

Annotated checklist of the freshwater fishes of Iran

Аннотированный список пресноводных рыб Ирана

H.R. ESMAEILI, B.W. COAD*, A. GHOLAMIFARD, N. NAZARI & A. TEIMORY

Х.Р. ЭСМАЕЙЛИ, Б.В. КОУД*, А. ГОЛАМИФАРД, Н. НАЗАРИ, А. ТЕЙМОРИ

H.R. Esmaeili, A. Gholamifard, N. Nazari, A. Teimory, Department of Biology, College of Sciences, Shiraz University, Shiraz 71454, Iran. E-mail: hresmaeili@yahoo.com

B.W. Coad, Canadian Museum of Nature, Ottawa, Ontario, K1P 6P4 Canada. E-mail: BCoad@mus-nature.ca.

*Corresponding author.

The confirmed freshwater fishes of Iran comprise 202 species in 104 genera, 28 families, 17 orders and 3 classes found in 19 different basins. There are also 23 species whose presence in Iranian waters needs confirmation by specimens. The most diverse order is the Cypriniformes with 120 confirmed species (59.4%) followed by Perciformes with 28 species (13.9%), Cyprinodontiformes (10 species, 5.0%), Clupeiformes (9 species, 4.5%), Salmoniformes (7 species, 3.5%), Mugiliformes and Siluriformes each with 6 species (3.0%), Acipenseriformes (5 species, 2.5%), Gasterosteiformes (3 species, 1.5%), and 8 other orders each with one species (0.5%). New species are still being discovered, 7 described in 2009, while others are being resurrected from synonymy, newly recorded from Iran, or exotic species newly established. Some taxonomic problems remain and are commented on briefly. Thirty-nine endemic species (19.3%) in 6 families and 23 exotic species (11.4%) in 8 families are listed here. The mosquitofish, *Gambusia holbrooki* Girard, 1859 is the most widespread exotic species.

Фауна пресноводных рыб Ирана включает следующее число таксонов, распространение или обнаружение которых в Иране не вызывает сомнений: 202 вида 104 родов, 28 семейств, 17 отрядов и 3 классов. Они распространены в 19 изолированных бассейнах. Кроме того, присутствие в континентальных водах Ирана еще 23 видов требует подтверждения. Наиболее многочислен отряд Cypriniformes с 120 несомненным видом (59.4%), за которым следуют Perciformes с 28 видами (13.9%), Cyprinodontiformes (10 видов, 5.0%), Clupeiformes (9 видов, 4.5%), Salmoniformes (7 видов, 3.5%), Mugiliformes и Siluriformes (каждый с 6 видами, 3.0%), Acipenseriformes (5 видов, 2.5%), Gasterosteiformes (3 вида, 1.5%) и 8 других отрядов, в каждом из которых один вид (0.5%). Постоянно описываются новые виды, например, только в 2009 году их описано 7; многие таксоны восстанавливаются из синонимии и впервые регистрируются для Ирана, а также обнаруживаются натурализации неаборигенных видов. Некоторые таксономические проблемы пока не могут быть разрешены; они кратко упомянуты в тексте. Кроме того, перечислены тридцать девять эндемичных для Ирана видов (19.3%), которые относятся в 6 семействам, и 23 неаборигенных вида (11.4%) из 8 семейств. Гамбузия *Gambusia holbrooki* Girard, 1859 является наиболее широко распространённым неаборигенным видом.

Key words: Checklist, freshwater fishes, fauna, Iran, endemic, exotic

Ключевые слова: список, пресноводные рыбы, фауна, Иран, эндемики, интродуценты

INTRODUCTION

Iran lies at a region of major zoogeographical interchange and its remarkable biodiversity has long been of interest to naturalists and scientists. The first extensive discussion of freshwater fishes within Iran with descriptions of new taxa dates back to the middle of the 19th century with the work of Johann Jakob Heckel (1846–1849b). Subsequent studies have yielded dramatic increases in our knowledge of the biodiversity of Iranian freshwater fishes and accounts have been published by many authors in different countries describing fishes subsequently found in Iran. Early works of particular relevance to Iran include those by Graf Eugen Keyserling (1861, 1863), Filippo de Filippi (1863, 1864, 1865), Aleksandr Mikhailovich Nikol'skii (1897, 1899), and Lev Semenovich Berg (1949).

A wide range of articles are now being published on the biology, biogeography and genetics of freshwater fishes of Iran. An accurate use of names is essential to communicate research results effectively.

New fish species are being described from this country almost every year, but population growth, demands for aquaculture, fish introductions and translocations, drought, pollution, and habitat destruction have marked effects on Iran's freshwater ichthyodiversity and have changed fish compositions in many water bodies. Moreover, taxonomic problems of some taxa still need to be resolved.

This paper presents an updated checklist of Iranian freshwater fishes including endemics, exotics and transplanted species, with notes on taxonomy. The online "Catalog of Fishes" at the California Academy of Sciences provides summary taxonomic conclusions on generic placement and species validity, references for these conclusions, and type localities for synonyms mentioned in the present list. The synonyms given are those recently used in Iran and do not include those dating from the early twentieth century and the nineteenth century (see

Coad (1995, 2010b) for a fuller treatment of earlier names).

MATERIALS AND METHODS

This checklist has been compiled from the works listed in the Selected Bibliography and also by examination of ichthyological collections in Iran, Europe and North America and extensive field expeditions from 1976–2010.

RESULTS

The *confirmed* freshwater fishes of Iran comprise 202 species in 104 genera, 28 families, 17 orders and 3 classes. The most diverse order is the Cypriniformes with 120 species or 59.4% of the fauna, followed by Perciformes (28, 13.9%), Cyprinodontiformes (10 species, 5.0%), Clupeiformes (9 species, 4.5%). The most diverse family is the Cyprinidae with 93 confirmed species (46.0%) followed by Gobiidae with 22 species (10.9%), Nemacheilidae (22 species, 10.9%), Clupeidae (9, 4.5%), Cyprinodontidae (8, 3.9%) and Salmonidae (7, 3.5). Twenty-two families have 6 or fewer species. Fourteen families have only one species. Endemics comprise 39 species (19.3% of total fauna) in 6 families although this is expected to increase as new species are described. Cyprinidae with 19 (48.7% of endemic species) endemics is ranked first followed by Nemacheilidae with 12 (30.8%), Cyprinodontidae with 5 (12.8%), and Cichlidae, Cobitidae and Sisoridae with one species each (2.6% each). An additional 23 species require confirmation of their presence in Iran.

Twenty-three exotic species in 8 families are listed here. Cyprinidae with 10 species (43.5% of exotic species) is ranked first followed by Salmonidae (5 species, 21.7%), Mugilidae and Poeciliidae both with 2 species (8.7% each), and 4 families each with only one species or 4.4%. The mosquitofish, *Gambusia holbrooki* Girard, 1859 is the most widespread exotic species. However, there

are reports (Coad, 1995) of some other exotic and transplanted species which have not been recently collected and cannot be confirmed to be present in Iran such as *Carassius carassius* (Linnaeus, 1758), *Gambusia affinis* (Baird & Girard, 1853), *Oryzias latipes* (Temminck & Schlegel, 1846) [this is a literature report and we follow the name given there; the species may be *Oryzias sinensis* Chen, Uwa & Chu, 1989 that was earlier considered as conspecific with *O. latipes*], *Lepomis macrochirus* (Rafinesque, 1819), *Micropterus salmoides* (Lacèpede, 1802) and *Platichthys flesus* (Linnaeus, 1758).

Several species recorded from neighbouring countries and reported from Iran need confirmation by specimens such as *Acipenser ruthenus* (Linnaeus, 1758), *Oxyinoemacheilus argyrogrammus* (Heckel, 1849), *Paracobitis tigris* (Heckel, 1843), *Schistura baluchiorum* (Derzhavin, 1934), and *Paraschistura lindbergi* (Bănărescu & Mirza, 1965). These are not included in this list.

Certain nominal species can be regarded as species complexes, probably containing several undescribed species. One example is *Capoeta damascina*, a wide-ranging species whose systematics needs careful re-assessment (currently under study by Nisreen Alwan, Senckenberg Museum). One taxon recently examined in Iran is the *Alburnoides bipunctatus* complex, long listed there as a single species. Bogutskaya and Coad (2009) and Coad and Bogutskaya (2009) described 5 new Iranian species in this complex and elevated the western Caspian Sea populations to a species. There are more, isolated populations which may eventually prove to be new species, and so *A. bipunctatus* s. str. may not be found in Iran when studies are completed. The cyprinid genus, *Alburnus*, should also be revised using both molecular and morphological data, for example, among others.

Additionally, the status of subspecies needs re-assessment. Two subspecies of *Capoeta barroisi* have been reported from Iran, *C. barroisi mandica* and *C. barroisi persica*. Özüluğ and Freyhof (2008) consider *Capo-*

eta barroisi mandica Bianco & Bănărescu, 1982 to be a valid species although this assessment needs more material and DNA analyses for confirmation. The status of *C. barroisi persica* from Zaribar Lake should also be reassessed.

Wide-ranging distributional and taxonomic studies also affect the composition of the Iranian ichthyofauna. Kottelat and Freyhof (2007) expand distribution of *Carassius gibelio* (Bloch, 1782) to the southern Caspian Sea. Abdoli and Naderi (2009) consider *Carassius auratus* (Linnaeus, 1758) to be a synonym of *Carassius gibelio* (Bloch, 1782). The taxa in Iran need careful study to determine if either or both are present in Iran.

Significant range extensions within Iran are also being recorded, e.g. *Mystus pelusius* over 600 km to the south of previous records (Esmaili & Coad, 2005). The loach *Turcinoemacheilus kosswigi*, previously known from the upper Tigris River basin in Turkey, is recently recorded from southern Iran (Golzaripour et al., 2009).

The distribution of fishes is summarised for each species within Iranian drainage basins. Nineteen basins are assessed (Table 1, Fig. 1), representing the major ones within Iran.

The greatest diversity is seen in the Caspian basin which comprises both fresh and brackish habitats, rivers, lakes, lagoons, marshes and marine environments and has had a long history of connection and isolation from fresh and marine waters. The next most diverse basin is the Tigris, again with varied habitats and a connection to a marine environment. The Persian Gulf, Hormuz and Makran basins also have a marine connection but their freshwater component lacks the diverse habitats and is mostly a desert environment. Internal basins on the Iranian plateau without a marine connection, varying from semi-desert to desert in habitat, and with a few major but shallow rivers or only streams, have depauperate faunas. These are often subsets of neighbouring, more speciose basins. Four of these

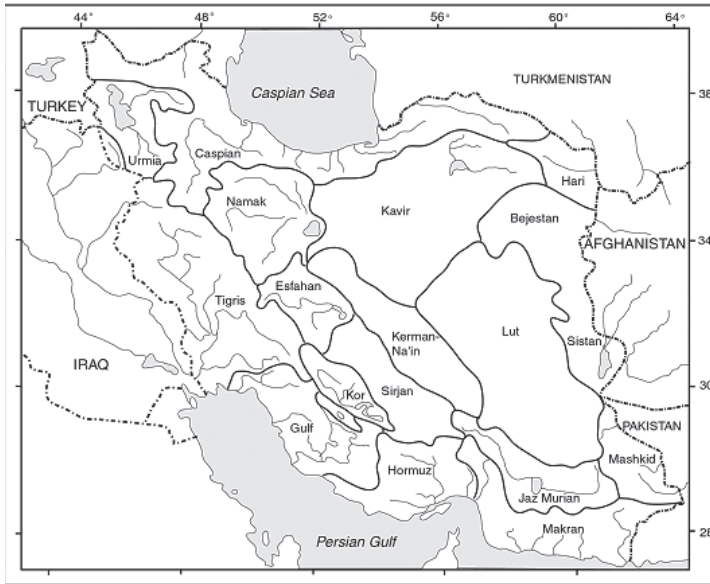


Fig. 1. Drainage basin map of Iran (Lake Marharlu lies between the Kor and Gulf basins).

basins have fewer than 10 species and 14 basins have 20 or fewer species compared to 115 species in the Caspian and 69 species in the Tigris.

It is not the purpose of this list to give an extensive review of distributions but two examples can be given. The Urmia (= Orumiyeh) and Namak basins, adjacent to the Caspian Sea, show evident affinities with the latter basin – Urmia has 7 species shared with 5 species uniquely endemic to this basin alone, and Namak 4 shared and 4 unique endemics. A similar situation obtains for the Tigris basin with neighbouring Gulf and Kor basins sharing 23 and 8 species respectively but the more internal and isolated Kor basin has 3 endemics unique to that basin compared to none unique to the Gulf basin.

Zoogeographically, the fauna comprises wide-ranging species found throughout southwest Asia (e.g. *Capoeta*, *Cyprinion*, *Oxynoemacheilus*), species with Oriental affinities (e.g. *Barilius*, *Tor*, *Mystus*, *Glyptothorax*, *Channa*), a species with African affinities (*Iranocichla*), lowland species derived by a river highway from mountainous areas (*Schizocypris*, *Schizopygopsis*, *Schizothorax* from the Hindu Kush), spe-

cies resulting from marine transgressions (e.g. Caspian Clupeidae, Syngnathidae, Gobiidae, etc.), species entering fresh waters from the sea (e.g. *Tenulosa*, *Chanos*, *Liza*), and species isolated by post-Tethyan uplift (Cyprinodontidae). Many species still require careful study to determine their affinities and to place zoogeographical analyses on a firm basis.

We expect more species to be described as new, resurrected from synonymy, recorded for the first time from Iran, or recorded as established introductions. The fauna could soon exceed 225 species in 28 families or more. The listing includes selected taxonomic comments including synonyms where these have been used in recent literature. Older synonyms can be found in Coad (1995).

CHECKLIST

* = endemic, ** = exotic. Unconfirmed species are those mentioned in the literature but without confirmatory specimens in a museum. They are included in the totals in the checklist. Some exotic species undoubtedly have a wider distribution than indicated here.

Table. Distribution of fish taxa distribute in Iran by basin

Basin	Families	Genera	Species	Unconfirmed	Exotics	Iranian Endemics
Urmia	5	18	19	0	6	5
Caspian	18	61	115	22	17	0
Tedzhen	6	17	18	0	7	0
Tigris	16	44	69	1	8	12
Namak	4	15	20	0	9	6
Kavir	4	7	11	0	6	1
Bedjestan	2	5	7	0	4	0
Esfahan	4	12	15	0	6	3
Kerman-Na'in	2	4	6	0	4	1
Lut	3	7	9	0	4	1
Sistan	3	16	20	0	8	1
Persian Gulf	12	29	40	0	6	5
Maharlu	5	13	14	0	6	3
Kor	7	18	22	0	6	9
Sirjan	2	4	6	0	4	0
Hormuz	11	22	26	0	4	7
Jaz Murian	5	9	13	0	4	3
Mashkid	4	9	11	0	4	1
Makran	7	14	18	0	4	3

CLASS PETROMYZONTIDA**Order PETROMYZONTIFORMES**

(1 family, 1 genus and 1 species)

Family PETROMYZONTIDAE

(1 genus and 1 species)

Genus *Caspiomyzon* Berg, 1906*Caspiomyzon wagneri* (Kessler, 1870) – Caspian Sea basin.**CLASS CHONDRICHTHYES****Order CARCHARHINIFORMES**

(1 family, 1 genus and 1 species)

Family CARCHARHINIDAE

(1 genus and 1 species)

Genus *Carcharhinus* Blainville, 1816*Carcharhinus leucas* (Müller & Henle, 1839) – Tigris River basin.**CLASS ACTINOPTERYGII****Order ACIPENSERIFORMES**

(1 family, 2 genera and 6 species, 1 unconfirmed)

Family ACIPENSERIDAE

(2 genera and 6 species, 1 unconfirmed)

Genus *Acipenser* Linnaeus, 1758*Acipenser gueldenstaedtii* Brandt & Ratzeburg, 1833 – Caspian Sea basin.*Acipenser nudiventris* Lovetzky, 1828 – Caspian Sea basin.*Acipenser persicus* Borodin, 1897 – Caspian Sea basin.*Acipenser ruthenus* Linnaeus, 1758 – Caspian Sea basin.Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran. *Acipenser stellatus* Pallas, 1771 – Caspian Sea basin.

Genus *Huso* Brandt & Ratzeburg, 1833

Huso huso (Linnaeus, 1758) – Caspian Sea basin.

Order ANGUILLIFORMES

(1 family, 1 genus and 1 species)

Family ANGUILLIDAE

(1 genus and 1 species)

Genus *Anguilla* Schrank, 1798

Anguilla anguilla (Linnaeus, 1758)** – introduced to the Caspian Sea basin.

Order CLUPEIFORMES

(1 family, 3 genera and 11 species, 2 unconfirmed)

Family CLUPEIDAE

(3 genera and 11 species, 2 unconfirmed)

Genus *Alosa* Linck, 1790

Comment: Formerly in the genus *Caspialosa* Berg, 1915. Many subspecies have been described for some species in the Caspian Sea but their status has not been assessed recently.

Alosa braschnikowii (Borodin, 1904) – Caspian Sea basin.

Alosa caspia (Eichwald, 1838) – Caspian Sea basin.

Alosa curensis (Suvorov, 1907) – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Alosa kessleri (Grimm, 1887) – Caspian Sea basin.

Comment: Formerly placed in *A. pontica* (Eichwald, 1838) as a subspecies but Kottelat and Freyhof (2007), Abdoli and Naderi (2009) and Naseka and Bogutskaya (2009) consider *Alosa kessleri* as a valid species.

Alosa saposchnikowii (Grimm, 1887) – Caspian Sea basin.

Alosa sphaerocephala (Berg, 1913) – Caspian Sea basin.

Alosa volgensis (Berg, 1913) – Caspian Sea basin.

Comment: Presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

Genus *Clupeonella* Kessler, 1877

Clupeonella caspia Svetovidov, 1941 – Caspian Sea basin.

Comment: Formerly identified as *Clupeonella cultriventris* (Nordmann, 1840).

Clupeonella engrauliformis (Borodin, 1904) – Caspian Sea basin.

Clupeonella grimmi Kessler, 1877 – Caspian Sea basin.

Genus *Tenualosa* Fowler, 1934

Tenualosa ilisha (Hamilton, 1822) – Tigris River and Gulf basins; possibly Hormuz basin.

Order GONORYNCHIFORMES

(1 family, 1 genus and 1 species)

Family CHANIDAE

(1 genus and 1 species)

Genus *Chanos* Lacepède, 1803

Chanos chanos (Forsskål, 1775) – Gulf, Hormuz and Makran basins.

Order CYPRINIFORMES

(3 families, 54 genera and 122 species, 2 unconfirmed)

Family CYPRINIDAE

(44 genera and 94 species, 1 unconfirmed)

Genus *Abramis* Cuvier, 1816

Abramis brama (Linnaeus, 1758) – Caspian Sea basin.

Abramis sapa (Pallas, 1814) – Caspian Sea basin.

Comment: *Abramis sapa bergi* Belyaev, 1929 is the Caspian Sea subspecies but is not recognised by some authors. This species is placed in the genus *Ballerus* Heckel, 1843 by some authors.

Genus ***Acanthalburnus*** Berg, 1916

Acanthalburnus microlepis (De Filippi, 1863) – Caspian Sea basin.

Acanthalburnus urmianus (Günther, 1899)* – Lake Urmia basin.

Genus ***Acanthobrama*** Heckel, 1843

Acanthobrama marmid Heckel, 1843 – Tigris River basin.

Genus ***Alburnoides*** Jeitteles, 1861

Comment: Further taxa may exist in Iran.

Alburnoides bipunctatus (Bloch, 1782) – Esfahan and Tedzhen River basins.

Comment: Genus under revision and this taxon may not be present in Iran.

Alburnoides eichwaldii (De Filippi, 1863) – Caspian Sea basin.

Alburnoides idignensis Bogutskaya & Coad, 2009* – Tigris River basin.

Alburnoides namaki Bogutskaya & Coad, 2009* – Namak Lake basin.

Alburnoides nicolausi Bogutskaya & Coad, 2009* – Tigris River basin.

Alburnoides petrubaranscui Bogutskaya & Coad, 2009* – Lake Urmia basin.

Alburnoides qanati Coad & Bogutskaya, 2009* – Kor River basin

Genus ***Alburnus*** Rafinesque, 1820

Several members of this genus require revision.

Alburnus atropatenae Berg, 1925* – Lake Urmia basin.

Alburnus caeruleus Heckel, 1843 – Tigris River basin.

Comment: Record from Hamadan Province by Keyvan Abbasi, pers. comm., 2 January 2010.

Alburnus chalcoides (Güldenstaedt, 1772) – Caspian Sea basin.

Comment: The subspecies *iranicus* Svetovidov, 1945 is a synonym.

Alburnus filippii Kessler, 1877 – Caspian Sea basin.

Alburnus hohenackeri Kessler, 1877 – Caspian Sea basin. Introduced to Tigris basin.

Comments: Previously the wide-ranging species *Alburnus alburnus* (Linnaeus, 1758) was identified as the taxon in Iran. *Alburnus charusini* Herzenstein, 1889 is a synonym.

Alburnus mossulensis Heckel, 1843 – Esfahan, Tigris River, Kor River, Lake Maharlou, Gulf and Hormuz basins.

Comment: A wide-ranging species with several available names usually placed in synonymy but possibly valid including *Alburnus capito* Heckel, 1843 from Kurdistan and *Alburnus iblis* Heckel, 1849, *Alburnus schejtan* Heckel, 1849, *Alburnus caudimacula* Heckel, 1849 and *Alburnus megacephalus* Heckel, 1849 from Iran. The work by Heckel, in which the descriptions of the three latter species (and many others below) are given, is dated 1846–1849 and copies we have seen do not have any dating internally, so, we use the later date. The on-line CAS Catalog of Fishes refers to a Fowler manuscript and uses the date 1847.

Alburnus zagrosensis Coad, 2009* – Tigris River basin.

Genus ***Aspidoparia*** Heckel, 1849

Aspidoparia morar (Hamilton, 1822) – Makran and Mashkid River basins.

Genus ***Aspius*** Agassiz, 1832

Aspius aspius (Linnaeus, 1758) – Caspian Sea basin.

Comment: *Aspius aspius taeniatus* (Eichwald, 1831) is the Caspian Sea subspecies.

Aspius vorax Heckel, 1843 – Tigris River basin.

Comments: Both *Aspius* species are placed in *Leuciscus* by Perea et al. (2010) on molecular evidence which contradicts morphology. Further study is needed.

Genus ***Barbus*** Cuvier, 1816

Barbus lacerta Heckel, 1843 – Caspian Sea, Lake Urmia, Esfahan and Tigris River basins.

Comment: A wide-ranging species that may prove to be a complex requiring revision. *Barbus cyri* de Filippi, 1865 is a synonym, or a full species according to Naseka and Bogutskaya (2009).

Genus ***Barilius*** Hamilton, 1822

Barilius mesopotamicus Berg, 1932 – Tigris River and Gulf basins.

Genus ***Blicca*** Heckel, 1843

Blicca bjoerkna (Linnaeus, 1758) – Caspian Sea basin.

Comment: *Blicca bjoerkna transcaucasica* Berg, 1916 is a valid subspecies or a synonym according to authors.

Genus ***Capoeta*** Valenciennes, 1842

Capoeta aculeata (Valenciennes, 1844)* – Namak Lake, Kavir, Kerman-Na'in, Esfahan, Kor River and Tigris River basins

Comment: *Scaphiodon macrolepis* Heckel, 1849 and *Varicorhinus bergi* Derzhavin, 1929 are synonyms from Iran.

Capoeta barroisi Lortet, 1894 – Tigris River and Gulf basins.

Comment: *Capoeta barroisi mandica* Bianco & Bănărescu, 1982 and *C. barroisi persica* Karaman, 1969 are synonyms, possibly valid species.

Capoeta buhsei Kessler, 1877* – Namak Lake basin.

Comment: *Varicorhinus nikolskii* Derzhavin, 1929 from Iran is a synonym.

Capoeta capoeta (Güldenstaedt, 1773) – Caspian Sea, Tedzhen River, Lake Urmia, Kavir, Bedjestan, Sirjan, Namak Lake, Esfahan, Tigris River and Gulf basins.

Comment: *Capoeta capoeta gracilis* (Keyserling, 1861) and *C. capoeta heratensis* (Keyserling, 1861) are Iranian subspecies but this wide-ranging species needs revision. Both subspecies has been recognised as a full species by authors. *Scaphiodon asmussii* Keyserling, 1861 and *Capoeta gibbosa* Nikol'skii, 1897 are Iranian synonyms.

Capoeta damascina (Valenciennes, 1842) – Namak Lake, Kavir, Esfahan, Tigris River, Gulf, Kor River, Lake Maharlu, Sirjan, Kerman-Na'in, Hormuz, Lut and Hamun-e Jaz Murian basins.

Comment: Under revision. The following taxa named from Iran have been regarded as synonyms: *Scaphiodon amir* Heckel, 1849, *Scaphiodon niger* Heckel, 1849, *Scaphiodon saadii* Heckel, 1849 *Scaphiodon chebisiensis* Keyserling, 1861, *Scaphiodon rostratus* Keyserling, 1861 and *Capoeta capoeta intermedia* Bianco & Bănărescu, 1982 (*non Capoeta intermedia* Temminck & Schlegel, 1846 = *Acheilognathus lanceolata* (Temminck & Schlegel, 1846).

Capoeta fusca Nikol'skii, 1897 – Tedzhen River, Kavir, Bedjestan, Sistan and Lut basins.

Comment: *Capoeta nudiventris* Nikol'skii, 1897 is a synonym.

Capoeta trutta (Heckel, 1843) – Tigris River and Gulf basins.

Genus ***Carasobarbus*** Karaman, 1971

Carasobarbus luteus (Heckel, 1843) – Tigris River, Kor River, Lake Maharlu, Gulf and Hormuz basins.

Comment: *Systomus albus* var. *alpina* Heckel, 1849 and *Barbus parieschanica* Wossughi, Khoshzahmat & Etemadfar, 1982 from Iran are synonyms.

Genus ***Carassius*** Jarocki, 1822

Comment: The author of the genus follows Bogutskaya and Naseka (2004).

Carassius auratus (Linnaeus, 1758)** – introduced to the Caspian Sea and Sistan basins; probably elsewhere in garden ponds.

Carassius gibelio (Bloch, 1782)** – probably mirrors distribution of *C. auratus*.

Genus ***Chondrostoma*** Agassiz, 1832

Chondrostoma cyri Kessler, 1877 – Caspian Sea basin.

Chondrostoma orientale Bianco & Bănărescu, 1982 * – Kor River basin.

Comment: Sometimes regarded as a synonym of *C. regium*.

Chondrostoma regium (Heckel, 1843) – Tigris River basin and possibly Esfahan basin.

Genus ***Crossocheilus*** Kuhl & van Hasselt, 1823

Crossocheilus latius (Hamilton, 1822) – Sistan, Makran and Mashkid River basins.

Comment: *Discognathus adiscus* Annandale, 1919 is a synonym from Iran.

Genus ***Ctenopharyngodon*** Steindachner, 1866

Ctenopharyngodon idella (Valenciennes, 1844) ** – introduced to the Caspian Sea, Tigris River, Kor River, Maharlu and Sistan basins; elsewhere in reservoirs throughout Iran.

Genus ***Cyprinion*** Heckel, 1843

Cyprinion kais Heckel, 1843 – Tigris River and Gulf basins.

Cyprinion macrostomum Heckel, 1843 – Tigris River and Gulf basins.

Cyprinion milesi (Day, 1880) – Hormuz, Hamun-e Jaz Murian and Makran basins.

Comments: Iranian synonyms are *Barbus bampurensis* Nikol'skii, 1899 and *Barbus baschakirdi* Holly, 1929.

Cyprinion tenuiradius Heckel, 1849* – Lake Maharlu and Gulf basins.

Cyprinion watsoni (Day, 1872) – Hormuz, Hamun-e Jaz Murian, Mashkid River, Makran, Sistan and Lut basins.

Comments: Iranian synonyms are *Cyprinion kirmanense* Nikol'skii, 1900, *Cirrhina afghana* var. *nikolskii* Berg, 1905, *Scaphiodon macmahoni* Regan, 1906 and *Scaphiodon baluchiorum* Jenkins, 1910.

Genus ***Cyprinus*** Linnaeus, 1758

Cyprinus carpio Linnaeus, 1758 ** – Tedzhen River and Caspian Sea basins; widely introduced elsewhere.

Comment: Native populations in the two named basins; also introduced there and elsewhere in Iran.

Genus ***Garra*** Hamilton, 1822

Comment: Under revision with possible new taxa.

Garra persica Berg, 1913* – Hormuz, Makran and Hamun-e Jaz Murian basins.

Garra rossica (Nicol'skii, 1900) – Tedzhen River, Bedjestan, Sistan, Lut, Hamun-e Jaz Murian, Mashkid River and Makran basins.

Comments: *Discognathus phryne* Annandale, 1919 and *Discognathus rossicus* var. *nudiventris* Berg, 1905 are Iranian synonyms.

Garra rufa (Heckel, 1843) – Tigris River, Kor River, Lake Maharlu, Gulf and Hormuz basins.

Comments: *Discognathus crenulatus* Heckel, 1849 and *Garra rufa gymnothorax* Berg, 1949 are synonyms. The taxon in Iran has been referred to as *G. r. obtusa* Heckel, 1843.

Garra variabilis (Heckel, 1843) – Tigris River basin.

Comment: Needs confirmation by specimens for Iran.

Genus ***Gobio*** Cuvier, 1816

Gobio lepidolaemus Kessler, 1872 – Tedzhen River basin.

Comment: Formerly considered as a subspecies of *Gobio gobio* (Linnaeus, 1758).

Genus ***Hemiculter*** Bleeker, 1859

Hemiculter leucisculus (Basilewsky, 1855) ** – introduced to the Caspian Sea basin; probably elsewhere in Iran.

Genus ***Hemigrammocapoeta*** Pellegrin, 1927

Hemigrammocapoeta elegans (Günther, 1868) – Tigris River basin.

Comment: Formerly placed in the genera *Tylognathus* Heckel, 1843 and *Hemigarrara* Karaman, 1971.

Genus ***Hypophthalmichthys*** Bleeker, 1859

Hypophthalmichthys molitrix (Valenciennes, 1844)** – introduced to reservoirs throughout Iran.

Hypophthalmichthys nobilis (Richardson, 1844)** – introduced to reservoirs throughout Iran.

Genus ***Iranocypris*** Bruun & Kaiser, 1948

Comment: The date of authorship for this genus and species is variously listed as 1943 on an official reprint, as 1944–49 in one set of Contents and “ready from the press 1944” in another set of contents. Proudlove (2006) states that it did not appear until 1948 because of World War II.]

Iranocypris typhlops Bruun & Kaiser, 1944 * – Tigris River basin.

Genus ***Kosswigobarbus*** Karaman, 1971

Kosswigobarbus kosswigi (Ladiges, 1960) – Tigris River basin.

Kosswigobarbus sublimus (Coad & Najafpour, 1997) * – Tigris River basin.

Genus ***Leucaspis*** Heckel & Kner, 1858

Leucaspis delineatus (Heckel, 1843) – Caspian Sea basin.

Genus ***Leuciscus*** Cuvier, 1816

Leuciscus latus (Keyserling, 1861) – Tedzhen River basin.

Genus ***Luciobarbus*** Heckel, 1843

Luciobarbus barbulus (Heckel, 1849) – Tigris River, Gulf and Kor River basins.

Luciobarbus brachycephalus (Kessler, 1872) – Caspian Sea basin.

Comment: The subspecies *Barbus brachycephalus caspius* Berg, 1914 has also been regarded as a synonym or a distinct species in the Caspian Sea.

Luciobarbus capito (Güldenstaedt, 1773) – Caspian Sea basin.

Luciobarbus esocinus Heckel, 1843 – Tigris River and Gulf basins.

Luciobarbus kersin (Heckel, 1843) – Tigris River and Gulf basins.

Luciobarbus mursa (Güldenstaedt, 1773) – Caspian Sea, Lake Urmia and Namak Lake basins.

Comments: *Barbus miliaris* De Filippi, 1863 and *Barbus kessleri* Derzhavin, 1929 are Iranian synonyms. The former is possibly distinct and found only in the Namak Lake basin.

Luciobarbus pectoralis (Heckel, 1843) – Tigris River, Gulf and Kor River basins.

Luciobarbus subquincunciatus (Günther, 1868) – Tigris River basin.

Luciobarbus xanthopterus Heckel, 1843 – Tigris River basin.

Genus ***Mesopotamichthys*** Karaman, 1971

Mesopotamichthys sharpeyi (Günther, 1874) – Tigris River and Gulf basins.

Genus ***Mylopharyngodon*** Peters, 1881

Mylopharyngodon piceus (Richardson, 1846) ** – introduced to the Caspian Sea basin.

Genus ***Pelecus*** Agassiz, 1835

Pelecus cultratus (Linnaeus, 1758) – Caspian Sea basin.

Genus ***Petroleuciscus*** Bogutskaya, 2002

Petroleuciscus esfahani Coad & Bogutskaya, 2010 * – Esfahan basin.

Petroleuciscus persidis (Coad, 1981) * – Kor River, Gulf and Hormuz basins.

Comment: Perea et al. (2010) place this species in *Acanthobrama* on molecular evidence which contradicts morphology. Further study is needed.

Petroleuciscus ulanus (Günther, 1899) * – Lake Urmia basin.

Comment: *Leuciscus gaderanus* Günther, 1899 from Iran is a synonym.

Genus ***Pimephales*** Rafinesque, 1820

Pimephales promelas Rafinesque, 1820**
– introduced to the Namak Lake basin.

Genus ***Pseudorasbora*** Bleeker, 1859

Pseudorasbora parva (Temminck & Schlegel, 1846)** – introduced to the Caspian Sea, Namak Lake, Tedzhen River, Sistan, Maharlu, Urmia, Gulf and Tigris River basins and probably elsewhere.

Genus ***Rhodeus*** Agassiz, 1832

Rhodeus amarus (Bloch, 1782) – Caspian Sea basin; probably introduced to the Lake Urmia basin.

Comment: Formerly identified as *Rhodeus sericeus* (Pallas, 1776). Naseka and Bogutskaya (2009) refer to the Caspian Sea taxon as *Rhodeus* sp.

Genus ***Romanogobio*** Bănărescu, 1961

Romanogobio macropterus (Kamenskii, 1901) – Caspian Sea basin.

Romanogobio persus (Günther, 1899)* – Lake Urmia basin.

Comment: Formerly in the genus *Gobio*. Considered by some conspecific with *R. macropterus*. Naseka and Freyhof (2004) recognise these taxa as distinct species.

Genus ***Rutilus*** Rafinesque, 1820

Rutilus caspicus (Yakovlev, 1870) – Caspian Sea basin.

Rutilus kutum Kamenskii, 1901 – Caspian Sea basin.

Comment: *Rutilus kutum* is regarded as subspecies of *R. frisii* by authors but Naseka and Bogutskaya (2009) regard it as a species.

Rutilus rutilus (Linnaeus, 1758) – Caspian Sea basin.

Comment: *Rutilus caspicus* is recognised as the Caspian Sea resident species and *R. rutilus* as the freshwater species (Bogutskaya & Naseka, 2004; Kottelat & Freyhof, 2007).

Genus ***Scardinius*** Bonaparte, 1837

Scardinius erythrophthalmus (Linnaeus, 1758) – Caspian Sea basin.

Genus ***Schizocypris*** Regan, 1914

Schizocypris altidorsalis Bianco & Bănărescu, 1982 – Sistan basin.

Comment: Formerly identified as *S. brucei* Regan, 1914.

Genus ***Schizopygopsis*** Steindachner, 1866

Schizopygopsis stoliczkai Steindachner, 1866 – Sistan basin.

Genus ***Schizothorax*** Heckel, 1838

Schizothorax intermedius McClelland, 1842 – Sistan basin.

Comment: *Schizothorax schumacheri* Fowler & Steinitz, 1956 is an Iranian synonym.

Schizothorax pelzami Kessler, 1870 – Tedzhen River and Kavir basin.

Comment: *Schizothorax pelzami iranicus* Karaman, 1969 is a synonym.

Schizothorax zarudnyi (Nicol'skii, 1897) – Sistan basin.

Comment: *Oreinus anjac* Fowler & Steinitz, 1956 is a synonym from Iran.

Genus ***Squalius*** Bonaparte, 1837

Squalius cephalus (Linnaeus, 1758) – Caspian Sea, Lake Urmia, Namak Lake and Tigris River basins.

Comment: *Leusciscus orientalis* Nordmann, 1840 is variously regarded as a synonym, a subspecies or a distinct species by authors.

Squalius lepidus Heckel, 1843 – Tigris River basin.

Genus ***Tinca*** Cuvier, 1816

Tinca tinca (Linnaeus, 1758) – Caspian Sea basin.

Genus **Tor** Gray, 1834

Tor grypus (Heckel, 1843) – Tigris River, Gulf and Hormuz basins.

Comment: *Labeobarbus kotschy* Heckel, 1843 is a synonym.

Genus **Vimba** Fitzinger, 1873

Vimba persa (Pallas, 1814) – Caspian Sea basin.

Comment: *Vimba vimba persa* was the subspecies in the Caspian Sea basin but is recognised as a full species by Naseka and Bogutskaya (2009).

Family **COBITIDAE**

(2 genera and 5 species)

Genus **Cobitis** Linnaeus, 1758

Cobitis linea (Heckel, 1849)* – Kor River and Hormuz basins.

Cobitis sp. – Caspian Sea and Tigris River basins.

Comment: Populations from the southern Caspian Sea need re-evaluation as does the taxon tentatively identified as *Cobitis taenia* Linnaeus, 1758 in the Tigris River basin.

Genus **Sabanejewia** Vladykov, 1929

Comment: Formerly in the genus *Cobitis*.

Sabanejewia aurata (De Filippi, 1863) – Caspian Sea and Tedzhen River basins.

Sabanejewia caspia (Eichwald, 1838) – Caspian Sea basin.

Sabanejewia caucasica (Berg, 1906) – Caspian Sea basin. Comment: Reported by Kottelat and Freyhof (2007) from Babol.

Family **NEMACHEILIDAE**

(8 genera and 23 species, 1 unconfirmed)

Comment: Formerly included in the family Cobitidae or the family was named Balitoridae (see Tang et al. (2006) and Kottelat and Freyhof (2007)). Species were placed in the genera *Nemacheilus*, *Adiposia*, *Barbatula*, *Orthrias* and *Schistura* in earlier literature.

Genus **Ilamnemacheilus** Coad & Nalbant, 2005

Ilamnemacheilus longipinnis Coad & Nalbant, 2005* – Tigris River basin.

Genus **Metaschistura** Prokofiev, 2009

Metaschistura cristata (Berg, 1898) – Tedzhen River basin.

Genus **Oxynoemacheilus** Bănărescu & Nalbant, 1967

Oxynoemacheilus angorae (Steindachner, 1897) – Caspian Sea and Lake Urmia basins.

Comment: This taxon may be a catch-all species in Iran, e.g. *Nemacheilus angorae lenkoranensis* Abdurakhamanov, 1962 may be a distinct taxon and the species in the Caspian Sea basin in Iran.

Oxynoemacheilus araxensis (Bănărescu & Nalbant, 1978) – Caspian Sea basin.

Comment: Presence in Iran needs confirmation.

Oxynoemacheilus bergianus (Derzhavin, 1934)* – Namak Lake basin.

Comment: Possibly part of the *O. angorae* complex.

Oxynoemacheilus brandtii (Kessler, 1877) – Caspian Sea basin.

Oxynoemacheilus farsicus (Nalbant & Bianco, 1998)* – Namak Lake, Kor River and Gulf basins.

Oxynoemacheilus frenatus (Heckel, 1843) – Tigris River basin.

Oxynoemacheilus kermanshahensis (Bănărescu & Nalbant, 1967) * – Tigris River basin.

Oxynoemacheilus persus (Heckel, 1849) * – Kor River and Lake Maharlou basins.

Genus **Paracobitis** Bleeker, 1863

Paracobitis iranica Nalbant & Bianco, 1998 * – Namak Lake basin.

Paracobitis longicauda (Kessler, 1872) – Tedzhen River basin.

Paracobitis malapterura (Valenciennes, 1846) – Caspian Sea basin.

Paracobitis rhadinaea (Regan, 1906) – Sistan basin.

Paracobitis smithi (Greenwood, 1976)* – Tigris River basin.

Paracobitis vignai Nalbant & Bianco, 1998* – Sistan basin.

Genus ***Paraschistura*** Prokofiev, 2009

Paraschistura bampurensis (Nicol'skii, 1900)* – Hamun-e Jaz Murian, Makran and Lut basins.

Paraschistura kessleri (Günther, 1889) – Tedzhen River, Sistan and Mashkid River basins.

Paraschistura nielsenii (Nalbant & Bianco, 1998)* – Tigris River and Gulf basins.

Paraschistura sargadensis (Nicol'skii, 1900)* – Hormuz, Hamun-e Jaz Murian, Makran and Mashkid River basins.

Genus ***Seminemacheilus*** Bănărescu & Nalbant, 1995

Seminemacheilus tongiorgii Nalbant & Bianco, 1998* – Kor River and Hormuz basins.

Genus ***Triplophysa*** Rendahl, 1933

Triplophysa stoliczkai (Steindachner, 1866) – Sistan basin.

Genus ***Turcinoemacheilus*** Bănărescu & Nalbant, 1964

Turcinoemacheilus kosswigi Bănărescu & Nalbant, 1964 – Tigris River basin.

Comment: Reported by Goltzarianpour et al. (2009).

Order **SILURIFORMES**
(4 families, 4 genera and 6 species)

Family **BAGRIDAE**
(1 genus and 1 species)

Genus ***Mystus*** Scopoli, 1777

Mystus pelusius (Solander, 1794) – Tigris River, Gulf and Hormuz basins.

Comments: *Bagrus halepensis* Valenciennes, 1840, *Macrones aleppensis* Günther,

1864, *Macrones colvillii* Günther, 1874, and *Mystus misrai* Anuradha, 1986 are synonyms.

Family **SILURIDAE**
(1 genus and 2 species)

Genus ***Silurus*** Linnaeus, 1758

Silurus glanis Linnaeus, 1758 – Caspian Sea and Lake Urmia basins.

Silurus triostegus Heckel, 1843 – Tigris River basin.

Family **SISORIDAE**
(1 genus and 2 species)

Genus ***Glyptothorax*** Blyth, 1860

The Middle Eastern members of this genus are in need of revision.

Glyptothorax kurdistanicus (Berg, 1931) – Tigris River basin.

Glyptothorax silviae Coad, 1981* – Tigris River and Gulf basins.

Family **HETEROPNEUSTIDAE**
(1 genus and 1 species)

Genus ***Heteropneustes*** Müller, 1840

Heteropneustes fossilis (Bloch, 1794)** – introduced to the Tigris River basin.

Order **SALMONIFORMES**
(1 family, 5 genera and 7 species)

Family **SALMONIDAE**
(5 genera and 7 species)

Genus ***Coregonus*** Linnaeus, 1758

Coregonus lavaretus (Linnaeus, 1758)** – introduced to reservoirs in the Namak Lake basin.

Genus ***Oncorhynchus*** Suckley, 1861

Oncorhynchus keta (Walbaum, 1792)** – introduced to the Caspian Sea basin.

Oncorhynchus mykiss (Walbaum, 1792)** – introduced to the Tigris River, Caspian Sea, Lake Urmia, Namak Lake, Kavir, Esfahan and Kor River basins, and widely farmed.

Genus *Salmo* Linnaeus, 1758

Salmo caspius Kessler, 1877 – Caspian Sea, Namak Lake and Lake Urmia basins.

Comments: *Salmo trutta* Linnaeus, 1758 was recognised in the the Caspian Sea but its subspecies is now regarded as a full species (Naseka & Bogutskaya, 2009). Other taxa probably exist in Iran, particularly in the Lake Urmia basin.

Salmo trutta Linnaeus, 1758 ** – widely introduced to streams, lakes and reservoirs.

Genus *Salvelinus* Richardson, 1836

Salvelinus fontinalis (Mitchill, 1814)** – introduced to the Namak Lake basin.

Genus *Stenodus* Richardson, 1836

Stenodus leucichthys (Güldenstaedt, 1772) – Caspian Sea basin.

Order ESOCIFORMES

(1 family, 1 genus and 1 species)

Family **ESOCIDAE** (1 genus and 1 species)

Genus *Esox* Linnaeus, 1758

Esox lucius Linnaeus, 1758 – Caspian Sea basin; introduced in lakes and reservoirs throughout Iran.

Order GADIFORMES

(1 family, 1 genus and 1 species)

Family **LOTIDAE** (1 genus and 1 species)

Genus *Lota* Oken, 1817

Lota lota (Linnaeus, 1758) – Caspian Sea basin.

Order MUGILIFORMES

(1 family, 2 genera and 6 species)

Family **MUGILIDAE**

(2 genera and 6 species)

Genus *Liza* Jordan & Swain, 1884

Liza abu (Heckel, 1843) – Tigris River, Gulf and Hormuz basins; possibly introduced in the Lake Maharlu basin.

Comments: *Mugil pseudotelestes* Pietschmann, 1912 and *Mugil hishni* Misra, 1943 are synonyms. The subspecies *Mugil abu zarudnyi* Berg, 1949 from Iran is of doubtful validity.

Liza aurata (Risso, 1810)** – introduced to the Caspian Sea basin.

Liza saliens (Risso, 1810)** – introduced to the Caspian Sea basin.

Liza subviridis (Valenciennes, 1836) – Tigris River and Gulf basins.

Liza vaigiensis (Quoy & Gaimard, 1824) – Tigris River basin; possibly other coastal rivers in the Persian Gulf.

Genus *Mugil* Linnaeus, 1758

Mugil cephalus Linnaeus, 1758 – Tigris River and Makran basins; possibly other coastal rivers in the Persian Gulf.

Order ATHERINIFORMES

(1 family, 1 genus and 1 species)

Family **ATHERINIDAE**

(1 genus and 1 species)

Genus *Atherina* Linnaeus, 1758

Atherina caspia Eichwald, 1831 – Caspian Sea basin.

Comment: *Atherina mochon pontica* natio *caspia* Eichwald, 1831 was recognised as the taxon in Iran, later synonymised with *Atherina boyeri* Risso, 1810, but now considered distinct (Naseka & Bogutskaya, 2009).

Order CYPRINODONTIFORMES

(2 families, 3 genera and 10 species)

Family **CYPRINODONTIDAE**

(1 genus and 8 species)

Genus *Aphanius* Nardo, 1827

Comment: Various isolated populations may prove to be distinct species. Formerly placed in the genera *Lebias* Goldfuss, 1820 or *Cyprinodon* Lacepède, 1809.

Aphanius dispar (Rüppell, 1829) – Tigris River, Gulf, Hormuz, Makran, Hamun-e Jaz Murian and Mashkid River basins.

Aphanius ginaonis (Holly, 1929) * – Hormuz basin.

Aphanius isfahanensis Hrbek, Keivany & Coad, 2007* – Esfahan basin.

Aphanius mento (Heckel, 1843) – Tigris River basin.

Comment: *Lebias cypris* Heckel, 1843 is a synonym.

Aphanius mesopotamicus Coad, 2009 – Tigris River basin.

Aphanius persicus (Jenkins, 1910)* – Lake Maharlu basin.

Comments: *Cyprinodon blanfordii* Jenkins, 1910 and possibly *Cyprinodon pluristriatus* Jenkins, 1910 are synonyms.

Aphanius sophiae (Heckel, 1849)* – Kor River basin.

Comments: *Lebias punctatus* Heckel, 1849, *Lebias crystallodon* Heckel, 1849 and possibly *Cyprinodon blanfordii* Jenkins, 1910 are synonyms.

Aphanius vladykovi Coad, 1988* – Tigris River basin.

Family **POECILIIDAE** (2 genera and 2 species)

Genus ***Gambusia*** Poey, 1854

Gambusia holbrooki Girard, 1859** – introduced to all basins.

Genus ***Xiphophorus*** Heckel, 1848

Xiphophorus hellerii Heckel, 1848** – introduced to the Esfahan and Gulf basins.

Order **GASTEROSTEIFORMES** (2 families, 3 genera and 3 species)

Family **GASTEROSTEIDAE** (2 genera and 2 species)

Genus ***Gasterosteus*** Linnaeus, 1758

Gasterosteus aculeatus Linnaeus, 1758** – introduced to the Caspian Sea, Kavir and Tedzhen River basins.

Genus ***Pungitius*** Coste, 1848

Pungitius platygaster (Kessler, 1859) – Caspian Sea basin.

Family **SYNGNATHIDAE** (1 genus and 1 species)

Genus ***Syngnathus*** Linnaeus, 1758

Syngnathus caspius Eichwald, 1831 – Caspian Sea basin.

Comment: *Syngnathus nigrolineatus caspius* Eichwald, 1831 was considered to be the taxon in Iran, later synonymised with *Syngnathus abaster* Risso, 1827 but now recognised as distinct (Naseka & Bogutskaya, 2009).

Order **SYNBRANCHIFORMES** (1 family, 1 genus and 1 species)

Family **MASTACEMBELIDAE** (1 genus and 1 species)

Genus ***Mastacembelus*** Scopoli, 1777

Mastacembelus mastacembelus (Banks & Solander, 1794) – Tigris River, Kor River and Gulf basins.

Comment: *Rhynchobdella halepensis* Bloch & Schneider, 1801 is a synonym. *Mastacembelus aleppensis* Günther, 1861 is an unjustified emendation of *halepensis*.

Order **PERCIFORMES** (5 families, 20 genera and 46 species, 18 unconfirmed)

Family **PERCIDAE** (2 genera and 3 species)

Genus ***Perca*** Linnaeus, 1758

Perca fluviatilis Linnaeus, 1758 – Caspian Sea basin.

Genus ***Sander*** Oken, 1817

Sander lucioperca (Linnaeus, 1758) – Caspian Sea basin; introduced to lakes and reservoirs throughout Iran.

Sander marinus (Cuvier, 1828) – Caspian Sea basin.

Family **SPARIDAE** (1 genus and 1 species)

Genus ***Acanthopagrus*** Peters, 1855

Acanthopagrus latus (Houttuyn, 1782) – Tigris River and Gulf basins.

Family **CICHLIDAE**

(1 genus and 1 species)

Genus ***Iranocichla*** Coad, 1982*Iranocichla hormuzensis* Coad, 1982 * – Hormuz basin.Family **GOBIIDAE**

(15 genera and 40 species, 18 unconfirmed)

Genus ***Anatirostrum*** Iljin, 1930*Anatirostrum profundorum* (Berg, 1927) – Caspian Sea basin.Genus ***Babka*** Iljin, 1927Comment: Members of this genus were formerly placed in the genus *Neogobius* Iljin, 1927.*Babka gymnotrachelus* (Kessler, 1857) – Caspian Sea basin.

Comment: Presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

Babka macrophthalma (Kessler, 1877) – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Genus ***Benthophiloides*** Beling & Iljin, 1927*Benthophiloides brauneri* Beling & Iljin, 1927 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophiloides turcomanus (Iljin, 1941) – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Genus ***Benthophilus*** Eichwald, 1831*Benthophilus abdurahmanovi* Ragimov, 1978 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus baeri Kessler, 1877 – Caspian Sea basin.*Benthophilus casachicus* Ragimov, 1978 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus ctenolepidus Kessler, 1877 – Caspian Sea basin.*Benthophilus granulatus* Kessler, 1877 – Caspian Sea basin.

Comment: Presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

Benthophilus grimmi Kessler, 1877 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus kessleri Berg, 1927 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus leobergius Berg, 1949 – Caspian Sea basin.Comment: Originally described as a subspecies of *B. stellatus* (Sauvage, 1874), a taxon now restricted to the Black Sea.*Benthophilus leptcephalus* Kessler, 1877 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus leptorhynchus Kessler, 1877 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and

Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus macrocephalus (Pallas, 1787) – Caspian Sea basin.

Benthophilus mahmudbejovi Ragimov, 1976 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus pinchuki Ragimov, 1982 – Caspian Sea basin.

Comment: Formerly a subspecies of *B. ctenolepidus*.

Benthophilus ragimovi Boldyrev & Bogutskaya, 2004 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus spinosus Kessler, 1877 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Benthophilus svetovidovi Pinchuk & Ragimov, 1979 – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Boldyrev and Bogutskaya (2007) and Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

Genus ***Boleophthalmus*** Valenciennes, 1837

Boleophthalmus dussumieri Valenciennes, 1837 – Tigris River, Gulf, Hormuz and Makran basins.

Genus ***Chasar*** Vasil'eva, 1996

Comment: Members of this genus were formerly placed in the genus *Neogobius* Iljin, 1927.

Chasar bathybius (Kessler, 1877) – Caspian Sea basin.

Genus ***Glossogobius*** Gill, 1859

Glossogobius giuris (Hamilton, 1822) – Tigris River, Gulf, Hormuz and Makran basins.

Genus ***Hyrceanogobius*** Iljin, 1928

Comment: Placed as a synonym of *Knipowitschia* by authors.

Hyrceanogobius bergi Iljin, 1928 – Caspian Sea basin.

Comment: Presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

Genus ***Knipowitschia*** Iljin, 1927

Knipowitschia caucasica (Berg, 1916) – Caspian Sea basin.

Knipowitschia iljini Berg, 1931 – Caspian Sea basin.

Knipowitschia longicaudata (Kessler, 1877) – Caspian Sea basin.

Comment: Presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

Genus ***Mesogobius*** Bleeker, 1874

Mesogobius nigronotatus (Kessler, 1877) – Caspian Sea basin.

Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran. *Mesogobius nonultimus* (Iljin, 1936) – Caspian Sea basin.

Genus ***Neogobius*** Iljin, 1927

Neogobius caspius (Eichwald, 1831) – Caspian Sea basin.

Neogobius melanostomus (Pallas, 1814) – Caspian Sea basin.

Comment: *Gobius affinis* Eichwald, 1831 is synonym or subspecies depending on authors.

Neogobius pallasii (Berg, 1916) – Caspian Sea basin.

Comment: This taxon was regarded as a subspecies of *N. fluviatilis* (Pallas, 1814).

Genus ***Periophthalmus*** Bloch & Schneider, 1801

Periophthalmus waltoni Koumans, 1955 – Tigris River, Gulf, Hormuz and Makran basins.

Comment: The Memoirs of the Indian Museum for 1938–1942 were published in 1955 (this is the date on the title page).

Genus ***Ponticola*** Iljin, 1927

Comment: Members of this genus were formerly placed in the genus *Neogobius* Iljin, 1927.

Ponticola cyrius (Kessler, 1874) – Caspian Sea basin.

Comment: See Vasil'eva (1995) and Vasil'eva and Vasil'ev (1995) for taxonomy.

Ponticola goebelii (Kessler, 1874) – Caspian Sea basin.

Comment: Regarded as a subspecies of *Ponticola ratan* (Nordmann, 1840) by authors although Naseka and Bogutskaya (2009) give it full species status.

Ponticola gorlap (Iljin, 1949) – Caspian Sea basin.

Comment: Formerly a subspecies of *Gobius kessleri* Günther, 1861. *Neogobius iljini* Vasil'eva & Vasil'ev, 1996 is a synonym (Kottelat, 1997).

Ponticola syrman (Nordmann, 1840) – Caspian Sea basin.

Comment: *Ponticola syrman eurystomus* (Kessler, 1877) is the subspecies in the Caspian Sea basin.

Genus ***Proterorhinus*** Smitt, 1900

Proterorhinus nasalis (De Filippi, 1863) – Caspian Sea basin.

Comment: Previously recognised as *P. marmoratus* (Pallas, 1814); some authors consider it a synonym of this species.

Genus ***Rhinogobius*** Gill, 1859

Rhinogobius similis Gill, 1859** – introduced to the Tedzhen River basin.

The identity of introduced *Rhinogobius* in Iran needs confirmation. Vasil'eva (2007) and Vasil'eva and Kuga (2008) have identified the introduced Central Asian species to be *R. cheni* (Nichols, 1931).

Family **CHANNIDAE** (1 genus and 1 species)

Genus ***Channa*** Scopoli, 1777

Channa gachua (Hamilton, 1822) – Hamun-e Jaz Murian basin.

Comment: Formerly in the genus *Ophicephalus*.

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