1984-1986).

Materials and Methods

During seven years (1996-1999 and 2001-2003), fish were captured by several types of nets (fixed gillnet, drifting nets, benthic trawl net, long-line, beach seine) from the coastal and territorial waters of Syria (between the Turkish border in the north and the Lebanese border in the south) (Figure 1). They were arranged according to the system mentioned by Nelson (1994), Quignard and Tomasini (2000), Whithesd *et al.* (1984 – 1986). Species were arranged alphabetically. The list includes only the Osteichthyes, the remaining shark and ray species left for a further study. 224 species belonging to 75 families and 17 orders were recorded. A check-list of species is presented.

Results and Discussion

The results of this study are demonstrated in Table 1.

The continuous of fish sampling from the Syrian coast in particular will add more species to the above list. Abundance was assessed by the division of all fish species studied into five categories: Very rare, rare, prevalent, common and very common. For this purpose of this category designation, the fish population examined was present off the coasts of Syria.

There are seventy five families of which 36 are represented by a single species, 14 by two species, 9 by three species and the remaining fish families recorded (16 families) were represented by more than 3 species. This richest family in terms of the number of species was Sparidae (9.82%) represented by 22 species, followed by Blennidae (5.80%) represented by 13 species, while the third place was occupied by Carangidae and Gobiidae (4.90%) which is

represented by 11 species per each. The latter come the families of Serranidae and Labradae (4.45%) represented by 10 species each, followed by Scombridae (4.00%) represented by 9 species, Mugilidae, Clupeidae, and Triglidae (3.10%) represented by 7 species each, Scorpaenidae (2.23%) represented by 6 species. The flat fish group makes its appearance with 12 species belonging to 6 families. They conform to 5.35% of the total number of bony fish species recorded from the Syrian coast. The high percentage of fish species revealed by the family Sparidae might be due to the presence of an appropriate sea bottom around the Syrian coast that the member of this family prefers.

It is clear that the Perciform order dominates the marine ichthyofauna of Syria. This is not an unexpected result, since this order is considered to be the largest within the teleost fish. The same results were observed somewhere else. Papakonstantinou (1988) reported the domination of this order in the Greek marine waters. While Quignard and Tomasini (2000) showed that this order is dominant in the fish species of the Mediterranean Sea. Several authors have given a different fish species composition for a different section of the Mediterranean (Hureaux and Monod, 1973; Mouneimne, 1977; Fisher *et al.,* 1987; Papaconstantinou, 1988; Golani and Ben-Tuvia, 1989; Başusta and Erdem, 2000). On the other hand, along the Syrian coasts, such difference was noticed by Anon (1976), Saad (1995), Saad *et al.,* (2002) who reported on the fish species for the coast of Syria.

The present study shows a significant increase in number of species over the previous studies that have been conducted in the Syrian waters during the last few decades (Anon, 1976; Sbaihi, 1994; Saad, 1995; Saad *et al.,* 2002). This increase in fish species could be explained on the basis that the present study used different fishing gears to collect the fish, in addition to the fish specimens obtained in different depths and different areas, from the fishermen. And it is also due to the Lessepsian migration phenomenon which increases the number of indo-pacific species in the Levantin basin (Por, 1978; Quignard, 1978; Golani, 1996; Golani and Ben-Tuvia, 1989; Golani *et al.,* 2002; Gucu and Gucu, 2002; Başusta *et al.,* 2002). In this study, we have recorded 37 allocton migrant species from the Red Sea, which represent 16.5% of the total number of bony fish species recorded in the Syrian marine water (Table 1) while in other hand, Basusta *et al.*, (2002) reported 33 Lessepsian species (including one cartilaginous species and 32 bony fish species) which are stated from the Turkish Mediterranean coast. And 56 bony fish species of Indo-Pacific origin were recorded in the Mediterranean by Golani *et al.,* (2002). However, the role of the Strait of Gibraltar and its west-to-east current should not be underestimated. The recent discovery of Atlanto – boreal species in the Levantin basin (Saad, 1995) may be related to a possible greater incoming flux of Atlantic current from west to east as a result of hydroclimatic modifications. In this study, we have recorded 14 species originating from the eastern Atlantic and the western Mediterranean (Table 3).

The geographic modification created by the opening of the Suez Chanal, hydroclimatic modification, increase of salinity, and calefaction.. All accentuate the "subtropicality" of the Mediterranean and especially the eastern basin.

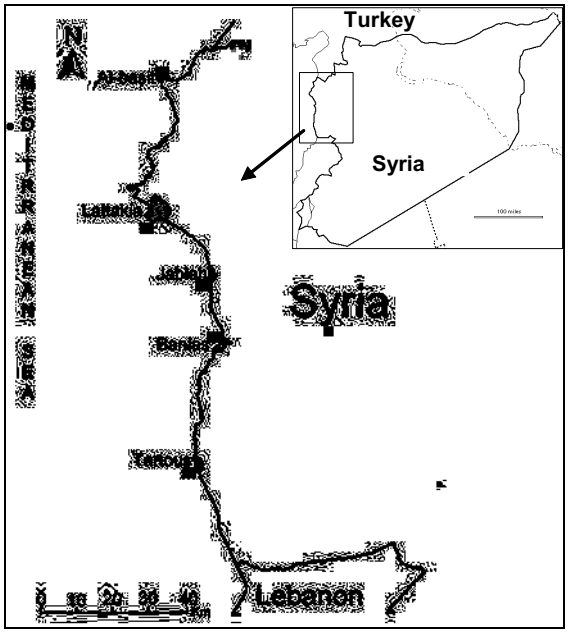

Figure 1. Area of study on the Syrian coast: ■ = places of fish landing and sampling.

Table 1. Bony fishes species collected from the Syrian coast, classified in alphabetically order of Order and Family, according to Nelson, 1994

Order	Family	Species
I. ANGUILLIFORMES	Anguillidae	001. *Anguilla anguilla* (Linaeus, 1758)
	Congridae	002. *Ariosoma balearicum* (Delaroche, 1809)
		003. *Conger conger* [(Artedi, 1738) (Linnaeus, 1758)]
	Muraenidae	004. *Enchelycore anatina* (Lowe, 1839)
		005. *Gymnothorax unicolor* (Delaroche, 1809)
		006. *Muraena helena* Linnaeus, 1758
II. ATHERINIFORMES	Atherinidae	007. *Atherina boyeri* Risso, 1810
		008. *Pranesus pinguis* (Lacepède, 1803)
		009. *Atherinomorus lacumosus* (Foster, 1801)
III. AULOPIFORMES	Aulopidae	010. *Aulopus filamentosus* (Bloch, 1792)
	Syndontidae	011. *Synodus saurus* (Linneaus, 1758)
		012. *Saurida undosquamis* (Richardson, 1848)
IV. BATRACHOIDIFORMES	Lophiidae	013. *Lophius piscatorius* Linneaus, 1758
		014. *Lophius budegassa* Spinola, 1807
V. BERYCEFORMES	Trachichithyidae	015. *Hoplostethus mediterraneus* Cuvier, 1829
	Holocentridae	016. *Sargocenrum rubrum* (Forskal, 1775)
VI. CLUPEIFORMES	Clupeidae	017. *Alosa fallax* (Linnaeus, 1758)
		018. *Dussumieria elopsoides* Bleeker, 1849
		019. *Eutrinus teres* (Dekey, 1848)
		020. *Herklotsichthys punctatus* (Rüppell, 1837)
		021. *Sardina pilchardus* (Walbaum, 1792)
		022. *Sardinella aurita* Valenciennes, 1847
		023. *Sardinella maderensis* (Lowe, 1838)
	Engraulidae	024. *Engraulis encrasicolus* (Linnaeus, 1758)
VII. CYPRINODONTIFORMES	Belonidae	025. *Belone belone* (Linnaeus, 1758)
		026. *Tylosrus corma* (Ruppell, 1837)
	Cyprinodontidae	027. *Aphanius dispar* (Ruppell, 1828)
	Exocoetidae	028. *Cheilopogon heterurus* (Rafinesque, 1771)
		029. *Hirundichthys rondeletii* (Valanciennes, 1846)
		030. *Parexocoetus mento* (Valenciennes, 1846)
		031. *Hemiramphis far* (Forskal, 1775)
	Hemiramphidae	032. *Hyporamphus affinis* (Gunther, 1866)
VIII. GADIFORMES	Gadidae	033. *Gadiculus argenetus* Guichenot, 1850
		034. *Micromesistus poutassou* (Risso, 1826)
		035. *Physis physis* (Linnaeus, 1766)
	Merlucciidae	036. *Merluccius merluccius* (Linnaeus, 1758)
IX. GOBIESOCIFORMES	Gobiesocidae	037. *Lepadogaster candollei* Risso 1810
		038. *Lepadogaster lepadogaster lepadogaster* (Bonnaterre, 1788)
X. MYCTOPHIFORMES	Myctophidae	039. *Myctophum punctatum* Rafinesque, 1810
XI. OPHIDIIFOMES	Ophidiidae	040. *Ophidion barbatum* Linaeus, 1758
XII. PERCIFORMES	Antiidae	041. *Anthias anthias* (Linnaeus, 1758)
	Apogonidae	042. *Apogon imberbis* (Linnaeus, 1758)
		043. *Apogon nigripinnis* Cuvier, 1828
		044. *Epigonus constanciae* (Giglioli, 1880) [= *E. telescupus* (Risso, 1810)]
	Blenniidae	045. *Blennius ocellaris* Linnaeus, 1758

Table 1. (Continue)

Order	Family	Species
		046. *Coryphoblennius galerita* (Linaeus, 1758)
		047. *Lipophrys pavo* (Risso, 1810)
		048. *Lipophrys trigloides* (Valenciennes, 1836)
		049. *Lipophrys nigriceps* (Vincigerra, 1880)
		050. *Lipophrys caneva* (Vincigerra, 1880)
		051. *Parablennius rouxi* (Cocco, 1833)
		052. *Parablennius incognitus* (Bath, 1968)
		053. *Paralennius sanguinolentus* (Pallas, 1811)
		054. *Paralennius gattorugine* (Brunnich, 1768)
		055. *Parablennius tentacularis* (Brunnich, 1768)
		056. *Petroscirtes ancylodon* Ruppell, 1883
		057. *Scratella cristata* (Linnaeus, 1758)
	Bramidae	058. *Brama brama* (Bonnaterre, 1788)
	Callionymidae	059. *Callionymus filamentosus* Valenciennes, 1837
	Carangidae	060. *Alectis alexendrinus* (Geoffroy Saint-Hilaire, 1817)
		061. *Aleps djedaba* (Forsskal, 1775)
		062. *Caranx crysos* (Meachill, 1815)
		063. *Caranx rhonchus* Geoffroy st Hilaire, 1817
		064. *Lichia amia* (Linnaeus, 1758)
		065. *Pseudocaranx dentex* (Bloch&Schneider, 1801)
		066. *Seriola dumerili* (Risso, 1810)
		067. *Trachurus trachurus* (Linnaeus, 1758)
		068. *Trachurus mediterraneus* (Steindachner, 1868)
		069. *Trachurus picturatus* (Bowdich, 1825)
		070. *Trachynotus ovatus* (Linnaeus, 1758)
	Centracanthidae	071. *Centracanthus cirrus* Rafinesque, 1810
		072. *Spicara maena* (Linnaeus, 1758)
		073. *Spicara flexuosa* Rafinesque, 1810
		074. *Spicara smaris* (Linnaeus, 1758)
	Cepolidae	075. *Cepola rubescens* Linnaeus, 1758
	Clinidae	076. *Clinitrachus argenteus* (Risso, 1810)
	Coryphaenidae	077. *Coryphaena hippurus* Linnaeus, 1758
	Echeneidae	078. *Echeneis naucrates* Linnaeus, 1758
	Gobiidae	079. *Aphia minuta* (Risso, 1810)
		080. *Chromogobius quadrivittatus* (Steindachner, 1863)
		081. *Deltentosteus quadrimaculatus* (Valenciennes, 1837)
		082. *Gobius niger* Linnaeus, 1758
		083. *Gobius cobitis* Pallas, 1811
		084. *Gobius cruentatus* Gemelin, 1789
		085. *Gobius paganellus* Linnaeus, 1758
		086. *Lesueurigobius friesii* (Malm, 1847)
		087. *Oxyurichthys petersi* (Valanciennes, 1837)
		088. *Silhouetta aegyptia* (Chabanaud, 1933)
		089. *Zebrus zebrus* (Risso, 1826)
	Haemulidae	090. *Pomadasys incisus* (Bowdich, 1825)
		091. *Pomadasys stridens* (Forsskal, 1775)
	Labridae	092. *Acantholabrus palloni* (Risso, 1810)
		093. *Coris julis* (Linnaeus, 1758)
		094. *Labrus bimaculatus* (Linnaeus, 1758)
		095. *Labrus merula* Linnaeus, 1758
		096. *Symphodus cinereus* (Bonnaterre)
		097. *Symphodus mediterraneus* (Linnaeus, 1758)
		098. *Symphodus roissali* (Risso, 1810)
		099. *Symphodus tinca* (Linnaeus, 1758)
		100. *Thalassoma pavo* (Linnaeus, 1758)
		101. *Xyrichthys novacula* (Linnaeus, 1758)
	Leiognathidae	102. *Leiognathus kluningeri* (Steindachner, 1898)
	Lobotidae	103. *Lobotes surinamensis* (Bloch)
	Moronidae	104. *Dicentrarchus labrax* (Linnaeus, 1758)
		105. *Dicentrarchus punctatus* (Bloch, 1792)
	Mugilidae	106. *Chelon labrosus* (Risso, 1826)
		107. *Liza carenata* (Valancennes, 1836)
		108. *Liza ramada* (Risso, 1810)

Table 1. (Continue)

Order	Family	Species
		109. *Liza aurata* (Risso, 1810)
		110. *Liza saliens* (Risso, 1810)
		111. *Mugil cephalus cephalus* Linnaeus, 1758
		112. *Oedalechilus labeo* (Cuvier)
	Mullidae	113. *Mullus barbatus* Linnaeus, 1758
		114. *Mullus surmuletus* Linnaeus, 1758
		115. *Upeneus moluccensis* (Bleeker, 1855)
		116. *Upeneus pori* Ben-Tuvia& Golani, 1989
	Pempheridae	117. *Pempheris vanicolensis* Cuvier, 1831
	Pomacentridae	118. *Chromis chromis* (Linnaeus, 1758)
	Pomatomidae	119. *Pomatomus saltator* (Linneaus, 1758)
	Scaridae	120. *Sparisoma cretense* (Linnaeus, 1758)
	Sciaenidae	121. *Sciaena umbra* Linneaus, 1758
		122. *Argyrosomus regius* (Asso, 1801)
		123. *Umbrina cirrosa* (Linneaus, 1758)
	Scombridae	124. *Auxis rochei* (Risso, 1810)
		125. *Euthynnus alletteratus* (Rafinesque, 1810)
		126. *Katsuwonus pelamis* (Linneaus, 1758)
		127. *Orcynopsis unicolor* (Geoffroy st Hil., 1817)
		128. *Sarda sarda* (Bloch, 1793)
		129. *Scomber japonicus* Houttuyn, 1782
		130. *Scomberomorus commerson* (Lacepède, 1800)
		131. *Silhouetta aegyptia* (Chabanaud, 1933)
		132. *Zebrus zebrus* (Risso, 1826)
	Serranidae	133. *Anthias anthias* (Linnaeus, 1758)
		134. *Calanthias ruber* (Rafinesque, 1810)
		135. *Epinephelus aeneus* (Geoffroy St Hiaire, 187l.)
		136. *Epinephelus costae* Steindachener, 1878 [= *E. alexandrinus* (Valenciennes, 1828)]
		137. *Epinephelus marginatus* (Lowe, 1843) [=*E.guaza* (L., 1758)]
		138. *Epinephelus haifensis* Ben
		139. *Mycteroperca rubra* (Bloch, 1793)
		140. *Serranus cabrilla* (Linnaeus, 1758)
		141. *Serranus hepatus* (Linnaeus, 1758)
		142. *Serranus scriba* (Linnaeus, 1758)
	Siganidae	143. *Siganus luridus* (Ruppel, 18280)
		144. *Siganus revulatus*(Forskal, 1775)
	Sparidae	145. *Boops boops* (Linneaus, 1758)
		146. *Crenidens crenidens* (Forsskal, 1775)
		147. *Dentex dentex* (Linneaus, 1758)
		148. *Dentex gibbosus* (Rafinesque, 1810)
		149. *Dentex macrophthalmus* (Bloch, 1791)
		150. *Dentex macroccanus* Valenciennes, 1830
		151. *Diplodus annularis* (Linneaus, 1758)
		152. *Diplodus cervinus* (Lowe, 1841)
		153. *Diplodus puntazzo* (Getti, 1777)
		154. *Diplodus sargus* (Linneaus, 1758)
		155. *Diplodus vulgaris* (Geoffroy St Hill., 1817)
		156. *Lithognathus mormyrus* (Linneaus, 1758)
		157. *Oblada melanura* (Linneaus, 1758)
		158. *Pagellus erythrinus* (Linneaus, 1758)
		159. *Pagellus acarne* (Risso, 1826)
		160. *Rhabdosargus haffara* (Forskal, 1775)
		161. *Sarpa salpa* (Linneaus, 1758)
		162. *Sparus aurata* (Linneaus, 1758)
		163. *Sparus caeruleostictus* (Valenciennes)
		164. *Sparus ehrenbergi* (Valenciennes)
		165. *Sparus pagrus* (Linneaus, 1758
		166. *Spondyliosoma cantharus* (Linneaus, 1758)
	Sphyraenidae	167. *Sphyraena sphyraena* (Linneaus, 1758)
		168. *Sphyraena chrysotaenia* Klunzinger, 1848
		169. *Sphyraena viridensis* Cuvier, 1829

Table 1. (Continue)

Order	Family	Species
		170. *Sphyraena flavicauda* Ruppell, 1838
	Theraponidae	171. *Pelates quadrilineatus* (Bloch, 1790)
		172. *Terapon puta* (Cuvier, 1829)
	Trachinidae	173. *Trachinus draco* Linneaus, 1758
		174. *Trachinus araneus* Cuvier, 1829
		175. *Trachinus radiatus* Cuvier, 1829
		176. *Trachinus vipera* Cuvier, 1829
	Trichiuridae	177. *Trichiurus lepturus* Linneaus, 1758
		178. *Lepidopus caudatus* Parin &Blekker, 1973
	Tripterygiidae	179. *Tripterygion delaisi* Cadenat et Blanche, 1971
		180. *Tripterygion melanurus* Guichenot, 1850
		181. *Tripterygion tripteronotus* (Risso, 1810)
XIII. PLEURONECTIFORMES	Bothidae	182. *Arnoglossus laterna* (Walbaum, 1792)
		183. *Arnoglossus kessleri* Schmidt, 1915
		184. *Bothus podas podas* (Delaroche, 1809)
	Citharidae	185. *Citharus linguatula* (Linnaeus, 1758)
	Cynoglossidae	186. *Cynoglossus sinusarabici* (Chabanaud, 1931)
		187. *Symphurus nigrescens* Rafinesque, 1810
	Platycephalidae	188. *Platycephalus indicus* (Linnaeus, 1758)
	Scophthalmidae	189. *Lepidorhombus boscii* (Risso, 1810)
		190. *Lepidorhombus whiffiagonis* (Walbaum, 1792)
	Soleidae	191. *Microchirus ocellatus* (Linnaeus, 1758)
		192. *Solea solea* (Linneaus, 1758)
		193. *Solea lascaris* (Risso, 1810)
XIV. SCORPAENIFORMES	Dactilopteridae	194. *Dactilopterus volitans* (Lineaus, 1758)
	Perestiidae	195. *Peristedion cataphractum* (Linnaeus, 1758)
	Scorpaenidae	196. *Helicolenus dactylopterus* (Delaroche, 1809)
		197. *Scorpaena porcus* Linnaeus, 1758
		198. *Scorpaena maderensis* Valenciennes, 1833
		199. *Scorpaena notata* Rafinesque, 1810
		200. *Scorpaena scrofa* Linnaeus, 1758
		201. *Scorpaena elongata* Cadenat, 1943
XV. SOLENICHTHYES	Fistulariidae	202. *Fistularia commersonii* Ruppell, 1835
	Triglidae	203. *Aspitrigla cuculus* (Linnaeus, 1758)
		204. *Eutrigla gurnardus* (Linaeus, 1758)
		205. *Lepidotrigla cavillone* (Lacepede, 1801)
		206. *Lepidotrigla dieuzeidei* Aduin in Blanc & Hureau, 1973
		207. *Trigla lucerna* Linnaeus, 1758
		208. *Trigla lyra* Linnaeus, 1758
		209. *Triglopterus lastoviza* (Brunnich, 1756)
XVI. SYNGNATHIFORMES	Macroramphosidae	210. *Macroramphosus scolopax* (Linnaeus, 1758)
	Synganthidae	211. *Syngnatus acus* Linnaeus, 1758
		212. *Syngnatus abaster* Risso, 1810
		213. *Hippocampus hippocampus* (Linnaeus, 1758)
		214. *Hippocampus ramulosus* Leach, 1814
XVII. TETRAODONTIFORMES	Balistidae	215. *Balistes carolinensis* Gmelin, 1789
	Monacanthidae	216. *Stephanolepis diaspros* Fraser-Brunner, 1940
	Molidae	217. *Mola mola* (Linneaus, 1758)
	Ostraciidae	218. *Tetrosomus gibbosus* (Linnaeus, 1758)
	Tetraodontidae	219. *Lagocephalus spadiceus* (Richardson, 1944)
		220. *Lagocephalus suezensis* Clark and Gphar, 1953
	Uranoscopidae	221. *Uranoscopus scaber* Linneaus, 1758
	Xiphiidae	222. *Xiphias gladius* Linneaus, 1758
XVIII. ZEIFORMES	Zeidae	223. *Zeus faber* Linnaeus, 1758
	Caproidae	224. *Capros aper* (Linnaeus, 1758)

Table 2. List of species migrant from the read Sea and recorded in the Syria Coast

Family	Species	First Record
Apogonidae	*Apogon nigripinnis* Cuvier, 1828	Sbaihi and Saad, 1992a
Atherinidae	*Pranesus pinguis* (Lacepède, 1803)	Saad *et al*., 2002
	Atherinomorus lacumosus (Foster, 1801)	Saad *et al*., 2002
Belonidae	*Tylosrus corma* (Ruppell, 1837)	Saad *et al*., 2002
Blenniidae	*Petroscirtes ancylodon* Ruppell, 1883	Saad, 2002
Callionymidae	*Callionymus filamentosus* Valenciennes, 1837	Saad and Sbaihi, 1992
Carangidae	*Aleps djedaba* (Forsskal, 1775)	Saad, 2002
Clupeidae	*Dussumieria elopsoides* Bleeker, 1849 (= *D.acuta*)	Saad, 2002
	Eutrimeus teres (Dekey, 1848)	Saad, 2002
	Herklotsichthys punctatus (Rüppell, 1837)	Present work
Cynoglossidae	*Cynoglossus sinusarabici* (Chabanaud, 1931)	Saad and Sbaihi, 1992
Exocoetidae	*Parexocoetus mento* (Valenciennes, 1846)	Saad *et al*., 2002
Fistulariidae	*Fistularia commersonii* (Ruppell, 1835)	Saad, 2002
Gobiidae	*Oxyurichthys petersi* (Valanciennes, 1837)	Saad and Sbaihi, 1992
	Silhouetta aegyptia (Chabanaud, 1933)	Sbaihi and Saad, 1995
Hemiramphidae	*Hemiramphis far* (Forskal, 1775)	Anon, 1976
	Hyporamphus affinis (Gunther, 1866)	Saad, 1996
Holocentridae	*Sargocenrum rubrum* (Forskal, 1775)	Anon, 1976
Leiognathidae	*Leiognathus kluningeri* (Steindachner, 1898)	Sbaihi and Saad, 1995
Monacanthidae	*Stephanolepis diaspros* Fraser-Brunner, 1940	Anon, 1976
Mugilidae	*Liza carenata* (Valancennes, 1836)	Saad, 1995
Mullidae	*Upeneus moluccensis* (Bleeker, 1855)	Anon, 1976
	Upeneus pori Ben-Tuvia&Golani, 1989 [= *U.asymmetricus* (Lacher, 19540)]	Sbaihi and Saad, 1995
Ostraciidae	*Tetrosomus gibbosus* (Linnaeus, 1758)	Saad, 2002
Pempheridae	*Pempheris vanicolensis* Cuvier, 1831	Sbaihi and Saad, 1992b
Platycephalidae	*Platycephalus indicus* (Linnaeus, 1758)	Saad *et al*., 2002
Scombridae	*Scomberomorus commerson* (Lacepède, 1800)	Anon, 1976
Siganidae	*Siganus luridus* (Ruppel, 18280)	Gruvel, 1931
	Siganus revulatus(Forskal, 1775)	Gruvel, 1931
Sparidae	*Crenidens crenidens* (Forsskal, 1775)	Saad *et al*., 2002
Sphyraenidae	*Sphyraena chrysotaenia* Klunzinger, 1848	Saad, 2002
	Sphyraena flavicauda Ruppell, 1838	Saad *et al*., 2002
Syndontidae	*Saurida undosquamis* (Richardson, 1848)	Anon, 1976
Tetraodontidae	*Lagocephalus spadiceus* (Richardson, 1944)	Anon, 1976
	Lagocephalus suezensis Clark and Gphar, 1953	Saad *et al*., 2002
Theraponidae	*Pelates quadrilineatus* (Bloch, 1790)	Present work
	Terapon puta (Cuvier, 1829)	Present work

Table 3. List of Bony fish species migrant from western Mediterranean to Levantin basin and recorded off the Syrian Coast

Family	Species	First Record
Apogonidae	*Epigonus constanciae* (Giglioli, 1880)	Sbaihi, 1994 (as *E. telescopus* (synonyme))
Argentidae	*Aregentina sphyraena* (L., 1758)	Saad and Sbaihi, 1995
	Glassanodon leioglossus (Valenc., 1848)	Saad and Sbaihi, 1995
Bramidae	*Brama brama* (Bonnaterre, 1788)	Saad and Sbaihi, 1995
Caproidae	*Capros aper* (L., 1758)	Saad and Sbaihi, 1995
Gadidae	*Micromesistius poutassou*	Saad and Sbaihi, 1995
	Pyscis physcis	Saad and Sbaihi, 1995
	Gadiculus argenteus Guichenot, 1850	Saad and Sbaihi, 1995
Gobiesocidae	*Lepadogaster lepadogaster. lepadogaster* (Bonnaterre,1788)	Saad and Sbaihi, 1995
	Lepadogaster candolli Risso, 1810	Saad and Sbaihi, 1995
Heterenchelydae	*Panturichthys flowleri* Ben –Tuvia, 1953	Sbaihi, 1994
Ophidiidae	*Ophidion baratum* L., 1758	Sbaihi, 1994
Soleidae	*Solea lascaris* (Risso, 1810)	Sbaihi, 1994
Sparidae	*Pagellus bellottii* Steindacner, 1882	Sbaihi and Saad, 1992

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